Town of Damariscotta
21 School Street
Damariscotta, ME 04543

Isabelle Oechslie
Town Planner
(207) 563-5168
IOechslie@Damariscottame.com

Town of Damariscotta
Planning Board Meeting Agenda
Monday, November 7, 2022 – 6:00PM
Hybrid Meeting: Town Office & via Zoom

Join Zoom Meeting: https://us02web.zoom.us/j/88985249796
Meeting ID: 889 8524 9796
Passcode: DamaPB

1. Call to Order

2. Pledge of Allegiance

3. Review of Minutes of Previous Meetings: September 19, 2022 & October 3, 2022

4. New Business:
    a. Reapproval: Site Plan and Conditional Use Application for Damariscotta Solar 1, LLC for a 4.95 MW PV Solar Array on the **easterly side of US Route 1 adjacent to the Nobleboro town line** (Tax Map 3, Lot 64-5 and Tax Map 3, Lot 62)

    b. **Public Hearing**: Miscellaneous updates to the Land Use, Site Plan Review, and Subdivision Ordinances to correct existing typographical errors, to define previously undefined terms, to make the Ordinances more user-friendly, and to update references to administration of the development review process

    c. **Public Hearing**: Minor Subdivision Amendment Application for Clippership Landing Development, LLC to subdivide the existing property at **2 Piper Mill Road** (Tax Map 1, Lot 50)

    d. **Public Hearing**: Site Plan and Conditional Use Applications for Clippership Landing Development, LLC to construct a 102-bed nursing care facility and associated site improvements (including parking areas, two curb cuts, stormwater management facilities, and courtyard areas and path systems for facility residents) at **2 Piper Mill Road** (Tax Map 1, Lot 50)

5. Other:
    a. Questions from the public

    b. Planner's Report

6. Adjournment

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PLANNING BOARD MEETING MINUTES
TOWN of DAMARISCOTTA
September 19, 2022 6:00 P.M.

Live and via Zoom

MEMBERS: Jonathan Eaton, Chairperson; Jenny Begin, Neil Genthner, Wilder Hunt and Ann Jackson
ALTERNATES: Gary Rosenthal, and Dan Day
ABSENTEES: Wilder Hunt
STAFF PRESENT: Isabelle Oechslie, Town Planner; Lynda Letteney, Recording Secretary
PUBLIC PRESENT: Geoff Keochakian, LCTV; Evan Houk, *Lincoln County News*

I. Pledge of Allegiance
Chairperson Eaton led the Pledge at 6:00 p.m.

II. CALL TO ORDER
The meeting was called to order at 6:02 p.m. by **Chairperson Eaton**

On motion (Genthner/Eaton) to seat Dan Day as alternate for Wilder Hunt and Gary Rosenthal for Jenny Begin. Vote: 3-0-0

III. MINUTES
On motion (Genthner/Jackson) to approve the minutes from July 11, 2022 as presented
Vote: 5-0-0
On motion (Genthner/Day) to approve the minutes from August 1, 2022 as presented
Vote: 5-0-0

On motion (Genthner/Day) to seat Jenny Begin (arrived at 6:15pm) in place of Gary Rosenthal.
Vote: 4-0-0

IV. BUSINESS MEETING

A. OLD BUSINESS

1. Revised Planning Board By-Laws:

Isabelle introduced this section, noting (in response to a question received over email) that these proposed By-Law changes do not supersede the 2018 adopted Code of Ethics – they are separate documents.

The first essential change regards the timeline on review of application. This is a proposed change from 2 weeks to 1 week in advance of the hearing. **Jenny** asked why the reference to including the agendas in the Town newsletter was removed. **Isabelle** said the agenda could still be in the newsletter, but the newsletter was recently paused for a number of months and that the Town's website should be the ultimate authority. **Isabelle** noted that she proposed a hard stop time of 10pm for public hearings and other agenda items so that the Board could point to that if it got too late, but allowing for any item already on floor to be completed. The Board suggested a 9pm stop time instead. **Isabelle** noted that she is proposing that the Board adopt a number of "standard" conditions, to be incorporated into the Notice of Decision for each application that

they review. The Board was overall supportive of this, though asked questions regarding the specificity of some of the conditions. **Isabelle** responded that it is intended to reflect the specific requirements of the Town's ordinances.

On motion (Genthner/Eaton) to accept as presented the draft of the Planning Board By-Laws with the time change to end a hearing from 10 pm to 9 pm. Vote: 5-0-0

2. Land Use Ordinance

The intent of the proposed changes is to streamline and define items previously undefined, and to clarify processes. An example is "significant tree" is in the ordinance, but not defined. "30 inches or greater in diameter at breast height" is a common definition. **Jenny** said in Bath the ordinance is that you have to replace a tree if you cut one down. People here are concerned about this. **Neil Genthner** said you have to be mindful of where the cutting is taking place, especially if the tree is a danger. We have to have "give and take" on this. **Isabelle** said if the Board is interested, they could have more analysis and discussion on this matter at a later date as part of a substantive policy change, however, these miscellaneous changes are intended to be non-substantive**.**

3. Site Plan Review Ordinance

Isabelle said she wanted to get rid of the flow chart currently included in the ordinance and instead make that a more nimble process that could respond to changing technology and needs. She wants to amend the document to clean it up and make it more succinct. i.e. The necessity of "10 copies" is outdated. #2 –pg. 4 would clarify that the burden of proof for a waiver lies with the applicant. Pg. 11 F – there is no policy change, just reformatting to make it easier to read. **Jenny Begin** would like to see a requirement for development to be "EV-ready" as part of the ordinance. **Isabelle** noted that that would similarly be a substantive policy change but that she would add it to her list for future discussion. Overall, the Board thought that the proposed changes in this section looked good.

4. Subdivisions

Editorial changes are similar to the previous sections. There is a carryover of definitions for "Significant trees" from the previously discussed ordinances. Page 4 #5/6 requesting changing 60 days to 30 days in order to streamline and meet applicant's needs. This streamlines the process vs. requiring additional time. When multiple times/meetings are required, everyone must attend two or more. As written it could end up being one or more. **Neil Genthner** said he had no problem with these, but wants to maintain flexibility. **Jenny Begin** said they have to have discipline as a Board to make sure they have *all* the information**.** **Isabelle** said the Board can always request more information and table applications, they just need to inform applicant of the specific information that they're looking for. **Neil Genthner** also questioned the "10 copies" saying some projects might need that. **Isabelle** said a Board member can get a hard copy anytime, but it falls on the applicant to provide any needed copies. She suggested perhaps adding the phrase "the Planning Board reserves the right to request paper copies" to all application materials.

Isabelle will schedule a Public Hearing on the Ordinance changes for a future meeting to discuss the proposed amendments to the Subdivision, Site Plan Review, and Land Use Ordinances.

B. NEW BUSINESS

1. None

C. OTHER

1. **Questions from the Public - None**
2. **Housekeeping - None**
3. **Planner's Report- None**

D. Adjournment
On motion (Begin/Genthner) to adjourn the meeting at 7:00 p.m.

Respectfully submitted,

Lynda Letteney
Recording Secretary

We the undersigned approve the minutes for the Planning Board Meeting of, 2021.

_____
Jonathan Eaton, Chairperson

_____
Jenny Begin

_____
Neil Genthner

___ _____
Wilder Hunt

_____
Ann Jackson

_____

Daniel Day (alternate)

_____

Gary Rosenthal (alternate

Minutes for (9-19-22) signed _____

Date

PLANNING BOARD MEETING MINUTES
TOWN of DAMARISCOTTA
October 3, 2022 6:00 P.M.

Live and via Zoom

MEMBERS: Jonathan Eaton, Chairperson; Jenny Begin, Neil Genthner, Wilder Hunt and Ann Jackson
ALTERNATES: Gary Rosenthal, and Dan Day
ABSENTEES: Dan Day and Gary Rosenthal
STAFF PRESENT: Isabelle Oechslie, Town Planner; Lynda Letteney, Recording Secretary
PUBLIC PRESENT: Max Johnstone, Midcoast Council of Governments; Geoff Keochakian, LCTV; Evan Houk, *Lincoln County News*

I. Pledge of Allegiance

Chairperson Eaton led the Pledge at 6:00 p.m.

II. CALL TO ORDER

The meeting was called to order at 6:02 p.m. by **Chairperson Eaton**

III. MINUTES

Not available until next meeting

IV. BUSINESS MEETING

A. OLD BUSINESS - None

B. NEW BUSINESS

1. Determination of Comprehensive Plan Compliance for CDBG Economic Development Program Grant (Cupacity – Damariscotta Good Coffee, LLC)

The Town was recently allocated funds through the Community Development Block Grant Economic Development Program to fund various equipment purchases, working capital, and inventory for Damariscotta Good Coffee, LLC (doing business as Cupacity). Max Johnston, Midcoast Council of Governments, worked with Cupacity to apply for the grant funding and will primarily work on the administration of the grant. **Isabelle Oechslie** said the Planning Board's responsibility here is simply to provide a recommendation regarding whether or not the proposed project / use of funds is consistent with the Comprehensive Plan. The Select Board will have input. **Wilder Hunt** asked if the reroofing was the purview of the Historic Preservation Committee or the Planning Board, and who decides first. Historic Preservation Committee will review first according to the town planner. **Jenny Begin** asked if it was permissible for a private business to apply for a CDBG, and does it affect the pool of money available for municipal use. **Max Johnstone** explained that there are 5-6 different categories for block grants. This is the only one that can go to privately owned entities, and does not affect the municipal share. This will create 4 new full time jobs @ $30K each with a 50% match. It does not impact other grant projects (i.e. sidewalk project). It is a separate category and is treated separately.

Wilder asked about the Select Board applying for the grant. **Response:** Cupacity requested the Select Board apply back in June which they did. The Planning Board's role is to interpret if the grant request is

in compliance with the Comprehensive Plan. The grant has already been approved by the State. There is no conflict with local rules and regulations. Wilder asked how the roof ties into employment of 4 more people. Max Johnston clarified that the roof is part of Cupacity's match. Improvements to the inside include electric updates, improved kitchen, etc, equals more business equals more staff needed. Neil Genthner asked exactly what the "town staff" involvement would entail. Max responded that it would mostly be him with minimal Town staff involvement.

On motion (Genthner/Eaton) to find that Cupacity's proposed use of the CDBG Economic Development Program funding is consistent with the community's goals within the Town's adopted Comprehensive Plan, noting that Cupacity is aware that permitting of any construction will need to follow the relevant review procedures within the Town's Land Use, Historic Preservation, or Site Plan Review Ordinances, as may be applicable. Vote: 5-0-0

B. BOARD DISCUSSION

Wilder Hunt asked about the new nursing home proposal which is slated to be approximately 74,000 square feet. Is there a limit in our Ordinances regarding how large buildings can be? Isabelle said that there is a limit of 35,000 s.f. for retail establishments, though this is not a retail establishment. Isabelle also noted that the Site Plan Review Ordinance has standards regarding large-scale development, which apply when building footprints are 20,000 s.f. or larger regardless of the land use proposed (so these would apply to this project).

Neil Genthner asked for an update as to where this project stands. Isabelle said that staff, including herself, the Code Officer, and the Fire Chief have provided comments on the application and sent them to the applicants for response. Isabelle anticipates a response from the applicants in advance of the November meeting.

Neil Genthner asked if the Board could arrange a site visit to the Rockland facility that this developer just completed. Isabelle responded that they are not allowed to visit the facility on their own; it would need to be an advertised and noticed site visit.

C. OTHER

1. Questions from the Public - None

2. Housekeeping - None

3. Planner's Report- Isabelle noted that ex parte communications between the public and Board members are a particular concern because they involve an opportunity for one party to influence a decision maker outside the presence of other parties and off the record, violating due process requirements. If Board members receive questions from the public, they should refer the issue to the Town Planner, or suggest the inquirer attend the public hearing.

D. Adjournment

On motion (Hunt/Genthner) to adjourn the meeting at 6:45 p.m.

Respectfully submitted,

Lynda Letteney
Recording Secretary

We the undersigned approve the minutes for the Planning Board Meeting of, October 3, 2022.

_____
Jonathan Eaton, Chairperson

_____
Jenny Begin

_____
Neil Genthner

___ _____
Wilder Hunt

_____
Ann Jackson

____Absent_____
Daniel Day (alternate)

____Absent_____
Gary Rosenthal (alternate

Minutes for October 3, 2022, signed _____
Date

Planning Department
Damariscotta Town Office
21 School Street,
Damariscotta, ME 04543

Isabelle Oechslie
Town Planner
Phone: (207) 563-5168
IOechslie@damariscottame.com

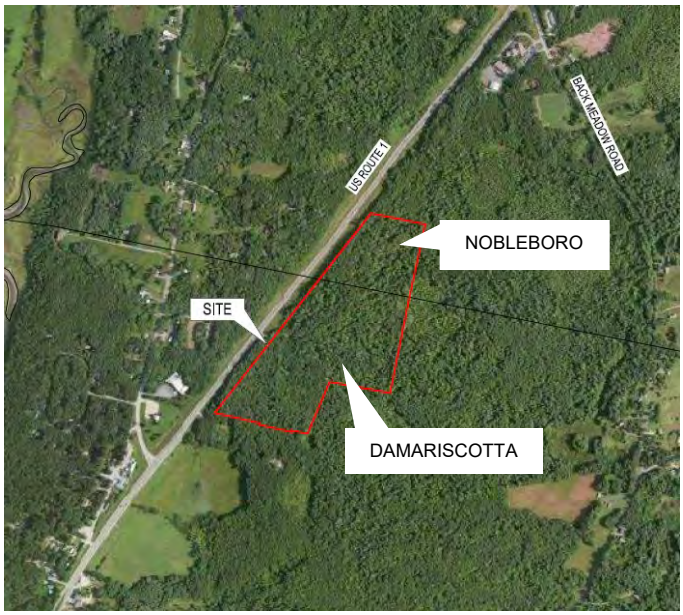
AGENDA ITEM #4A
Meeting of November 7, 2022

Site Plan & Conditional Use Reapproval – Damariscotta Solar 1

Tax Map 3, Lot 64-5 & Tax Map 3, Lot 62 – Damariscotta Solar 1, LLC
PID #2202

INTRODUCTION

Applicant Damariscotta Solar 1, LLC is requesting reapproval of the Site Plan and Conditional Use permit for the proposed 4.95 MW AC solar photovoltaic facility on the east side of Route 1 on the Damariscotta/Nobleboro town line. The project was originally approved by the Planning Board on December 6, 2021. No changes are proposed to the previously approved Site Plan. The applicant has indicated that they have been unable to begin construction because CMP has included this project in a transmission study that the applicants were unaware of during initial permitting. The parcel is further identified as Assessor's Tax Map 3, Lot 64-5 and Tax Map 3, Lot 62 and it is located partially within both the C-2 and Rural Districts, and the Wireless Overlay District.



BACKGROUND

This project was originally approved on December 6, 2021. No changes to the attached, approved plan are proposed as part of this application. Additionally, no changes to Chapter 109: Solar Energy Systems Ordinance or to Chapter 102: Site Plan Review have occurred which would change any previously made findings of fact made by the Planning Board during the 2021 review.

Per Section 102.5(H)(7) of the Site Plan Review Ordinance, "all approvals shall expire within one year of the date of issuance unless work thereunder is substantially commenced within one year from the date of approval." Staff guided the applicants to submit a request for reapproval prior to the expiration of the site plan as the applicants do not anticipate being able to substantially complete construction before the expiration of the approved plan on December 6, 2022. Reapproval of the plan will give the applicants one additional year to substantially complete construction.

As no buildings are proposed with this project, a public hearing is not required for this application (per Sec. 102.5(G)(2)). However, direct abutters have been notified of this application pursuant to Sec. 102.5(G)(1). Additionally, the Town of Nobleboro was made aware of the applicant's request for reapproval via email on October 24, 2022.

RECOMMENDATION

Based on the review of the project and all information in the record, staff recommends the following action:

Approve the Site Plan and Conditional Use application of Damariscotta Solar 1, LLC, dated through October 19, 2022; drawings stamped and dated October 6, 2021, for the Damariscotta Solar 1 project at Tax Map 3, Lot 64-5 and Tax Map 3, Lot 62, subject to the following conditions:

Conditions of Approval

	Condition	Staff Assigned	Must be Completed By:
1.	This approval is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant. Any variation from the plans, proposals and supporting documents are subject to the review and approval of the Planning Board prior to implementation.	Town Planner	Ongoing
2.	All adopted conditions of approval and any waivers granted as part of the December 6, 2021 approval remain in full force and effect.	Town Planner	Ongoing
3.	This Planning Board approval is valid for 12 months from the date of approval and shall expire if work has not substantially commenced within that time period. The applicants may be eligible for reapproval of a lapsed plan only at the discretion of the Planning Board.	Town Planner	Ongoing

Isabelle V Oechslie

Isabelle V. Oechslie
Town Planner
November 7, 2022

From: Robert Faunce <rfaunce8@gmail.com>
Sent: Sunday, December 19, 2021 6:30 PM
To: Rachel Clar (rachel.clar@syncarpha.com)
Subject: Damariscotta Solar 1 Project
Attachments: Planning Board minutes 12-6-21.docx; SPR Findings.pdf; Conditional Use Criteria.pdf

Rachel – at its meeting on December 6, 2021 the Damariscotta Planning Board took the following action on the Site Plan and Conditional Use Applications for Damariscotta Solar 1 Project:

Motion by Jenny Begin second by Neil Genthner to accept the site plan review and conditional findings as complete for Damariscotta 1 Solar. Vote: 5-0-0.

This constitutes final approval of the project by the Damariscotta Planning Board. Attached are the December 6, 2021 meeting minutes, the Site Plan Review Findings and the Conditional Use Criteria.

Regards, Bob Faunce, Damariscotta Town Planner

PLANNING BOARD MEETING MINUTES
PUBLIC HEARING/MEETING of the PLANNING BOARD
TOWN of DAMARISCOTTA December 6, 2021 6:00 P.M.

MEMBERS: Jonathan Eaton, Chairperson; Jenny Begin, Neil Genthner, Wilder Hunt
ALTERNATES: Gary Rosenthal, and Dan Jackson
ABSENTEES: Wilder Hunt
STAFF PRESENT: Robert Faunce, Interim Town Planner; Lynda Letteney, Recording Secretary
Geoff Keochakian, LCTV
PUBLIC PRESENT: Steve Harding; Michelle Phelps; Dan Phelps, Architects; John Roberts

II. CALL TO ORDER The meeti
Meeting was called to order at 6:00 p.m. by **Chairperson Eaton**

III. MINUTES **On motion to approve**
the Planning Board minutes of November 8, 2021 Vote: 5-0-0
On motion to approve the minutes of the site visit to 137 Cottage Pt. Road Vote: 5-0-0

IV. BUSINESS MEETING

1 . Damariscotta Solar 1 – Final Review

Bob Faunce began the meeting summarizing the last meeting. First question was "What would go to recycling at transfer station?" Response was nothing." There will be as much recycling as possible; anything else will probably be too big for the transfer station. What does the bond have to be? The bond has to be able to cover the clean- up of such a removal; and, must be 2.5% of the initial cost or 20%, the largest of the two (1.5% plus estimated cost of demolition.) The third issue was fire training and the Chief has signed off on the current agreement. **Jonathan Eaton** said it appears the solutions are adequate. **Jenny Begin** asked about recycling and if it was in the contract? Bob Faunce said neither party wanted to be tied to something 15-20 years from now because of this contract. The panels are concrete; there are no precious metals or other concerns.
On motion (Genthner/Begin) to approve Dan Day as full voting member (Hunt absent) Vote: 4-0-0
On motion (Begun/Genthner) to accept the site plan review and conditional findings as complete, for Damariscotta 1 Solar. Vote: 5-0-0 "Thank you's" all around for the time and effort put forth for this project.

NEW BUSINESS*:*

Water St, - Expansion of Residential Structure in the Shoreland Zone Michelle Phelps and Dan Phelps from Phelps Architects represented the owner. **Jonathan Eaton** asked whether the grandfather was with the structure itself. **Dan Day** asked if the code officer had been there yet. Response was Stan knew about it and was okay with it. Dan asked about "high water?" Response was that Gorsky et. al, did the survey. **Bob Faunce** suggested asking the code enforcement officer to come on the visit with them. Jenny commented that the infrastructure in that area is sketchy. She questions the ability of the service lines. There is old clay all the way t

c system on site. Much work needs to be done. Jonathan Eaton reinforced Jenny's comments say it was an antiquated area. Final plans at next meeting.

2. 276 Main Street – Information Center **Dan Phelps** representing the Historical Society said he was here to update the Board prior to their presentation in January. Their form application is due in January. Jenny Begin asked how far was the intersection is the front entrance. **John Roberts** replied that he needs final figures, including clarification on distance from the intersection lights. The further the distance from the lights the better. He will send updated numbers to the Board when he gets them. Currently they are working with Civil Engineering for a plan. There is currently a MOU (memorandum of understanding) in place for ownership; the state conveys to the Town, **Robert Faunce** said we are awaiting signature of Gov. Mills. **John** indicated there must be verification of intent to sell and the Governor's deed. The Board of Selectmen have the Governor's deed. Should be able to approve by January 3rd.

. OTHER

. Questions from the Public - None **2. Housekeeping - None**
3. 3. Planner's Report- None

D. Adjournment

On motion (Genthner/Eaton) to adjourn the meeting at (6:15) p.m.

Respectfully submitted,

Lynda Letteney Recording Secretary

Minutes of the Planning Board (December 6, 2021) cont'd:

We the undersigned approve the minutes for the Planning Board Meeting of December 6, 2021.

_____ Jonathan Eaton, Chairperson

_____ Jenny Begin

_____ Neil Genthner

___ _____ Wilder Hunt

_____ Ann Jackson

_____ Daniel Day (alternate)

_____ Gary Rosenthal (alternate

Minutes for (December 6, 2021) signed this date_____

Project Name:		**Damariscotta Solar 1**
Date:		**10/28/2021**
Site Plan Review Performance Standards		***Findings***
A.	Preserve and Enhance the Landscape	*A satisfactory buffer is proposed along Route 1. About alf the property will be permanently preserved as open space*
B.	Relationship to Environment and Neighboring Buildings	*No nearly buildings*
C.	Air Quality	*No impact*
D.	Lighting and Glare	*No lighting proposed*
E.	Noise	*No sound-producing project components*
F.	Adequacy of Public Road System	*No post-construction traffic*
G.	Access into the Site	*MaineDot entrance permit (if issued)*
H.	Parking and Circulation	*No prking proposed; internal access*
I.	Pedestrian Circulation	*No pedestrians*
J.	Existing Public Utilities and Services	*None required*
K.	Water Quality	*No impact*
L.	Stormwater Management	*No off-site runoff*
M.	Erosion and Sedimentation Control	*Pln submitted*
N.	Water Supply	*None required*
O.	Natural Beauty	*Adequate visual buffer*
P.	Historic and Archaeological Resources	*No impact - letter submitted*
Q.	Filling and Excavation	*Minimal*
R.	Sewage Disposal	*None required*
S.	Phosphorus Control	*Not required*

T.	Buffer Areas	*Satisfactory*
U.	Signs	*None proposed*
V.	Building Appearance	*No buildings proposed*
Large Scale Development Performance Standards		***Findings***
A.	Building Appearance	
B.	Outdoor Sales	
C.	Parking	
D.	Bicycle and Pedestrian Facilities	
E.	Landscaping	
F.	Screening	
G.	Building Reuse	
Additional Standards for Buildings > 20,000 sf		***Findings***
H-1.	Visibility from roads	
H-2.	Outbuildings	
H-3.	Community Impact Statement	

Conditional Use Criteria	
Effect not adverse: That the use requested will not have an adverse effect on the health, safety, or general welfare of the residents of the area or the general public. In making this determination, the Planning Board shall take into consideration the potential effect of the use on the environment from:	
Project Name	Damariscotta 1 Solar
Air Pollution	None
Water Pollution	None
Soil Pollution	None
Noise	None
Traffic	None
Congestion	None
Soil Erosion	Adequate erosion control plan
Sewage Disposal	None
Water Supply	None
Municipal Facilities	None
Municipal Services	None
Public Ways	MaineDOT Entrance Permit (when approved)

55 Walkers Brook Drive, Suite 100, Reading, MA 01867
Tel: 978.532.1900

October 19, 2022

Ms. Isabelle Oechslie
Town Planner
Town of Damariscotta
21 School Street
Damariscotta, ME 04543

Re: Site Plan Review Application – Request for Reapproval
Atlantic Highway (US Route 1) Solar PV Development

Dear Ms. Oechslie:

Weston & Sampson Engineers, Inc. (Weston & Sampson), on behalf of Damariscotta Solar I, LLC (Damariscotta Solar) is pleased to submit this request for reapproval of the Site Plan for a proposed 4.95 MW AC solar photovoltaic (PV) facility on the east side of Route 1 on the Damariscotta/Nobleboro town line.

There have been no changes to the Site Plan that was approved by the Damariscotta Planning Board during the Public Hearing held on December 6, 2021. The reason that construction has not substantially begun is that Central Maine Power has included this project in a transmission study. At the time the project was permitting, Damariscotta Solar was not informed that this project would be included in the study. The study is anticipated to be complete before the end of 2022 and construction can begin following receipt of the study results.

We respectfully request to be added to the agenda of the Planning Board meeting on November 7, 2022 for reapproval of the Site Plan.

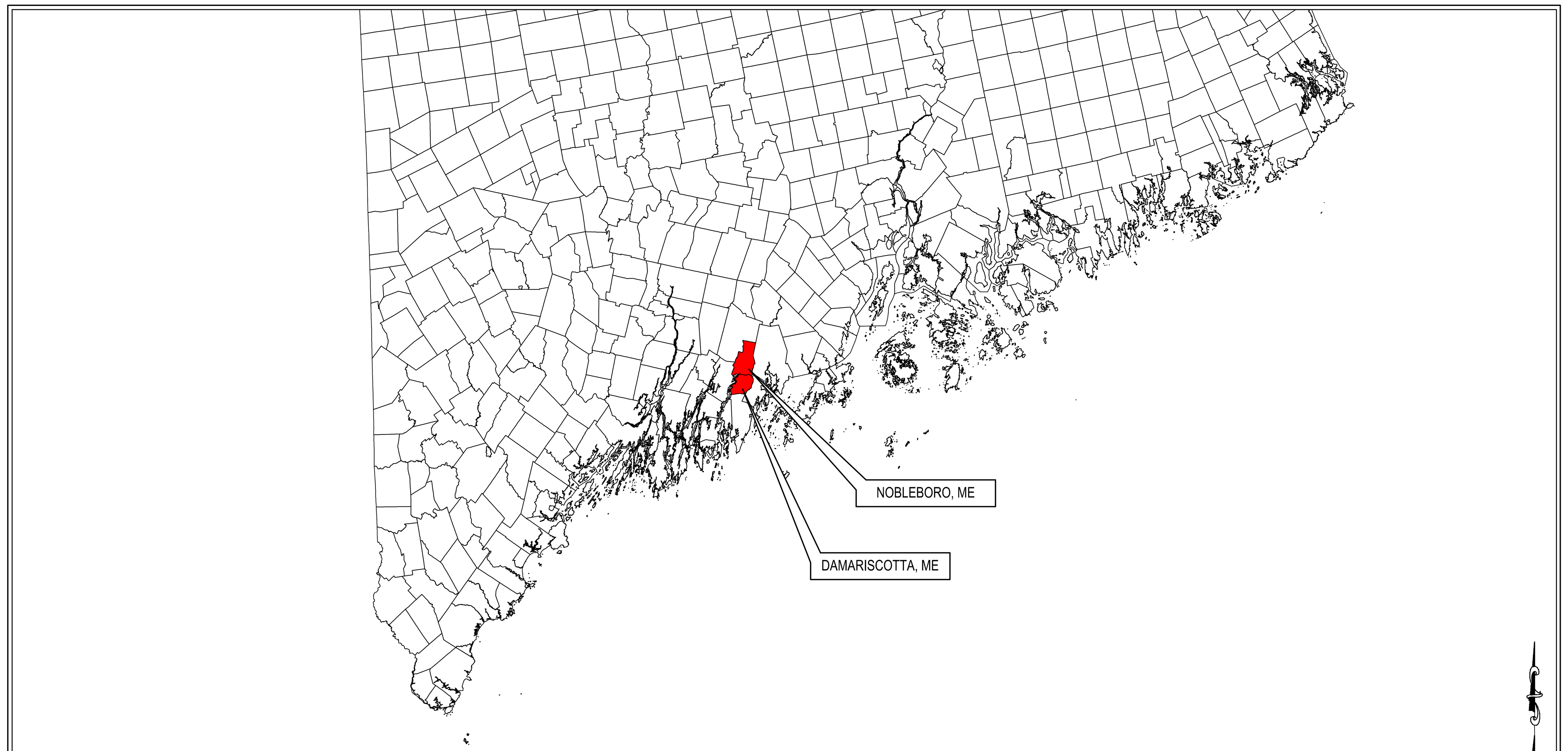
Sincerely.
WESTON & SAMPSON ENGINEERS, INC.

Robert J. Bukowski, PE
Principal Engineer/Project Manager

US ROUTE 1 SOLAR PV DEVELOPMENT

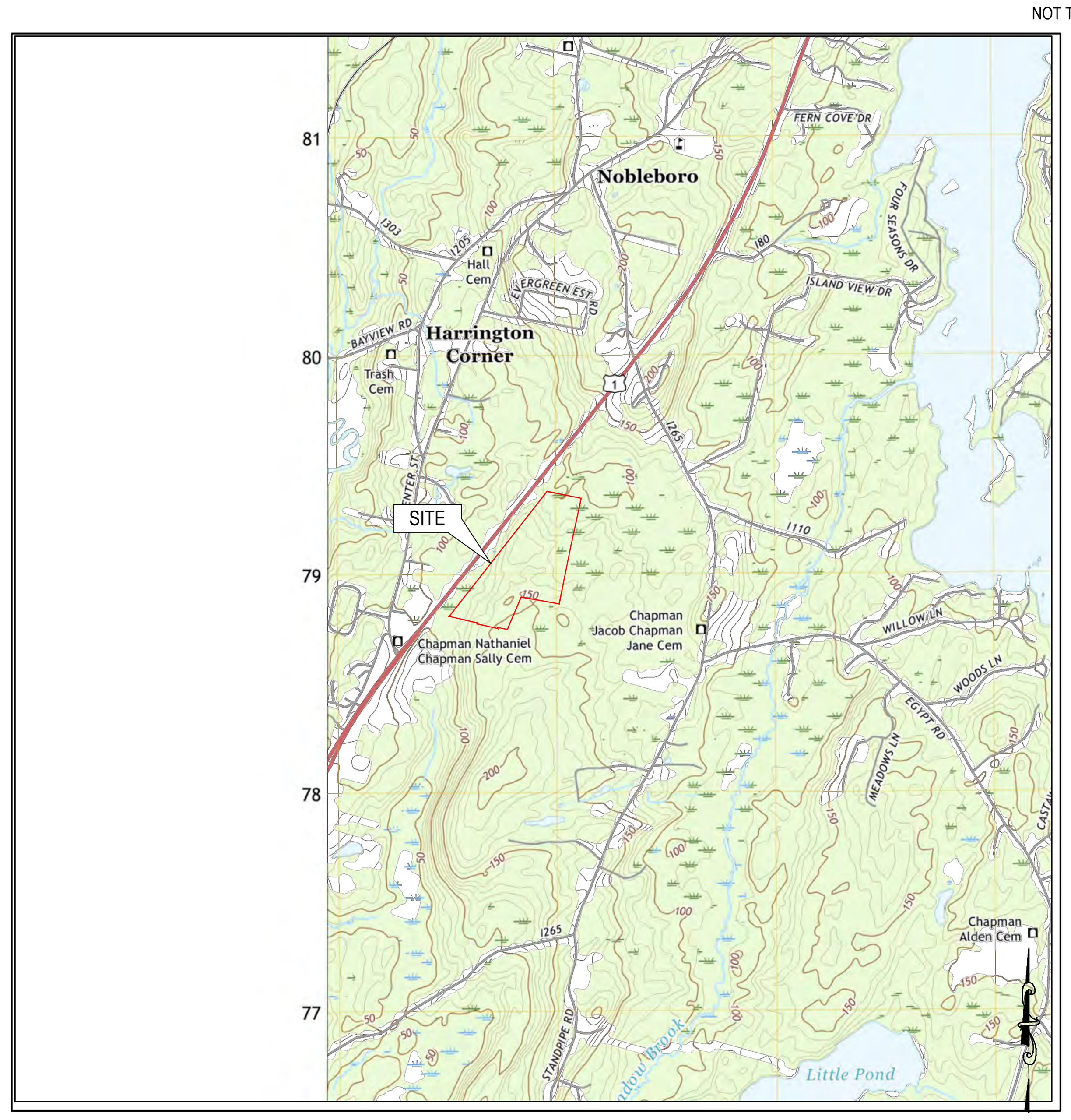
7,253 kW (DC) 4.95 MW(AC) SOLAR PHOTOVOLTAIC (PV) PROJECT

US ROUTE 1, DAMARISCOTTA, ME 04543 AND NOBLEBORO, ME 04555



MAINE MUNICIPAL MAP

NOT TO SCALE



SITE LOCUS MAP

1" = 2,000'

SITE AERIAL MAP

1" = 1,000'

Weston & Sampson Engineers, Inc.
55 Walkers Brook Drive, Suite 100
Reading, MA 01867
978.532.1900 800.SAMPSON
www.westonandsampson.com

Damariscotta Solar I, LLC
250 West 57th Street, Suite 701
New York, NY 10107
Tel: (212) 419-4840
www.syncarpha.com

DRAWING INDEX

SITE INFORMATION

LAND OWNER: N/F RICHARD R. STORER & RHONDA BENNER
TAX MAP: 3
LOT: 62
PARCEL AREA: ±42,0891 SF / ±9.66 ACRES

LAND OWNER: N/F WAYNE P. OLIVER, ET AL
TAX MAP: 1
LOT: 20
PARCEL AREA: ±1,510,870 SF / ±34.68 ACRES

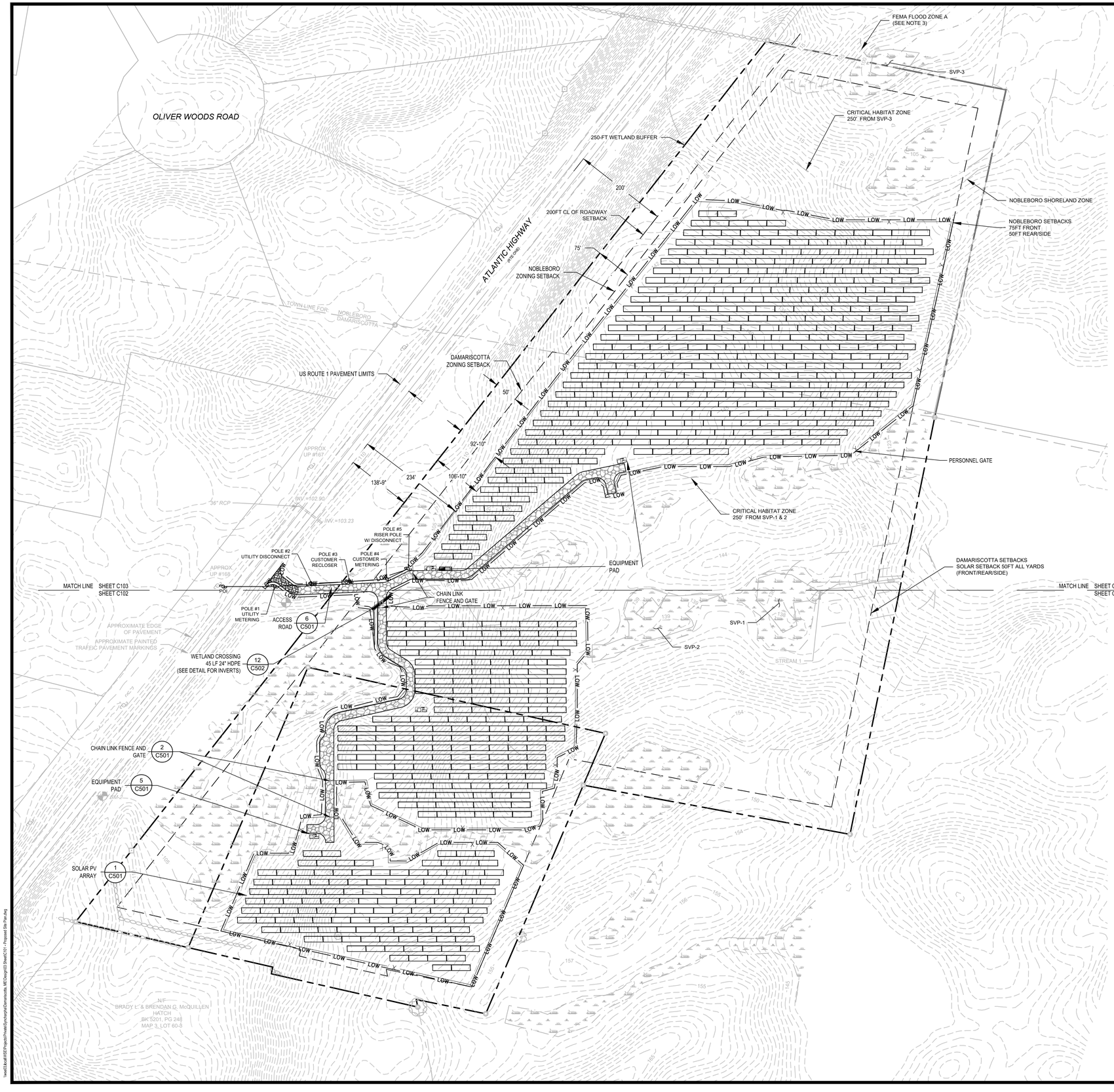
REV #	DESCRIPTION	DATE
3	IFP - TOWN SUBMITTAL - REVISED FENCE LINE	10/06/2021
2	IFP - TOWN SUBMITTAL	09/23/2021
1	IFP - TOWN SUBMITTAL	08/03/2021
0	ISSUED FOR PERMITTING	04/29/2021

Seal: STATE OF MAINE ROBERT J. BUKOWSKI No. 11898 PROFESSIONAL LICENSED ENGINEER 10/6/21

811 Know what's below. Call before you dig.

Issued For: PERMITTING
Issued Date: 04/29/2021
Drawing Title: COVER SHEET

Drawn By: REB
Reviewed By: MRC
Approved By: RJB
Job No: ENG20-1068
Sheet Number: G000



GENERAL NOTES:

1. SOLAR PV ARRAY AND ELECTRICAL DESIGN, INCLUDING UTILITY POLES, PERFORMED BY OTHERS. ELECTRICAL EQUIPMENT AND COMPONENTS SHOWN TO ILLUSTRATE LOCATIONS ONLY. REFER TO ELECTRICAL DRAWINGS FOR DETAILED ELECTRICAL SYSTEM INFORMATION.
2. SOLAR ARRAY LAYOUT IS SUBJECT TO FINAL DESIGN, AND RACKING TABLE LOCATIONS MAY CHANGE, BUT WILL REMAIN WITHIN THE FINAL LIMIT OF WORK LINES.
3. PROPOSED LIMIT OF WORK SHOWN SHALL ALSO BE THE REQUIRED LIMITS OF TREE CLEARING FOR THE PROJECT.
4. MAJOR GRADING AT THE SITE IS NOT PROPOSED. LOCALIZED LEVELING OF ALL BATTERY ENERGY STORAGE AND ELECTRICAL EQUIPMENT PADS/CONTAINERS SHALL BE PROVIDED AS NEEDED. FINAL GRADING WILL REMAIN CONSISTENT WITH EXISTING TOPOGRAPHY SHOWN ON THIS PLAN. ACCESS ROADS WILL BE GRADED TO PROVIDE A 5% CROSS SLOPE AS SHOWN PLANS C102-103.
5. SILT FENCE SHALL BE INSTALLED PARALLEL TO THE GROUND CONTOURS WITHIN THE LIMIT OF WORK BUT DOWN-SLOPE OF THE SOLAR PV ARRAY. PERIMETER SILT FENCE SHALL BE INSTALLED AS NEEDED, AND APPROVED BY THE ENGINEER, IN ORDER TO MITIGATE SEDIMENTATION IN SENSITIVE RESOURCE AREAS.

LEGEND

EXISTING

- EDGE OF WOODS (NOT SHOWN, ENTIRE SITE IS WOODED)
- APPROXIMATE PROPERTY LINE
- ZONING SETBACK
- 200FT ROADWAY CENTERLINE SETBACK (NOBLEBORO)
- MAJOR CONTOUR LINE
- MINOR CONTOUR LINE
- WETLAND BOUNDARY
- 250 FT WETLAND RESOURCE PROTECTION BUFFER
- STREAM
- 25 FT STREAM NO DISTURBANCE BUFFER
- 75 FT STREAM SETBACK
- 250 FT SIGNIFICANT VERNAL POOL BUFFER

PROPOSED

- LOW — LIMIT OF WORK
- x — x — FENCE (2 / C502)
- SOLAR PV PANEL RACK (1 / C501)
- GRAVEL ACCESS ROAD (6 / C501)

100 50 0 100 200 300

GRAPHIC SCALE 1" = 100'

Project:

US ROUTE 1
SOLAR PV DEVELOPMENT

US ROUTE 1
DAMARISCOTTA, ME 04543
NOBLEBORO, ME 04555

Weston & Sampson Engineers, Inc.
55 Walkers Brook Drive, Suite 100
Reading, MA 01867
978.532.1900 800.SAMPSON
www.westonandsampson.com

Applicant:

Damariscotta Solar I, LLC
250 West 57th Street, Suite 701
New York, NY 10107
Tel: (212) 419-4840
www.syncarpha.com

Revisions:

No.	Date	Description
3	10/06/2021	IFP - REVISED FENCE LINE
2	09/23/2021	IFP - TOWN SUBMITTAL
1	08/03/2021	IFP - TOWN SUBMITTAL
0	04/29/2021	ISSUED FOR PERIMITTING

Seal:

STATE OF MAINE — ROBERT J. BUKOWSKI — No. 11988 — REGISTERED PROFESSIONAL ENGINEER — LICENSED
10/6/21

Issued For:

PERMITTING

Scale:	AS SHOWN
Date:	04/29/2021
Drawn By:	REB
Reviewed By:	MRC
Approved By:	RJB
W&S Project No.:	ENG20-1068
W&S File No.:	Syncarpha Damariscotta

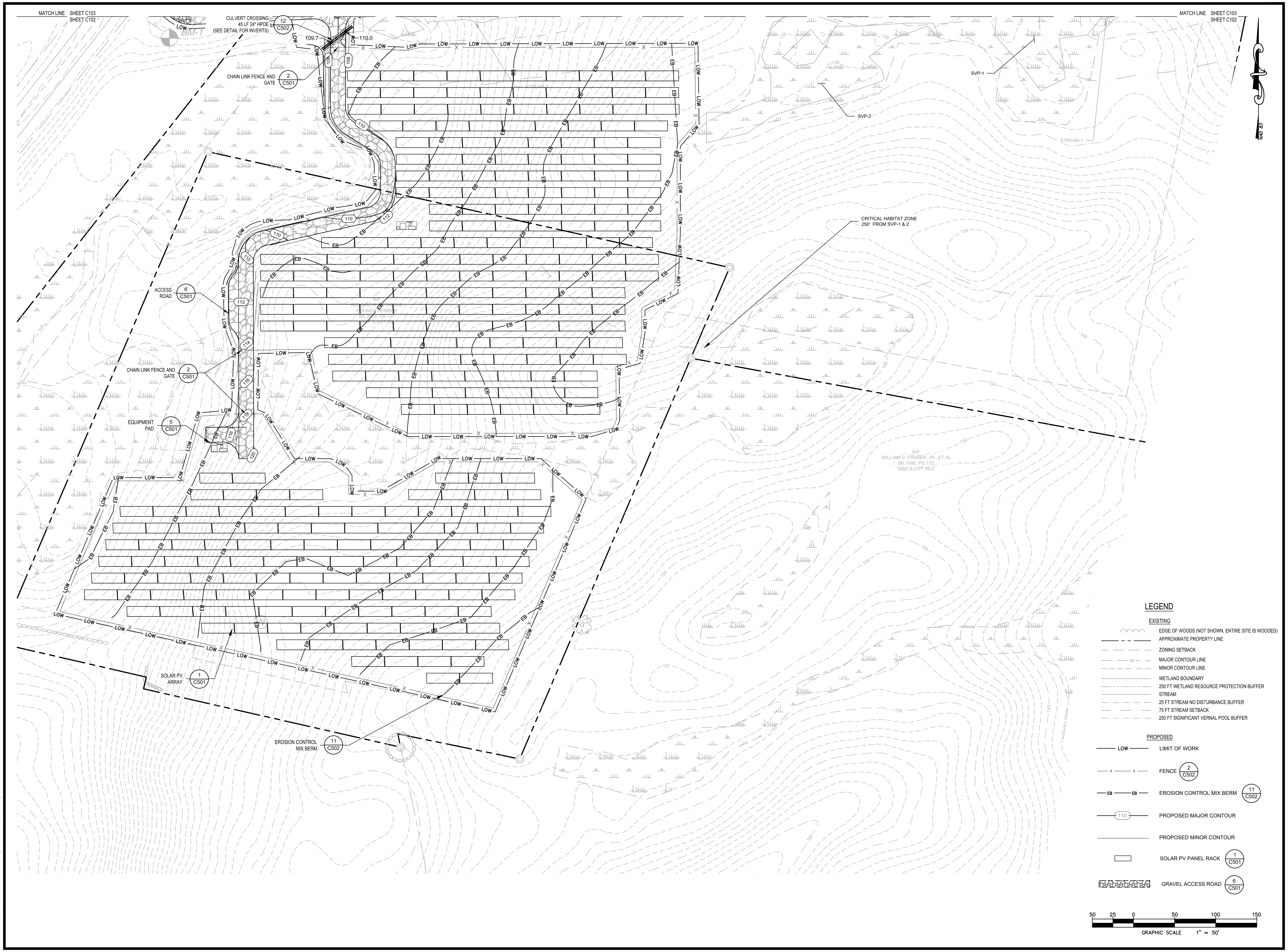
Drawing Title:

PROPOSED SITE PLAN

Sheet Number:

C101

\\wes01\cad\WSProjects\Private\Syncarpha\Damariscotta, ME\Design\03 Sheets\C101 - Proposed Site Plan.dwg



MATCH LINE SHEET C103
SHEET C102
CULVERT CROSSING 12 C502
45 LF 24" HPDE
(SEE DETAIL FOR INVERTS)
BM-1
109.7
110.0
CHAIN LINK FENCE AND GATE 2 C501
SVP-1
SVP-2
STREAM 1
CRITICAL HABITAT ZONE
250' FROM SVP-1 & 2
ACCESS ROAD 6 C501
CHAIN LINK FENCE AND GATE 2 C501
EQUIPMENT PAD 5 C501
N/F
WILLIAM C. FRASER, JR., ET AL
BK 1666, PG 172
MAP 4, LOT 36-2
SOLAR PV ARRAY 1 C501
EROSION CONTROL MIX BERM 11 C502
LEGEND
EXISTING
EDGE OF WOODS (NOT SHOWN, ENTIRE SITE IS WOODED)
APPROXIMATE PROPERTY LINE
ZONING SETBACK
MAJOR CONTOUR LINE
MINOR CONTOUR LINE
WETLAND BOUNDARY
250 FT WETLAND RESOURCE PROTECTION BUFFER
STREAM
25 FT STREAM NO DISTURBANCE BUFFER
75 FT STREAM SETBACK
250 FT SIGNIFICANT VERNAL POOL BUFFER
PROPOSED
LIMIT OF WORK
FENCE 2 C502
EROSION CONTROL MIX BERM 11 C502
PROPOSED MAJOR CONTOUR
PROPOSED MINOR CONTOUR
SOLAR PV PANEL RACK 1 C501
GRAVEL ACCESS ROAD 6 C501
50 25 0 50 100 150
GRAPHIC SCALE 1" = 50'
NAD 83

Project:

US ROUTE 1
SOLAR PV DEVELOPMENT

US ROUTE 1
DAMARISCOTTA, ME 04543
NOBLEBORO, ME 04555

Weston & Sampson

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syncarpha capital

Damariscotta Solar I, LLC
250 West 57th Street, Suite 701
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0	04/29/2021	ISSUED FOR PERMITTING

Seal:

STATE OF MAINE
ROBERT J. BUKOWSKI
No. 11898
LICENSED
PROFESSIONAL ENGINEER
10/6/21

Issued For:

PERMITTING

Scale:	AS SHOWN
Date:	04/29/2021
Drawn By:	REB
Reviewed By:	MRC
Approved By:	RJB
W&S Project No.:	ENG20-1068
W&S File No.:	Syncarpha Damariscotta

Drawing Title:

SITE PLAN (SOUTH)

Sheet Number:

C102

LEGEND

EXISTING

- EDGE OF WOODS (NOT SHOWN, ENTIRE SITE IS WOODED)
- APPROXIMATE PROPERTY LINE
- ZONING SETBACK
- 200FT ROADWAY CENTERLINE SETBACK (NOBLEBORO)
- MAJOR CONTOUR LINE
- MINOR CONTOUR LINE
- WETLAND BOUNDARY
- 250 FT WETLAND RESOURCE PROTECTION BUFFER
- STREAM
- 25 FT STREAM NO DISTURBANCE BUFFER
- 75 FT STREAM SETBACK
- 250 FT SIGNIFICANT VERNAL POOL BUFFER

PROPOSED

- LIMIT OF WORK
- FENCE (2 / C502)
- EROSION CONTROL MIX BERM (11 / C502)
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- SOLAR PV PANEL RACK (1 / C501)
- GRAVEL ACCESS ROAD (6 / C501)

Project:

US ROUTE 1
SOLAR PV DEVELOPMENT

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DAMARISCOTTA, ME 04543
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Seal:

ROBERT J. BUKOWSKI No. 11898 LICENSED PROFESSIONAL ENGINEER STATE OF MAINE
10/6/21

Issued For:

PERMITTING

Scale:	AS SHOWN
Date:	04/29/2021
Drawn By:	REB
Reviewed By:	MRC
Approved By:	RJB
W&S Project No.:	ENG20-1068
W&S File No.:	Syncarpha Damariscotta

Drawing Title:

SITE PLAN (NORTH)

Sheet Number:

C103

\\wsod13.local\UFEP\Projects\Private\Syncarpha\Damariscotta, ME\Design\03 Sheet\C101 - Proposed Site Plan.dwg

Planning Department
Damariscotta Town Office
21 School Street,
Damariscotta, ME 04543

Isabelle Oechslie
Town Planner
Phone: (207) 563-5168
IOechslie@damariscottame.com

AGENDA ITEM #4B
Meeting of November 7, 2022

Ordinance Amendments – Miscellaneous Updates to the Land Use, Site Plan Review, and Subdivision Ordinances

BACKGROUND

Staff is proposing a variety of miscellaneous amendments to the Land Use, Site Plan Review, and Subdivision Ordinances (collectively, the Town's zoning ordinances). The amendments are intended to correct existing typographical errors, to define previously undefined terms, to make the Ordinances more user-friendly to the average reader, and to update references to administration of the development review process.

The proposed amendments were workshopped by the Planning Board during their meeting on September 19, 2022. A draft copy of the minutes of this meeting are available on page 3 of this packet. In general, discussion during that meeting focused on the development review process. Additionally, the Board identified other priorities to be addressed as part of future substantive policy discussions (though these are not included in this round of updates, which are intended to be non-substantive in nature).

RECOMMENDATION & NEXT STEPS

The Planning Board's role in this case is simply to provide a recommendation to the Selectboard regarding whether or not to accept the amendments as proposed. Staff recommends a positive recommendation. If the Planning Board is in agreement, a suggested motion is: ***"I move to forward a positive recommendation to the Selectboard to adopt the amendments to the Land Use, Site Plan Review, and Subdivision Ordinances as proposed."***

If the Selectboard is in favor, a special town meeting will need to be scheduled to vote on the amendments.

Isabelle V Oechslie

Isabelle V. Oechslie
Town Planner
November 7, 2022

CHAPTER 101

LAND USE ORDINANCE
DAMARISCOTTA, MAINE

• • •

§101.4 DEFINITIONS

Except where specifically defined, all words used in this ordinance shall carry their customary meanings. The Word "shall" is always mandatory. The word "may" is always permissive. For the purposes of this Ordinance, the following words or terms shall have the following meanings, unless the context clearly indicates otherwise.

• • •

Sewered: Connected to the municipal sewer system.

Significant Tree: Trees having a diameter at breast height (DBH) of 30 inches or greater, or any trees which are located in shoreland areas (those areas within 250 feet of the normal high-water line of any great pond, river or saltwater body, within 250 feet of the upland edge of a coastal wetland, within 250 feet of the upland edge of a freshwater wetland, or within 75 feet of the high-water line of a stream).

• • •

§101.5 LAND USE DISTRICTS

• • •

A. MAP

1. The location and boundaries of the above districts are hereby established on the map entitled "Land Use Map of the Town of Damariscotta," dated January 23, 1998, as may be amended from time to time by majority vote at the Annual Town Meeting, certified by the attested or conformed signature of the Town Clerk. The most updated version of this map shall be on file in the office of the Town Clerk. Said map is hereby incorporated in and made a part of this Chapter and shall be the final authority as to the current status of district locations. Additional printed copies of said maps are also available in the Planning Department. ~~filed with the Town Clerk, which map is hereby made a part of this Ordinance. And, as amended June 10, 2015 on the map entitled "Damariscotta Maine – June 10, 2015 - Zoning Map" filed with the Town Clerk.~~
2. Where uncertainty exists with respect to district boundaries as shown upon such map the following rules shall apply:
   a. Unless otherwise indicated, district boundary lines are the center lines of roads, streets or rights of way.

b. The Official Zoning Map shall be the authority as to the boundaries of zoning districts, except in regard to the Shoreland Zoning Overlay Districts, which are more particularly described in Sec. 105.3. ~~Where discrepancy exists between the map and written description of each district, the written word shall prevail.~~

c. Where discrepancy exists between physical features existing on the ground and the Oofficial Zoning Mmap ~~and/or written district description~~, the Board of Appeals shall interpret the —district boundaries.

~~**DISTRICT DESCRIPTIONS (see Appendix A)**~~

B. DISTRICT REGULATIONS

1. SCHEDULE OF LAND USES

Land Use[2,6,7]	**District** (P=Permitted; C=Conditional)[6]					
Commercial/Service	**GR**	**C1**	**C2**	**R**	**WC**	**M**
Adult business establishments			C			
Art and crafts studios, antique shops and galleries	C	C	C	C		
Automotive services including repair		C	C			
Boat storage and repair			C			
Contractor's offices and associated facilities			C	C		
Day care centers (more than 12 children under 13 years of age)			C	C		
Day care centers (when, accessory to public schools, religious facilities, multi-family or ~~MF or~~ mixed						

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residential- developments, and mobile homeMH parks (see note 2))						
Day care facilities, small (3-12 children under 13 years of age)	C	C	C	C		
Drinking places		C	C			
Drive-thru facilities as an accessory use		C	C			
Engineering, management and professional offices and related services		C	C	C		
Equipment dealers and equipment repair			C			
Farmer's market	C	C	C	P		
Financial institutions including banks		C	C			
Formula business			C[3]			
Gasoline service stations			C			
Gasoline service stations which are a part of and subordinate to a retail use			C			
Hotels, motels, inns		C	C			
Lumber and building materials dealer			C			
Movie theaters except drive-in		C	C			

theaters						
Neighborhood stores		C	C			
New and used car dealers			C			
Personal Services		C	C			
Places of indoor assembly, amusement or culture		C	C	C		
Recreational vehicle, mobile home dealers			C			
Research and testing laboratories			C	C		
Restaurants		C	C			
Retail stores		C[3]	C[3]			
Service stations		C	C			
Veterinary facilities excluding kennels and humane societies			C	C		
Veterinary facilities including kennels and humane societies				C		

Industrial	**GR**	**C1**	**C2**	**R**	**WC**	**M**
Building and construction contractors			C	C		
Commercial solid waste disposal facilities						
Fuel oil dealers and related facilities			C			
Industrial uses						

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(includes assembling, fabricating, finishing, manufacturing, packaging or processing operations, including the processing of raw materials)						
Junkyards and auto graveyards						
Light manufacturing uses (other than industrial uses)			C			
Printing facilities including newspaper publishers and information services			C			
Recycling and reprocessing facilities			C	C		
Warehousing and distribution facilities and self-storage facilities			C			
Wholesale sales			C[3]			

Transportation	**GR**	**C1**	**C2**	**R**	**WC**	**M**
Airports or heliports				C		
Parking facilities as a principal use			C	C		
Transit and ground transportation facilities			C	C		

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including bus stations						
Truck wash facilities			C			

Public and Utility	**GR**	**C1**	**C2**	**R**	**WC**	**M**
Power transmission lines, substations, telephone exchanges, microwave towers or other public utility or communications use	C	C	C	C	C	C
Pumping stations, standpipes or other water supply uses involving facilities located on or above the ground surface and towers for municipal use	C	C	C	C	C	C
Solar energy systems (see §109 Solar Energy Systems Ordinance)						
Wireless communication facilities	C[4]	C[4]	C[4]	C[4]	C[4]	C[4]

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Institutional	GR	C1	C2	R	WC	M
Academic institutions, including buildings or structures for classroom, administrative, laboratory, art, theater, dining services, library, bookstores, athletic facilities and student recreational uses, together with buildings accessory to the foregoing permitted principal buildings or structures		C	C			
All medical and medical related facilities[8]			C			
Cemeteries	C		C	C		C
Civic and social organizations		C	C	C		
Congregate care and independent living facilities, assisted living facilities, institutions or services for the disabled, nursing care facilities, residential care facilities, group care facilities		C	C	C		

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Governmental buildings and operations		C	C	C		C
Hospitals, medical clinics			C			P
Municipal buildings and facilities	C	C	C	C	C	C
Museums, libraries, and non-profit art galleries and theaters		C	C			
Religious facilities		C	C			
Residential	**GR**	**C1**	**C2**	**R**	**WC**	**M**
Bed and breakfast establishments	C	C	C	C		
Bed and breakfast establishments as a home occupation	C	C	C	C		
Boardinghouse, rooming house or lodginghouse	C	C	C	C		
Home occupations	C	C	C	C		
In-law or accessory apartments	P[1]	P[1]	P[1]	P[1]		
Mixed residential developments (mixed single-family attached and detached, two-family and multi-family dwellings)	C		C	C		
Mixed single-family residential developments	C		C	C		

(mixed single-family attached and detached dwellings)						
Mixed use structures (one or more residential units and non-residential space)			C			
Mobile home parks				C		
Mobile homes on individual residential lots	P	P	P	P		
Multifamily dwellings		C	C	C		
Planned unit developments	C	C	C	C		
Single-Family attached dwellings	C	C	C	C		
Single-family detached dwellings on individual residential lots	P	P	P	P		
Two-family dwellings	P	P	P	P		

Natural Resource	**GR**	**C1**	**C2**	**R**	**WC**	**M**
Agriculture		C	C	P		
Community gardens	C		C	C		
Earth material removal				C		
Equestrian facilities				C		
Forest management and timber harvesting activities				P		

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Non-residential structures for educational, scientific or nature interpretation purposes, containing a maximum floor area of not more than ten thousand (10,000) square feet		C	C	C		
Plant nurseries		C	C	P		

Recreation	**GR**	**C1**	**C2**	**R**	**WC**	**M**
Campgrounds				C		
Commercial outdoor recreation such as playgrounds, facilities associated with boating and kayaking classes and rentals, climbing walls, zip line operations, skateboard parks and similar facilities and activities operated as a business and which require payment of a fee for usage or participation		C	C	C		
Drive-in theaters			C	C		
Fitness and recreational		C	C			

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sports centers						
Golf courses and related facilities				C		
Public or private facilities for non-intensive outdoor recreation			C	C		

Marijuana-Related	**GR**	**C1**	**C2**	**R**	**WC**	**M**
Home Cultivation of Marijuana	P	P	P	P		
Marijuana cultivation facilities			C[5]	C[5]		
Marijuana products manufacturing facilities			C[5]	C[5]		
Marijuana stores			C[5]	C[5]		
Marijuana testing facilities			C[5]	C[5]		
Medical marijuana manufacturing facilities			C	C		
Registered caregiver retail stores			C	C		

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Notes:

[1] As long as the requirements of Article 9.Q are met, accessory apartments are allowable under a permit from the Code Enforcement Officer (CEO). The CEO may forward an accessory apartment application to the Planning Board for review as a 'Conditional Use Permit' under the Site Plan Review Ordinance. NOTE: Accessory apartments are not allowed in overlay Shoreland Zones.

[2] Accessory buildings and uses to permitted uses are permitted; accessory buildings and uses to conditional uses are conditional.

[3] No outside storage

[4] Within the bounds of the Wireless Communications District

[5] Must be located at least 1,000 feet from schools

[6] A use which is not specifically listed as a permitted or conditional use within this table shall be regulated as a conditional use if the planning board determines that the proposed use is substantially similar to and compatible with permitted or conditional uses in that district.

2. DIMENSIONAL STANDARDS

Dimensional Standard8	Key: DU = dwelling unit					
~~Dimensional Standard~~[8]	District[2]					
	GR	C1[7,15]	C2[7, 14]	R	WC	M
Minimum land area, **Sewered**	10,000 sf per first principal building or DU, 6,000 sf thereafter	10,000 sf	10,000 sf per first principal building or DU, 6,000 sf thereafter	10,000 sf per first principal building or DU, 6,000 sf thereafter	[13]	10,000 sf per principal building
Minimum land area, **Non-sewered**	40,000 sf per DU	N/A	40,000 sf per principal building or DU	80,000 sf per principal building or DU	[13]	40,000 sf per principal building
Front Setback	20 feet[1]	[3]	20 feet [1, 12]	20 feet[12]	[12]	20 feet
Side Setbacks	15 feet	[4,5,6]	15 feet [9, 12]	15 feet[12]	[12]	0 feet
Rear Setback	15 feet	[4,5,6]	15 feet [9, 12]	15 feet[12]	[12]	0 feet
Minimum street frontage, **Sewered**	75 feet	None	100 feet	200 feet	[13]	200 feet
Minimum street frontage, **Non-sewered**	100 feet	N/A	100 feet	200 feet	[13]	200 feet
Maximum building height	35 feet	40 feet	40 feet[10]	35 feet[10, 11]	[10]	40 feet[10]

Notes:

[1] Or the average of existing setbacks on abutting properties

[2] Or as required by the Shoreland Zoning Ordinance

[3] For those lots with existing buildings, front yard setbacks shall be the same or greater than the setback of existing buildings on that lot. If a structure is removed as part of the project, the location of that structure may be considered as an existing building provided the permit for new construction remains valid. For those lots with no existing buildings, the setback shall be the average setback of buildings on abutting properties.

[4] If walls adjacent to side lot lines on buildings on both the applicants and adjacent property are of noncombustible construction as defined in this ordinance, the setback from the property lines may be reduced to 0 feet.

[5] If the conditions stated in note 4 are not met, then a minimum 10-foot buffer strip to the side or rear lot lines or a 20-foot separation distance to adjacent buildings shall be maintained.

[6] Yards abutting other districts shall be at least 15 feet deep and have a landscaped buffer strip.

[7] No single retail store whether located in a single building, a combination of buildings, single tenant space, and/or combination of tenant spaces shall exceed 35, 000 gross square feet of floor area in the aggregate. This size restriction shall apply to new retail stores and expansion of existing retail stores, effective November 1, 2005.

[8] Unless modified by the requirements of § 101.6.

[9] Except abutting the Municipal District they shall be 0 feet

[10] Maximum 190 feet for wireless communications facilities

[11] Water supply standpipes for water supply utilities may be 100 feet above the ground

[12] A new or expanded wireless telecommunications facility must comply with the setback requirements for the zoning district in which it is located, or be set back one hundred five percent (105%) of its height from all property lines, whichever is greater. The setback may be satisfied by including the areas outside the property boundaries if secured by an easement. The following exemptions apply: i. The setback may be reduced by the Planning Board upon a showing by the applicant that the facility is designed to collapse in a manner that will not harm other property. ii. An antenna is exempt from the setback requirement if it extends no more than five (5) feet horizontally from the edge of the structure to which it is attached, and it does not encroach upon an abutting property.

[13] The standards of the underlying district (C2 or Rural) will apply.

[14] See § 101.7 for additional performance standards for adult entertainment establishments

[15] The parking standards of the Site Plan Review Ordinance as amended for this district shall apply.

§101.6 GENERAL PROVISIONS

•••

F. Single Family, Two Family and Multi-Family Dwelling Units

1. Single Family dwelling units.
   a. Single family dwelling units shall meet all the dimensional requirements for the district therein.

2. Two family dwelling units.
   a. Lots for two family units shall meet all the dimensional requirements for single family dwelling units, except that the lot area shall be a minimum of 30,000 square feet per dwelling unit for lots that are unsewered and the road frontage shall exceed by 50% the requirements for a single-family dwelling unit.

3. Multi family dwelling units. Multi-family (3 or more) dwelling units shall meet all of the following criteria:
   a. Lot area shall be equal to the following minimum requirements:
      i. For lots, other than those in the C2 District, served by a private central collection system, the minimum area for 3 units shall be 60,000 square feet and an additional 10,000 square feet per dwelling unit for each unit thereafter.
      ii. For lots in the C2 District, the minimum area shall be as specified in Article 5.C.3.b, sewered.
   b. Lots for multi-family dwelling units shall meet all other dimensional requirements for single-family dwellings.
   ~~b.~~c. No building shall contain more than thirty-two (32) dwelling units, except housing for the elderly associated with extended care facilities, which shall contain no more than 45 dwellings.
   ~~c.~~d. Multi family dwelling units shall submit and comply with the requirements of the Damariscotta Site Review Ordinance.

G. Planned Unit Development

~~2.~~1. Purpose. The purpose of these provisions is to allow for new concepts of housing development where maximum variations of design may be allowed, provided that the net residential density shall be no greater than is permitted in the district in which the development is proposed except that for a planned unit development that is served by pubic water and sewer, up to one-half of the land area excluded from net residential acreage may be included in calculating permitted residential density.

~~3.~~2. Basic requirements. Planned unit developments and cluster developments shall meet all of the following criteria:

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a. All planned unit and cluster developments shall meet all requirements for a residential subdivision.

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I. Accessory Apartment

1. Purpose: The purpose of accessory apartments is to allow single-family house owners to create a living space for a relative, such as a grandparent, or to rent to another household, thus helping to enable the single-family house owner to remain in her/his home. The house owner may live in the accessory apartment and provide or rent the main house to a relative or another household. The single-family house owner may also use an accessory apartment to rent for additional income.

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2. Regulations:

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a. The house owner must reside in either the main house or the accessory apartment.

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§101.8 ADMINISTRATION

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F. Building Permits

1. Applicability. The provisions of this section apply to all structure(s) constructed, reconstructed, enlarged, relocated or moved in the Town of Damariscotta. This Ordinance does not require permits for maintenance and repair, or for accessory structure(s) or addition(s) of less than 100 square feet. Except that, all accessory structure(s) or addition(s) of less than 100 square feet within the Shoreland Zone shall obtain permits.

   The provisions of this Section shall apply to any change in ownership of any commercial enterprise within the Town of Damariscotta.

2. Permits Required. The owner of the property shall obtain a permit issued by the Code Enforcement Officer for all structure(s) constructed, reconstructed, enlarged, relocated in or moved to the Town of Damariscotta, prior to the fact.

   a. Application. The application for the permit shall be in writing on a form available from the Municipal Office, and shall contain:

      i. a description of any structure(s) prior to their construction, reconstruction, enlargement, or relocation in or movement to the Town of Damariscotta is contemplated;

      ii. a description of the establishment of any commercial business in the Town

of Damariscotta or change in a business establishment, regardless of the size of the floor area;

Each application shall contain a drawing of the structure(s) and a plan of the site shall accompany the application. The drawing shall include project dimensions, distances to property lines, names of abutters, roads, streets and bodies of water, location of sewer disposal and water supply. When required by the State Plumbing Code, the Code Enforcement Officer shall require evidence of adequate capacity of the septic system to support the structure(s) contemplated.

b. Permit Approval. The Code Enforcement Officer, after receipt of the application, shall either issue the requested permit or transmit notice of refusal to the applicant within a reasonable time, not to exceed five (5) working days for residential applicants, and fifteen (15) working days for commercial applicants. The application shall be approved if all relevant ordinance requirements have been met. Notice of any refusal shall be in writing and shall state the reason therefore. All other permits required for the proposal shall be obtained prior to issuance of the permit.

c. Modifications. Any modifications to the description, drawing, or site plan required in Section 6 (a) of the proposed structure(s) shall require a revised permit application and a permit prior to beginning the work.

d. Appeals. An appeal to the Board of Appeals may be taken from an order issued by the Code Enforcement Officer or from his refusal to grant a permit. Such appeal shall be filed within thirty (30) days of the date of the order being appealed, accompanied by a $50.00 fee to cover the cost of appeal. The board may reverse the decision, or failure to act, of the Code Enforcement Officer only upon a finding that the decision, or failure to act, was clearly contrary to specific provisions of this Ordinance or unsupported by weight of the evidence in the record.

e. Duration of Permit. All building permits shall be void unless there is substantial completion of the project within three (3) years of the date of the permit. Construction authorized by a permit and which is not completed within three (3) years of the effective date of the permit shall not continue until another permit is obtained.

f. Conditional Use Permit. In cases where the CEO believes that a Conditional Use Permit is required, the CEO shall also provide a copy of his decision to the Planning Board.

g. Records. Applications for permits with their accompanying plans and Building Permits shall be maintained as a permanent record by the Municipal Officers and the Code Enforcement Officer.

h. Other Permits. Where plumbing or septic work is required to make a building habitable, no Building Permit shall be issued unless a Plumbing Permit has been previously obtained. All sewerage and water connections and systems must comply with the regulations of the Maine State Plumbing Code.

~~3.~~ Fees. Fees shall be as described on the Town of Damariscotta Fee Schedule, as may be amended

from time to time at Town Meeting.~~A fee payable to the Town of Damariscotta in accordance with the following shall accompany each application:~~

~~a. Commercial or Industrial:~~

~~Under 10,000 square feet~~	~~$0.30 per square foot~~
~~10,001 to 25,000 square feet~~	~~$0.15 per square foot~~
~~More than 25,000 square feet~~	~~$0.10 per square foot~~

~~b.~~	~~Residential~~	~~$0.15 per square foot With a maximum fee of $250.00~~
~~c.~~	~~Accessory Structure or Addition (such as deck, garage, greenhouse, barn, etc.~~	~~$0.10 per square foot~~
~~d.~~	~~Swimming Pool, (in-ground or above-ground)~~	~~$25.00~~

~~e. After-the-fact Permit Fee:~~

~~If work is performed which requires a permit, but the permit is not obtained until after the work has begun, in addition to any other fees and fines, the fees for such after-the-fact permits shall be two (2) times the regular permit fee or $100.00, whichever is greater.~~

~~f. Variance and Conditional Use Hearing Fee:~~
~~For each Variance and Conditional Use hearing required, a fee will be charged to cover administrative and advertising expenses as follows:~~
~~administrative expenses $50.00~~
~~advertising fee $30.00~~

3. ~~These fees are subject to adjustment as deemed appropriate by the Board of Selectmen after public hearing.~~

4. Proof of Compliance. No building shall be occupied after its construction, reconstruction, enlargement, or relocation in or movement to the Town of Damariscotta until a Certificate of Occupancy has been issued by the Code Enforcement Officer. The Code Enforcement Officer shall issue said Certificate after proper examination shows that all work performed is in compliance with the provisions of all State and Local codes.

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§101.9 APPEALS AND CONDITIONAL USES

A. Authority

1. All Appeals or applications for C~~c~~onditional Use Permits shall be based upon a written decision of the Code Enforcement Officer or the Planning Board.

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§101.12 AMENDMENTS

1. All changes and amendments to this Ordinance must be made at a regular or special Town Meeting of Damariscotta, by a majority of the governing body.
2. All changes and amendments to this Ordinance must first be presented to the Planning Board for a public hearing thereon. Notice of the hearing before the Board shall be made in at least one newspaper of general circulation in the area twice, the date of the first publication must be at least 12 days before the hearing and the date of the second publication must be at least 7 days before the hearing, with said published notice including a small map of the area to be affected, as required by 30-A M.R.S.A § 4352(9) as may be amended.
3. When a proposed change will impact only a specific geographic area within the municipality, mailed notice also shall be made to all property owners impacted by the proposed change. This mailed notice shall follow the procedures required by 30-A M.R.S.A § 4352(10), as may be amended.

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§101.13 EFFECTIVE DATE

The effective date of this Ordinance is 1 April 1998 and revisions as of 2/23/2002, 6/12/2002, 7/10/2002, 12/4/03, 11/10/04, 3/21/06 6/11/08,1/21/09, 3/18/15, 3/10/15 and June 15, 2016.
Revised 11/05/2019, effective 01/06/2020 – Medical and Adult-Use Marijuana

§101.14: REPEAL OF EXISTING ORDINANCES:

The enactment of this ordinance hereby amends the Land Use Ordinance of November 16, 2016.

Legislative History:

Revised 3/23/98
Revised 2/23/2000: Article 2 - Definition of Light Manufacturing and Article 3. C.2.b Other Commercial (C2)
Revised June 12, 2002: Wireless Communication
Revised July 10, 2002
Revised December 4, 2003: Article 10 – Building Permits, Article 3 – Districts, Article 5 – Commercial Districts, Article 8 – Municipal District; renumbered several sections for clarity. Revised November 10, 2004: Article 9 F (3)
Revised March 21, 2006: Article 5-Commercial Districts A; B(3)3; C(3); Article 9-General Provisions F(3) a.1.a & b
Revised June 11, 2008 – Revisions to Board of Appeals: Article 11
Revised January 21, 2009 – Revisions to Article 6 – Rural district and Article 2 - Definitions
Revised March 18, 2015-Revisions to -Adult Entertainment, Article 5(C)(2) Conditional Uses, Article 5(C)(3) Standards, Article 12 Adult Entertainment Establishment Definitions and Standards
Revised June 10, 2015: Art. 3.C.2.b - Change to Comm. C2 boundary near Biscay Rd.
Revised June 15, 2016: Art. 3.C.2.b – Change from Rural to C2 District, Lots 1/67 & 3/32
Revised November 16, 2016: Art. 2, 4, 5, 6, 9 – insert Accessory Apartment Ordinance
Revised November 5, 2019 – effective January 6, 2020 – Medical and Adult-Use Marijuana & edibles
Revised June 15, 2022: §101.4 Definitions, §101.6.D.1 Update Uses in Land Use Table, Add Formula Businesses, §101.6.D.2 Increase GR and R Residential Density, §101.6.G Expand Provisions for PUDs

A certified copy of this Ordinance shall be filed with the Municipal Clerk and shall be accessible to any member of the public. Copies shall be made available to the public at reasonable cost at the expense of the person making the request. Notice of availability of this Ordinance shall be posted.

APPENDIX A

DISTRICT DESCRIPTIONS

1. GENERAL RESIDENTIAL DISTRICT

a. Land South of Business Route One.

Beginning at the intersection of Bristol Road and the town line of Bristol and Damariscotta; thence easterly along the town line 2700 feet; thence North to the Northeast Corner of Lot 14-19 of Map 1; thence westerly along the southerly bound of Lot 19, Map 1 to a point 500 feet east of the center line of Bristol Road; thence northeasterly parallel to the center line of Bristol Road and School Street, 500 feet east of each to a point making the southeast corner of Lot 25, Map 10; thence northwesterly along the easterly line of Lot 25 to a point 500 feet from the center line of Business Route 1; thence westerly parallel to and 500 feet from the center line of Business Route 1 until converging at the southerly corner of Lot 30, Map 9; thence

along the easterly and northerly lines of Lot 31A to the intersection with the westerly line of Lot 31, Map 9; thence northwesterly to the southwest corner of Lot 119, Map 6; thence northerly along the easterly lines of Lots 122, 121, and 120 of Map 6 to the intersection with the center line of Business Route 1; thence northwesterly along Business Route 1 to its intersection with the Bristol Road Extension; thence southwest along the center line of the Bristol Road Extension to the Bristol Road; thence southeasterly along the center line of Bristol Road to the intersection with Cross Street; thence westerly along Cross Street to the northeast corner of Lot 128, Map 6; thence southerly to the southeast corner of Lot 128; thence westerly to the northwest corner of Lot 125; thence southerly to the southeast corner of Lot 134; thence westerly along the northerly bound of Lot 134A to the center line of Water Street; thence northerly along Water Street to the northeast corner of Lot 3, Map 6; thence westerly along the northerly bound of Lot 3 to the shore and water of the Day's Cove; thence following the shore and water of Day's Cove to the southwest corner of Lot 3, Map 9; thence following the northerly, easterly, bounds of Lot 63, Map, the easterly bounds of Lots 29, 30 of Map 11, and the easterly and southerly bound of map 27, Map 11 to the Shore of the Damariscotta River; thence following the shore south to the Bristol Town line; thence easterly to the point of the beginning.

b. Land westerly of Business Route 1.

Beginning at the shore of Cottrell's Cove at the Northeast corner of Lot 41, Map 6; thence southeasterly along the sideline of Lot 41 to the centerline of Elm Street; thence along Elm Street to the Northeast corner of lot 70; thence following the easterly line of Lot 70, and the northerly and easterly lines of Lot 83 to Business Route 1, thence along Business Route 1 to the intersection of Vine Street and Business Route 1; thence easterly along Vine Street to lot 112, Map 6; thence follow the westerly bound of Lot 112 to the Southeast corner of Lot 95; thence to the southwest corner of Lot 94; thence easterly to the southeast corner of Lot 90; thence along the westerly bound of Lot 90 to the centerline of Chapman Street; thence along Chapman Street to the southwest corner of Lot 11 Map 7; thence north along sideline of Lot 11 100 feet; thence easterly to the southeast corner of Lot 18A. Northerly along the East bound of Lot 18A to the

centerline of Church Street; thence easterly along Church Street to the Northeast corner of Lot 13; thence along the west, south and east lines of Lot 16 to the southeast corner of Lot 15; thence easterly along the north bound of Lot 13, crossing School Street and along the south bound of Lot 49, Map 7 to the centerline of the "Crick"; thence south along the stream to the southwest corner of Lot 48; thence following the southerly line of Lot 48 to its intersection with Lot 23, Map 8; thence continuing to a point of intersection with a line 200 feet from and parallel to Business Route 1; thence easterly along this line to its intersection with Lot 21; thence westerly to the centerline of Church Street; thence along Church Street to the southwest corner of Lot 7, map 8; thence along the west line of Lot 7 and across Lot 6 to the intersection of the north line of Lot 6 and 500 feet from the centerline of Business Route 1; thence northerly along this line 500 feet from and parallel to the centerline of said road to Lot 17, Map3; thence westerly to the shore of the Damariscotta River; thence southerly following the shoreline to the point of beginning.

2. COMMERCIAL

a. Downtown Commercial (C1)

Beginning at the shore of Day's Cove and the north bound of Residential I; thence easterly along the northerly line of Residential I to its intersection with Business Route 1 and Bristol Road; thence to the southwest corner of Lot 84, Map 6; thence along the easterly and northerly lines of Lot 83 and the east line of Lot 70 to the center line of Elm Street; thence west along Elm Street to the southeast corner of Lot 41; thence northerly along the sideline of Lot 41 to Cottrell's Cove; thence westerly along the shore to the point of beginning.

b. Other Commercial (C2)

Beginning at the intersection of Business Route 1 and Main Street; thence northerly along the boundary of the C1 District to the northeast corner of lot 83, Map 6; thence along the western and southern and eastern boundary of General Residential district (west of Business Route 1 to Lot 17, Map 3; thence continuing 500 feet west of Business Route 1 to the intersection with the southerly bound of Lot 32, Map 3; thence westerly along the southern bound of Lot 32, Map 3; thence northerly along the western bound of Lot 32, Map 3 to a point 500 feet south of the centerline of Belvedere Road; thence westerly 500 feet south of the centerline and parallel to Belvedere Road to the intersection with the eastern bound of Lot 33-1, Map 3; thence northerly to a point 500 feet north of Belvedere Road; thence easterly to the intersection with the western bound of Route 1; thence northerly following Route 1 to the intersection with the eastern side of the Midcoast Road; thence following Midcoast Road and the Center Street to the northwest corner of Lot 64E, Map 3; thence easterly to the northeast corner of Lot 64E; thence south to the intersection with lot 64C, thence easterly to a point 500 feet easterly of the centerline of Route 1; thence south following a line 500 feet from the centerline and parallel to Route 1 to its intersection with Business Route 1; thence southerly following a line 500 feet east of and parallel to Business Route 1 to the northerly bound of lot 14, Map 3, thence easterly to the northeast corner of lot 14; thence southerly following the easterly bound of lot 14 to the southwest corner of lot 12B, Map3; thence easterly in a straight line parallel to the northerly bound of lot 10, Map 3,

~~crossing lot 7 Map 3 to the northeast corner of Lot 8, Map 3 (which is also the southwestern corner of Lot 12-4 Map 3), thence northerly along the eastern boundary of Lot 7, Map 3 (which is also the western boundary of Lot 12-4 Map 3) to the northeasterly corner of Lot 12-4, thence easterly along the northerly boarder of Lot 12-4, Map 3 to a point about 325 feet to the east, thence southerly along a straight line (approximately parallel to the eastern boundary of Lot 7, Map 3) to the northeastern corner of Lot 8, Map 3 and then following the northerly bound of Lot 7-1, Map 3 to a point 200 feet east of the southwest corner of Lot 9, Map 3; thence southerly to a point 500 feet south of Biscay Road; thence westerly (parallel to and 500 feet from Biscay Road) to the easterly bound of Lot 67, Map1; thence southerly along the easterly bound of Lot 67, Map 1 to the southerly bound of Lot 67, Map 1; thence westerly along the southerly bound of Lot 67, Map 1 to the center line of Heater Road; thence southerly to the southeast corner of Lot 59, Map 1; thence westerly to the intersection with the point 1000 feet east of Business Route 1; thence southerly following a line 1000 feet east of and parallel to Business Route 1 to the intersection of the general Residential District (south of Business Route 1); thence westerly following the northerly bound of the Residential District to the point of beginning. Also included are the Lots 63, 64, 65 and 66 of map 9 and Lots 27, 29 and 30 of Map 11. Excluded from the C-2 District is the new lot 13A, Map 7 created by the gift of land given to the Town and defined in the new Municipal District.~~

~~3. RURAL DISTRICT~~

~~Beginning at the westerly shore of Biscay Pond at the Bristol Town line; thence westerly along the town line to a point of intersection with the General Residential District (south of Business Route 1);thence northerly following the boundary of the General Residential District to its intersection with the southerly bound of District C2; Thence along the boundary of C2 north to it northerly terminus; thence westerly and southerly following the westerly boundary of C2 to its intersection with the northerly bound of General Residential District at Lot 17, Map3; thence westerly to the shore of the Damariscotta River; thence northerly following the shore of the Damariscotta River and Oyster Creek to the intersection with the Nobleboro town line; thence easterly along the town line to its intersection with the shore of Pemaquid Lake; thence southerly following the western shores of Pemaquid Lake and Biscay Pond to the point of beginning.~~

~~4. WIRELESS COMMUNICATIONS DISTRICT~~

~~Beginning at the intersection of Route 1 and the northerly town line, proceed easterly along the town line a distance of 1000 feet; thence southerly parallel to and 1000 feet from Route 1 to the intersection of the northerly bound of Lot 10, Map 3; thence easterly along the north boundary of the C2 district to its easterly extent; thence southerly to the centerline of Biscay Road; thence westerly along Biscay road to the intersection of Business Route 1; thence north following Business Route 1 and Route 1 to the point of beginning.~~

~~5. MUNICIPAL DISTRICT~~

~~Beginning at the Southeast corner of Lot 13A, Map 7, of the Town Tax Maps, 2003, proceed northerly along the easterly boundary of Lot 13A, Map7, to the northeast corner of the lot, thence westerly along the northerly boundary to the northwest corner of the lot and thence southerly along the west boundary to its intersection with Chapman street, thence easterly to the point of beginning.~~

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Chapter 102

SITE PLAN REVIEW ORDINANCE
DAMARISCOTTA, MAINE

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i.§102.2 PURPOSE

Substantial development or major changes in the use of land cause a profound impact on the cost and efficiency of municipal services and on the environment of the town. Such development can have adverse impact on schools, sewers, water lines, and other public utilities; recreational facilities; liquid and solid waste disposal; police and fire protection; open space; road systems and circulation; traffic congestion, safety and access; emergency access; placement of buildings and structures; property values; water supply and quality; management of stormwater~~storm water~~, erosion, and sedimentation; protection of the groundwater; protection of historic and archaeological resources; adverse impacts upon adjacent properties, the visual characteristics of the neighborhood and Town. The site plan review provisions set forth in this ordinance are intended to protect the public health and safety, promote the general welfare of the community, and conserve the environment, wildlife habitat, fisheries, and unique natural areas; and to fit the project harmoniously into the fabric of the community by assuring that the following objectives are accomplished with the least possible regulation:

A. To minimize impacts caused by nonresidential, multifamily residential, and other developments described in §102.3, in a manner, which assures that adequate provisions are made for all of the concerns, listed above.

B. To establish a Site Review procedure whereby Town officials will review, depending on the size of the project, new proposals to use land and buildings for uses listed in paragraph A above. The Ordinance also applies to the review of significant expansion, significant front-facing façade renovation or change-of-use in previously approved developments.

C. To establish a fair and reasonable set of standards for evaluating each development proposal impartially on its own merits;

D. To provide a Public Hearing process where required by the Ordinance through which town residents may raise questions and receive answers about how new development proposals would affect them;

E. To suggest ways in which development proposals may be modified so that potential problems and nuisances can be minimized or eliminated;

F. To exempt conventional lot by lot residential subdivisions already regulated under the town's Subdivision Ordinance, and other residential uses described in §102.3.

G. To minimize the review process of existing land uses and developments. Replacing structures, significant changes to design or landscape plans are not exempt from this Ordinance (see §102.2.B).

H. To balance the right of landowners~~land owners~~ to use their land for purposes stated in §102.2(G) above, with the corresponding right of abutting and neighboring landowners~~land owners~~ and other citizens of the Town to live without undue disturbance from noise, smoke, fumes, dust, odor, glare, traffic, or storm-water runoff, or the pollution of ground or surface water resources.

I. To provide local protection from those particular nuisances which are not governed by State law or regulations;

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J. To protect property values;

K. ~~Comprehensive Plan.~~ To ensure that new development is located and designed in a way as to be consistent with the adopted~~Damariscotta~~ Comprehensive Plan of the Town of Damariscotta.

ii.

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§102.4 DEFINITIONS

Meaning of Words. All words not defined herein shall carry their customary and usual meanings. Words used in the present tense shall include the future. Words used in the singular shall include the plural.

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EXPANSION -

1. An increase of the building footprint and/or increase in the height of the structure beyond its present~~it present~~ highest point. Alterations of existing buildings which are required in order to meet the requirements of the Americans With Disabilities Act (ADA) and/or State Fire Code are not considered to be enlargements or expansions of a structure and are not required to meet otherwise applicable setback requirements, provided the alterations are the minimum necessary to satisfy the ADA and/or State Fire Code.

2. Any intensification of use in time, volume or function, whether or not resulting from an increase in the footprint, height, floor area, land area or cubic volume occupied by a particular use. Increases which are required in order to meet the requirements of the Americans With Disabilities Act and/or the State Fire Code are not considered to be enlargements or expansions of use.

3. (As it applies to telecommunication facilities) - the addition of antennas, towers or other devices to an existing structure.

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SIGNIFICANT TREE – Trees having a diameter at breast height (DBH) of 30 inches or greater, or any trees which are located in shoreland areas (those areas within 250 feet of the normal high-water line of any great pond, river or saltwater body, within 250 feet of the upland edge of a coastal wetland, within 250 feet of the upland edge of a freshwater wetland, or within 75 feet of the high-water line of a stream).

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b. §102.5 PRE-APPLICATION AND APPLICATION PROCEDURES:

A. General Pre-Application: The applicant shall meet with the ~~obtain a Site Plan Application Form with Checklist and Flow Chart (that specifies conditional triggers for the time sequence of the process – Appendix A). Applicant shall fill out Application to the maximum feasible extent and and set a possible meeting date with the Town to review the Site Plan Review application. The project should be reviewed informally with~~ Code Enforcement Oofficer and Town Planner~~Board Chairman (or Planner)~~ to determine if the proposed project will~~it~~

generally conforms to applicable ordinance requirements. If the project appears to conform to applicable ordinance requirements, the applicant may request to be placed on the Planning Board's agenda for a Pre-Application Sketch Plan review as described in subsection B below.~~shall complete a building permit application, provide supporting documents and pay only the Site Plan Application fee and submit it with the Site Plan Review Ordinance application.~~

~~To be placed on the agenda for Pre-Application Sketch plan review, the applicant shall submit those items contact the Town Office at least 10 days prior to meeting. If the agenda for said meeting is full, the Chair of the Planning Board may place the project on the agenda of the next available meeting. Refer to Pre-application Procedures below for required documents.~~

~~To submit an application for review, 10 copies of a completed application and supporting documents and plans (each in a bound, stapled or otherwise attached report) along with the Site Plan Review fee, must be submitted to the town office no later than 15 business days prior to the next regularly scheduled Planning Board meeting. If the agenda for said meeting is full, the project shall be placed on the agenda of the next available meeting.~~

B. Pre-Application Procedures~~: The following procedures and requirements shall apply to all applications for Site Plan Review~~:

1. Prior to submitting an application the applicant may meet informally with the Board at a regular meeting to present a sketch plan, generally discuss the proposal and to obtain guidance in development of the plan and how to ensure it conforms to town ordinances. In order to be placed on the Board's agenda, the applicant must submit the following to the Town Planner at least 10 days in advance of an upcoming meeting: ~~shall be. The sketch plan may be a freehand drawing and will show:~~

    a. A cover letter describing the proposed project;

    ~~a.~~b. The outline of the tract or parcel with estimated dimensions, road rights of way and existing easements;

    ~~b.~~c. The proposed layout of the building(s), driveways, and parking areas; identification of general areas of steep slopes, wetlands, streams, and flood plains;

    ~~c.~~

~~d.~~ Any o~~O~~ther information pertinent to the project.~~;~~

2. There shall be a presumption of no waivers being allowed to Section 10 of this ordinance concerning submittals. Upon written request by the applicant the Board may allow a waiver(s). The burden of proof is on the applicant to prove why waivers to any standards are needed. Applicants shall provide documentation as to the negative effects of being denied waiver(s).

~~3. The Board shall indicate any additional studies and other approvals from local and regional and State agencies that may be required. Letters from these agencies shall be included as a part of the application and/or review.~~

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34. The Board may, at its discretion, make an inspection of the site prior to submission of the full Site Plan application.

~~5. Within 30 days from submission of a pre-application and sketch plan and following an on-site inspection, if applicable, **the Board shall submit in writing to the applicant a checklist** of the specific information which shall be included in the formal application to the Board (see Appendix A).~~

Commented [1]: No longer needed as the checklist of what is required is posted to the Town's website, available for applicants to see prior to even submitting a pre-application.

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E. Submission Requirements (except Wireless Telecommunications facilities): The application shall include ~~10 copies of all of~~ the following:

1. A fully executed and signed copy of the application for site plan review.
2. Evidence of right, title, or interest in the property such as deed, option to purchase, lease, or agreement.
3. A site plan drawn at a scale sufficient to allow review of the items listed under the preceding general standards but not at more than 50 feet to the inch for that portion of the total tract of land being proposed for development. At all preliminary and final plan stages in the review process at least two plans must be presented by the applicant on 24x36' sheets hang-able from an easel to facilitate Board review and at the largest scale possible for the size of the sheet, e,g. 20, 30 or 40 feet to the inch but no less than 50 feet to the inch. In addition, applicants may also electronically project their plans visually onto the wall with an image size sufficient for easy interpretation of all details including any wording. The site plan shall show the following:

   a. Names and addresses of all abutters on the plan and names and addresses of all abutters on a separate listing.

   b. Sketch map showing general location of the site within the town.

   c. Boundaries of all contiguous property under the control of the owner or applicant regardless of whether all or part is being developed at this time.

   d. The bearings and distances of all property lines and the source of this information. The Board may waive the requirement of a formal boundary survey when sufficient information is available to clearly establish, on the ground, all property boundaries.

   e. Classification(s) of the property and the location of zoning district boundaries as applicable.

   f. Soil types and location of soil boundaries suitable for waste water disposal as certified by a registered engineer or soil scientist.

   g. The location of all building setbacks and buffers required by this or other ordinances of the Town of Damariscotta.

   h. The location, size, and character of all signs and exterior lighting.

   i. The location of all existing and proposed buildings (including size and height),

driveways, sidewalks, parking spaces and associated structures, snow storage areas, loading areas, open spaces, Significant ~~large~~ T~~t~~rees, open drainage courses, signs, exterior lighting, service areas, easements, and landscaping.

j. The location of all buildings within 50 feet of the parcel to be developed and the location of intersecting roads or driveways within 200 feet of the parcel.

k. Existing and proposed topography of the site at two foot contour intervals if major changes to the existing topography are being proposed.

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F. Submission Requirements for Wireless Communication Facilities: The application shall include ~~10 copies of all of~~ the following:

1. Documentation of the applicant's right, title, or interest in the property on which the facility is to be sited, including name and address of the property owner and the applicant.

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G. Notification and Hearing requirements

1. The Applicant shall notify all abutting property owners by certified mail, return receipt requested, of all requests for site plan review. If two or more abutters, or 5 residents of the Town, object in writing, and such objection is received by the Board, or postmarked, within 15 days after a public notice of the request for Site Plan Review, the Board shall schedule a public hearing on the proposal. Such hearing shall be scheduled within 30 days of acceptance of an application as complete.

2. The Board shall schedule a public hearing and site visit for applications containing one or more buildings with an individual or total footprint of 7,500 sq. or more pursuant to §102.5.G.1. The Board may at its own discretion hold a public hearing and site visit for projects with a smaller footprint than 7,500 sq.ft. The Board shall give written notice of the date, time, and place of such a hearing to the person making the application, and the applicant shall arrange with the ~~–~~Town Office to pay for the cost of publishing such notice. ~~-~~Such notice shall be published by the Board in a newspaper of general circulation in Damariscotta at least two (2) times; the date of the first publication to be at least seven (7) days prior to the hearing. Written notification by the Board of the hearing shall also be sent to the applicant and adjacent property owners by certified mail, return receipt requested, at least seven (7) days prior to the hearing.

3. If other agency permits are required, such as D.O.T. traffic movement permits, with road work~~roadwork~~ involved, notifications as described in subsection G1 above shall be expanded as follows:

a. All property owners and lessees affected by the road modifications shall be notified by publication of intent in a newspaper of general circulation in Damariscotta.

b. Copies of the notifications shall be submitted with the application.

H. Board Review

2. Within 45 days of the Board finding the application complete or within 45 days after the conclusion of a public hearing, the Board shall vote to approve, approve with conditions or disapprove the application. This period may be extended by mutual written agreement (such as by being recorded in the Board meeting Minutes).

2. The Board shall inform the applicant in writing of its decision (by a Notice of Decision) on final plan applications within fifteen (15) days of ~~their~~ its action. ~~.~~ The 15 day period may be extended by mutual agreement in writing (email approvals are acceptable) to 30 days for good cause such as, but not limited to, a heavy work schedule by the Town Planner or other staff of the Planning Board.

3. One copy of the approved site plan shall be retained in the Town Office and one copy shall be given to the Code Enforcement Officer.

4. The Board may require the posting, prior to final approval of any plan, of a performance bond, agreement, or letter of credit in such amount as is approved by the Board as being reasonably necessary to insure completion of all improvements required as conditions of approval of such plan, and in such form as approved by the Planning Board and the Selectmen.

5. The Board may attach reasonable conditions to approvals to ensure conformity with the purposes and provisions of this ordinance. The Board may condition final approval on receipt of copies of all state or federal permits required by the project including, but not limited to, Natural Resource Protection Act Permit, Traffic Movement Permit, Site Location of Development Permit and US Army Corps of Engineers permits.

6. If the application concerns property which in whole or part is within any Shoreland Zone, the criteria included in the Shoreland Zoning Ordinance shall be reviewed concurrently with the Site Plan Review.

7. All approvals shall expire within one year of the date of issuance unless work thereunder is substantially commenced within one year from the date of approval. Applicants may request an extension to an approval for up to one year, if received in writing by the Planning Board before the expiration of the original approval. I~~However, i~~f work is not substantially completed within two years from the date of issue of an approval, a new application may be required by the Board.

8. Approvals may be made for site plans designated for construction over two or more phases. The Board may require the applicant to come back before the Board with proof of technical and financial capacity for the Board's approval before the applicant may apply for building permits for constructing each phase. Securing of building permits and work on the designated first phase must commence within one year of the initial approval of the over-all plan. Approval of the first phase may include the Board's requirement to construct some elements of the overall plan such as the overall stormwater management system or the overall parking and internal circulation plan. Building permits and work must commence within two year after the applicant has come back to the Board for approval of the technical and financial capacity of the second or further phases of the site plan.

i.§102.6 PERFORMANCE STANDARDS

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B. Relationship to Environment and Neighboring Buildings

1. Proposed structures shall be related harmoniously to the terrain and to existing buildings in the vicinity which have a visual relationship to the proposed building.

2. Except in the Downtown Commercial (C1) Area, the following setbacks and buffers from parking/paved areas shall be provided:

   a. Frontage on Road: For new Construction along the C2 area of Rte. 1B (Upper Main Street), a 50 foot buffer/setback from the property line to parking/paved areas will be maintained. In other districts a 15 foot buffer from the property line to parking/paved areas is required.

   b. Side and rear lot lines: For developments resulting in more than 50% of the parcel covered in impervious surface and/or with a parcel size greater than 3 acres a 30 foot minimum buffer strip with undisturbed natural vegetation from the property line to any parking/paved areas will be maintained.

3. In the Ddowntown Ceommercial (C1) area, the following setbacks for parking areas shall be ~~————————~~provided:

   a. Frontage on road: Setbacks for parking shall be the same as that for structures as required by the Damariscotta Land Use Ordinance.

   b. Side and rear lot lines: No setbacks are required for parking areas in this district.

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5. The applicant shall demonstrate to the satisfaction of the Board that the proposed lighting is appropriate for the intended use. The Board shall consider the hours of operation, characteristics of the neighborhood and the specific activities proposed in making its determination. During nighttime hours when the activity is not occurring, exterior lighting at all commercial and other non-residential properties, as a condition of approval, shall~~approval **shall**~~ be required by the Board to be turned off to the minimum security level.~~.~~ Some exterior lighting at **residential** properties may be required to be turned down or turned off.

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7. Non-~~-~~parking lot pathways, sidewalks and trails may be lighted with low mushroom-type standards or bollard type lights 3 feet or less in height.

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G. Access into the Site

Vehicular access to and from the development must be safe and appropriate.

1. Any driveway or proposed street must be designed so as to provide the minimum sight distance according to the Maine Department of Transportation (MDOT) standards. Unless otherwise specified by MDOT, the following standards apply:

Posted Speed - Required Sight Distance **(1)***	
25 mph	200 ft
30 mph	250 ft
35 mph	305 ft
40 mph	360 ft
45 mph	425 ft

***(1) Sight distance shall be increased by up to 50% if 30% or more of the vehicles using the proposed driveway or street will consist of vehicles larger than pickup trucks**

2. For developments on lots of record (created after the effective date of this Ordinance), the applicant shall meet, to the maximum extent possible, the above MDOT sight-distances. When meeting their MDOT sight-distances adjacent to said lots of record is clearly a hardship, the Planning Board may vary the sight-distance requirements so long as the public safety is substantially served.

3. Points of access and egress must be located to avoid hazardous conflicts with existing turning movements and traffic flows. The proposed site layout shall provide for safe access to and egress from public and private roads. Provision shall be made for providing and maintaining convenient and safe emergency vehicle access to all structures at all times.

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H. Parking and Circulation

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3. Off-street Surface Parking Lot Placement

   a. In no case shall parking lots be located between the front facade of principal buildings and the primary abutting streets unless the Planning Board and the parking area is screened from view from the frontage street based upon an affirmative showing by the applicant based on clear and convincing evidence in which case the building and parking areas must be screened by appropriate landscaping from the frontage street in a manner agreed to by the applicant and the Town's consultants and planners. Developments consisting of out buildings (defined in §102.7.H.2) (i.e. buildings less than seven thousand, five hundred (7,500) square feet of floor area) and placement of 6 foot walls, singly or together may be used to screen parking areas.

   b. Parking lots shall be set back a minimum of 15 feet from the lot line along non-frontage streets excluding alleys (see §102.6.T Buffer Areas). In the C1 Downtown Commercial District parking lots may be set back 15 feet from non-frontage streets or in accordance with the Land Use Ordinance, whichever is less.

4. Developments containing interior vehicular and pedestrian circulation shall provide layouts that demonstrate safe and efficient movement. The designs will show parking arrangements, flow and separation for vehicles and pedestrians along with designated service/loading areas.

5. Parking areas shall be off street and designed so that vehicles leave the parking area in a forward motion. To minimize the number of entrances onto~~on to~~ the main travel way, a single combined entrance/ exit is encouraged, while a maximum of 2 separate curb cuts is permitted. For those lots in the C2 District as defined herein, the requirements of this paragraph may be modified to fit the prevailing pattern of development.

6. Parking Lot Lay-out

   a. Parking lots shall be divided into small areas of no more than 40 parking spaces each by landscaping, such as but not limited to, shade trees, shrubs, and evergreens. For those lots in the C1 District, the Board may consider the Municipal Parking lot when assessing the project's parking requirements. Layout should take into account requirement for on-site snow management and storage.

   b. Each 40 space (or fraction thereof) parking area shall be landscaped to accommodate both parking and stormwater management needs by incorporating vegetated islands/swales and/or tree box filters as landscaped islands designed to retain stormwater. (see Storm Water Management Section L.) Each of these parking areas shall be landscaped with curbed medians with a minimum curb to curb width of ten (10) feet. Curbed landscaped islands shall be sited at the end of each parking aisle and within parking aisles at intervals no greater than one island per every twenty (20) spaces. Islands at the ends of aisles shall be counted toward meeting this requirement. Each required landscaped island shall be a minimum of three hundred sixty (360) square feet in landscaped area.

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7. The parking spaces provided will meet the needs of the particular use and the following standards shall be used as a guide:

   a. Access to stalls. Access to parking stalls should not be from major interior travel lanes, and shall not be immediately accessible from any public way.
   b. Movement to and from spaces. Parking areas shall be designed to permit each motor vehicle to proceed to and from the parking space provided for it without requiring the moving of any other motor vehicles.

   c. Pedestrian access. Parking aisles should be oriented perpendicular to stores or businesses for easy pedestrian access and visibility.

   d. Setbacks. See §102.6.B.

   e. Parking stalls. Parking stalls and aisle layout shall conform to the following standards:

Parking Angle	Stall Width	Skew Width	Stall Depth	Aisle Width
90°	9'-0"		18'-5"	24'-0"
60°	8'-6"	10'-5"	16'-0"	one-way only
45°	8'	12'-9"	17'-5"	one-way only
30°	8'	17'-0"	12'-0"	one-way only

Parallel	9’	n/a	20’-0”	n/a

f. Parking stripes. In paved parking area painted stripes shall be used to delineate parking stalls. Stripes should be a minimum of 4” in width.

g. Directional arrows. In aisles utilizing diagonal parking, arrows should be painted on the pavement to indicate proper traffic flow.

h. Bumpers. Bumpers and/or wheel stops shall be provided where overhang of parked cars might restrict traffic flow on adjacent through roads, restrict pedestrian movement on adjacent walkways, or damage landscape materials.

i. Number required. Off-street parking spaces shall be provided, unless the applicant can demonstrate that another standard is appropriate, to conform to the number required in the following schedule (s.f. = square feet; du = dwelling unit):

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Use	Spaces Required
Light industrial	1.5/1000 s.f.
Industrial park	1.5/1000 s.f.
Manufacturing	1.5/1000 s.f.
Warehousing	1.5/1000 s.f.
Residential	2/du
Apartments, condominiums	2/du
Senior citizen multi-family	1/du
Hotel/Motel/Inn	1/rm
Bed and breakfast	1/guest room
Club, lodge	1/every 2 persons allowed, based on maximum legal capacity
Hospital/medical facility	1/3 beds and 1 per 2 employees per shift
Art gallery, museum, library	6.5/1,000 s.f.
School, primary	1.5 per classroom
School, secondary	8 per classroom
School, post-secondary	1 per student and 1 per faculty & staff member
Theater, auditorium, assembly	1/every 3 seats based on maximum legal capacity
Marina	1/every 2 berths
Sports club, health spa	5/1000 s.f.
Church	1/every 2 seats

Nursing Home	1/every 3 rooms
Medical, dental office	4/1000 s.f.
General offices	3/1000 s.f.
Governmental offices	4/1000 s.f.
Retail store	4/1000 s.f.
Home improvement, hardware	3/1000 s.f.
Shopping center	4/1000 s.f.
Restaurant	9/1000 s.f. or 1/every 3 seats
Fast food restaurant	14/1000 s.f. or 1/every 2 seats
Bank	4/1000 s.f.
Services	4/1000 s.f.
Child care	1/every 4 children licensed to care
Auto, truck repair	5/service bay
Funeral home	1/100 s.f.
Campgrounds	1/campsite
Barber, beauty shop	3/chair
Car, truck dealers	5 plus 1/3000 s.f. indoor or outdoor display
Convenience store	4/1000 s.f.
Convenience store with pumps	4/1000 s.f.; one-half of service spaces at the gas pumps may be applied to meet not more than one-half of total parking required
All other uses	Sufficient spaces to accommodate the normal parking demand as determined by the Planning Board

~~1. Light industrial~~	~~1.5/1000 s.f.~~
~~2. Industrial park~~	~~1.5/1000 s.f.~~
~~3. Manufacturing~~	~~1.5/1000 s.f.~~
~~4. Warehousing~~	~~1.5/1000 s.f.~~
~~5. Residential~~	~~2/du~~
~~6. Apartments, condominiums~~	~~2/du~~
~~7. Senior citizen multi-family~~	~~1/du~~

8. Hotel/Motel/Inn	1/rm
9. Bed and breakfast	1/guest room
10. Club, lodge	½ persons based on maximum legal capacity
11. Hospital/medical facility	1/3 beds and 1 per 2 employees per shift
12. Art gallery, museum, library	6.5/1,000 s.f.
13. School, primary	1.5 per classroom
14. School, secondary	8 per classroom
15. School, post-secondary	1 per student and 1 per faculty & staff member
16. Theater, auditorium, assembly	1/3 seats based on maximum legal capacity
17. Marina	½ berths
18. Sports club, health spa	5/1000 s.f.
19. Church	½ seats
20. Nursing home	1/3 rooms
21. Medical, dental office	4/1000 s.f.
22. General offices	3/1000 s.f.
23. Governmental offices	4/1000 s.f.
24. Retail store	4/1000 s.f.
25. Home improvement, hardware	3/1000 s.f.
26. Shopping center	4/1000 s.f.
27. Restaurant	9/1000 s.f. or 1/3 seats
28. Fast food restaurant	14/1000 s.f. or ½ seats
29. Bank	4/1000 s.f.
30. Services	4/1000 s.f.
31. Child care	¼ children licensed for care
32. Auto, truck repair	5/service bay
33. Funeral home	1/100 s.f.
34. Campgrounds	1/campsite
35. Barber, beauty shop	3/chair
36. Car, truck dealers (see also 32)	5 plus 1/3000 s.f. indoor or outdoor display
37. Convenience store	4/1000 s.f.
38. Convenience store with pumps	4/1000 s.f.; one-half of service spaces at the gas pumps may be applied to meet not more than one-half of total parking required
39. Other uses	sufficient spaces to accommodate the normal parking demand as determined by the Plan. Board

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Q. Filling and Excavation

Excavations of sand & gravel, borrow, clay, topsoil, silt or rock that are not incidental to a development approved by the Planning Board and which exceed 1 (one) acre in area shall conform to the following performance standards. The Planning Board may approve modifications to these standards if such modifications have been approved by the Department of Environmental Protection. Where the project schedule for excavation that is incidental to a development approved by the Planning Board will exceed two years, such excavation shall default to comply with this section.

1. The following minimum setbacks from the excavation must be maintained. Such setbacks shall be maintained as a natural buffer. Existing vegetation cannot be removed. If existing vegetation has previously been removed~~previously removed~~, it must be replaced in conformance with a plan approved by the Planning Board. A buffer strip is not required between excavations owned by abutting property owners with abutters' written permission.

Point-driven or dug well in existence prior to the excavation	200 feet
Drilled well into bedrock in existence prior to the excavation	100 feet
Public drinking water source serving 500 persons or less	300 feet
Public drinking water source serving 501-1,000 persons	500 feet
Public drinking water source serving over 1,000 persons	1,000 feet
Great pond or river	100 feet
All other water bodies	75 feet
Public road unless reduced by agreement with authority to grant such reduction	100 feet (topsoil 25 feet)
Private road unless reduced by agreement with legal users of such road	75 feet
Public right-of-way not containing a road	50 feet
Property boundary	50 feet (topsoil 25 feet)

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V. Building Appearance

The following standards **shall apply to all** buildings less than the size standard for large-scale development. Buildings required to meet the standards for large scale development (7,500 square feet and larger) shall comply with those standards contained in Section 12 of this ordinance.

1. The building's architecture (e.g. buildings of less than 7,500 square feet of gross floor area) **shall reflect traditional New England building forms including, but not limited to, hipped and gabled roofs, dormers, windows (rather than plate glass) and clapboard, shingle or brick siding.** Freestanding accessory structures, such as ATMs, gas pump canopies, sheds or drive-thrus (so called), etc., shall be treated as architectural elements and meet the same design standards as the principal structures on the site. **Waivers of these requirements are not permitted and all proposals coming before the Planning Board must meet these requirements to be considered for Approval.**

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2. Pitched roofs with a minimum pitch of 5/12 are required~~are be required~~ by the Planning Board to complement existing abutting buildings or otherwise maintain a particular aesthetic objective.

3. Building facade colors shall be non-reflective, subtle, neutral or earth tone. The use of high intensity colors, metallic colors, fluorescent colors or black on facades shall be prohibited. Building trim and architectural accent elements may feature colors of black, but such colors shall be muted, not metallic, not fluorescent and not specific to particular uses or tenants. Standard corporate and trademark colors shall be permitted only on signage.

§102.7 LARGE-SCALE DEVELOPMENT

In addition to the standards of §102.6, the following standards apply to larger non-residential buildings or structures, as well as multi-family dwellings. These standards shall apply when the total floor area of all buildings (including connected buildings or accessory buildings and structures) is greater than or equal to 7,500 square feet. ~~and multi-family dwellings, including connected buildings, accessory buildings and structures, on site plans with the building or connected/associated buildings being 7,500 square feet or more of total floor area.~~ The following standards are to be used by the Board in reviewing applications for site plan review. After the effective date of this Section, additions to a building (as defined herein) that exceeds the 7,500 square foot threshold, either individually or cumulatively, shall meet the following standards for large-scale development. The Board may modify or waive specific performance standards for such additions if it finds that, due to the design, location, function or layout of the principal structure, the application of specific performance standards is impractical or inappropriate.

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B. Outdoor Sales.

Additional standards are applicable to large-scale development consisting of retail establishments greater than seven thousand and five hundred (7,500) square feet of floor area.

1. Areas for outdoor sales of products may be permitted if they are extensions of the sales floor into which patrons are allowed free access. Such areas shall be incorporated into the overall design of the building and the landscaping, be counted as part of the minimum 7,500 square feet (or maximum of 35,000 square feet) of floor area and shall be permanently defined and screened with walls, roofs and shall conform to those compatible predominant materials and colors used on the rest of the building.

2. Outdoor sales areas not counted toward minimum 7,500 square feet (or maximum 35,000 square feet) of floor area at commercial buildings include the location, storage and display of such hardscape or softscape landscaping, nursery, gardening or agricultural products such as, but not limited to, cement or brick pavers, outdoor pottery, outdoor furniture or plants, mulch, fertilizer or sand bags. Except for such agricultural, gardening, landscaping, nursery and similar products normally stored outdoors, the outdoor storage of products for retail sale is prohibited in an area where customers are not permitted unless such area is visually buffered from adjacent streets and abutting developed properties. This prohibition includes outdoor storage sheds and containers. There may, however, be outdoor storage of such things, but not limited to, excess stock

of products normally found outdoors such as patio furniture, if properly visually screened and for display purposes only.

3. Outdoor sales areas must be clearly depicted on the site plan. They must be outside~~be at outside~~ the buffer/setback requirements of Town Ordinances.

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D. Bicycles and Pedestrian Facilities

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5. The development shall provide exterior pedestrian furniture in appropriate locations at the rate of one seat for every five thousand (5,000) square feet of gross floor area and secure bicycle~~secure, bicycle~~ parking at the rate of at least~~rate at least~~ three bicycle rack spaces for every fifty (50) vehicle parking spaces.

E. Landscaping

1. **The applicant shall submit a site landscaping plan that presents the location and quantity of all project plantings.** At least 75 % of all vegetation shall be native species. The applicant shall also submit a planting schedule keyed to the site landscaping plan that lists the botanical and common names, size at planting and quantity of all project plantings. Landscaping shall be considered an integral component of the approved project. (See Appendix A~~B~~ - Native Tree & Shrubbery Species List). The applicant shall replace within thirty (30) days, or as seasonally required by the species, any landscaping that dies, is removed or otherwise requires replacement. Such replacement landscaping shall be equivalent in species and size to the original landscaping unless the applicant can demonstrate to the satisfaction of the Planning Board that the site conditions require an alternative species of comparable size. Landscaping as depicted on the site plan is considered an integral component of the approved development. Should any portion of the landscaping that dies, is removed or otherwise requires replacement, is not replaced within thirty (30) days, or as seasonally required by the species, it shall be considered a violation of the approval granted by the Board pursuant to §102.5.H and shall be subject to the enforcement provisions of §102.14.

2. A minimum of thirty (30) percent of the building's total foundation, including a minimum of fifty (50) percent along the building's façade facing a public street, shall be planted with landscaping, based on proper planting conditions, consisting of trees at least 2" in diameter appropriate to USDA Plant Hardiness Zone 5 and placed into soil that would allow long-term growth and survival. Add adequate coverage by shrubbery to visually screen the base (foundation) of the building(s). At a minimum, planted shrubbery shall be eighteen inches (18) in height. Landscaping shall include areas near entrances and facades facing public streets as well as in parking areas. If the building will be located in a C1 village area and there will be no setback between it and a public sidewalk or street right-of-way, landscaping along the building's front façade is not required.

3. Parking islands shall be landscaped in conformance to Subsection 2 above §102.6.H.

4. Buffer strip landscaping shall consist of trees, based on proper planting conditions, at least 2" in diameter and placed into soil that would allow long-term growth and survival and in

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sufficient numbers~~number~~ to form a visual barrier consisting of understory, trees, evergreen or deciduous shrubs and evergreen trees. These shall be planted along and within a minimum thirty (30) foot (or 15 foot as appropriate) deep green buffer strip adjacent to all public and private streets and drives including parking lot connections, circulation drives (including those adjacent to buffers) and loading areas. If the building(s) will be located in a C1 village area and there will be no setback between it and a public sidewalk or street right-of-way, landscaping adjacent to the public sidewalk or street right-of-way is not required.

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F. Screening

1. Ground and wall-mounted mechanical equipment, refuse containers and permitted outdoor storage must be fully concealed from on-site and off-site ground level views with materials identical to those on building exteriors.

2. All trash collection areas that are not within an enclosed building or underground, must be screened or recessed so that they are not visible from public sidewalks, internal pedestrian walkways or adjacent residential properties and at least 50 feet from any lot line. Screening and landscaping of these areas shall conform to the predominant materials used on the site.

3. Roof-top equipment must be screened by parapets, upper stories or exterior walls from viewing from public streets within one-thousand (1,000) feet. Roof-top solar panels or wind power~~windpower~~ generators shall be screened only to the extent that their function is not compromised.

4. Gates and fencing may be used for security and access. Chain link, wire mesh or wood slat fencing are acceptable for security purposes. Such security fencing, however, does not satisfy buffering or screening requirements of this Ordinance.

5. Loading docks must be screened from surrounding roads and developed properties by walls matching the building's exterior or by fully opaque landscaping.

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H. Additional Standards for Large Scale Developments with buildings 20,000 square feet or greater in total floor area. These standards are intended to ensure that the buildings are not prominently visible from roads unless they are sited close to the road in a manner similar to traditional village commercial development.

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3. Community Impacts

The Planning Board shall require an economic and fiscal impact analysis for a proposed large-scale development. The applicant shall provide adequate funding to the Town to retain a consultant of the Town's choice with appropriate experience to provide a peer review of the submitted analysis, if a peer review is determined to be necessary by the

Planning Board. ~~complete and present such analysis.~~

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iii. §103.12 AMENDMENTS

A. All changes and amendments to this Ordinance must be made at a regular or special Town Meeting of Damariscotta, by a majority of the governing body.

B. All changes and amendments to this Ordinance must first be presented to the Planning Board for a public hearing thereon. Notice of the hearing before the Board shall be made in at least one newspaper of general circulation in the area twice, the date of the first publication must be at least 12 days before the hearing and the date of the second publication must be at least 7 days before the hearing, with said published notice including a small map of the area to be affected, as required by 30-A M.R.S.A § 4352(9) as may be amended.

C. When a proposed change will impact only a specific geographic area within the municipality, mailed notice also shall be made to all property owners impacted by the proposed change. This mailed notice shall follow the procedures required by 30-A M.R.S.A § 4352(10) as may be amended.~~This Ordinance may only be amended by majority vote at any regular or special town meeting of Damariscotta. All changes and amendments to this Ordinance must first be presented to the Planning Board for a public hearing thereon. Notice of the hearing before the Board shall be made in at least one newspaper of general circulation in the area as required by 30-A M.R.S.A § 4352(9) and (10).~~

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APPENDIX A

SITE PLAN REVIEW PROCEDURAL FLOW CHART AND TIME LINE

FLOW CHART

This Flow Chart outlines the major steps an applicant must take in seeking a site plan permit (documented by a Notice of Decision and a Board signed site plan). This chart is informational only. For the full description of the application process see §102.5 PRE-APPLICATION and APPLICATION PROCEDURES.

1. Before or after a pre-application meeting, prospective applicants can come to a Planning Board meeting informally (not on the Agenda) to ask questions of the Board. Board cannot make decisions, just answer questions. {§102.5.B.1}

2. Pre-Application Meeting: with Planner and/or other town staff to review ordinance(s), procedure list and checklist for applicant to be informed on the forms and fees needing submittal and on what is likely to constitute a complete application for the proposal. {§102.5.A}

3. Pre-Application Sketch Plan Review: at a Planning Board meeting applicant reviews the submission requirements with the Board (using the checklist). These include a sketch site plan and any waiver requests for not submitting some documents in section 10.E or F for good cause. The Board must vote to approve or not any waiver requests. The Board may require studies or permits from state or federal agencies. The Board may require either and/or a site visit or public hearing at this pre-application stage. The Board completes the submissions checklist for the submittals required for the plan to be declared a complete application. {§102.5.B}

4. Complete Application: Planner, CEO or other town staff may be requested to provide the Board with studies or other reports deemed necessary for a thorough review of an application (e.g. dimensional requirements in the Land Use Ordinance). For complex aspects of an application the Board may determine to hire expert review (e.g. stormwater management) by a consultant paid from an escrow account set up by the applicant. {§102.5.C & D}

In addition to a full site plan map, a Complete Application applicant may be required to demonstrate financial and technical capacity to complete the plan as proposed, provide letters from local (e.g. Fire Chief), state and federal agencies on safety, environmental or historic aspects of the proposed plan. {§102.5.E}

5. Performance Standards: Proposed developments shall meet all the performance standards of Section 11. For applicants seeking any waivers from any performance standards, two plans shall be submitted. The first is a plan that meets all the standards. The second would show the proposed waivered standards accompanied by a written narrative on how the proposed waiver would still meet the intent of the ordinance. The Board shall vote on approval or not of any waiver requests. {§102.6}

Plans with floor area of more than 7,500 sq. ft. or facades of 50 feet or more, may have to meet additional performance standards in Section 12. {§102.6}

6. Notification and Public Hearing: The applicant notifies by certified mail all abutters of the date of their appearance on the agenda at a Planning Board meeting. If two or more abutters or five town residents object in writing, the Board shall hold a public hearing. The Board on its own may decide to hold a public hearing with advertising expenses borne by the applicant. {§102.5.G.1&2}

- The Board is required to hold one or more public hearings or site visits for all site plans with building footprints in the aggregate of 7,500 sq. ft. or more before the application can be declared complete {§102.5.H.1}

- For applications with less than 7,500 sq. ft. footprint that the Board determines do not need a public hearing or site visit, may then be voted by the Board to be Final Plans. Then the Board would vote to approve, approve with conditions or deny. {§102.5.H.1}

7. Final Action by the Board: Within 45 days after an application is voted by the Board to be complete or within 45 days of the completion of a public hearing, the Board votes to approve, approve with conditions or disapprove the application. The 45 day period may be mutually extended by the applicant and the Board. {§102.5.H.1}

- The Board may require before final approval, the posting of a bond or other surety to insure completion of (public) improvements in the plan.

- The Board may attach reasonable conditions of approval to assure compliance with the Performance standards or to receive required studies, permits or recommendations from local, state or federal authorities

- When all the review deemed by the Board to be completed, the Board votes on it as a Final Plan to approve, approve with conditions or deny.

8. Documentation: The Board will sign two paper copies the final plan it has approved with the date of its approval: one for the applicant, one for the Town (Planning) office {§102.5.H.3}. The applicant is requested to provide an electronic copy of its approved final plan via email attachment to the Town Planner for record keeping and for use by the Town Assessor for tax purposes.

- The Board will notify the applicant of its decision by a written Notice of Decision within 15 days after its action or extended to 30 days by mutual consent between the two. {§102.5.H.2}.

- Approved 'multifamily dwelling' site plans containing three or more 'condominium' dwellings', i.e. individually owned dwellings on a communally-owned lot, may need to be filed, similar to a subdivision plan, in the LCRD. Multifamily site plans with leased dwellings may not need filing in the LCRD. {MSRA 30-A §4401.4.G}

~~TIME LINE~~

~~§102.5.A~~: **~~Pre-Application~~** ~~– Placement on PB Agenda for a Sketch plan review – applicant contact TP (Town Planner) at least 10 days prior.~~

~~§102.5.B.5~~: ~~By 30 days after receiving a sketch plan and a site visit if applicable, PB (TP) submits a written checklist of required submittals (listed in~~ **~~§102.5~~**~~.E).~~

~~§102.5.A~~: **~~Application~~** ~~– submittal by applicant for formal review – applicant submit 10 copies of completed application plus site plan fee at least 15business days prior to PB meeting.~~

~~§102.5,G.1~~: ~~Before an applicant is place on a PB Agenda, applicant must notify all abutters by certified mail (not stated but may be assumed by 7 days before the PB meeting).~~

~~§102.5.G.1~~: ~~If two or more abutters or 5 residents object to application within 15 days after public notice of request for site plan review (assume it means posted in LCN or Town Hall) then a public hearing is required within 30 days after the application is deemed~~ **~~complete~~**.

~~§102.5.G.2~~: ~~After the date the PB votes an application as~~ **~~complete,~~** ~~a public hearing required either by 10.G.1 or chosen by PB, must take place within 30 days. Notice of public hearing published by PB in newspaper at least 7 days prior and then 2nd time. Notice of public hearing sent to abutters and applicant at least 7 days prior.~~

~~§102.5.H.1~~: ~~Within 45 days of PB voting the application complete or within 45 days of the conclusion of a public hearing, the Board votes to approve, approve with conditions or disapprove the~~ **~~application~~**. ~~Timeline may be extended by mutual consent of Applicant and PB.~~

~~§102.5 H.1~~: ~~All applications consisting of 7500 sf + in building footprints must have a public hearing & site visit before being declared a~~ **~~Final Plan~~**. ~~45 day period does not start until after the public hearing. Timeline before voting may be extended by mutual consent of Applicant and PB.~~

~~§102.5.H.2~~: ~~After voting on a~~ **~~Final Plan~~** ~~for either approval, approval with conditions or denial, PB has 15 days to deliver NOD (Notice of Decision) to applicant. Period may be extended to 30 days by mutual consent.~~

APPENDIX AB

NATIVE TREE AND SHUBBERY SPECIES LIST

Recommended Tree & Shrub Species List

Where a tree is designated as a park tree it is done so because of its size or its intolerance to such things as salt or pollution. If a tree of this type is used as a street tree, make certain it is used on the side of the street opposite the utilities and set back from the road.

The trees are listed by common and scientific names including cultivars where appropriate. The suggested cultivars noted are recommended over the parent stock. The mature height and spread figures are accurate where the tree is growing on a favorable site.

DECIDUOUS

"S" Street "P" Park	Throughfare Type/Crown Shape	Scientific Name	Common Name	Native	Suggested cultivars	Mature Height	Crown Spread	Recommended Root Growth Space WxWxD
S	Oval/Rounded	*Acer rubrum*	Red Maple	Native	'Red Sunset'	60	60	30x30x3
P	Oval/Rounded	*Acer saccharum*	Sugar Maple	Native		80	60	38x38x3
P	Spreading	*Amelanchier canadensis*	Shadblow Serviceberry	Native		20	25	15x15x3
P	Rounded	*Betula alleghaniensis*	Yellow Birch	Native		50	35	25x25x3
P	Spreading	*Betula lenta*	Sweet Birch	Native		65	40	25x25x3
P	Rounded	*Betula nigra*	River Birch	Native		70	40	25x25x3
P/S	Rounded	*Carpinus caroliniana*	American Hornbeam	Native		35	25	15x15x3
P	Rounded	*Cladrastis lutea*	American Yellowood	Native		60	60	30x30x3
P/S	Spreading	*Cornus racemosa*	Gray Dogwood	Native		15	15	10x10x3
S	Rounded	*Crataegus phaenopyrum*	Washington Hawthorn	Native	'Fastigiata' CAUTION - THORNS	30	20	10x10x3
P	Rounded	*Fagus grandifolicia*	American Beech	Native		75	75	25x25x3
P	Oval	*Gymnocladus dioicus*	Kentucky Coffeetree	Native		75	55	25x25x3
P	Conical	*Larix laricina*	American Larch	Native		75	30	15x15x3
P	Oval/Rounded	*Liriodendron tulipifera*	Tulip Tree	Native		90	50	20x20x3
P/S	Rounded	*Magnolia acuminata*	Cucumber Magnolia	Native		65	35	25x25x3
P	Conical/Rounded	*Nyssa sylvatica*	Sour Gum, Tupelo	Native		60	35	15x15x3
P/S	Rounded	*Ostrya virginiana*	American Hophornbeam	Native		40	25	10x10x3
P	Rounded	*Platanus occidentalis*	American Sycamore	Native		100	75	30x30x3
P/S	Oval/Rounded	*Quercus alba*	White Oak	Native		55	45	25x25x3
P/S	Oval/Rounded	*Quercus bicolor*	Swamp White Oak	Native		55	45	23x23x3
P/S	Spreading	*Quercus coccinea*	Scarlet Oak	Native		70	50	25x25x3
P/S	Rounded	*Quercus imbricaria*	Shingle Oak	Native		65	65	25x25x3
P/S	Conical	*Quercus palustris*	Pin Oak	Native		70	40	18x18x3
P/S	Rounded	*Quercus rubra*	Red Oak	Native		70	75	30x30x3
P/S	Oval/Rounded	*Sorbus americana*	American Mountain Ash	Native		30	30	5x5x3

EVERGREEN

Type	Form	Species			Remarks	Physical Characteristics		
"P" Park	Throughfare Type/Crown Shape	Scientific Name	Common Name	Native		Mature Height	Crown Spread	Recommended Root Growth Space WxWxD
P	Conical	*Abies concolor*	Concolor Fir	Native		75	50	15x15x3
P	Conical	*Abies fraseri*	Fraser Fir	Native		50	30	15x15x3
P	Columnar	*Chamaecyparis thyoides*	Atlantic Whitecedar	Native		40	20	10x10x3
P	Columnar	*Juniperus virginiana*	Eastern Redcedar	Native		40	20	10x10x3
P	Oval	*Pinus resinosa*	Red/Norway Pine	Native		75	40	18x18x3
P	Spreading	*Pinus strobus*	Eastern White Pine	Native		75	55	20x20x3
P	Columnar	*Thuja occidentalis*	American Arborvitae	Native		50	20	7.5x7.5x3
P	Conical	*Tsuga carolinana*	Carolina Hemlock	Native		60	30	18x18x3

References:

Dirr's Hardy Trees and Shrubs: An Illustrated Encyclopedia. Michael A. Dirr

Lincoln County Co-Operative Extension, University of Maine, Elizabeth Stanley, Horticulturalist

Maine Community Forestry Council Recommended Tree Species List for Street and Park Trees. Maine Forest Service, 1998

Manual of Woody Landscape Plants. Michael A. Dirr

Selecting Trees for Urban Landscape Ecosystems: Hardy Species for Northern New England Communities

NH Dept. of Resources and Economic Development, Division of Forests and Lands, 1994

List Compiled by Laurie Green, MCLD. April 2011

Definition of Native Species: A plant occurring within local jurisdictional boundaries prior to foreign contact, according to the best scientific and historical documentation. This includes species that are considered indigenous, occurring in natural associations with habitats that existed prior to significant anthropogenic impacts and alteration to the landscape.

*Native is defined with parameters of time and geography. A Native species is one that existed, without human involvement, in North America (and specifically in this case to Maine) prior to European settlement, with proven adaptability to Maine climate and soil conditions in the past few thousand years.

Native* Shrubs	
Aronia melanocarpa	Black Chokeberry
Clethra alnifolia	Summersweet
Cornus sericea	Redoiser Dogwood
Corylus americana	American Filbert
Hamamelis virginiana	Common Witchazel
Ilex verticillata	Winterberry
Juniperus 'Bar Harbor'	Bar Harbor Juniper
Juniperus communis	Common Juniper
Kalmia latifolia	Mountain Laurel
Myrica pennsylvanica	Northern Bayberry
Symphoricarpos alba	Common Snowberry
*Native is defined with parameters of time	
and geography. A Native species is one that	
existed, without human involvement, in	
North America (and specifically in this case	
to Maine) prior to European settlement, with	
proven adaptability to Maine climate and soil	
conditions in the past few thousand years.	

Other Recommended Trees

	Form	Species			Remarks	Physical Characteristics		
"S" Street "P" Park	Throughfare Type/Crown Shape	Scientific Name	Common Name	Native	Suggested cultivars	Mature Height	Crown Spread	Recommended Root Growth Space
		DECIDUOUS						WxWxD
S	Rounded	*Acer campestre*	Hedge Maple		'Queen Elizabeth'	45	30	12x12x3
S	Rounded	*Acer ginnala*	Amur Maple			18	18	10x10x3
S	Spreading	*Amelanchier x grandiflora*	Apple Serviceberry			15	12	7.5x7.5x3
P/S	Oval/Rounded	*Cercidiphyllum japonicum*	Katsura			60	40	25x25x3
P/S	Oval	*Corylus colurna*	Turkish Filbert			50	25	18x18x3
P	Rounded	*Fagus sylvatica*	European Beech			70	50	23x23x3
P/S	Oval	*Ginkgo biloba*	Maidenhair Tree		'Autumn Gold'	60	30	20x20x3
P	Conical	*Larix decidua*	European Larch			75	30	20x20x3
P	Oval	*Larix kaempferi*	Japanese Larch			75	35	20x20x3
S	Rounded	*Maackia amurensis*	Amur Maackia		'Beurgeni'	45	45	15x15x3
S	Oval/Rounded	*Magnolia stellata*	Star Magnolia			20	15	7.5x7.5x3
P/S	Varied	*Malus spp. Many cultivars*	Flowering Crabapple		Select disease resi	10-35	10-35	5x5x3
P/S	Spreading	*Malus floribunda*	Japanese Crabapple		Select disease resi	45	25	7.5x7.5x3
P/S	Spreading	*Phellodendron amurense*	Amur Corktree		'Macho'	55	55	15x15x3
P/S	Rounded	*Prunus maackii*	Amur Chokecherry			40	35	10x10x3
S	Oval/Rounded	*Prunus sargentii*	Sargent Cherry			25	10	18x18x3
P/S	Oval/Rounded	*Sorbus alnifolia*	European Mountain Ash			30	30	18x18x3
S	Oval/Rounded	*Syringa pekinensis*	Pekin Lilac			25	20	23x23x3
S	Oval/Rounded	*Syringa reticulata*	Japanese Tree Lilac		'Ivory Silk'	30	20	10x10x3
P/S	Vase	*Ulmus americana x*	American Elm		'Princeton'	75	40	18x18x3
P/S	Oval	*Ulmus americana x*	American Elm		'Valley Forge'	50	40	18x18x3

Type	Form	Species			Remarks	Physical Characteristics		
"P" Park	Throughfare Type/Crown Shape	Scientific Name	Common Name	Native	Suggested cultivars	Mature Height	Crown Spread	Recommended Root Growth Space
		EVERGREEN						
P	Conical	*Picea abies*	Norway Spruce			75	55	19x19x3
P	Conical	*Picea glauca*	White Spruce			50	30	13x13x3
P	Conical	*Picea omorika*	Serbian Spruce			50	25	7.5x7.5x3
P	Columnar	*Pinus cembra*	Swiss Stone Pine			50	20	7.5x7.5x3
P	Spreading	*Pinus densiflora*	Japanese Red Pine			50	50	20x20x3
P	Conical/Spreadi	*Pinus koraiensis*	Korean Pine			35	30	7.5x7.5x3

References:

Dirr's Hardy Trees and Shrubs: An Illustrated Encyclopedia Michael A. Dirr

Lincoln County Co-Operative Extension, University of Maine, Elizabeth Stanley, Horticulturalist

Maine Community Forestry Council Recommended Tree Species List for Street and Park Trees. Maine Forest Service, 1998

Manual of Woody Landscape Plants Michael A. Dirr

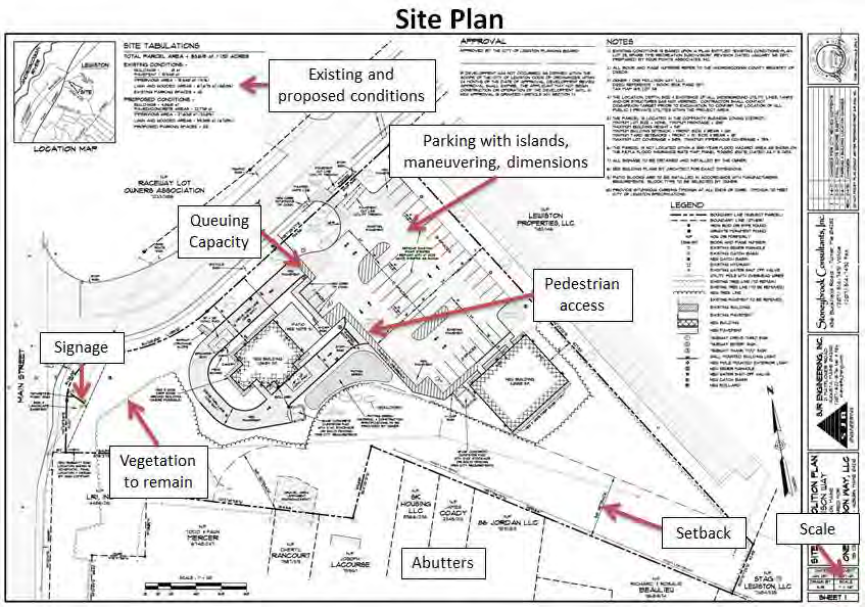
Selecting Trees for Urban Landscape Ecosystems: Hardy Species for Northern New England Communities

NH Dept. of Resources and Economic Development, Division of Forests and Lands, 1994

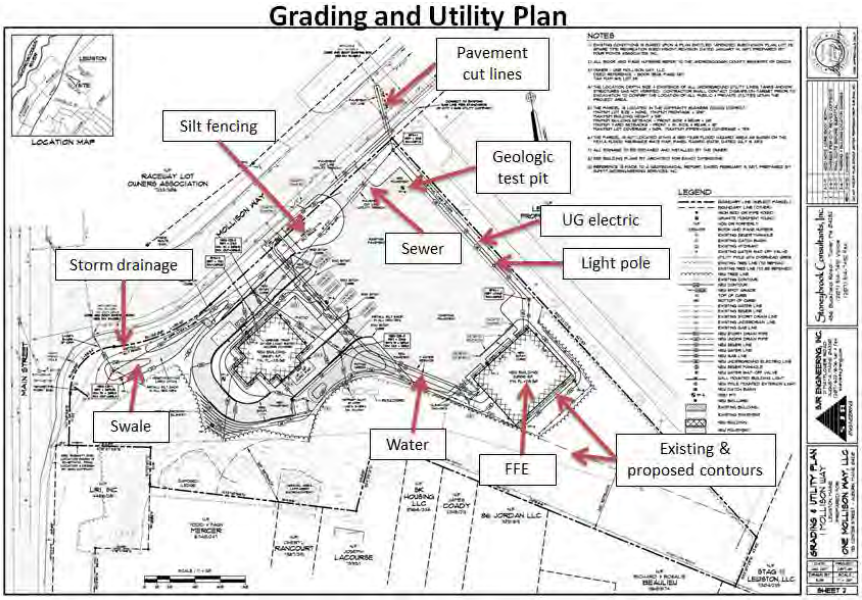
List Compiled by Laurie Green, MCLD. April 2011

APPENDIX B~~C~~

MODEL SITE PLAN



Grading and Utility Plan



Chapter 103

SUBDIVISION ORDINANCE
DAMARISCOTTA, MAINE

(Notes and Explanations)

Revised and replaced June 12, 2019
Amended June 11, 2014
Effective Date: May 27, 1989

A certified copy of this Ordinance shall be filed with the Municipal Clerk and shall be accessible to any member of the public. Copies shall be made available to the public at reasonable cost at the expense of the person making the request. Notice of availability of this Ordinance shall be posted.

§103.1 AUTHORITY

A. This Ordinance has been prepared in accordance with the provisions of the Maine Revised Statutes Amended, Title 30-A, §§ 4401-4407 and all amendments thereto.

B. This Ordinance shall be known and may be cited as "**Subdivision Ordinance of the Town of Damariscotta, Maine."**

§103.2 PURPOSE

The purpose of this Ordinance shall be to assure the comfort, convenience, safety, health and welfare of the people, to protect the environment and to promote the development of an economically sound and stable community. To this end, in approving subdivisions within the Town of Damariscotta, Maine, the Planning Board shall evaluate the proposed subdivision, using the following criteria:

• • •

J. The long-term cumulative effects of the proposed subdivision will not unreasonably increase a great pond's phosphorus~~phosphorous~~ concentration during the construction phase and life of the proposed subdivision;

K. For any proposed subdivision that crosses municipal boundaries, the proposed subdivision will not cause unreasonable traffic congestion or be unsafe~~or unsafe~~ with respect to the use of existing public ways in an adjoining municipality in which part of the subdivision is located.

• • •

§103.4 DEFINITIONS

In general, words and terms used in these Standards shall have their customary dictionary meanings. More specifically, certain words and terms used herein are defined as follows:

• • •

Significant Tree - Trees having a diameter at breast height (DBH) of 30 inches or greater, or any trees which are located in shoreland areas (those areas within 250 feet of the normal high-water line of any great pond, river or saltwater body, within 250 feet of the upland edge of a coastal wetland, within 250 feet of the upland edge of a freshwater wetland, or within 75 feet of the high-water line of a stream).

Commented [1]: The 30 inches number is what is recommended by the International Society of Aboriculture.

• • •

§103.5 PREAPPLICATION AND APPLICATION PROCEDURES

(This ordinance envisions a three-step process – preapplication, or sketch plan, preliminary plan and final plan. Most of the work is done in the preliminary plan phase with the final plan being little more than a final review and signature.)

A. **Preapplication Procedure for Major and Minor Subdivisions**

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1. The subdivider shall submit for informal discussion a Sketch Plan (as further described in subsection B1 below) and any other data relative to the proposed subdivision~~,~~ which may be of assistance to the Board in making its determination.

2. The Sketch Plan shall be submitted to the Town Planner~~Board~~ at least fifteen (15) days prior to the ~~first~~ Planning Board meeting ~~of the month~~ during which the subdivider wishes to be heard. If the agenda for said meeting is full, the Sketch Plan will be placed on the agenda for the next regularly scheduled meeting. ~~Ten (10) copies of the sketch plan shall be submitted.~~

3. At said meeting, the Planning Board and the subdivider shall arrange for a joint inspection of the site ~~with the Board~~. Said joint inspection shall be posted on an agenda and made available in the same way that agendas of regular Planning Board meetings are.

(This is important for any size subdivision and it needs to be attended by all Board members if possible. The site visit cannot be delegated to a subcommittee of the Board.)

4. Within fifteen (15) days after the site inspection, the Town Planner shall communicate in writing minutes of the Preapplication meeting and site walk, which shall be intended to guide the applicant through their subsequent submissions. Feedback provided by the Board at this time is non-binding. ~~preliminary inspection, the Board shall inform the subdivider in writing that the plans and data as submitted or as modified do or do not meet the objectives of these standards. Specific suggestions, in writing to be incorporated by the applicant in the applicant's subsequent submissions, shall be made where deemed necessary.~~

5. Rights not vested. The sketch plan meeting, the submittal or review of the sketch plan or the on-site inspection shall not be considered the initiation of the review process for the purposes of bringing the plan under the protection of Title 1 M.R.S.A., §302.

•••

~~B.~~ C. **Minor Subdivision Procedure**

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~~***(note – there is no preliminary plan application and review for a minor subdivision; it requires only final plan review and approval.)***~~

1. Within six (6 months) after Sketch Plan acceptance by the Board, the subdivider shall submit an application for the consideration of a Final Plan for a Minor Subdivision. ~~The application and all required preliminary plan documentation shall be submitted to the Town at least fifteen (15) days prior to the first Planning Board meeting of the month during which the subdivider wishes to be heard.~~ Failure to do so shall require re-submission of the Sketch Plan to the Board for review. The Final Plan shall conform to the general layout shown on the Sketch Plan plus any recommendations made by the Board.

2. The application for the Final Plan for a Minor Subdivision shall be accompanied by a fee as established in a Town Fee Schedule as may be revised from time to time by the Board of Selectmen and payable by check to the Town of Damariscotta, Maine with a note indicating the specific purpose of the fee.

3. In addition, if the Board determines there are conditions unique to the proposed minor subdivision or its location that warrant professional review, the Board may require the applicant~~owner or the owner's authorized agen~~t to deposit in escrow an amount of money sufficient to cover the costs of any

professional review of the subdivision application, which the board may feel, is reasonably necessary to protect the general welfare of the Town. The amount for this escrow payment is established in the Town Fee Schedule. This escrow payment shall be made before the Board engages any outside party to undertake this review and to make recommendations to the Board. -When 75% of the escrow has been disbursed, review of the application shall cease until the applicant replenishes the escrow in an amount to be determined by the Board.- Any part of this escrow payment in excess of the final costs for review shall be returned to the applicant upon conclusion of review.~~owner or the owner's agent.~~

4. The subdivider, or the subdivider's duly authorized representative, shall attend the meeting of the Board to discuss the Final Plan.

5. Within 30 days of the date of submission, ~~The Planning Board shall review~~ the Town Planner and any additional staff or peer reviewers will provide comments on the application and determine whether it is complete or, if the application is incomplete, the specific additional material needed to complete the application. This determination will be provided in writing to the applicant or their authorized representative.

6. Within 30 days of an application being deemed complete (or within a timeframe mutually agreed upon by the applicant and the Planning Board)~~Within sixty (60) days of receipt of a completed Final Plan Application or within thirty (30) days of a public hearing~~, the Board shall take action to give final approval, with or without modifications, or disapproval of such Final Plan. The reason for ~~of~~ any modification required or the ground for disapproval shall be stated upon the records of the Board with~~and~~ a copy provided to the subdivider.

7. If the proposed subdivision requires a permit under the Site Location of Development Act, the Stormwater Management Law or the Natural Resources Protection Act or is otherwise under the jurisdiction of the Maine Departments of Environmental Protection or Transportation, the final plan shall not be approved by the Board until all such approvals are obtained.

8. No Final Plan shall be acted on by the Board until the Board has scheduled and conducted a public hearing thereon. Notice of the time, place and date of such hearing shall be sent not less than seven (7) days before the hearing to the subdivider and to owners of property within 250 feet of the properties involved. Property owners shall be those listed in the most recent tax records of the Town of Damariscotta. Notice shall also be published in a newspaper of general circulation in the Town of Damariscotta at least two times, and the first date of the publication shall be at least seven (7) days prior to the public hearing. Failure to receive notice shall not invalidate the public hearing held.

9. Upon completion of the requirements of §103.5 C & D and approval by the Board of the Minor Subdivision a copy of the final plan, including any conditions of approval and any waivers granted,~~mylar copy~~ shall be properly signed by a majority of the members of the Board, using black ink. After the Final Plans have been signed~~had the mylar approval entered upon them~~, a copy of the plans shall be returned to the subdivider. One (1) signed copy, ~~including the sepia copy,~~ shall be retained by the Town to be maintained in the f~~Subdivision Plan F~~ile. The Final Plan shall be filed by the applicant with the Lincoln County Registry of Deeds. Any Subdivision Plan not filed~~not so filed~~ or recorded within sixty (60) days of the date upon which such Plan is approved, shall become null and void, unless the particular circumstances of said applicant warrant the Board to grant an extension which shall not exceed two additional periods of sixty (60) days. This 60-day period shall begin the day the plan is signed by the Planning Board.

10. Any extension of this 60-day period must be requested of the Planning Board before the first 60-day period expires. The applicant shall provide the Town Planner~~Code Enforcement Officer (CEO)~~ with

a receipt from the Lincoln County Registry of Deeds within that time limit stating that the Plan has been filed and giving the Book and Page numbers. No building permits for an approved plan will be issued until the plan has been registered with the Lincoln County Registry of Deeds and a letter from the subdivider has been submitted to the Town stating that all permanent monuments as required by §103.7.A of this Ordinance have been placed.

~~C.~~B. **Minor Subdivision Submissions**

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1. Location Map. The Preliminary Plan shall be accompanied by a Location Map drawn at a scale of not over four hundred feet (400') to the inch to show the relation of the proposed subdivision to the adjacent properties and to the general surrounding area. The Location Map shall show:

1.1 All the area within 2,500 feet of any property line of the proposed subdivision showing:

i. All existing subdivisions and approximate tractlines of acreage parcels.

ii. Location, widths and names of existing, filed or proposed streets, easements, building lines and alleys pertaining to the proposed subdivision and to the properties as designated in Section D.1 above.

iii. The boundaries and designations of parks and other public spaces.

iv. Outline of the proposed subdivision together with its street system and an indication of the future probable street system of the remaining portion of the tract, if the Preliminary Plan submitted covers only part of the subdivider's entire holding.

2. Final Plan. The Final Subdivision Plan shall be submitted~~, with ten (10) copies of each map or drawing,~~ together ~~with ten (10) copies of~~ any attachments or additional information required for approval. All dimensions shall be shown in feet or decimals of a foot and drawn to a scale of not more than 100 feet to the inch (preferably forty (40) feet to the inch). Unless a waiver of one or more submission requirements is approved by majority vote of the Board pursuant to §103.9, the Final Plan and accompanying materials shall show:

2.1 All existing information provided as part of the Sketch Plan.

2.2 The name, registration number and seal of the land surveyor or engineer who prepared the plan.

2.3 Number of acres within the proposed subdivision and zone boundaries.

2.4 Proposed lot lines with dimensions, lot numbers, areas in square feet and suggested locations of buildings.

2.5 Sufficient data to determine readily the location, bearing and length of every street line, lot line, boundary line, and to reproduce such lines upon the ground. Parting lines of all lands adjoining the subdivision shall be shown.

2.6 Permanent reference monuments shown thus: "X". They shall be constructed and placed in accordance with specifications herein, and their location noted and referenced upon the Final Plan.

2.7 Proposed easements, forested areas, perennial and intermittent watercourses, and wetlands. The boundaries of any wetlands depicted on the plans shall be delineated by a wetlands scientist.

2.8 Contour lines at intervals of not more than two (2) feet for all portions of the property proposed to be developed.

2.9 Connection with existing or proposed water supply or alternative means of providing water supply to the proposed subdivision.

2.10 Connection with existing or proposed sanitary sewerage system or alternative means of treatment and disposal proposed.

2.11 If a private sewage disposal system is proposed, location and results of tests to ascertain subsurface soil ground water conditions and depths to maximum ground water level.

2.12 Typical erosion control procedures to be applied to each lot. As an alternative, the Board may impose a condition of approval that all site work on each lot must be completed by a contractor certified by the State of Maine in erosion and sedimentation control whether such work is authorized by the applicant or by a subsequent lot purchaser.

2.13 Preliminary designs of any bridges or culverts, which may be required along with State approval if requiredif, required.

2.14 A standard boundary survey plan of the property to be developed prepared by a licensed land surveyor and the location of temporary markers adequate to enable the Board to locate readily and appraise the basic layout in the field.

2.15 All parcels of land proposed to be dedicated to public use and the conditions of such dedication.

2.16 The location of all natural features or site elements to be preserved.

2.17 Certification by a registered professional engineer or a registered land surveyor that all survey, deed and supporting information accurately reflects the true conditions existing on the proposed subdivision.

2.18 Base Flood Elevation Data.

2.19 The location of significant resources including important deer wintering areas, other important plant or wildlife habitat and areas with visual significance.

2.20 The location of any trail, trail system or greenbelt that crosses the property.

2.21 An owner or his authorized agent shall submit information on the location of the development to the following address:

State Historic Preservation Officer
Maine Historic Preservation Commission
55 Capitol Street - State House Station 55
Augusta, Maine 04333

Include a request that the Damariscotta Planning Board be notified of any comments. The applicant shall submit to the Planning Board proof of such notification, including a copy of the letter to the State Historic

Preservation Officer.

2.22 A phosphorous control plan for any portion of the subdivision within the watershed of a great pond prepared in conformance with the provisions of §103.6.O. If the subdivision requires a Stormwater Permit from the Department of Environmental Protection (DEP), the Board may accept the Stormwater Permit issued by DEP as evidence that §103.2.S has been satisfied.

2.23 Right, title or interest of the applicant in the property to be subdivided

2.24 Any conditions of approval required by the Board

2.25 A statement indicating that any change or modification to any aspect of the approved plan shall be considered an amendment to the plan and shall require approval of the Board.

E. Preliminary Plan for Major Subdivisions Procedure

1. Within six (6 months) after Sketch Plan acceptance by the Board, the subdivider shall submit an application for the consideration of a Preliminary Plan for the Subdivision. Failure to do so shall require re-submission of the Sketch Plan to the Board for review. The application and all required preliminary plan documentation shall be submitted to the Town and must be deemed complete by the Town Planner at least fifteen (15) days prior to the first Planning Board meeting of the month during which the subdivider wishes to be heard. ~~Failure to do so shall require re-submission of the Sketch Plan to the Board for review.~~ The Preliminary Plan shall conform to the layout shown on the Sketch Plan plus any recommendations made by the Board.

~~1.~~2. The application for conditional approval of the Preliminary Plan shall be accompanied by a fee as established in a Town Fee Schedule as may be revised from time to time by the Board of Selectmen and payable by check to the Town of Damariscotta, Maine with a note indicating the specific purpose of the fee.

~~2.~~3. In addition, the Board shall require the applicant~~owner or the owner's authorized agent~~ to deposit in escrow an amount of money sufficient to cover the costs of any professional review of the subdivision application, which the board may feel~~,~~ is reasonably necessary to protect the general welfare of the Town. The amount for this escrow payment is established o~~i~~n the Town Fee Schedule. This escrow payment shall be made before the Board engages any outside party to undertake this review and to make recommendations to the Board. When 75% of the escrow has been disbursed, review of the application shall cease until the applicant replenishes the escrow in an amount to be determined by the Board. Any part of this escrow payment in excess of the final costs for review shall be returned to the owner or the owner's agent.

(***These provisions are common in Maine and permit the board to retain a consultant to assist in the review of the application. The assistance could consist of an engineer, planner, attorney or similar professional.)***

~~3.~~4. The subdivider, or the subdivider's duly authorized representative, shall attend the meeting of the Board to discuss the Preliminary Plan.

~~4.~~5. The Town Planner~~Planning Board~~ shall review the application and determine whether it is complete or, if the application is incomplete, the specific additional material needed to complete the application.

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~~5.~~6. Within thirty~~six~~ (360) days of receipt of a completed Preliminary Plan Application~~, or within thirty (30) days of a public hearing~~, the Board shall take action to give preliminary approval, with or without modifications, or disapproval of such Preliminary Plan. The reason for any~~of any~~ modification required or the ground~~s~~ for disapproval shall be stated upon the records of the Board with~~and~~ a copy provided to the subdivider.

~~6.~~7. No Preliminary Plan shall be acted on by the Board until the Board has scheduled and conducted a public hearing thereon. Notice of the time, place and date of such hearing shall be sent not less than seven (7) days before the hearing to the subdivider and to owners of property within 250 feet of the properties involved. Property owners shall be those listed in the most recent tax records of the Town of Damariscotta. Notice shall also be published in a newspaper of general circulation in the Town of Damariscotta at least two times, and the first date of the publication shall be at least seven (7) days prior to the public hearing. Failure to receive notice shall not invalidate the public hearing held.

~~7.~~8. Preliminary approval of a Preliminary Plan shall not constitute approval of the Final Plan, but rather it shall be deemed as an expression of approval of the design submitted on the Preliminary Plan as a guide to the preparation of the Final Plan. The Final Plan shall be submitted for approval of the Board upon fulfillment of the requirements of this Ordinance and the conditions of the preliminary approval, if any. Prior to approval of the Final Subdivision Plan, the Board may require additional changes as a result of further study of the subdivision in final form or as a result of new information obtained at a public hearing but it is expected that if the Board gives preliminary approval, it will not revisit issues during final plan review that were satisfactorily addressed during preliminary review except for those contained in any conditions included with preliminary approval.

F. Preliminary Plan for Major Subdivisions Submissions

The following submissions shall be provided for all subdivisions unless the Board determines by majority vote that, pursuant to §103.9 and based on evidence provided by the applicant, one or more submissions is not applicable due to the size, location, type or other physical feature of the proposed subdivision. It is the intent of this section that waivers of submission requirements be the minimum necessary to reasonably accommodate specific and unique conditions of the proposed subdivision. If the applicant desires additional waivers of submission requirements, they should only be considered as part of an application for an Open Space Subdivision (see §103 Appendix A).

(This section gives the Board authority to waive some submission requirements. Any such waivers must be for good reason and should be stated in the vote and recorded in the minutes. Most potential waivers would be related to project size but size alone should not justify a lot of waivers.)

1. Location Map. The Preliminary Plan shall be accompanied by a Location Map drawn at a scale of not over four hundred feet (400') to the inch to show the relation of the proposed subdivision to the adjacent properties and to the general surrounding area. The Location Map shall show:

1.1 All the area within 2,500 feet of any property line of the proposed subdivision including~~showing~~:

i. All existing subdivisions and approximate tractlines of acreage parcels.

ii. Location, widths and names of existing, filed or proposed streets, easements, building lines and alleys pertaining to the proposed subdivision and to the properties as designated above.

iii. The boundaries and designations of parks and other public spaces.

iv. An outline of the proposed subdivision together with its street system and an indication of the future probable street system of the remaining portion of the tract, if the Preliminary Plan submitted covers only part of the subdivider's entire holding.

2. Preliminary Plan. The Preliminary Subdivision Plan shall be submitted~~, with ten (10) copies of each map or drawing,~~ together with ~~ten (10) copies of~~ any attachments required in order to demonstrate compliance with Sec. 103.2 and Sec. 103.6~~for approval~~. All dimensions shall be shown in feet or decimals of a foot and drawn to a scale of not more than 100 feet to the inch (preferably forty (40) feet to the inch). The Preliminary Plan and accompanying materials shall show:

2.1 All existing information provided as part of the Sketch Plan.

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G. Final Plan for Major Subdivisions Procedure

1. The subdivider shall, within six (6) months after the preliminary approval of the Preliminary Plan, file with the Board an application for approval of the Final Subdivision Plan in the form described herein. The subdivider may be granted an extension of this time requirement by the Planning Board if a letter is submitted explaining the need for additional time. If the Final Plan is not submitted to the Board within six (6) months after approval of the Preliminary Plan, the Board may refuse without prejudice to act on the Final Plan and require resubmission of the Preliminary Plan. All applications for Final Plan approval for subdivisions shall be accompanied by a fee payable by check to the Town of Damariscotta, Maine. (See Town Fee Schedule.) The application and all required final plans shall be submitted to the Town Planner.~~Town Office in sufficient t at least fifteen (15) days prior to the first Planning Board meeting of the month during which the subdivider wishes to be heard.~~

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G. Final Plan for Major Subdivisions Submissions

1. The Final Plan shall be submitted together with~~with the mylar original, two reproducible mylars and ten (10) copies, of each map or drawing, together with ten (10) copies of~~ any attachments required to demonstrate compliance with Sec. 103.2 and Sec. 103.6 ~~for approval~~. All maps and drawings shall be printed or reproduced in the same manner as the Preliminary Plan. Space shall be reserved thereon for endorsement by all appropriate agencies. The Final Plan shall show:

1.1 All of the information presented on the Preliminary Plan, Location Map and any amendments thereto suggested or required by the Board.

1.1 The name, registration number and seal of the land surveyor or engineer or planning consultant who prepared the plan.

1.3 Street names and lines, pedestrian ways, lots, easements and areas to be reserved for or dedicated to public use.

1.4Sufficient data to determine readily the location, bearing and length of every street line, lot line, boundary line, and to reproduce such lines upon the ground. Parting lines of all lands adjoining the subdivision shall be shown.

1.5 The length of all straight lines, the deflection angles, radii, length of curves and central angles of

all curves, tangent distances and tangent bearing for each street.

1.6 Lots within the subdivision, numbered as prescribed by the Board.

1.7 By proper designation, all public open space for which offers of cession are made by the subdivider and those spaces to which title is reserved by him.

1.8 Permanent reference monuments shown thus: "X". They shall be constructed and placed in accordance with specifications herein, and their location noted and referenced upon the Final Plan.

1.9 The Plan shall indicate the proposed landscaping program of the subdivider.

1.10 Any conditions of approval required by the Board

1.11 A statement indicating that any change or modification to any aspect of the approved plan shall be considered an amendment to the plan and shall require approval of the Board.

2. There shall be submitted to the Board with the Final Plan:

2.1 Written offers of cession to the Town of Damariscotta of all public open space shown on the Plan that is to be transferred to the Town, and copies of agreements or other documents are to be submitted showing the manner in which spaces will be reserved in title by the subdivider.~~which spaces, title to which is reserved by the subdivider.~~

H. Final Plan for Major Subdivisions Approval and Filing

1. Upon completion of the requirements in Article VI and VII above, it shall be deemed to have final approval and the Final Plan~~mylar copy~~ shall be properly signed by a majority of the members of the Board, using black ink.

2. The Board shall act on a Final Plan within thirty (30) days from the date of an application being deemed complete by the Town Planner,~~receipt of the completed application~~ unless the subdivider agrees to an extension of this time~~e~~ period.

3. At the time the Board grants Final Plan approval, it may permit the Plan to be divided into two or more phased sections subject to any conditions of the Plan. The applicant may request that only a section of the approved Plan be filed with the Board and the Lincoln County Registry of Deeds if said section constitutes at least twenty-five (25) percent of the total number of lots contained in the approved Plan. In these circumstances, Plan approval on the remaining sections of the Plan shall remain in effect for two (2) years or a period of time mutually agreed to by the Board and the Subdivider.

4. After the Final Plans have been signed by the Planning Board~~had the mylar approval entered upon them~~, a copy of the plan~~s~~ shall be returned to the subdivider. One (1) signed copy ~~, including the sepia copy,~~ shall be retained by the Town to be maintained in the Subdivision Plan File. The Plan shall be filed by the applicant with the Lincoln County Registry of Deeds. Any Subdivision Plan not filed~~not so filed~~ or recorded within sixty (60) days of the date upon which such Plan is approved, shall become null and void, unless the particular circumstances of said applicant warrant the Board to grant an extension which shall not exceed two additional periods of sixty (60) days. This 60-day period shall begin the day the plan is signed by the Planning Board.

Any extension of this 60-day period must be requested of the Planning Board before the first 60-day

period expires. The applicant shall provide the Town Planner~~Code Enforcement Officer (CEO)~~ with a receipt from the Lincoln County Registry of Deeds within that time frame~~limit~~ stating that the Plan has been filed and giving the Book and Page numbers. No building permits for an approved plan will be issued until the plan has been registered with the Lincoln County Registry of Deeds and a letter from the subdivider has been submitted to the Town stating that all permanent monuments as required by §103.7.A of this Ordinance have been placed.

I. Amendments to Previously Approved Subdivision Plan

Prior to making any change, erasure, modification or revision to a final Subdivision Plan which has been approved by the Board and endorsed in writing on the plan, the plan must be resubmitted to the Board for their review and approval of the proposed modifications. A public hearing may be held concerning a subdivision amendment as prescribed in §103.5.E.6 of this Ordinance. All amended plans must be signed by the Board and recorded in the Lincoln County Registry of Deeds within sixty (60) days of the date of approval. Any amended plan not so filed or recorded within sixty (60) days of the date upon which such plan is approved shall become null and void, unless the particular circumstances of said applicant warrant the Board to grant an extension which shall not exceed two additional periods of sixty (60) days. The applicant shall provide the Town Planner~~Code Enforcement Officer (CEO)~~ with a receipt from the Lincoln County Registry of Deeds within that time frame~~limit~~ stating that the plan has been filed and giving the book and page numbers.

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L. Performance Guarantees

1. The subdivider shall, in an amount set by the Planning Board~~Board of Selectmen~~, file with the Town, prior to the issuance of a building permit, a performance guarantee in the form of a certified check payable to the Town of Damariscotta, a performance bond running to the Town of Damariscotta, an irrevocable letter of credit to cover the full cost of required improvements or some other form of surety that is acceptable to the Planning Board~~Board of Selectmen~~. For the purposes of this section, required improvement shall mean all public and private roads, all drainage structures and ditches, all erosion control measures, all utilities, all landscaping and all recreation facilities. Any such bond shall be satisfactory to the Planning Board~~Board of Selectmen~~ and the municipal attorney as to form, sufficiency, manner of execution and surety.

(The guarantee ensures that the overall project will be constructed in accordance with the approved plans, including both public and private roads, prior to the sale or development of any lots.)

2. At the discretion of the Planning Board~~Board of Selectmen~~, the subdivider may be allowed to submit individual bonds for each phase of a project's development. If this option is chosen, prior to submission of each individual bond, the developer shall submit to the Town a written statement detailing completion dates for all roads and other public improvements planned for that phase.

3. A period of one year (or such period as the Planning Board~~Board of Selectmen~~ may determine appropriate, not to exceed three (3) years) shall be set forth in the bond time within which required improvements must be completed.

4. Inspection of Required Improvements

4.1. At least fifteen (15) days prior to commencing construction of required improvements, the subdivider shall hold a pre-construction meeting with the Town Planner, Code Enforcement Officer,

or their designee(s)notify in writing the Code Enforcement Officer of the time when he proposes to commence construction of such improvements so that the Board of Selectmen can cause inspection canto be made to assure that all specifications and requirements shall be met during the construction of required improvements, and to assure the satisfactory completion of improvements and utilities required by the Board. Inspection shall be made of all required public improvements as defined above.

4.2 At least five (5) days prior to commencing construction of required improvements, the subdivider shall pay an inspection fee equal to the estimated cost of inspection by an engineer appointed by the Town, payable by check to the Town of Damariscotta stating the purpose of the fee. No building permits shall be issued on the project and no work begun until the inspection fee has been paid.

(This inspection fee covers the cost of inspecting improvements as they are constructed.)

4.3 If the inspector shall find, upon inspection of the improvement performed before the expiration date of the performance bond, that any of the required improvements have not been constructed in accordance with plans and specifications filed by the subdivider, the inspector shall so report to the Town Planner and Code Enforcement OfficerBoard of Selectmen, Road Commissioner and Building Inspector. The Code Enforcement OfficerBoard of Selectmen shall then notify the subdivider and, if necessary, the bonding company or bank, and take all necessary steps to preserve the municipality's rights under the bond or letter of credit. No plan shall be approved by the Board as long as the subdivider is in default on a previously approved Plan.

4.4 If at any time before or during the construction of the required improvements it is demonstrated to the satisfaction of the inspector that unforeseen conditions make it necessary or preferable to modify the location or design of any required improvement, the inspector may, upon approval of the Town PlannerBoard of Selectmen, authorize modifications, provided these modifications are within the spirit and intent of the Board's approval and do not extend to the waiver or substantial alteration of the function of any improvements required by the Board. The inspector shall issue any authorization under this section in writing and shall transmit a copy of such authorization to the Code Enforcement Officer.

4.4

(Unexpected conditions sometimes require changes to plans during construction. Rather than stop the project until the plans are revised and approved by the Board, the Town PlannerCEO and the Board of Selectmen, with the advice of the inspector, can allow reasonable changes.)

4.5. Upon completion and final inspection of all required improvements, any funds remaining in a project's inspection fee account, after all inspection fees have been paid, shall be returned to the subdivider.

4.6. The applicant shall be required to maintain all improvements and provide for snow removal on streets and sidewalks until acceptance of said improvements by the legislative body.

5. 5. The performance guarantee shall not be released by the Planning BoardBoard of Selectmen until:

5.1. The inspecting engineer has completed his final inspection of the project and has submitted a written report stating that all required public improvements as defined above have been completed in accordance with approved plans and specifications.

5.2. The Board of Selectmen and Code Enforcement Officer hasve examined the site, hasve reviewed the inspecting engineer's report and concur with his findings.

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5.3 Performance guarantees collected on phased work segments shall be released in the same manner as outlined above, upon the completion of each phase.

§103.6 GENERAL REQUIREMENTS

A. In reviewing applications for the subdivision of land, the Board shall consider the following general requirements unless the Board grants a waiver pursuant to §103.9. It is the intent of this section that waivers of any general requirements be the minimum necessary to reasonably accommodate specific and unique conditions of the proposed subdivision. If the applicant desires additional waivers of general requirements, they should only be considered as part of an application for an Open Space Subdivision (see §103 Appendix A). In all instances, the burden of proof shall be upon the person proposing the subdivision to prove that a waiver is needed.

(These requirements should be applicable to all subdivisions and reflect many of the legislative review criteria. They also provide guidance to the applicant in preparing some of the submissions listed in §103.5.)

B. Conformity with Comprehensive Plan

Any proposed subdivision shall be in conformity with the Comprehensive Plan of the Town of Damariscotta and with the provisions of all pertinent state and local codes and ordinances.

C. Retention of Proposed Public Sites and Open Spaces

1. For residential subdivisions, the subdivider shall reserve a minimum of ten (10) percent of the gross area of the subdivision as open space. Depending on the size and location of the subdivision, the Board may require the developer to provide up to ten (10) percent of his total area for recreation. It is desirable that areas reserved for recreation be at least one acre in size and easily accessible from all lots within the subdivision.

2. Developers shall be encouraged to retain any existing trail system, which crosses the property, or to re-route the trail system to a suitable portion of the property such that the integrity and continuity of the trail is retained.

~~***(If preservation of snowmobile trail is an important issue in Damariscotta, this section could be strengthened. For example, the PB could allow trail preservation to substitute for, all or in part, the open space requirement, above.)***~~

3. Developers shall be encouraged to retain the integrity and continuity of any greenbelt, which crosses the property.

4. The Planning Board shall consider the comments of the State Historic Preservation Officer, if any, and may require that significant archaeological or historical sites be preserved to the maximum extent possible both during construction and following completion of the development.

5. Land reserved for park and/or recreational purposes shall be of a character, configuration and location suitable for the particular use intended. A site to be used for active recreation purposes, such as a playground or a playfield, should be relatively level and dry, have a total frontage on one or more streets of at least 200 feet, and have no major dimensions of less than 200 feet. Sites selected primarily for scenic

or passive recreation purposes shall have such access as the Board may deem suitable and shall have no less than twenty-five (25) feet of road frontage. The configuration of such sites shall be deemed adequate by the Board with regard to scenic attributes to be preserved, together with sufficient areas for trails, lookouts, etc. where necessary and appropriate.

6. Where the proposed subdivision is located on a lake, pond, river, saltwater body or stream, a portion of the waterfront area shall be included in reserved land, which shall be a minimum of 200 feet plus ten (10) additional feet for each unit/lot.

7. Ownership shall be clearly indicated for all reservations of park and playground purposes on the Final Plan and shall be clearly established in a manner satisfactory to the town attorney so as to ensure the continuation of responsibility for ownership maintenance. The land or a part of it may be deeded to the Town of Damariscotta subject to the approval of the Town.

8. The Board may further require that the developer provide space for future municipal uses, in accordance with a Comprehensive Plan or policy statement, giving the Town first option on the property.

D. Preservation of Natural and Historic Features

The Board shall require that a proposed subdivision design include a landscape plan that will show the preservation of existing significant trees, the replacement of trees and vegetation, graded contours, streams and the preservation of scenic, historic or environmentally desirable areas. The street and lot layout shall be adapted to the topography. Extensive grading and filling shall be avoided as far as possible. A fifty (50) foot buffer strip shall be provided where the proposed subdivision abuts an existing road.

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J. Lots

1. In a new subdivision, each lot shall contain buildable land equivalent to at least 50% of the minimum lot size.

(For example, if the minimum lot size~~MLS~~ is 80,000 sf, the lot would need at least 40,000 sf buildable land whether its actual size were 80,000 sf or 10 acres.)

2. Lot configuration and area shall be designed to provide for adequate off-street parking and service facilities based upon the type of development proposed.

3. Lots with multiple frontages shall be avoided wherever possible. When lots do have frontage on two or more roads, the plan and deed restrictions shall indicate that vehicular access shall be located only on the less traveled way.

4. Wherever possible, side lot lines shall be perpendicular to the street.

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Planning Department
Damariscotta Town Office
21 School Street,
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Isabelle Oechslie
Town Planner
Phone: (207) 563-5168
IOechslie@damariscottame.com

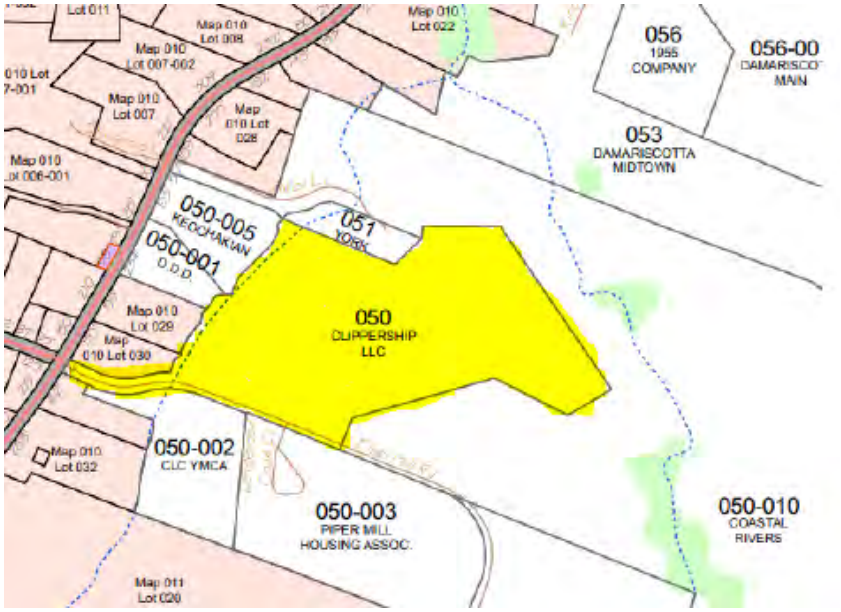
AGENDA ITEM #4C
Meeting of November 7, 2022

Minor Subdivision Amendment Application – Clippership Subdivision

Piper Mill Road – Clippership Landing Development, LLC
PID #2201

INTRODUCTION

Applicant Clippership Landing Development, LLC is requesting Minor Subdivision review in order to: subdivide the existing property at Tax Map 1, Lot 50. Per State Subdivision Statutes, the division of a parcel of land into three or more parcels within a 5-year period qualifies as a subdivision and thus requires subdivision review by the municipal reviewing authority (the Planning Board). Additionally, since the 2019 amended plan was recorded on the Registry of Deeds, a subdivision amendment is required in order to split Tax Map 1, Lot 50 as the applicants are proposing to supersede the 2019 plan on the Registry. The property is located within the Rural Zoning District and the Town's designated Village Expansion Growth Area, per the 2014 Comprehensive Plan.



Legal advertisements regarding this public hearing appeared in the Lincoln County News on October 27, 2022 and November 3, 2022, and were mailed to 22 property owners within 250' of the subject property and were posted at the Town Office on October 24, 2022.

This submission is being reviewed pursuant to Chapter 103, Sec. 103.6: General Requirements [Subdivisions]; Chapter 103, Sec. 103.7: Design Standards [Subdivisions], and for compliance with the Town's adopted Comprehensive Plan.

SUBMISSION CHRONOLOGY

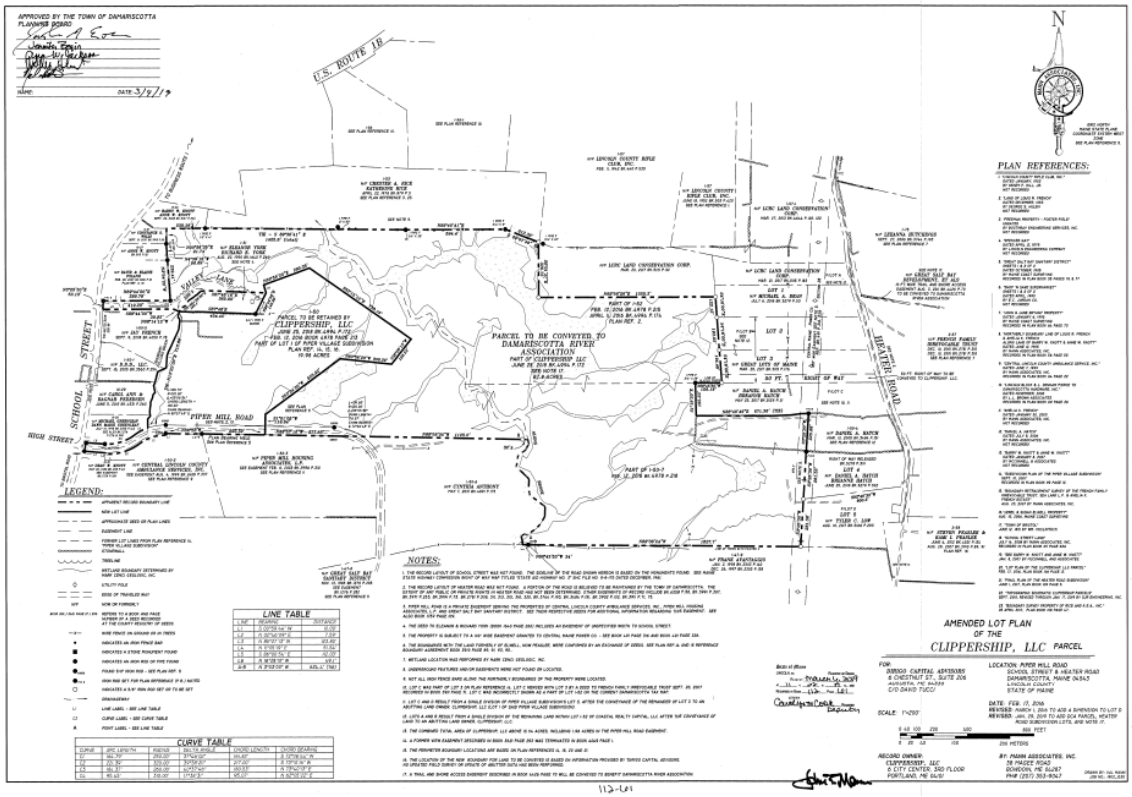
Application Received:	September 19, 2022
Pre-Application Date:	August 1, 2022
Deemed Complete for Planning Board:	October 19, 2022

PROJECT DATA

Zoning:	Rural	
Existing Land Area:	19.98 acres (proposed to be subdivided further)	
	Allowed:	**Proposed:**
Min. Lot Area:	10,000 s.f. for first principal building/dwelling, 6,000 s.f. thereafter	Lot 1: 11.21 acres Lot 2: 8.76 acres
Min. Street Frontage:	200 feet	Lot 1: approx. 1,000 feet Lot 2: 200 feet

REVIEW PROCESS

The applicants have submitted applications for both Minor Subdivision and Site Plan within the same packet. However, the Minor Subdivision application is specific to the amendment of the subdivision plan previously approved by this Planning Board and signed on March 4, 2019.

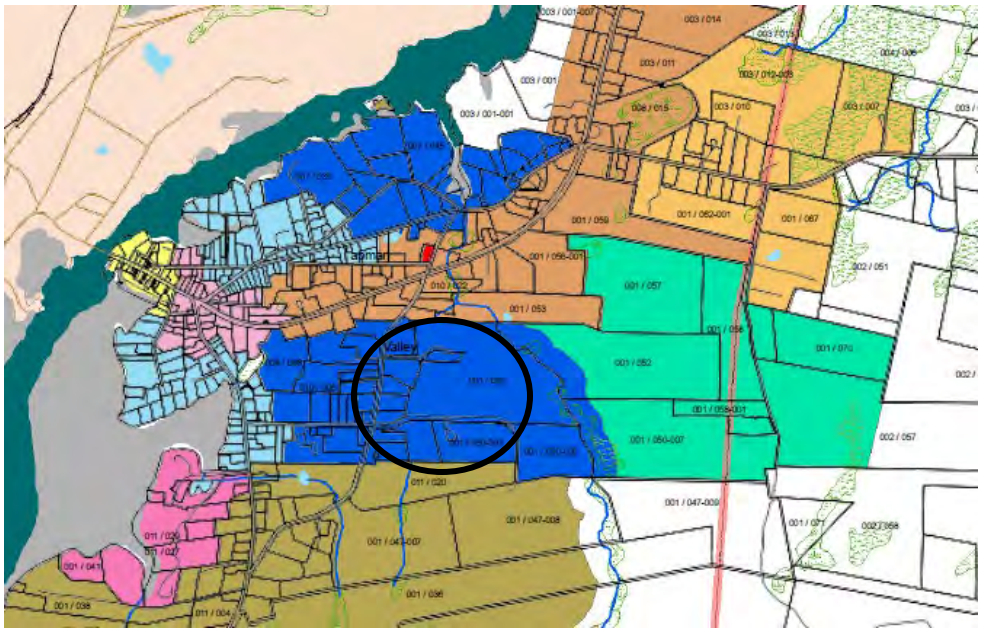


Per State Subdivision Statutes, the division of a parcel of land into three or more parcels within a 5-year period qualifies as a subdivision and thus requires subdivision review by the municipal reviewing authority (the Planning Board). Additionally, since the 2019 amended plan was recorded on the Registry of Deeds, a subdivision amendment is required in order to split Tax Map 1, Lot 50 as the applicants are proposing and supersede the 2019 plan on the Registry.

The standards for Site Plan review in order to enable the development of the proposed nursing facility are being reviewed under a separate memo, included within this meeting packet as agenda item #4D.

COMPLIANCE WITH THE COMPREHENSIVE PLAN

The 2014 Comprehensive Plan (adopted June 2014 and subsequently revised in February 2015) notes that the subject property is within the Village Expansion Growth Area (per the Future Land Use Map, page 34 and below).



Growth Areas are the areas where the Town expects growth and development to occur. The anticipation is that most residential and non-residential development will occur in these areas. The Village Expansion Area anticipated that, "Within these neighborhoods, a range of residential uses should be allowed … The development of senior housing and retirement and eldercare facilities should also be allowed." In addition, the vision for this area was that it would evolve as an extension of the village with moderate density housing and a "village character."

ANALYSIS OF PROJECT

Minor Subdivision review is subject to the standards outlined in Sec. 103.6: General Requirements, and Sec. 103.7: Design Standards.

Staff's analysis of the Subdivision standards is organized by topic below, with references to the corresponding provisions.

1. **Sec. 103.6(A): Description of Waivers**
   Waivers to the Subdivision standards have not been requested as part of this application.

2. **Sec. 103.6(B): Compliance with Comprehensive Plan**
   In staff's view, the proposed project is in compliance with the Comprehensive Plan as outlined in the analysis above.

3. **Sec. 103.6(C): Retention of Public Sites and Open Spaces**
   As the project is not for a residential subdivision, (C)(1), (C)(5), (C)(6) and (C)(7) do not apply.

   There are no trail systems or green belts which cross the property, therefore (C)(2) and (C)(3) are not applicable.

   The applicant has submitted documentation from the Maine Historic Preservation Commission indicating that no documented archeological or historic resources will be impacted by the proposed development. Therefore, in the view of staff, (C)(4) has been met.

   The Comprehensive Plan does not have any policies requiring the provision of space for municipal uses in this area. Therefore, (C)(8) is not applicable.

4. **Sec. 103.6(D): Preservation of Natural and Historic Features**
   Trees near the front property line are proposed to be impacted by the construction of the easterly emergency access drive (as well as the proposed building, being review separately). In an effort to replace trees slated for removal, a total of 54 evergreen trees that are 6' to 7' tall are proposed in key areas around the site, including at the edge of the emergency access road on the western side of the property, surrounding the parking areas, and to highlight the entrance of the building and surrounding courtyards. A total of 100 deciduous trees of various heights are also proposed in similar key areas. A variety of shrubs and other small landscaping are also proposed.

   The applicant has submitted documentation from the Maine Historic Preservation Commission indicating that no documented archeological or historic resources will be impacted by the proposed development.

5. **Sec. 103.6(E): Traffic Sight Distances**
   The proposed site accesses meet MaineDOT sight distance requirements for roadways with a speed limit of 25 mph. A sight distance of at least 200 feet is required. Looking left from the main entrance being proposed (which will also serve the reserved Lot 2), the measured sight distance was found to be 500 feet. Looking right from the main entrance, the measured sight distance was found to be 285 feet. Looking left from the proposed service entrance, the measured sight distance was found to be 270 feet. Looking right from the proposed service entrance, the measured sight distance was found to be approximately 210 feet. The traffic report does note that existing vegetation found on both sides of Piper Mill Road to the west of the service entrance severely restricts sight distances. The applicants have submitted a roadway clearing plan intended to allow the development to meet the standards of this section. Condition #8 notes that the clearing must be completed at the applicant's expense prior to the issuance of a building permit.

6. **Sec. 103.6(F): Conformance to Shoreland Zoning**
   As the property is not located within the shoreland zone, this standard is not applicable.

7. **Sec. 103.6(G): Easements for Natural Drainage Ways**
   While this standard may be appropriate for traditional subdivisions where the developer or an HOA may need to traverse lots within the subdivision (that they would presumably no longer own) to clean up after a flooding event, the developer and their own successors and assigns own the property which directly abuts the stream in this case. Therefore, staff recommends that this standard is not applicable due to the unique constraints of the development being proposed.

8. **Sec. 103.6(I): Net Residential Density**
   As the proposal is not for a residential subdivision, this standard is not applicable.

9. **Sec. 103.6(J): Lots**
   Proposed lots meet the minimum lot size standards of Sec. 101.5(D)(2): Dimensional Standards. Development currently proposed is for a 102-bed nursing facility. There are no lots with multiple frontages – frontage comes from Piper Mill Road. A section of the proposed side lot line runs almost parallel to Piper Mill Road, though this is needed to retain fire lane access for the proposed development on Lot 1. Flag lots are not proposed; the ratio of lot length to width meets this section.

   Alongside this subdivision application, the applicants have submitted a Site Plan application for a proposed 102-bed nursing home. Zoning Ordinance Section 102.6(H)(7)(i) requires that nursing homes provide one parking spaces per every three rooms, therefore the project requires at least 34 spaces. The project provides 103 spaces, including 9 spaces for people with disabilities. As designed the parking supplied meets the requirements of Section 102.6(H), and therefore the requirements of 103.6(J).

10. **Sec. 103.6(K): Utilities**
    Utilities have been shown on the submitted subdivision plan and have been undergrounded. Applicants are aware that the Ordinance requires amendments to an approved subdivision plan to be reviewed and approved by the Planning Board. The site is located with an area of minimal flooding according to the FEMA Flood Insurance Rate Map for the area, therefore, flood damage to utilities is not anticipated.

11. **Sec. 103.6(L): Additional Requirements**
    Staff does not recommend requiring street trees, esplanades, or open green spaces as part of this subdivision amendment application. The applicants are proposing various landscaping upgrades as part of their site plan application for the proposed development, which will be held to the standards of the Site Plan Review Ordinance.

    Similarly, noise from the proposed nursing care facility will be regulated as part of the Site Plan application and is not relevant to the subdivision of the underlying land.

12. **Sec. 103.6(M): Required Improvements**
    No streets are proposed as part of this subdivision application. The applicants are proposing accessways as part of their Site Plan application, which will be regulated under the Site Plan Review Ordinance.

13. **Sec. 103.6(N): Impact on Ground Water Quality**
    As the proposed subdivision will be connected to public water and sewer, a hydrogeologic assessment is not required and this standard is not applicable.

14. **Sec. 103.6(O): Phosphorus Control**
    The proposed subdivision is not located within the watershed of a great pond. Therefore, this standard is not applicable.

15. **Sec. 103.6(P): Affordable Housing Component**
    As housing units are not proposed with this subdivision, this standard is not applicable.

16. **Sec. 103.6(Q): Impact on Groundwater Quantity**
    The applicants are proposing to tie into public water and sewer. Therefore, removal of groundwater is not proposed and this standard is not applicable.

17. **Sec. 103.7(A): Monuments**
    The subdivision plan shows permanent monuments being set at all corners and angle points of the proposed lot line between lots one and two. The monuments are constructed out of rebar and will include the registration number of the land surveyor. Therefore, (A)(1) and (A)(2) have been met.

18. **Sec. 103.7(B) and (C): Street Signs and Streets**
    No new streets are proposed with this subdivision. Therefore, these standards are not applicable.

19. **Sec. 103.7(D): Driveway Construction**
The new driveway has been constructed in such a way as to prevent water runoff from reaching the paved portion of the street due to the proposed grading of the access drives. See Sheet C-305 for details.

20. **Sec. 103.7(E): Sidewalks**
Condition #9 requires that the applicant install sidewalks along the frontage of the subject property in accordance with this section and with Sec. 103.7(H)(7). Therefore, this standard has been met.

21. **Sec. 103.7(F): Water Supply & Sewage Disposal**
As the proposed development plans to connect in to public sewer, the standards related to sewage disposal and septic systems are not applicable.

Wells are not proposed with this subdivision. The applicant plans to tie into the public water system via a new 8" water main from Piper Mill Road. Therefore, the standards related to water supply have been met.

22. **Sec. 103.7(G): Surface Drainage**
The proposed development includes a variety of small, decentralized stormwater Best Management Practices (BMPs) designed to capture and treat runoff from the project. The BMPs include drip edge filters surrounding the perimeter of the new building, seven bioretention cells dispersed across the property, three underdrain soil filters, and a section of pervious pavement. These have been sized and designed in accordance with current State of Maine Chapter 500 Stormwater Law and come directly from the recommended Low Impact Development (LID) practices as described in the LID Guidance Manual for Maine Communities.

The applicant has applied for a Site Location of Development Act permit through the Maine Department of Environmental Protection (DEP). The project has been designed to provide treatment for 98% of the proposed impervious area and 99% of the developed area, in accordance with the Chapter 500 Regulations for Basic, General and Flooding Standards. The proposed development requires a Site Location of Development Act (SLODA) permit from the Maine DEP. SLODA permits require a higher level of review than the DEP's traditional Stormwater permits. Pursuant to Sec. 103.5(F)(2.12), staff recommends adopting Condition #11, indicating that the applicant is required to submit documentation from the Maine Department of Environmental Protection that the SLODA permit has been approved prior to the issuance of any building permits and, furthermore, that the DEP's approval indicates that the requirements of this section have been satisfied.

Condition #6 notes that, except for "surplus" topsoil for roads, parking areas and building excavations, topsoil is not to be removed from the site.

An erosion and sedimentation control plan has been submitted as part of the development of the nursing home parcel, which has been evaluated under the Site Plan Review criteria. Future development on the adjacent undeveloped will be subject to Site Plan Review and erosion control measures specific to that parcel will be evaluated at that time.

As the project is not within the Shoreland Zone, the standard of 103.7(G)(4) is not applicable.

23. Sec. 103.7(H): Roads

New roads are not proposed with this subdivision, therefore (H)(1), (H)(3), (H)(4), (H)(5), (H)(8), (H)(9.3), (H)(10), and (H)(12) are not applicable.

The section of Piper Mill Road that provides frontage to this property is owned by the applicant, and is in compliance with required road width standards. Therefore, (H)(2) is not applicable.

As described in item #5 above, sight distances for the proposed driveways have been met in accordance with (H)(6).

Condition #9 requires that the applicant install sidewalks along the frontage of the subject property in accordance with Sec. 103.7(H)(7).

The applicants have submitted an erosion and sedimentation control which will be implemented during site preparation, construction and cleanup stages in accordance with (H)(9.1).

A performance guarantee for all drainage structures and ditches, all erosion control measures, all utilities, and all landscaping will be required to be submitted to the Town prior to the issuance of any building permits, in accordance with (H)(11) and Sec. 103.5(L). Condition #10 reaffirms this requirement.

WAIVERS

The applicant has not requested any waivers to the standards of subdivision review.

RECOMMENDATION

Based on the review of the project and all information in the record, staff recommends the following action:

Approve the Minor Subdivision application of Clippership Landing Development, LLC, dated through October 19, 2022*;* drawings stamped and dated August 2022 by Horizons Engineering*,* for the Clippership Subdivision at Map 1, Lot 50, subject to the following conditions of approval:

Conditions of Approval

	Condition	Staff Assigned	Must be Completed By:
1.	This approval is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant. Any variation from the plans, proposals and supporting documents are subject to the review and approval of the Planning Board prior to implementation.	Town Planner	Ongoing
2.	All adopted conditions of approval and any waivers granted shall appear on the face of the subdivision plan.	Code Officer	Prior to Issuing Building Permit
3.	Prior to submitting a building permit, the applicant shall submit two hard-copy plans at 24" x 36" size to the Town Planner with all conditions and waivers listed on the plans.	Town Planner	Prior to Submitting a Building Permit
4.	The applicant shall secure a Building Permit from the Code Enforcement Officer in coordination with the Town Planner, Fire Department, and all relevant review authorities, prior to commencing any construction activities.	Code Officer	Prior to Issuing Building Permit
5.	Only the topsoil directly impacted by proposed buildings, access ways, and parking areas may be removed from the site without returning to the Planning Board for further review.	Town Planner	Ongoing
6.	Prior to the issuance of any Certificates of Occupancy for the project, the applicant shall submit an inspection report to the Code Enforcement Officer documenting that the stormwater facilities have been installed and are functioning as designed and approved and are fully operational.	Code Officer	Prior to Occupancy
7.	Prior to the issuance of a Building Permit, the applicant shall submit to the Town Planner an AutoCADD dataset, ArcGIS Shapefile dataset, or other equivalent geospatial dataset that may be readily converted to AutoCADD and ArcGIS-compatible files, of the approved parcel boundaries.	Town Planner	Prior to Issuing Building Permit

	Condition	Staff Assigned	Must be Completed By:
8.	The applicants have submitted a traffic report which notes that existing vegetation found on both sides of Piper Mill Road to the west of the proposed service entrance severely restricts sight distances. The applicants have submitted a roadway clearing plan intended to allow the development to meet the standards of Sec. 103.6(E). This clearing must be completed at the applicant's expense prior to the issuance of a building permit	Town Planner/Code Officer	Prior to Issuing Building Permit
9.	In accordance with Sec. 103.7(E) and 103.7(H)(7), the applicant shall install sidewalks along the frontage of the entirety of the subject property (all of the property identified as Tax Map 1, Lot 50 at the time of this approval) at their own expense, or will come to a mutual agreement with the Town to fund the installation of sidewalks along this area. Sidewalks will be installed at no cost to the Town. Sidewalk installation shall be completed within one year of the issuance of a Certificate of Occupancy.	Town Planner	Within 1 year of the Occupancy
10.	In accordance with (H)(11) and Sec. 103.5(L), a performance guarantee for 100% of the estimated cost of all drainage structures and ditches, all erosion control measures, all utilities, and all landscaping will be required to be submitted to the Town prior to the issuance of any building permits.	Town Planner	Prior to Issuing Building Permit
11.	Prior to the issuance of a building permit, the applicants are required to submit to the Town Planner confirmation from the Maine DEP that their Site Location of Development permit has been approved.	Town Planner	Prior to Issuing Building Permit

Isabelle V Oechslie

Isabelle V. Oechslie
Town Planner
November 7, 2022

DAMARISCOTTA PLANNING BOARD
FINDINGS OF FACT AND NOTICE OF DECISION

Date: November 7, 2022

Minor Subdivision Amendment Application – Clippership Subdivision

Piper Mill Road – Clippership Landing Development, LLC

PID #2201

The Town of Damariscotta Planning Board issues the following Findings of Fact and Conclusions of Law at its duly-noticed public hearing of **November 7, 2022**:

A. The Planning Board considered the Project, the staff report, and received and considered all written and oral public comments on the Project which were submitted up to and at the time of the public hearings for the Project; and

B. Legal advertisements regarding this public hearing appeared in the Lincoln County News on October 27, 2022 and November 3, 2022, and were mailed to 22 property owners within 250' of the subject property and were posted at the Town Office on October 24, 2022; and

C. The project description is as follows:

Applicant Clippership Landing Development, LLC is requesting Minor Subdivision review in order to: subdivide the existing property at Tax Map 1, Lot 50. Per State Subdivision Statutes, the division of a parcel of land into three or more parcels within a 5-year period qualifies as a subdivision and thus requires subdivision review by the municipal reviewing authority (the Planning Board); and

D. The Project is subject to the following policies and standards of review:

a. Chapter 103, Sec. 103.6: General Requirements [Subdivisions];
b. Chapter 103, Sec. 103.7: Design Standards [Subdivisions]; and
c. Compliance with the Comprehensive Plan.

E. The core Project Data includes:

Zoning:	Rural	
Existing Land Area:	19.98 acres (proposed to be subdivided further)	
	Allowed:	**Proposed:**
Min. Lot Area:	10,000 s.f. for first principal building/dwelling, 6,000 s.f. thereafter	Lot 1: 11.21 acres Lot 2: 8.76 acres
Min. Street Frontage:	200 feet	Lot 1: approx. 1,000 feet Lot 2: 200 feet

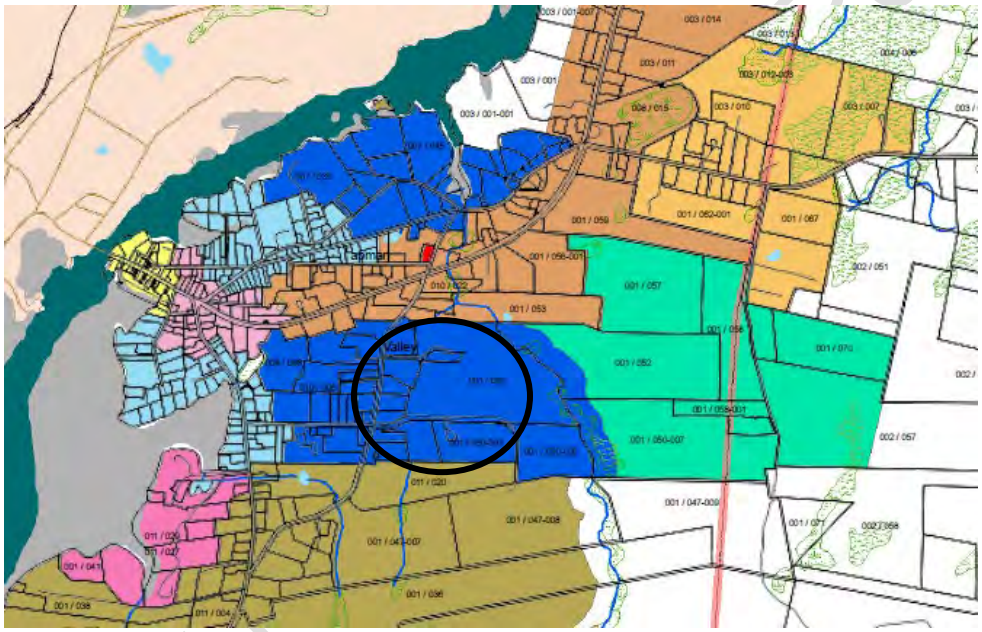
F. Based on its review of the entire record herein, the Planning Board has determined that the Project meets the applicable policies and standards of review, and the Planning Board makes the following findings:

1. Sec. 103.6(A): Description of Waivers

Waivers to the Subdivision standards have not been requested as part of this application.

2. Sec. 103.6(B): Compliance with Comprehensive Plan

The 2014 Comprehensive Plan (adopted June 2014 and subsequently revised in February 2015) notes that the subject property is within the Village Expansion Growth Area (per the Future Land Use Map, page 34 and below).



Growth Areas are the areas where the Town expects growth and development to occur. The anticipation is that most residential and non-residential development will occur in these areas. The Village Expansion Area anticipated that, “Within these neighborhoods, a range of residential uses should be allowed … The development of senior housing and retirement and eldercare facilities should also be allowed.” In addition, the vision for this area was that it would evolve as an extension of the village with moderate density housing and a “village character.”

3. Sec. 103.6(C): Retention of Public Sites and Open Spaces

As the project is not for a residential subdivision, (C)(1), (C)(5), (C)(6) and (C)(7) do not apply.

There are no trail systems or green belts which cross the property, therefore (C)(2) and (C)(3) are not applicable.

The applicant has submitted documentation from the Maine Historic Preservation Commission indicating that no documented archeological or historic resources will be impacted by the proposed development. Therefore, (C)(4) has been met.

The Comprehensive Plan does not have any policies requiring the provision of space for municipal uses in this area. Therefore, (C)(8) is not applicable.

4. Sec. 103.6(D): Preservation of Natural and Historic Features

Trees near the front property line are proposed to be impacted by the construction of the easterly emergency access drive (as well as the proposed building, being review separately). In an effort to replace trees slated for removal, a total of 54 evergreen trees that are 6' to 7' tall are proposed in key areas around the site, including at the edge of the emergency access road on the western side of the property, surrounding the parking areas, and to highlight the entrance of the building and surrounding courtyards. A total of 100 deciduous trees of various heights are also proposed in similar key areas. A variety of shrubs and other small landscaping are also proposed.

The applicant has submitted documentation from the Maine Historic Preservation Commission indicating that no documented archeological or historic resources will be impacted by the proposed development.

5. Sec. 103.6(E): Traffic Sight Distances

The proposed site accesses for the new lots meet MaineDOT sight distance requirements for roadways with a speed limit of 25 mph. A sight distance of at least 200 feet is required. Looking left from the main entrance being proposed (which will also serve the reserved Lot 2), the measured sight distance was found to be 500 feet. Looking right from the main entrance, the measured sight distance was found to be 285 feet. Looking left from the proposed service entrance, the measured sight distance was found to be 270 feet. Looking right from the proposed service entrance, the measured sight distance was found to be approximately 210 feet. The traffic report does note that existing vegetation found on both sides of Piper Mill Road to the west of the service entrance severely restricts sight distances. The applicants have submitted a roadway clearing plan intended to allow the development to meet the standards of this section. Condition #8 notes that the clearing must be completed at the applicant's expense prior to the issuance of a building permit.

6. Sec. 103.6(F): Conformance to Shoreland Zoning

As the property is not located within the shoreland zone, this standard is not applicable.

7. Sec. 103.6(G): Easements for Natural Drainage Ways

While this standard may be appropriate for traditional subdivisions where the developer or an HOA may need to traverse lots within the subdivision (that they would presumably no longer own) to clean up after a flooding event, the developer and their own successors and assigns own the property which directly abuts the stream in this case. Therefore, this standard is not applicable due to the unique constraints of the development being proposed.

8. Sec. 103.6(I): Net Residential Density

As the proposal is not for a residential subdivision, this standard is not applicable.

9. Sec. 103.6(J): Lots

Proposed lots meet the minimum lot size standards of Sec. 101.5(D)(2): Dimensional Standards. Development currently proposed is for a 102-bed nursing facility. There are no lots with multiple frontages – frontage comes from Piper Mill Road. A section of the proposed side lot line runs almost parallel to Piper Mill Road, though this is needed to retain fire lane access for the proposed development on Lot 1. Flag lots are not proposed; the ratio of lot length to width meets this section.

Alongside this subdivision application, the applicants have submitted a Site Plan application for a proposed 102-bed nursing home. Zoning Ordinance Section 102.6(H)(7)(i) requires that nursing homes provide one parking spaces per every three rooms, therefore the project requires at least 34 spaces. The project provides 103 spaces, including 9 spaces for people with disabilities. As designed the parking supplied meets the requirements of Section 102.6(H), and therefore the requirements of 103.6(J).

10. Sec. 103.6(K): Utilities

Utilities have been shown on the submitted subdivision plan and have been undergrounded. Applicants are aware that the Ordinance requires amendments to an approved subdivision plan to be reviewed and approved by the Planning Board. The site is located with an area of minimal flooding according to the FEMA Flood Insurance Rate Map for the area, therefore, flood damage to utilities is not anticipated.

11. Sec. 103.6(L): Additional Requirements

The Planning Board did not require street trees, esplanades, or open green spaces as part of this subdivision amendment application. The applicants are proposing various landscaping upgrades as part of their site plan application for the proposed development, which will be held to the standards of the Site Plan Review Ordinance.

Similarly, noise from the proposed nursing care facility will be regulated as part of the Site Plan application and is not relevant to the subdivision of the underlying land.

12. Sec. 103.6(M): Required Improvements

No streets are proposed as part of this subdivision application. The applicants are proposing accessways as part of their Site Plan application, which will be regulated under the Site Plan Review Ordinance.

13. Sec. 103.6(N): Impact on Ground Water Quality

As the proposed subdivision will be connected to public water and sewer, a hydrogeologic assessment is not required and this standard is not applicable.

14. Sec. 103.6(O): Phosphorus Control

The proposed subdivision is not located within the watershed of a great pond. Therefore, this standard is not applicable.

15. Sec. 103.6(P): Affordable Housing Component

As housing units are not proposed with this subdivision, this standard is not applicable.

16. Sec. 103.6(Q): Impact on Groundwater Quantity

The applicants are proposing to tie into public water and sewer. Therefore, removal of groundwater is not proposed and this standard is not applicable.

17. Sec. 103.7(A): Monuments

The subdivision plan shows permanent monuments being set at all corners and angle points of the proposed lot line between lots one and two. The monuments are constructed out of rebar and will include the registration number of the land surveyor. Therefore, (A)(1) and (A)(2) have been met.

18. Sec. 103.7(B) and (C): Street Signs and Streets

No new streets are proposed with this subdivision. Therefore, these standards are not applicable.

19. Sec. 103.7(D): Driveway Construction

The new driveway has been constructed in such a way as to prevent water runoff from reaching the paved portion of the street due to the proposed grading of the access drives. See Sheet C-305 for details.

20. Sec. 103.7(E): Sidewalks

Condition #9 requires that the applicant install sidewalks along the frontage of the subject property in accordance with this section and with Sec. 103.7(H)(7). Therefore, this standard has been met.

21. Sec. 103.7(F): Water Supply & Sewage Disposal

As the proposed development plans to connect in to public sewer, the standards related to sewage disposal and septic systems are not applicable.

Wells are not proposed with this subdivision. The applicant plans to tie into the public water system via a new 8” water main from Piper Mill Road. Therefore, the standards related to water supply have been met.

22. Sec. 103.7(G): Surface Drainage

The proposed development includes a variety of small, decentralized stormwater Best Management Practices (BMPs) designed to capture and treat runoff from the project. The BMPs include drip edge filters surrounding the perimeter of the new building, seven bioretention cells dispersed across the property, three underdrain soil filters, and a section of pervious pavement. These have been sized and designed in accordance with current State of Maine Chapter 500 Stormwater Law and come directly from the recommended Low Impact Development (LID) practices as described in the LID Guidance Manual for Maine Communities.

The applicant has applied for a Site Location of Development Act permit through the Maine Department of Environmental Protection (DEP). The project has been designed to provide treatment for 98% of the proposed impervious area and 99% of the developed area, in accordance with the Chapter 500 Regulations for Basic, General and Flooding Standards. The proposed development requires a Site Location of Development Act (SLODA) permit from the Maine DEP. SLODA permits require a higher level of review than the DEP's traditional Stormwater permits. Pursuant to Sec. 103.5(F)(2.12), the Planning Board has adopted Condition #11, indicating that the applicant is required to submit documentation from the Maine Department of Environmental Protection that the SLODA permit has been approved prior to the issuance of any building permits and, furthermore, that the DEP's approval indicates that the requirements of this section have been satisfied.

Condition #6 notes that, except for "surplus" topsoil for roads, parking areas and building excavations, topsoil is not to be removed from the site.

An erosion and sedimentation control plan has been submitted as part of the development of the nursing home parcel, which has been evaluated under the Site Plan Review criteria. Future development on the adjacent undeveloped will be subject to Site Plan Review and erosion control measures specific to that parcel will be evaluated at that time.

As the project is not within the Shoreland Zone, the standard of 103.7(G)(4) is not applicable.

23. Sec. 103.7(H): Roads

New roads are not proposed with this subdivision, therefore (H)(1), (H)(3), (H)(4), (H)(5), (H)(8), (H)(9.3), (H)(10), and (H)(12) are not applicable.

The section of Piper Mill Road that provides frontage to this property is owned by the applicant, and is in compliance with required road width standards. Therefore, (H)(2) is not applicable.

As described in item #5 above, sight distances for the proposed driveways have been met in accordance with (H)(6).

Condition #9 requires that the applicant install sidewalks along the frontage of the subject property in accordance with Sec. 103.7(H)(7).

The applicants have submitted an erosion and sedimentation control which will be implemented during site preparation, construction and cleanup stages in accordance with (H)(9.1).

A performance guarantee for all drainage structures and ditches, all erosion control measures, all utilities, and all landscaping will be required to be submitted to the Town prior to the issuance of any building permits, in accordance with (H)(11) and Sec. 103.5(L). Condition #10 reaffirms this requirement.

G. The applicant has not requested any waivers of the subdivision review standards.

DECISION:

H. Based on its review of the entire record herein, including the November 7, 2022 Planning Board staff report; all supporting, referenced, and incorporated documents; and all comments received; the Minor Subdivision application of Clippership Landing Development, dated through October 19, 2022, and associated plans and drawings stamped and dated August 2022 by Horizon Engineering, for the Clippership Subdivision on Piper Mill Road; is hereby

	YAE	NAE	Absent/Abstain
DENIED			
APPROVED WITH THE CONDITIONS BELOW			

CONDITIONS

	Condition	Staff Assigned	Must be Completed By:
1.	This approval is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant. Any variation from the plans, proposals and supporting documents are subject to the review and approval of the Planning Board prior to implementation.	Town Planner	Ongoing
2.	All adopted conditions of approval and any waivers granted shall appear on the face of the subdivision plan.	Code Officer	Prior to Issuing Building Permit
3.	Prior to submitting a building permit, the applicant shall submit two hard-copy plans at 24” x 36” size to the Town Planner with all conditions and waivers listed on the plans.	Town Planner	Prior to Submitting a Building Permit

	Condition	Staff Assigned	Must be Completed By:
4.	The applicant shall secure a Building Permit from the Code Enforcement Officer in coordination with the Town Planner, Fire Department, and all relevant review authorities, prior to commencing any construction activities.	Code Officer	Prior to Issuing Building Permit
5.	Only the topsoil directly impacted by proposed buildings, access ways, and parking areas may be removed from the site without returning to the Planning Board for further review.	Town Planner	Ongoing
6.	Prior to the issuance of any Certificates of Occupancy for the project, the applicant shall submit an inspection report to the Code Enforcement Officer documenting that the stormwater facilities have been installed and are functioning as designed and approved and are fully operational.	Code Officer	Prior to Occupancy
7.	Prior to the issuance of a Building Permit, the applicant shall submit to the Town Planner an AutoCADD dataset, ArcGIS Shapefile dataset, or other equivalent geospatial dataset that may be readily converted to AutoCADD and ArcGIS-compatible files, of the approved parcel boundaries.	Town Planner	Prior to Issuing Building Permit
8.	The applicants have submitted a traffic report which notes that existing vegetation found on both sides of Piper Mill Road to the west of the proposed service entrance severely restricts sight distances. The applicants have submitted a roadway clearing plan intended to allow the development to meet the standards of Sec. 103.6(E). This clearing must be completed at the applicant's expense prior to the issuance of a building permit	Town Planner/Code Officer	Prior to Issuing Building Permit
9.	In accordance with Sec. 103.7(E) and 103.7(H)(7), the applicant shall install sidewalks along the frontage of the entirety of the subject property (all of the property identified as Tax Map 1, Lot 50 at the time of this approval) at their own expense, or will come to a mutual agreement with the Town to fund the installation of sidewalks along this area. Sidewalks will be installed at no cost to the Town. Sidewalk installation shall be completed within one year of the issuance of a Certificate of Occupancy.	Town Planner	Within 1 year of the Occupancy

	Condition	Staff Assigned	Must be Completed By:
10.	In accordance with (H)(11) and Sec. 103.5(L), a performance guarantee for 100% of the estimated cost of all drainage structures and ditches, all erosion control measures, all utilities, and all landscaping will be required to be submitted to the Town prior to the issuance of any building permits.	Town Planner	Prior to Issuing Building Permit
11.	Prior to the issuance of a building permit, the applicants are required to submit to the Town Planner confirmation from the Maine DEP that their Site Location of Development permit has been approved.	Town Planner	Prior to Issuing Building Permit

Planning Board Signatures:

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_____

_____

_____

_____

Planning Department
Damariscotta Town Office
21 School Street,
Damariscotta, ME 04543

Isabelle Oechslie
Town Planner
Phone: (207) 563-5168
IOechslie@damariscottame.com

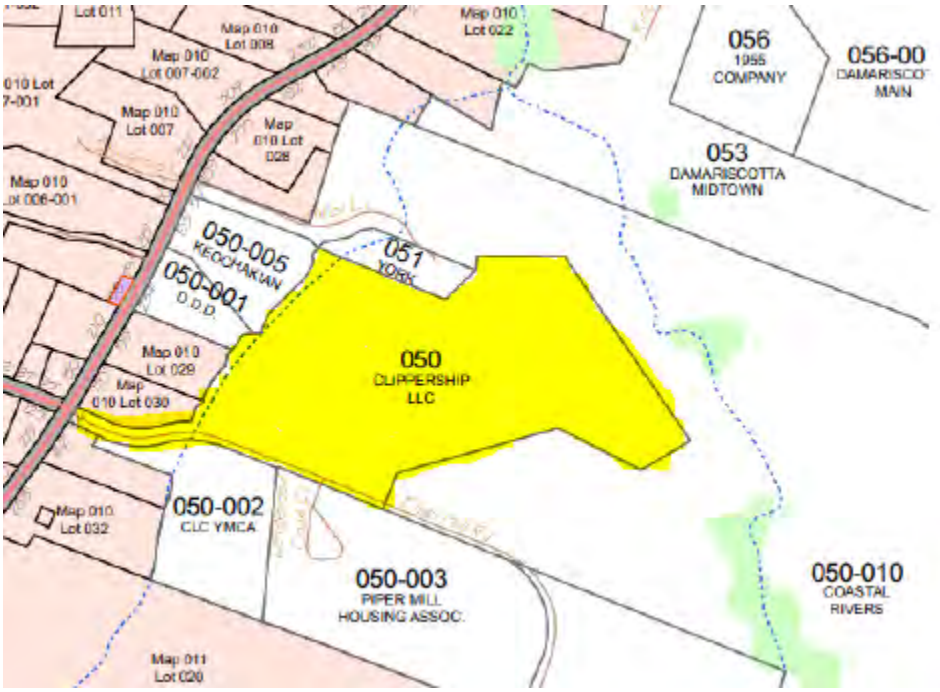
AGENDA ITEM #4D
Meeting of November 7, 2022

Site Plan Application – Clippership Landing Nursing Home

Piper Mill Road – Clippership Landing Development, LLC
PID #2201

INTRODUCTION

Applicant Clippership Landing Development, LLC is requesting Site Plan review in order to construct a 102 bed nursing care facility and associated site improvements (including parking areas and two curb cuts, stormwater management facilities, and courtyard areas and path systems for the enjoyment of residents of the facility). The parcel is further identified as Assessor's Tax Map 1, Lot 50 and it is located within the Rural Zoning District and the Town's designed Village Expansion Growth Area, per the 2014 Comprehensive Plan.



A public hearing on this application is required, as the total floor area proposed is greater than 7,500 s.f. (pursuant to Sec. 102.5(G) of the Damariscotta Town Ordinances). Legal advertisements regarding this public hearing appeared in the Lincoln County News on October 27, 2022 and November 3, 2022, and were mailed to 22 property owners within 250' of the subject property and were posted at the Town Office on October 24, 2022.

This submission is being reviewed pursuant to Chapter 102, Sec. 102.6: Performance Standards [Site Plan Review]; Chapter 102, Sec. 102.7: Large-Scale Development Standards [Site Plan Review]; and for compliance with the Town's adopted Comprehensive Plan. Additionally, as nursing care facilities are a conditional use within the Rural Zoning District, the standards of Sec. 101.9: Appeals and Conditional Uses must be met.

SUBMISSION CHRONOLOGY

Application Received:	September 19, 2022
Pre-Application Date:	August 1, 2022
Deemed Complete for Planning Board:	October 19, 2022

PROJECT DATA

Zoning:	Rural	
Land Area:	19.98 acres (proposed to be subdivided further)	
Existing Land Use:	Vacant	
Proposed Land Use:	Nursing care facility	
	Allowed:	**Proposed:**
Max. Building Height:	35 feet	29.7' at highest ridgeline
Min. Front Yard Building Setback:	20 feet	~120' at closest point
Min. Side Yard Building Setback:	15 feet	~40' at closest point
Min. Rear Yard Building Setback:	15 feet	~90' at closest point
Min. Water Setback:	100 feet from abutting stream	~120' at closest point (on proposed maintenance garage)
Min. Off-Street Parking*:	34 spaces (1 space for every 3 rooms)	103 spaces, including 9 spaces for people with disabilities

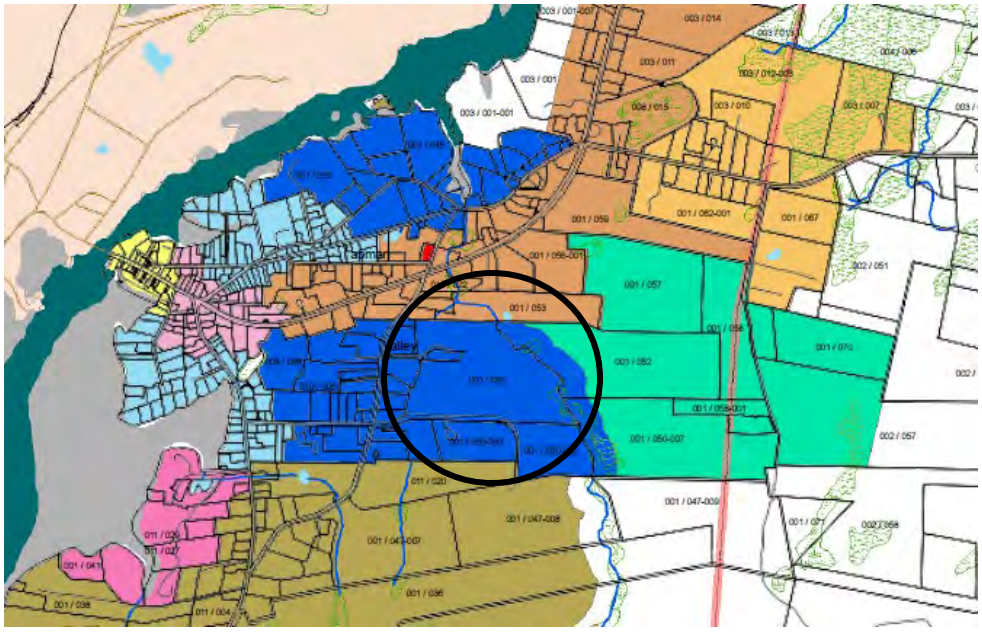
*Pursuant to 102.6(H)(7)(i).

REVIEW PROCESS

This project initially came before the Planning Board for sketch (conceptual) plan review during the Planning Board's meeting on August 1, 2022. Subsequently, the Planning Board held a site walk of the subject property on August 18, 2022 alongside the applicants and members of the public. The applicants are also coming before the Planning Board with a Minor Subdivision Application in order to amend the recorded 2019 subdivision plan of the property. A separate memo is available specific to the minor subdivision standards and is included in this packet as agenda item #4C.

COMPLIANCE WITH THE COMPREHENSIVE PLAN

The 2014 Comprehensive Plan (adopted June 2014 and subsequently revised in February 2015) notes that the subject property is within the Village Expansion Growth Area (per the Future Land Use Map, page 34 and below).



Growth Areas are the areas where the Town expects growth and development to occur. The anticipation is that most residential and non-residential development will occur in these areas. The Village Expansion Area anticipated that, "Within these neighborhoods, a range of residential uses should be allowed … The development of senior housing and retirement and eldercare facilities should also be allowed." In addition, the vision for this area was that it would evolve as an extension of the village with moderate density housing and a "village character."

ANALYSIS OF PROJECT

Site Plan review is subject to the standards of review outlined in Sec. 102.6: Performance Standards. As the project is proposing a floor area of greater than 20,000 s.f., the requirements of Sec. 102.7: Large-Scale Development will also apply. Finally, as the project is proposing a conditional use in the Rural Zoning District, the standards outlined in Sec. 101.9: Appeals and Conditional Uses must be met.

Staff's analysis of the Site Plan, Large Scale-Development, and Conditional Use standards are organized by topic below, with references to the corresponding provisions.

Site Plan Standards

1. **Sec. 102.6(A): Preserve and Enhance the Landscape**
   The buffer yard is the area at the perimeter of the property encompassing the Town's building setback requirements and the existing or planted vegetation, fencing, walls or berms located within the area. Per the standards outlined in this section, the only development

permitted within the buffer yard is required landscaping and fencing, landscape lighting, essential utilities that cannot be located outside of the buffer because of site constraints, passive stormwater filtration areas, and points of ingress and egress as authorized by the Planning Board. Within the buffer yard on the easterly side of the property, the applicants are proposing to locate the fire access drive. Additionally, the corner of a stormwater filtration area is located within the buffer yard. See Figure 1. As noted, these are exempt and thus, in staff's view, this standard has been met (as no other development is proposed in the remaining buffer yards).

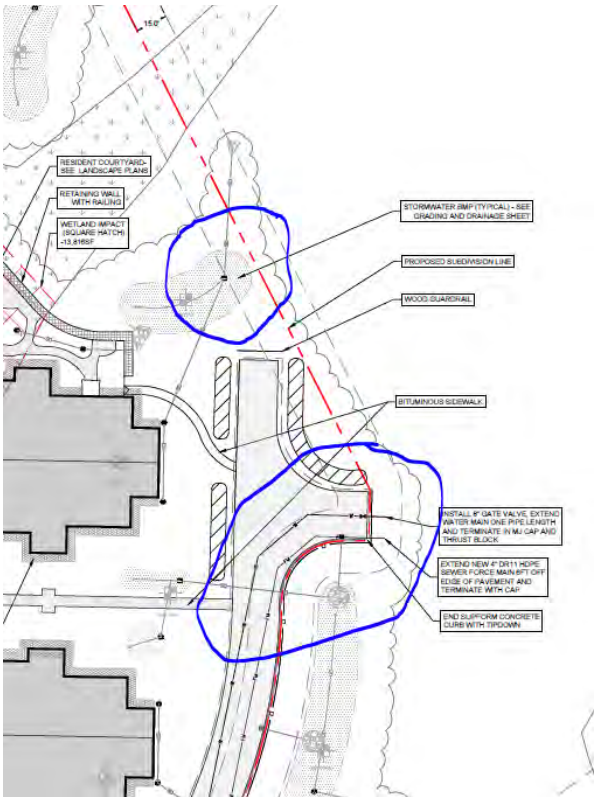


Figure 1

The applicants have indicated that the building has been sited in such a way as to preserve the landscape and existing topography of the site to the maximum extent practical. The building is centrally located to allow for natural vegetation to be retained near property lines. Additionally, a landscape plan has been submitted which shows approximately 150 new tree plantings, intended to shield the new development from abutting properties and from public streets. The landscaping plan is further described in item #24 below.

A letter from the Maine Department of Inland Fisheries & Wildlife submitted with the application indicates that three bat species which are protected under Maine's Endangered Species Act (including the little brown bat, northern long-eared bat, and eastern small-footed bat) may be present on the site during their migration and/or during the breeding season. However, the IF&W noted that they do not anticipate significant impacts to any of the bat species as part of this project. Still, to prevent potential impacts to these species, the applicants have indicated that the majority of tree removal will be between October 16th and April 14th of any given year (opposite of the migration and breeding seasons when bats may be present).

Correspondence with the Maine Natural Areas Program indicates that no rare and exemplary botanical features have been identified on or in the vicinity of the project site.

Per the standards of this section, only the topsoil directly affected by buildings, access, and parking areas may be removed from the site. Condition #8 reaffirms this requirement. Therefore, the project as designed and conditioned meets the requirements of this section.

2. **Sec. 102.6(B): Relationship to Environment and Neighboring Buildings**
The project is within all bulk and spacing requirements established in the Zoning District, as noted in the project data table above. The project site is abutted by the Ledgewood Apartment Complex and the Wastewater Treatment facility to the south; by land owned by the Coastal Rivers Conservation Trust to the east; and by single-family residences on all other sides.

The project site currently consists of understory vegetation. While the proposed building is proposed at the top of the slope and so will likely be visible to abutters, the applicants have designed the building to be one-story, which reduces views of the buildings from public ways. Additionally, landscaping is proposed intended to help further shield the project from direct abutters. The landscaping plan is discussed in detail in item #24 below.

Pursuant to this section (which requires a minimum buffer strip of 30 feet for parcels greater than three acres), an approximately 90-foot buffer area has been retained between the front property line and the parking lot. From the rear property line to the proposed paved emergency access drive, an approximately 45-foot buffer area is proposed (between the rear property line and the closest point). From the westerly property line to the proposed paved service access, a buffer of approximately 150 feet is proposed. The applicant has requested a waiver of Sec. 102.6(B)(2)(b) with respect to the eastern property line only, noting that "Although the intent is to divide the property, the uses proposed will be compatible and will share access using the proposed, paved access drive along the new property line. Providing a 30ft buffer between the shared access drive and the new property line (by adjusting the line) would result in a very narrow strip of property between the Nursing Home parcel and the adjacent land to the east. Since this area is within a wetland drainageway that extends to either side of the property, it is unlikely that any future development would be practical." As designed and with the waiver requested, staff has found that the project meets the requirements of Sec. 102.4(B)(2) and (B)(3).

3. **Sec. 102.6(C): Air Quality**
The proposed project will not result in undue air pollution or odors associated with the use being proposed. The emission of dust, ash, fumes, vapors, smoke, or other particulate matter of gases is not anticipated. The applicants have submitted an erosion and sedimentation control program in accordance with MDEP Best Management Practices, to be used by the contractor during construction, which notes that dust control measures will be applied on a daily basis during summer construction where dust is most likely (except on days where precipitation will be sufficient to control dust). The erosion and sedimentation control program is further described in item #10 below. As proposed, staff has found that this standard has been met.

4. **Sec. 102.6(D): Lighting and Glare**
Limited exterior lighting is proposed with this project within the parking area and along key access points along the building. The applicants have indicated that this lighting is proposed for safety in these areas. A lighting plan has been submitted which confirms that footcandles on abutting properties do not exceed 0.1, in accordance with this section. All exterior lights proposed are within the color range of 3000 to 2500 Kelvins or less, as shown on the lighting spec sheets submitted.

In accordance with Sec. 102.6(D)(4)(e), which states that the maximum height of the luminaire of freestanding or building-attached lights on properties or in parking areas shall not exceed 16 feet. All fixture lighting meets this standard.

Per Condition #9, all exterior lighting fixtures shall be full cut-off (shielded) fixtures (the applicants have noted this within their application materials; this condition is simply to reaffirm the requirement).

No rotating or flashing lights are proposed with this application.

During nighttime hours, exterior lighting shall be turned off or down to the minimum level needed for security, in accordance with this section. Condition #9 reaffirms this requirement.

The project as designed and conditioned meets the standards of this section.

5. **Sec. 102.6(E): Noise**
All noise during construction and once in operation will be required to adhere to the provisions of this section, including staying below the sound level limitations as described. For a project abutting a residential use, the sound level limits are 45 dBA between 7 p.m. and 7 a.m., and 55 dBA between 7 a.m. and 7 p.m (though construction noise is allowed between 6:30 a.m. and 8 p.m.). Condition #10 reaffirms this requirement. Thus, as conditioned, staff believes this standard to have been met.

6. **Sec. 102.6(F), (G), (H), and (I): Traffic, Circulation, and Access**
Trips

A traffic assessment was conducted by Barton & Loguidice on July 18, 2022 on behalf of the applicant and has been submitted with the application materials. To summarize the findings of the traffic report:

- The proposed development will generate 20 AM peak hour trips on weekdays, and 34 PM peak hour trips on weekdays, according to the Institute of Traffic Engineers trip generation calculations. Total trips generated during an entire weekday will be 312 (156 entering and 156 exiting).
- As trip generation is forecast to be less than 99 trip ends during peak hours, which is the threshold for requiring a MaineDOT Traffic Movement Permit (TMP), a TMP from MaineDOT is not required.

- There is one High Crash Location (as determined by MaineDOT) in the immediate vicinity of the site. MaineDOT considers any roadway intersection or segment a high crash location if there are 8 or more accidents at the location within a three-year period, and if the Critical Rate Factor for the location is greater than 1.00. The School Street and Main Street intersection represents a High Crash Location. MaineDOT has advised staff and the applicants that a short-term fix for this intersection is scheduled for implementation in 2023, and that further long-range intersection improvements are currently being studied.

- The proposed site accesses meet MaineDOT sight distance requirements for roadways with a speed limit of 25 mph. A sight distance of at least 200 feet is required. Looking left from the main entrance, the measured sight distance was found to be 500 feet. Looking right from the main entrance, the measured sight distance was found to be 285 feet. Looking left from the proposed service entrance, the measured sight distance was found to be 270 feet. Looking right from the proposed service entrance, the measured sight distance was found to be approximately 210 feet. The traffic report does note that existing vegetation found on both sides of Piper Mill Road to the west of the service entrance severely restricts sight distances. The applicants have submitted a roadway clearing plan intended to allow the development to meet the standards of this section. Condition #12 notes that the clearing must be completed at the applicant's expense prior to the issuance of a Certificate of Occupancy.

- The applicant's traffic engineer recommends installation of a 25mph speed limit sign on Piper Mill Road near the School Street intersection, as well as the installation of standard curve warning signs on both approaches to the S-curve intersection of Piper Mill Road in order to alert drivers. Condition #13 requires this signage to be installed by the applicant prior to the issuance of a Certificate of Occupancy for the project.

In the view of staff, these findings and associated conditions demonstrate compliance with the requirements of Section 102.6(G).

Access

Access to the site is planned with construction of two entrances: one main entrance intended for use by the general public, and one intended to act as a service entrance. The proposed main entrance aligns directly opposite the existing Ledgewood Apartments entrance, and the service is proposed to be located about 130-feet to the west.

The proposal includes a variety of sidewalks and crosswalk connections from the parking area to the entrance of the building. Sidewalks are proposed to be concrete with granite curbing and will be raised above the driving areas. Additionally, three separate courtyard areas are proposed for the enjoyment of residents which include sidewalk areas.

Given the level traffic generation and the capacity and design of the roadways connected to the site, the project will not cause unreasonable public road congestion or unsafe conditions on private or public ways, consistent with the requirements of Section 102.6(F) and (G).

Parking

Zoning Ordinance Section 102.6(H)(7)(i) requires that nursing homes provide one parking spaces per every three rooms, therefore the project requires at least 34 spaces. The project provides 103 spaces, including 9 spaces for people with disabilities. The applicants have provided data from their other Maine properties of the same use substantiating the need for the 103 parking spaces, especially during holidays at peak visiting periods. As designed the parking supplied meets the requirements of Section 102.6(H).

7. **Sec. 102.6(J): Existing Public Utilities and Services**

The proposed sewer demand is approximately 8,670 gallons per day. The project is proposing to tie into public sewer service and pump their sewage directly to the treatment plant via new force mains. A letter from the Great Salt Bay Sanitary District, dated May 17, 2022, has been provided indicating that adequate collection and treatment capacity is available. Therefore, the project meets the requirements for adequate sewage waste disposal. Public water access is detailed in item 11 below.

The applicants have indicated that the clearing of trees associated with this development, which had been previously logged for large timber, is expected to generate approximately 248 cubic yards of stumps. Per the application materials: "the clearing may include high-quality trees, suitable for saw logs. These will be cut and exported to an appropriate sawmill from the site, separately from the remaining materials. The remaining wood biomass will be cut or chipped on site. The biomass will either be retained on site for erosion control materials or processed and sent to a biomass facility. Since pine stumps are larger and bulky, these stumps will be excavated and/or chipped onsite for use as erosion control mix or landscaping mulch." Other solid waste generated during construction will be hauled by private haulers. There are no known hazardous or special wastes at the site.

Post-occupancy, the applicants plan to dispose of their trash at the Nobleboro-Jefferson Transfer Facility. There are no known capacity constraints regarding solid waste, therefore, in the opinion of staff, the proposed method of handling solid waste is consistent with this section.

The proposed development will be equipped with a sprinkler system to provide fire suppression in the event of an emergency within the facility. Hydrants will also be provided on-site for additional fire suppression. A turning template for the Fire Department's largest apparatus has been submitted which confirms that the truck will be able to adequately navigate the site. Additionally, the Fire Chief has reviewed the application materials to ensure that emergency access will be appropriate. The Department has indicated that they would like to see an additional fire hydrant towards the road near where the generator is located which would allow ideal access without concern for vehicles striking out hoses. Additionally, the Department has requested a sprinkler hookup as well as a knox box installed on the building. Condition #18 notes that the final locations and number of hydrants must be determined by the Fire Department prior to the applicant submitting any building permits for the project. Additionally, Condition #19 notes that the exact location and details of a knox box will be provided to and approved by the Fire Department prior to the Issuance of a Certificate of Occupancy.

8. **Sec. 102.6(K): Water Quality**
The proposed project will not adversely affect the quality or quantity of groundwater, consistent with Sec. 102.6(K) and Sec. 102.6(L), governing the Stormwater Management Plan. A detailed discussion of wetland impacts is provided in item 12 below.

9. **Sec. 102.6(L): Stormwater Management**
The site slopes gently from a central ridge running north-south on the property. As elevations drop to the west, slopes become increasingly steep (reaching over 15%). Slopes to the east remain generally in the 5-6% range, similar to the center of the site. The site is located with an area of minimal flooding according to the FEMA Flood Insurance Rate Map for the area.

The existing stormwater flows from the aforementioned central ridge towards the west to a stream that forms the western property boundary, and towards the east to three separate drainageways, all of which drain to a stream on the adjacent parcel that was donated to Coastal Rivers Conservation Trust.

Sec. 102.6(L) notes that the post-development runoff cannot exceed the pre-development runoff during extreme storm events. The table below, which was included in the applicant's stormwater report, summarizes the peak runoff values for pre-development and post-development conditions during each of the analyzed storm events (demonstrating that this standard has been met).

PRE-DEVELOPMENT AND POST-DEVELOPMENT PEAK RUNOFF VALUES		
Storm Return Period	Pre-Dev Peak Q at Design Point 1 (cfs)	Post-Dev Peak Q at Design Point 1 (cfs)
2-Year	3.29	3.15
10-Year	7.66	6.75
25-Year	11.18	9.87
50-Year	14.89	14.19
Peak Q at Design Point 2 (cfs)		
2-Year	4.66	3.24
10-Year	9.31	5.93
25-Year	12.89	7.98
50-Year	16.57	10.77
Peak Q at Design Point 3 (cfs)		
2-Year	4.11	4.10
10-Year	8.38	8.34
25-Year	11.69	11.66
50-Year	15.13	15.09
Peak Q at Design Point 4 (cfs)		
2-Year	2.28	1.55
10-Year	4.56	3.22
25-Year	6.32	5.71
50-Year	8.12	7.96

The proposed development includes a variety of small, decentralized stormwater Best Management Practices (BMPs) designed to capture and treat runoff from the project. The BMPs include drip edge filters surrounding the perimeter of the new building, seven bioretention cells dispersed across the property, three underdrain soil filters, and a section of pervious pavement on each side of the western fire lane. These BMPs have been sized and designed in accordance with current State of Maine Chapter 500 Stormwater Law and come directly from the recommended Low Impact Development (LID) practices as described in the LID Guidance Manual for Maine Communities.

Snow storage areas are shown on the revised Site Plan and have been sited to allow for adequate buffers between freshwater areas (such as the wetlands on the northeasterly portion of the site and the adjacent stream to the west). Stormwater retention cells are placed strategically between the proposed snow storage areas and the wetlands in order to allow for areas for snow runoff/melt to be retained and treated.

The applicant has applied for a Site Location of Development Act permit through the Maine Department of Environmental Protection (DEP). The project has been designed to provide treatment for 98% of the proposed impervious area and 99% of the developed area, in accordance with the Chapter 500 Regulations for Basic, General and Flooding Standards. Condition #14 requires that documentation of the DEP permit being granted is submitted to the Town Planner prior to the issuance of any building permits for the proposed project.

The applicant is proposing to retain ownership of the stormwater management facility and has provided a Stormwater Maintenance Plan outlining their responsibilities post-occupancy to ensure that the stormwater facilities continue to perform as designed. Maine DEP requires permittees to perform a "check-up" on their stormwater systems and recertify that the systems are operating as approved every five years from the issuance date of their permit.

10. Sec. 102.6(M): Erosion & Sediment Control

The proposed development is for a 102-bed nursing home facility (an approximately 75,000 s.f. building) and associated site improvements, and the project will be completed over an approximately 18-month period from Spring 2023 to the Fall of 2024. All stormwater, drainage, and water effluent are managed appropriately for the proposed use as outlined in the analysis above.

The applicant has submitted a NRCS Web Soil Survey, which shows the predominant soil types on site as Buxton/Lamoine and Scantic silt loams (with small areas of Tunbridge/Lyman complex rocky soils at the edges of the property). Additional geotechnical information was gathered by SW Cole Engineering, on behalf of the applicants, which generally confirm the mapping illustrated on the web survey. Onsite soils are moderately susceptible to erosion. Thus, pursuant to Section 102.6(M), an erosion and sedimentation control program proposal has been submitted. Construction activities are proposed to be stabilized through the installation of silt fencing or erosion control berms down slope of any disturbed areas (with additional measures at the foot of steep slopes or adjacent to the wetland areas) and erosion control blankets or riprap stabilization atop steep slopes. Maintenance of the erosion and sedimentation control areas will be the responsibility of the site contractor during construction, in accordance with the *Maine Erosion and Sediment Control Best Management Practices*

(BMPs) Manual for Designers and Engineers (2016). Construction entrances will be stabilized with crushed stone to minimize tracking. Temporary stockpiles will be stabilized and protected. Post-construction, areas not subject to other restoration (e.g. paving or riprap) will be loamed and seeded.

The erosion and sedimentation control plan, as submitted, is satisfactory to meet the requirements of Section 102.6(M).

11. Sec. 102.6(N): Water Supply

The proposed project is for a 102-bed nursing facility. The applicants anticipate an 85 gallon per room per day water usage, with a total estimated usage amount of 8,670 gallons per day. The applicants have provided documentation from the Great Salt Bay Sanitary District indicating that they have the ability to provide water to the proposed project.

As the project will be served by both public water and sewer, a hydrogeologic study is not required. Therefore, in the opinion of staff, this standard has been met.

12. Sec. 102.6(O): Natural Beauty

Trees near the front property line are proposed to be impacted by the construction of the proposed building as well as the easterly emergency access drive. However, the building has been sited in an area where historical tree clearing has occurred and which is now predominantly an open field. In an effort to replace trees slated for removal, a total of 54 evergreen trees that are 6' to 7' tall are proposed in key areas around the site, including at the edge of the emergency access road on the western side of the property, surrounding the parking areas, and to highlight the entrance of the building and surrounding courtyards. A total of 100 deciduous trees of various heights are also proposed in similar key areas. A variety of shrubs and other small landscaping are also proposed. Additionally, condition #15 requires that the applicant install fencing around the dripline edge of all existing trees designated to be protected, as shown on the plan.

According to a wetland delineation conducted in the winter of 2021, no potential vernal pool habitat was identified within the project site.

Approximately 14,505 s.f. of freshwater wetlands are proposed to be impacted by the proposed development. The proposed wetland impacts must be reviewed under a Tier 1 permit from the Maine Department of Environmental Protection under the Natural Resource Protection Act. The applicants have indicated that this permit is currently under review by the DEP. Additionally, authorization from the Army Corps of Engineers is required for the proposed wetland impact. Condition #14 requires the applicants to submit documentation to the Town that the DEP permit, as well as authorization from the Army Corps of Engineers, have been obtained prior to the release of a building permit.

13. Sec. 102.6(P): Historic and Archeological Resources

The applicant has submitted documentation from the Maine Historic Preservation Commission indicating that no documented archeological or historic resources will be impacted by the proposed development. Therefore, this standard has been met.

14. **Sec. 102.6(Q): Filling and Excavation**
    All excavation will be incidental to the proposed development and are not part of an excavation or filling operation. Thus, this standard is not applicable to this project.

15. **Sec. 102.6(R): Sewage Disposal**
    As discussed in item 7 above, the applicant is proposing to tie into the existing public sewer system and has received confirmation from the Great Salt Bay Sanitary District that there is adequate capacity to serve the sewage generated from the proposed development. Therefore, this standard has been met.

16. **Sec. 102.6(S): Phosphorus Control**
    The subject property is not located within the watershed of a great pond; therefore, this standard is not applicable.

17. **Sec. 102.6(T): Buffer Areas**
    As described further in item #1 above, buffers have been provided sufficient to meet the standards of this section. When natural features in the buffer areas do not exist sufficient to screen the proposed development from adjacent properties and from roadways within the proposed project, additional landscaping has been provided in accordance with this section. The buffer area plantings are diverse, with multiple varieties of trees, evergreen trees, and shrubs being used. Condition #16 reaffirms the requirement of this section that, if landscaping dies, is removed, or otherwise requires replacement, is not replaced within thirty days (or as seasonally required by the species), it shall be considered a violation of any approval granted by this Board and shall be subject to enforcement provisions.

    Fencing is proposed around the trash collection and in the service area. All ground-mounted mechanical units will be similarly screened.

18. **Sec. 102.6(U): Signs**
    All signage will be designed to meet the Town of Damariscotta Sign Ordinance and will be reviewed by the Code Enforcement Officer in accordance with the provisions of that ordinance.

19. **Sec. 106.6(V): Building Appearance**
    As the proposed building is larger than 7,500 s.f. in floor area, the Large-Scale Development Standards for Building Appearance (described in detail under item #20 below) shall apply.

Large-Scale Development Standards

20. **Sec. 102.7(A): Building Appearance**
    Elevations drawings of the building's exterior have been submitted which include the use of pitched roofs, dormers, windows, and vinyl clapboard siding, among other architectural details intended to enhance the outward appearance of the building and to present a residential aesthetic. No façade extends more than 49 feet without an architectural feature, such as an awning or actual protrusion of at least 6 feet.

Additionally, a repeating pattern on each façade is proposed in accordance with this section. Colors proposed are of a neutral tone. The main entrance to the facility is clearly defined through the use of architectural features as well as landscaping and overall site design. In the opinion of staff, the design of the building's exterior meets the standards of this section as proposed.

21. **Sec. 102.7(B): Outdoor Sales**
    As the development is not for a retail establishment, these standards do not apply.

22. **Sec. 102.7(C): Parking**
    As described in item #6 above, the parking requirements of Sec. 102.6(H) have been met.

    Additionally, no off-street parking has been sited between Piper Mill Road and the closest façade of the building. Therefore, staff has found the standards of this section to have been met.

23. **Sec. 102.7(D): Bicycle and Pedestrian Facilities**
    The applicant has requested a waiver to some of the requirements of this section, as described in the waivers section below. Instead of providing sidewalks that are 8-feet in width, the applicant is proposing to provide 6-foot-wide sidewalks within the parking area, and sidewalks that are 5-feet wide within the courtyard areas. Staff is generally in support of the waivers as requested.

    Condition #17 requires that the applicant install sidewalks along the entirety of the frontage of the subject property in accordance with this section.

    In the opinion of staff, the project as proposed and conditioned (including the proposed waivers) are in compliance with this section.

24. **Sec. 102.7(E): Landscaping**
    At least 75% of all of the vegetation proposed is native species, sufficient to meet the standard of this section. Landscaping is described in greater detail in item #12 above.

    More than 30% of the buildings total foundation is planted with landscaping sufficient to meet the standard of this section. Additionally, landscaping is proposed in the entrance area of the building, in the parking area, as well as along the façade facing Piper Mill Road. Thus, staff has found that the standards of this section have been met.

25. **Sec. 102.7(F): Screening**
    The site plan as proposed incorporates screening and fencing around the trash collection area and into the service area. All ground-mounted mechanical units will be similarly screened. Propane tanks for the facility will be installed underground to reduce the visual impact of essential utility infrastructure.

26. **Sec. 102.7(G): Building Reuse**
    Submittals related to this standard are not required. However, applicants are aware of the Selectboard's rights related to vacant buildings.

27. **Sec. 102.7(H): Additional Standards for Large-Scale Developments with a Floor Area >20,000 s.f.**
    - **Sec. 102.7(H)(1)**: This standard is not applicable to this project, as it references construction of retail buildings. The proposed project is for a nursing care facility.
    - **Sec. 102.7(H)(2)**: This standard is not applicable to this project, as it references construction of a retail building.
    - **Sec. 102.7(H)(3)**: A waiver to this standard has been requested by the applicants. See staff's analysis in the waiver section below.

Conditional Use Standards

28. **Sec. 101.9(C)(2)(a): Conditional Uses**

    The proposed use will meet the requirements of the Town's Land Use Ordinance, as described in the project data table above, as well as the Site Plan Review Ordinance, as described in the analyses above.

    The potential effect of the use on the environment (from air, water or soil pollution), noise, traffic, congestion, soil erosion, the burden on the public sewer and water systems as well as other municipal services have been taken into consideration and have been analyzed in the requirements above. As noted, the proposed use will not have an adverse effect on the health, safety, or general welfare of the public.

WAIVERS

The applicant requests the following waivers for the project:

1. Waiver pursuant to **Site Plan Review Ordinance Section 102.7(D)** to provide sidewalks within the parking areas that are 6' in width, rather than the 8' width required as part of this section and to not raise the sidewalks 6 inches above the travel way.

    Analysis: Staff is supportive of this waiver, since the internal sidewalks will primarily be used by visitors, employees, and vendors related only to the proposed development and not by the general public. Additionally, the applicants noted that the use of the property requires barrier-free access from the drop-off and adjacent spaces reserved for those with disabilities, and that raising the sidewalks 6 inches above the travel way would hinder barrier-free access.

2. Waiver pursuant to **Site Plan Review Ordinance Section 102.7(H)(3)**, which requires the applicants to submit an economic and fiscal impact analysis for the proposed large-scale development.

   Analysis: Staff is generally not supportive of this waiver. It seems that there would be value in the community understanding (at minimum) the following potential impacts listed in this section: (H)(3)(b)(1): Types of jobs created; (H)(3)(b)(2): number of full-time and part-time jobs created; (H)(3)(b)(3): Market and financial feasibility of the project; (H)(3)(b)(7): Projected costs and benefits to the Town resulting from the project.

3. Waiver pursuant to **Site Plan Review Ordinance Section 102.6(B)(2)(b)** with respect to the eastern property line only. This section requires the applicant to provide a 30-foot minimum buffer strip between the proposed, new property line and the paved access drive.

   Analysis: Staff is supportive of this waiver, since the applicant also owns the property to the east of the subject parcel and has indicated that they are retaining it for future development of a compatible land use. The intent of this standard is to provide a buffer between development and neighboring land uses not owned by the applicant.

RECOMMENDATION

Based on the review of the project and all information in the record, staff recommends either of the following courses of action this evening.

A. Noting that the economic and fiscal impact analysis as required by Sec. 102.7(H)(3) is still outstanding, the Planning Board could vote to leave the public hearing open and ask the applicants to provide a written analysis to the Planning Board in advance of the next meeting.

B. In staff's view, the economic and fiscal impact analysis as required by Sec. 102.7(H)(3) is the only remaining item. If the Planning Board desires (and the applicant is prepared to do so), the Board could ask that the applicant to verbally provide this information during the hearing this evening, and the Board could ultimately vote to approve the Site Plan application of Clippership Landing Development, LLC, dated through October 17, 2022*;* drawings stamped and dated through October 17, 2022*,* for the Clippership Landing Nursing Home project at Map 1, Lot 50 on Piper Mill Road, and grant the requested waivers, subject to the following conditions:

Suggested Conditions of Approval

	Condition	Staff Assigned	Must be Completed By:
1.	This approval is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant. Any variation from the plans, proposals and supporting documents are subject to the review and approval of the Planning Board prior to implementation.	Town Planner	Ongoing
2.	All adopted conditions of approval and any waivers granted shall appear on the face of the plans submitted for building permits, and the face of the subdivision plan, if applicable.	Code Officer	Prior to Issuing Building Permit
3.	Prior to the issuance of a building permit, the applicant shall pay all outstanding review escrow account fees, post the necessary performance guarantee(s) in such amount(s) as established by the Town and hold a pre-construction meeting with the Town if necessary.	Town Planner	Prior to Issuing Building Permit
4.	This Planning Board approval is valid for 12 months from the date of approval and shall expire if work has not substantially commenced within that time period.	Code Officer	Ongoing
5.	Prior to submitting a building permit, the applicant shall submit three hard-copy plans at 24" x 36" size to the Town Planner with all conditions and waivers listed on the plans.	Town Planner	Prior to Submitting a Building Permit
6.	The applicant shall secure a Building Permit from the Code Enforcement Officer in coordination with the Town Planner, Fire Department, and all relevant review authorities, prior to commencing any construction activities.	Code Officer	Prior to Issuing Building Permit
7.	A waiver has been granted pursuant to Site Plan Review Ordinance Section 102.7(D), which allows the applicant to provide sidewalks within the parking areas that are 6' in width, rather than the 8' width required as part of this section and to not raise the sidewalks 6 inches above the travel way.	Town Planner	Ongoing
8.	Only the topsoil directly impacted by proposed buildings, access ways, and parking areas may be removed from the site without returning to the Planning Board for further review, per Section 102.6(A).	Town Planner	Ongoing
9.	All exterior lighting fixtures shall be full cut-off (shielded) fixtures in accordance with Section 102.6(D).	Town Planner	Ongoing
10.	All noise associated with the proposed development shall be regulated in accordance with the provisions of Sec. 102.6. Applicants and their contractors are well-advised to familiarize themselves with that section of the Town's Ordinances.	Code Officer	Ongoing

	Condition	Staff Assigned	Must be Completed By:
11.	Prior to holding a pre-construction meeting and submitting a building permit, wetlands and associated setbacks and stream setbacks are to be staked to ensure that all erosion and sedimentation controls and site disturbance and construction activities avoid the protected wetland.	Town Planner	Prior to Submitting a Building Permit
12.	In order to allow the standard of Sec. 102.6(G)(1) to be met, the applicants have submitted a roadway clearing plan for existing vegetation found on both sides of Piper Mill Road to the west of the proposed service entrance. The clearing of vegetation as depicted on the submitted plan must be completed at the applicant's expense prior to the issuance of a Certificate of Occupancy.	Town Planner/Code Officer	Prior to Issuing Certificate of Occupancy
13.	Applicants are required to complete the installation of a 25mph speed limit sign on Piper Mill Road near the School Street intersection, as well as the installation of standard curve warning signs on both approaches to the S-curve intersection of Piper Mill Road in order to alert drivers to the street realignment.	Town Planner/Code Officer	Prior to Issuing Certificate of Occupancy
14.	Prior to the issuance of a building permit, the applicants are required to submit to the Town Planner confirmation from the Maine DEP that their Site Location of Development permit and their NRPA permit have been approved. Additionally, confirmation that the Army Corps of Engineers have approved the wetland impacts is required to be submitted prior to the issuance of a building permit.	Town Planner	Prior to Issuing Building Permit
15.	Prior to submitting a building permit, the applicant shall establish fencing at the drip line of all trees that are designated for preservation in the approved Site Plan. No construction staging or other construction-related activity is permitted within the drip line fence barrier.	Town Planner	Prior to Submitting a Building Permit
16.	If landscaping that dies, is removed, or otherwise requires replacement, is not replaced within thirty days (or as seasonally required by the species), it shall be considered a violation of any approval granted by this Board and shall be subject to enforcement provisions.	Code Officer	Ongoing
17.	In accordance with Sec. 102.7(D), the applicant shall install sidewalks along the frontage of the entirety of the subject property (all of the property identified as Tax Map 1, Lot 50 at the time of this approval) at their own expense, or will come to a mutual agreement with the Town to fund the installation of sidewalks along this area. Sidewalks will be installed at no cost to the Town. Sidewalk installation shall be completed within one year of the issuance of a Certificate of Occupancy.	Town Planner	Within 1 year of the Occupancy

	Condition	Staff Assigned	Must be Completed By:
18.	The final locations and number of hydrants must be approved by the Fire Department prior to the applicant submitting any building permits for the project.	Fire Dept./Code Officer	Prior to Submitting a Building Permit
19.	The exact location and details of a knox box will be provided to and approved by the Fire Department prior to the Issuance of a Certificate of Occupancy.	Fire Dept./Code Officer	Prior to Issuing Certificate of Occupancy
20.	A waiver has been granted pursuant to Site Plan Review Ordinance Section 102.6(B)(2)(b) with respect to the eastern property line only. This section requires the applicant to provide a 30-foot minimum buffer strip between the proposed, new property line and the paved access drive (see analysis above).	Town Planner	Ongoing
21.	A waiver has been granted pursuant to Site Plan Review Ordinance Section 102.7(H)(3), which requires the applicants to submit an economic and fiscal impact analysis for the proposed large-scale development. Instead, the applicants provided relevant information to the Planning Board during the hearing, negating the need for this requirement.	Town Planner	Ongoing

Isabelle V Oechslie

Isabelle V. Oechslie
Town Planner
November 7, 2022

DAMARISCOTTA PLANNING BOARD
FINDINGS OF FACT AND NOTICE OF DECISION

Date: November 7, 2022

Site Plan & Conditional Use Application – Clippership Nursing Home

Piper Mill Road – Clippership Landing Development, LLC

PID #2201

The Town of Damariscotta Planning Board issues the following Findings of Fact and Conclusions of Law at its duly-noticed public hearing of **November 7, 2022**:

A. The Planning Board considered the Project, the staff report, and received and considered all written and oral public comments on the Project which were submitted up to and at the time of the public hearings for the Project; and

B. Legal advertisements regarding this public hearing appeared in the Lincoln County News on October 27, 2022 and November 3, 2022, and were mailed to 22 property owners within 250' of the subject property and were posted at the Town Office on October 24, 2022; and

C. The project description is as follows:

Applicant Clippership Landing Development, LLC is requesting Site Plan review in order to construct a 102 bed nursing care facility and associated site improvements (including parking areas and two curb cuts, stormwater management facilities, and courtyard areas and path systems for the enjoyment of residents of the facility). The parcel is further identified as Assessor's Tax Map 1, Lot 50 and it is located within the Rural Zoning District and the Town's designed Village Expansion Growth Area, per the 2014 Comprehensive Plan; and

D. The Project is subject to the following policies and standards of review:

a. Chapter 102, Sec. 102.6: Performance Standards [Site Plan Review];
b. Chapter 102, Sec. 102.7: Large-Scale Development Standards [Site Plan Review];
c. Sec. 101.9: Appeals and Conditional Uses; and
d. Compliance with the Comprehensive Plan.

E. The core Project Data includes:

Zoning:	Rural	
Land Area:	19.98 acres (proposed to be subdivided further)	
Existing Land Use:	Vacant	
Proposed Land Use:	Nursing care facility	
	Allowed:	**Proposed:**
Max. Building Height:	35 feet	29.7' at highest ridgeline
Min. Front Yard Building Setback:	20 feet	~120' at closest point
Min. Side Yard Building Setback:	15 feet	~40' at closest point
Min. Rear Yard Building Setback:	15 feet	~90' at closest point
Min. Water Setback:	100 feet from abutting stream	~120' at closest point (on proposed maintenance garage)
Min. Off-Street Parking*:	34 spaces (1 space for every 3 rooms)	103 spaces, including 9 spaces for people with disabilities

*Pursuant to 102.6(H)(7)(i).

F. Based on its review of the entire record herein, the Planning Board has determined that the Project meets the applicable policies and standards of review, and the Planning Board makes the following findings:

Site Plan Standards

1. **Sec. 102.6(A): Preserve and Enhance the Landscape**
   The buffer yard is the area at the perimeter of the property encompassing the Town's building setback requirements and the existing or planted vegetation, fencing, walls or berms located within the area. Per the standards outlined in this section, the only development permitted within the buffer yard is required landscaping and fencing, landscape lighting, essential utilities that cannot be located outside of the buffer because of site constraints, passive stormwater filtration areas, and points of ingress and egress as authorized by the Planning Board. Within the buffer yard on the easterly side of the property, the applicants are proposing to locate the fire access drive. Additionally, the corner of a stormwater filtration area is located within the buffer yard. See

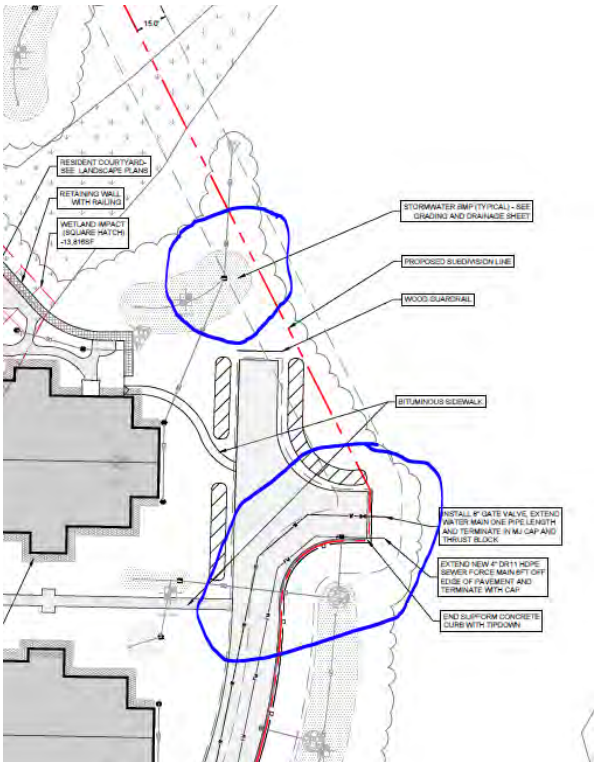


Figure 1

Figure 1. As noted, these are exempt and thus, this standard has been met (as no other development is proposed in the remaining buffer yards).

The applicants have indicated that the building has been sited in such a way as to preserve the landscape and existing topography of the site to the maximum extent practical. The building is centrally located to allow for natural vegetation to be retained near property lines. Additionally, a landscape plan has been submitted which shows approximately 150 new tree plantings, intended to shield the new development from abutting properties and from public streets. The landscaping plan is further described in item #24 below.

A letter from the Maine Department of Inland Fisheries & Wildlife submitted with the application indicates that three bat species which are protected under Maine's Endangered Species Act (including the little brown bat, northern long-eared bat, and eastern small-footed bat) may be present on the site during their migration and/or during the breeding season. However, the IF&W noted that they do not anticipate significant impacts to any of the bat species as part of this project. Still, to prevent potential impacts to these species, the applicants have indicated that the majority of tree removal will be between October 16th and April 14th of any given year (opposite of the migration and breeding seasons when bats may be present).

Correspondence with the Maine Natural Areas Program indicates that no rare and exemplary botanical features have been identified on or in the vicinity of the project site.

Per the standards of this section, only the topsoil directly affected by buildings, access, and parking areas may be removed from the site. Condition #8 reaffirms this requirement. Therefore, the project as designed and conditioned meets the requirements of this section.

2. Sec. 102.6(B): Relationship to Environment and Neighboring Buildings

The project is within all bulk and spacing requirements established in the Zoning District, as noted in the project data table above. The project site is abutted by the Ledgewood Apartment Complex and the Wastewater Treatment facility to the south; by land owned by the Coastal Rivers Conservation Trust to the east; and by single-family residences on all other sides.

The project site currently consists of understory vegetation. While the proposed building is proposed at the top of the slope and so will likely be visible to abutters, the applicants have designed the building to be one-story, which reduces views of the buildings from public ways. Additionally, landscaping is proposed intended to help further shield the project from direct abutters. The landscaping plan is discussed in detail in item #24 below.

Pursuant to this section (which requires a minimum buffer strip of 30 feet for parcels greater than three acres), an approximately 90-foot buffer area has been retained between the front property line and the parking lot. From the rear property line to the proposed paved emergency access drive, an approximately 45-foot buffer area is proposed (between the rear property line and the closest point). From the westerly property line to the proposed paved service access, a buffer of approximately 150 feet is proposed. The applicant has requested a waiver of Sec. 102.6(B)(2)(b) with respect to

the eastern property line only, noting that “Although the intent is to divide the property, the uses proposed will be compatible and will share access using the proposed, paved access drive along the new property line. Providing a 30ft buffer between the shared access drive and the new property line (by adjusting the line) would result in a very narrow strip of property between the Nursing Home parcel and the adjacent land to the east. Since this area is within a wetland drainageway that extends to either side of the property, it is unlikely that any future development would be practical.” As designed and with the waiver requested, the project meets the requirements of Sec. 102.4(B)(2) and (B)(3).

3. **Sec. 102.6(C): Air Quality**
   The proposed project will not result in undue air pollution or odors associated with the use being proposed. The emission of dust, ash, fumes, vapors, smoke, or other particulate matter of gases is not anticipated. The applicants have submitted an erosion and sedimentation control program in accordance with MDEP Best Management Practices, to be used by the contractor during construction, which notes that dust control measures will be applied on a daily basis during summer construction where dust is most likely (except on days where precipitation will be sufficient to control dust). The erosion and sedimentation control program is further described in item #10 below. As proposed, this standard has been met.

4. **Sec. 102.6(D): Lighting and Glare**
   Limited exterior lighting is proposed with this project within the parking area and along key access points along the building. The applicants have indicated that this lighting is proposed for safety in these areas. A lighting plan has been submitted which confirms that footcandles on abutting properties do not exceed 0.1, in accordance with this section. All exterior lights proposed are within the color range of 3000 to 2500 Kelvins or less, as shown on the lighting spec sheets submitted.

   In accordance with Sec. 102.6(D)(4)(e), which states that the maximum height of the luminaire of freestanding or building-attached lights on properties or in parking areas shall not exceed 16 feet. All fixture lighting meets this standard.

   Per Condition #9, all exterior lighting fixtures shall be full cut-off (shielded) fixtures (the applicants have noted this within their application materials; this condition is simply to reaffirm the requirement).

   No rotating or flashing lights are proposed with this application.

   During nighttime hours, exterior lighting shall be turned off or down to the minimum level needed for security, in accordance with this section. Condition #9 reaffirms this requirement.

   The project as designed and conditioned meets the standards of this section.

5. **Sec. 102.6(E): Noise**
   All noise during construction and once in operation will be required to adhere to the provisions of this section, including staying below the sound level limitations as described. For a project abutting a residential use, the sound level limits are 45 dBA between 7 p.m. and 7 a.m., and 55 dBA between 7 a.m. and 7 p.m (though construction

noise is allowed between 6:30 a.m. and 8 p.m.). Condition #10 reaffirms this requirement. Thus, as conditioned, this standard has been met.

6. Sec. 102.6(F), (G), (H), and (I): Traffic, Circulation, and Access

Trips

A traffic assessment was conducted by Barton & Loguidice on July 18, 2022 on behalf of the applicant and has been submitted with the application materials. To summarize the findings of the traffic report:

- The proposed development will generate 20 AM peak hour trips on weekdays, and 34 PM peak hour trips on weekdays, according to the Institute of Traffic Engineers trip generation calculations. Total trips generated during an entire weekday will be 312 (156 entering and 156 exiting).
- As trip generation is forecast to be less than 99 trip ends during peak hours, which is the threshold for requiring a MaineDOT Traffic Movement Permit (TMP), a TMP from MaineDOT is not required.
- There is one High Crash Location (as determined by MaineDOT) in the immediate vicinity of the site. MaineDOT considers any roadway intersection or segment a high crash location if there are 8 or more accidents at the location within a three-year period, and if the Critical Rate Factor for the location is greater than 1.00. The School Street and Main Street intersection represents a High Crash Location. MaineDOT has advised the Town and the applicants that a short-term fix for this intersection is scheduled for implementation in 2023, and that further long-range intersection improvements are currently being studied.
- The proposed site accesses meet MaineDOT sight distance requirements for roadways with a speed limit of 25 mph. A sight distance of at least 200 feet is required. Looking left from the main entrance, the measured sight distance was found to be 500 feet. Looking right from the main entrance, the measured sight distance was found to be 285 feet. Looking left from the proposed service entrance, the measured sight distance was found to be 270 feet. Looking right from the proposed service entrance, the measured sight distance was found to be approximately 210 feet. The traffic report does note that existing vegetation found on both sides of Piper Mill Road to the west of the service entrance severely restricts sight distances. The applicants have submitted a roadway clearing plan intended to allow the development to meet the standards of this section. Condition #12 notes that the clearing must be completed at the applicant's expense prior to the issuance of a Certificate of Occupancy.
- The applicant's traffic engineer recommends installation of a 25mph speed limit sign on Piper Mill Road near the School Street intersection, as well as the installation of standard curve warning signs on both approaches to the S-curve intersection of Piper Mill Road in order to alert drivers. Condition #13 requires this signage to be installed by the applicant prior to the issuance of a Certificate of Occupancy for the project.

These findings and associated conditions demonstrate compliance with the requirements of Section 102.6(G).

Access

Access to the site is planned with construction of two entrances: one main entrance intended for use by the general public, and one intended to act as a service entrance. The proposed main entrance aligns directly opposite the existing Ledgewood Apartments entrance, and the service is proposed to be located about 130-feet to the west.

The proposal includes a variety of sidewalks and crosswalk connections from the parking area to the entrance of the building. Sidewalks are proposed to be concrete with granite curbing and will be raised above the driving areas. Additionally, three separate courtyard areas are proposed for the enjoyment of residents which include sidewalk areas.

Given the level traffic generation and the capacity and design of the roadways connected to the site, the project will not cause unreasonable public road congestion or unsafe conditions on private or public ways, consistent with the requirements of Section 102.6(F) and (G).

Parking

Zoning Ordinance Section 102.6(H)(7)(i) requires that nursing homes provide one parking spaces per every three rooms, therefore the project requires at least 34 spaces. The project provides 103 spaces, including 9 spaces for people with disabilities. The applicants have provided data from their other Maine properties of the same use substantiating the need for the 103 parking spaces, especially during holidays at peak visiting periods. As designed the parking supplied meets the requirements of Section 102.6(H).

7. Sec. 102.6(J): Existing Public Utilities and Services

The proposed sewer demand is approximately 8,670 gallons per day. The project is proposing to tie into public sewer service and pump their sewage directly to the treatment plant via new force mains. A letter from the Great Salt Bay Sanitary District, dated May 17, 2022, has been provided indicating that adequate collection and treatment capacity is available. Therefore, the project meets the requirements for adequate sewage waste disposal. Public water access is detailed in item 11 below.

The applicants have indicated that the clearing of trees associated with this development, which had been previously logged for large timber, is expected to generate approximately 248 cubic yards of stumps. Per the application materials: “the clearing may include high-quality trees, suitable for saw logs. These will be cut and exported to an appropriate sawmill from the site, separately from the remaining materials. The remaining wood biomass will be cut or chipped on site. The biomass will either be retained on site for erosion control materials or processed and sent to a biomass facility. Since pine stumps are larger and bulky, these stumps will be excavated and/or chipped onsite for use as erosion control mix or landscaping mulch.” Other solid waste generated during construction will be hauled by private haulers. There are no known hazardous or special wastes at the site.

Post-occupancy, the applicants plan to dispose of their trash at the Nobleboro-Jefferson Transfer Facility. There are no known capacity constraints regarding solid waste, therefore, the proposed method of handling solid waste is consistent with this section.

The proposed development will be equipped with a sprinkler system to provide fire suppression in the event of an emergency within the facility. Hydrants will also be provided on-site for additional fire suppression. A turning template for the Fire Department's largest apparatus has been submitted which confirms that the truck will be able to adequately navigate the site. Additionally, the Fire Chief has reviewed the application materials to ensure that emergency access will be appropriate. The Department has indicated that they would like to see an additional fire hydrant towards the road near where the generator is located which would allow ideal access without concern for vehicles striking out hoses. Additionally, the Department has requested a sprinkler hookup as well as a knox box installed on the building. Condition #18 notes that the final locations and number of hydrants must be determined by the Fire Department prior to the applicant submitting any building permits for the project. Additionally, Condition #19 notes that the exact location and details of a knox box will be provided to and approved by the Fire Department prior to the Issuance of a Certificate of Occupancy.

8. **Sec. 102.6(K): Water Quality**
   The proposed project will not adversely affect the quality or quantity of groundwater, consistent with Sec. 102.6(K) and Sec. 102.6(L), governing the Stormwater Management Plan. A detailed discussion of wetland impacts is provided in item 12 below.

9. **Sec. 102.6(L): Stormwater Management**
   The site slopes gently from a central ridge running north-south on the property. As elevations drop to the west, slopes become increasingly steep (reaching over 15%). Slopes to the east remain generally in the 5-6% range, similar to the center of the site. The site is located with an area of minimal flooding according to the FEMA Flood Insurance Rate Map for the area.

   The existing stormwater flows from the aforementioned central ridge towards the west to a stream that forms the western property boundary, and towards the east to three separate drainageways, all of which drain to a stream on the adjacent parcel that was donated to Coastal Rivers Conservation Trust.

   Sec. 102.6(L) notes that the post-development runoff cannot exceed the pre-development runoff during extreme storm events. The table below, which was included in the applicant's stormwater report, summarizes the peak runoff values for pre-development and post-development conditions during each of the analyzed storm events (demonstrating that this standard has been met).

PRE-DEVELOPMENT AND POST-DEVELOPMENT PEAK RUNOFF VALUES		
Storm Return Period	Pre-Dev Peak Q at Design Point 1 (cfs)	Post-Dev Peak Q at Design Point 1 (cfs)
2-Year	3.29	3.15
10-Year	7.66	6.75
25-Year	11.18	9.87
50-Year	14.89	14.19
Peak Q at Design Point 2 (cfs)		
2-Year	4.66	3.24
10-Year	9.31	5.93
25-Year	12.89	7.98
50-Year	16.57	10.77
Peak Q at Design Point 3 (cfs)		
2-Year	4.11	4.10
10-Year	8.38	8.34
25-Year	11.69	11.66
50-Year	15.13	15.09
Peak Q at Design Point 4 (cfs)		
2-Year	2.28	1.55
10-Year	4.56	3.22
25-Year	6.32	5.71
50-Year	8.12	7.96

The proposed development includes a variety of small, decentralized stormwater Best Management Practices (BMPs) designed to capture and treat runoff from the project. The BMPs include drip edge filters surrounding the perimeter of the new building, seven bioretention cells dispersed across the property, three underdrain soil filters, and a section of pervious pavement on each side of the western fire lane. These BMPs have been sized and designed in accordance with current State of Maine Chapter 500 Stormwater Law and come directly from the recommended Low Impact Development (LID) practices as described in the LID Guidance Manual for Maine Communities. Snow storage areas are shown on the revised Site Plan and have been sited to allow for adequate buffers between freshwater areas (such as the wetlands on the northeasterly portion of the site and the adjacent stream to the west). Stormwater retention cells are placed strategically between the proposed snow storage areas and the wetlands in order to allow for areas for snow runoff/melt to be retained and treated.

The applicant has applied for a Site Location of Development Act permit through the Maine Department of Environmental Protection (DEP). The project has been designed to provide treatment for 98% of the proposed impervious area and 99% of the developed area, in accordance with the Chapter 500 Regulations for Basic, General and Flooding Standards. Condition #14 requires that documentation of the DEP permit being granted is submitted to the Town Planner prior to the issuance of any building permits for the proposed project.

The applicant is proposing to retain ownership of the stormwater management facility and has provided a Stormwater Maintenance Plan outlining their responsibilities post-occupancy to ensure that the stormwater facilities continue to perform as designed. Maine DEP requires permittees to perform a "check-up" on their stormwater systems and recertify that the systems are operating as approved every five years from the issuance date of their permit.

10. Sec. 102.6(M): Erosion & Sediment Control

The proposed development is for a 102-bed nursing home facility (an approximately 75,000 s.f. building) and associated site improvements, and the project will be completed over an approximately 18-month period from Spring 2023 to the Fall of 2024. All stormwater, drainage, and water effluent are managed appropriately for the proposed use as outlined in the analysis above.

The applicant has submitted a NRCS Web Soil Survey, which shows the predominant soil types on site as Buxton/Lamoine and Scantic silt loams (with small areas of Tunbridge/Lyman complex rocky soils at the edges of the property). Additional geotechnical information was gathered by SW Cole Engineering, on behalf of the applicants, which generally confirm the mapping illustrated on the web survey. Onsite soils are moderately susceptible to erosion. Thus, pursuant to Section 102.6(M), an erosion and sedimentation control program proposal has been submitted. Construction activities are proposed to be stabilized through the installation of silt fencing or erosion control berms down slope of any disturbed areas (with additional measures at the foot of steep slopes or adjacent to the wetland areas) and erosion control blankets or riprap stabilization atop steep slopes. Maintenance of the erosion and sedimentation control areas will be the responsibility of the site contractor during construction, in accordance with the *Maine Erosion and Sediment Control Best Management Practices (BMPs) Manual for Designers and Engineers (2016).* Construction entrances will be stabilized with crushed stone to minimize tracking. Temporary stockpiles will be stabilized and protected. Post-construction, areas not subject to other restoration (e.g. paving or riprap) will be loamed and seeded.

The erosion and sedimentation control plan, as submitted, is satisfactory to meet the requirements of Section 102.6(M).

11. Sec. 102.6(N): Water Supply

The proposed project is for a 102-bed nursing facility. The applicants anticipate an 85 gallon per room per day water usage, with a total estimated usage amount of 8,670 gallons per day. The applicants have provided documentation from the Great Salt Bay Sanitary District indicating that they have the ability to provide water to the proposed project.

As the project will be served by both public water and sewer, a hydrogeologic study is not required. Therefore, this standard has been met.

12. Sec. 102.6(O): Natural Beauty

Trees near the front property line are proposed to be impacted by the construction of the proposed building as well as the easterly emergency access drive. However, the building has been sited in an area where historical tree clearing has occurred and which is now predominantly an open field. In an effort to replace trees slated for removal, a total of 54

evergreen trees that are 6' to 7' tall are proposed in key areas around the site, including at the edge of the emergency access road on the western side of the property, surrounding the parking areas, and to highlight the entrance of the building and surrounding courtyards. A total of 100 deciduous trees of various heights are also proposed in similar key areas. A variety of shrubs and other small landscaping are also proposed. Additionally, condition #15 requires that the applicant install fencing around the dripline edge of all existing trees designated to be protected, as shown on the plan.

According to a wetland delineation conducted in the winter of 2021, no potential vernal pool habitat was identified within the project site.

Approximately 14,505 s.f. of freshwater wetlands are proposed to be impacted by the proposed development. The proposed wetland impacts must be reviewed under a Tier 1 permit from the Maine Department of Environmental Protection under the Natural Resource Protection Act. The applicants have indicated that this permit is currently under review by the DEP. Additionally, authorization from the Army Corps of Engineers is required for the proposed wetland impact. Condition #14 requires the applicants to submit documentation to the Town that the DEP permit, as well as authorization from the Army Corps of Engineers, have been obtained prior to the release of a building permit.

13. **Sec. 102.6(P): Historic and Archeological Resources**
    The applicant has submitted documentation from the Maine Historic Preservation Commission indicating that no documented archeological or historic resources will be impacted by the proposed development. Therefore, this standard has been met.

14. **Sec. 102.6(Q): Filling and Excavation**
    All excavation will be incidental to the proposed development and are not part of an excavation or filling operation. Thus, this standard is not applicable to this project.

15. **Sec. 102.6(R): Sewage Disposal**
    As discussed in item 7 above, the applicant is proposing to tie into the existing public sewer system and has received confirmation from the Great Salt Bay Sanitary District that there is adequate capacity to serve the sewage generated from the proposed development. Therefore, this standard has been met.

16. **Sec. 102.6(S): Phosphorus Control**
    The subject property is not located within the watershed of a great pond; therefore, this standard is not applicable.

17. **Sec. 102.6(T): Buffer Areas**
    As described further in item #1 above, buffers have been provided sufficient to meet the standards of this section. When natural features in the buffer areas do not exist sufficient to screen the proposed development from adjacent properties and from roadways within the proposed project, additional landscaping has been provided in accordance with this section. The buffer area plantings are diverse, with multiple varieties of trees, evergreen trees, and shrubs being used. Condition #16 reaffirms the requirement of this section that, if landscaping dies, is removed, or otherwise requires replacement, is not replaced within thirty days (or as seasonally required by the species), it shall be considered a violation of any approval granted by this Board and shall be subject to enforcement provisions.

Fencing is proposed around the trash collection and in the service area. All ground-mounted mechanical units will be similarly screened.

18. **Sec. 102.6(U): Signs**
    All signage will be designed to meet the Town of Damariscotta Sign Ordinance and will be reviewed by the Code Enforcement Officer in accordance with the provisions of that ordinance.

19. **Sec. 106.6(V): Building Appearance**
    As the proposed building is larger than 7,500 s.f. in floor area, the Large-Scale Development Standards for Building Appearance (described in detail under item #20 below) shall apply.

Large-Scale Development Standards

20. **Sec. 102.7(A): Building Appearance**
    Elevations drawings of the building's exterior have been submitted which include the use of pitched roofs, dormers, windows, and vinyl clapboard siding, among other architectural details intended to enhance the outward appearance of the building and to present a residential aesthetic. No façade extends more than 49 feet without an architectural feature, such as an awning or actual protrusion of at least 6 feet.

    Additionally, a repeating pattern on each façade is proposed in accordance with this section. Colors proposed are of a neutral tone. The main entrance to the facility is clearly defined through the use of architectural features as well as landscaping and overall site design. The design of the building's exterior meets the standards of this section as proposed.

21. **Sec. 102.7(B): Outdoor Sales**
    As the development is not for a retail establishment, these standards do not apply.

22. **Sec. 102.7(C): Parking**
    As described in item #6 above, the parking requirements of Sec. 102.6(H) have been met.

    Additionally, no off-street parking has been sited between Piper Mill Road and the closest façade of the building. Therefore, the standards of this section have been met.

23. **Sec. 102.7(D): Bicycle and Pedestrian Facilities**
    The applicant has requested a waiver to some of the requirements of this section, as described in the waivers section below. Instead of providing sidewalks that are 8-feet in width, the applicant is proposing to provide 6-foot-wide sidewalks within the parking area, and sidewalks that are 5-feet wide within the courtyard areas.

    Condition #17 requires that the applicant install sidewalks along the entirety of the frontage of the subject property in accordance with this section.

    The project as proposed and conditioned (including the proposed waivers) are in compliance with this section.

24. Sec. 102.7(E): Landscaping

At least 75% of all of the vegetation proposed is native species, sufficient to meet the standard of this section. Landscaping is described in greater detail in item #12 above.

More than 30% of the buildings total foundation is planted with landscaping sufficient to meet the standard of this section. Additionally, landscaping is proposed in the entrance area of the building, in the parking area, as well as along the façade facing Piper Mill Road. Thus, the standards of this section have been met.

25. Sec. 102.7(F): Screening

The site plan as proposed incorporates screening and fencing around the trash collection area and into the service area. All ground-mounted mechanical units will be similarly screened. Propane tanks for the facility will be installed underground to reduce the visual impact of essential utility infrastructure.

26. Sec. 102.7(G): Building Reuse

Submittals related to this standard are not required. However, applicants are aware of the Selectboard's rights related to vacant buildings.

27. Sec. 102.7(H): Additional Standards for Large-Scale Developments with a Floor Area >20,000 s.f.

- **Sec. 102.7(H)(1)**: This standard is not applicable to this project, as it references construction of retail buildings. The proposed project is for a nursing care facility.
- **Sec. 102.7(H)(2)**: This standard is not applicable to this project, as it references construction of a retail building.
- **Sec. 102.7(H)(3)**: A waiver to this standard has been requested by the applicants. See the analysis in the waiver section below.

Conditional Use Standards

28. Sec. 101.9(C)(2)(a): Conditional Uses

The proposed use will meet the requirements of the Town's Land Use Ordinance, as described in the project data table above, as well as the Site Plan Review Ordinance, as described in the analyses above.

The potential effect of the use on the environment (from air, water or soil pollution), noise, traffic, congestion, soil erosion, the burden on the public sewer and water systems as well as other municipal services have been taken into consideration and have been analyzed in the requirements above. As noted, the proposed use will not have an adverse effect on the health, safety, or general welfare of the public.

G. The applicant has requested the following waivers for the Project, and with respect to the waivers the Planning Board finds as follows:

a. Waiver pursuant to **Site Plan Review Ordinance Section 102.7(D)** to provide sidewalks within the parking areas that are 6' in width, rather than the 8' width required as part of this section and to not raise the sidewalks 6 inches above the travel way.

> ***Analysis:*** The Planning Board is supportive of this waiver, since the internal sidewalks will primarily be used by visitors, employees, and vendors related only to the proposed development and not by the general public. Additionally, the applicants noted that the use of the property requires barrier-free access from the drop-off and adjacent spaces reserved for those with disabilities, and that raising the sidewalks 6 inches above the travel way would hinder barrier-free access.

b. Waiver pursuant to **Site Plan Review Ordinance Section 102.7(H)(3)**, which requires the applicants to submit an economic and fiscal impact analysis for the proposed large-scale development.

> ***Analysis:*** The Planning Board is supportive of this waiver, as the applicants verbally provided information regarding the following potential impacts listed in this section: (H)(3)(b)(1): Types of jobs created; (H)(3)(b)(2): number of full-time and part-time jobs created; (H)(3)(b)(3): Market and financial feasibility of the project; (H)(3)(b)(7): Projected costs and benefits to the Town resulting from the project. The Planning Board determined these items to be the most relevan items listed within this section pertaining to their analysis.

c. Waiver pursuant to **Site Plan Review Ordinance Section 102.6(B)(2)(b)** with respect to the eastern property line only. This section requires the applicant to provide a 30-foot minimum buffer strip between the proposed, new property line and the paved access drive.

> ***Analysis:*** The Planning Board is supportive of this waiver, since the applicant also owns the property to the east of the subject parcel and has indicated that they are retaining it for future development of a compatible land use. The intent of this standard is to provide a buffer between development and neighboring land uses not owned by the applicant.

DECISION:

H. Based on its review of the entire record herein, including the November 7, 2022 Planning Board staff report; all supporting, referenced, and incorporated documents; and all comments received; the Site Plan application of Clippership Landing Development, LLC, dated through October 17, 2022; drawings stamped and dated through October 17, 2022, for the Clippership Landing Nursing Home project at Map 1, Lot 50 on Piper Mill Road; is hereby

	YAE	NAE	Absent/Abstain
DENIED			
APPROVED WITH THE CONDITIONS BELOW			

CONDITIONS

	Condition	Staff Assigned	Must be Completed By:
1.	This approval is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant. Any variation from the plans, proposals and supporting documents are subject to the review and approval of the Planning Board prior to implementation.	Town Planner	Ongoing
2.	All adopted conditions of approval and any waivers granted shall appear on the face of the plans submitted for building permits, and the face of the subdivision plan, if applicable.	Code Officer	Prior to Issuing Building Permit
3.	Prior to the issuance of a building permit, the applicant shall pay all outstanding review escrow account fees, post the necessary performance guarantee(s) in such amount(s) as established by the Town and hold a pre-construction meeting with the Town if necessary.	Town Planner	Prior to Issuing Building Permit
4.	This Planning Board approval is valid for 12 months from the date of approval and shall expire if work has not substantially commenced within that time period.	Code Officer	Ongoing
5.	Prior to submitting a building permit, the applicant shall submit three hard-copy plans at 24” x 36” size to the Town Planner with all conditions and waivers listed on the plans.	Town Planner	Prior to Submitting a Building Permit

	Condition	Staff Assigned	Must be Completed By:
6.	The applicant shall secure a Building Permit from the Code Enforcement Officer in coordination with the Town Planner, Fire Department, and all relevant review authorities, prior to commencing any construction activities.	Code Officer	Prior to Issuing Building Permit
7.	A waiver has been granted pursuant to Site Plan Review Ordinance Section 102.7(D), which allows the applicant to provide sidewalks within the parking areas that are 6' in width, rather than the 8' width required as part of this section and to not raise the sidewalks 6 inches above the travel way.	Town Planner	Ongoing
8.	Only the topsoil directly impacted by proposed buildings, access ways, and parking areas may be removed from the site without returning to the Planning Board for further review, per Section 102.6(A).	Town Planner	Ongoing
9.	All exterior lighting fixtures shall be full cut-off (shielded) fixtures in accordance with Section 102.6(D).	Town Planner	Ongoing
10.	All noise associated with the proposed development shall be regulated in accordance with the provisions of Sec. 102.6. Applicants and their contractors are well-advised to familiarize themselves with that section of the Town's Ordinances.	Code Officer	Ongoing
11.	Prior to holding a pre-construction meeting and submitting a building permit, wetlands and associated setbacks and stream setbacks are to be staked to ensure that all erosion and sedimentation controls and site disturbance and construction activities avoid the protected wetland.	Town Planner	Prior to Submitting a Building Permit
12.	In order to allow the standard of Sec. 102.6(G)(1) to be met, the applicants have submitted a roadway clearing plan for existing vegetation found on both sides of Piper Mill Road to the west of the proposed service entrance. The clearing of vegetation as depicted on the submitted plan must be completed at the applicant's expense prior to the issuance of a Certificate of Occupancy.	Town Planner/Code Officer	Prior to Issuing Certificate of Occupancy

	Condition	Staff Assigned	Must be Completed By:
13.	Applicants are required to complete the installation of a 25mph speed limit sign on Piper Mill Road near the School Street intersection, as well as the installation of standard curve warning signs on both approaches to the S-curve intersection of Piper Mill Road in order to alert drivers to the street realignment.	Town Planner/Code Officer	Prior to Issuing Certificate of Occupancy
14.	Prior to the issuance of a building permit, the applicants are required to submit to the Town Planner confirmation from the Maine DEP that their Site Location of Development permit and their NRPA permit have been approved. Additionally, confirmation that the Army Corps of Engineers have approved the wetland impacts is required to be submitted prior to the issuance of a building permit.	Town Planner	Prior to Issuing Building Permit
15.	Prior to submitting a building permit, the applicant shall establish fencing at the drip line of all trees that are designated for preservation in the approved Site Plan. No construction staging or other construction-related activity is permitted within the drip line fence barrier.	Town Planner	Prior to Submitting a Building Permit
16.	If landscaping that dies, is removed, or otherwise requires replacement, is not replaced within thirty days (or as seasonally required by the species), it shall be considered a violation of any approval granted by this Board and shall be subject to enforcement provisions.	Code Officer	Ongoing
17.	In accordance with Sec. 102.7(D), the applicant shall install sidewalks along the frontage of the entirety of the subject property (all of the property identified as Tax Map 1, Lot 50 at the time of this approval) at their own expense, or will come to a mutual agreement with the Town to fund the installation of sidewalks along this area. Sidewalks will be installed at no cost to the Town. Sidewalk installation shall be completed within one year of the issuance of a Certificate of Occupancy.	Town Planner	Within 1 year of the Occupancy
18.	The final locations and number of hydrants must be approved by the Fire Department prior to the applicant submitting any building permits for the project.	Fire Dept./Code Officer	Prior to Submitting a Building Permit
19.	The exact location and details of a knox box will be provided to and approved by the Fire Department prior to the Issuance of a Certificate of Occupancy.	Fire Dept./Code Officer	Prior to Issuing Certificate of Occupancy

	Condition	Staff Assigned	Must be Completed By:
20.	A waiver has been granted pursuant to Site Plan Review Ordinance Section 102.6(B)(2)(b) with respect to the eastern property line only. This section requires the applicant to provide a 30-foot minimum buffer strip between the proposed, new property line and the paved access drive (see analysis above).	Town Planner	Ongoing
21.	A waiver has been granted pursuant to Site Plan Review Ordinance Section 102.7(H)(3), which requires the applicants to submit an economic and fiscal impact analysis for the proposed large-scale development. Instead, the applicants provided relevant information to the Planning Board during the hearing, negating the need for this requirement.	Town Planner	Ongoing

Planning Board Signatures:

_____

_____

_____

_____

_____

COMPLETENESS REVIEW

October 19, 2022

Andrew Johnston
Atlantic Resource Consultants
541 US Route 1, Suite 21
Freeport, ME 04032

RE: Minor Subdivision & Site Plan
Clippership Landing Nursing Home
Piper Mill Road

This letter provides staff's determination that the application to construct a 102-bed nursing care facility, along with associated site improvements, at 2 Piper Mill Road (PID: #2201), received September 20, 2022 with additional submittal received October 17, 2022, is **complete** for the purposes of Planning Board review.

Applicant Clippership Landing Development, LLC is requesting Minor Subdivision and Site Plan review in order to: amend the lot line of the previously approved 2019 subdivision plan of the property, and to construct a 102 bed nursing care facility and associated site improvements (including parking areas and two curb cuts, stormwater management facilities, and courtyard areas and path systems for the enjoyment of residents of the facility). The parcel is further identified as Assessor's Tax Map 1, Lot 50 and it is located within the Rural Zoning District and the Town's designed Village Expansion Growth Area, per the 2014 Comprehensive Plan.

NEXT STEPS

This application has been scheduled for review with the Planning Board during the **November 7, 2022** meeting. Planning Board meetings are held at the Town Office, 21 School Street, and begin at 6:00PM. Please confirm your attendance and prepare any presentation materials that you would like to share with the Board.

COMPLETENESS ITEMS

This section includes required completeness items. The items outlined below identify revisions or materials that must be addressed to bring the application to completeness. An application cannot be processed further until all completeness items are addressed by the applicant. Items in ~~strikethrough~~ have been addressed by the applicant through a subsequent submittal. Items added following a review of subsequent material submittals are denoted as "***NEW as of [date]***."

TOWN PLANNER REVIEW

1. ~~**Setback Lines**: Sec. 102.5(E)(3)(g) requires that setbacks are shown on the site plan. It appears that you have shown the setbacks for the existing property lines, but not the proposed. Additionally, Sec. 102.6(A) notes that the only development permitted in the bufferyard (defined as the setback areas and the existing vegetation, fencing, walls or berms located within those areas) is "required landscaping and fencing; landscape lighting (400 lumens or less per bulb, ground-laid or bollard type less than 3 feet high); essential utilities that cannot be located outside of the buffer because of site constraints; permitted signage; and points of ingress and egress authorized by the Planning Board" as well as "sidewalks or trails or passive stormwater infiltration areas but not stormwater retention or detention structures." Without setback lines being shown for the proposed property line, it is difficult to ascertain whether or not this standard has been met.~~

   Applicant's Response: Per the Town of Damariscotta's Land Use Ordinance standards, a 15-foot side and rear setbacks and a 20-foot front setback are required. Property setback lines have been added on the revised Site Plan, attached to this submission.

2. ~~**Buffers Between Paved Areas**: Sec. 102.6(B)(2)(b) notes that for parcels greater than 3 acres, a 30-foot minimum buffer strip must be retained from the property line to any parking/paved areas. For this purpose, the easterly property line (the new property line) near the proposed emergency access drive may need to be shifted, or a waiver must be requested.~~

   Applicant's Response: The Applicant would like to request a waiver from this standard with respect to the eastern (new) property line only. Although the intent is to divide the property, the uses proposed will be compatible and will share access along the new property line. Providing a 30ft buffer between the shared access drive and the new property line (by adjusting the line) would result in a very narrow strip of property between the Nursing Home parcel and the adjacent land to the east. Since this area is within a wetland drainageway that extends to either side of the property, it is unlikely that any future development would be practical. Further to the north, there will need to be a gap in the bufferyard to allow access onto the adjacent property.

3. ~~**Lighting Color Temperature**: Sec. 102.6(D)(4)(d) requires that all exterior lights are in the color range of 3000 to 2500 Kelvins or less. Some of the proposed lighting (type W3) appears to exceed these requirements. Please clarify or adjust proposed lighting as needed.~~

   Applicant's Response: The proposed light fixture has been changed to a color of 3000K.

4. ~~**Lighting Criteria**: Sec. 102.6(D)(4) provides lighting criteria for parking lots, intersections, and at property lines. The photometric plan submitted appears to show this criterion being exceeded along the westerly property line (near the service entrance).~~

~~Please clarify or adjust proposed lighting as needed.~~

Applicant's Response: A copy of the revised lighting plan is included with this submission. There is no light trespass over the western property boundary.

5. ~~**Mounting Height for Lighting**: Sec. 102.6(D)(4)(e) states that the maximum height of the luminaire of freestanding or building-attached lights on properties or in parking areas shall not exceed 16 feet. This appears to be exceeded by some of the proposed lighting shown on the photometric plan. Please review and revise accordingly.~~

   Applicant's Response: The fixture mounting lights have been revised to meet this standard.

6. ~~**Snow Storage Solution**: Sec. 102.6(L)(6) requires that the Board make findings related to snow storage on-site, specifically, that "snow storage sites shall allow adequate buffers between the sites and freshwater streams and wetlands to minimize the impact of salt and sand on freshwater ecosystems." Please show snow storage areas on the site plan (or provide an alternative to storing plowed snow on the site).~~

   Applicant's Response: Snow storage locations are shown on the revised plans included with this submission.

7. ~~**Native Plants**: Sec. 102.7(E) requires that at least 75% of all vegetation proposed is native species. Please confirm.~~

   Applicant's Response: 75% of proposed vegetation is native or recommended per Appendix B of the Site Plan Review Ordinance, Native Plant Trust, Wild Seed Project and ME.gov. Native seed mixes are proposed to revegetate and naturalize disturbed areas. The few non-native plants proposed were specifically chosen for sensory characteristics such as fragrance, color or texture that would evoke memories of one's home environment.

ADVISORY COMMENTS

Advisory Comments are not items that determine the completeness of an application. They are provided in order to highlight revisions or supplemental materials that would help clarify, improve, or support the application.

ADVISORY TOWN PLANNER COMMENTS

1. **Night Lighting**: Sec. 102.6(D)(5) notes that "during nighttime hours when the activity is not occurring, exterior lighting at all commercial and other non-residential properties, as a condition of approval shall be required by the Board to be turned off." You should be aware of this requirement or request a waiver of this standard by providing information regarding the hours that lighting will be turned on, and the reasons for lighting at night, in order to justify the waiver.

   Applicant's Response: The proposed use will require that some lighting is provided to allow safe access to and from the building during night-time hours. It is not clear from the ordinance language whether this would be considered "activity occurring" as it is essential to the proposed use. The Applicant is prepared to investigate methods to safely reduce lighting around the perimeter of the lit area during hours when minimal pedestrian traffic is anticipated.

2. **Fire Hydrants**: You note that fire hydrants are provided on-site for additional fire suppression, though it is unclear from the plans where these are located or how many are proposed. Please clarify.

Applicant's Response: A single fire hydrant was shown on the submitted drawings and has been labeled on the revised Site Plan. It is currently located opposite the main entrance to the building. We would be happy to discuss the location of the hydrant and/or the need for additional hydrants with the Fire Chief and will provide these as necessary to provide adequate external fire protection infrastructure to his satisfaction.

3. **Traffic**: Sec. 102.6(F) notes that "vehicular access to the site must be on roads which have adequate capacity to accommodate the MDOT Level of Service Process, even if it is a Town owned road. A development not meeting this requirement may be approved if the applicant demonstrates that: 1. A public agency [such as MDOT] has ***committed funds*** to construct the improvements necessary to bring the level of access to this standard as soon as possible or, 2. The applicant will assume financial responsibility for the improvements necessary to bring the level of service to this standard and will assure the completion of improvements as soon as possible, with a financial guarantee acceptable to the municipality" (emphasis added). To my knowledge, MDOT has not yet committed funds to either the short-term or long-term fix, and the Safety Score for School Street is currently rated F: Unacceptable by MDOT. What is the proposed solution to bring the access roads to compliance?

   Applicant's Response: It is our understanding from recent conversations between the project Traffic Engineer (Bill Bray, PE) and the Maine DOT Region 2 District Engineer (Dave Allen, PE), that Maine DOT has designed a short-term solution for the intersection of School Street and Route 1A. Furthermore, funding is in place for the proposed solution and implementation is scheduled for 2023. We also understand that the Maine DOT Safety Office will be providing more details on the proposed scheme directly to the town in the near future.

4. **Parking**: During the Planning Board's review of this pre-application, the members expressed interest in seeing available data related to the reasoning for 69 additional parking spaces over what is required in Ordinance. Given the Board's interest in low impact development and minimizing impervious surfaces, and the note in Sec. 102.6(H)(1) that "the objective is to provide neither more nor less parking spaces than is needed," I would advise that the requested data is provided in advance of the Planning Board's review.

   Applicant's Response: ARC has compiled parking data for all of the Sandy River/North Country Associates nursing care center facilities within the State of Maine. The data compares the number of licensed beds versus the number of proposed parking spaces and how the parking needs fluctuate throughout a normal workday, but also includes parking needs during special events. A copy of the parking data is included with this submission.

5. **Community Impact Assessment**: While I understand that some of the standards under 102.7(H)(3)(b) appear to specifically address retail establishments, I would not recommend that the Planning Board entertain granting a waiver of this entire standard. It seems that there would be value in the community understanding (at minimum) the following potential impacts listed in this section: (H)(3)(b)(1): Types of jobs created; (H)(3)(b)(2): number of full-time and part-time jobs created; (H)(3)(b)(3): Market and financial feasibility of the project; (H)(3)(b)(7): Projected costs and benefits to the Town resulting from the project. I would be more in favor of recommending a waiver to this section if the above were provided separately elsewhere within the application materials.

   Applicant's Response: The Applicant can provide additional information on the topics requested above in an addendum to the application but would like to discuss the exact content and format that will be considered acceptable. The new

facility will provide significant property tax revenue to the town, without burden to the school system and is required to go through a rigorous Certificate of Need process with the State to prove the services are both necessary and provided in a viable manner. Information on these topics, supplemented with employment data can be provided to satisfy this request.

6. **Sidewalks**: Sec. 103.7(H)(7) gives the Planning Board the authority to require sidewalks in areas where significant pedestrian traffic is present or is anticipated in the future. The construction of sidewalks along School Street was identified as a priority in the 2015 Newcastle-Damariscotta Bicycle-Pedestrian Plan, and future connectivity is of importance to the community. Importantly, Coastal Rivers is planning a significant trail system across their adjacent parcel, and the nursing home is expected to be a major employment hub in town. At a minimum, sidewalks should be provided along the frontage of this parcel to allow for future connectivity to the trail system on the adjacent Coastal Rivers parcel from School Street.

   Applicant's Response: We would be happy to discuss the provision of expanded pedestrian infrastructure in and around the project site with the Planning Board and the town. However, this is somewhat complicated by the status of Piper Mill Road, which is currently privately owned, with access easements provided to each of the property owners thereon. These would need to be adjusted and a suitable legal framework provided to allow public access across private property while protecting the owners of the road from liability.

7. **Pervious Pavement Location**: The Stormwater Management Report that was submitted notes that pervious pavement is proposed on site. Can you please clarify the location of the pervious pavement and what percentage of the overall pavement on site is pervious?

   Applicant's Response: The pervious pavement sections are proposed at each side of the western fire lane that runs around the building. This is shown by hatching on the site plan, with a detail included on Sheet C-305.

ADVISORY FIRE DEPARTMENT COMMENTS

8. **Fire Hydrant Locations**: I do not see where the proposed hydrants are to be located, please show on the Site Plan. If possible, we would like to see one towards the road near where the generator is located which would allow ideal access without concern for vehicles striking out hoses (as well as one near the building entrance).

   Applicant's Response: A single fire hydrant was shown on the submitted drawings and has been labeled on the revised Site Plan. It is currently located opposite the main entrance to the building. We would be happy to discuss the location of the hydrant and/or the need for additional hydrants with the Fire Chief and will provide these as necessary to provide adequate external fire protection infrastructure to his satisfaction.

   NEW as of 10/19/2022 A suggested condition of approval will be that the final locations and number of hydrants will be determined by the Fire Department prior to the applicant submitting any building permits.

9. **Sprinkler Hookup**: We would like to have sprinkler hookup with a 4" Storz connection at the area on the map marked as where fire and water services enter the building. If the sprinkler room is in a different location, we would like to discuss where to best locate our FD connection.

   Applicant's Response: A sprinkler connection will be provided as requested in the service area adjacent to the water entrances.

10. **Knox Box**: We would like to see a knox box installed on the building as construction nears completion. It should be about 4' off the ground and located to the right of the main entrance. The alarm panel read-out should be located in this area as well.

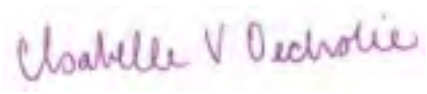
    Applicant's Response: This will be provided as requested. The exact location and details of the fire protection system will be developed and presented to the Fire Chief as the design moves forward. It should be noted that plans for the new facility will also be subject to review and approval through the State Fire Marshall's office.

    NEW as of 10/19/2022 A suggested condition of approval will be that the exact location and details of the fire protection system will be provided to and approved by the Fire Department prior to the issuance of a Certificate of Occupancy.

CONCLUSION

If you feel any item in this letter requires further discussion, please do not hesitate to contact me. I can be reached via telephone at (207) 563-5168 or email at IOechslie@damariscottame.com.

Sincerely,



Isabelle V. Oechslie
Town Planner

Atlantic Resource Consultants
Engineering Strategies and Solutions

541 US Route One, Suite 21
Freeport, Maine 04032
Tel: 207.869.9050
www.arc-maine.com

Monday October 17th, 2022

Isabelle Oechslie
Town Planner
Town of Damariscotta
21 School Street
Damariscotta, ME 04543

RE: Clippership Landing Development, LLC, Damariscotta, Maine
Town Staff Review Comments

Dear Isabelle,

On behalf of our client, Clippership Landing Development, LLC, we offer the following responses to staff review comments received via email on October 11, 2022. The original comments are shown in bold/italic text, with each response directly following.

TOWN PLANNER REVIEW COMMENTS:

1. ***Setback Lines: Sec. 102.5(E)(3)(g) requires that setbacks are shown on the site plan. It appears that you have shown the setbacks for the existing property lines, but not the proposed. Additionally, Sec. 102.6(A) notes that the only development permitted in the bufferyard (defined as the setback areas and the existing vegetation, fencing, walls or berms located within those areas) is "required landscaping and fencing; landscape lighting (400 lumens or less per bulb, ground-laid or bollard type less than 3 feet high); essential utilities that cannot be located outside of the buffer because of site constraints; permitted signage; and points of ingress and egress authorized by the Planning Board" as well as "sidewalks or trails or passive stormwater infiltration areas but not stormwater retention or detention structures." Without setback lines being shown for the proposed property line, it is difficult to ascertain whether or not this standard has been met.***

   Response: Per the Town of Damariscotta's Land Use Ordinance standards, a 15-foot side and rear setbacks and a 20-foot front setback are required. Property setback lines have been added on the revised Site Plan, attached to this submission.

2. ***Buffers Between Paved Areas: Sec. 102.6(B)(2)(b) notes that for parcels greater than 3 acres, a 30-foot minimum buffer strip must be retained from the property line to any parking/paved areas. For this purpose, the easterly property line (the new property line) near the proposed emergency access drive may need to be shifted, or a waiver must be requested.***

   Response: The Applicant would like to request a waiver from this standard with respect to the eastern (new) property line only. Although the intent is to divide the property, the uses proposed will be compatible and will share access along the new property line. Providing a 30ft buffer between the shared access drive and the new property line (by adjusting the line) would result in a very narrow strip of property between the Nursing Home parcel and the adjacent land to the east. Since this area is within a wetland drainageway that extends to either side of the property, it is unlikely that any future development would be practical. Further to the north, there will need to be a gap in the bufferyard to allow access onto the adjacent property.

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3. ***Lighting Color Temperature: Sec. 102.6(D)(4)(d) requires that all exterior lights are in the color range of 3000 to 2500 Kelvins or less. Some of the proposed lighting (type W3) appears to exceed these requirements. Please clarify or adjust proposed lighting as needed.***

   Response: The proposed light fixture design has been changed to a color of 3000K.

4. ***Lighting Criteria: Sec. 102.6(D)(4) provides lighting criteria for parking lots, intersections, and at property lines. The photometric plan submitted appears to show this criterion being exceeded along the westerly property line (near the service entrance). Please clarify or adjust proposed lighting as needed.***

   Response: A copy of the revised lighting plan is included with this submission. There is no light trespass over the western property boundary.

5. ***Mounting Height for Lighting: Sec. 102.6(D)(4)(e) states that the maximum height of the luminaire of freestanding or building-attached lights on properties or in parking areas shall not exceed 16 feet. This appears to be exceeded by some of the proposed lighting shown on the photometric plan. Please review and revise accordingly.***

   Response: The fixture mounting heights have been revised to meet this standard.

6. ***Snow Storage Solution: Sec. 102.6(L)(6) requires that the Board make findings related to snow storage on-site, specifically, that "snow storage sites shall allow adequate buffers between the sites and freshwater streams and wetlands to minimize the impact of salt and sand on freshwater ecosystems." Please show snow storage areas on the site plan (or provide an alternative to storing plowed snow on the site).***

   Response: Snow storage locations are shown on the revised plans included with this submission.

7. ***Native Plants: Sec. 102.7(E) requires that at least 75% of all vegetation proposed is native species. Please confirm.***

   Response: 75% of proposed vegetation is native or recommended per Appendix B of the Site Plan Review Ordinance, Native Plant Trust, Wild Seed Project and ME.gov. Native seed mixes are proposed to revegetate and naturalize disturbed areas. The few non-native plants proposed were specifically chosen for sensory characteristics such as fragrance, color or texture that would evoke memories of one's home environment.

ADVISORY TOWN PLANNER COMMENTS:

1. ***Night Lighting: Sec. 102.6(D)(5) notes that "during nighttime hours when the activity is not occurring, exterior lighting at all commercial and other non-residential properties, as a conditional of approval shall be required by the Board to be turned off." You should be aware of this requirement or request a waiver of this standard by providing information regarding the hours that lighting will be turned on, and the reasons for lighting at night, in order to justify the waiver.***

   Response: The proposed use will require that some lighting is provided to allow safe access to and from the building during night-time hours. It is not clear from the ordinance language whether this would be considered "activity occurring" as it is essential to the proposed use. The Applicant is prepared

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to investigate methods to safely reduce lighting around the perimeter of the lit area during hours when minimal pedestrian traffic is anticipated.

2. ***Fire Hydrants: You note that fire hydrants are provided on-site for additional fire suppression, though it is unclear from the plans where these are located or how many are proposed. Please clarify.***

   Response: A single fire hydrant was shown on the submitted drawings and has been labeled on the revised Site Plan. It is currently located opposite the main entrance to the building. We would be happy to discuss the location of the hydrant and/or the need for additional hydrants with the Fire Chief and will provide these as necessary to provide adequate external fire protection infrastructure to his satisfaction.

3. ***Traffic: Sec. 102.6(F) notes that "vehicular access to the site must be on roads which have adequate capacity to accommodate the MDOT Level of Service Process, even if it is a Town owned road. A development not meeting this requirement may be approved if the applicant demonstrates that: 1. A public agency [such as MDOT] has committed funds to construct the improvements necessary to bring the level of access to this standard as soon as possible or, 2. The applicant will assume financial responsibility for the improvements necessary to bring the level of service to this standard and will assure the completion of improvements as soon as possible, with a financial guarantee acceptable to the municipality" (emphasis added). To my knowledge, MDOT has not yet committed funds to either the short-term or long-term fix, and the Safety Score for School Street is currently rated F: Unacceptable by MDOT. What is the proposed solution to bring the access roads to compliance?***

   Response: It is our understanding from recent conversations between the project Traffic Engineer (Bill Bray, PE) and the Maine DOT Region 2 District Engineer (Dave Allen, PE), that Maine DOT has designed a short-term solution for the intersection of School Street and Route 1A. Furthermore, funding is in place for the proposed solution and implementation is scheduled for 2023. We also understand that the Maine DOT Safety Office will be providing more details on the proposed scheme directly to the town in the near future.

4. ***Parking: During the Planning Board's review of this pre-application, the members expressed interest in seeing available data related to the reasoning for 69 additional parking spaces over what is required in Ordinance. Given the Board's interest in low impact development and minimizing impervious surfaces, and the note in Sec. 102.6(H)(1) that "the objective is to provide neither more nor less parking spaces than is needed," I would advise that the requested data is provided in advance of the Planning Board's review.***

   Response: ARC has compiled parking data for all of the Sandy River/ North Country Associates nursing care center facilities within the State of Maine. The data compares the number of licensed beds versus the number of proposed parking spaces and how the parking needs fluctuate throughout a normal workday, but also includes parking needs during special events. A copy of the parking data is included with this submission.

5. ***Community Impact Assessment: While I understand that some of the standards under 102.7(H)(3)(b) appear to specifically address retail establishments, I would not recommend that the Planning Board entertain granting a waiver of this entire standard. It seems that there would be value in the community understanding (at minimum) the following potential impacts listed in this section: (H)(3)(b)(1): Types of jobs created; (H)(3)(b)(2): number of full-time and part-time jobs created; (H)(3)(b)(3): Market and financial feasibility of the project; (H)(3)(b)(7): Projected costs and benefits***

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www.arc-maine.com

to the Town resulting from the project. I would be more in favor of recommending a waiver to this section if the above were provided separately elsewhere within the application materials.

Response: The Applicant can provide additional information on the topics requested above in an addendum to the application but would like to discuss the exact content and format that will be considered acceptable. The new facility will provide significant property tax revenue to the town, without burden to the school system and is required to go through a rigorous Certificate of Need process with the State to prove the services are both necessary and provided in a viable manner. Information on these topics, supplemented with employment data can be provided to satisfy this request.

6. ***Sidewalks: Sec. 103.7(H)(7) gives the Planning Board the authority to require sidewalks in areas where significant pedestrian traffic is present or is anticipated in the future. The construction of sidewalks along School Street was identified as a priority in the 2015 Newcastle-Damariscotta Bicycle-Pedestrian Plan, and future connectivity is of importance to the community. Importantly, Coastal Rivers is planning a significant trail system across their adjacent parcel, and the nursing home is expected to be a major employment hub in town. At a minimum, sidewalks should be provided along the frontage of this parcel to allow for future connectivity to the trail system on the adjacent Coastal Rivers parcel from School Street.***

   Response: We would be happy to discuss the provision of expanded pedestrian infrastructure in and around the project site with the Planning Board and the town. However, this is somewhat complicated by the status of Piper Mill Road, which is currently privately owned, with access easements provided to each of the property owners thereon. These would need to be adjusted and a suitable legal framework provided to allow public access across private property while protecting the owners of the road from liability.

7. ***Pervious Pavement Location: The Stormwater Management Report that was submitted notes that pervious pavement is proposed on site. Can you please clarify the location of the pervious pavement and what percentage of the overall pavement on site is pervious?***

   Response: The pervious pavement sections are proposed at each side of the western fire lane that runs around the building. This is shown by hatching on the site plan, with a detail included on Sheet C-305.

ADVISORY FIRE DEPARTMENT COMMENTS:

8. ***Fire Hydrant Locations: I do not see where the proposed hydrants are to be located, please show on the Site Plan. If possible, we would like to see one towards the road near where the generator is located which would allow ideal access without concern for vehicles striking out hoses (as well as one near the entrance).***

   Response: A single fire hydrant was shown on the submitted drawings and has been labeled on the revised Site Plan. It is currently located opposite the main entrance to the building. We would be happy to discuss the location of the hydrant and/or the need for additional hydrants with the Fire Chief and will provide these as necessary to provide adequate external fire protection infrastructure to his satisfaction.

9. ***Sprinkler Hookup: We would like to have sprinkler hookup with a 4" Storz connection at the area on the map marked as where fire and water services enter the building. If the sprinkler room is in a different location, we would like to discuss where to best locate our FD connection.***

   Response: A sprinkler connection will be provided as requested in the service area adjacent to the water entrances.

Atlantic Resource Consultants
Engineering Strategies and Solutions

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Freeport, Maine 04032
Tel: 207.869.9050
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10. ***Knox Box: We would like to see a knox box installed on the building as construction nears completion. It should be about 4' off the ground and located to the right of the main entrance. The alarm panel read-out should be located in this area as well.***

    Response: This will be provided as requested. The exact location and details of the fire protection system will be developed and presented to the Fire Chief as the design moves forward. It should be noted that plans for the new facility will also be subject to review and approval through the State Fire Marshall's office.

Please do not hesitate to contact us if you have any additional questions or you require any additional information at this stage.

Regards,

Atlantic Resource Consultants, LLC
Andrew D. Johnston, PE, LEED AP, CEng, CEnv, MCIWEM
Principal

NORTH

RESIDENTIAL ZONE

C2 COMMERCIAL ZONE

RURAL ZONE

ZONE LINE (TYPICAL)

PROPERTY LINE

PROPERTY LINE SETBACK

100FT STREAM SETBACK

75FT STREAM SETBACK

WOOD GUARDRAIL (TYP.) - NOTE: MAY BE REPLACED WITH EMBEDDED BOULDERS AT WESTERN EDGE OF FIRE LANE

WESTERN ACCESS DRIVE AND FIRE LANE

RESIDENT COURTYARD- SEE LANDSCAPE PLANS

MAINTENANCE GARAGE

16FT WIDE PAVED, 2FT REINFORCED TURF EDGES - SEE SECTION

GATE

FENCE

BITUMINOUS PAVEMENT (TYPICAL)

DUMPSTER ENCLOSURE

WOOD GUARDRAIL

TRANSFORMER PAD

RETAINING WALL

SERVICE DRIVE

SNOW STORAGE (TYPICAL)

REMOVE 20FT OF EXISTING GUARDRAIL FOR NEW ENTRANCE

PRIMARY UNDERGROUND ELECTRIC SERVICE

PIPER MILL ROAD

NEW 8" WATER SERVICE TO SITE - TAP EXISTING MAIN PER GSBSD STANDARDS INSTALL GATE VALVE ON NEW SERVICE

SHED

5FT DRIP EDGE (TYPICAL

GENERATOR PAD

UNDERGROUND PROPANE TANKS

GREASE TRAP

GAS SERVICE TO BUILDING

FIRE AND DOMESTIC WATER SERVICES TO BUILDING

CONCRETE ENTRY PAD

NURSING HOME BUILDING FFE = 76.0'

BUILDING SEWER INV = 67.50' TBC

BUILDING SEWER INV = 66.50' TBC

GEN

6" REVEAL GRANITE CURB

TIPDOWN CURB TO FLUSH GRANITE

HYDRANT

LANDSCAPED ISLAND

SMH#1

FLUSH GRANITE CURB AND CONCRETE SIDEWALK

FLAGPOLE

INSTALL 8"X8" TEE FITTING AND 8" GATE VALVE

SLIPFORM CONCRETE CURB AND CONCRETE SIDEWALK (TYPICAL ALL ISLANDS)

BEGIN SLIPFORM CONCRETE CURB WITH TIPDOWN

INSTALL 4" DR11 HDPE FORCE MAIN TO SMH #2, CAP PIPE

SMH#2

WETLAND IMPACT (SQUARE HATCH) - 5885F

WETLAND IMPACT (SQUARE HATCH) - 1015F

MONUMENT SIGN

MAIN ENTRANCE DRIVE

SEE SHEET C-101B FOR SEWER CONTINUATION

SMH#3

5FT DRIP EDGE (TYPICAL

RESIDENT COURTYARD- SEE LANDSCAPE PLANS

RETAINING WALL WITH RAILING

WETLAND IMPACT (SQUARE HATCH) -13,816SF

STORMWATER BMP (TYPICAL) - SEE GRADING AND DRAINAGE SHEET

PROPOSED SUBDIVISION LINE

WOOD GUARDRAIL

BITUMINOUS SIDEWALK

INSTALL 8" GATE VALVE. EXTEND WATER MAIN ONE PIPE LENGTH AND TERMINATE IN MJ CAP AND THRUST BLOCK

EXTEND NEW 4" DR11 HDPE SEWER FORCE MAIN 6FT OFF EDGE OF PAVEMENT AND TERMINATE WITH CAP

END SLIPFORM CONCRETE CURB WITH TIPDOWN

5FT DRIP EDGE (TYPICAL

SHED

WOOD GUARDRAIL (TYP.)

EASTERN ACCESS DRIVE AND FIRE LANE

RETAINING WALL

FENCE

RESIDENT COURTYARD- SEE LANDSCAPE PLANS

FRESHWATER WETLAND (TYPICAL)

ISSUED FOR PERMITTING - NOT FOR CONSTRUCTION

CLIPPERSHIP SEWER SCHEDULE

I.D	RIM	INV IN	FROM	B/DROP	INV OUT	SIZE
GREASE TRAP	75.50	66.94	BLDG	N/A	66.69	2000
SMH#1	75.25	65.75	GT	N/A	65.65	4'ID
		65.98	BLDG	N/A		
SMH#2	71.20	62.63	SMH#1	N/A	62.53	4'ID
SMH#3	65.50	58.75	SMH#2	N/A	58.65	4'ID
SMH#4	65.25	58.11	SMH#3	N/A	58.01	4'ID
SMH#5	56.50	51.69	SMH#4	N/A	51.59	4'ID
SPS#1	54.75	49.59	SMH#5	N/A	50.00	4'ID

FROM	TO	LENGTH	SLOPE	U/S INV	D/S INV	SIZE
BLDG	GT	28	0.02	67.50	66.94	4"
GT	SMH#1	67	0.014	66.69	65.75	6"
BLDG	SMH#1	43	0.012	66.50	65.98	6"
SMH#1	SMH#2	252	0.012	65.65	62.63	6"
SMH#2	SMH#3	210	0.018	62.53	58.75	6"
SMH#3	SMH#4	30	0.018	58.65	58.11	6"
SMH#4	SMH#5	395	0.016	58.01	51.59	8"
SMH#5	SPS#1	154	0.013	51.59	49.59	8"

SUBSURFACE EXPLORATION NOTES:

1. INFORMATION ON TEST PITS TP-1 TO TP-28 SHOWN ON THIS PLAN CAN BE FOUND IN REPORT ENTITLED "EXPLORATIONS AND GEOTECHNICAL ENGINEERING SERVICES - PROPOSED SENIOR LIVING FACILITY, CLIPPERSHIP SITE, PIPER MILL ROAD, DAMARISCOTTA, MAINE, DATED APRIL 8, 2022.
2. INFORMATION ON STORMWATER TEST PITS SW TP-1 TO SW TP-9 SHOWN ON THIS PLAN CAN BE FOUND IN REPORT ENTITLED "SOIL DOCUMENTATION IN STORMWATER SYSTEMS REPORT PROPOSED CLIPPERSHIP LANDING, PIPER MILL ROAD, DAMARISCOTTA, MAINE, BY WATERSHED RESOURCE CONSULTANTS, LLC, DATED AUGUST 19, 2022.
3. INFORMATION ON WETLANDS SHOWN ON THIS PLAN CAN BE FOUND IN REPORT ENTITLED " CLIPPERSHIP LANDING NURSING HOME, DAMARISCOTTA, MAINE - SITE CONDITIONS REPORT BY ATLANTIC RESOURCE CONSULTANTS, LLC, DATED DECEMBER 2021

REV	DATE	DESCRIPTION
A	10/17/2022	REVISED PER TOWN COMMENTS

REVISIONS

STATE OF MAINE — ANDREW D. JOHNSTON — NO. 9994 — 9-9-22 — LICENSED PROFESSIONAL ENGINEER

P.E. ANDREW D. JOHNSTON

LIC. #9994

PROJECT:
CLIPPERSHIP LANDING NURSING HOME

PLAN:
DETAILED SITE & UTILITY PLAN

CLIENT:
CLIPPERSHIP LANDING DEVELOPMENT, LLC
PO BOX 9729, PORTLAND, ME 04101-5029

Atlantic Resource Consultants
541 US Route One
Freeport, ME 04032
Tel: 207.869.9050

DRAWN: AJ	DATE:
DESIGNED: AJ	SCALE: 1"=40'
CHECKED:	JOB NO. 21-025
FILE NAME:	
SHEET: C-101A	

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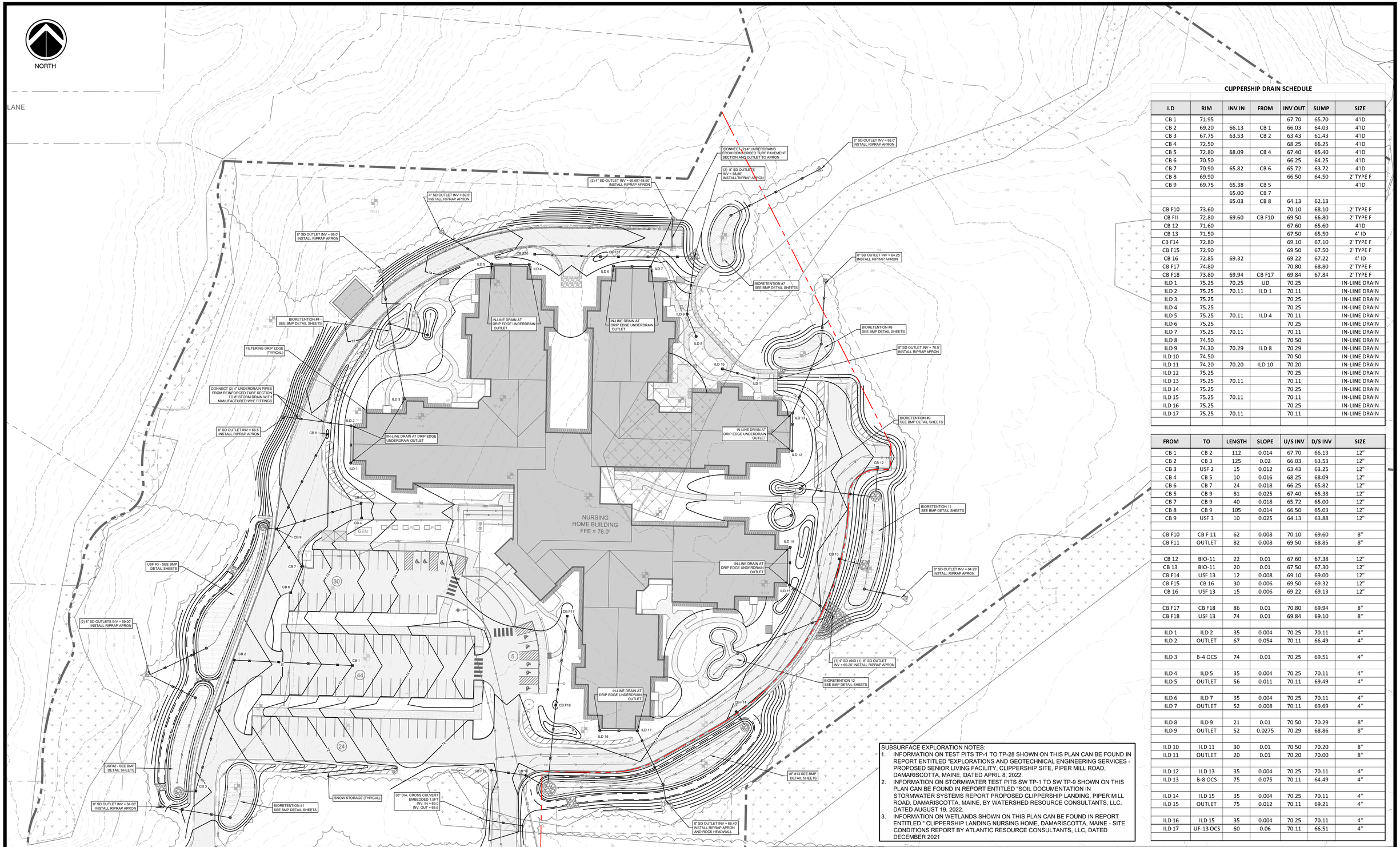

CLIPPERSHIP DRAIN SCHEDULE

I.D	RIM	INV IN	FROM	INV OUT	SUMP	SIZE
CB 1	71.95			67.70	65.70	4'ID
CB 2	69.20	66.13	CB 1	66.03	64.03	4'ID
CB 3	67.75	63.53	CB 2	63.43	61.43	4'ID
CB 4	72.50			68.25	66.25	4'ID
CB 5	72.80	68.09	CB 4	67.40	65.40	4'ID
CB 6	70.50			66.25	64.25	4'ID
CB 7	70.90	65.82	CB 6	65.72	63.72	4'ID
CB 8	69.90			66.50	64.50	2' TYPE F
CB 9	69.75	65.38	CB 5			4'ID
		65.00	CB 7			
		65.03	CB 8	64.13	62.13	
CB F10	73.60			70.10	68.10	2' TYPE F
CB FII	72.80	69.60	CB F10	69.50	66.80	2' TYPE F
CB 12	71.60			67.60	65.60	4'ID
CB 13	71.50			67.50	65.50	4' ID
CB F14	72.80			69.10	67.10	2' TYPE F
CB F15	72.90			69.50	67.50	2' TYPE F
CB 16	72.85	69.32		69.22	67.22	4' ID
CB F17	74.80			70.80	68.80	2' TYPE F
CB F18	73.80	69.94	CB F17	69.84	67.84	2' TYPE F
ILD 1	75.25	70.25	UD	70.25		IN-LINE DRAIN
ILD 2	75.25	70.11	ILD 1	70.11		IN-LINE DRAIN
ILD 3	75.25			70.25		IN-LINE DRAIN
ILD 4	75.25			70.25		IN-LINE DRAIN
ILD 5	75.25	70.11	ILD 4	70.11		IN-LINE DRAIN
ILD 6	75.25			70.25		IN-LINE DRAIN
ILD 7	75.25	70.11		70.11		IN-LINE DRAIN
ILD 8	74.50			70.50		IN-LINE DRAIN
ILD 9	74.30	70.29	ILD 8	70.29		IN-LINE DRAIN
ILD 10	74.50			70.50		IN-LINE DRAIN
ILD 11	74.20	70.20	ILD 10	70.20		IN-LINE DRAIN
ILD 12	75.25			70.25		IN-LINE DRAIN
ILD 13	75.25	70.11		70.11		IN-LINE DRAIN
ILD 14	75.25			70.25		IN-LINE DRAIN
ILD 15	75.25	70.11		70.11		IN-LINE DRAIN
ILD 16	75.25			70.25		IN-LINE DRAIN
ILD 17	75.25	70.11		70.11		IN-LINE DRAIN

FROM	TO	LENGTH	SLOPE	U/S INV	D/S INV	SIZE
CB 1	CB 2	112	0.014	67.70	66.13	12"
CB 2	CB 3	125	0.02	66.03	63.53	12"
CB 3	USF 2	15	0.012	63.43	63.25	12"
CB 4	CB 5	10	0.016	68.25	68.09	12"
CB 6	CB 7	24	0.018	66.25	65.82	12"
CB 5	CB 9	81	0.025	67.40	65.38	12"
CB 7	CB 9	40	0.018	65.72	65.00	12"
CB 8	CB 9	105	0.014	66.50	65.03	12"
CB 9	USF 3	10	0.025	64.13	63.88	12"
CB F10	CB F 11	62	0.008	70.10	69.60	8"
CB F11	OUTLET	82	0.008	69.50	68.85	8"
CB 12	BIO-11	22	0.01	67.60	67.38	12"
CB 13	BIO-11	20	0.01	67.50	67.30	12"
CB F14	USF 13	12	0.008	69.10	69.00	12"
CB F15	CB 16	30	0.006	69.50	69.32	12"
CB 16	USF 13	15	0.006	69.22	69.13	12"
CB F17	CB F18	86	0.01	70.80	69.94	8"
CB F18	USF 13	74	0.01	69.84	69.10	8"
ILD 1	ILD 2	35	0.004	70.25	70.11	4"
ILD 2	OUTLET	67	0.054	70.11	66.49	4"
ILD 3	B-4 OCS	74	0.01	70.25	69.51	4"
ILD 4	ILD 5	35	0.004	70.25	70.11	4"
ILD 5	OUTLET	56	0.011	70.11	69.49	4"
ILD 6	ILD 7	35	0.004	70.25	70.11	4"
ILD 7	OUTLET	52	0.008	70.11	69.69	4"
ILD 8	ILD 9	21	0.01	70.50	70.29	8"
ILD 9	OUTLET	52	0.0275	70.29	68.86	8"
ILD 10	ILD 11	30	0.01	70.50	70.20	8"
ILD 11	OUTLET	20	0.01	70.20	70.00	8"
ILD 12	ILD 13	35	0.004	70.25	70.11	4"
ILD 13	B-8 OCS	75	0.075	70.11	64.49	4"
ILD 14	ILD 15	35	0.004	70.25	70.11	4"
ILD 15	OUTLET	75	0.012	70.11	69.21	4"
ILD 16	ILD 15	35	0.004	70.25	70.11	4"
ILD 17	UF-13 OCS	60	0.06	70.11	66.51	4"

SUBSURFACE EXPLORATION NOTES:

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2. INFORMATION ON STORMWATER TEST PITS SW TP-1 TO SW TP-9 SHOWN ON THIS PLAN CAN BE FOUND IN REPORT ENTITLED "SOIL DOCUMENTATION IN STORMWATER SYSTEMS REPORT PROPOSED CLIPPERSHIP LANDING, PIPER MILL ROAD, DAMARISCOTTA, MAINE, BY WATERSHED RESOURCE CONSULTANTS, LLC, DATED AUGUST 19, 2022.
3. INFORMATION ON WETLANDS SHOWN ON THIS PLAN CAN BE FOUND IN REPORT ENTITLED " CLIPPERSHIP LANDING NURSING HOME, DAMARISCOTTA, MAINE - SITE CONDITIONS REPORT BY ATLANTIC RESOURCE CONSULTANTS, LLC, DATED DECEMBER 2021

ISSUED FOR PERMITTING - NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION
A	10/17/2022	REVISED PER TOWN COMMENTS

REVISIONS

STATE OF MAINE ANDREW D. JOHNSTON NO. 9994 9-19-23 LICENSED PROFESSIONAL ENGINEER

P.E. ANDREW D. JOHNSTON

LIC. #9994

PROJECT: CLIPPERSHIP LANDING NURSING HOME

PLAN: GRADING & DRAINAGE PLAN

CLIENT: CLIPPERSHIP LANDING DEVELOPMENT, LLC PO BOX 9729, PORTLAND, ME 04101-5029

Atlantic Resource Consultants
541 US Route One
Freeport, ME 04032
Tel: 207.869.9050

DRAWN: AJ	DATE:
DESIGNED: AJ	SCALE: 1"=40'
CHECKED:	JOB NO. 21-025
FILE NAME:	
SHEET: C-102	

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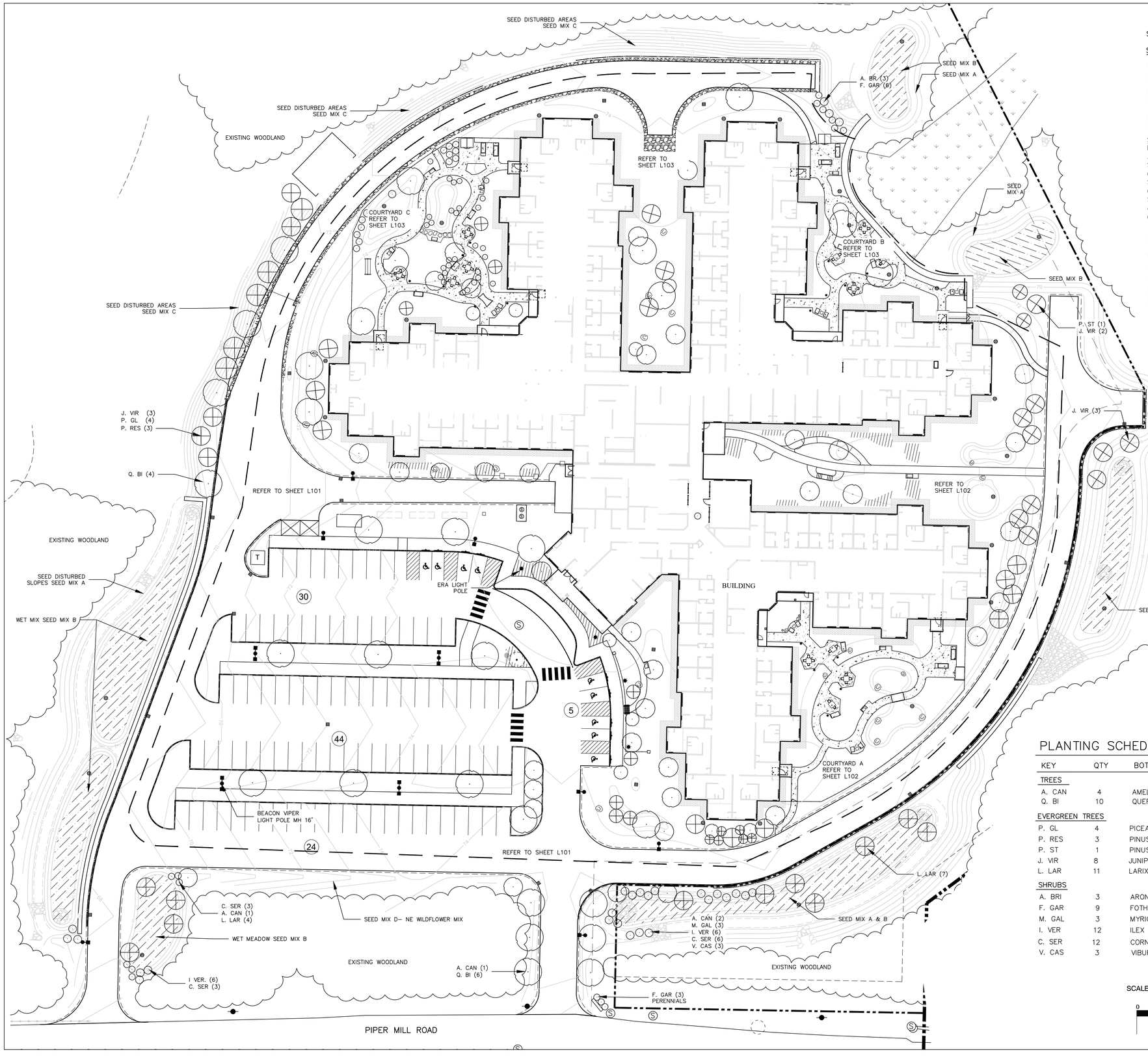


SEED MIX A & B FOR USE IN BIORETENTION BASINS.

SEED MIX A– BIORETENTION BASIN SIDE SLOPES

NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR MOIST SITES
APPLICATION RATE: 1#/1250 SF
SPECIES: Riverbank Wild Rye (Elymus riparius), Creeping Red Fescue (Festuca rubra), Little Bluestem (Schizachyrium scoparium), Big Bluestem (Andropogon gerardii), Switch Grass (Panicum virgatum), Upland Bentgrass (Agrostis perennans), Nodding Bur Marigold (Bidens cernua), Hollow–Stem Joe Pye Weed (Eupatorium fistulosum/Eutrochium fistulosum), New England Aster (Aster novae–angliae), Boneset (Eupatorium perfoliatum), Blue Vervain (Verbena hastata), Soft Rush (Juncus effusus), Wool Grass (Scirpus cyperinus).

SEED MIX B– BIORETENTION BASIN
NEW ENGLAND WET MIX
APPLICATION RATE: 1#/2500 SF
SPECIES: Fox Sedge (Carex vulpinoidea), Lurid Sedge (Carex lurida), Blunt Broom Sedge (Carex scoparia), Blue Vervain (Verbena hastata), Fowl Bluegrass (Poa palustris), Hop Sedge (Carex lupulina), Green Bulrush (Scirpus atrovirens), Creeping Spike Rush (Eleocharis palustris), Fringed Sedge (Carex crinita), Soft Rush (Juncus effusus), Spotted Joe Pye Weed (Eupatorium maculatum), Rattlesnake Grass (Glyceria canadensis), Swamp aster (Aster puniceus), Blueflag (Iris versicolor), Swamp Milkweed (Asclepias incarnata), Square stemmed Monkey Flower (Mimulus ringens).

SEED MIX C

NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DRY SITES
APPLICATION RATE: 35 lb/acre | 1250 sq ft/lb

SPECIES: Red Fescue (Festuca rubra), Canada Wild Rye (Elymus canadensis), Annual Ryegrass (Lolium multiflorum), Perennial Ryegrass (Lolium perenne), Little Bluestem (Schizachyrium scoparium), Indian Grass (Sorghastrum nutans), Switch Grass (Panicum virgatum), Upland Bentgrass (Agrostis perennans).

SEED MIX D

NEW ENGLAND WILDFLOWER MIX
APPLICATION RATE: 23 lb/acre | 1900 sq ft/lb

SPECIES: Little Bluestem (Schizachyrium scoparium), Red Fescue (Festuca rubra), Indian Grass (Sorghastrum nutans), Partridge Pea (Chamaecrista fasciculata), Canada Wild Rye (Elymus canadensis), Virginia Wild Rye (Elymus virginicus), Blue Vervain (Verbena hastata), Butterfly Milkweed (Asclepias tuberosa), Narrowleafed Blue Eyed Grass (Sisyrinchium angustifolium), Black Eyed Susan (Rudbeckia hirta), New England Aster (Symphyotrichum novae–angliae), Spiked Gayfeather/ Marsh Blazing Star (Liatris spicata), Starved/Calico Aster (Aster lateriflorus/Symphyotrichum lateriflorum), Early Goldenrod (Solidago juncea), Hollow–Stem Joe Pye Weed (Eupatorium fistulosum/Eutrochium fistulosum)

PLANTING SCHEDULE

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE
TREES				
A. CAN	4	AMELANCHIER CANADENSIS	AUTUMN BRILLIANCE SHAD	7'–8' CLUMP
Q. BI	10	QUERCUS BICOLOR	SWAMP WHITE OAK	2.5" CAL
EVERGREEN TREES				
P. GL	4	PICEA GLAUCA	WHITE SPRUCE	6'–7' HT
P. RES	3	PINUS RESINOSA	RED PINE	6'–7' HT
P. ST	1	PINUS STROBUS	WHITE PINE	6'–7' HT
J. VIR	8	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	6'–7' HT
L. LAR	11	LARIX LARICINA	AMERICAN LARCH	6 6'–7' HT 5 5'–6' HT
SHRUBS				
A. BRI	3	ARONIA ARBUTIFOLIA 'BRILLIANTISSIMA'	RED CHOKEBERRY	#3
F. GAR	9	FOTHERGILLA GARDENII	FOTHERGILLA	#3
M. GAL	3	MYRICA GALE	BAYBERRY	#3
I. VER	12	ILEX VERTICILLATA VAR	WINTERBERRY MIX	#3
C. SER	12	CORNUS SERICEA 'BAILEYI"	RED TWIG DOGWOOD	#3
V. CAS	3	VIBURNUM CASSINOIDES	WITHEROD VIBURNUM	#3

SCALE 1"=30'

0 10 20 30 60 ft.

NORTH

PREPARED BY:

Sashie Misner Landscape Architecture LLC
www.landandplay.com | 207-406-0734

LICENSED LANDSCAPE ARCHITECT
SARAH E. MISNER
No. 3657
STATE OF MAINE

29 BLACK POINT ROAD
SCARBOROUGH, MAINE 04074
207-883-6307
WWW.GAWRONTURGEON.COM

GAWRON TURGEON ARCHITECTS, PC

CLIPPERSHIP LANDING
SANDY RIVER
DAMARISCOTTA, MAINE

REVISIONS

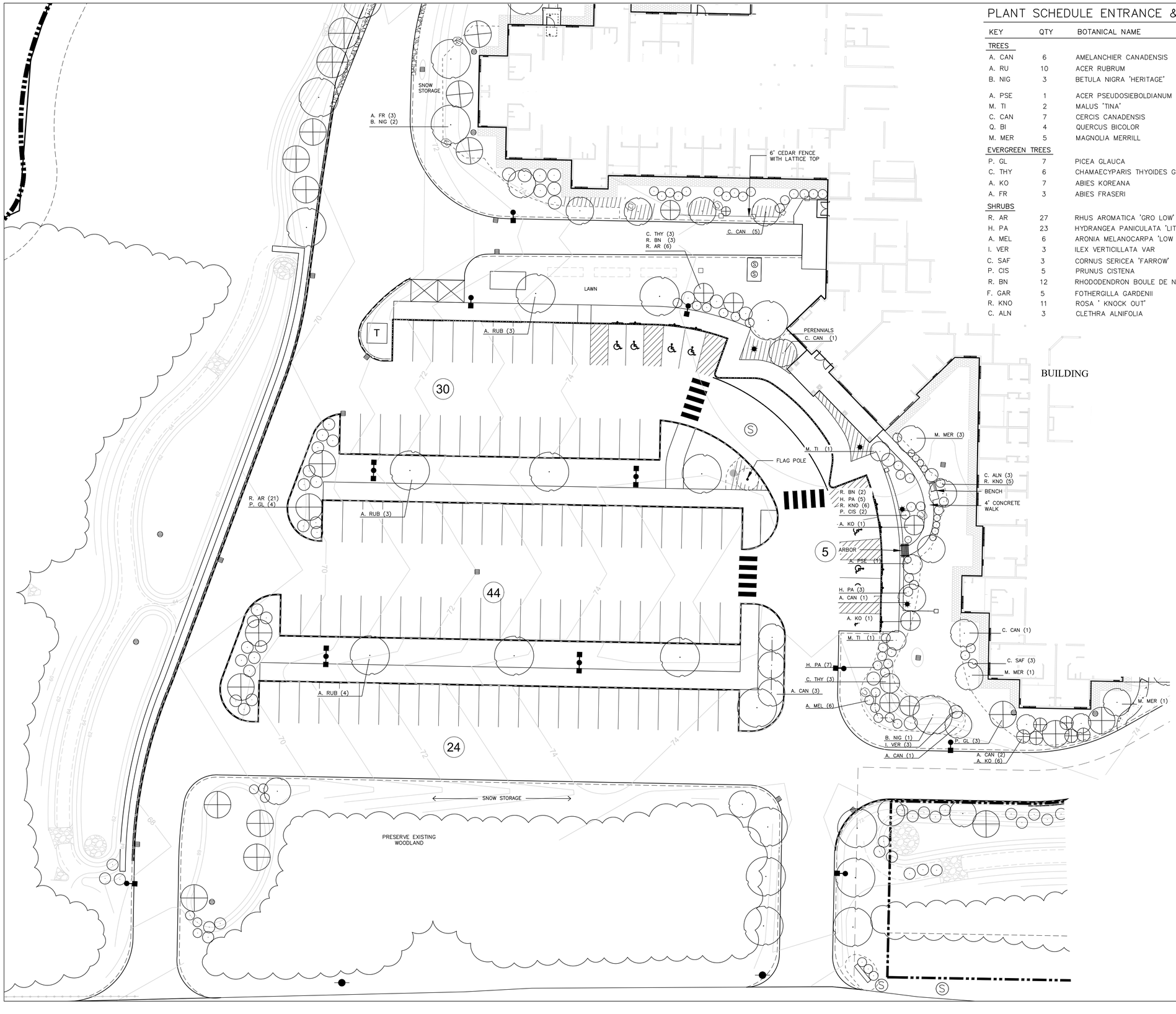
#	DATE	DESCRIPTION
1	10-17-22	Per Planner Comments

DATE:	09-15-22
PROJECT #	2206
DRAWN BY:	
CHECKED BY:	
DRAWING SCALE	

NOT FOR CONSTRUCTION

OVERALL PLANTING PLAN

L100



PLANT SCHEDULE ENTRANCE & PARKING LOT

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE
TREES				
A. CAN	6	AMELANCHIER CANADENSIS	AUTUMN BRILLIANCE SHAD	7'–8' CLUMP
A. RU	10	ACER RUBRUM	RED MAPLE	2.5" CAL
B. NIG	3	BETULA NIGRA 'HERITAGE'	RIVER BIRCH	7'–8' CLUMP
A. PSE	1	ACER PSEUDOSIEBOLDIANUM 'NORTH WIND'	NORTH WIND KOREAN MAPLE	5'–6 HT'
M. TI	2	MALUS 'TINA'	TINA CRABAPPLE	1.75" CAL
C. CAN	7	CERCIS CANADENSIS	RED BUD	7'–8' CLUMP
Q. BI	4	QUERCUS BICOLOR	SWAMP WHITE OAK	2.5" CAL
M. MER	5	MAGNOLIA MERRILL	MERRILL MAGNOLIA	1.5" CAL
EVERGREEN TREES				
P. GL	7	PICEA GLAUCA	WHITE SPRUCE	6'–7' HT
C. THY	6	CHAMAECYPARIS THYOIDES GLAUCA	COASTAL CEDAR	6'–7' HT
A. KO	7	ABIES KOREANA	KOREAN FIR	6'–7' HT
A. FR	3	ABIES FRASERI	FRASER FIR	6'–7' HT
SHRUBS				
R. AR	27	RHUS AROMATICA 'GRO LOW'	GRO LOW SUMAC	#3
H. PA	23	HYDRANGEA PANICULATA 'LITTLE QUICKFIRE'	LITTLE QUICKFIRE HYD	#3
A. MEL	6	ARONIA MELANOCARPA 'LOW SCAPE'	LOW SCAPE MOUND CHOKECHERRY	#3
I. VER	3	ILEX VERTICILLATA VAR	WINTERBERRY MIX	#3
C. SAF	3	CORNUS SERICEA 'FARROW'	ARCTIC FIRE RED DOGWOOD	#3
P. CIS	5	PRUNUS CISTENA	PURPLE SANDCHERRY	#3
R. BN	12	RHODODENDRON BOULE DE NEIGE	RHODODENDRON	#3
F. GAR	5	FOTHERGILLA GARDENII	FOTHERGILLA	#3
R. KNO	11	ROSA ' KNOCK OUT'	KNOCK OUT ROSE	#3
C. ALN	3	CLETHRA ALNIFOLIA	SUMMERSWEET	#3

NORTH

SCALE 1"=20'

0 10 20 40 ft.

PREPARED BY:

Sashie Misner Landscape Architecture LLC
www.landandplay.com | 207-406-0734

LICENSED LANDSCAPE ARCHITECT
SARAH E. MISNER
No. 3657
STATE OF MAINE

29 BLACK POINT ROAD
SCARBOROUGH, MAINE 04074
207-883-6307
WWW.GAWRONTURGEON.COM

GAWRON TURGEON ARCHITECTS, PC

CLIPPERSHIP LANDING
SANDY RIVER
DAMARISCOTTA, MAINE

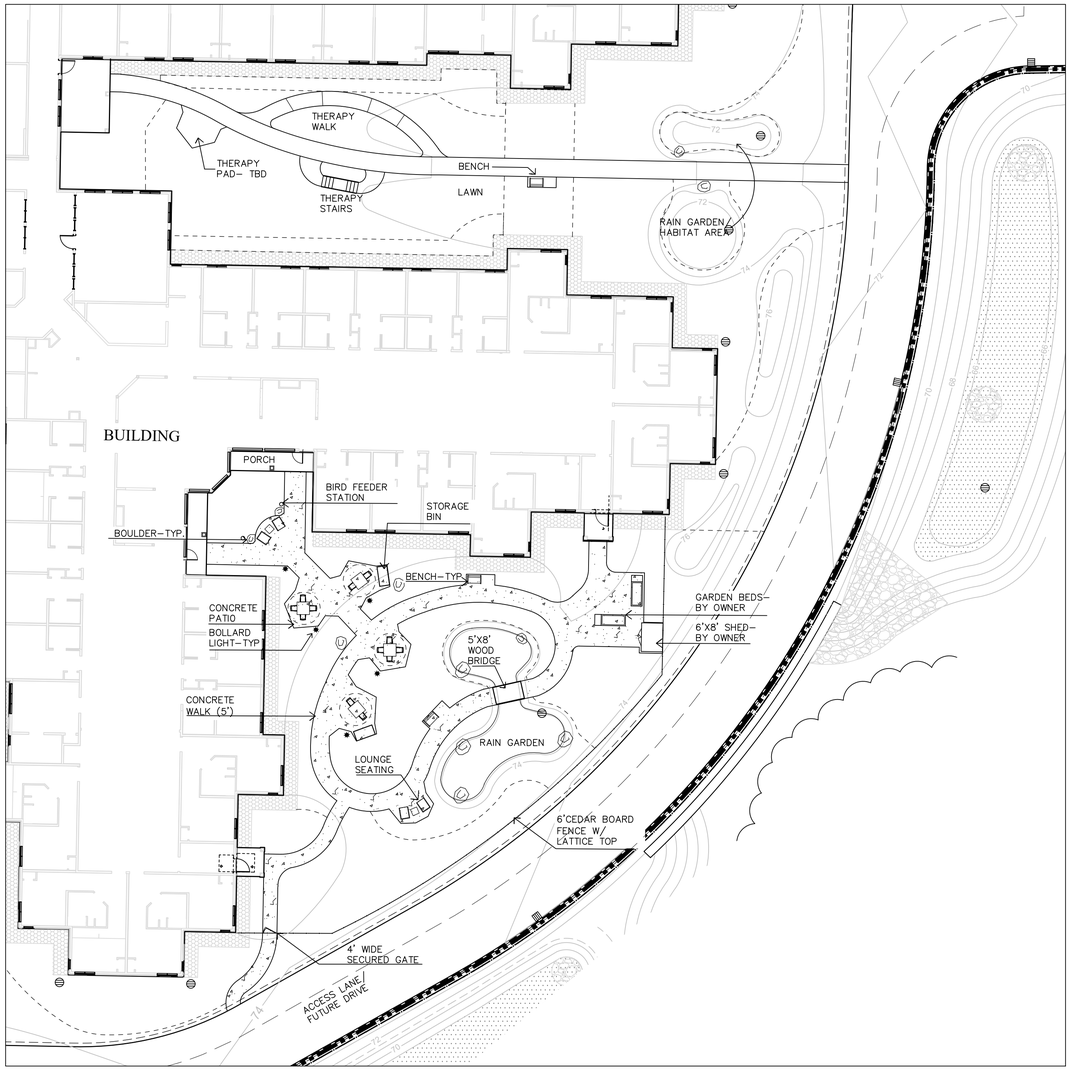
REVISIONS		
#	DATE	DESCRIPTION
1	10-17-22	Per Planner Comments

DATE:	09-15-22
PROJECT #	2206
DRAWN BY:	
CHECKED BY:	
DRAWING SCALE	

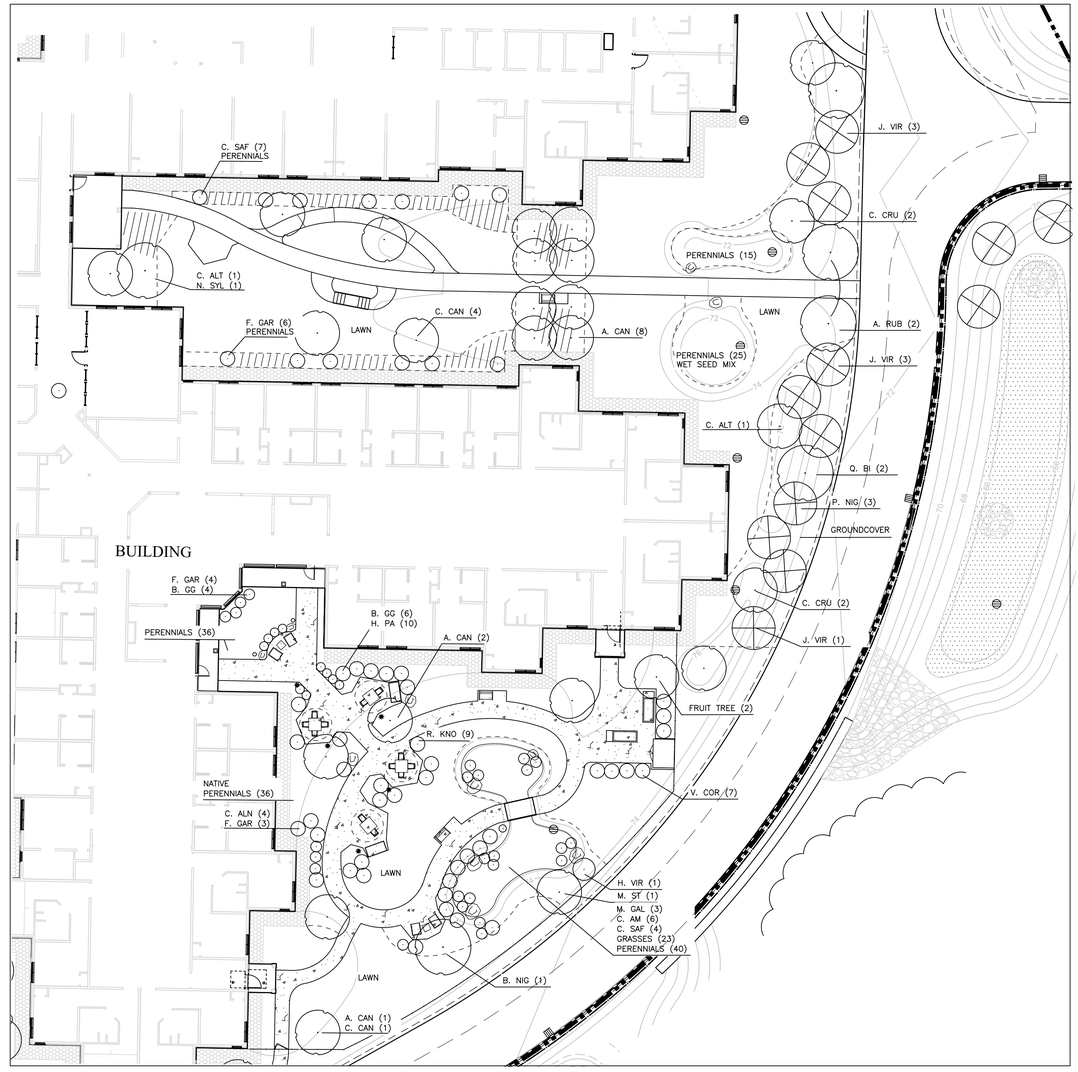
NOT FOR CONSTRUCTION

ENTRANCE PLANTING PLAN

L101



ENLARGEMENT COURTYARD A
LAYOUT PLAN



ENLARGEMENT COURTYARD A
PLANTING PLAN

PLANT LIST COURTYARD A

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE
TREES				
A. CAN	11	AMELANCHIER CANADENSIS	AUTUMN BRILLIANCE SHAD	7'–8' CLUMP
A. RUB	2	ACER RUBRUM	RED MAPLE	2.5" CAL
B. NIG	1	BETULA NIGRA 'HERITAGE'	RIVER BIRCH	7'–8' CLUMP
Q. BI	2	QUERCUS BICOLOR	SWAMP WHITE OAK	2.5" CAL
C. ALT	2	CORNUS ALTERNIFOLIA	PAGODA DOGWOOD	7'–8' HT
C. CAN	5	CERCIS CANADENSIS	RED BUD	1.5" CAL
M. ST	1	MAGNOLIA STELLATA	STAR MAGNOLIA	#7
C. CRU	4	CRATAEGUS CRUSGALLI	THORNLESS HAWTHORN	2.5" CAL
N. SYL	1	NYSSA SYLVATICA	BLACK TUPELO	2.5" CAL
EVERGREEN TREES				
P. NIG	3	PINUS NIGRA	AUSTRIAN PINE	6'–7' HT
J. VIR	7	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	6'–7' HT
SHRUBS				
H. PA	10	HYDRANGEA PANICULATA 'LITTLE QUICKFIRE'	LITTLE QUICKFIRE HYD	#3
B. GG	10	BUXUS 'GREEN GEM'	GREEN GEM BOXWOOD	#3
H. VIR	1	HAMAMELIS 'ARNOLDS PROMISE'	WITCHHAZEL	#3
C. SAF	11	CORNUS SERICEA 'FARROW'	ARCTIC FIRE RED DOGWOOD	#3
M. GAL	3	MYRICA GALE	BAYBERRY	#3
V. COR	7	VACCINIUM CORYMBOSUM	HIGHBUSH BLUEBERRY VAR.	#3
C. AM	6	CEANOTHUS AMERICANUS	NEW JERSEY TEA TREE	#3
R. KNO	11	ROSA ' KNOCK OUT'	KNOCK OUT ROSE	#3
C. ALN	4	CLETHRA ALNIFOLIA	SUMMERSWEET	#3
F. GAR	13	FOTHERGILLA GARDENII	DWARF BOTTLEBRUSH	#3

SCALE 1"=20'

0 10 20 40 ft.

NORTH

PREPARED BY:

Sashie Misner Landscape Architecture LLC
www.landandplay.com | 207-406-0734

LICENSED LANDSCAPE ARCHITECT
SARAH E. MISNER
No. 3657
STATE OF MAINE

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207-883-6307
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GAWRON TURGEON ARCHITECTS, PC

CLIPPERSHIP LANDING
. . . . . .
SANDY RIVER
DAMARISCOTTA, MAINE

REVISIONS

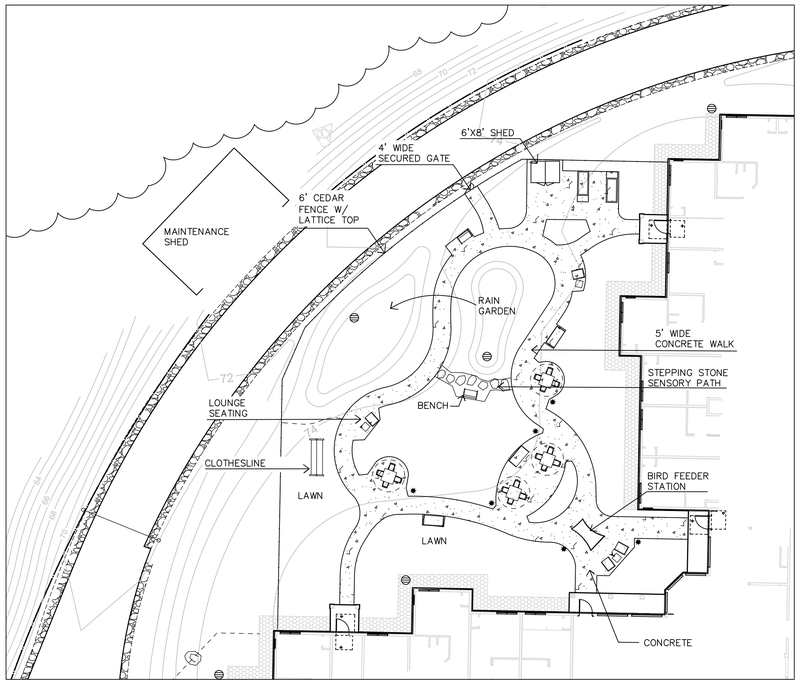
#	DATE	DESCRIPTION
1	10-17-22	Per Planner Comments

DATE:	09-15-22
PROJECT #	2206
DRAWN BY:	SEM
CHECKED BY:	
DRAWING SCALE	1" = 20'

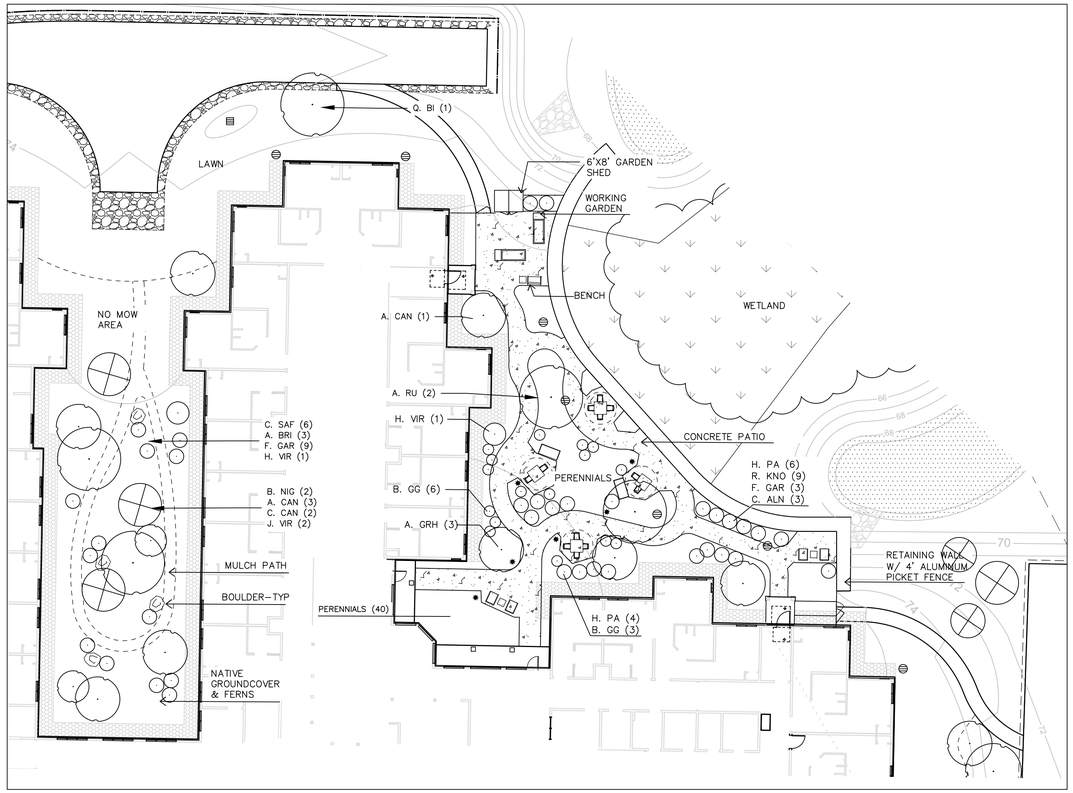
NOT FOR CONSTRUCTION

PLANTING PLAN COURTYARD A

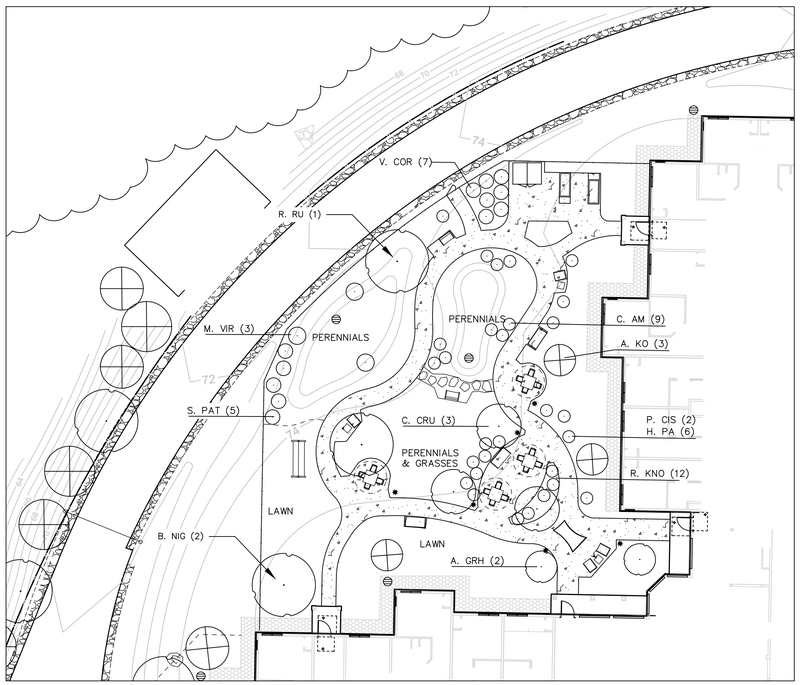
L102



ENLARGEMENT COURTYARD C
(MEMORY CARE)



ENLARGEMENT COURTYARD B



ENLARGEMENT COURTYARD C PLANTING PLAN
(MEMORY CARE)

PLANTING SCHEDULE– SHEET L103

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE
TREES				
A. CAN	4	AMELANCHIER CANADENSIS	AUTUMN BRILLIANCE SHAD	7'–8' CLUMP
Q. BI	1	QUERCUS BICOLOR	SWAMP WHITE OAK	2.5" CAL
A. GRH	5	AMELANCHIER GRANDIFLORA ROBIN HILL	ROBIN HILL SINGLE STEM SHAD	1.5" CAL
A. RU	3	ACER RUBRUM	RED MAPLE	2.5" CAL
B. NIG	1	BETULA NIGRA 'HERITAGE'	RIVER BIRCH	7'–8' CLUMP
C. CAN	2	CERCIS CANADENSIS	REDBUD	7'–8'
C. CRU	3	CRATAEGUS CRUSGALLI	THORNLESS HAWTHORN	2.5" CAL
EVERGREEN TREES				
A. KO	3	ABIES KOREANA	KOREAN FIR	6'–7' HT
J. VIR	2	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	6'–7' HT
SHRUBS				
A. BRI	3	ARONIA ARBUTIFOLIA 'BRILLIANTISSIMA'	RED CHOKEBERRY	#3
F. GAR	12	FOTHERGILLA GARDENII	FOTHERGILLA	#3
C. AM	9	CEANOTHUS AMERICANUS	NEW JERSEY TEA	#3
M. VIR	3	MAGNOLIA VIRGINIANA	SWEET BAY MAGNOLIA	#3
C. ALN	3	CLETHRA ALNIFOLIA	SUMMERSWEET	#3
H. VIR	2	HAMAMELIS VERNALIS ARTHURS PROMISE	ARTHURS PROMISE WITCHHAZEL	#3
S. PAT	5	SYRINGA PATULA 'MISS KIM'	LILAC	#3
P. CIS	2	PRUNUS CISTENA	PURPLE SANDCHERRY	#3
B. GG	9	BUXUS 'GREEN GEM'	BOXWOOD	#3
C. SAF	6	CORNUS SERICEA 'FARROW'	ARCTIC FIRE RED DOGWOOD	#3
V. COR	5	VACCINIUM CORYMBOSUM BERKELY & BLUE	HIGHBUSH BLUEBERRY POLLINATOR MIX	#3
H. PA	16	HYDRANGEA PANICULATA 'LITTLE QUICKFIRE'	LITTLE QUICKFIRE HYD	#3
R. KNO	21	ROSA ' KNOCK OUT'	KNOCK OUT ROSE	#3

*NOTES:

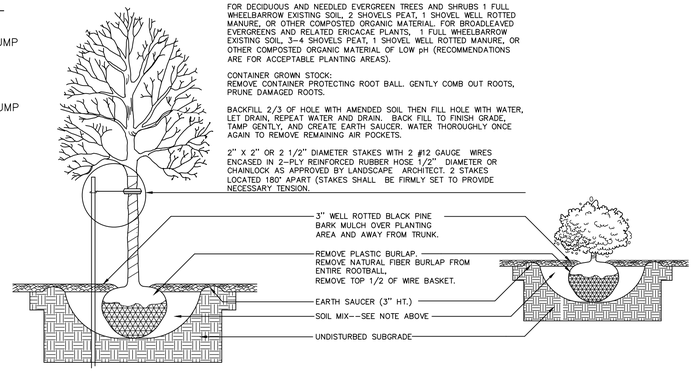
DIG HOLE AT LEAST 2 TIMES THE WIDTH OF ROOT BALL AND AS DEEP AS THE ROOT BALL (NO DEEPER). SET ROOT BALL CENTERED, WITH TOP AT GROUND LEVEL OR SLIGHTLY HIGHER. CORRECT HOLE DEPTH AS NEEDED.

FOR DECIDUOUS AND NEEDLED EVERGREEN TREES AND SHRUBS 1 FULL WHEELBARROW EXISTING SOIL, 2 SHOVELS PEAT, 1 SHOVEL WELL ROTTED MANURE, OR OTHER COMPOSTED ORGANIC MATERIAL. FOR BROADLEAVED EVERGREENS AND RELATED ERICACAE PLANTS, 1 FULL WHEELBARROW EXISTING SOIL, 3–4 SHOVELS PEAT, 1 SHOVEL WELL ROTTED MANURE, OR OTHER COMPOSTED ORGANIC MATERIAL OF LOW pH (RECOMMENDATIONS ARE FOR ACCEPTABLE PLANTING AREAS).

CONTAINER GROWN STOCK:
REMOVE CONTAINER PROTECTING ROOT BALL. GENTLY COMB OUT ROOTS, PRUNE DAMAGED ROOTS.

BACKFILL 2/3 OF HOLE WITH AMENDED SOIL THEN FILL HOLE WITH WATER, LET DRAIN, REPEAT WATER AND DRAIN. BACK FILL TO FINISH GRADE, TAMP GENTLY, AND CREATE EARTH SAUCER. WATER THOROUGHLY ONCE AGAIN TO REMOVE REMAINING AIR POCKETS.

2" X 2" OR 2 1/2" DIAMETER STAKES WITH 2 #12 GAUGE WIRES ENCASED IN 2-PLY REINFORCED RUBBER HOSE 1/2" DIAMETER OR CHAINLOCK AS APPROVED BY LANDSCAPE ARCHITECT. 2 STAKES LOCATED 180° APART (STAKES SHALL BE FIRMLY SET TO PROVIDE NECESSARY TENSION.



1 / L103 TREE AND SHRUB INSTALLATION
NOT TO SCALE

SCALE 1"=20'

0 10 20 40 ft.

NORTH

PREPARED BY:

Sashie Misner Landscape Architecture LLC
www.landandplay.com | 207-406-0734

LICENSED LANDSCAPE ARCHITECT
SARAH E. MISNER
No. 3657
STATE OF MAINE

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207-883-6307
WWW.GAWRONTURGEON.COM

GAWRON TURGEON ARCHITECTS, PC

CLIPPERSHIP LANDING
SANDY RIVER
DAMARISCOTTA, MAINE

REVISIONS		
#	DATE	DESCRIPTION
1	10-17-22	Per Planner Comments

DATE:	09-15-22
PROJECT #	2206
DRAWN BY:	SEM
CHECKED BY:	
DRAWING SCALE	1" = 20'

NOT FOR CONSTRUCTION

PLANTING PLAN COURTYARDS C & B

L103

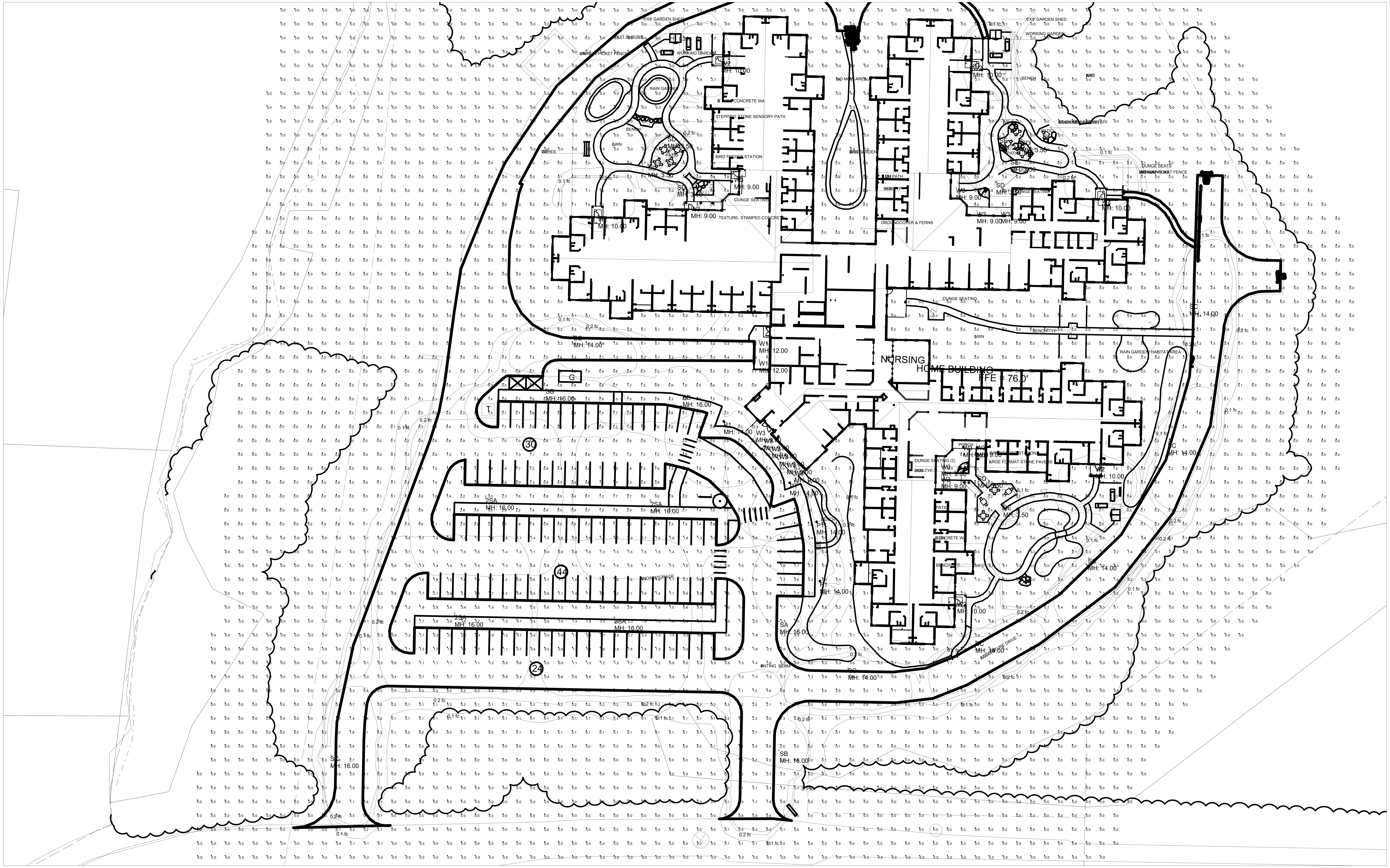
Luminaire Schedule (note fixture catalogue numbers are not complete)

Type	Qty	Lum. Lumens	LLF	Lum. Watts	Mounting Height	Description
2SA	4	8085	0.900	83.6	16	TWIN - VP-1-36L-85-3K7-4W
P1	4	4346	0.900	67	14	LEx194E35-60L3K-NFO
SA	1	8085	0.900	83.6	16	VP-1-36L-85-3K7-4W
SB	3	9214	0.900	83.6	16	VP-1-36L-85-3K7-3
SC	7	4650	0.900	55	14, 16	VP-S-36L-65-3K7-3-BC
SD	6	684	0.900	14	3.5	PA7R-NU3HS-12L-010-3K7
SE	3	908	0.900	14	3.5	PA7R-NU5-12L-010-3K7
W1	2	2364	0.900	16.85	12	SRT1-15-3K7-5C-UNV
W2	6	2369	0.900	19.9	10	GEO1-24L-20-3K7-4-UNV-DBT
W3	15	1750	0.880	15.198	9	LFR-4RD-M-20L30K8XW-DM1_ LFR-4RD-T-CL-SS

Calculation Summary

Label	Avg	Max	Min	Avg/Min	Max/Min
SITE	0.37	21.8	0.0	N.A.	N.A.

NOTES:
1) EXACT MOUNTING DETAILS TO BE DETERMINED AT JOBSITE BY OTHERS.
2) CALCULATIONS MAY or MAY NOT SHOW THE EFFECT OF SHADOWING CAUSED BY BUILDINGS AND OBJECTS WITHIN THE CALCULATED SPACE OR IN THE SITE AREA.
3) READINGS SHOWN ARE INITIAL HORIZONTAL FOOTCANDLES ON A FLAT SITE WITHOUT REFLECTIONS OR OBSTRUCTIONS UNLESS OTHERWISE INDICATED.
4) THIS CALCULATION IS BASED ON LIMITED INFORMATION SUPPLIED BY OTHERS TO SWANEY LIGHTING ASSOCIATES AND STANDARD ASSUMPTIONS OF THE SPACE AND/OR SITE.
5) CONFORMANCE TO CODES AND OTHER LOCAL REQUIREMENTS AS DETERMINED BY THE AHJ ARE THE RESPONSIBILITY OF THE OWNER AND/OR THE OWNER'S REPRESENTATIVE.
6) THIS LAYOUT DRAWING MUST BE COORDINATED WITH THE SITE LOCATION FOR CORRECT FIXTURE ORIENTATION.
7) 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.



PLAN VIEW

TITLE

CLIPPERSHIP LANDING
DAMARISCOTTA, ME
SITE LIGHTING LAYOUT

Date:10/12/2022

GENERATED FOR:
SASHIE MISNER
LAND AND PLAY

SCALE NOT TO SCALE

Page 1 of 1

GENERATED BY SWANEY LIGHTING, SCARBOROUGH ME - 207-883-7100 - swaneylighting.com

site ltg 10-12-22.AGI

SWANEY LIGHTING ASSOCIATES, INC.

Sandy River/North Country Associates Facility Sample Parking Data

Nursing Care Centers are a 24 Hour Business with Parking Needs Fluctuating Throughout the Day to include Special Events								
	# Licensed Beds	Parking Spaces	M-F Peak Est. # Staff Day Shift (approx 9 AM)	Second Shift Est. Staff and Parking Space Change Over Requirement	Estimated Avg Peak Visitors Not Including Special Events	Special Events Parking (avg 8-10 events per yeaar)	Peak Need for Parking Spaces	Comments (Note when not enough parking, cars spill over into unsancitioned street parking).
St Joseph Manor (Portland)	121	122	48	36	20	30	98	Parking sufficient
Sedgewood Commons (Falmouth)	93	82	52	35	15	20	87	Parking tight at times
Springbrook (Westbrook)	123	85	65	40	20	30	115	Often not enough parking
Southridge (Biddeford)	108	60	39	38	20	20	79	Utilize on street parking
Borderview (Van Buren)	98	95	46	38	15	20	81	Parking sufficient
Russell Park (Lewiston)	103	65	46	40	20	20	86	Very often not enough parking
Market Square (South Paris)	114	77	61	68	20	25	106	Often not enough parking
Summer Commons (Sanford)	94	92	53	25	15	20	88	Parking sufficient - Opened May 2021
Fallbrook Commons (Portland)	90	92	55	25	15	20	90	Under Constrution
Breakwater Commons (Rockland)	96	100	55	30	15	20	95	Under Construction
Proposed Clippership Landing	**102**	103	55	35	15	20	100	Based on experience, 103 is appropriate

Note-

1. **A typical facility will have 8-10 special family/holiday events (assume avg attendees at 20-30 vehicles)**
2. **There can be several vendor visits throughout the day (assume avg. of 2-3 at any one time)**
3. **There are increasingly more outside medical professionals that visit the building (assume avg. of 3 at any one time)**
4. **Family visitors come throughout the day (assume typical peak time visitors at 15-20 depending on number of residents)**
5. **Changing of shifts requires additional "shift change over" parking**
6. **The total staffing needs of a facility depend largely on the acuity level of residents served in that facility, which is continously increasing.**

CLIPPERSHIP LANDING

PIPER MILL ROAD

DAMARISCOTTA, MAINE 04543

LOCATION MAP
SCALE: 1" = 2000'

APPLICANT/OWNER:
CLIPPERSHIP LANDING
DEVELOPMENT LLC

PO BOX 9729
PORTLAND, ME 04101-5029

PROJECT MANAGER

CORDJIA CAPITAL PROJECTS GROUP
16 TANNERY LANE, SUITE 23
PO BOX 1367
CAMDEN, ME 04843

CIVIL ENGINEERING & PERMITTING:

541 US ROUTE ONE, SUITE 21
FREEPORT, MAINE 04032

Atlantic Resource Consultants
Engineering Strategies and Solutions

ARCHITECT:
GAWRON TURGEON ARCHITECTS
29 BLACK POINT RD, SCARBOROUGH, MAINE 04074

GEOTECHNICAL ENGINEERING
SW COLE ENGINEERING
286 PORTLAND ROAD
GRAY, MAINE 04039

SOIL DOCUMENTATION
WATERSHED RESOURCE CONSULTANTS, LLC
P.O. BOX 145 ORRINGTON, MAINE 04474

PLAN INDEX:

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3 OF 23	SUBDIVISION PLAN (BY HORIZONS ENGINEERING)	
4 OF 23	EXISTING CONDITIONS PLAN	C-100
5 OF 23	OVERALL SITE PLAN	C-101
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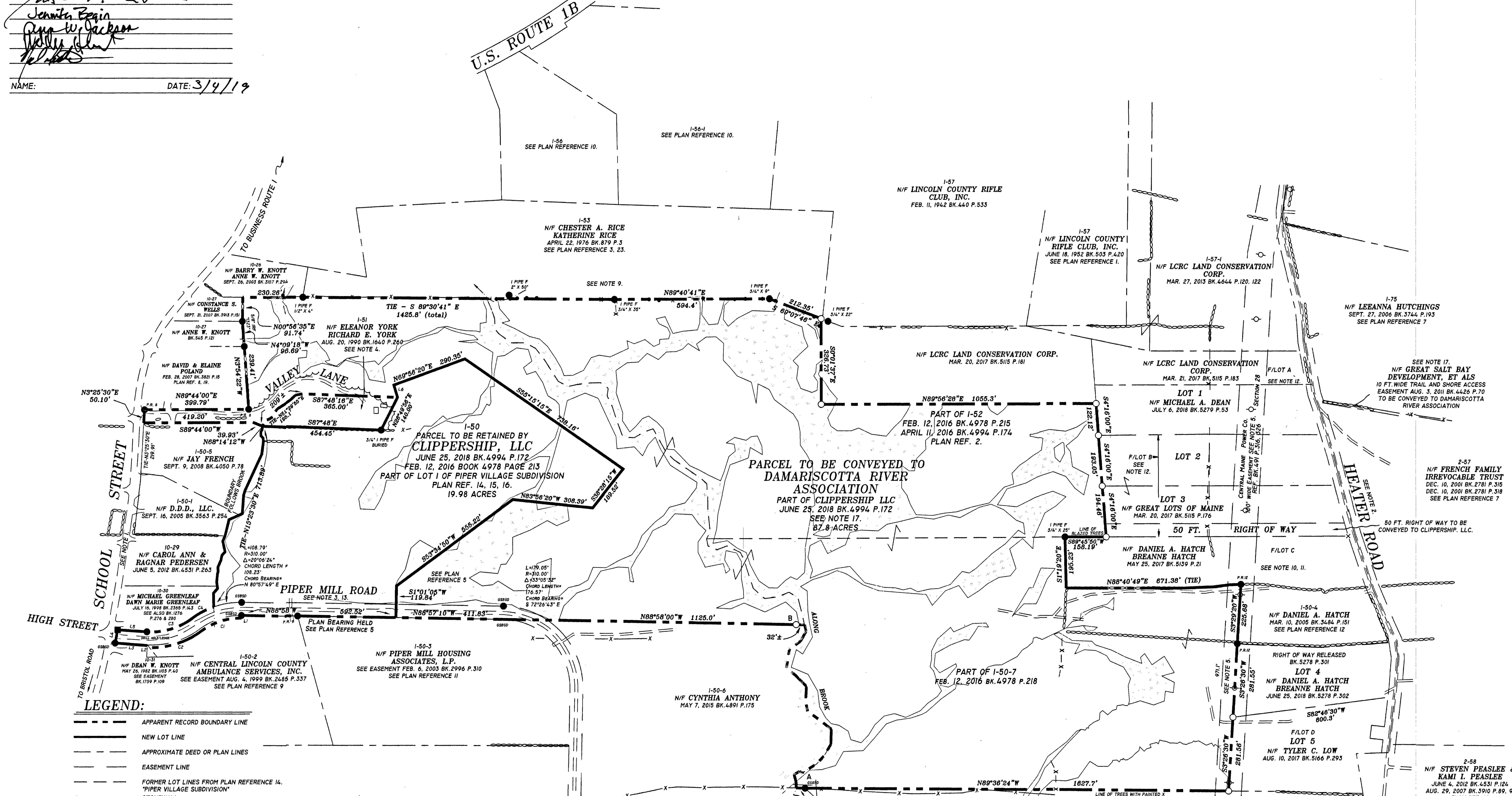
ISSUED: SEPTEMBER 15, 2022

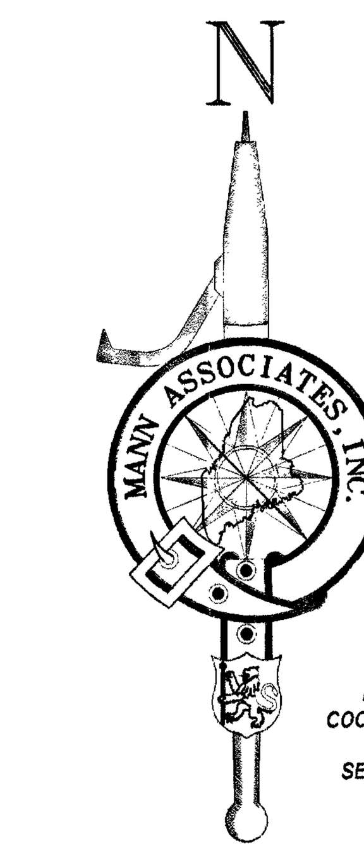
FOR PERMITTING ONLY
NOT FOR CONSTRUCTION

APPROVED BY THE TOWN OF DAMARISCOTTA PLANNING BOARD

Jennifer Begin

NAME: DATE: 3/4/19





GRID NORTH
MAINE STATE PLANE
COORDINATE SYSTEM WEST ZONE
SEE PLAN REFERENCE 5.

PLAN REFERENCES:

1. "LINCOLN COUNTY RIFLE CLUB, INC." DATED JANUARY, 1953 BY HENRY F. HILL, JR. NOT RECORDED
2. "LAND OF LOUIS R. FRENCH" DATED DECEMBER, 1953 BY GEORGE S. HULEN NOT RECORDED
3. "FREEMAN PROPERTY - FOSTER FIELD" UNDATED BY BOOTHBAY ENGINEERING SERVICES, INC. NOT RECORDED
4. "SPENCER GAY" DATED APRIL 12, 1979 BY LINCOLN ENGINEERING COMPANY NOT RECORDED
5. "GREAT SALT BAY SANITARY DISTRICT" SHEETS 1 & 2 OF 2 DATED OCTOBER, 1985 BY MAINE COAST SURVEYING RECORDED IN PLAN BOOK 35 PAGES 76 & 77
6. "SHOP 'N SAVE SUPERMARKET" SHEETS 1 & 2 OF 2 DATED APRIL, 1990 BY E.C. JORDAN CO. NOT RECORDED
7. "JOHN & JANE BRYANT PROPERTY" DATED JANUARY 6, 1995 BY MAINE COAST SURVEYING RECORDED IN PLAN BOOK 64 PAGE 73
8. "NORTHERLY BOUNDARY LINE OF LOUIS R. FRENCH & AMELIA K. FRENCH ALONG LAND OF BARRY W. KNOTT & ANNE W. KNOTT" DATED JUNE 12, 1995 BY MANN ASSOCIATES, INC. RECORDED IN PLAN BOOK 56 PAGE 55
9. "CENTRAL LINCOLN COUNTY AMBULANCE SERVICE, INC." DATED JUNE 7, 1999 BY MANN ASSOCIATES, INC. RECORDED IN PLAN BOOK 64 PAGE 22
10. "LINCOLN BLOCK & L. DENHAM PIERCE TO DAMARISCOTTA HARDWARE, INC." DATED NOVEMBER, 2000 BY L.L. BROWN ASSOCIATES RECORDED IN PLAN BOOK 69 PAGE 26
11. "AMELIA K. FRENCH" DATED JANUARY 30, 2003 BY MANN ASSOCIATES, INC. NOT RECORDED
12. "DANIEL A. HATCH" DATED JULY 5, 2006 BY MANN ASSOCIATES, INC. NOT RECORDED
13. "BARRY W. KNOTT & ANNE W. KNOTT" DATED JANUARY 8, 2007 BY McCONNELL & ASSOCIATES NOT RECORDED
14. "SUBDIVISION PLAN OF THE PIPER VILLAGE SUBDIVISION" SEPT. 10, 2007 RECORDED IN PLAN BOOK 89 PAGE 12.
15. "BOUNDARY RETRACEMENT SURVEY OF THE FRENCH FAMILY IRREVOCABLE TRUST, SEA LARK L.P. & AMELIA K. FRENCH ESTATE" AUG. 23, 2007 BY MANN ASSOCIATES, INC.
16. "JEREL & SUSAN ELWELL PROPERTY" AUG. 10, 2006, MAINE COAST SURVEYING
17. "TOWN OF BRISTOL" JUNE 12, 1815 BY WM. McCLINTOCK
18. "SCHOOL STREET LAND" JULY 14, 2008 BY MANN ASSOCIATES, INC. RECORDED IN PLAN BOOK 65 PAGE 68A
19. "SBS BARRY W. KNOTT AND ANNE W. KNOTT" JAN. 8, 2007 BY McCONNELL AND ASSOCIATES.
20. "LOT PLAN OF THE CLIPPERSHIP, LLC PARCEL" FEB. 17, 2016, PLAN BOOK 106 PAGE 13.
21. "FINAL PLAN OF THE HEATER ROAD SUBDIVISION" JUNE 1, 2017, PLAN BOOK 109 PAGE 5.
22. "TOPOGRAPHIC SCHEMATIC CLIPPERSHIP PARCELS" SEPT. 2018, REVISED THROUGH JAN. 17, 2019 BY SJR ENGINEERING, INC.
23. "BOUNDARY SURVEY PROPERTY OF RICE AND K.E.A., INC." 05 APRIL 2017, PLAN BOOK 108 PAGE 47.

LEGEND:

(symbol)	APPARENT RECORD BOUNDARY LINE
(symbol)	NEW LOT LINE
(symbol)	APPROXIMATE DEED OR PLAN LINES
(symbol)	EASEMENT LINE
(symbol)	FORMER LOT LINES FROM PLAN REFERENCE 14. "PIPER VILLAGE SUBDIVISION"
(symbol)	STONEWALL
(symbol)	TREELINE
(symbol)	WETLAND BOUNDARY DETERMINED BY MARK CENCI GEOLOGIC, INC.
(symbol)	UTILITY POLE
(symbol)	EDGE OF TRAVELED WAY
N/F	NOW OR FORMERLY
BOOK (BK.) 3621 PAGE (P.) 295	REFERS TO A BOOK AND PAGE NUMBER OF A DEED RECORDED AT THE COUNTY REGISTRY OF DEEDS
—x—	WIRE FENCE ON GROUND OR IN TREES
(symbol)	INDICATES AN IRON FENCE BAR
(symbol)	INDICATES A STONE MONUMENT FOUND
(symbol)	INDICATES AN IRON ROD OR PIPE FOUND
(symbol) GSBSD	FOUND 5/8" IRON ROD - SEE PLAN REF. 5
(symbol) P.R. 8	IRON ROD SET FOR PLAN REFERENCE (P.R.) NOTED
(symbol)	INDICATES A 5/8" IRON ROD SET OR TO BE SET
(symbol)	DRAINAGEWAY
L1	LINE LABEL - SEE LINE TABLE
C2	CURVE LABEL - SEE CURVE TABLE
A	POINT LABEL - SEE LINE TABLE

LINE TABLE

LINE	BEARING	DISTANCE
L1	S 00°59'44" W	10.00'
L2	N 02°46'09" E	7.59'
L3	N 85°27'13" W	123.80'
L4	N 11°05'19" E	51.54'
L5	S 86°00'54" E	112.03'
L6	N 16°28'10" W	49.1'
A-B	N 3°03'00" W	624.4' (TIE)

CURVE TABLE

CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD LENGTH	CHORD BEARING
C1	164.79'	250.00'	37°46'02"	161.82'	S 72°06'44" W
C2	221.39'	320.00'	39°38'20"	217.00'	S 73°10'16" W
C3	184.37'	260.00'	40°37'46"	180.53'	N 73°40'13" E
C4	95.45'	310.00'	17°38'31"	95.07'	N 62°05'22" E

NOTES:

1. THE RECORD LAYOUT OF SCHOOL STREET WAS NOT FOUND. THE SIDELINE OF THE ROAD SHOWN HEREON IS BASED ON THE MONUMENTS FOUND. SEE MAINE STATE HIGHWAY COMMISSION RIGHT OF WAY MAP TITLED "STATE AID HIGHWAY NO. 3" SHC FILE NO. 8-8-170 DATED DECEMBER, 1961.
2. THE RECORD LAYOUT OF HEATER ROAD WAS NOT FOUND. A PORTION OF THE ROAD IS BELIEVED TO BE MAINTAINED BY THE TOWN OF DAMARISCOTTA. THE EXTENT OF ANY PUBLIC OR PRIVATE RIGHTS IN HEATER ROAD HAS NOT BEEN DETERMINED. OTHER EASEMENTS OF RECORD INCLUDE BK.4558 P.58, BK.3991 P.307, BK.3971 P.253, BK.3991 P.73. BK.2781 P.308, 311, 313, 315, 318, 320, BK.3744 P.193, BK.3484 P.151, BK.3902 P.102, BK.3911 P.71, 75.
3. PIPER MILL ROAD IS A PRIVATE EASEMENT SERVING THE PROPERTIES OF CENTRAL LINCOLN COUNTY AMBULANCE SERVICES, INC., PIPER MILL HOUSING ASSOCIATES, L.P. AND GREAT SALT BAY SANITARY DISTRICT. SEE THEIR RESPECTIVE DEEDS FOR ADDITIONAL INFORMATION REGARDING THIS EASEMENT. SEE ALSO BOOK 1759 PAGE 109.
4. THE DEED TO ELEANOR & RICHARD YORK (BOOK 1640 PAGE 260) INCLUDES AN EASEMENT OF UNSPECIFIED WIDTH TO SCHOOL STREET.
5. THE PROPERTY IS SUBJECT TO A 100' WIDE EASEMENT GRANTED TO CENTRAL MAINE POWER CO. - SEE BOOK 491 PAGE 316 AND BOOK 491 PAGE 326.
6. THE BOUNDARIES WITH THE LAND FORMERLY OF ELWELL, NOW PEASLEE, WERE CONFIRMED BY AN EXCHANGE OF DEEDS. SEE PLAN REF.14 AND 15 REFERENCE BOUNDARY AGREEMENT BOOK 3910 PAGE 89, 91, 93, 95..
7. WETLAND LOCATION WAS PERFORMED BY MARK CENCI GEOLOGIC, INC.
8. UNDERGROUND FEATURES AND/OR EASEMENTS WERE NOT FOUND OR LOCATED.
9. NOT ALL IRON FENCE BARS ALONG THE NORTHERLY BOUNDARIES OF THE PROPERTY WERE LOCATED.
10. LOT C WAS PART OF LOT 3 ON PLAN REFERENCE 14. LOT C MERGED WITH LOT 3 BY A DEED TO FRENCH FAMILY IRREVOCABLE TRUST SEPT. 20, 2007 RECORDED IN BOOK 3911 PAGE 71. LOT C WAS INCORRECTLY SHOWN AS A PART OF LOT 1-52 ON THE CURRENT DAMARISCOTTA TAX MAP.
11. LOT C AND D RESULT FROM A SINGLE DIVISION OF PIPER VILLAGE SUBDIVISION'S LOT 3, AFTER THE CONVEYANCE OF THE REMAINDER OF LOT 3 TO AN ABUTTING LAND OWNER, CLIPPERSHIP, LLC (LOT 1 OF SAID PIPER VILLAGE SUBDIVISION).
12. LOTS A AND B RESULT FROM A SINGLE DIVISION OF THE REMAINING LAND WITHIN LOT 1-52 OF COASTAL REALTY CAPITAL, LLC AFTER THE CONVEYANCE OF LAND TO AN ABUTTING LAND OWNER, CLIPPERSHIP, LLC.
13. THE COMBINED TOTAL AREA OF CLIPPERSHIP, LLC ABOVE IS 114 ACRES, INCLUDING 1.96 ACRES IN THE PIPER MILL ROAD EASEMENT.
14. A FORMER VIEW EASEMENT DESCRIBED IN BOOK 3621 PAGE 293 WAS TERMINATED IN BOOK 4049 PAGE 1.
15. THE PERIMETER BOUNDARY LOCATIONS ARE BASED ON PLAN REFERENCES 14, 15, 20 AND 21.
16. THE LOCATION OF THE NEW BOUNDARY FOR LAND TO BE CONVEYED IS BASED ON INFORMATION PROVIDED BY "DIRIGO CAPITAL ADVISORS. NO UPDATED FIELD SURVEY OR UPDATE OF ABUTTER DATA HAS BEEN PERFORMED.
17. A TRAIL AND SHORE ACCESS EASEMENT DESCRIBED IN BOOK 4426 PAGE 70 WILL BE CONVEYED TO BENEFIT DAMARISCOTTA RIVER ASSOCIATION.

State of Maine
LINCOLN, ss Registry of Deeds
Received March 6, 2019
at 11 h. 22 m. A m., and
Recorded in Book 112 Page 61
ATTEST: Carolyn M Cook Register Deputy

AMENDED LOT PLAN OF THE CLIPPERSHIP, LLC PARCEL

FOR:
DIRIGO CAPITAL ADVISORS
6 CHESTNUT ST., SUITE 206
AUGUSTA, ME 04330
C/O DAVID TUCCI

LOCATION: PIPER MILL ROAD
SCHOOL STREET & HEATER ROAD
DAMARISCOTTA, MAINE 04543
LINCOLN COUNTY
STATE OF MAINE

DATE: FEB. 17, 2016
REVISED: MARCH 1, 2016 TO ADD A DIMENSION TO LOT D
REVISED: JAN. 29, 2019 TO ADD DCA PARCEL, HEATER ROAD SUBDIVISION LOTS, AND NOTE 17.

SCALE: 1"=200'

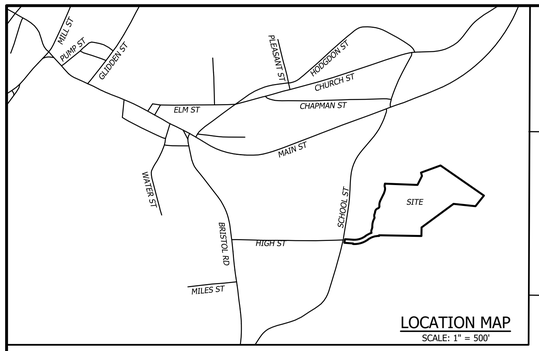
0 40 100 200 400 800 FEET
0 20 40 100 200 METERS

RECORD OWNER:
CLIPPERSHIP, LLC
6 CITY CENTER, 3RD FLOOR
PORTLAND, ME 04101

BY: MANN ASSOCIATES, INC.
38 MAGEE ROAD
BOWDOIN, ME 04287
PH# (207) 353-9047

DRAWN BY: VAL MANN
JOB NO.: 1902_1530

112-61



LOCATION MAP
SCALE: 1" = 500'

LEGEND

- 5/8" REBAR TO BE SET WITH PLASTIC I.D. CAP
- IRON PIPE OR ROD FOUND
- DRILL HOLE FOUND
- REBAR TO BE SET/CALCULATED CORNER
- GATE VALVE
- SEWER MANHOLE
- UTILITY POLE
- HYDRANT
- STORMWATER TEST PIT
- GEOTECHNICAL TEST PIT
- PROPERTY LINE
- ZONING BOUNDARY LINE
- CONTOUR - MAJOR INTERVAL
- CONTOUR - MINOR INTERVAL
- BROOK
- EDGE OF WETLANDS
- OHU — OVERHEAD UTILITY LINE
- S — EXISTING SEWER LINE
- W — EXISTING WATER LINE
- GUARDRAIL

DAMARISCOTTA PLANNING BOARD APPROVAL
DATE:

SOIL LEGEND

SYMBOL	NAME	HYDROLOGIC SOIL GROUP
BuB	LAMOINE	C/D
BuC	BUXTON	C/D
Sc	SCANTIC	D
TrB	TUNBRIDGE-LYMAN	C
TrC	TUNBRIDGE-LYMAN	C

GENERAL NOTES

1. OWNER OF RECORD

   CLIPPERSHIP LLC
   6 CITY CENTER 3RD FLOOR
   PORTLAND, MAINE 04101
   BOOK 4978 PAGE 213

2. DEED REFERENCES:

   A. COASTAL REALTY CAPITAL LLC TO CLIPPER LLC DATED FEBRUARY 12, 2016 AND RECORDED IN LINCOLN COUNTY REGISTRY OF DEEDS BOOK 4978 PAGE 213.

3. PLAN REFERENCES:

   A. "AMENDED LOT PLAN OF CLIPPERSHIP LLC" DATED FEBRUARY 17, 2016 REVISED JANUARY 29, 2019, PREPARED BY MANN ASSOCIATES INC. AND RECORDED IN LINCOLN COUNTY REGISTRY OF DEEDS BOOK 112 PAGE 61.

   B. "SUBDIVISION PLAN OF THE PIPER VILLAGE SUBDIVISION" DATED SEPTEMBER 10, 2007, PREPARED BY MANN ASSOCIATES INC. AND RECORDED IN LINCOLN COUNTY REGISTRY OF DEEDS BOOK 89 PAGE 12.

4. THE BEARINGS SHOWN HEREON REFER TO THE MAINE COORDINATE SYSTEM, GRID NORTH. THE VERTICAL DATUM IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

5. THIS PLAN IS BASED ON A FIELD SURVEY COMPLETED IN AUGUST, 2022 USING A CARLSON BRX7 GNSS SYSTEM AND A LEICA 1200 SERIES ROBOTIC STATION. BOUNDARIES ARE BASED ON THE PLANS REFERENCED ABOVE AND ON MONUMENTS RECOVERED IN THE FIELD, WHICH AGREED SUBSTANTIALLY WITH THE POSITIONS INDICATED ON SAID PLANS.

6. THE SURVEYED PARCEL IS MAPPED AS LYING OUTSIDE OF THE FLOOD ZONE PER F.E.M.A. FIRM MAP NUMBER 23015C0268D DATED JULY 16, 2015

N/F
CHESTER A. & N. KATHERINE RICE
PO BOX 99
DAMARISCATTA, ME 04543
MAP 1 LOT 53

N/F
BARRY W. JR. & DEAN W. KNOTT
MAP 10 LOT 26

N/F
CONSTANCE S. WELLS
62 SCHOOL STREET
DAMARISCATTA, ME 04543
MAP 10 BOOK 27

N/F
BARRY W. & ANNE W. KNOTT
74 SCHOOL STREET
DAMARISCATTA, ME 04543
MAP 10 BOOK 28

N/F
COASTAL RIVERS
4 CITY CTR
PORTLAND, ME 04101
MAP 1 LOT 50-10

N/F
DAVID & ELAINE KNOTT POLAND
84 SCHOOL STREET
DAMARISCATTA, ME 04543
MAP 10 BOOK 28-1

N/F
RICHARD E. YORK
MAP 10 LOT 51

N/F
GEOFFREY KEOCHAKIAN
86 SCHOOL STREET
DAMARISCATTA, ME 04543
MAP 1 LOT 50-5

N/F
D.D.D. LLC
90 SCHOOL STREET
DAMARISCATTA, ME 04543
MAP 1 LOT 50-1

N/F
CAROL ANN & RAGNAT (JT) PEDERSEN
100 SCHOOL STREET
DAMARISCATTA, ME 04543
MAP 10 LOT 29

N/F
MICHAEL & DAWN MARIE GREENLEAF
110 SCHOOL STREE
DAMARISCATTA, ME 04543
MAP 10 LOT 30

N/F
DEAN W. & BONNIE J. KNOTT
116 SCHOOL STREET
DAMARISCATTA, ME 04543
MAP 10 LOT 31

N/F
BEAN W. KNOTT
116 SCHOOL STREET
DAMARISCATTA, ME 04543
MAP 10 LOT 32

N/F
CENTRAL LINCOLN COUNTY AMBULANCE SERVICES INC
MAP 10 LOT 50-2

N/F
PIPER MILL HOUSING ASSOC.
MAP 10 LOT 50-3

LANDS OF
CLIPPERSHIP LLC
6 CITY CENTER
3RD FLOOR
PORTLAND, ME 04101
MAP 1 LOT 50

LOT 1
11.21 ACRES

LOT 2
8.76 ACRES

TRC
TRB
BUC
SC

RESIDENTIAL ZONE
C2 COMMERCIAL ZONE
RURAL ZONE

SCHOOL STREET
PIPER MILL ROAD

5/8" REBAR FOUND .1' ABOVE GRADE (LEANING)
5/8" REBAR FOUND .5' ABOVE GRADE (BENT)
5/8" REBAR FOUND .7' ABOVE GRADE (BENT)
5/8" REBAR FOUND .1' ABOVE GRADE (BENT)
3/4" IRON PIPE FOUND AT GRADE (DISTURBED)
2" IRON PIPE FOUND .5' BELOW GRADE (ALUMINUM CAP)
POSSIBLE DRILL HOLE FOUND IN LARGE BOULDER

PROPOSED PROPERTY LINE

N 16°28'10" W 49.10'
N 26°49'56" E 66.32'
N 69°56'20" E 290.35'
N 26°49'56" E 73.68'
S 87°48'00" E 454.45'
S 55°41'15" E 738.16'
N 26°55'51" W 356.61'
N 01°05'31" E 23.93'
R=28.00' L=43.38' Δ=088°45'51"
N 89°11'48" E 13.10'
308.39' N 83°56'20" W
189.52' S 58°29'15" W
555.22' S 53°34'50" W
R=362.00' L=275.16' Δ=080°10'29"
R=102.00' L=54.27' Δ=030°29'05"
S 89°18'28" E 63.18'
N 60°36'26" E 59.13'
S 01°01'05" W 69.86'
N 00°59'20" E 80.94'
N 88°58'19" W 200.00'
592.52' N 88°58'00" W
S 00°59'44" W 10.00'
N 15°22'29" E 713.75' TIE LINE
N 11°05'19" E 51.54'
123.80' N 85°27'13" W
N 02°46'09" E 7.59'
S 86°00'54" E 112.03'
R=310.00' L=95.45' Δ=017°38'27"
R=260.00' L=184.37' Δ=040°37'44"
R=320.00' L=221.39' Δ=039°38'22"
R=250.00' L=164.79' Δ=037°45'59"

EX SMH RIM: 66.35
EX SMH RIM: 66.29
EX SMH RIM: 73.58
EX SMH RIM: 75.61

0 40 80 160 320
SCALE IN FEET

LINCOLN ss REGISTRY OF DEEDS
RECIEVED_____ 20__
AT ___ H ___ M __ M., AND RECORDED IN
BOOK ___ PAGE ___
ATTEST:
_____
REGISTER

CERTIFICATION:

I HEREBY CERTIFY THAT THIS BOUNDARY SURVEY CONFORMS WITH THE MAINE BOARD OF LAND SURVEYORS RULES, CHAPTER 90: STANDARDS OF PRACTICE.

ANDREW J. NADEAU, PLS 2326 *DATE*

horizons Engineering
Civil and Structural Engineering
Land Surveying and Environmental Consulting
MAINE • NEW HAMPSHIRE • VERMONT
www.horizonsengineering.com

PLAN SHOWING A SUBDIVISION FOR

CLIPPERSHIP, LLC

PIPER MILL ROAD
DAMARISCOTTA - MAINE

DAMARISCOTTA TAX MAP 1 LOT 50
LCRD BOOK 4978 PAGE 213

NO.	DATE	REVISION DESCRIPTION	ENG	DWG

STATE OF MAINE ANDREW J. NADEAU 2326 PROFESSIONAL LAND SURVEYOR

DATE: AUG 2022	PROJECT #: 220442
SURV'D BY: NFN/JDN	DRAWN BY: SPP
CHECK'D BY: AJN	ARCHIVE #: H-___

SHEET 1 OF 1

NORTH

VALLEY LANE

PIPER MILL ROAD

ZONE BOUNDARY (TYPICAL)

RESIDENTIAL ZONE

C2 COMMERCIAL ZONE

RURAL ZONE

MAP 1, LOT 50-10
N/F DAMARISCOTTA RIVER ASSOCIATION

MAP 1, LOT 51
N/F ELANOR YORK
RICHARD E. YORK

MAP 1, LOT 50-5
N/F KEOCHAKIAN

MAP 1, LOT 50-1
N/F D.D.D, LLC

MAP 10, LOT 29
N/F CAROL ANN &
RAGNAR PEDERSEN

MAP 10, LOT 30
N/F MICHAEL GREENLEAF
DAWN MARIE GREENLEAF

MAP 1, LOT 50-2
N/F CENTRAL LINCOLN
COUNTY AMBULANCE
SERVICES, INC

MAP 1, LOT 50-3
N/F PIPER MILL HOUSING
ASSOCIATION

CLIPPERSHIP PARCEL
MAP 1, LOT 50
19.98 ACRES
N/F JOHN C. ORESTIS AND
BARBARA M. CROWLEY

GEOTECHNICAL TEST PIT (TYPICAL)

FRESHWATER WETLAND - SEE NOTE THIS SHEET FOR PLAN REFERENCE

STREAM FORMS EXISTING PROPERTY LINE SEE NOTES SHEET FOR PLAN REFERENCE

STORMWATER TEST PIT (TYPICAL)

APPROXIMATE EXISTING PROPERTY LINE SEE NOTES SHEET FOR PLAN REFERENCE

EXISTING PROPERTY LINE SEE NOTES SHEET FOR PLAN REFERENCE

TREE LINE (TYPICAL)

UTILITY POLE (TYPICAL)

SUBSURFACE EXPLORATION NOTES:

1. INFORMATION ON TEST PITS TP-1 TO TP-28 SHOWN ON THIS PLAN CAN BE FOUND IN REPORT ENTITLED "EXPLORATIONS AND GEOTECHNICAL ENGINEERING SERVICES - PROPOSED SENIOR LIVING FACILITY, CLIPPERSHIP SITE, PIPER MILL ROAD, DAMARISCOTTA, MAINE, DATED APRIL 8, 2022.
2. INFORMATION ON STORMWATER TEST PITS SW TP-1 TO SW TP-9 SHOWN ON THIS PLAN CAN BE FOUND IN REPORT ENTITLED "SOIL DOCUMENTATION IN STORMWATER SYSTEMS REPORT PROPOSED CLIPPERSHIP LANDING, PIPER MILL ROAD, DAMARISCOTTA, MAINE, BY WATERSHED RESOURCE CONSULTANTS, LLC, DATED AUGUST 19, 2022.
3. INFORMATION ON WETLANDS SHOWN ON THIS PLAN CAN BE FOUND IN REPORT ENTITLED " CLIPPERSHIP LANDING NURSING HOME, DAMARISCOTTA, MAINE - SITE CONDITIONS REPORT BY ATLANTIC RESOURCE CONSULTANTS, LLC, DATED DECEMBER 2021

ISSUED FOR PERMITTING - NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION

REVISIONS

STATE OF MAINE
ANDREW D. JOHNSTON
NO. 9994
9-9-22
LICENSED
PROFESSIONAL ENGINEER

P.E. ANDREW D. JOHNSTON
LIC. #9994

PROJECT:
CLIPPERSHIP LANDING NURSING HOME

PLAN:
EXISTING CONDITIONS PLAN

CLIENT:
CLIPPERSHIP LANDING DEVELOPMENT, LLC
PO BOX 9729, PORTLAND, ME 04101-5029

Atlantic Resource Consultants
541 US Route One
Freeport, ME 04032
Tel: 207.869.9050

DRAWN: AJ	DATE:
DESIGNED: AJ	SCALE: 1"=50'
CHECKED:	JOB NO. 21-025
FILE NAME:	
SHEET: C-100	

S:\21-025 Clippership Landing\Drawings\CLIPPERSHIP DESIGN BASE.dwg

NORTH

VALLEY LANE

RESIDENTIAL ZONE

C2 COMMERCIAL ZONE

RURAL ZONE

NEW LOT DIVISION LINE

NEW LOT 2 - RESERVED FOR FUTURE DEVELOPMENT

NURSING HOME BUILDING FFE = 76.0'

NEW LOT 1 - CLIPPERSHIP NURSING HOME SITE

PIPER MILL ROAD

RESIDENTIAL ZONE

RURAL ZONE

ISSUED FOR PERMITTING - NOT FOR CONSTRUCTION

SUBSURFACE EXPLORATION NOTES:

1. INFORMATION ON TEST PITS TP-1 TO TP-28 SHOWN ON THIS PLAN CAN BE FOUND IN REPORT ENTITLED "EXPLORATIONS AND GEOTECHNICAL ENGINEERING SERVICES - PROPOSED SENIOR LIVING FACILITY, CLIPPERSHIP SITE, PIPER MILL ROAD, DAMARISCOTTA, MAINE, DATED APRIL 8, 2022.
2. INFORMATION ON STORMWATER TEST PITS SW TP-1 TO SW TP-9 SHOWN ON THIS PLAN CAN BE FOUND IN REPORT ENTITLED "SOIL DOCUMENTATION IN STORMWATER SYSTEMS REPORT PROPOSED CLIPPERSHIP LANDING, PIPER MILL ROAD, DAMARISCOTTA, MAINE, BY WATERSHED RESOURCE CONSULTANTS, LLC, DATED AUGUST 19, 2022.
3. INFORMATION ON WETLANDS SHOWN ON THIS PLAN CAN BE FOUND IN REPORT ENTITLED " CLIPPERSHIP LANDING NURSING HOME, DAMARISCOTTA, MAINE - SITE CONDITIONS REPORT BY ATLANTIC RESOURCE CONSULTANTS, LLC, DATED DECEMBER 2021

REV	DATE	DESCRIPTION

REVISIONS

STATE OF MAINE
ANDREW D. JOHNSTON
NO. 9994
9-9-22
LICENSED PROFESSIONAL ENGINEER

P.E. ANDREW D. JOHNSTON
LIC. #9994

PROJECT:
CLIPPERSHIP LANDING NURSING HOME

PLAN:
OVERALL SITE PLAN

CLIENT:
CLIPPERSHIP LANDING DEVELOPMENT, LLC
PO BOX 9729, PORTLAND, ME 04101-5029

Atlantic Resource Consultants
541 US Route One
Freeport, ME 04032
Tel: 207.869.9050

DRAWN: AJ	DATE:
DESIGNED: AJ	SCALE: 1"=50'
CHECKED:	JOB NO. 21-025
FILE NAME:	
SHEET: C-101	

S:\21-025 Clippership Landing\Drawings\CLIPPERSHIP DESIGN BASE.dwg

NORTH

RESIDENTIAL ZONE

C2 COMMERCIAL ZONE

RURAL ZONE

ZONE LINE (TYPICAL)

PROPERTY LINE

PROPERTY LINE SETBACK

100FT STREAM SETBACK

75FT STREAM SETBACK

WOOD GUARDRAIL (TYP.) - NOTE: MAY BE REPLACED WITH EMBEDDED BOULDERS AT WESTERN EDGE OF FIRE LANE

WESTERN ACCESS DRIVE AND FIRE LANE

RESIDENT COURTYARD- SEE LANDSCAPE PLANS

MAINTENANCE GARAGE

16FT WIDE PAVED, 2FT REINFORCED TURF EDGES - SEE SECTION

GATE

FENCE

BITUMINOUS PAVEMENT (TYPICAL)

DUMPSTER ENCLOSURE

WOOD GUARDRAIL

TRANSFORMER PAD

RETAINING WALL

SERVICE DRIVE

REMOVE 20FT OF EXISTING GUARDRAIL FOR NEW ENTRANCE

PIPER MILL ROAD

SHED

5FT DRIP EDGE (TYPICAL

GENERATOR PAD

UNDERGROUND PROPANE TANKS

GREASE TRAP

GAS SERVICE TO BUILDING

FIRE AND DOMESTIC WATER SERVICES TO BUILDING

CONCRETE ENTRY PAD

NURSING HOME BUILDING FFE = 76.0'

BUILDING SEWER INV = 67.50' TBC

BUILDING SEWER INV = 66.50' TBC

6" REVEAL GRANITE CURB

TIPDOWN CURB TO FLUSH GRANITE

LANDSCAPED ISLAND

LANDSCAPED ISLAND

SMH#1

FLUSH GRANITE CURB AND CONCRETE SIDEWALK

FLAGPOLE

SLIPFORM CONCRETE CURB AND CONCRETE SIDEWALK (TYPICAL ALL ISLANDS)

PRIMARY UNDERGROUND ELECTRIC SERVICE

INSTALL 8"X8" TEE FITTING AND 8" GATE VALVE

WETLAND IMPACT (RED HATCH) - 5858F

NEW 8" WATER SERVICE TO SITE - TAP EXISTING MAIN PER GSBSD STANDARDS INSTALL GATE VALVE ON NEW SERVICE

BEGIN SLIPFORM CONCRETE CURB WITH TIPDOWN

INSTALL 4" DR11 HDPE FORCE MAIN TO SMH #2, CAP PIPE

SMH#2

MONUMENT SIGN

MAIN ENTRANCE DRIVE

WETLAND IMPACT (RED HATCH) -1015F

SMH#3

SEE SHEET C-101B FOR SEWER CONTINUATION

5FT DRIP EDGE (TYPICAL

SHED

SFT DRIP EDGE (TYPICAL

RESIDENT COURTYARD- SEE LANDSCAPE PLANS

RETAINING WALL WITH RAILING

WETLAND IMPACT (RED HATCH) -13,816SF

WOOD GUARDRAIL (TYP.)

EASTERN ACCESS DRIVE AND FIRE LANE

RETAINING WALL

FENCE

RESIDENT COURTYARD- SEE LANDSCAPE PLANS

STORMWATER BMP (TYPICAL) - SEE GRADING AND DRAINAGE SHEET

PROPOSED SUBDIVISION LINE

WOOD GUARDRAIL

BITUMINOUS SIDEWALK

INSTALL 8" GATE VALVE. EXTEND WATER MAIN ONE PIPE LENGTH AND TERMINATE IN MJ CAP AND THRUST BLOCK

EXTEND NEW 4" DR11 HDPE SEWER FORCE MAIN 6FT OFF EDGE OF PAVEMENT AND TERMINATE WITH CAP

END SLIPFORM CONCRETE CURB WITH TIPDOWN

FRESHWATER WETLAND (TYPICAL)

CLIPPERSHIP SEWER SCHEDULE

I.D	RIM	INV IN	FROM	B/DROP	INV OUT	SIZE
GREASE TRAP	75.50	66.94	BLDG	N/A	66.69	2000
SMH#1	75.25	65.75	GT	N/A	65.65	4'ID
		65.98	BLDG	N/A		
SMH#2	71.20	62.63	SMH#1	N/A	62.53	4'ID
SMH#3	65.50	58.75	SMH#2	N/A	58.65	4'ID
SMH#4	65.25	58.11	SMH#3	N/A	58.01	4'ID
SMH#5	56.50	51.69	SMH#4	N/A	51.59	4'ID
SPS#1	54.75	49.59	SMH#5	N/A	50.00	4'ID

FROM	TO	LENGTH	SLOPE	U/S INV	D/S INV	SIZE
BLDG	GT	28	0.02	67.50	66.94	4"
GT	SMH#1	67	0.014	66.69	65.75	6"
BLDG	SMH#1	43	0.012	66.50	65.98	6"
SMH#1	SMH#2	252	0.012	65.65	62.63	6"
SMH#2	SMH#3	210	0.018	62.53	58.75	6"
SMH#3	SMH#4	30	0.018	58.65	58.11	6"
SMH#4	SMH#5	395	0.016	58.01	51.69	8"
SMH#5	SPS#1	154	0.013	51.59	49.59	8"

SUBSURFACE EXPLORATION NOTES:

1. INFORMATION ON TEST PITS TP-1 TO TP-28 SHOWN ON THIS PLAN CAN BE FOUND IN REPORT ENTITLED "EXPLORATIONS AND GEOTECHNICAL ENGINEERING SERVICES - PROPOSED SENIOR LIVING FACILITY, CLIPPERSHIP SITE, PIPER MILL ROAD, DAMARISCOTTA, MAINE, DATED APRIL 8, 2022.
2. INFORMATION ON STORMWATER TEST PITS SW TP-1 TO SW TP-9 SHOWN ON THIS PLAN CAN BE FOUND IN REPORT ENTITLED "SOIL DOCUMENTATION IN STORMWATER SYSTEMS REPORT PROPOSED CLIPPERSHIP LANDING, PIPER MILL ROAD, DAMARISCOTTA, MAINE, BY WATERSHED RESOURCE CONSULTANTS, LLC, DATED AUGUST 19, 2022.
3. INFORMATION ON WETLANDS SHOWN ON THIS PLAN CAN BE FOUND IN REPORT ENTITLED " CLIPPERSHIP LANDING NURSING HOME, DAMARISCOTTA, MAINE - SITE CONDITIONS REPORT BY ATLANTIC RESOURCE CONSULTANTS, LLC, DATED DECEMBER 2021

ISSUED FOR PERMITTING - NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION
		REVISIONS

STATE OF MAINE — ANDREW D. JOHNSTON — REG. 9994 — 9-9-22 — LICENSED PROFESSIONAL ENGINEER

P.E. ANDREW D. JOHNSTON
LIC. #9994

PROJECT:
CLIPPERSHIP LANDING NURSING HOME

PLAN:
DETAILED SITE & UTILITY PLAN

CLIENT:
CLIPPERSHIP LANDING DEVELOPMENT, LLC
PO BOX 9729, PORTLAND, ME 04101-5029

Atlantic Resource Consultants
541 US Route One
Freeport, ME 04032
Tel: 207.869.9050

DRAWN: AJ	DATE:
DESIGNED: AJ	SCALE: 1"=40'
CHECKED:	JOB NO. 21-025
FILE NAME:	
SHEET: C-101A	

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NORTH

PRIMARY UNDERGROUND ELECTRIC AND FIBEROPTIC SERVICE

PIPER MILL ROAD

TAP EXISTING WATER MAIN PER GSBSD STANDARDS INSTALL 8" GATE VALVE AND 8" SERVICE TO CLIPPERSHIP SITE

EXCAVATE TEST PIT ON EXISTING GSBSD FORCE MAINS AT CROSSING LOCATION TO CONFIRM LOCATION AND DEPTH OF EXISTING PIPES

SMH#1

SMH#2

SMH#3

SMH#4

SMH#5

INSTALL DUPLEX SEWER PUMP STATION RIM = 54.75

INSTALL 4" DIA HDPE FORCE MAIN TO GSBSD PLANT, L= 950'+/-

INSTALL 8" HDPE GRAVITY SEWER ALONGSIDE FORCE MAIN IN TRENCH, TERMINATE AT PUMP STATION AND EXISTING FORCE MAIN WITH CAPPED END FITTINGS

NOTE: NEW FORCE MAIN TO FOLLOW EXISTING FORCE MAIN FROM LEDGEWOOD APARTMENTS FROM THIS POINT ON

TERMINATE NEW FORCE MAIN AT PLANT HEADWORKS - MODIFY EXISTING INLET TO ACCOMMODATE 8" DR11 HDPE PIPE AT SAME INVERT. INSTALL 8"X4" REDUCING WYE. CONNECT EXISTING PVC FORCE MAIN TO WYE FITTING WITH REDUCER AND COUPLING. CONNECT NEW 4" FORCE MAIN TO 4" WYE - ELEVATION = 69.0+/-

RESIDENTIAL ZONE

RURAL ZONE

CLIPPERSHIP SEWER SCHEDULE

I.D	RIM	INV IN	FROM	B/DROP	INV OUT	SIZE
GREASE TRAP	75.50	66.94	BLDG	N/A	66.69	2000
SMH#1	75.25	65.75	GT	N/A	65.65	4'ID
		65.98	BLDG	N/A		
SMH#2	71.20	62.63	SMH#1	N/A	62.53	4'ID
SMH#3	65.50	58.75	SMH#2	N/A	58.65	4'ID
SMH#4	65.25	58.11	SMH#3	N/A	58.01	4'ID
SMH#5	56.50	51.69	SMH#4	N/A	51.59	4'ID
SPS#1	54.75	49.59	SMH#5	N/A	50.00	4'ID

FROM	TO	LENGTH	SLOPE	U/S INV	D/S INV	SIZE
BLDG	GT	28	0.02	67.50	66.94	4"
GT	SMH#1	67	0.014	66.69	65.75	6"
BLDG	SMH#1	43	0.012	66.50	65.98	6"
SMH#1	SMH#2	252	0.012	65.65	62.63	6"
SMH#2	SMH#3	210	0.018	62.53	58.75	6"
SMH#3	SMH#4	30	0.018	58.65	58.11	6"
SMH#4	SMH#5	395	0.016	58.01	51.69	8"
SMH#5	SPS#1	154	0.013	51.59	49.59	8"

NOTES:
1. IT IS THE INTENT THAT SEWER PUMP STATION #1 WILL BE CONSTRUCTED BY THE DEVELOPER IN ACCORDANCE WITH GREAT SALT BAY SANITARY DISTRICT STANDARDS AND HANDED OVER TO GSBSD ONCE COMPLETED.
2. FINAL CONFIGURATION OF OFF-SITE SEWER CONNECTION PLAN AND DETAILS IS SUBJECT TO REVIEW AND APPROVAL BY THE BOARD OF TRUSTEES OF GREAT SALT BAY SANITARY DISTRICT

ISSUED FOR PERMITTING - NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION

REVISIONS

STATE OF MAINE ANDREW D. JOHNSTON REG. 9994 9-9-22 LICENSED PROFESSIONAL ENGINEER

P.E. ANDREW D. JOHNSTON
LIC. #9994

PROJECT: CLIPPERSHIP LANDING NURSING HOME

PLAN: SEWER AND UTILITY CONNECTIONS PLAN

CLIENT: CLIPPERSHIP LANDING DEVELOPMENT, LLC
PO BOX 9729, PORTLAND, ME 04101-5029

Atlantic Resource Consultants
541 US Route One
Freeport, ME 04032
Tel: 207.869.9050

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NORTH

LANE

(2) 4" SD OUTLET INV = 69.69'/ 68.50' INSTALL RIPRAP APRON

4" SD OUTLET INV = 69.0' INSTALL RIPRAP APRON

CONNECT (2) 4" UNDERDRAINS FROM REINFORCED TURF PAVEMENT SECTION AND OUTLET TO APRON

(2) 8" SD OUTLETS INV = 68.80 INSTALL RIPRAP APRON

8" SD OUTLET INV = 63.0' INSTALL RIPRAP APRON

8" SD OUTLET INV = 69.0' INSTALL RIPRAP APRON

BIORETENTION #4 - SEE BMP DETAIL SHEETS

FILTERING DRIP EDGE (TYPICAL)

CONNECT (2) 4" UNDERDRAIN PIPES FROM REINFORCED TURF SECTION TO 8" STORM DRAIN WITH MANUFACTURED WYE FITTINGS

8" SD OUTLET INV = 66.5' INSTALL RIPRAP APRON

IN-LINE DRAIN AT DRIP EDGE UNDERDRAIN OUTLET

IN-LINE DRAIN AT DRIP EDGE UNDERDRAIN OUTLET

IN-LINE DRAIN AT DRIP EDGE UNDERDRAIN OUTLET

BIORETENTION #7 SEE BMP DETAIL SHEETS

8" SD OUTLET INV = 64.25' INSTALL RIPRAP APRON

BIORETENTION #8 SEE BMP DETAIL SHEETS

8" SD OUTLET INV = 70.0' INSTALL RIPRAP APRON

BIORETENTION #9 SEE BMP DETAIL SHEETS

IN-LINE DRAIN AT DRIP EDGE UNDERDRAIN OUTLET

NURSING HOME BUILDING FFE = 76.0'

BIORETENTION 11 SEE BMP DETAIL SHEETS

8" SD OUTLET INV = 64.25' INSTALL RIPRAP APRON

USF #3 - SEE BMP DETAIL SHEETS

(2) 8" SD OUTLETS INV = 59.00' INSTALL RIPRAP APRON

IN-LINE DRAIN AT DRIP EDGE UNDERDRAIN OUTLET

(1) 4" SD AND (1) 8" SD OUTLET INV = 69.20' INSTALL RIPRAP APRON

BIORETENTION 12 SEE BMP DETAIL SHEETS

USF#2 - SEE BMP DETAIL SHEETS

8" SD OUTLET INV = 64.00' INSTALL RIPRAP APRON

BIORETENTION #1 SEE BMP DETAIL SHEETS

36" DIA. CROSS CULVERT EMBEDDED 1.5FT INV. IN = 69.0 INV. OUT = 68.6

UF #13 SEE BMP DETAIL SHEETS

8" SD OUTLET INV = 66.40' INSTALL RIPRAP APRON AND ROCK HEADWALL

PIPER MILL ROAD

ISSUED FOR PERMITTING - NOT FOR CONSTRUCTION

CLIPPERSHIP DRAIN SCHEDULE

I.D	RIM	INV IN	FROM	INV OUT	SUMP	SIZE
CB 1	71.95			67.70	65.70	4'ID
CB 2	69.20	66.13	CB 1	66.03	64.03	4'ID
CB 3	67.75	63.53	CB 2	63.43	61.43	4'ID
CB 4	72.50			68.25	66.25	4'ID
CB 5	72.80	68.09	CB 4	67.40	65.40	4'ID
CB 6	70.50			66.25	64.25	4'ID
CB 7	70.90	65.82	CB 6	65.72	63.72	4'ID
CB 8	69.90			66.50	64.50	2' TYPE F
CB 9	69.75	65.38	CB 5			4'ID
		65.00	CB 7			
		65.03	CB 8	64.13	62.13	
CB F10	73.60			70.10	68.10	2' TYPE F
CB F11	72.80	69.60	CB F10	69.50	66.80	2' TYPE F
CB 12	71.60			67.60	65.60	4'ID
CB 13	71.50			67.50	65.50	4' ID
CB F14	72.80			69.10	67.10	2' TYPE F
CB F15	72.90			69.50	67.50	2' TYPE F
CB 16	72.85	69.32		69.22	67.22	4' ID
CB F17	74.80			70.80	68.80	2' TYPE F
CB F18	73.80	69.94	CB F17	69.84	67.84	2' TYPE F
ILD 1	75.25	70.25	UD	70.25		IN-LINE DRAIN
ILD 2	75.25	70.11	ILD 1	70.11		IN-LINE DRAIN
ILD 3	75.25			70.25		IN-LINE DRAIN
ILD 4	75.25			70.25		IN-LINE DRAIN
ILD 5	75.25	70.11	ILD 4	70.11		IN-LINE DRAIN
ILD 6	75.25			70.25		IN-LINE DRAIN
ILD 7	75.25	70.11		70.11		IN-LINE DRAIN
ILD 8	74.50			70.50		IN-LINE DRAIN
ILD 9	74.30	70.29	ILD 8	70.29		IN-LINE DRAIN
ILD 10	74.50			70.50		IN-LINE DRAIN
ILD 11	74.20	70.20	ILD 10	70.20		IN-LINE DRAIN
ILD 12	75.25			70.25		IN-LINE DRAIN
ILD 13	75.25	70.11		70.11		IN-LINE DRAIN
ILD 14	75.25			70.25		IN-LINE DRAIN
ILD 15	75.25	70.11		70.11		IN-LINE DRAIN
ILD 16	75.25			70.25		IN-LINE DRAIN
ILD 17	75.25	70.11		70.11		IN-LINE DRAIN

FROM	TO	LENGTH	SLOPE	U/S INV	D/S INV	SIZE
CB 1	CB 2	112	0.014	67.70	66.13	12"
CB 2	CB 3	125	0.02	66.03	63.53	12"
CB 3	USF 2	15	0.012	63.43	63.25	12"
CB 4	CB 5	10	0.016	68.25	68.09	12"
CB 6	CB 7	24	0.018	66.25	65.82	12"
CB 5	CB 9	81	0.025	67.40	65.38	12"
CB 7	CB 9	40	0.018	65.72	65.00	12"
CB 8	CB 9	105	0.014	66.50	65.03	12"
CB 9	USF 3	10	0.025	64.13	63.88	12"
CB F10	CB F 11	62	0.008	70.10	69.60	8"
CB F11	OUTLET	82	0.008	69.50	68.85	8"
CB 12	BIO-11	22	0.01	67.60	67.38	12"
CB 13	BIO-11	20	0.01	67.50	67.30	12"
CB F14	USF 13	12	0.008	69.10	69.00	12"
CB F15	CB 16	30	0.006	69.50	69.32	12"
CB 16	USF 13	15	0.006	69.22	69.13	12"
CB F17	CB F18	86	0.01	70.80	69.94	8"
CB F18	USF 13	74	0.01	69.84	69.10	8"
ILD 1	ILD 2	35	0.004	70.25	70.11	4"
ILD 2	OUTLET	67	0.054	70.11	66.49	4"
ILD 3	B-4 OCS	74	0.01	70.25	69.51	4"
ILD 4	ILD 5	35	0.004	70.25	70.11	4"
ILD 5	OUTLET	56	0.011	70.11	69.49	4"
ILD 6	ILD 7	35	0.004	70.25	70.11	4"
ILD 7	OUTLET	52	0.008	70.11	69.69	4"
ILD 8	ILD 9	21	0.01	70.50	70.29	8"
ILD 9	OUTLET	52	0.0275	70.29	68.86	8"
ILD 10	ILD 11	30	0.01	70.50	70.20	8"
ILD 11	OUTLET	20	0.01	70.20	70.00	8"
ILD 12	ILD 13	35	0.004	70.25	70.11	4"
ILD 13	B-8 OCS	75	0.075	70.11	64.49	4"
ILD 14	ILD 15	35	0.004	70.25	70.11	4"
ILD 15	OUTLET	75	0.012	70.11	69.21	4"
ILD 16	ILD 15	35	0.004	70.25	70.11	4"
ILD 17	UF-13 OCS	60	0.06	70.11	66.51	4"

SUBSURFACE EXPLORATION NOTES:

1. INFORMATION ON TEST PITS TP-1 TO TP-28 SHOWN ON THIS PLAN CAN BE FOUND IN REPORT ENTITLED "EXPLORATIONS AND GEOTECHNICAL ENGINEERING SERVICES - PROPOSED SENIOR LIVING FACILITY, CLIPPERSHIP SITE, PIPER MILL ROAD, DAMARISCOTTA, MAINE, DATED APRIL 8, 2022.
2. INFORMATION ON STORMWATER TEST PITS SW TP-1 TO SW TP-9 SHOWN ON THIS PLAN CAN BE FOUND IN REPORT ENTITLED "SOIL DOCUMENTATION IN STORMWATER SYSTEMS REPORT PROPOSED CLIPPERSHIP LANDING, PIPER MILL ROAD, DAMARISCOTTA, MAINE, BY WATERSHED RESOURCE CONSULTANTS, LLC, DATED AUGUST 19, 2022.
3. INFORMATION ON WETLANDS SHOWN ON THIS PLAN CAN BE FOUND IN REPORT ENTITLED " CLIPPERSHIP LANDING NURSING HOME, DAMARISCOTTA, MAINE - SITE CONDITIONS REPORT BY ATLANTIC RESOURCE CONSULTANTS, LLC, DATED DECEMBER 2021

REV	DATE	DESCRIPTION
		REVISIONS

STATE OF MAINE ANDREW D. JOHNSTON REG. 9994 9-19-23 LICENSED PROFESSIONAL ENGINEER

P.E. ANDREW D. JOHNSTON

LIC. #9994

PROJECT: CLIPPERSHIP LANDING NURSING HOME

PLAN: GRADING & DRAINAGE PLAN

CLIENT: CLIPPERSHIP LANDING DEVELOPMENT, LLC PO BOX 9729, PORTLAND, ME 04101-5029

Atlantic Resource Consultants
541 US Route One
Freeport, ME 04032
Tel: 207.869.9050

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DESIGNED: AJ	SCALE: 1"=40'
CHECKED:	JOB NO. 21-025
FILE NAME:	
SHEET: C-102	

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NORTH

LANE

INSTALL EROSION CONTROL BLANKET ON ALL SLOPES 3:1 OR STEEPER

SILT FENCE BARRIER

DIKTBAG AREA

DOUBLE SILT FENCE/HAYBALE BARRIER

INSTALL SILT SACKS IN ALL CATCH BASINS DURING CONSTRUCTION

TEMP SOIL STOCKPILE AREA

NURSING HOME BUILDING FFE = 76.0'

INSTALL EROSION CONTROL BLANKET ON ALL SLOPES 3:1 OR STEEPER AND ON ALL USF STORMWATER BMPS

STABILIZED CONSTRUCTION ENTRANCE

PIPER MILL ROAD

ISSUED FOR PERMITTING - NOT FOR CONSTRUCTION

SUBSURFACE EXPLORATION NOTES:

1. INFORMATION ON TEST PITS TP-1 TO TP-28 SHOWN ON THIS PLAN CAN BE FOUND IN REPORT ENTITLED "EXPLORATIONS AND GEOTECHNICAL ENGINEERING SERVICES - PROPOSED SENIOR LIVING FACILITY, CLIPPERSHIP SITE, PIPER MILL ROAD, DAMARISCOTTA, MAINE, DATED APRIL 8, 2022.
2. INFORMATION ON STORMWATER TEST PITS SW TP-1 TO SW TP-9 SHOWN ON THIS PLAN CAN BE FOUND IN REPORT ENTITLED "SOIL DOCUMENTATION IN STORMWATER SYSTEMS REPORT PROPOSED CLIPPERSHIP LANDING, PIPER MILL ROAD, DAMARISCOTTA, MAINE, BY WATERSHED RESOURCE CONSULTANTS, LLC, DATED AUGUST 19, 2022.
3. INFORMATION ON WETLANDS SHOWN ON THIS PLAN CAN BE FOUND IN REPORT ENTITLED " CLIPPERSHIP LANDING NURSING HOME, DAMARISCOTTA, MAINE - SITE CONDITIONS REPORT BY ATLANTIC RESOURCE CONSULTANTS, LLC, DATED DECEMBER 2021

REV	DATE	DESCRIPTION
		REVISIONS

STATE OF MAINE — ANDREW D. JOHNSTON — REG. 9994 — 9-14-22 — LICENSED PROFESSIONAL ENGINEER

P.E. ANDREW D. JOHNSTON
LIC. #9994

PROJECT:
CLIPPERSHIP LANDING NURSING HOME

PLAN:
EROSION AND SEDIMENT CONTROL PLAN

CLIENT:
CLIPPERSHIP LANDING DEVELOPMENT, LLC
PO BOX 9729, PORTLAND, ME 04101-5029

Atlantic Resource Consultants
541 US Route One
Freeport, ME 04032
Tel: 207.869.9050

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A. SOIL EROSION AND SEDIMENT CONTROL NOTES

TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES INCLUDE THE USE OF STABILIZED CONSTRUCTION ENTRANCES, SILTATION FENCE, EROSION CONTROL MIX, STONE CHECK DAMS, HAY BALE BARRIERS, CATCH BASIN SEDIMENT COLLECTION BAGS, EROSION CONTROL BLANKET, AND TEMPORARY SEEDING AND MULCHING AS REQUIRED. PERMANENT DEVICES INCLUDE THE USE OF RIP RAP AT EXPOSED STORM DRAIN AND CULVERT INLETS AND OUTLETS, AND PERMANENT VEGETATION.

A. GENERAL

1. IT IS ANTICIPATED THAT CONSTRUCTION MAY BEGIN AS SOON AS POSSIBLE FOLLOWING RECEIPT OF NECESSARY PERMITS.

2. ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MAINE EROSION & SEDIMENT CONTROL BMPS - MANUAL FOR DESIGNERS AND ENGINEERS (2016), OR AS CURRENTLY REVISED OR U.S. ENVIRONMENTAL PROTECTION AGENCY PUBLICATION 832/R-92-005 (SEPTEMBER, 1992) STORM WATER MANAGEMENT FOR CONSTRUCTION, CHAPTER 3, WHICHEVER IS MORE STRINGENT.

3. ANY ADDITIONAL EROSION AND SEDIMENTATION CONTROL DEEMED NECESSARY BY THE OWNER'S REPRESENTATIVE, DEPARTMENT OF ENVIRONMENTAL PROTECTION (DEP) PERSONNEL AND/OR MUNICIPAL OFFICIALS SHALL BE INSTALLED BY THE CONTRACTOR.

4. THE CONTRACTOR IS RESPONSIBLE FOR ALL FINES RESULTING FROM EROSION OR SEDIMENTATION FROM THE SITE TO SURROUNDING PROPERTIES, WATER BODIES, OR WETLANDS AS A RESULT OF THIS PROJECT.

5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSPECTION, REPAIR/ REPLACEMENT/ MAINTENANCE OF ALL EROSION CONTROL MEASURES UNTIL ALL DISTURBED AREAS ARE STABILIZED TO THE SATISFACTION OF THE ABOVE PERSONNEL. DESCRIPTIONS OF ACCEPTABLE PERMANENT STABILIZATION FOR VARIOUS COVER TYPES FOLLOWS:

a.a. FOR SEEDED AREAS, PERMANENT STABILIZATION MEANS A 90% COVER OF THE DISTURBED AREA WITH MATURE, HEALTHY PLANTS WITH NO EVIDENCE OF WASHING OR RILLING OF THE TOPSOIL.

a.b. FOR SODDED AREAS, PERMANENT STABILIZATION MEANS THE COMPLETE BINDING OF THE SOD ROOTS INTO THE UNDERLYING SOIL WITH NO SLUMPING OF THE SOD OR DIE-OFF.

a.c. FOR MULCHED AREAS, PERMANENT MULCHING MEANS TOTAL COVERAGE OF THE EXPOSED AREA WITH AN APPROVED MULCH MATERIAL. EROSION CONTROL MIX MAY BE USED AS MULCH FOR PERMANENT STABILIZATION ACCORDING TO THE APPROVED APPLICATION RATES AND LIMITATIONS.

a.d. FOR AREAS STABILIZED WITH RIP RAP, PERMANENT STABILIZATION MEANS THAT SLOPES STABILIZED WITH RIP RAP HAVE AN APPROPRIATE BACKING OF A WELL-GRADED GRAVEL OR APPROVED GEOTEXTILE TO PREVENT SOIL MOVEMENT FROM BEHIND THE RIP RAP. STONE MUST BE SIZED APPROPRIATELY.

a.e. PAVED AREAS: FOR PAVED AREAS, PERMANENT STABILIZATION MEANS THE PLACEMENT OF THE COMPACTED GRAVEL SUBBASE IS COMPLETED.

a.f. FOR OPEN CHANNELS, PERMANENT STABILIZATION MEANS THE CHANNEL IS STABILIZED WITH MATURE VEGETATION AT LEAST THREE INCHES IN HEIGHT, WITH WELL-GRADED RIP RAP, OR WITH ANOTHER NON-EROSIVE LINING CAPABLE OF WITHSTANDING THE ANTICIPATED FLOW VELOCITIES AND FLOW DEPTHS WITHOUT RELIANCE ON CHECK DAMS TO SLOW FLOW. THERE MUST BE NO EVIDENCE OF SLUMPING OF THE LINING, UNDERCUTTING OF THE BANKS, OR DOWN CUTTING OF THE CHANNEL.

B. EROSION AND SEDIMENTATION CONTROL MEASURES

1. PRIOR TO THE BEGINNING OF CONSTRUCTION, THE TEMPORARY SILT FENCE SHALL BE INSTALLED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE, OR ENGINEER. SILT FENCE SHALL BE INSTALLED ALONG THE DOWNGRADIENT SIDE OF CONSTRUCTION WORK AREAS, WITH LOCATIONS BEING ADJUSTED ALONG WITH THE CONSTRUCTION PHASING AREAS. THE CONTRACTOR MAY USE EROSION MIX IN PLACE OF SINGLE SILT FENCE BARRIER.

2. THE SILT FENCE SHALL BE INSTALLED PER THE DETAIL PROVIDED IN THE PLAN SET AND INSPECTED IMMEDIATELY AFTER EACH RAINFALL, AND AT LEAST WEEKLY IN THE ABSENCE OF SIGNIFICANT RAINFALL. ANY REQUIRED REPAIRS WILL BE MADE IMMEDIATELY. SEDIMENT DEPOSITS SHALL BE PERIODICALLY REMOVED FROM THE UPSTREAM SIDE OF THE SILT BARRIERS. THIS SEDIMENT WILL BE SPREAD AND STABILIZED IN AREAS OF THE SITE NOT SUBJECT TO EROSION. THE CONTRACTOR SHALL MAKE REPAIRS IMMEDIATELY IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THE FENCE LINE. IF SUCH EROSION IS OBSERVED, THE CONTRACTOR SHALL TAKE PROACTIVE ACTION TO IDENTIFY THE CAUSE OF THE EROSION AND TAKE ACTION TO AVOID ITS REOCCURRENCE. PROPER PLACEMENT OF STAKES AND KEYING THE BOTTOM OF THE FABRIC INTO THE GROUND IS CRITICAL TO THE FENCE'S EFFECTIVENESS. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR THE EDGES, OR IMPOUNDING OF LARGE VOLUMES OF WATER BEHIND THE FENCE, THE BARRIER SHALL BE REPLACED WITH A STONE CHECK DAM AND MEASURES TAKEN TO AVOID THE CONCENTRATION OF FLOWS NOT INTENDED TO BE DIRECTED TO THE SILT FENCE. SILT FENCE SHALL BE REPLACED AS NECESSARY TO PROVIDE PROPER FILTERING ACTION.

3. EROSION CONTROL BERMS MAY BE USED IN PLACE OF SILT FENCE IN THE AREA ADJACENT TO THE DRAINAGEWAY AT THE NORTHWEST CORNER OF THE PROPERTY.

4. TEMPORARY SEDIMENT SUMPS WILL PROVIDE SEDIMENTATION CONTROL FOR STORMWATER RUNOFF FROM DISTURBED AREAS DURING CONSTRUCTION UNTIL STABILIZATION HAS BEEN ACHIEVED.

5. A CONSTRUCTION ENTRANCE WILL BE CONSTRUCTED AT ALL ACCESS POINTS ONTO THE SITE TO PREVENT TRACKING OF SOIL ONTO ADJACENT LOCAL ROADS AND STREETS.

6. SILTSACKS ™ WILL BE UTILIZED IN CATCH BASINS IN OR NEAR WORK AREAS AT RISK FROM RECEIVING TRANSPORTED SEDIMENT.

7. ALL CATCH BASINS AND FIELD INLETS, NEW OR EXISTING, THAT MAY RECEIVE RUNOFF FROM DISTURBED AREAS MUST BE PROTECTED DURING CONSTRUCTION.

8. REMOVAL OF SOD, TREES, BUSHES AND OTHER VEGETATION AND SOIL DISTURBANCE WILL BE KEPT TO A MINIMUM WHILE ALLOWING PROPER SITE DEVELOPMENT.

9. GRUBBINGS AND ANY UNUSABLE TOPSOIL SHALL BE STRIPPED AND REMOVED FROM THE PROJECT SITE AND DISPOSED OF IN AN APPROVED MANNER.

10. ANY SUITABLE TOPSOIL WILL BE STRIPPED AND STOCKPILED FOR REUSE IN FINAL GRADING. TOPSOIL WILL BE STOCKPILED IN A MANNER SUCH THAT NATURAL DRAINAGE IS NOT OBSTRUCTED AND NO OFF-SITE SEDIMENT DAMAGE WILL RESULT. IF A STOCKPILE IS NECESSARY, THE SIDE SLOPES OF THE TOPSOIL STOCKPILE WILL NOT EXCEED 2:1. TOPSOIL STOCKPILES WILL BE TEMPORARILY SEEDED WITH AROOSTOOK RYE, ANNUAL OR PERENNIAL RYE GRASS WITHIN 7 DAYS OF FORMATION, OR TEMPORARILY MULCHED IF SEEDING CANNOT BE DONE WITHIN THE RECOMMENDED SEEDING DATES. SEDIMENT BARRIERS SHALL BE INSTALLED DOWNSTREAM OF STOCKPILES. STORMWATER SHALL BE DIVERTED AROUND STOCKPILE AREAS.

11. TEMPORARY DIVERSION BERMS AND DRAINAGE SWALES SHALL BE CONSTRUCTED AS NECESSARY TO PREVENT OFF-SITE DRAINAGE FROM ENTERING THE WORK AREA.

12. TEMPORARY STABILIZATION SHALL BE CONSTRUCTED WITHIN 7 DAYS OF INITIAL DISTURBANCE OF SOILS, PRIOR TO ANY RAIN EVENT, AND PRIOR TO ANY WORK SHUT DOWN LASTING MORE THAN ONE DAY. TEMPORARY STABILIZATION INCLUDES SEED, MULCH, OR OTHER NON-ERODABLE COVER.

13. TEMPORARY SEEDING SPECIFICATIONS: WHERE SEEDBED HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF 2 INCHES BEFORE APPLYING FERTILIZER, LIME, AND SEED. APPLY LIMESTONE AT A RATE OF 3 TONS PER ACRE (138 LB. PER 1,000 SQUARE FEET) AND 10-10-10 (N-P205-K20) FERTILIZER AT A RATE OF 600 LBS PER ACRE (13.8 LB. PER 1,000 SQUARE FEET). UNIFORMLY APPLY SEED AT THE RECOMMENDED SEEDING RATES AND DATES, APPLY HAY OR STRAW MULCH AT A RATE OF 2 TONS PER ACRES, AND ANCHOR AS NECESSARY. RECOMMENDED TEMPORARY SEEDING DATES AND APPLICATION RATES ARE AS FOLLOWS:

AROOSTOOK RYE: RECOMMENDED SEEDING DATES: 8/15 -10/1 APPLICATION RATE: 112 LBS/ACRE
ANNUAL RYE GRASS: RECOMMENDED SEEDING DATES: 4/1 - 7/1 APPLICATION RATE: 40 LBS/ACRE
PERENNIAL RYE GRASS: RECOMMENDED SEEDING DATES: 8/15 - 9/15 APPLICATION RATE: 40 LBS/ACRE

15. PERMANENT SEEDING SPECIFICATION. IF A LANDSCAPE PLAN HAS BEEN PREPARED FOR THE PROJECT, SOIL PREPARATION AND SEED SPECIFICATIONS OF THAT PLAN SHALL SUPERSEDE THESE GENERAL PERMANENT SEEDING REQUIREMENTS. IT IS RECOMMENDED THAT PERMANENT SEEDING BE COMPLETED BETWEEN APRIL 1 AND JUNE 15 OF EACH YEAR. LATE SEASON SEEDING MAY BE DONE BETWEEN AUGUST 15 AND SEPTEMBER 15. AREAS NOT SEEDED OR WHICH DO NOT OBTAIN A SATISFACTORY GROWTH BY OCTOBER 1SHALL BE SEEDED WITH AROOSTOOK RYE OR MULCHED AT RATES PREVIOUSLY SPECIFIED. SEE WINTER CONDITIONS NOTES FOR SEEDING STABILIZATION AFTER NOVEMBER 1.

a. APPLY TOPSOIL TO A MINIMUM DEPTH OF 4 INCHES. MIX TOPSOIL WITH THE SUBSOIL TO A MINIMUM DEPTH OF 6 INCHES.
b. APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TESTS. IN LIEU OF SOIL TESTS, APPLY GROUND LIMESTONE AT A RATE OF 3 TONS PER ACRE (138 LB. PER 1,000 SQUARE FEET) AND GRANULAR, COMMERCIAL-GRADE, 10-10-10 (N-P2O5-K2O) FERTILIZER AT A RATE OF 800 LBS PER ACRE (18.4 LBS PER1,000 SQUARE FEET).
c. UNIFORMLY APPLY SEED MIXTURE AT THE RECOMMENDED SEEDING RATES AND DATES, APPLY HAY OR STRAW MULCH AT A RATE OF 2 TONS PER ACRES, AND ANCHOR AS NECESSARY.
d. THE SEED MIXTURE FOR LAWN AND FILTRATION BASIN AREAS SHALL CONSIST OF SEEDS PROPORTIONED BY WEIGHT AS FOLLOWS:
30% CREEPING RED FESCUE
50% KENTUCKY BLUEGRASS
20% ITALIAN/PERENNIAL RYE GRASS
NOTE: SEED MIXTURE SHALL CONSIST OF AT LEAST TWO VARIETIES OF EACH TYPE OF GRASS. WHEN USED IN A FILTER BASIN, STORMWATER SHALL NOT BE DIRECTED TO THE BASIN UNTIL THE GRASS IS ESTABLISHED.

16. MULCH ALL AREAS SEEDED SO THAT SOIL IS NOT VISIBLE THROUGH THE MULCH REGARDLESS OF THE APPLICATION RATE.

17. DITCH LININGS, STONE CHECK DAMS, AND RIP RAP INLET AND OUTLET PROTECTION SHALL BE INSTALLED WITHIN 48 HOURS OF COMPLETING THE GRADING OF THAT SECTION OF DITCH OR INSTALLATION OF CULVERT.

18. RIP RAP REQUIRED AT CULVERTS AND STORM DRAIN INLETS AND OUTLETS SHALL CONSIST OF FIELD STONE OR ROUGH UNHEWN QUARRY STONE OF APPROXIMATELY RECTANGULAR SHAPE.

19. EROSION CONTROL BLANKET SHALL BE INSTALLED ON ALL PERMANENT SLOPES STEEPER THAN 20%, IN THE BASE OF DITCHES NOT OTHERWISE PROTECTED, AND ANY DISTURBED AREAS WITHIN 100 FEET OF A PROTECTED NATURAL RESOURCE (E.G. WETLANDS AND WATER BODIES). EROSION CONTROL BLANKET SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

20. TEMPORARY CONTROL MEASURES, SUCH AS SILT FENCE, SHALL BE REMOVED WITHIN 30 DAYS AFTER PERMANENT STABILIZATION IS ATTAINED.

C. SPECIAL MEASURES FOR SUMMER CONSTRUCTION

DURING DRY SUMMER CONDITIONS, THE CONTRACTOR SHALL:
1. IMPLEMENT A PROGRAM TO APPLY DUST CONTROL MEASURES ON A DAILY BASIS EXCEPT THOSE DAYS WHERE PRECIPITATION IS SUFFICIENT TO SUPPRESS DUST FORMATION. THIS PROGRAM SHALL EXTEND TO AND INCLUDE SWEEPING OF ADJACENT STREETS.
2. SPRAY ANY MULCHES WITH WATER AFTER ANCHORING TO DAMPEN THE SOIL AND ENCOURAGE EARLY GROWTH. SPRAYING MAY BE REQUIRED SEVERAL TIMES. TEMPORARY SEED MAY BE REQUIRED UNTIL THE LATE SUMMER SEEDING SEASON.
3. COVER STOCKPILES OF FINE GRAINED MATERIALS, OR EXCAVATED SOILS WHICH ARE SUSCEPTIBLE TO EROSION TO PROTECT FROM THE INTENSE, SHORT-DURATION STORMS WHICH ARE MORE PREVALENT IN THE SUMMER MONTHS.
4. TAKE ADDITIONAL STEPS NEEDED, INCLUDING WATERING, OR COVERING EXCAVATED MATERIALS TO CONTROL FUGITIVE DUST EMISSIONS TO MINIMIZE REDUCTIONS IN VISIBILITY AND THE AIRBORNE DISBURSEMENT OF FINE-GRAINED SOILS. THIS IS PARTICULARLY IMPORTANT GIVEN THE POTENTIAL PRESENCE OF SOIL CONTAMINANTS, AND THEIR PROXIMITY ALONG THE ADJACENT STREETS AND PROPERTIES.
5. THESE MEASURES MAY ALSO BE REQUIRED IN THE SPRING AND FALL DURING THE DRIER PERIODS OF THESE SEASONS.

D. WINTER CONDITIONS

1. "WINTER CONSTRUCTION" IS CONSTRUCTION ACTIVITY PERFORMED DURING THE PERIOD FROM NOVEMBER 1ST THROUGH APRIL 15TH. IF AREAS WITHIN THE CONSTRUCTION ACTIVITY ARE NOT STABILIZED WITH TEMPORARY OR PERMANENT MEASURES OUTLINED ABOVE BY NOVEMBER 15TH, THEN THE SITE MUST BE PROTECTED WITH ADDITIONAL STABILIZATION MEASURES THAT ARE SPECIFIC TO WINTER CONDITIONS. NO MORE THAN ONE ACRE OF THE SITE MAY BE WITHOUT STABILIZATION AT ONE TIME.
2. SILT FENCE: IN LIEU OF PROVIDING THE 6" X 6" TRENCH, FOR FROZEN GROUND, STONY SOIL, THE PRESENCE OF LARGE ROOTS, OR OTHER PROHIBITIVE CONDITIONS, THE BOTTOM 8" TO 12" OF THE FABRIC MAY BE LAID ON EXISTING GRADE AND BACK FILLED WITH STONE ANCHORING MATERIAL, AS SHOWN ON THE DRAWINGS.
3. HAY MULCH SHALL BE APPLIED AT TWICE THE STANDARD TEMPORARY STABILIZATION RATE. AT THE END OF EACH CONSTRUCTION DAY, AREAS THAT HAVE BEEN BROUGHT TO FINAL GRADE MUST BE STABILIZED. MULCH MAY NOT BE SPREAD ON TOP OF SNOW.
4. AFTER NOVEMBER 1ST OR THE FIRST KILLING FROST FOR THE REGION AND BEFORE SNOW FALL, ALL EXPOSED AND DISTURBED AREAS NOT TO UNDERGO FURTHER DISTURBANCE ARE TO HAVE DORMANT SEEDING. THE DORMANT SEEDING METHOD: PREPARE THE SEEDBED, LIME AND FERTILIZE, APPLY THE SELECTED PERMANENT SEED MIXTURE AT DOUBLE THE REGULAR SEEDING RATE, AND MULCH AND ANCHOR. DORMANT SEEDINGS NEED TO BE ANCHORED EXTREMELY WELL ON SLOPES, DITCH BASES AND AREAS OF CONCENTRATED FLOWS. DORMANT SEEDING REQUIRES INSPECTION AND RESEEDING AS NEEDED IN THE SPRING. ALL AREAS WHERE COVER IS INADEQUATE MUST BE IMMEDIATELY RESEEDED AND MULCHED AS SOON AS POSSIBLE.
5. ALL VEGETATED DITCH LINES THAT HAVE NOT BEEN STABILIZED BY NOVEMBER 1ST, OR WILL BE WORKED DURING THE WINTER CONSTRUCTION PERIOD, MUST BE STABILIZED WITH AN APPROPRIATE STONE LINING BACKED BY AN APPROPRIATE GRAVEL BED OR GEOTEXTILE UNLESS SPECIFICALLY RELEASED FROM THIS STANDARD BY THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION.
6. MULCH NETTING MUST BE USED TO ANCHOR MULCH ON ALL SLOPES GREATER THAN 8% UNLESS EROSION CONTROL BLANKETS OR EROSION CONTROL MIX IS BEING USED ON THESE SLOPES.

E. HOUSEKEEPING

1. SPILL PREVENTION. CONTROLS MUST BE USED TO PREVENT POLLUTANTS FROM CONSTRUCTION AND WASTE MATERIALS STORED ON-SITE, INCLUDING STORAGE PRACTICES TO MINIMIZE EXPOSURE OF THE MATERIALS TO STORM WATER, 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 MAY NOT BE STORED OR HANDLED IN AREAS OF THE SITE DRAINING TO AN INFILTRATION AREA. AN INFILTRATION AREA" IS ANY AREA OF THE SITE THAT BY DESIGN OR AS A RESULT OF SOILS, TOPOGRAPHY AND OTHER RELEVANT FACTORS, ACCUMULATES RUNOFF THAT INFILTRATES INTO THE SOIL. DIKES, BERMS, SUMPS, AND OTHER FORMS OF SECONDARY CONTAINMENT THAT PREVENT DISCHARGE TO GROUNDWATER MAY BE USED TO ISOLATE PORTIONS OF THE SITE FOR THE PURPOSES OF STORAGE AND HANDLING OF THESE MATERIALS.

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

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

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.

6. AUTHORIZED NON-STORMWATER DISCHARGES. IDENTIFY AND PREVENT CONTAMINATION BY NON-STORMWATER DISCHARGES. WHERE ALLOWED NON-STORMWATER DISCHARGES EXIST, THEY MUST BE IDENTIFIED AND STEPS SHOULD BE TAKEN TO ENSURE THE IMPLEMENTATION OF APPROPRIATE POLLUTION PREVENTION MEASURES FOR THE NON-STORMWATER COMPONENT(S) OF THE DISCHARGE. AUTHORIZED NON-STORMWATER DISCHARGES ARE:
- DISCHARGES FROM FIREFIGHTING ACTIVITY;
- FIRE HYDRANT FLUSHINGS;
- VEHICLE WASHWATER IF DETERGENTS ARE NOT USED AND WASHING IS LIMITED TO THE EXTERIOR OF VEHICLES (ENGINE, UNDERCARRIAGE AND TRANSMISSION WASHING IS PROHIBITED);
- DUST CONTROL RUNOFF IN ACCORDANCE WITH PERMIT CONDITIONS AND APPENDIX (C)(3);
- ROUTINE EXTERNAL BUILDING WASHDOWN, NOT INCLUDING SURFACE PAINT REMOVAL, THAT DOES NOT INVOLVE DETERGENTS;
- PAVEMENT WASHWATER (WHERE SPILLS/LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE NOT OCCURRED, UNLESS ALL SPILLED MATERIAL HAD BEEN REMOVED) IF DETERGENTS ARE NOT USED;
- UNCONTAMINATED AIR CONDITIONING OR COMPRESSOR CONDENSATE;
- UNCONTAMINATED GROUNDWATER OR SPRING WATER;
- FOUNDATION OR FOOTER DRAIN-WATER WHERE FLOWS ARE NOT CONTAMINATED; UNCONTAMINATED EXCAVATION DEWATERING (SEE REQUIREMENTS IN APPENDIX C(5));
- POTABLE WATER SOURCES INCLUDING WATERLINE FLUSHINGS; AND LANDSCAPE IRRIGATION.

7. UNAUTHORIZED NON-STORMWATER DISCHARGES. THE DEPARTMENT'S APPROVAL UNDER THIS CHAPTER DOES NOT AUTHORIZE A DISCHARGE THAT IS MIXED WITH A SOURCE OF NON_STORMWATER, OTHER THAN THOSE DISCHARGES IN COMPLIANCE WITH APPENDIX C (6). SPECIFICALLY, THE DEPARTMENT'S APPROVAL DOES NOT AUTHORIZE DISCHARGES OF THE FOLLOWING:
- WASTEWATER FROM THE WASHOUT OR CLEANOUT OF CONCRETE, STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS OR OTHER CONSTRUCTION MATERIALS;
- FUELS, OILS OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE;
- SOAPS, SOLVENTS, OR DETERGENTS USED IN VEHICLE AND EQUIPMENT WASHING; AND
TOXIC OR HAZARDOUS SUBSTANCES FROM A SPILL OR OTHER RELEASE.

F. INSPECTION AND MAINTENANCE

5. INSPECT DISTURBED AND IMPERVIOUS AREAS, EROSION AND STORM WATER CONTROL MEASURES, AREAS USED FOR STORAGE THAT ARE EXPOSED TO PRECIPITATION, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE AT LEAST ONCE A WEEK AND BEFORE AND AFTER A STORM EVENT, PRIOR TO COMPLETION OF PERMANENT STABILIZATION. A PERSON WITH KNOWLEDGE OF EROSION AND STORM WATER CONTROLS, INCLUDING THE STANDARDS IN THE MAINE CONSTRUCTION GENERAL PERMIT AND ANY DEP OR MUNICIPAL COMPANION DOCUMENTS, MUST CONDUCT THE INSPECTION. THIS PERSON MUST BE IDENTIFIED IN THE INSPECTION LOG. IF BEST MANAGEMENT PRACTICES (BMPS) NEED TO BE MODIFIED OF IF ADDITIONAL BMPS ARE NECESSARY, IMPLEMENTATION MUST BE COMPLETED WITHIN 7 CALENDAR DAYS AND PRIOR TO ANY STORM EVENT (0.5IN OR GREATER IN 24-HOUR PERIOD). ALL MEASURES MUST BE MAINTAINED IN EFFECTIVE OPERATING CONDITION UNTIL AREAS ARE PERMANENTLY STABILIZED.

6. AN INSPECTION AND MAINTENANCE LOG MUST BE KEPT SUMMARIZING THE SCOPE OF THE INSPECTION, NAME AND QUALIFICATIONS OF THE PERSON PERFORMING THE INSPECTION, DATE, AND MAJOR OBSERVATIONS RELATING TO OPERATION OF EROSION AND SEDIMENTATION CONTROLS AND POLLUTION PREVENTION MEASURES.

7. INSPECTION OF THE PROJECT WORK SITE SHALL INCLUDE:
a. IDENTIFICATION OF PROPER EROSION CONTROL MEASURE INSTALLATION IN ACCORDANCE WITH THE EROSION CONTROL DETAIL SHEET.
b. DETERMINE WHETHER EACH EROSION CONTROL MEASURE IS PROPERLY OPERATING. IF NOT, IDENTIFY DAMAGE TO THE CONTROL DEVICE AND DETERMINE REMEDIAL MEASURES.
c. IDENTIFY AREAS WHICH APPEAR VULNERABLE TO EROSION AND DETERMINE ADDITIONAL EROSION CONTROL MEASURES WHICH SHOULD BE USED TO IMPROVE CONDITIONS.
d. INSPECT AREAS OF RECENT SEEDING TO DETERMINE PERCENT CATCH OF GRASS. A MINIMUM CATCH OF 90 PERCENT IS REQUIRED PRIOR TO REMOVAL OF EROSION CONTROL MEASURES.

4. IF INSPECTION OF THE SITE INDICATES A CHANGE SHOULD BE MADE TO THE EROSION CONTROL PLAN, TO EITHER IMPROVE EFFECTIVENESS OR CORRECT A SITE-SPECIFIC DEFICIENCY, THE INSPECTOR SHALL IMMEDIATELY IMPLEMENT THE CORRECTIVE MEASURE AND NOTIFY THE OWNER OF THE CHANGE.

5. ALL CERTIFICATIONS, INSPECTION FORMS, AND WRITTEN REPORTS PREPARED BY THE INSPECTOR(S) SHALL BE FILED WITH THE OWNER, AND THE PERMIT FILE CONTAINED ON THE PROJECT SITE. ALL WRITTEN CERTIFICATIONS, INSPECTION FORMS, AND WRITTEN REPORTS MUST BE FILED WITHIN ONE (1) WEEK OF THE INSPECTION DATE AND RECORDS MUST BE RETAINED FOR THREE YEARS FROM THE TIME PERMANENT STABILIZATION IS ACHIEVED.

6. THE CONTRACTOR HAS SOLE RESPONSIBILITY FOR COMPLYING WITH THE EROSION/SEDIMENT CONTROL REPORT, INCLUDING CONTROL OF FUGITIVE DUST, AND SHALL BE RESPONSIBLE FOR ANY MONETARY PENALTIES RESULTING FROM FAILURE TO COMPLY WITH THESE STANDARDS.

G. CONSTRUCTION SCHEDULE & SEQUENCE (TIMELINES ARE APPROXIMATE AND WILL BE DEPENDENT ON WEATHER AND SITE CONDITIONS).

1. PRE-CONSTRUCTION CONFERENCE: PRIOR TO ANY CONSTRUCTION AT THE SITE, REPRESENTATIVES OF THE CONTRACTOR, THE ARCHITECT, THE OWNER, AND THE SITE DESIGN ENGINEER SHALL MEET TO DISCUSS THE SCHEDULING OF THE SITE CONSTRUCTION AND THE DESIGNATION OF THE RESPONSIBLE PARTIES FOR IMPLEMENTING THE PLAN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING THE MEETING. PRIOR TO THE MEETING, THE CONTRACTOR WILL PREPARE A DETAILED SCHEDULE AND A MARKED-UP SITE PLAN INDICATING AREAS AND COMPONENTS OF THE WORK AND KEY DATES SHOWING DATE OF DISTURBANCE AND COMPLETION OF THE WORK. THE CONTRACTOR SHALL CONDUCT A MEETING WITH EMPLOYEES AND SUB-CONTRACTORS TO REVIEW THE EROSION CONTROL PLAN, THE CONSTRUCTION TECHNIQUES WHICH WILL BE EMPLOYED TO IMPLEMENT THE PLAN, AND PROVIDE A LIST OF ATTENDEES AND ITEMS DISCUSSED AT THE MEETING TO THE OWNER. THREE COPIES OF THE SCHEDULE, THE CONTRACTOR'S MEETING MINUTES, AND MARKED-UP SITE PLAN SHALL BE PROVIDED TO THE OWNER.

2. THE FOLLOWING CONSTRUCTION SEQUENCE SHALL BE REQUIRED TO INSURE THE EFFECTIVENESS OF THE EROSION AND SEDIMENTATION CONTROL MEASURES IS OPTIMIZED.
a. INSTALL SAFETY AND CONSTRUCTION FENCE TO SECURE THE SITE FOR CONSTRUCTION.
b. INSTALL ALL PERIMETER SILTATION FENCE AND EROSION CONTROL BARRIERS. PARTICULAR ATTENTION SHALL BE PAID TO AREAS UPSTREAM OF PROTECTED NATURAL RESOURCES. PROJECT LIMITS OF DISTURBANCE ARE CLEARLY DELINEATED ON THE DRAWINGS - NO ACTIVITY IS ALLOWED OUTSIDE THESE LIMITS. SIGNS SHALL BE ERECTED INDICATING THAT THE DOWNSTREAM AREAS ARE OFF LIMITS TO ALL CONSTRUCTION ACTIVITIES.
c. INSTALL CONSTRUCTION ENTRANCES.
d. CLEAR AND GRUB THE CONSTRUCTION AREA, REMOVE AND STOCKPILE UNSUITABLE FILL MATERIAL.
e. CONSTRUCT ACTIVITIES ON THE SITE TO OPTIMIZE THE HANDLING OF MATERIALS AND RESTRICT THE DENUDED AREAS TO THE TIME STIPULATED.
f. UNDERTAKE MAJOR EARTHWORK ACTIVITY TO ROUGH GRADE THE SITE
g. INSTALL UTILITIES AND CONSTRUCT STABILIZED PADS IN UNIT AREAS.
h. INSTALL AND COMPACT NEW PAVEMENT BASE GRAVEL MATERIALS AND INSTALL BINDER PAVEMENT.
i. LANDSCAPE (LOAM AND SEED).
j. INSTALL STRIPING, SIGNAGE, AND MISCELLANEOUS SITE IMPROVEMENTS.
k. REVIEW SITEWORK WITH ENGINEER AND OWNER AND COMPLETE ANY PUNCH LIST ITEMS.
l. REMOVE ANY TEMPORARY EROSION CONTROL MEASURES.
3. THE CONTRACTOR MUST MAINTAIN AN ACCURATE SET OF RECORD DRAWINGS INDICATING THE DATE WHEN AN AREA IS FIRST DENUDED, THE DATE OF TEMPORARY STABILIZATION, AND THE DATE OF FINAL STABILIZATION. ON OCTOBER 1 OF ANY CALENDAR YEAR, THE CONTRACTOR SHALL SUBMIT A DETAILED PLAN FOR STABILIZING THE SITE FOR THE WINTER AND A DESCRIPTION OF WHAT ACTIVITIES ARE PLANNED DURING THE WINTER.

ISSUED FOR PERMITTING - NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION
1		ISSUED FOR PERMITTING

REVISIONS

STATE OF MAINE — ANDREW D. JOHNSTON — NO. 9994 — 9-9-22 — LICENSED PROFESSIONAL ENGINEER

P.E. ANDREW D. JOHNSTON
LIC. #9994

CLIPPERSHIP LANDING NURSING HOME

EROSION CONTROL NOTES

CLIPPERSHIP LANDING DEVELOPMENT, LLC
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541 US Route One
Freeport, ME 04032
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DRAWN: AJ	DATE: SEPTEMBER, 2022
DESIGNED: AJ	SCALE: NTS
CHECKED:	JOB NO. 21-025
FILE NAME:	
SHEET: C-300	

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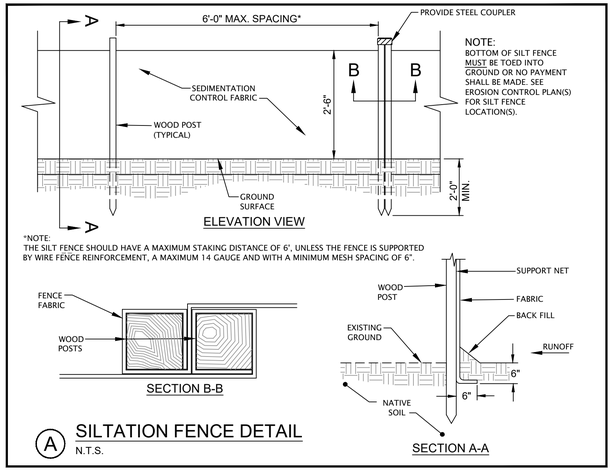

(A) SILTATION FENCE DETAIL
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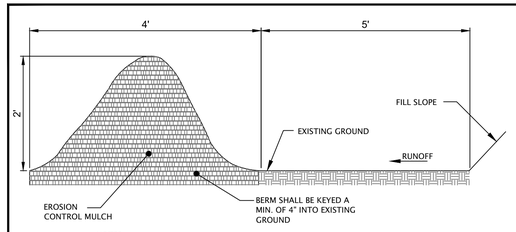

NOTES:
1. THE EROSION CONTROL MULCH MIX SHALL CONFORM TO THE FOLLOWING STANDARDS:

A. MOISTURE CONTENT - 30-60%
B. pH - 5.0-8.0
C. SCREEN SIZE - 100% LESS THAN 3", MAX. 70% LESS THAN 1"
D. NO LESS THAN 40% ORGANIC MATERIAL (DRY WEIGHT) BY LOSS OF IGNITION
F. NO STONES LARGER THAN 2" IN DIAMETER

2. THE EROSION CONTROL MULCH BERM SHALL BE PLACED, UNCOMPACTED, ALONG A RELATIVELY LEVEL CONTOUR.

3. THE EROSION CONTROL MULCH FILTER BERM MAY BE USED IN LIEU OF SILTATION FENCE, AT THE TOE OF SHALLOW SLOPES (LESS THAN 8%), ON FROZEN GROUND, LEDGE OUT CROPS, VERY ROOTED FORESTED AREA OR AT THE EDGE OF GRAVEL PARKING AREAS. THEY SHALL NOT BE USED ON SLOPES GREATER THAN 8% WITHOUT THE SUPPORT OF ADDITIONAL MEASURES, SUCH AS SILT FENCE.

4. BERMS SHALL REMAIN IN PLACE UNTIL UPSTREAM AREA IS COMPLETED OR 90% CATCH OF VEGETATION IS ATTAINED. BERMS SHALL BE REMOVED BY SPREADING SUCH THAT THE NATIVE EARTH CAN BE SEEN BELOW.

(D) EROSION CONTROL MIX BERM SEDIMENT BARRIER
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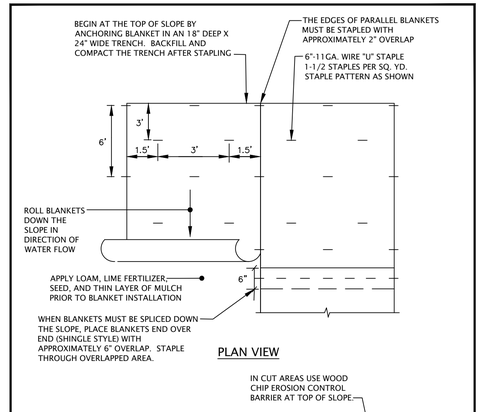
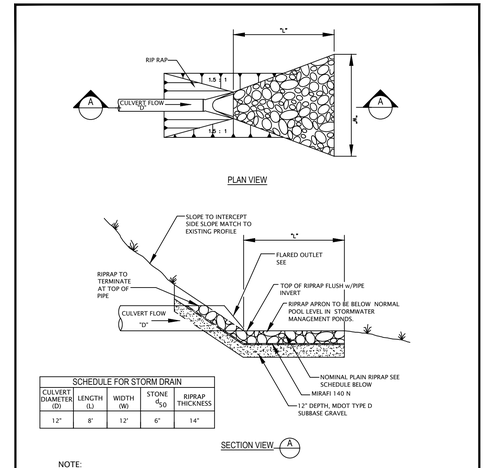


NOTES:
1. IF GRASS CATCH IS NOT 90% BY SEPTEMBER 1, ADD #4 REBAR @ 3'-0" ROWS ON 3' CENTERS. REMOVE OR DRIVE REBAR 3" BELOW GRADE IN SPRING FOLLOWING TURF ESTABLISHMENT.
2. MULCH RATE TO BE 1/2 THE RATE OTHERWISE SPECIFIED.
3. SLOPES STEEPER THAN 1.5:1 ARE PROHIBITED.

(G) EROSION CONTROL BLANKET DETAIL
N.T.S.

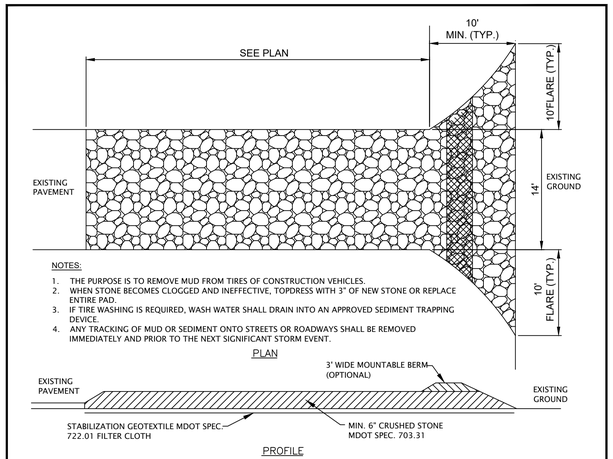


SCHEDULE FOR STORM DRAIN				
CULVERT DIAMETER (D)	LENGTH (L)	WIDTH (W)	STONE d_{50}	RIPRAP THICKNESS
12"	8'	12'	6"	14"

SECTION VIEW (A)

NOTE:
RIPRAP GRADATION AND PLACEMENT - THE RIPRAP GRADATION SHALL BE A WELL-GRADED MIX FROM ABOUT 1.5 TIMES THE D SIZE TO ABOUT 25 PERCENT OF THE D SIZE. THE RIPRAP STONES SHALL BE CAREFULLY PLACED WORKING FROM THE TOE OF THE SLOPE UPWARD. THE STONES SHOULD BE LOWERED TO THE SLOPE AND NOT BE ALLOWED TO DROP MORE THAN 12 INCHES ONTO THE GEOTEXTILE. THE FINISHED SURFACE SHALL BE A RELATIVELY SMOOTH UNIFORMLY SLOPED SURFACE.

(I) RIP RAP OUTLET APRON
N.T.S.



(B) STABILIZED CONSTRUCTION ENTRANCE DETAIL
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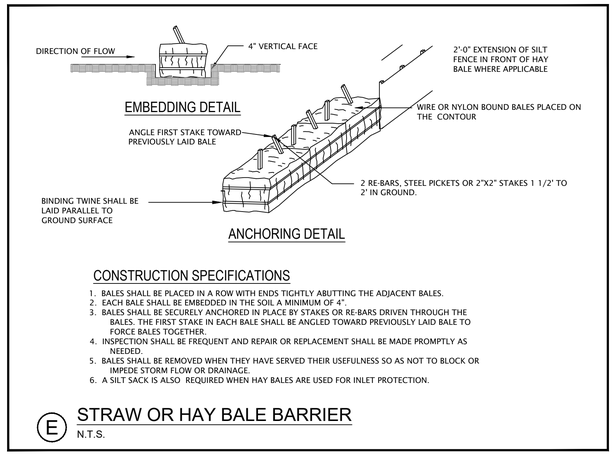
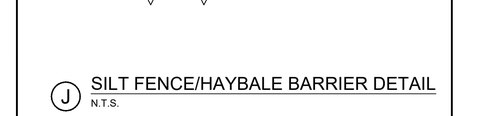


CONSTRUCTION SPECIFICATIONS

1. BALES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2. EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 4".
3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY STAKES OR RE-BARS DRIVEN THROUGH THE BALES. THE FIRST STAKE IN EACH BALE SHALL BE ANGLED TOWARD PREVIOUSLY LAID BALE TO FORCE BALES TOGETHER.
4. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
5. BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
6. A SILT SACK IS ALSO REQUIRED WHEN HAY BALES ARE USED FOR INLET PROTECTION.

(E) STRAW OR HAY BALE BARRIER
N.T.S.

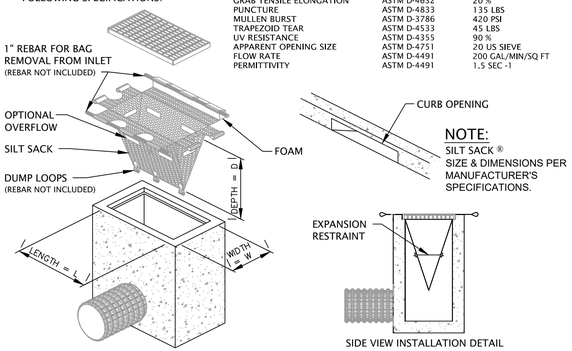


(J) SILT FENCE/HAYBALE BARRIER DETAIL
N.T.S.

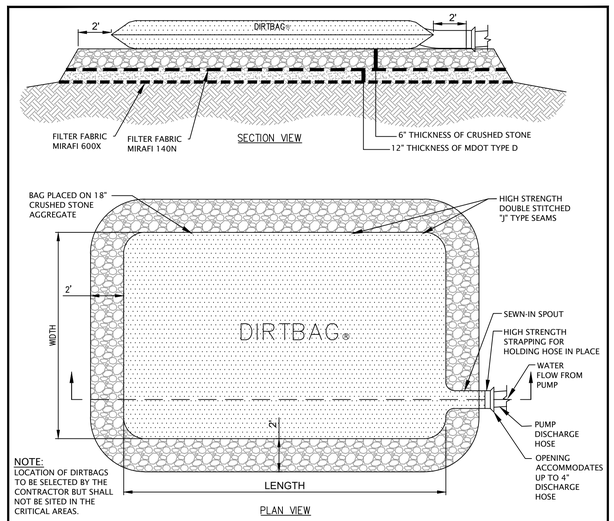
NOTE: THE SILT SACK ® WILL BE MANUFACTURED FROM A WOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS THE FOLLOWING SPECIFICATIONS:

HIGH-FLOW SILT SACK ® (FOR USE IN LOW POINTS/SAGS)
(FOR AREAS OF MODERATE TO HEAVY PRECIPITATION AND RUN-OFF)

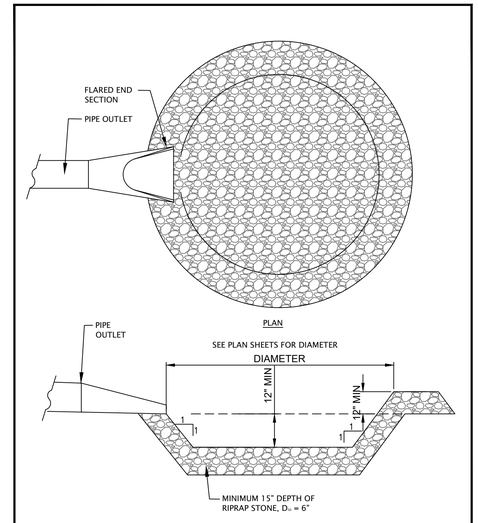
PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	265 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	135 LBS
MULLEN BURST	ASTM D-3786	420 PSI
TRAPEZOID TEAR	ASTM D-4533	45 LBS
UV RESISTANCE	ASTM D-4355	90 %
APPARENT OPENING SIZE	ASTM D-4751	20 US SIEVE
FLOW RATE	ASTM D-4491	200 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	1.5 SEC -1



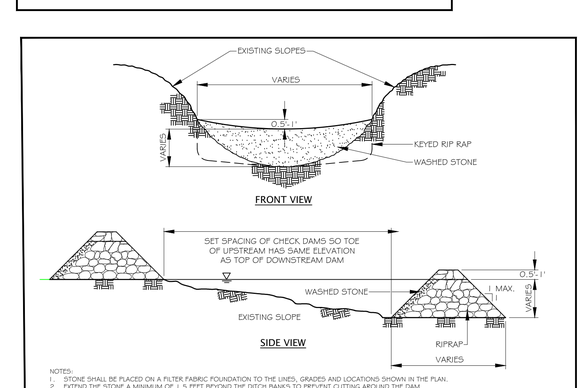
(C) SILT SACK® DETAIL & SPECIFICATIONS
N.T.S.



(F) DIRTBAG / SPECIFICATIONS FOR DEWATERING DETAIL
N.T.S.



(H) FOREBAY DETAIL
N.T.S.



NOTES:
1. STONE SHALL BE PLACED ON A FILTER FABRIC FOUNDATION TO THE LINES, GRADES AND LOCATIONS SHOWN IN THE PLAN.
2. EXTEND THE STONE A MINIMUM OF 1.5 FEET BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
3. PROTECT THE CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE.
4. ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONES.
5. AT THE CONCLUSION OF THE PROJECT WHEN FINAL GRADES HAVE BEEN ESTABLISHED/STABILIZED ALL CHECK DAM AND SEDIMENT MATERIALS SHALL BE REMOVED.

(K) CHECK DAM DETAIL
N.T.S.

ISSUED FOR PERMITTING - NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION
1		ISSUED FOR PERMITTING

REVISIONS

STATE OF MAINE — ANDREW D. JOHNSTON — NO. 9994 — 6-9-22 — LICENSED PROFESSIONAL ENGINEER

P.E. ANDREW D. JOHNSTON
LIC. #9994

CLIPPERSHIP LANDING NURSING HOME

EROSION CONTROL DETAILS

CLIPPERSHIP LANDING DEVELOPMENT, LLC
PO BOX 9729, PORTLAND, ME 04101-5029

Atlantic Resource Consultants
541 US Route One
Freeport, ME 04032
Tel: 207.869.9050

DRAWN:	AJ	DATE:	SEPTEMBER, 2022
DESIGNED:	AJ	SCALE:	NTS
CHECKED:		JOB NO.	21-025
FILE NAME:			
SHEET:	C-301		

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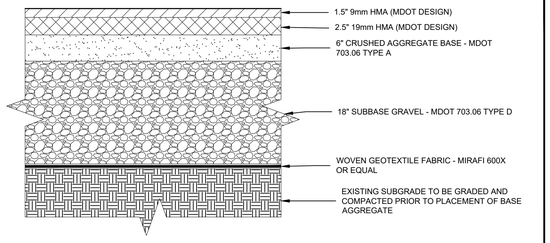
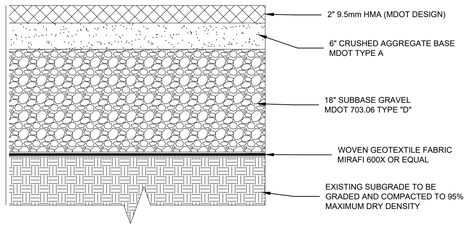


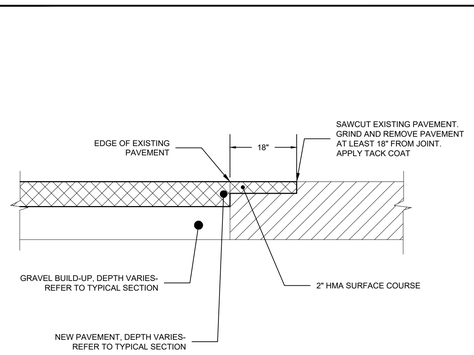
1 BITUMINOUS PAVEMENT DETAIL

N.T.S.



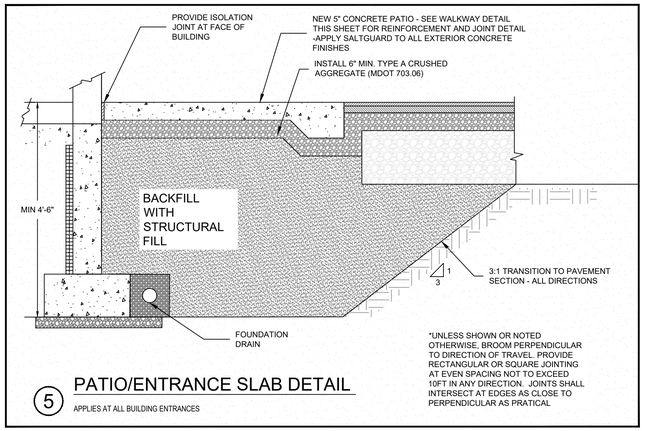
3 BITUMINOUS SIDEWALK DETAIL

N.T.S.



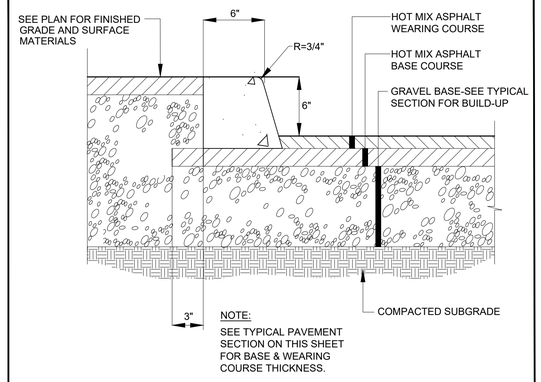
2 PAVEMENT BUTT-JOINT DETAIL

N.T.S.



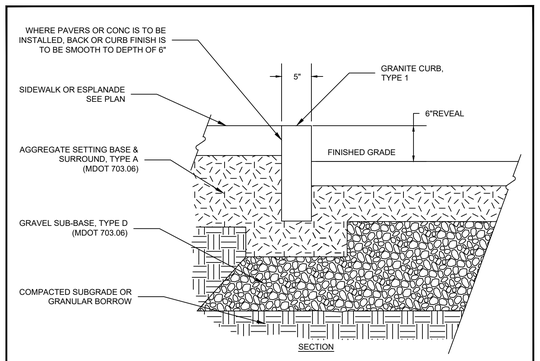
5 PATIO/ENTRANCE SLAB DETAIL

APPLIES AT ALL BUILDING ENTRANCES



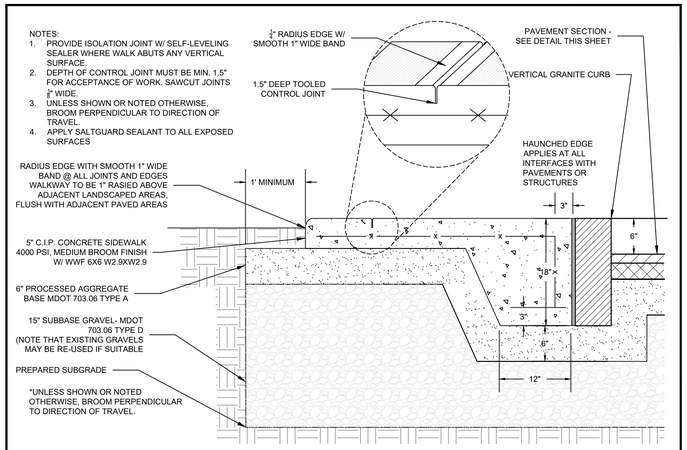
E SLIPFORM CONCRETE CURB DETAIL

N.T.S.



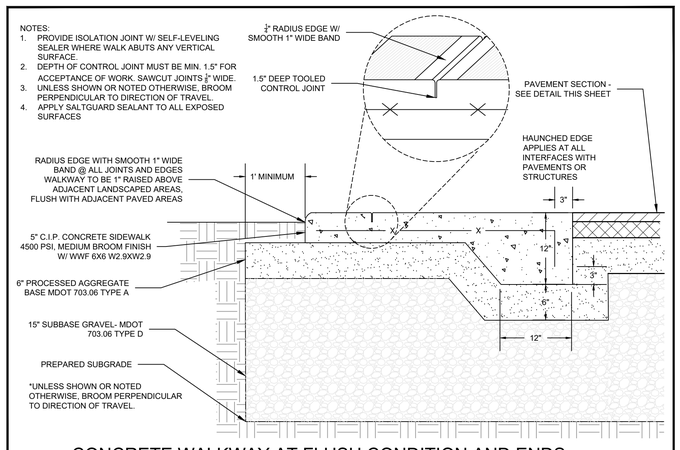
10 VERTICAL GRANITE CURB DETAIL

N.T.S.



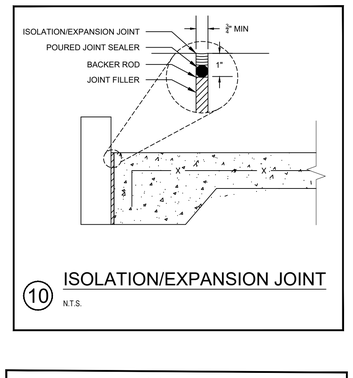
6 GRANITE CURB AND WALKWAY

N.T.S.



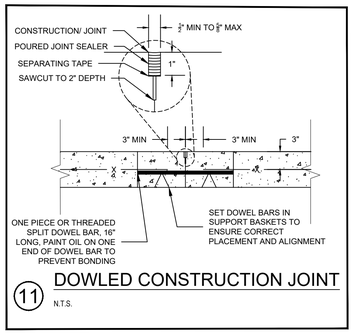
9 CONCRETE WALKWAY AT FLUSH CONDITION AND ENDS

N.T.S.



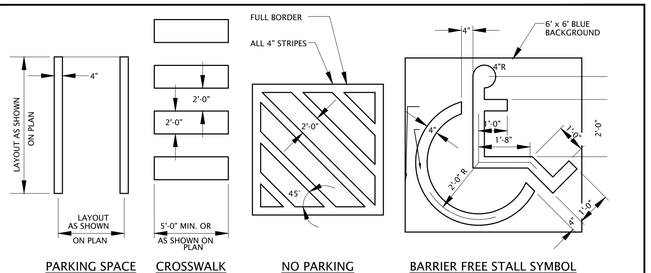
10 ISOLATION/EXPANSION JOINT

N.T.S.



11 DOWLED CONSTRUCTION JOINT

N.T.S.



NOTE:
PAVEMENT MARKINGS SHALL MEET THE REQUIREMENTS OF AASHTO M248. EITHER TYPE N, REGULAR TRAFFIC PAINT OR TYPE F, FAST DRY TRAFFIC PAINT (GLASS BEADS SHALL CONFORM TO THE REQUIREMENTS OF AASHTOM247, TYPE I).

4 PAVEMENT MARKING DETAIL

N.T.S.

ISSUED FOR PERMITTING - NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION
1		ISSUED FOR PERMITTING

REVISIONS

STATE OF MAINE — ANDREW D. JOHNSTON — LIC. 9994 — 9-9-22 — LICENSED PROFESSIONAL ENGINEER

P.E. ANDREW D. JOHNSTON
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CLIPPERSHIP LANDING NURSING HOME

SITE/CIVIL DETAILS 1

CLIPPERSHIP LANDING DEVELOPMENT, LLC
PO BOX 9729, PORTLAND, ME 04101-5029

Atlantic Resource Consultants
541 US Route One
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Tel: 207.869.9050

DRAWN: AJ/MV	DATE: SEPTEMBER, 2022
DESIGNED: AJ	SCALE: NTS
CHECKED:	JOB NO. 21-025
FILE NAME:	
SHEET: C-302	

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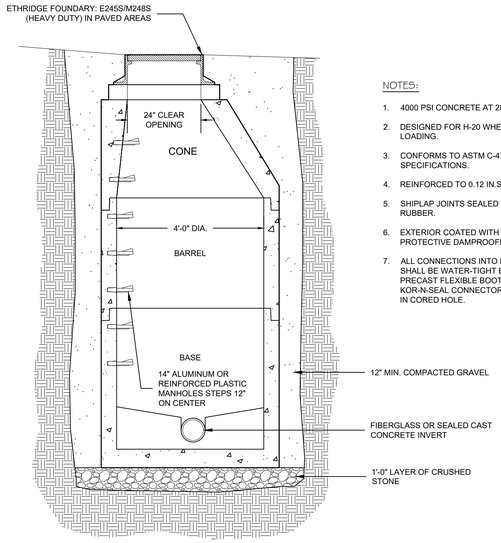
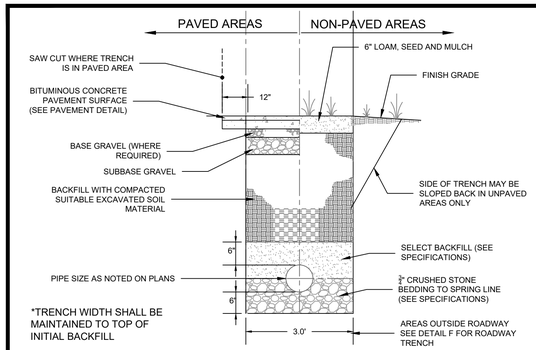


NOTES:

1. 4000 PSI CONCRETE AT 28 DAYS.
2. DESIGNED FOR H-20 WHEEL LOADING.
3. CONFORMS TO ASTM C-478 SPECIFICATIONS.
4. REINFORCED TO 0.12 IN.SQ./L.F.
5. SHIPLAP JOINTS SEALED WITH BUTYL RUBBER.
6. EXTERIOR COATED WITH ASPHALTIC PROTECTIVE DAMPROOFING.
7. ALL CONNECTIONS INTO MANHOLE SHALL BE WATER-TIGHT BY EITHER PRECAST FLEXIBLE BOOT OR KOR-N-SEAL CONNECTOR INSTALLED IN CORED HOLE.

1 PRECAST SEWER MANHOLE DETAIL

N.T.S.

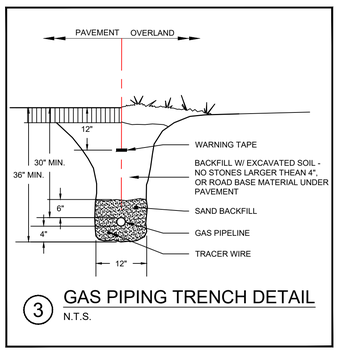


*TRENCH WIDTH SHALL BE MAINTAINED TO TOP OF INITIAL BACKFILL

NOTE:
BRACING AND SHEETING OR OTHER TRENCH PROTECTION TO BE PROVIDED TO MEET APPLICABLE STATE AND O.S.H.A. SAFETY STANDARDS. ALL SUCH TRENCH PROTECTION TO BE THE RESPONSIBILITY OF THE CONTRACTOR.

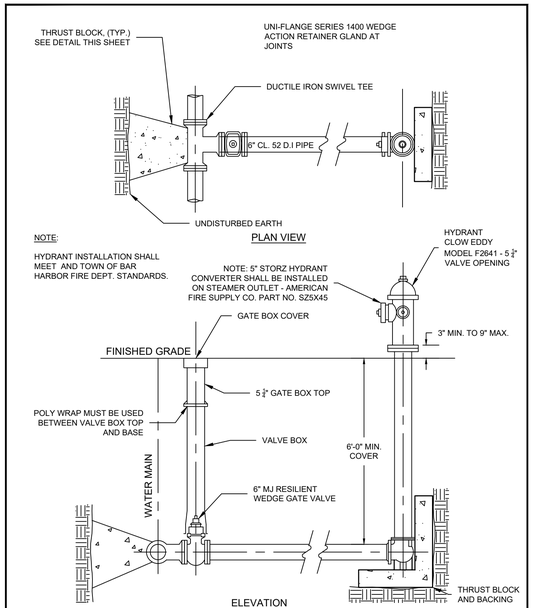
2 TYPICAL SEWER & STORM DRAIN TRENCH DETAIL

N.T.S.



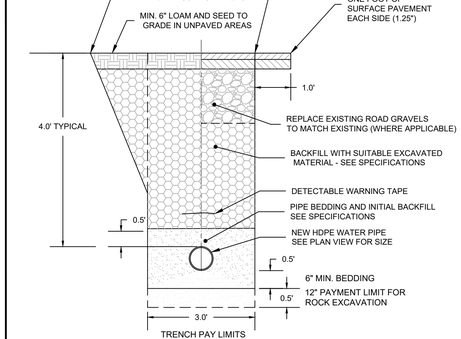
3 GAS PIPING TRENCH DETAIL

N.T.S.



4 FIRE HYDRANT DETAIL

N.T.S.



5 WATER PIPE TRENCH

N.T.S.

THRUST RESTRAINT REQUIREMENTS

All tees, Bends, Reducers and End Caps should be restrained using thrust blocks, mega-lugs, mechanical joint fittings, field-lok gaskets, fusion joints, a combination of these methods, or other restraint fittings as expolically approved by The Engineer for use on the project. A certain number of joints before and after a restrained fitting may also require joint restraints as set forth in Tables below. Below Tables establish values for the minimum length of pipe ("L") within which other joints must be restrained. Values in feet are based on 150 PSI line pressure, 24" cover, Sandy-Clay type soil and a safety factor of 2. For other line pressures, multiply the "L" values by the actual pressure and divide by 150.

Pipe-Pipe Restraints for IPS & DPS pipe... minimum restrained length ("L") in feet

Pipe Size	Pipe OD IPS	Pipe OD DPS	Bends				Step Reduction			Dead End	Gate Valve
			11	22	45	90	1	2	3		
4"	4.5	4.8	2	5	11	24	17	24	37	54	28
6"	6.63	6.9	4	7	16	35	36	48	64	76	37
8"	8.63	9.05	5	10	18	46	40	66	76	90	46

Based on 150 PSI pressure and 20 - foot length of pipe (for shorter pipe lengths, use table above)

Pipe-Pipe Restraints

Table below shows the number of adjacent joints to restrain ...based on 20 foot length

Pipe Size	Pipe OD IPS	Pipe OD DPS	Bends				Step Reduction			Dead End	Gate Valve
			11	22	45	90	1	2	3		
4"	4.5	4.8	0	0	0	1	0	1	1	2	1
6"	6.63	6.9	0	0	0	1	1	2	3	3	1
8"	8.63	9.05	0	0	0	2	1	3	3	4	2

Bend: Requires restrains on both ends. Other joints on both sides may require restraints (See Tables).
Reducers: Must be restrained on both ends. Additional joints on the larger end are required. (See Tables)
Standard Tee: Requires restraint on branch side only, tee 90-degree bend for additional joints. (See Tables)
Reducing Tee: Requires restraints on all three sides. (See Tables)
Dead End: Adjacent joint restraints are required on upstream joints. (See Tables)

6 THRUST RESTRAINT REQUIREMENTS

N.T.S.

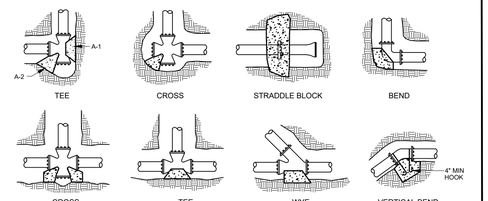
(HORIZONTAL) BEARING AREA OF THRUST BLOCKS IN SQUARE FEET

FITTING SIZE	TEE, WYE, DEAD END AND HYDRANT	STRADDLE BLOCK	90D BEND PLUGGED CROSS	TEE PLUGGED ON RUN		45D BEND	22-1/2D BEND	11-1/4D BEND
				A-1	A-2			
4	1.0	1.6	1.4	1.9	1.4	1.0	---	---
6	2.1	3.7	3.0	4.3	3.0	1.6	1.0	---
8	3.8	6.5	5.3	7.6	5.4	2.9	1.5	1.0
10	5.9	10.2	8.4	11.8	8.4	4.6	2.4	1.2
12	8.5	14.7	12.0	17.0	12.0	6.6	3.4	1.7
14	11.5	---	16.3	23.0	16.3	8.9	4.6	2.3
16	15.0	26.1	21.3	30.0	21.3	11.6	6.0	3.0
18	19.0	---	27.0	38.0	27.0	14.6	7.6	3.8
20	23.5	40.8	33.3	47.0	33.3	18.1	9.4	4.7
24	34.0	58.8	48.0	68.0	48.0	26.2	13.6	6.8

(VERTICAL) VOLUME OF THRUST BLOCK IN CUBIC YARDS

FITTING SIZE	90D BEND	45D BEND	22-1/2D BEND	11-1/4D BEND
4	---	---	---	---
6	1.3	---	---	---
8	2.3	1.1	---	---
10	3.7	1.8	---	---
12	5.5	2.8	1.2	---
14	7.6	3.9	1.7	---
16	9.9	5.1	2.3	0.9
18	---	---	---	---
20	---	---	---	---
24	---	---	---	---

NOTES:
1. ABOVE BEARING AREAS BASED ON TEST PRESSURE OF 150 PSI AND AN ALLOWABLE SOIL BEARING STRESS OF 2000 POUNDS PER SQUARE FOOT. TO COMPUTE BEARING AREAS FOR DIFFERENT TEST PRESSURES AND SOIL BEARING STRESSES, USE THE FOLLOWING EQUATION:
BEARING AREA = (TEST PRESSURE / 150) x (2000 / SOIL BEARING STRESS) x (TABLE VALUE)
2. ABOVE VOLUMES BASED ON TEST PRESSURE OF 150 PSI AND THE WEIGHT OF CONCRETE = 4050 POUNDS PER CUBIC YARD. TO COMPUTE FOR DIFFERENT TEST PRESSURES, USE THE FOLLOWING EQUATION:
VOLUME = (TEST PRESSURE / 150) x (TABLE VALUE)

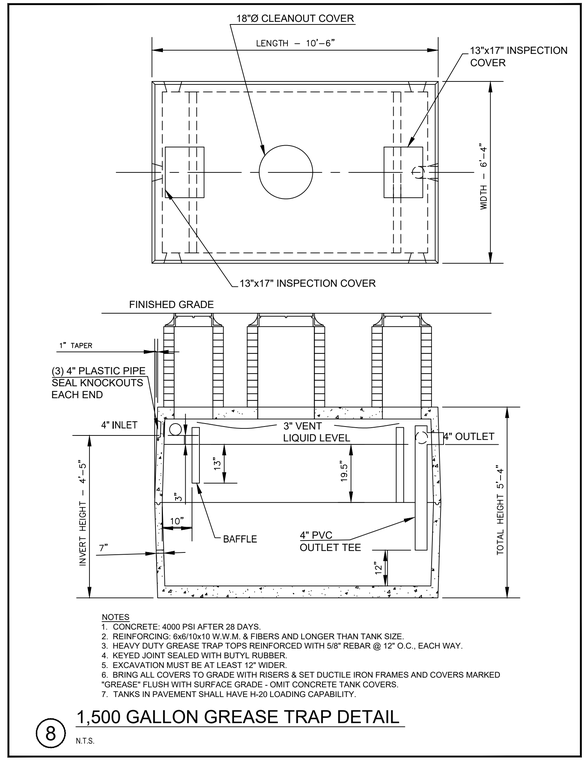


NOTES:
1. CONCRETE BLOCKING TO BE POURED AGAINST UNDISTURBED EARTH.
2. ALL CONCRETE TO BE CLASS 2400 MINIMUM.
3. INSTALL ISOLATION MATERIAL BETWEEN PIPE AND/OR FITTINGS BEFORE POURING CONCRETE BLOCKING.
4. CONCRETE SHALL BE KEPT CLEAR OF ALL JOINTS AND ACCESSORIES.
5. TIE RODS SHALL BE DEFORMED GALVANIZED COLD ROLLED STEEL, 40000 PSI TENSILE STRENGTH.

RODS FOR VERTICAL BENDS		
FITTING SIZE	ROD SIZE	EMBEDMENT
12" AND LESS	#6	30"
14"-16"	#8	36"

7 THRUST BLOCKING DETAIL

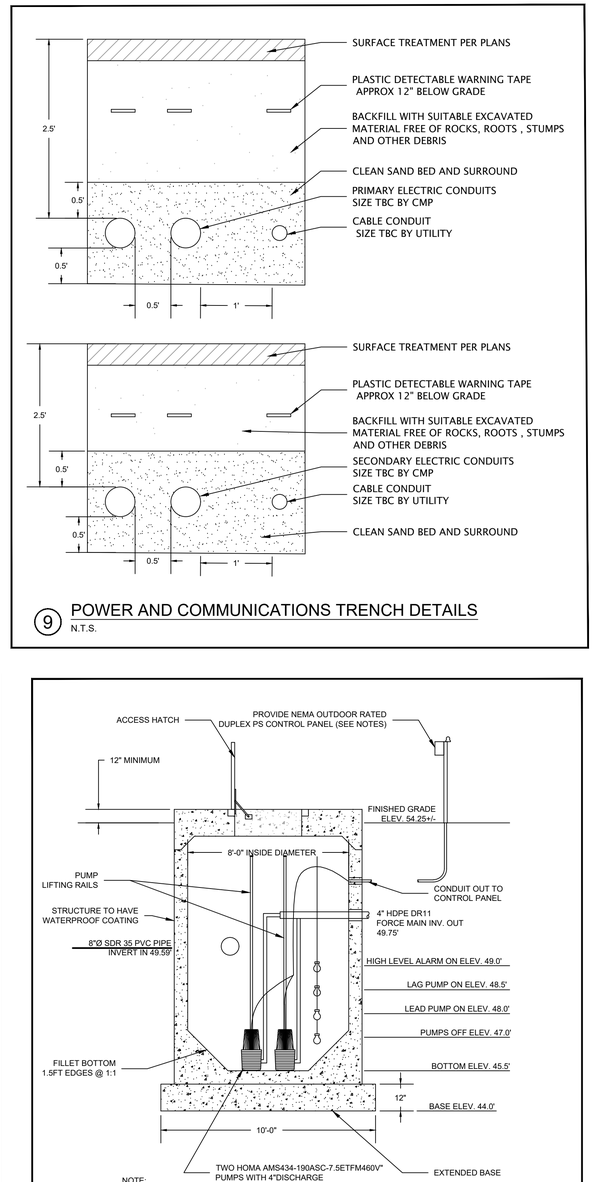
N.T.S.



NOTES
1. CONCRETE: 4000 PSI AFTER 28 DAYS.
2. REINFORCING: 6x6/10x10 W.W.M. & FIBERS AND LONGER THAN TANK SIZE.
3. HEAVY DUTY GREASE TRAP TOPS REINFORCED WITH 5/8" REBAR @ 12" O.C., EACH WAY.
4. KEYED JOINT SEALED WITH BUTYL RUBBER.
5. EXCAVATION MUST BE AT LEAST 12" WIDER.
6. BRING ALL COVERS TO GRADE WITH RISERS & SET DUCTILE IRON FRAMES AND COVERS MARKED "GREASE" FLUSH WITH SURFACE GRADE - OMIT CONCRETE TANK COVERS.
7. TANKS IN PAVEMENT SHALL HAVE H-20 LOADING CAPABILITY.

8 1,500 GALLON GREASE TRAP DETAIL

N.T.S.



9 POWER AND COMMUNICATIONS TRENCH DETAILS

N.T.S.

NOTE:

1. THIS DETAIL IS INTENDED TO SHOW THE GENERAL DESIGN CONFIGURATION OF THE PUMP STATION. THE CONTRACTOR MAY DEVELOP AND SUBMIT ALTERNATIVE DESIGNS THAT OFFER SIMILAR ACCESS , STORAGE AND PERFORMANCE STANDARDS.
2. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR THE PUMP STATION FOR APPROVAL BY THE PROJECT ENGINEER.
3. CONTACT LARRY MILLS, CHAMPLIN ASSOCIATES - 207-749-1850, LARRY@CHAMPLINASSOCIATES.COM

10 DUPLEX SEWER PUMP STATION DETAIL

N.T.S.

ISSUED FOR PERMITTING - NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION
1		ISSUED FOR PERMITTING

REVISIONS

STATE OF MAINE — ANDREW D. JOHNSTON — REG. NO. 9994 — 9-9-22 — LICENSED PROFESSIONAL ENGINEER

P.E. ANDREW D. JOHNSTON
LIC. #9994

CLIPPERSHIP LANDING NURSING HOME

SITE/CIVIL DETAILS 2

CLIPPERSHIP LANDING DEVELOPMENT, LLC
PO BOX 9729, PORTLAND, ME 04101-5029

Atlantic Resource Consultants
541 US Route One
Freeport, ME 04032
Tel: 207.869.9050

DRAWN: AJ/MV	DATE: SEPTEMBER, 2022
DESIGNED: AJ	SCALE: NTS
CHECKED:	JOB NO. 21-025
FILE NAME:	
SHEET: C-303	

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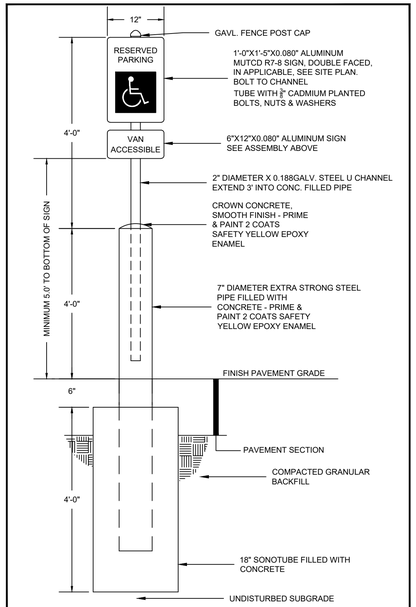
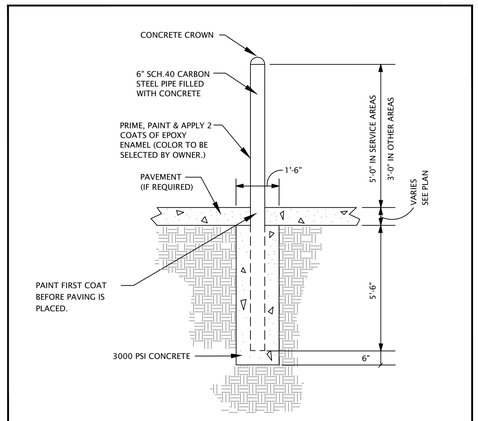


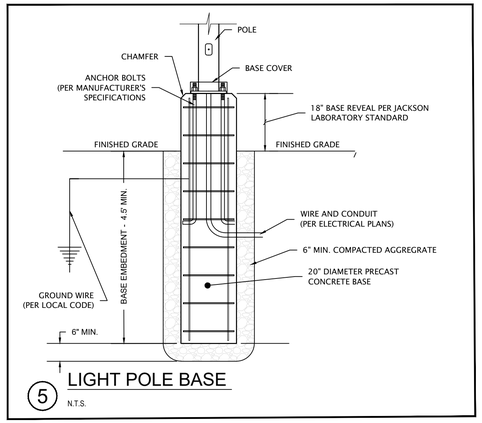
1 BARRIER FREE PARKING SIGN DETAIL

N.T.S.



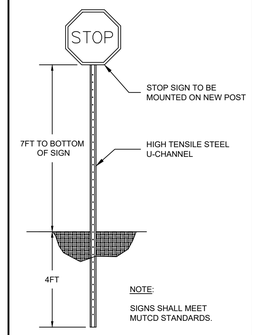
3 POST BOLLARD DETAIL

N.T.S.



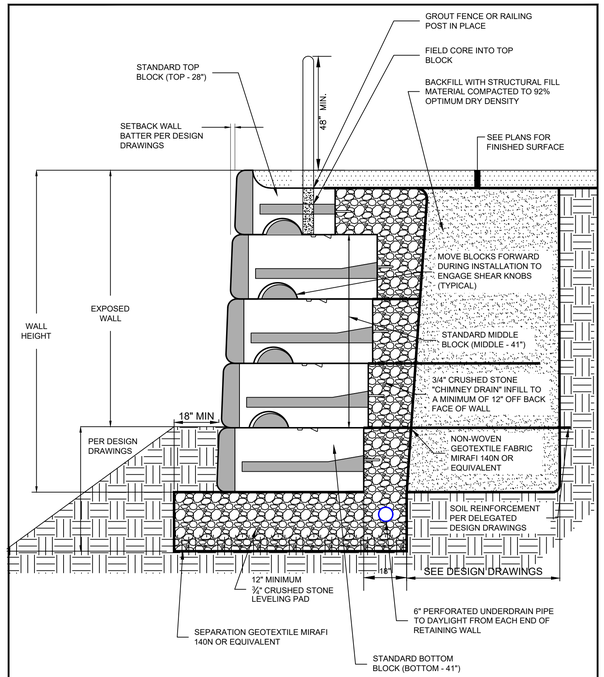
5 LIGHT POLE BASE

N.T.S.



6 STOP SIGN DETAIL

N.T.S.

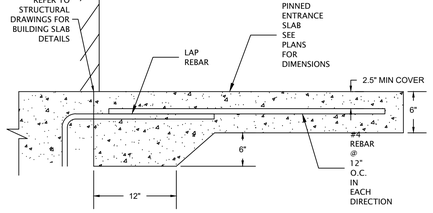


NOTES:

1. RETAINING WALL MATERIAL SHALL BE REDI-ROCK LARGE BLOCK SEGMENTAL CONCRETE UNIT MASONRY RETAINING WALL SYSTEM WITH LIMESTONE TEXTURED FINISH, OR APPROVED EQUAL.
2. LARGE BLOCK SEGMENTAL CONCRETE UNIT MASONRY RETAINING WALLS REQUIRE UNDERDRAIN, CRUSHED STONE INFILL AND GRANULAR BORROW BACKFILL.
3. ALL BLOCKS AT THE ENDS OF THE WALL(S) MUST BE FINISHED ON THREE SIDES: THE FRONT, THE TOP AND THE EXPOSED END. BLOCKS WITH EXPOSED SURFACES AT THE ENDS AND TOP OF THE WALL MUST BE MANUFACTURED FOR THIS PURPOSE AND MUST BE FINISHED TO MATCH THE FACE OF THE BLOCKS.
4. PIPED DRAINAGE SHALL BE INCLUDED IN THE DESIGN OF THE WALLS.
5. THE FACE QUALITY OF PRECAST CONCRETE BLOCK WALL WILL BE APPROVED BY THE OWNER'S REPRESENTATIVE.
6. RECOMMENDED SOIL PARAMETERS FOR USE IN DESIGN OF MODULAR BLOCK RETAINING WALLS AT THE SITE ARE LISTED IN THE PROJECT GEOTECHNICAL REPORT.
7. THE CONTRACTOR SHALL PROVIDE DESIGN DRAWINGS, PREPARED BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE STATE OF MAINE, FOR ALL RETAINING WALLS. FOR MORE INFORMATION SEE GEOTECHNICAL REPORT.

7 LARGE BLOCK RETAINING WALL TYPICAL SECTION & NOTES

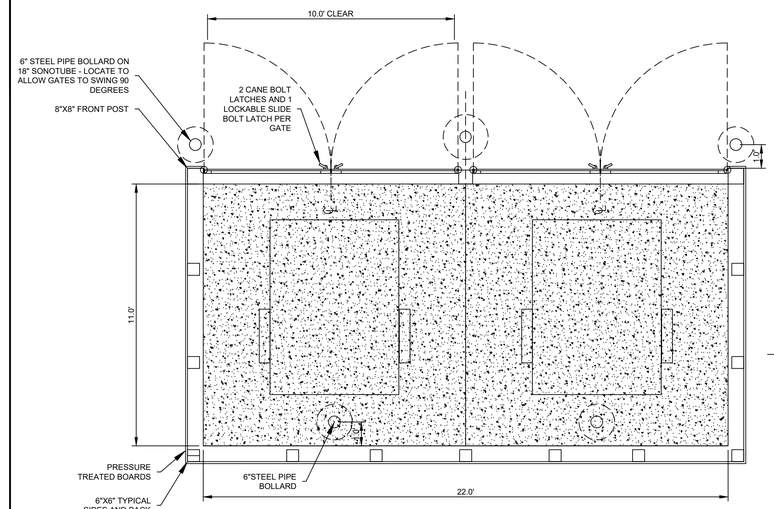
N.T.S.



NOTES:
1. SINGLE DOOR PADS SHALL BE 5'X5', DOUBLE DOOR PADS SHALL BE 5'X7'
2. SEE DETAIL D ABOVE FOR BACKFILL REQUIREMENTS

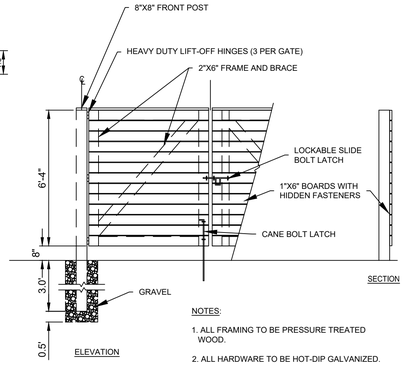
2 PINNED ENTRANCE SLAB DETAIL

12



4 DOUBLE DUMPSTER ENCLOSURE DETAIL

N.T.S.



NOTES:

1. ALL FRAMING TO BE PRESSURE TREATED WOOD.
2. ALL HARDWARE TO BE HOT-DIP GALVANIZED.
3. ALL COMPOSITE BOARD FASTENERS TO BE STAINLESS STEEL.

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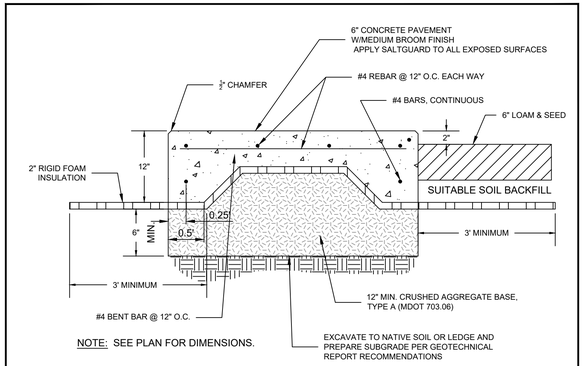

NOTE: SEE PLAN FOR DIMENSIONS.

8 CONCRETE PAD DETAIL

N.T.S.

REV	DATE	DESCRIPTION
1		ISSUED FOR PERMITTING

REVISIONS

STATE OF MAINE — ANDREW D. JOHNSTON — NO. 9994 — 9-9-22 — LICENSED PROFESSIONAL ENGINEER

P.E. ANDREW D. JOHNSTON
LIC. #9994

CLIPPERSHIP LANDING NURSING HOME

SITE/CIVIL DETAILS 3

CLIPPERSHIP LANDING DEVELOPMENT, LLC
PO BOX 9729, PORTLAND, ME 04101-5029

Atlantic Resource Consultants
541 US Route One
Freeport, ME 04032
Tel: 207.869.9050

DRAWN: AJ/MV	DATE: SEPTEMBER, 2022
DESIGNED: AJ	SCALE: NTS
CHECKED:	JOB NO. 21-025
FILE NAME:	
SHEET: C-304	

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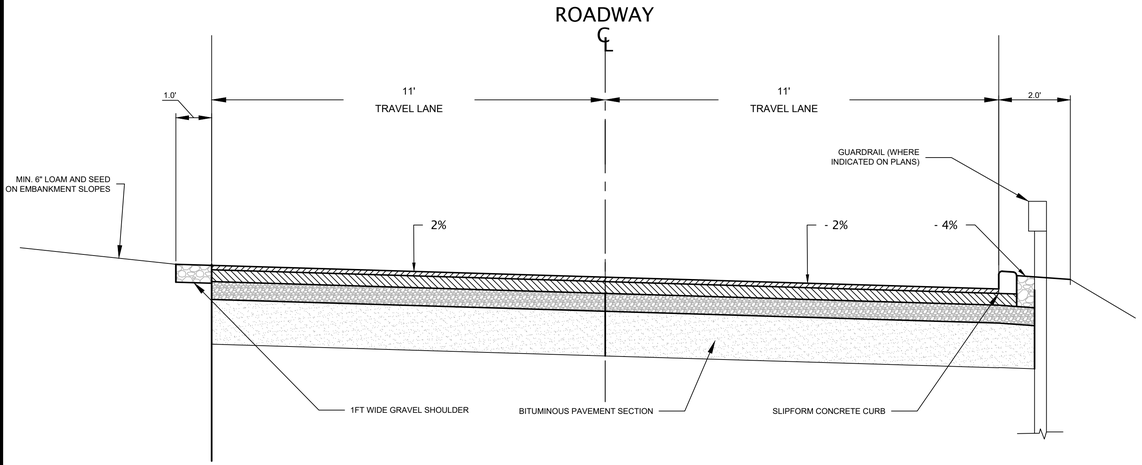

1 TYPICAL ROAD SECTION EASTERN ACCESS DRIVE

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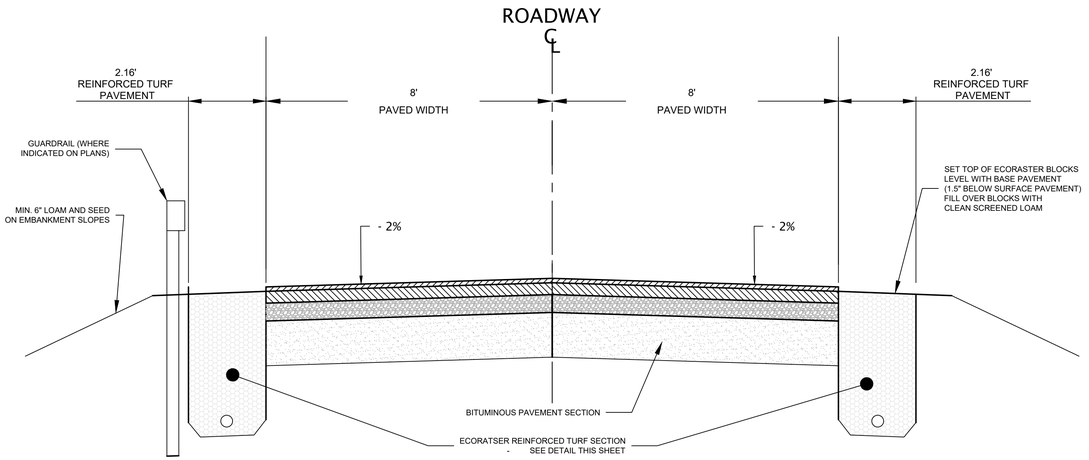
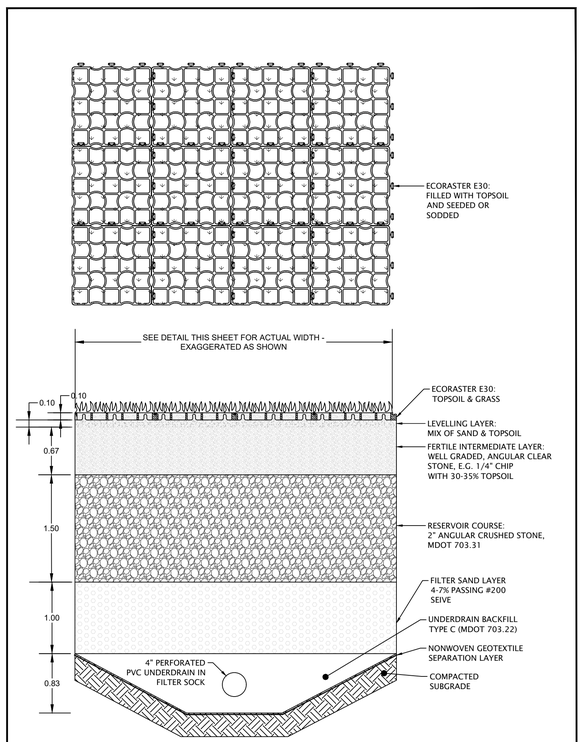


2 TYPICAL ROAD SECTION WESTERN FIRE LANE

N.T.S.



NOTES:

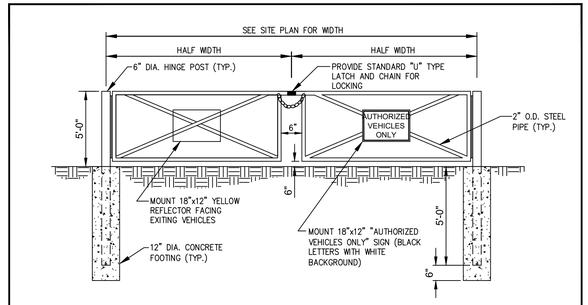
1. ¼" CHIP CLEAR OR OTHER SUITABLE CLEAR STONE CAN BE USED FOR DRAINAGE LAYER.
2. TYPICAL SEED MIX:
   - 45% CREEPING RED FESCUE,
   - 20% TALL FESCUE,
   - 15% PERENNIAL RYE GRASS, AND
   - 20% KENTUCKY BLUE GRASS, WITH
   - LONG TERM FERTILIZER.

   SEED MIX SHOULD BE MODIFIED TO SUIT LOCAL CONDITIONS.
3. SEE ECORASTER GREEN INSTALLATION MANUAL FOR FURTHER INFORMATION ON LAYERS.
4. ALL DIMENSIONS CONVERTED TO INCHES FROM MANUFACTURERS SPECIFICATIONS IN mm.
5. CONTRACTOR TO SUBMIT SHOP DRAWINGS AND MATERIALS GRADATIONS PRIOR TO INSTALLATION.

3 REINFORCED TURF PAVEMENT DETAIL

N.T.S.

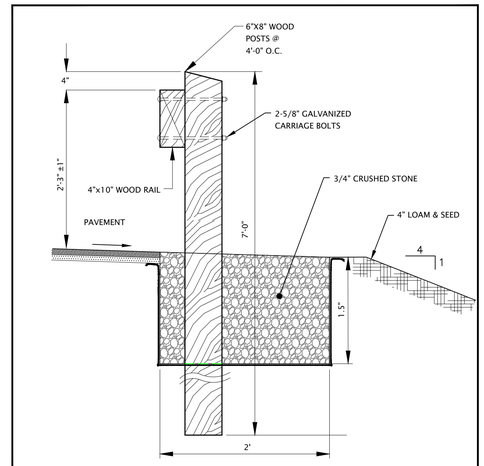
ISSUED FOR PERMITTING - NOT FOR CONSTRUCTION



NOTES:
1. ALL POST, RAILS, MESH AND HARDWARE, EXCEPT LATCH AND CHAIN, TO BE GALVANIZED.

4 EMERGENCY DRIVE GATE DETAIL

N.T.S.



5 WOOD GUARDRAIL & PAVEMENT EDGE DETAIL

N.T.S.

REV	DATE	DESCRIPTION
1		ISSUED FOR PERMITTING

REVISIONS

STATE OF MAINE — ANDREW D. JOHNSTON — REG. 9994 — 9-9-22 — LICENSED PROFESSIONAL ENGINEER

P.E. ANDREW D. JOHNSTON
LIC. #9994

CLIPPERSHIP LANDING NURSING HOME

SITE/CIVIL DETAILS 4

CLIPPERSHIP LANDING DEVELOPMENT, LLC
PO BOX 9729, PORTLAND, ME 04101-5029

Atlantic Resource Consultants
541 US Route One
Freeport, ME 04032
Tel: 207.869.9050

DRAWN: AJ/MV	DATE: SEPTEMBER, 2022
DESIGNED: AJ	SCALE: NTS
CHECKED:	JOB NO. 21-025
FILE NAME:	
SHEET: C-305	

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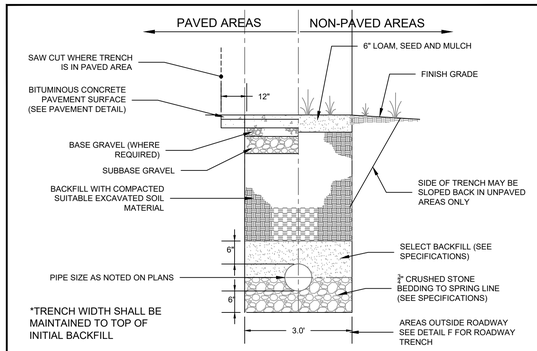
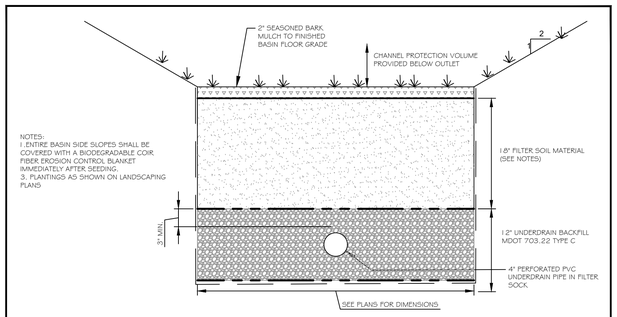
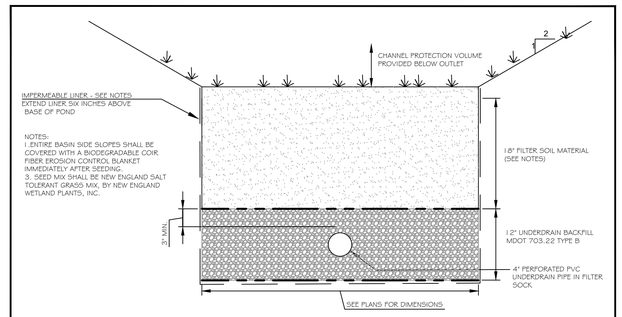


NOTE:
BRACING AND SHEETING OR OTHER TRENCH PROTECTION TO BE PROVIDED TO MEET APPLICABLE STATE AND O.S.H.A. SAFETY STANDARDS. ALL SUCH TRENCH PROTECTION TO BE THE RESPONSIBILITY OF THE CONTRACTOR.

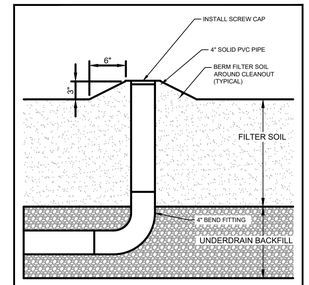
1 TYPICAL SEWER & STORM DRAIN TRENCH DETAIL
N.T.S.



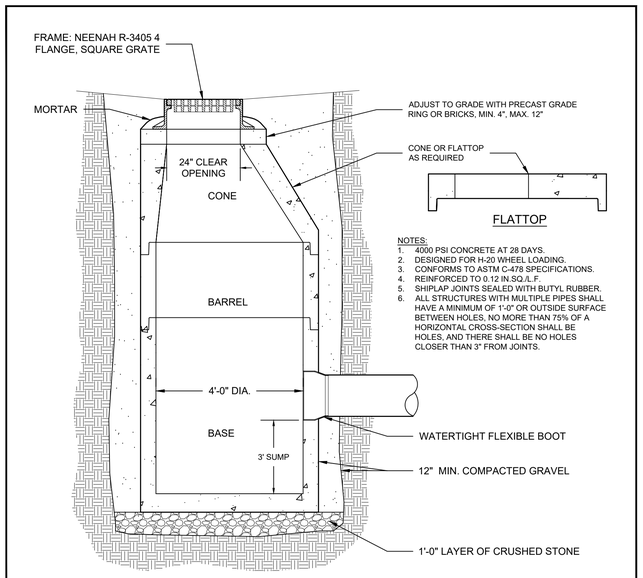
4 CROSS-SECTION THROUGH BIORETENTION CELL
N.T.S.



7 CROSS-SECTION THROUGHUNDERDRAINED SOIL FILTER
N.T.S.

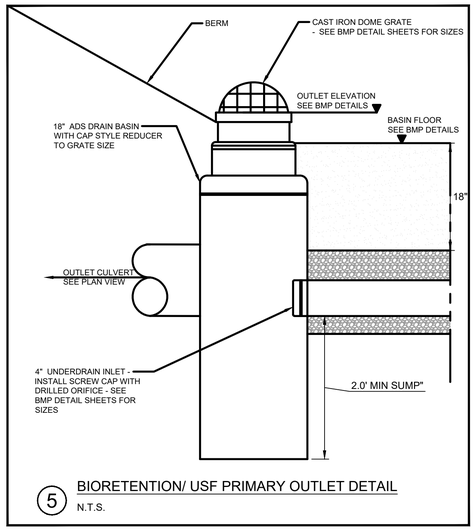


10 UNDERDRAIN CLEANOUT DETAIL
N.T.S.



NOTES:
1. 4000 PSI CONCRETE AT 28 DAYS.
2. DESIGNED FOR H-20 WHEEL LOADING.
3. CONFORMS TO ASTM C-478 SPECIFICATIONS.
4. REINFORCED TO 0.12 IN.SQ./L.F.
5. SHIPLAP JOINTS SEALED WITH BUTYL RUBBER.
6. ALL STRUCTURES WITH MULTIPLE PIPES SHALL HAVE A MINIMUM OF 1'-0" OR OUTSIDE SURFACE BETWEEN HOLES, NO MORE THAN 75% OF A HORIZONTAL CROSS-SECTION SHALL BE HOLES, AND THERE SHALL BE NO HOLES CLOSER THAN 3" FROM JOINTS.

2 PRECAST CATCH BASIN DETAIL
N.T.S.



5 BIORETENTION/ USF PRIMARY OUTLET DETAIL
N.T.S.

BIORETENTION CELL, UNDREDRAINED FILTER AND ROOF DRIP EDGE FILTER CONSTRUCTION NOTES

CONSTRUCTION OVERSIGHT
THE APPLICANT 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 CONSTRUCTION PLANS 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 BMP 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.

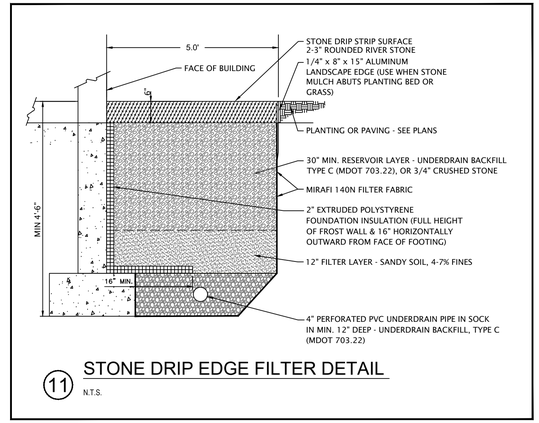
BASIC STANDARDS - EROSION CONTROL MEASURES
MINIMUM EROSION CONTROL MEASURES WILL NEED TO BE IMPLEMENTED AND THE APPLICANT WILL BE RESPONSIBLE TO MAINTAIN ALL COMPONENTS OF THE EROSION CONTROL PLAN UNTIL THE SITE IS FULLY STABILIZED. HOWEVER, BASED ON SITE AND WEATHER CONDITIONS DURING CONSTRUCTION, ADDITIONAL EROSION CONTROL MEASURES MAY NEED TO BE IMPLEMENTED. ALL AREAS OF INSTABILITY AND EROSION MUST BE REPAIRED IMMEDIATELY DURING CONSTRUCTION AND NEED TO BE MAINTAINED UNTIL THE SITE IS FULLY STABILIZED OR VEGETATION IS ESTABLISHED. A CONSTRUCTION LOG MUST BE MAINTAINED FOR THE EROSION AND SEDIMENTATION CONTROL INSPECTIONS AND MAINTENANCE

BIORETENTION AND UNDERDRAINED FILTER NOTES

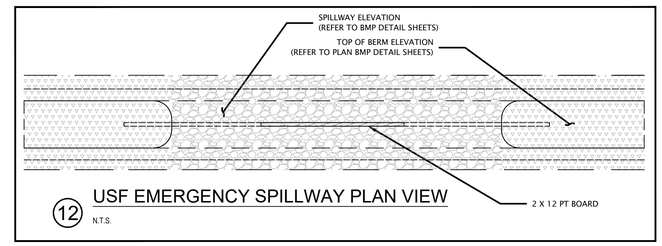
1. FILTER SOIL MATERIAL FOR UNDERDRAINED SOIL FILTERS AND BIORETENTION AREAS SHALL COMPRISE A SILTY SAND OR SOIL MIXTURE COMBINED WITH AN ORGANIC SOIL AMENDMENT MATERIAL TO 20%-25% BY VOLUME. THE RESULTING MIXTURE SHALL HAVE BETWEEN 8% AND 12% PASSING THE #200 SEIVE, AND A CLAY CONTENT OF LESS THAN 2%.
   A. FILTER SOIL MATERIAL SHALL BE PLACED IN 12-INCH LIFTS USING LGP EQUIPMENT OR BY HAND. LGP EQUIPMENT SHALL EXERT A GROUND PRESSURE OF LESS THAN 5 PSI, AS STATED IN THE EQUIPMENT SPECIFICATION FROM THE MANUFACTURER. MATERIAL SHALL BE GRADED TO PROVIDE AN EVEN SURFACE, SEEDED AND COVERED WITH EROSION CONTROL BLANKET.
   B. UNDERDRAIN GRAVELS SHALL MEET THE SPECIFICATION REQUIREMENTS GIVE IN MDOT SPECIFICATION 703.22.
   C. SOIL FILTER MEDIA SHALL NOT BE INSTALLED UNTIL ALL UPSTREAM CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.
2. IMPERMEABLE LINERS FOR BIORETENTION CELLS, AND UNDERDRAINED FILTERS SHALL BE A 30MIL IMPERMEABLE LINER.

Table 7.1.2 - Sandy Loam to Fine Sandy Loam Specifications	
Seive #	% Passing by Weight
No. 4	75-95
No. 10	60-90
No. 40	35-85
No. 200	20-70
200 (clay size)	<2.0

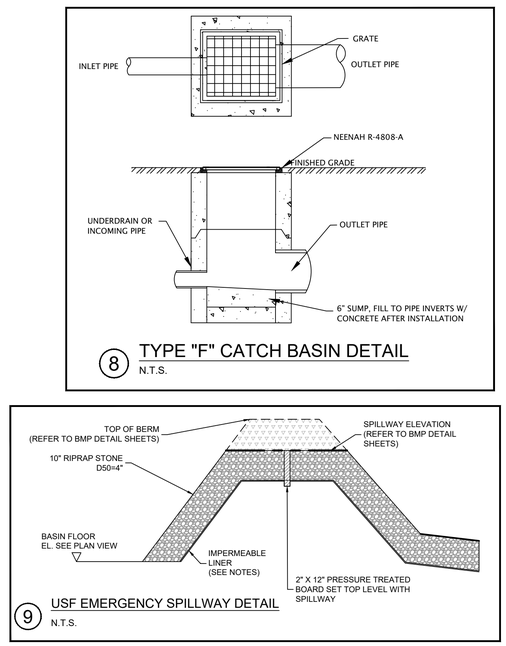
Table 7.1.3 - Loamy Coarse Sand Specifications	
Seive #	% Passing by Weight
No. 10	85-100
No. 200	70-100
No. 60	15-40
No. 200	8-15
200 (clay size)	<2.0



11 STONE DRIP EDGE FILTER DETAIL
N.T.S.

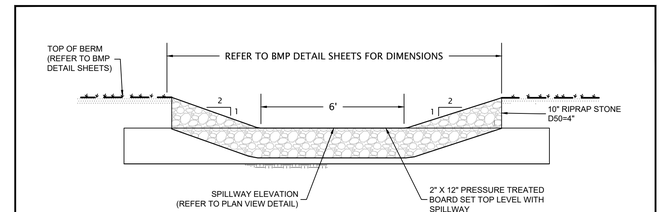


12 USF EMERGENCY SPILLWAY PLAN VIEW
N.T.S.

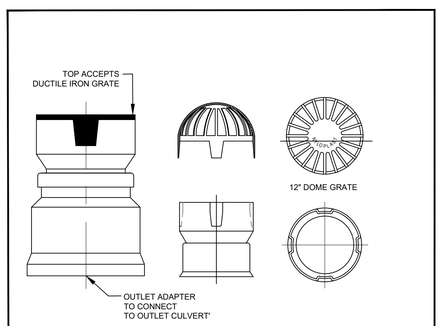


8 TYPE "F" CATCH BASIN DETAIL
N.T.S.

9 USF EMERGENCY SPILLWAY DETAIL
N.T.S.



13 USF EMERGENCY SPILLWAY LONG-SECTION
N.T.S.



3 IN-LINE DRAIN DETAIL
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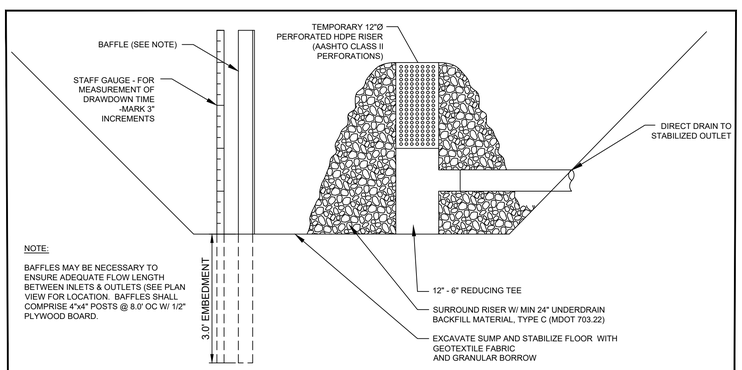

NOTE:
BAFFLES MAY BE NECESSARY TO ENSURE ADEQUATE FLOW LENGTH BETWEEN INLETS & OUTLETS (SEE PLAN VIEW FOR LOCATION. BAFFLES SHALL COMPRISE 4"x4" POSTS @ 8.0' OC W/ 1/2" PLYWOOD BOARD.

6 TEMPORARY BMP OUTLET FOR USE A SEDIMENTATION BASIN
N.T.S.

ISSUED FOR PERMITTING - NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION
1		ISSUED FOR PERMITTING

REVISIONS

STATE OF MAINE — ANDREW D. JOHNSTON NO. 9994 — 9-19-22 — LICENSED PROFESSIONAL ENGINEER

P.E. ANDREW D. JOHNSTON
LIC. #9994

CLIPPERSHIP LANDING NURSING HOME

STORMWATER DETAILS 1

CLIPPERSHIP LANDING DEVELOPMENT, LLC
PO BOX 9729, PORTLAND, ME 04101-5029

Atlantic Resource Consultants
541 US Route One
Freeport, ME 04032
Tel: 207.869.9050

DRAWN: AJ/MV	DATE: SEPTEMBER, 2022
DESIGNED: AJ	SCALE: NTS
CHECKED:	JOB NO. 21-025
FILE NAME:	
SHEET: C-306	

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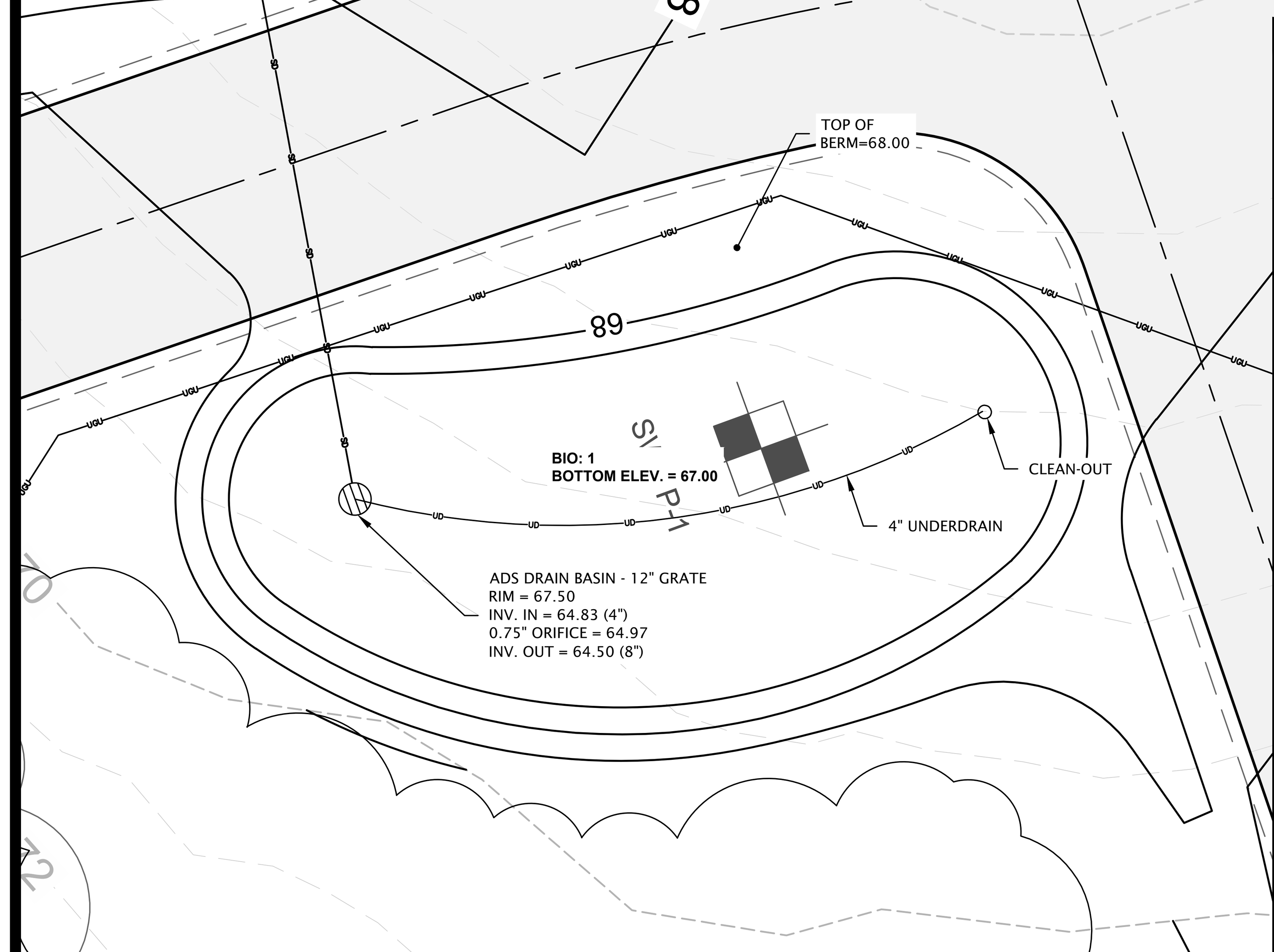
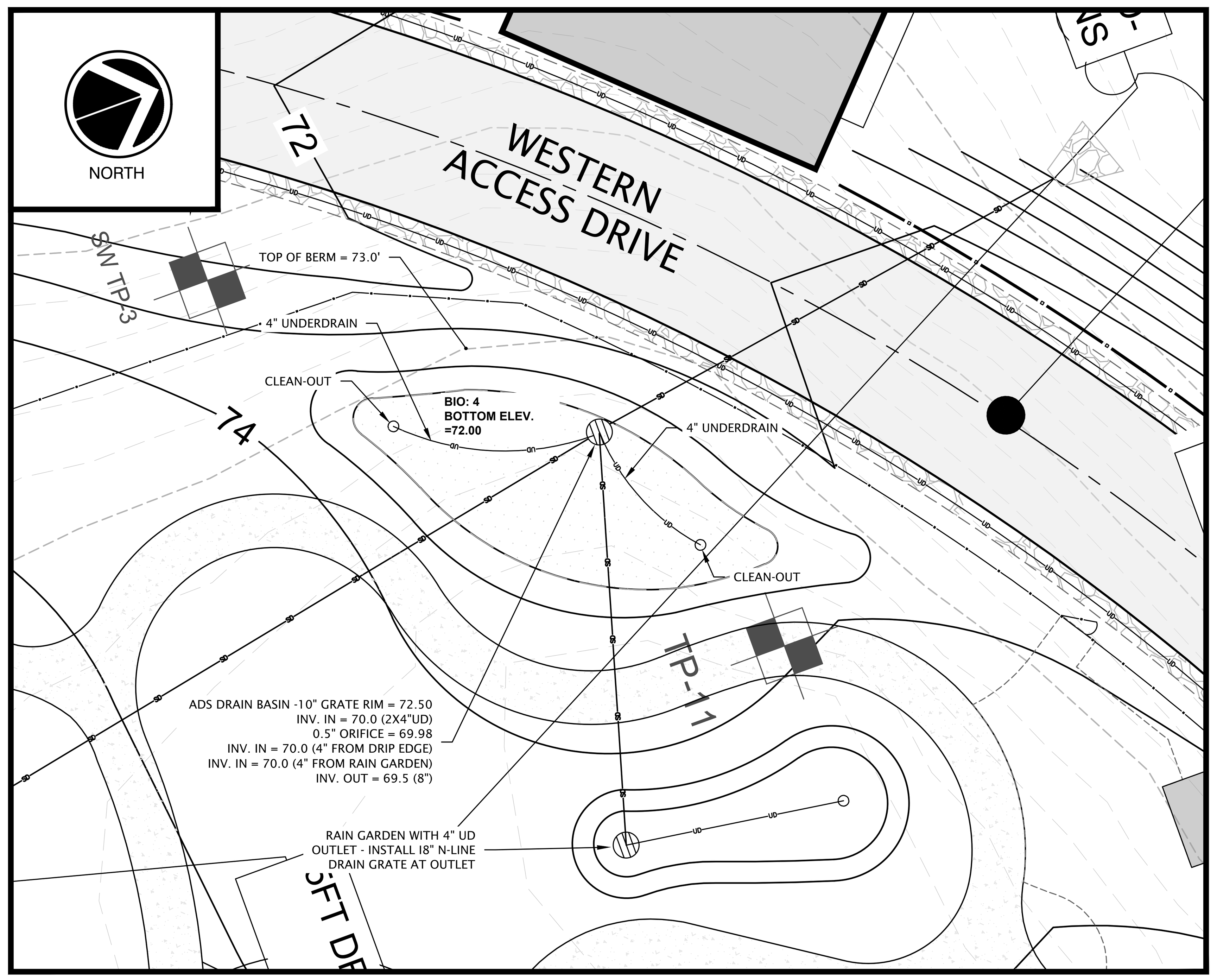
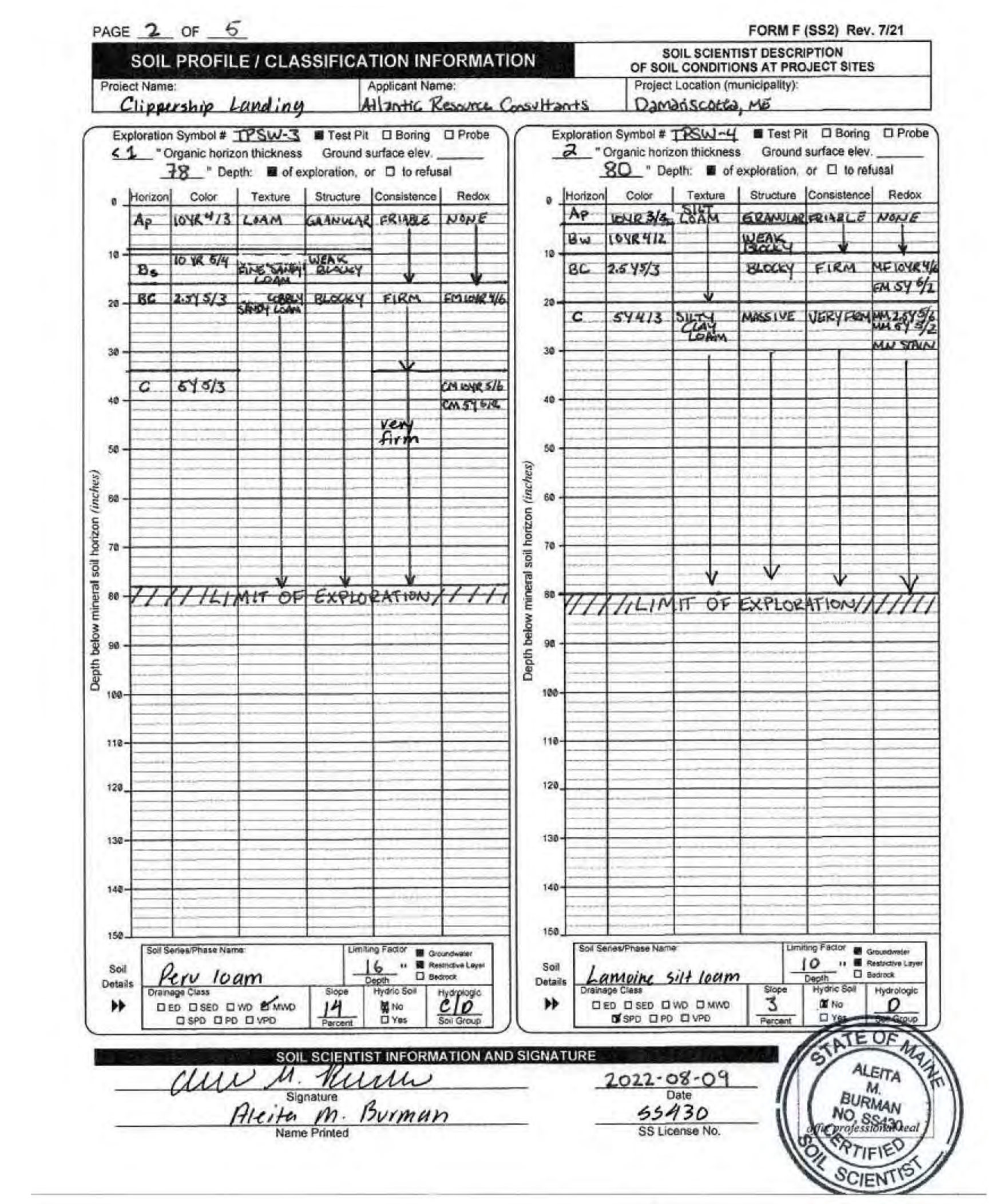
UNDERDRAINED SOIL FILTER - USF: 2 & USF: 3
PLAN VIEW 1" = 10'

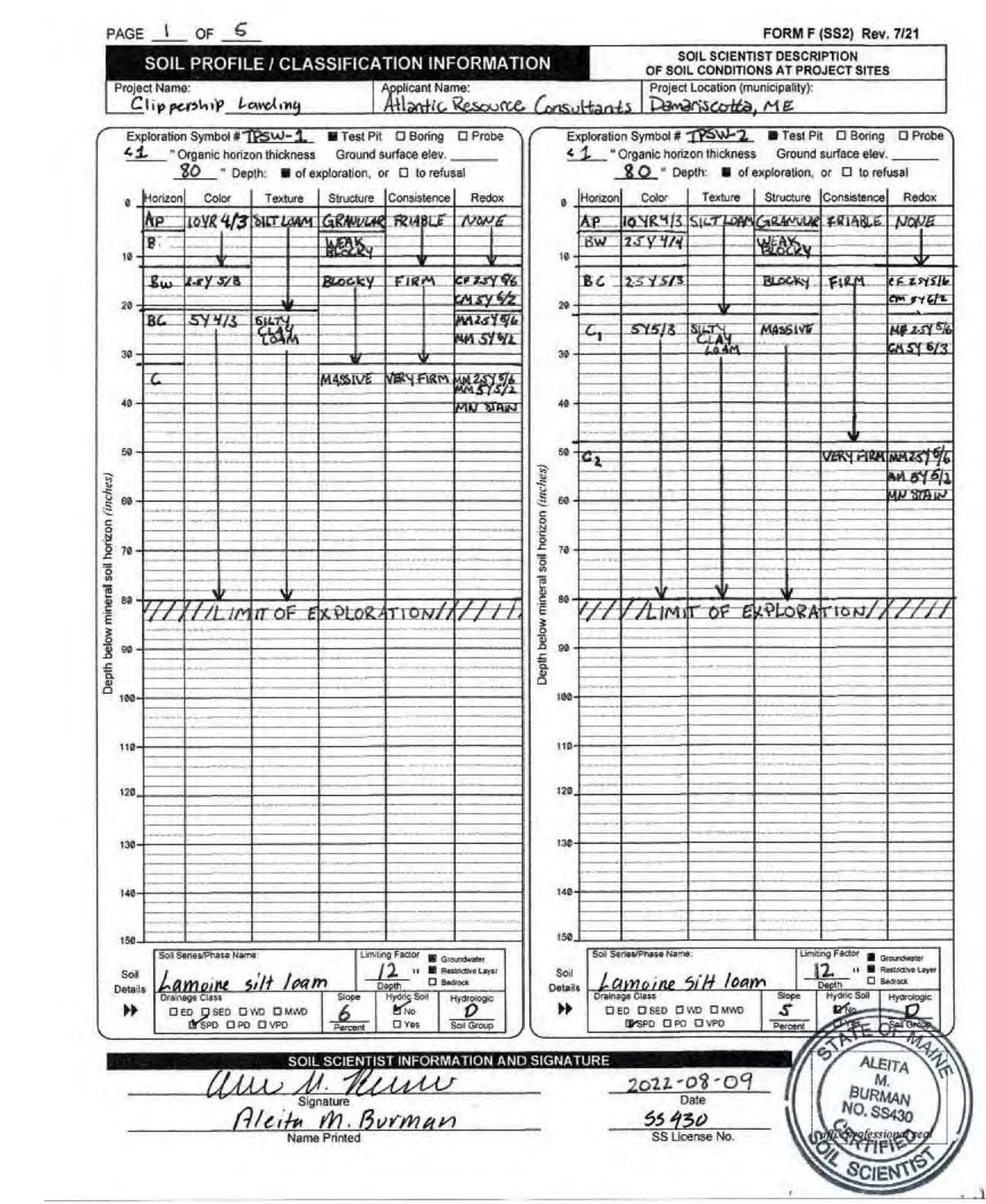


BIO-1, USF-2, USF-3
DETAILED PLAN VIEW 1" = 10'



BIO-4
DETAILED PLAN VIEW 1" = 10'





SUBSURFACE EXPLORATION NOTES:

1. INFORMATION ON TEST PITS TP-1 TO TP-28 SHOWN ON THIS PLAN CAN BE FOUND IN REPORT ENTITLED "EXPLORATIONS AND GEOTECHNICAL ENGINEERING SERVICES - PROPOSED SENIOR LIVING FACILITY, CLIPPERSHIP SITE, PIPER MILL ROAD, DAMARISCOTTA, MAINE, DATED APRIL 8, 2022.
2. INFORMATION ON STORMWATER TEST PITS SW TP-1 TO SW TP-9 SHOWN ON THIS PLAN CAN BE FOUND IN REPORT ENTITLED "SOIL DOCUMENTATION IN STORMWATER SYSTEMS REPORT PROPOSED CLIPPERSHIP LANDING, PIPER MILL ROAD, DAMARISCOTTA, MAINE, BY WATERSHED RESOURCE CONSULTANTS, LLC, DATED AUGUST 19, 2022.
3. INFORMATION ON WETLANDS SHOWN ON THIS PLAN CAN BE FOUND IN REPORT ENTITLED " CLIPPERSHIP LANDING NURSING HOME, DAMARISCOTTA, MAINE - SITE CONDITIONS REPORT BY ATLANTIC RESOURCE CONSULTANTS, LLC, DATED DECEMBER 2021

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REV	DATE	DESCRIPTION
		REVISIONS

STATE OF MAINE — ANDREW D. JOHNSTON — NO. 9994 — 9-9-22 — LICENSED PROFESSIONAL ENGINEER

P.E. ANDREW D. JOHNSTON
LIC. #9994

PROJECT: CLIPPERSHIP LANDING NURSING HOME

PLAN: STORMWATER BMP DETAILS 1

CLIENT: CLIPPERSHIP LANDING DEVELOPMENT, LLC
PO BOX 9729, PORTLAND, ME 04101-5029

Atlantic Resource Consultants
541 US Route One
Freeport, ME 04032
Tel: 207.869.9050

DRAWN: AJ/MV	DATE: SEPTEMBER, 2022
DESIGNED: AJ	SCALE: 1"=10'
CHECKED:	JOB NO. 21-025
FILE NAME:	
SHEET: C-307	

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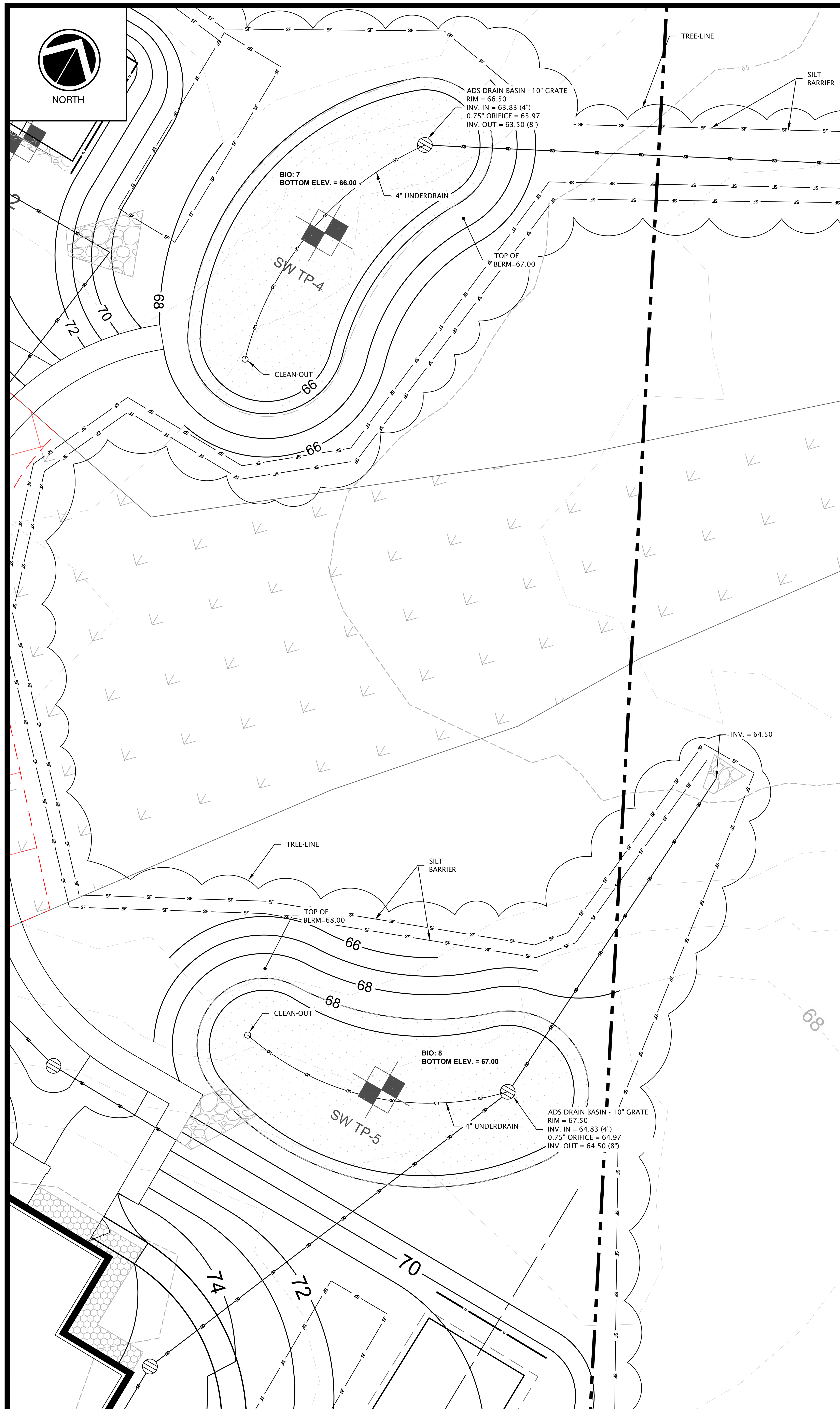
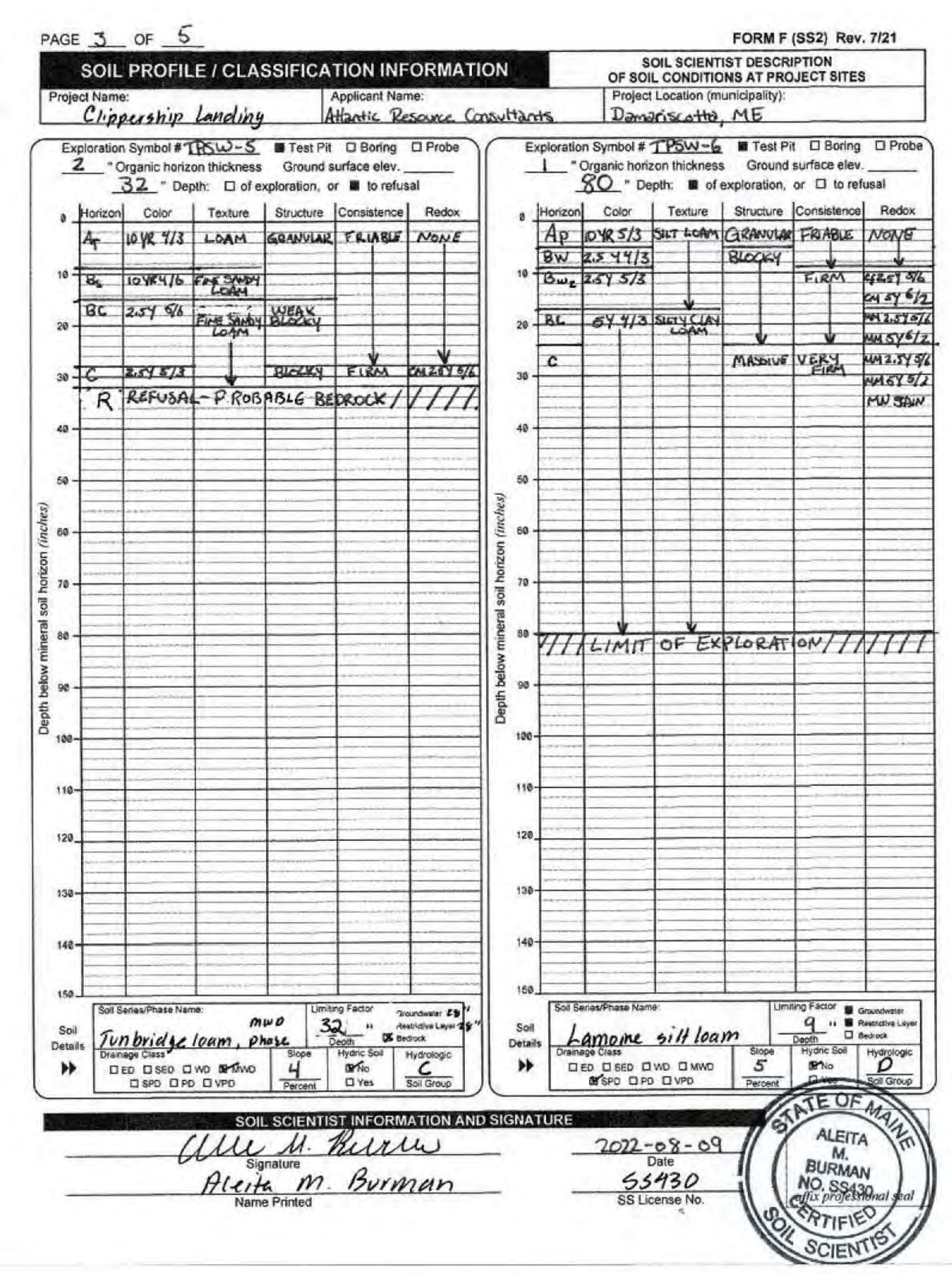
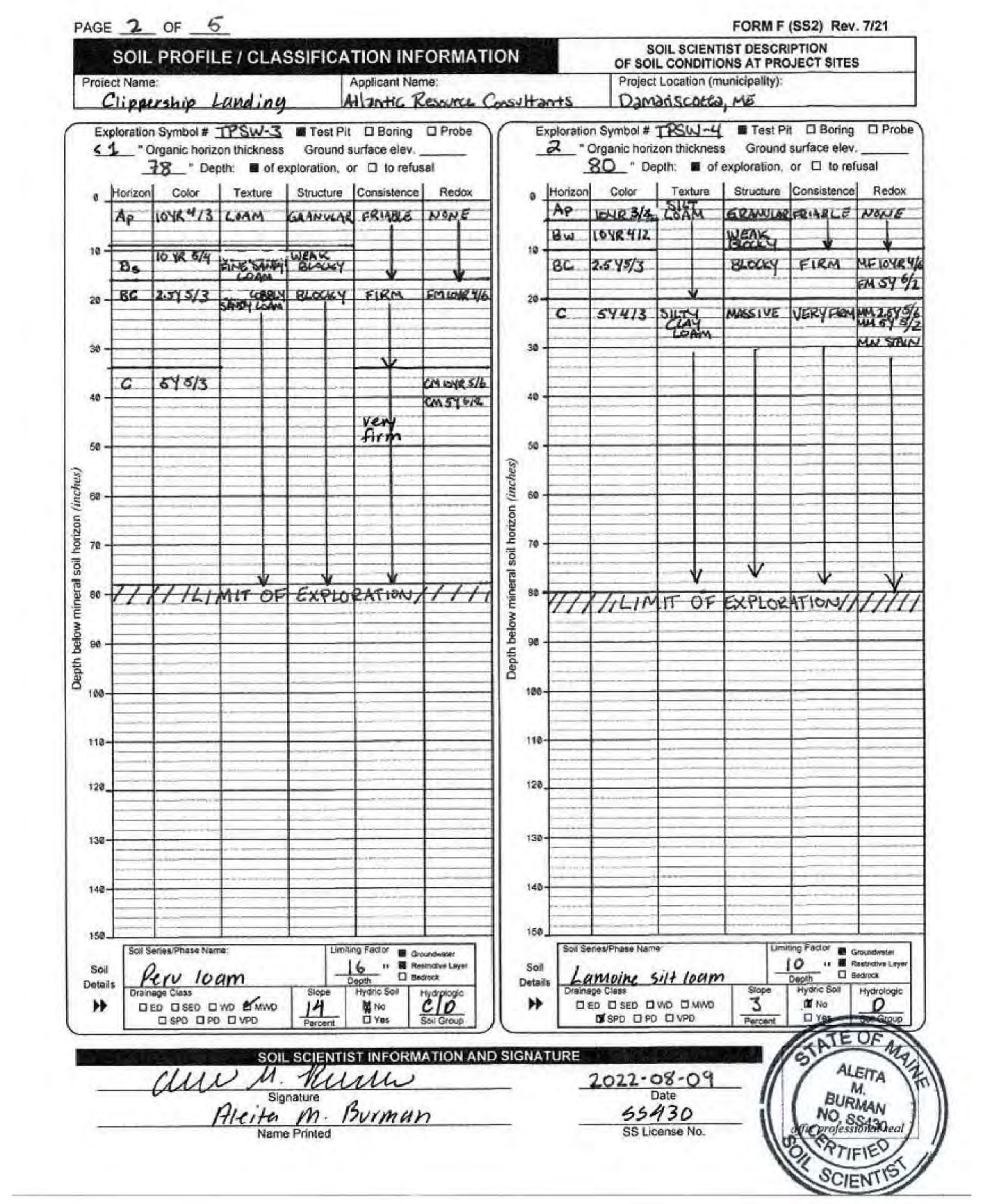


BIORETENTION CELL - BIO: 7 & BIO: 8
PLAN VIEW 1" = 10'





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SUBSURFACE EXPLORATION NOTES:

1. INFORMATION ON TEST PITS TP-1 TO TP-28 SHOWN ON THIS PLAN CAN BE FOUND IN REPORT ENTITLED "EXPLORATIONS AND GEOTECHNICAL ENGINEERING SERVICES - PROPOSED SENIOR LIVING FACILITY, CLIPPERSHIP SITE, PIPER MILL ROAD, DAMARISCOTTA, MAINE, DATED APRIL 8, 2022.
2. INFORMATION ON STORMWATER TEST PITS SW TP-1 TO SW TP-9 SHOWN ON THIS PLAN CAN BE FOUND IN REPORT ENTITLED "SOIL DOCUMENTATION IN STORMWATER SYSTEMS REPORT PROPOSED CLIPPERSHIP LANDING, PIPER MILL ROAD, DAMARISCOTTA, MAINE, BY WATERSHED RESOURCE CONSULTANTS, LLC, DATED AUGUST 19, 2022.
3. INFORMATION ON WETLANDS SHOWN ON THIS PLAN CAN BE FOUND IN REPORT ENTITLED " CLIPPERSHIP LANDING NURSING HOME, DAMARISCOTTA, MAINE - SITE CONDITIONS REPORT BY ATLANTIC RESOURCE CONSULTANTS, LLC, DATED DECEMBER 2021

REV	DATE	DESCRIPTION
		REVISIONS

STATE OF MAINE ANDREW D. JOHNSTON NO. 9994 9-9-22 LICENSED PROFESSIONAL ENGINEER

P.E. ANDREW D. JOHNSTON
LIC. #9994

PROJECT: CLIPPERSHIP LANDING NURSING HOME

PLAN: STORMWATER BMP DETAILS 2

CLIENT: CLIPPERSHIP LANDING DEVELOPMENT, LLC
PO BOX 9729, PORTLAND, ME 04101-5029

Atlantic Resource Consultants
541 US Route One
Freeport, ME 04032
Tel: 207.869.9050

DRAWN: AJ/MV	DATE: SEPTEMBER, 2022
DESIGNED: AJ	SCALE: NTS
CHECKED:	JOB NO. 21-025
FILE NAME:	
SHEET: C-308	

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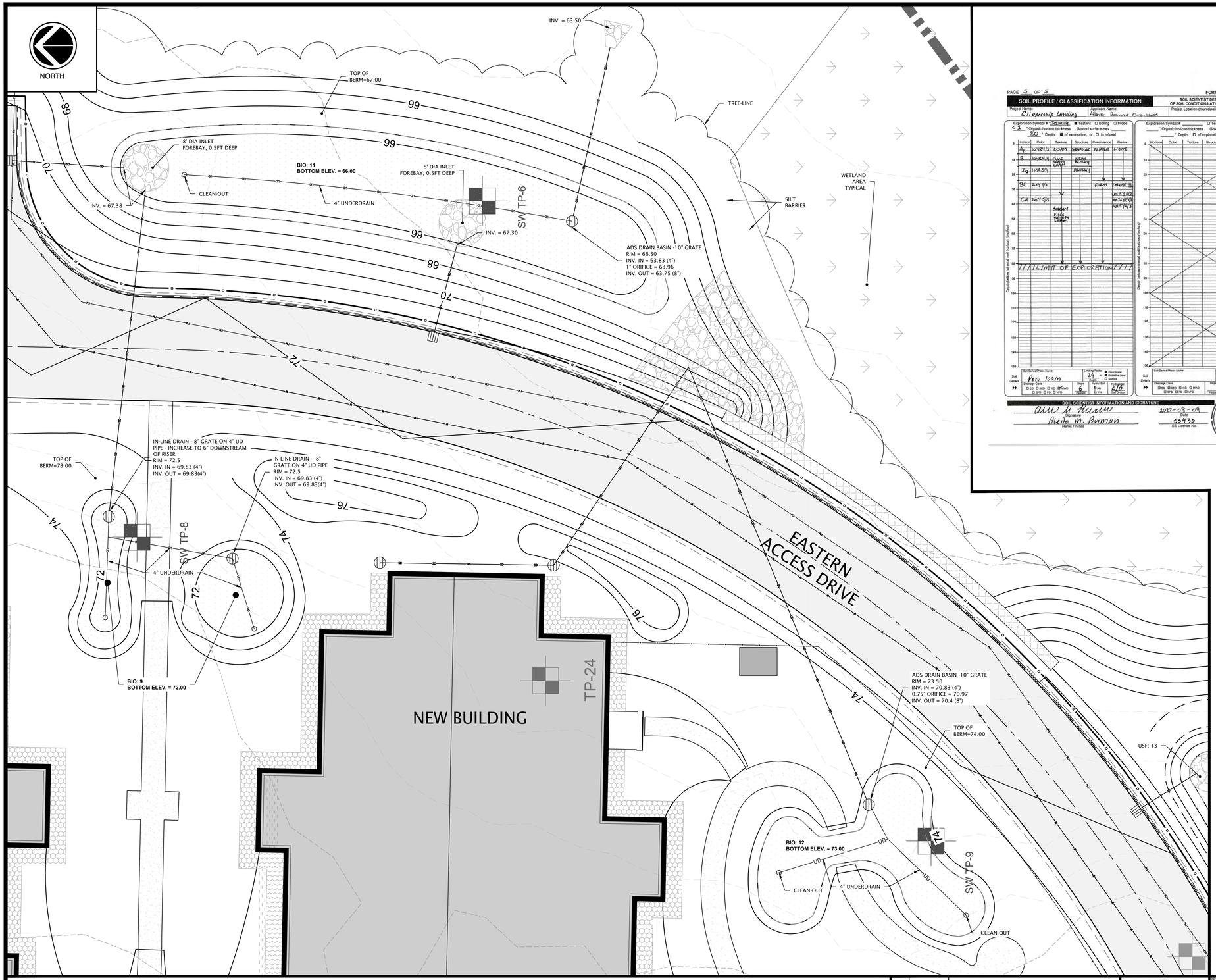

PAGE 5 OF 5 — FORM F (SS2) Rev. 7/21

SOIL PROFILE / CLASSIFICATION INFORMATION | **SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES**

Project Name: Clippership Landing | Applicant Name: Atlantic Resource Consultants | Project Location (municipality): Damariscotta, ME

Exploration Symbol # TP-1 ■ Test Pit ☐ Boring ☐ Probe
42 " Organic horizon thickness — Ground surface elev. ____
80 " Depth: ■ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	10YR 3/3	LOAM	GRANULAR	FRIABLE	NONE
B	10YR 5/6	FINE SANDY LOAM	STRONG BLOCKY		
Bg	10YR 5/4		BLOCKY		
BC	2.5Y 5/4			FIRM	CMQUE,TH
C1	2.5Y 5/3	GRAVELLY FINE SANDY LOAM			

////LIMIT OF EXPLORATION////

Soil Series/Phase Name: Pew loam — Landing Factor: 24 — ■ Groundwater ☐ Restrictive Layer ☐ Bedrock
Soil Details: Drainage Class: ☐ ED ☐ MED ☐ MD ■ SWD ☐ MPD ☐ PD ☐ VPD — Slope: 6 Percent — Restrictive Layer: Depth 60 Inches, ☐ Yes — Hydrologic Soil Group: C/D

SOIL SCIENTIST INFORMATION AND SIGNATURE

Signature: Alleita M. Burman — Name Printed: Aleita M. Burman — Date: 2022-08-09 — SS License No.: 5430

STATE OF MAINE — ALEITA M. BURMAN NO. SS430 — CERTIFIED SOIL SCIENTIST

PAGE 4 OF 5 — FORM F (SS2) Rev. 7/21

SOIL PROFILE / CLASSIFICATION INFORMATION | **SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES**

Project Name: Clippership Landing | Applicant Name: Atlantic Resource Consultants | Project Location (municipality): Damariscotta, ME

Exploration Symbol # TP-2 ■ Test Pit ☐ Boring ☐ Probe
21 " Organic horizon thickness — Ground surface elev. ____
84 " Depth: ■ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	10YR 3/3	SILT LOAM	GRANULAR	FRIABLE	NONE
Bw	10YR 5/3	SILT LOAM	BLOCKY	FIRM	2.5Y 5/3
BC	2.5Y 5/3	SILT LOAM	BLOCKY	FIRM	2.5Y 5/3
C	2.5Y 5/3	SILT LOAM	MASSIVE	VERY FIRM	2.5Y 5/3

////LIMIT OF EXPLORATION////

Soil Series/Phase Name: Lamoine silt loam — Landing Factor: 6 — ■ Groundwater ☐ Restrictive Layer ☐ Bedrock
Soil Details: Drainage Class: ☐ ED ☐ MED ☐ MD ■ WD ☐ MPD ☐ PD ☐ VPD — Slope: 3 Percent — Restrictive Layer: Depth 60 Inches, ☐ Yes — Hydrologic Soil Group: C

Exploration Symbol # TP-3 ■ Test Pit ☐ Boring ☐ Probe
4 " Organic horizon thickness — Ground surface elev. ____
64 " Depth: ■ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	10YR 3/3	SILT LOAM	GRANULAR	FRIABLE	NONE
Bw	10YR 5/4	FINE SANDY LOAM	BLOCKY	FIRM	2.5Y 5/3
C	2.5Y 5/3	GRAVELLY SANDY LOAM	BLOCKY	FIRM	VERY FEW DISTINCT

REFUSAL - POSSIBLE BEDROCK OR VERY LARGE BOULDERS
64-75"

Soil Series/Phase Name: Pew loam — Landing Factor: 24 — ■ Groundwater ☐ Restrictive Layer ☐ Bedrock
Soil Details: Drainage Class: ☐ ED ☐ MED ☐ MD ■ SWD ☐ MPD ☐ PD ☐ VPD — Slope: 8 Percent — Restrictive Layer: Depth 60 Inches, ☐ Yes — Hydrologic Soil Group: C

SOIL SCIENTIST INFORMATION AND SIGNATURE

Signature: Alleita M. Burman — Name Printed: Aleita M. Burman — Date: 2022-08-09 — SS License No.: 5430

STATE OF MAINE — ALEITA M. BURMAN NO. SS430 — CERTIFIED SOIL SCIENTIST

PAGE 3 OF 5 — FORM F (SS2) Rev. 7/21

SOIL PROFILE / CLASSIFICATION INFORMATION | **SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES**

Project Name: Clippership Landing | Applicant Name: Atlantic Resource Consultants | Project Location (municipality): Damariscotta, ME

Exploration Symbol # TP-5 ■ Test Pit ☐ Boring ☐ Probe
2 " Organic horizon thickness — Ground surface elev. ____
32 " Depth: ☐ of exploration, or ■ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	10YR 3/3	LOAM	GRANULAR	FRIABLE	NONE
Bw	10YR 4/6	FINE SANDY LOAM	WEAK BLOCKY		
BC	2.5Y 5/4				
C	2.5Y 5/3		BLOCKY	FIRM	2.5Y 5/3

R REFUSAL - POSSIBLE BEDROCK

Soil Series/Phase Name: Turnbridge loam, 8 to 15 percent slopes — Landing Factor: 24 — ☐ Groundwater ☐ Restrictive Layer ■ Bedrock
Soil Details: Drainage Class: ☐ ED ☐ MED ■ WD ☐ MPD ☐ PD ☐ VPD — Slope: 4 Percent — Restrictive Layer: Depth 20 Inches, ■ Yes — Hydrologic Soil Group: C

Exploration Symbol # TP-6 ■ Test Pit ☐ Boring ☐ Probe
1 " Organic horizon thickness — Ground surface elev. ____
30 " Depth: ■ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	10YR 3/3	SILT LOAM	GRANULAR	FRIABLE	NONE
Bw	10YR 5/3	SILT LOAM	BLOCKY	FIRM	2.5Y 5/3
Bwg	2.5Y 5/2	SILT LOAM	BLOCKY	FIRM	2.5Y 5/3
BC	2.5Y 5/3	SANDY LOAM	BLOCKY	FIRM	2.5Y 5/3
C		GRAVELLY SILT LOAM	MASSIVE	VERY FIRM	2.5Y 5/3

////LIMIT OF EXPLORATION////

Soil Series/Phase Name: Lamoine silt loam — Landing Factor: 6 — ■ Groundwater ☐ Restrictive Layer ☐ Bedrock
Soil Details: Drainage Class: ☐ ED ☐ MED ☐ MD ■ WD ☐ MPD ☐ PD ☐ VPD — Slope: 3 Percent — Restrictive Layer: Depth 60 Inches, ☐ Yes — Hydrologic Soil Group: C

SOIL SCIENTIST INFORMATION AND SIGNATURE

Signature: Alleita M. Burman — Name Printed: Aleita M. Burman — Date: 2022-08-09 — SS License No.: 5430

STATE OF MAINE — ALEITA M. BURMAN NO. SS430 — CERTIFIED SOIL SCIENTIST

SUBSURFACE EXPLORATION NOTES:

1. INFORMATION ON TEST PITS TP-1 TO TP-28 SHOWN ON THIS PLAN CAN BE FOUND IN REPORT ENTITLED "EXPLORATIONS AND GEOTECHNICAL ENGINEERING SERVICES - PROPOSED SENIOR LIVING FACILITY, CLIPPERSHIP SITE, PIPER MILL ROAD, DAMARISCOTTA, MAINE, DATED APRIL 8, 2022.
2. INFORMATION ON STORMWATER TEST PITS SW TP-1 TO SW TP-9 SHOWN ON THIS PLAN CAN BE FOUND IN REPORT ENTITLED "SOIL DOCUMENTATION IN STORMWATER SYSTEMS REPORT PROPOSED CLIPPERSHIP LANDING, PIPER MILL ROAD, DAMARISCOTTA, MAINE, BY WATERSHED RESOURCE CONSULTANTS, LLC, DATED AUGUST 19, 2022.
3. INFORMATION ON WETLANDS SHOWN ON THIS PLAN CAN BE FOUND IN REPORT ENTITLED " CLIPPERSHIP LANDING NURSING HOME, DAMARISCOTTA, MAINE - SITE CONDITIONS REPORT BY ATLANTIC RESOURCE CONSULTANTS, LLC, DATED DECEMBER 2021

BIORETENTION CELL - BIO: 9 BIO: 11 & BIO: 12
PLAN VIEW 1" = 10'

ISSUED FOR PERMITTING - NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION

REVISIONS

STATE OF MAINE — ANDREW D. JOHNSTON NO. 9994 — LICENSED PROFESSIONAL ENGINEER

P.E. ANDREW D. JOHNSTON
LIC. #9994

PROJECT: CLIPPERSHIP LANDING NURSING HOME

PLAN: STORMWATER BMP DETAILS 3

CLIENT: CLIPPERSHIP LANDING DEVELOPMENT, LLC, PO BOX 9729, PORTLAND, ME 04101-5029

Atlantic Resource Consultants
541 US Route One
Freeport, ME 04032
Tel: 207.869.9050

DRAWN: AJ/MV	DATE: SEPTEMBER, 2022
DESIGNED: AJ	SCALE: 1"=10'
CHECKED:	JOB NO. 21-025
FILE NAME:	
SHEET: C-309	

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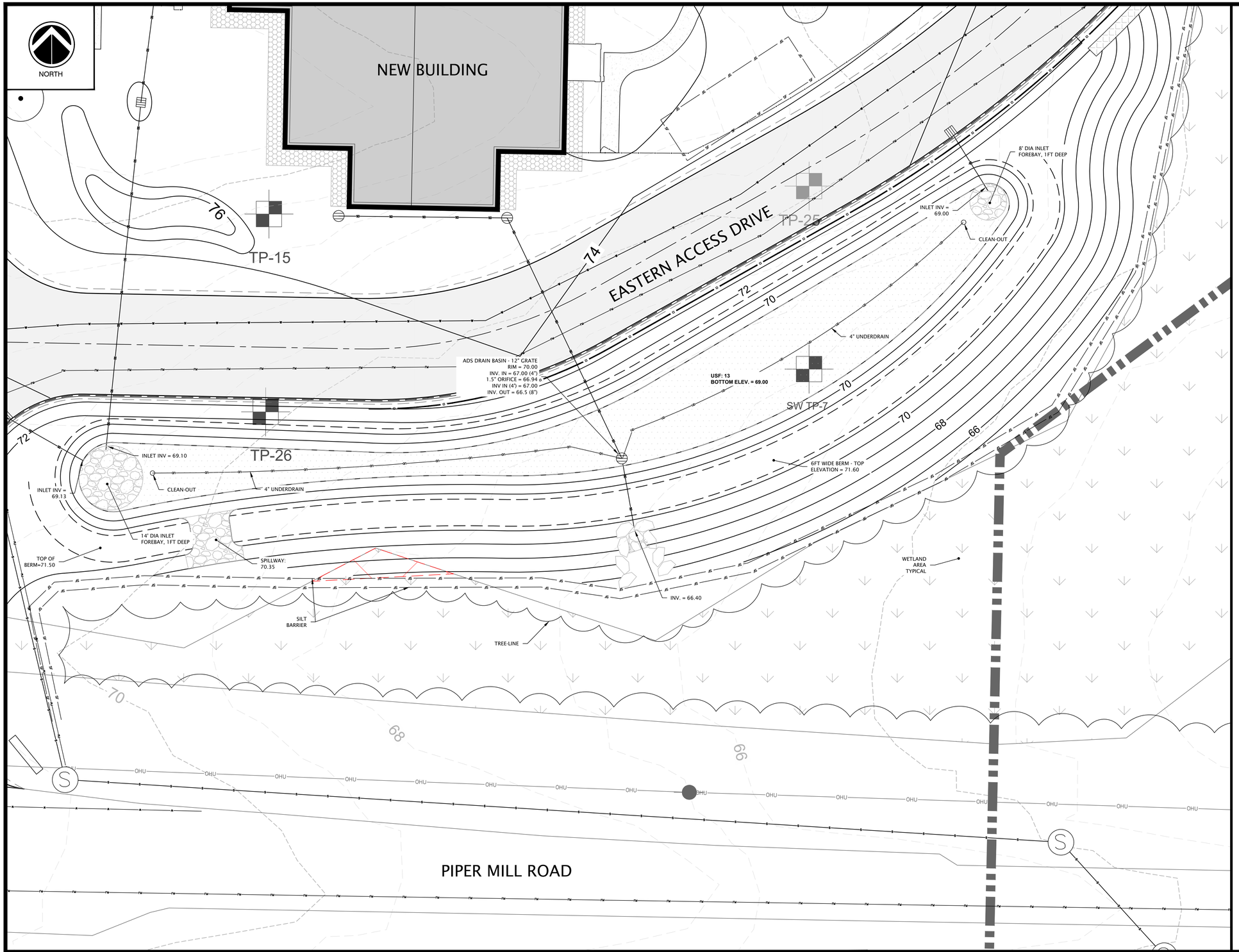


PAGE 4 OF 5

FORM F (SS2) Rev. 7/21

SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name: Clippership Landing

Applicant Name: Atlantic Resource Consultants

Project Location (municipality): Damariscotta, ME

Exploration Symbol # TP26-3 ■ Test Pit ☐ Boring ☐ Probe

Ground surface elev: 84

Depth: ■ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	10YR 3/3	SANDY LOAM	GRANULAR	FRIABLE	NONE
Bw	10YR 5/3	SANDY LOAM	BLOCKY	FIRM	NONE
BC	10YR 5/3	SANDY LOAM			
C					

Soil Series/Phase Name: Lamoine silt loam, 3 to 8% slopes

Limiting Factor: ■ Bedrock ☐ Groundwater ☐ Perched Water Table ☐ Restrictive Layer ☐ Seepage

Depth to Limiting Factor: 36

Slope: 3 %

Slope Shape: ☐ Concave ☐ Convex ☐ Irregular

Hydric Soil: ☐ Yes

Soil Drainage: ☐ VW ☐ WD ☐ MWD ☐ SWD ☐ PD ☐ VPD

Exploration Symbol # TP25-5 ■ Test Pit ☐ Boring ☐ Probe

Ground surface elev: 64

Depth: ☐ of exploration, or ■ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	10YR 3/3	LOAM	GRANULAR	FRIABLE	NONE
Bw1	10YR 4/4	LOAM	BLOCKY	FIRM	NONE
Bw2	10YR 5/4	SANDY LOAM	BLOCKY		
BC	2.5Y 5/3	SANDY LOAM	BLOCKY	FIRM	2.5Y 6/3
C	5Y 5/3	GRAVELLY SANDY LOAM		VERY FIRM	2.5Y 6/3

REFUSAL - BEDROCK VARIABLE DEPTH 64-70"

Soil Series/Phase Name: Pew loam

Limiting Factor: ■ Bedrock ☐ Groundwater ☐ Perched Water Table ☐ Restrictive Layer ☐ Seepage

Depth to Limiting Factor: 27

Slope: 8 %

Slope Shape: ■ Concave ☐ Convex ☐ Irregular

Hydric Soil: ☐ Yes

Soil Drainage: ☐ SW ☐ MWD ■ SWD ☐ MPD ☐ PD ☐ VPD

SOIL SCIENTIST INFORMATION AND SIGNATURE:

Alisita M. Burman — Signature

2022-08-09 — Date

Alisita M. Burman — Name Printed

SS 430 — SS Licensed No.

ALISITA BURMAN NO. SS430 CERTIFIED SOIL SCIENTIST STATE OF MAINE

SUBSURFACE EXPLORATION NOTES:

1. INFORMATION ON TEST PITS TP-1 TO TP-28 SHOWN ON THIS PLAN CAN BE FOUND IN REPORT ENTITLED "EXPLORATIONS AND GEOTECHNICAL ENGINEERING SERVICES - PROPOSED SENIOR LIVING FACILITY, CLIPPERSHIP SITE, PIPER MILL ROAD, DAMARISCOTTA, MAINE, DATED APRIL 8, 2022.
2. INFORMATION ON STORMWATER TEST PITS SW TP-1 TO SW TP-9 SHOWN ON THIS PLAN CAN BE FOUND IN REPORT ENTITLED "SOIL DOCUMENTATION IN STORMWATER SYSTEMS REPORT PROPOSED CLIPPERSHIP LANDING, PIPER MILL ROAD, DAMARISCOTTA, MAINE, BY WATERSHED RESOURCE CONSULTANTS, LLC, DATED AUGUST 19, 2022.
3. INFORMATION ON WETLANDS SHOWN ON THIS PLAN CAN BE FOUND IN REPORT ENTITLED " CLIPPERSHIP LANDING NURSING HOME, DAMARISCOTTA, MAINE - SITE CONDITIONS REPORT BY ATLANTIC RESOURCE CONSULTANTS, LLC, DATED DECEMBER 2021

UNDERDRAINED SOIL FILTER - USF: 13
PLAN VIEW 1" = 10'

ISSUED FOR PERMITTING - NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION

REVISIONS

STATE OF MAINE ANDREW D. JOHNSTON NO. 9994 6-14-22 LICENSED PROFESSIONAL ENGINEER

P.E. ANDREW D. JOHNSTON
LIC. #9994

PROJECT: CLIPPERSHIP LANDING NURSING HOME

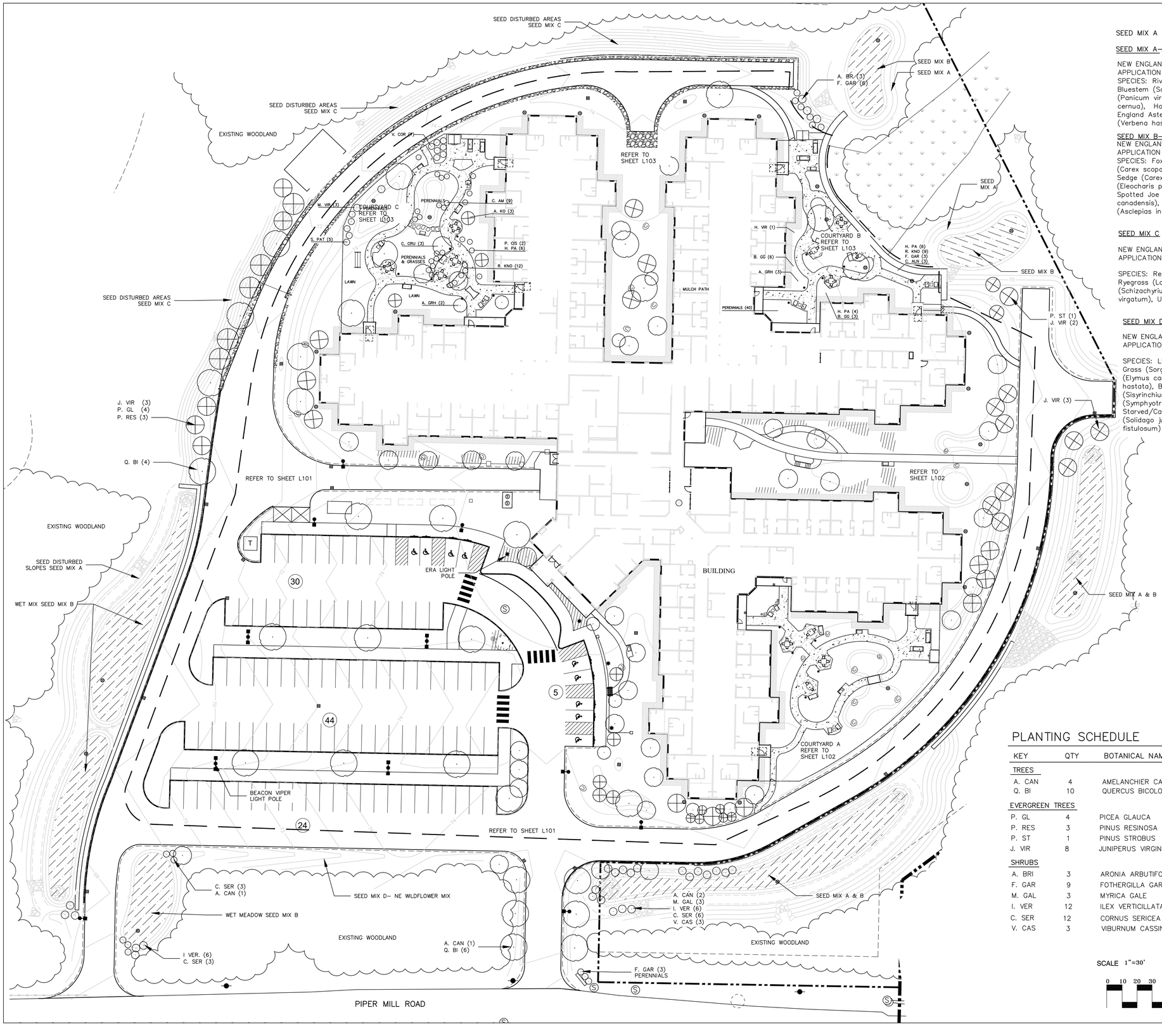
PLAN: STORMWATER BMP DETAILS 4

CLIENT: CLIPPERSHIP LANDING DEVELOPMENT, LLC
PO BOX 9729, PORTLAND, ME 04101-5029

Atlantic Resource Consultants
541 US Route One
Freeport, ME 04032
Tel: 207.869.9050

DRAWN: AJ/MV	DATE: SEPTEMBER, 2022
DESIGNED: AJ	SCALE: 1"=10'
CHECKED:	JOB NO. 21-025
FILE NAME:	
SHEET: C-310	

S:\21-025 Clippership Landing\Drawings\21-025 BMP DETAILS.dwg



SEED MIX A & B FOR USE IN BIORETENTION BASINS.

SEED MIX A– BIORETENTION BASIN SIDE SLOPES

NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR MOIST SITES
APPLICATION RATE: 1#/1250 SF
SPECIES: Riverbank Wild Rye (Elymus riparius), Creeping Red Fescue (Festuca rubra), Little Bluestem (Schizachyrium scoparium), Big Bluestem (Andropogon gerardii), Switch Grass (Panicum virgatum), Upland Bentgrass (Agrostis perennans), Nodding Bur Marigold (Bidens cernua), Hollow–Stem Joe Pye Weed (Eupatorium fistulosum/Eutrochium fistulosum), New England Aster (Aster novae–angliae), Boneset (Eupatorium perfoliatum), Blue Vervain (Verbena hastata), Soft Rush (Juncus effusus), Wool Grass (Scirpus cyperinus).

SEED MIX B– BIORETENTION BASIN
NEW ENGLAND WET MIX
APPLICATION RATE: 1#/2500 SF
SPECIES: Fox Sedge (Carex vulpinoidea), Lurid Sedge (Carex lurida), Blunt Broom Sedge (Carex scoparia), Blue Vervain (Verbena hastata), Fowl Bluegrass (Poa palustris), Hop Sedge (Carex lupulina), Green Bulrush (Scirpus atrovirens), Creeping Spike Rush (Eleocharis palustris), Fringed Sedge (Carex crinita), Soft Rush (Juncus effusus), Spotted Joe Pye Weed (Eupatorium maculatum), Rattlesnake Grass (Glyceria canadensis), Swamp aster (Aster puniceus), Blueflag (Iris versicolor), Swamp Milkweed (Asclepias incarnata), Square stemmed Monkey Flower (Mimulus ringens).

SEED MIX C

NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DRY SITES
APPLICATION RATE: 35 lb/acre | 1250 sq ft/lb

SPECIES: Red Fescue (Festuca rubra), Canada Wild Rye (Elymus canadensis), Annual Ryegrass (Lolium multiflorum), Perennial Ryegrass (Lolium perenne), Little Bluestem (Schizachyrium scoparium), Indian Grass (Sorghastrum nutans), Switch Grass (Panicum virgatum), Upland Bentgrass (Agrostis perennans).

SEED MIX D

NEW ENGLAND WILDFLOWER MIX
APPLICATION RATE: 23 lb/acre | 1900 sq ft/lb

SPECIES: Little Bluestem (Schizachyrium scoparium), Red Fescue (Festuca rubra), Indian Grass (Sorghastrum nutans), Partridge Pea (Chamaecrista fasciculata), Canada Wild Rye (Elymus canadensis), Virginia Wild Rye (Elymus virginicus), Blue Vervain (Verbena hastata), Butterfly Milkweed (Asclepias tuberosa), Narrowleafed Blue Eyed Grass (Sisyrinchium angustifolium), Black Eyed Susan (Rudbeckia hirta), New England Aster (Symphyotrichum novae–angliae), Spiked Gayfeather/ Marsh Blazing Star (Liatris spicata), Starved/Calico Aster (Aster lateriflorus/Symphyotrichum lateriflorum), Early Goldenrod (Solidago juncea), Hollow–Stem Joe Pye Weed (Eupatorium fistulosum/Eutrochium fistulosum)

PLANTING SCHEDULE

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE
TREES				
A. CAN	4	AMELANCHIER CANADENSIS	AUTUMN BRILLIANCE SHAD	7'–8' CLUMP
Q. BI	10	QUERCUS BICOLOR	SWAMP WHITE OAK	2.5" CAL
EVERGREEN TREES				
P. GL	4	PICEA GLAUCA	WHITE SPRUCE	6'–7' HT
P. RES	3	PINUS RESINOSA	RED PINE	6'–7' HT
P. ST	1	PINUS STROBUS	WHITE PINE	6'–7' HT
J. VIR	8	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	6'–7' HT
SHRUBS				
A. BRI	3	ARONIA ARBUTIFOLIA 'BRILLIANTISSIMA'	RED CHOKEBERRY	#3
F. GAR	9	FOTHERGILLA GARDENII	FOTHERGILLA	#3
M. GAL	3	MYRICA GALE	BAYBERRY	#3
I. VER	12	ILEX VERTICILLATA VAR	WINTERBERRY MIX	#3
C. SER	12	CORNUS SERICEA 'BAILEYI"	RED TWIG DOGWOOD	#3
V. CAS	3	VIBURNUM CASSINOIDES	WITHEROD VIBURNUM	#3

SCALE 1"=30'

0 10 20 30 60 ft.

NORTH

PREPARED BY:

Sashie Misner
Landscape
Architecture LLC
www.landandplay.com | 207-406-0734

LICENSED LANDSCAPE ARCHITECT
SARAH E. MISNER
No. 3657
STATE OF MAINE

29 BLACK POINT ROAD
SCARBOROUGH, MAINE 04074
207-883-6307
WWW.GAWRONTURGEON.COM

GAWRON TURGEON ARCHITECTS, PC

CLIPPERSHIP LANDING
SANDY RIVER
DAMARISCOTTA, MAINE

REVISIONS

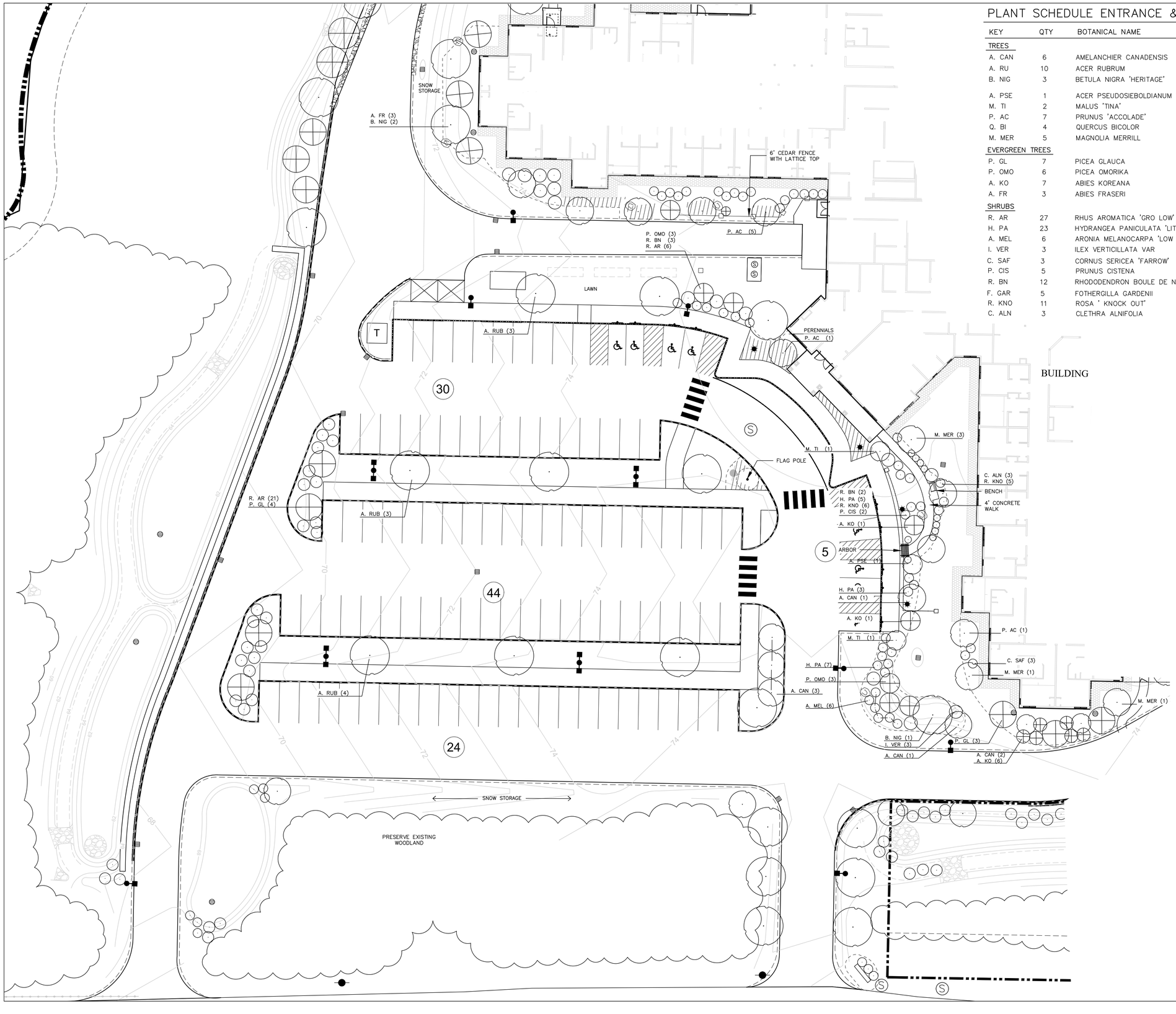
#	DATE	DESCRIPTION

DATE:	09-15-22
PROJECT #	2206
DRAWN BY:	
CHECKED BY:	
DRAWING SCALE	

NOT FOR CONSTRUCTION

OVERALL PLANTING PLAN

L100



PLANT SCHEDULE ENTRANCE & PARKING LOT

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE
TREES				
A. CAN	6	AMELANCHIER CANADENSIS	AUTUMN BRILLIANCE SHAD	7'–8' CLUMP
A. RU	10	ACER RUBRUM	RED MAPLE	2.5" CAL
B. NIG	3	BETULA NIGRA 'HERITAGE'	RIVER BIRCH	7'–8' CLUMP
A. PSE	1	ACER PSEUDOSIEBOLDIANUM 'NORTH WIND'	NORTH WIND KOREAN MAPLE	5'–6 HT'
M. TI	2	MALUS 'TINA'	TINA CRABAPPLE	1.75" CAL
P. AC	7	PRUNUS 'ACCOLADE'	ACCOLADE CHERRY	2" CAL
Q. BI	4	QUERCUS BICOLOR	SWAMP WHITE OAK	2.5" CAL
M. MER	5	MAGNOLIA MERRILL	MERRILL MAGNOLIA	1.5" CAL
EVERGREEN TREES				
P. GL	7	PICEA GLAUCA	WHITE SPRUCE	6'–7' HT
P. OMO	6	PICEA OMORIKA	SERBIAN SPRUCE	6'–7' HT
A. KO	7	ABIES KOREANA	KOREAN FIR	6'–7' HT
A. FR	3	ABIES FRASERI	FRASER FIR	6'–7' HT
SHRUBS				
R. AR	27	RHUS AROMATICA 'GRO LOW'	GRO LOW SUMAC	#3
H. PA	23	HYDRANGEA PANICULATA 'LITTLE QUICKFIRE'	LITTLE QUICKFIRE HYD	#3
A. MEL	6	ARONIA MELANOCARPA 'LOW SCAPE'	LOW SCAPE MOUND CHOKECHERRY	#3
I. VER	3	ILEX VERTICILLATA VAR	WINTERBERRY MIX	#3
C. SAF	3	CORNUS SERICEA 'FARROW'	ARCTIC FIRE RED DOGWOOD	#3
P. CIS	5	PRUNUS CISTENA	PURPLE SANDCHERRY	#3
R. BN	12	RHODODENDRON BOULE DE NEIGE	RHODODENDRON	#3
F. GAR	5	FOTHERGILLA GARDENII	FOTHERGILLA	#3
R. KNO	11	ROSA ' KNOCK OUT'	KNOCK OUT ROSE	#3
C. ALN	3	CLETHRA ALNIFOLIA	SUMMERSWEET	#3

NORTH

SCALE 1"=20'

0 10 20 40 ft.

PREPARED BY:

Sashie Misner Landscape Architecture LLC
www.landandplay.com | 207-406-0734

LICENSED LANDSCAPE ARCHITECT
SARAH E. MISNER
No. 3657
STATE OF MAINE

29 BLACK POINT ROAD
SCARBOROUGH, MAINE 04074
207-883-6307
WWW.GAWRONTURGEON.COM

GAWRON TURGEON ARCHITECTS, PC

CLIPPERSHIP LANDING
SANDY RIVER
DAMARISCOTTA, MAINE

REVISIONS

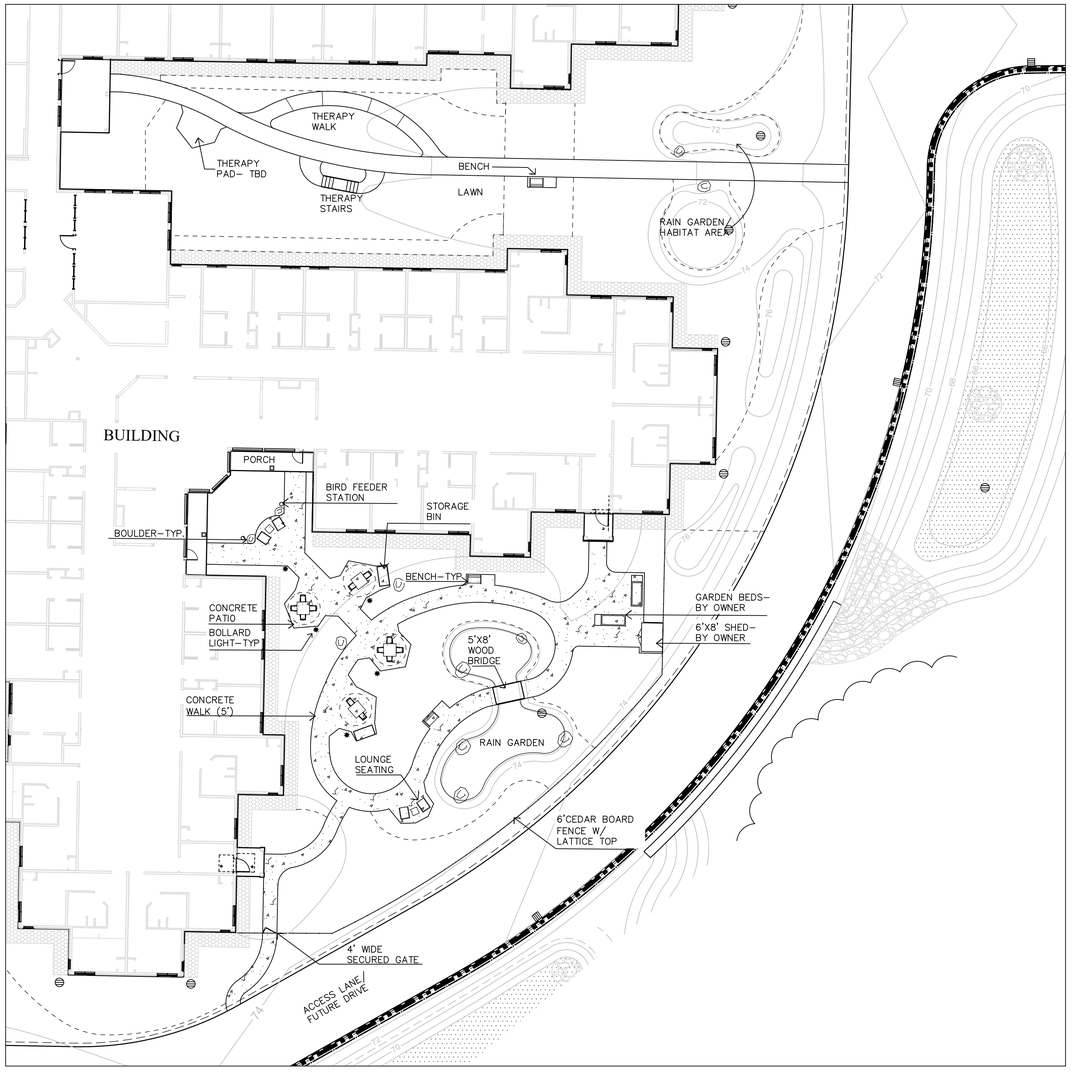
#	DATE	DESCRIPTION

DATE:	09-15-22
PROJECT #	2206
DRAWN BY:	
CHECKED BY:	
DRAWING SCALE	

NOT FOR CONSTRUCTION

ENTRANCE PLANTING PLAN

L101



ENLARGEMENT COURTYARD A
LAYOUT PLAN

PLANT LIST COURTYARD A

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE
TREES				
A. CAN	10	AMELANCHIER CANADENSIS	AUTUMN BRILLIANCE SHAD	7'–8' CLUMP
A. RUB	2	ACER RUBRUM	RED MAPLE	2.5" CAL
B. NIG	1	BETULA NIGRA 'HERITAGE'	RIVER BIRCH	7'–8' CLUMP
Q. BI	2	QUERCUS BICOLOR	SWAMP WHITE OAK	2.5" CAL
C. ALT	2	CORNUS ALTERNIFOLIA	PAGODA DOGWOOD	7'–8' HT
M. DW	6	MALUS DONALD WYMAN	DONALD WYMAN CRABAPPLE	1.5" CAL
M. ST	1	MAGNOLIA STELLATA	STAR MAGNOLIA	#7
C. CRU	4	CRATAEGUS CRUSGALLI	THORNLESS HAWTHORN	2.5" CAL
N. SYL	1	NYSSA SYLVATICA	BLACK TUPELO	2.5" CAL
EVERGREEN TREES				
P. NIG	3	PINUS NIGRA	AUSTRIAN PINE	6'–7' HT
J. VIR	7	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	6'–7' HT
SHRUBS				
H. PA	10	HYDRANGEA PANICULATA 'LITTLE QUICKFIRE'	LITTLE QUICKFIRE HYD	#3
B. GG	10	BUXUS 'GREEN GEM'	GREEN GEM BOXWOOD	#3
H. VIR	1	HAMAMELIS 'ARNOLDS PROMISE'	WITCHHAZEL	#3
C. SAF	11	CORNUS SERICEA 'FARROW'	ARCTIC FIRE RED DOGWOOD	#3
M. GAL	3	MYRICA GALE	BAYBERRY	#3
V. COR	7	VACCINIUM CORYMBOSUM	HIGHBUSH BLUEBERRY VAR.	#3
C. AM	6	CEANOTHUS AMERICANUS	NEW JERSEY TEA TREE	#3
R. KNO	11	ROSA ' KNOCK OUT'	KNOCK OUT ROSE	#3
C. ALN	4	CLETHRA ALNIFOLIA	SUMMERSWEET	#3
F. GAR	13	FOTHERGILLA GARDENII	DWARF BOTTLEBRUSH	#3

ENLARGEMENT COURTYARD A
PLANTING PLAN

SCALE 1"=20'

0 10 20 40 ft.

NORTH

PREPARED BY:

Sashie Misner Landscape Architecture LLC
www.landandplay.com | 207-406-0734

LICENSED LANDSCAPE ARCHITECT
SARAH E. MISNER
No. 3657
STATE OF MAINE

29 BLACK POINT ROAD
SCARBOROUGH, MAINE 04074
207-883-6307
WWW.GAWRONTURGEON.COM

GAWRON TURGEON ARCHITECTS, PC

CLIPPERSHIP LANDING
. . . . . .
SANDY RIVER
DAMARISCOTTA, MAINE

REVISIONS

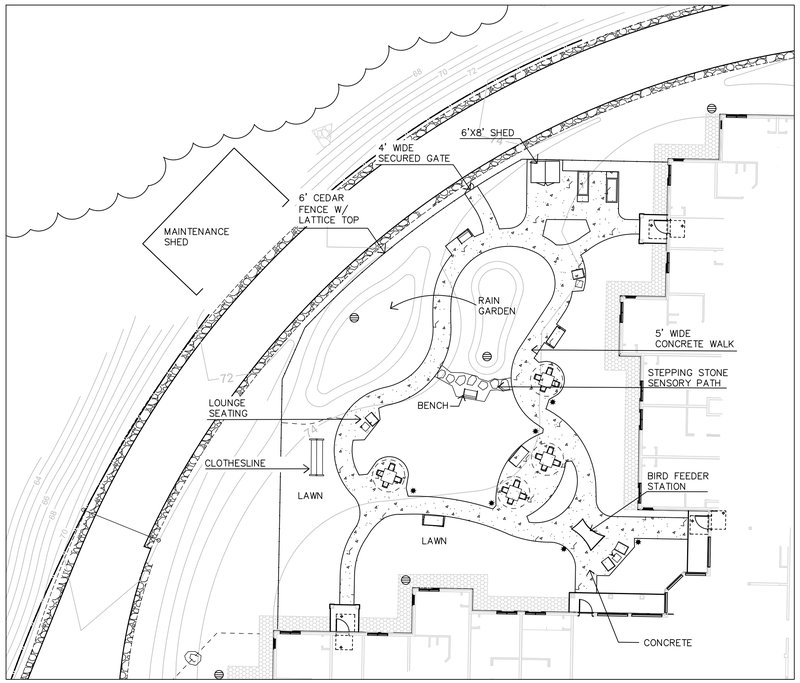
#	DATE	DESCRIPTION

DATE:	09-15-22
PROJECT #	2206
DRAWN BY:	SEM
CHECKED BY:	
DRAWING SCALE	1" = 20'

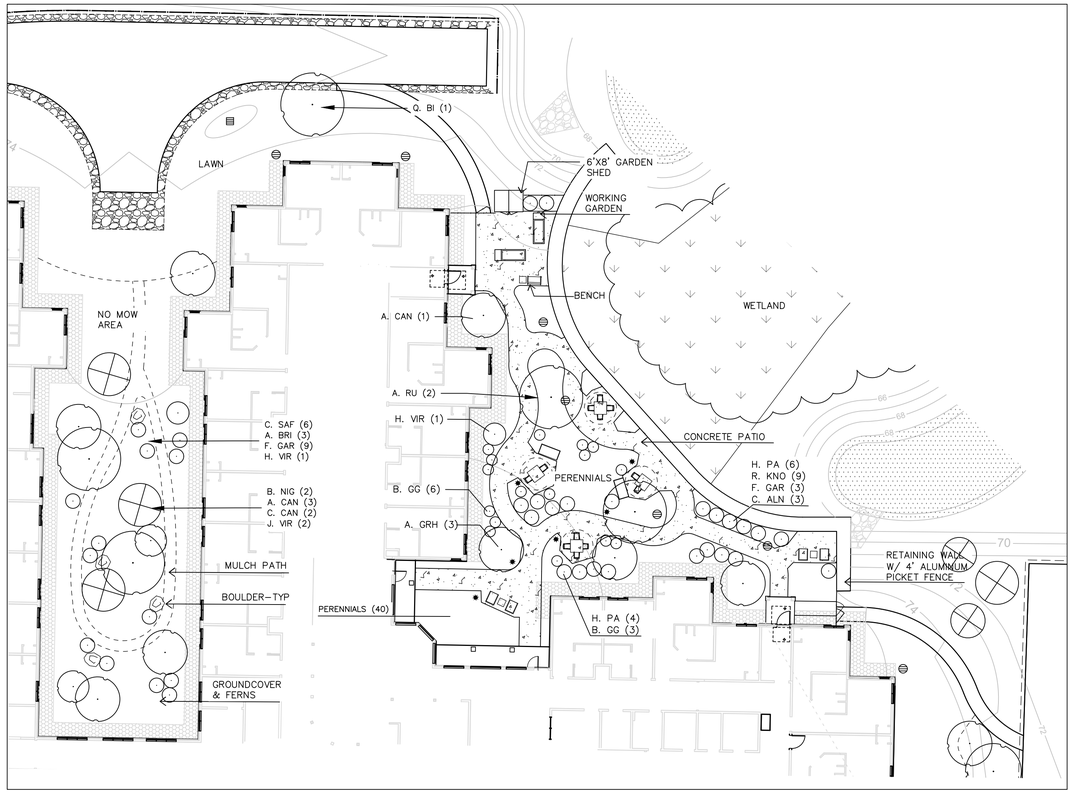
NOT FOR CONSTRUCTION

PLANTING PLAN
COURTYARD
A

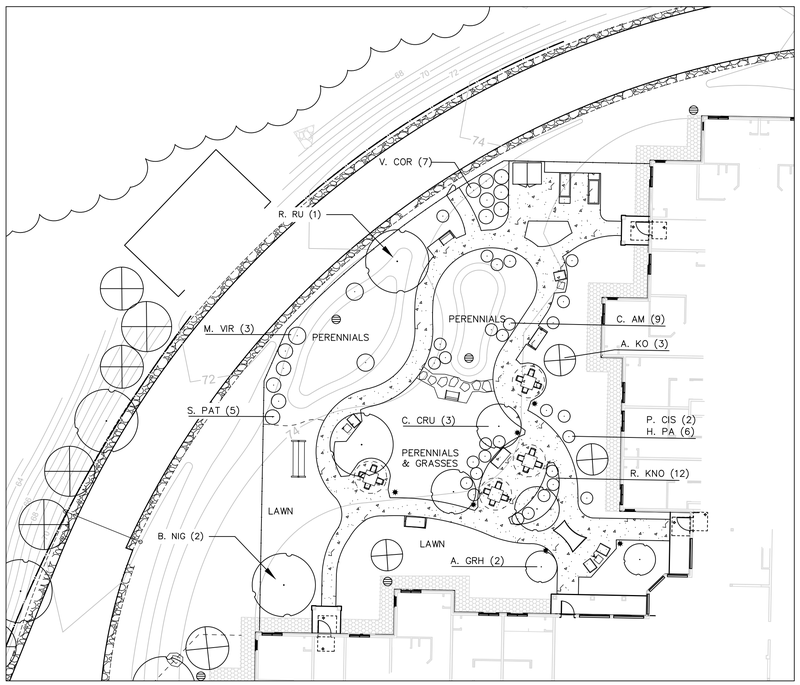
L102



ENLARGEMENT COURTYARD C
(MEMORY CARE)



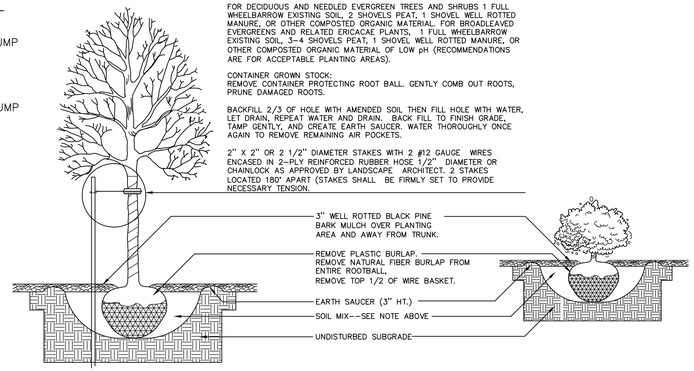
ENLARGEMENT COURTYARD B



ENLARGEMENT COURTYARD C PLANTING PLAN
(MEMORY CARE)

PLANTING SCHEDULE– SHEET L103

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE
TREES				
A. CAN	4	AMELANCHIER CANADENSIS	AUTUMN BRILLIANCE SHAD	7'–8' CLUMP
Q. BI	1	QUERCUS BICOLOR	SWAMP WHITE OAK	2.5" CAL
A. GRH	5	AMELANCHIER GRANDIFLORA ROBIN HILL	ROBIN HILL SINGLE STEM SHAD	1.5" CAL
A. RU	3	ACER RUBRUM	RED MAPLE	2.5" CAL
B. NIG	1	BETULA NIGRA 'HERITAGE'	RIVER BIRCH	7'–8' CLUMP
C. CAN	2	CERCIS CANADENSIS	REDBUD	7'–8'
C. CRU	3	CRATAEGUS CRUSGALLI	THORNLESS HAWTHORN	2.5" CAL
EVERGREEN TREES				
A. KO	3	ABIES KOREANA	KOREAN FIR	6'–7' HT
J. VIR	2	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	6'–7' HT
SHRUBS				
A. BRI	3	ARONIA ARBUTIFOLIA 'BRILLIANTISSIMA'	RED CHOKEBERRY	#3
F. GAR	12	FOTHERGILLA GARDENII	FOTHERGILLA	#3
C. AM	9	CEANOTHUS AMERICANUS	NEW JERSEY TEA	#3
M. VIR	3	MAGNOLIA VIRGINIANA	SWEET BAY MAGNOLIA	#3
C. ALN	3	CLETHRA ALNIFOLIA	SUMMERSWEET	#3
H. VIR	2	HAMAMELIS VERNALIS ARTHURS PROMISE	ARTHURS PROMISE WITCHHAZEL	#3
S. PAT	5	SYRINGA PATULA 'MISS KIM'	LILAC	#3
P. CIS	2	PRUNUS CISTENA	PURPLE SANDCHERRY	#3
B. GG	9	BUXUS 'GREEN GEM'	BOXWOOD	#3
C. SAF	6	CORNUS SERICEA 'FARROW'	ARCTIC FIRE RED DOGWOOD	#3
V. COR	5	VACCINIUM CORYMBOSUM BERKELY & BLUE	HIGHBUSH BLUEBERRY POLLINATOR MIX	#3
H. PA	16	HYDRANGEA PANICULATA 'LITTLE QUICKFIRE'	LITTLE QUICKFIRE HYD	#3
R. KNO	21	ROSA ' KNOCK OUT'	KNOCK OUT ROSE	#3



1 / L103 TREE AND SHRUB INSTALLATION
NOT TO SCALE

SCALE 1"=20'

0 10 20 40 ft.

NORTH

PREPARED BY:

Sashie Misner Landscape Architecture LLC
www.landandplay.com | 207-406-0734

LICENSED LANDSCAPE ARCHITECT
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CLIPPERSHIP LANDING
SANDY RIVER
DAMARISCOTTA, MAINE

REVISIONS

#	DATE	DESCRIPTION

DATE:	09-15-22
PROJECT #	2206
DRAWN BY:	SEM
CHECKED BY:	
DRAWING SCALE	1" = 20'

NOT FOR CONSTRUCTION

PLANTING PLAN
COURTYARDS
C & B

L103

CLIPPERSHIP LANDING

NURSING HOME
DAMARISCOTTA, MAINE

TOWN OF DAMARISCOTTA FINAL SITE PLAN AND
SUBDIVISION APPLICATION SUBMISSION

PREPARED FOR:
CLIPPERSHIP LANDING DEVELOPMENT, LLC

PREPARED BY:
ATLANTIC RESOURCE CONSULTANTS, LLC
541 US ROUTE ONE
FREEPORT, MAINE 04032

Atlantic Resource Consultants
Engineering Strategies and Solutions

SEPTEMBER 2022

TABLE OF CONTENTS

Atlantic Resource Consultants
Engineering Strategies and Solutions

541 US Route One, Suite 21
Freeport, Maine 04032
Tel: 207.869.9050
www.arc-maine.com

September 19, 2022

Isabelle Oechslie
Town Planner
Town of Damariscotta
21 School Street
Damariscotta, ME 04543

RE: Clippership Landing Development, LLC – Preliminary Site Plan and Subdivision Review, Damariscotta, Maine

Dear Isabelle,

On behalf of Clippership Landing Development, LLC, we are pleased to submit a Site Plan and Subdivision application for preliminary review by the Town of Damariscotta. The applications are for the construction of a new memory care facility on Piper Mill Road in the Town of Damariscotta, Maine. The project consists of a 102+ bed skilled nursing home facility with associated access drives, parking, fire lanes, stormwater BMP's and onsite utilities.

The project site is an undeveloped parcel that is predominately wooded with some open field areas. The parcel is approximately 19.98 acres and contains multiple freshwater wetlands and three streams that drain to the Damariscotta River and Atlantic Ocean. The project will impact approximately 14,505 square feet of freshwater wetlands and will also result in approximately 3.95 acres of new impervious area and 6.73 acres of developed area.

On behalf of our client, we have included a list of waiver requests below:

Waiver Requests:
The Applicant respectfully requests a waiver form the Large-Scale Development Standards described in Section §102.7. D of the Town of Damariscotta Ordinance – Bicycles and Pedestrian Facilities. This section includes the following requirement:

- that all internal sidewalks shall be at least eight feet in width and raised at least 6 inches above the vehicle travel way,
- that all internal pedestrian crosswalks shall be distinguished from driving surfaces through the use of durable, low maintenance materials, such as, but not limited to, pavers, bricks or scored concrete or asphalt

These standards appear to be intended for busy downtown commercial developments that would generate significant pedestrian and bicycle traffic throughout the day. The proposed use in this application will generate low volumes of pedestrian traffic, primarily associated with staff entering and leaving the building. Six-foot wide sidewalks would provide sufficient

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space to accommodate the anticipated pedestrian movements through the site, reduce the amount of unnecessary impervious area at the site, and increase the space available for landscaping in the interior of the property. In addition, the requirement for all walkways to be raised six inches above the vehicle travelway does not facilitate barrier free access from the drop-off and adjacent handicapped parking spaces adjacent to the front entrance to the building.

The Applicant respectfully requests a waiver form the Large Scale Development Standards described in Section §102.7.H.3 of the Town of Damariscotta Ordinance – Community Impacts. This states that the Planning Board shall require an economic and fiscal impact analysis for a proposed large-scale development.
The impact analysis standards appear specifically designed to assess impacts generated by large-scale retail developments in the town. Sections §102.7.H.3.b (4) and (7).v.i. specifically require evaluation of retail impacts.

We look forward to continuing to work with you on this project and please let us know if you have any questions throughout the review process.

Regards,

Atlantic Resource Consultants

Andrew Johnston, PE, LEED AP, CEng, CEnv, MCIWEM

Principal

___ Preliminary Submission
_X_ Final Submission

Date: _____
Date: 9/19/2022

APPLICATION FORM
FOR
SUBDIVISION APPROVAL

TOWN OF DAMARISCOTTA, MAINE

Notes to Applicant:

1. Please refer to the Subdivision Ordinance of the Town of Damariscotta for all detailed provisions, requirements, and procedures for subdivision application and review for approval.

2. You are advised to meet informally with the Board at a regular meeting prior to submitting a Preliminary Application to clarify submission requirements and acquaint the board with the nature of the project.

3. Only those items marked (X) are required to be submitted.

Information on the Applicant:

_X_ 1. Name of Owner: John C. Orestis and Barbara M. Crawley

_X_ 2. Name of Applicant (if other than owner):
Clippership Landing Development, LLC

_X_ 3. If Applicant is a corporation, state whether the corporation is licensed to do business in Maine (yes or no) yes, and attach a copy of Secretary of State's Registration.

_X_ 4. Name of Applicant's authorized representative:
Andrew Johnston

_X_ 5. Name, address, and number of Registered Professional Engineer, Land Surveyor, or Planner:
Andrew D. Johnston, P.E. No. 9994,

Atlantic Resource Consultants, LLC, 541 US-1, Suite 2l, Freeport, ME 04032

_X_ 6 Address to which all correspondence from the Planning Board should be sent:
Andrew D. Johnston, P.E., Atlantic Resource Consultants, LLC

541 US-1, Suite 2l, Freeport, ME 04032

X 7. What interest does the Applicant have in the parcel to be subdivided (option, land purchase contract, record ownership, etc.)? Attach document of this interest.

Purchase and Sales Agreentent

X 8. What interest does Applicant have in any property abutting parcel to be subdivided?

None

X 9 State whether or not preliminary plot plan covers entire, contiguous holdings of Applicant.

(Yes or no) Yes

Information on Parcel to be Divided:

X 1. Location of property: Book 112, Page 61
(from Registry of Deeds)

X 2. Location of property: Map 1, Lot 50
(from Assessor's Office)

X 3. Map survey of tract to be subdivided, certified by a Registered Land Surveyor, tied to established reference points. (Attach to application)

X 4. Current zoning of property: Rural District and residential, commercial

X 5. Acreage of parcel to be subdivided: 9.98 acres

X 6. A soils report, identifying soil types and location of test areas. Based on soil tests results, certain modifications of preliminary plot plan may be required. (Attach copy of soils report to application.) There shall be at least one soil test per lot.

X 7. Names of property owners abutting parcel to be subdivided, and on opposite side of any road from parcel to be subdivided. (Show on plot.)

X 8. Indicate the nature on any restrictive covenants to be placed on the deeds.

None.

Information on Subdivision

X 1. Proposed name of subdivision: Clippership Landing

X 2. Number of lots: 2

X 3. Date, north point, graphic map scale. (Show on plot.)

X 4. Proposed lot lines with approximate dimensions and suggested locations of buildings, subsurface sewage disposal systems, and wells. (Show on plot.)

X 5. Location of temporary markers adequately located to enable the Planning Board to locate the lots readily and appraise basic lot layout in the field. (Show on plot.)

N/A 6. Location of all parcels to be dedicated to public use, the conditions of such dedication, and the location of all natural features or site elements to be preserved. (Show on plot.)

X 7. A location ma, consisting of a USGS Topographical Map, showing the relation of the proposed subdivision to adjacent properties and to the general surrounding area. The location map shall show all the area within 2000 feet of any property line of the proposed subdivision (attach to application).

X 8. Location and size of existing buildings, watercourses, and other essential existing physical features. (Show on plot.)

X 9. Location and size of any existing sewers, water mains, culverts, and drains.

X 10 Location, names, and widths of existing and proposed streets, highways, easements, building lines, parks, and open spaces. (Show on plot.)

X 11. Topographical map per Subdivision Ordinance.

X 12. Typical cross-sections of proposed grading for roadways, sidewalks, and storm drainage facilities. (Attach to application.)

X 13 A soil erosion and sedimentation control plan. (Attach to application.)

___ 14. Other: (only those items marked)

YES a. Traffic study
NO b. Hydrology report
YES c. Flood plain boundary
YES d. Identify natural feature

___ 15. Other Documents to be Submitted per Ordinance

Preliminary Submission

___ Review Standards per Section VIII.C. of Subdivision Ordinance.

Provide detailed information for all items in Section VIII.C.1.a. through VIII.C.1 m. Provide letters from following departments to indicate the effect the subdivision will have n their ability to service its needs:

a. Fire Department
b. Solid Waste (Nobleboro/Jefferson Transfer Facility)
c. Sanitary District (if applicable)
d. Highway Department

X Financial/Technical Capacity
Performance Bond required? Yes ___ No ___
X Copy of Deed
N/A Covenants
X Letters of Notification of Abutters

Final Submission

___ All documents required for Preliminary Submission, plus:
___ Those requirements of Section IX.C.2 of Subdivision Ordinance.

Note to Applicant:

Complete this form, and return it with the required documents of the Preliminary/Final Plot.

To the best of my knowledge, all information submitted on this Application is true and correct.

Signed: _____, Applicant

Date: September 19, 2022

EXHIBIT A
January 21, 2009 Ordinance

___ Preapplication Submission Date: _____

__X__ Final Submission Date: 9/19/2022

APPLICATION FORM
FOR SITE PLAN REVIEW

Town of Damariscotta, Maine

A. Notes to Applicant:

1. Please refer to the *Site Plan Review Ordinance*, Town of Damariscotta for all detailed provisions, requirements and procedures for site plan review application and review for seeking approval. In addition, you are well advised to also review the Damariscotta Land Use Ordinance.

2. You are advised to meet informally with the Planning Board at a regular meeting prior to submitting an application to clarify submission requirements and acquaint the Board with the nature of the project.

3. After meeting the Planning Board you are advised to meet with the Town Planner to review the checklist and determine if you have a complete application. The Board cannot approve an incomplete application.

B. Information on the Applicant:

1. Name of Owner: John C. Orestis and Barbara M. Crowley

   Address of Site Plan property: Piper Mill Road

2. Name of Applicant (if other than owner):
   Clippership Landing Development, LLC

3. If Applicant is a corporation, state whether the corporation is licensed to do business in Maine (yes or no) Yes, and attach a copy of the Secretary of State's Registration.

4. Name of Applicant's authorized representative: Daniel J. Maguire

   (signature of owner to authorize her/his representative: _____Date:_____)

5. Name, address and number of Registered Professional Engineer, Land surveyor or Planner (if applicable): Andrew D. Johnston, P.E., LEED AP/PE NO. 9994
   Atlantic Resource Consultants, LLC, 541 US-1, Suite 21, Freeport, ME 04032

6. Address to which all correspondence from the Planning Board should be sent:
Andrew D. Johnston, P.E, Atlantic Resource Consultants, LLC

541 US–1, Suite 21, Freeport, ME 04032

andyj@arc-maine.com

7 What interest does the Applicant have in the parcel to be developed (option, land purchase contract, record ownership, etc.)? Attach document of this interest.
Purchase and Sales Agreement

8. Location of property: Book 112 Page 61
(from Registry of Deeds)

9. Location of property: Map 1 Lot 50
(from Assessor's Office)

C. PREAPPLICATION MEETING

1. Please refer to the full Site Plan Review Ordinance, Section 10.B for detailed requirements.

2. This informal meeting should be scheduled at the next regular meeting of the Damariscotta Planning Board which meets on the first Monday of each month. Call the Damariscotta Town Office to be put on the agenda.

3. To this meeting bring at least the following: (You may wish to complete the remainder of the application to speed up the process – see Town Planner.)

a. Deed or other evidence of right, title or interest in the property.

b. A sketch plan showing the following:
- The outline of the tract or parcel with estimated dimensions, road rights of ways and existing easements;
- North arrow;
- The proposed layout of the building(s), driveway(s) and parking area(s);
- Identification of general areas of steep slopes, wetlands, streams and floodplains;
- Other information pertinent to the proposed project;

c. Evidence of license to do business in Maine.

D. APPLICATION SUBMISSION REQUIREMENTS

1. The application consists of ten (10) copies of the following items that are explained in detail in Section 10.E. Obtain a checklist from the Town Office and schedule a meeting with the Town Planner. Depending on your proposal, you may not be required to submit all items listed.

a. Fully executed and signed Application Form.

b. Evidence of right, title or interest in the property.

c. A site plan at appropriate scale with all information in Section 10.E.3 (or 10.F for wireless communication facilities).
   (1) Abutters' names and addresses
   (2) Sketch location map
   (3) Contiguous property boundaries owned/controlled by applicant.
   (4) Property line information: bearings, distances, etc. if applicable.
   (5) Zoning boundary(s) and classification(s).
   (6) Soil type classification and area(s) suitable for septic systems.
   (7) Building setbacks from property lines, wetlands, floodplains, etc. – building envelope as applicable.
   (8) Signs and outdoor lighting locations, sizes and character, with footcandles grid, height and shielding as appropriate.
   (9) Location of existing and proposed buildings, driveways, sidewalks, parking and loading areas, open spaces, trees, open drainage courses, service areas, easements, streams, wetlands and landscaping.
   (10) Location of adjacent buildings/roads.
   (11) Existing and proposed topography.
   (12) Stormwater management plan.
   (13) Erosion and sediment control plan.
   (14) Building plans, floor plans, elevations.
   (15) Existing/proposed easements, covenants, deed restrictions.
   (16) List of all applicable State & Federal permits: DEP, ACE, etc.
   (17) Listed or eligible National Register of Historic Places items.
   (18) Financial and technical capacity to complete project.
   (19) Location of 100-year floodplain(s).
   (20) Sewage disposal soil test pit log (HHE 200 Form) or letter from Great Salt Bay Sanitary District.
   (21) Phosphorus impact study if within great pond or river watershed.

d. Other studies, letters or reports as may be required by the Planning Board (only those items marked)
   (1) Hydrology study for on-site water supply or letter from Great Salt Bay Water & Sewer District.
   (2) Fire Department concerns – water for fire protection.
   (3) State agency letters on historic, archeological, rare or endangered species.
   (4) Traffic study – required sight distance(s).
   (5) Compliance with noise and air quality standards.
   (6) Maine Department of Transportation (MDOT) approval.

e. A written list of all abutting property owners and addresses with certified mail receipts showing that all have been notified of the application.

f. <u>All site plan applications:</u> Responses to Performance Standards per Section 11.A – 11.U referred to below. The Board's decision as to compliance will be based on the information it receives from you. You are required to provide written responses to show that your project will:

   (1) Preserve and enhance the landscape (11.A).
   (2) Relate appropriately to the environment and neighboring buildings (11.B).
   (3) Maintain air quality (11.C).
   (4) Meet lighting glare control standards (11.D).
   (5) Meet noise control standards (11.E).
   (6) Provide road access with adequate capacity (11.F).
   (7) Provide safe and appropriate access into site (11.G).

(8) Meet parking and internal circulation standards (11.H).
(9) Provide pedestrian circulation (11.I).
(10) Avoid adverse impacts on existing public utilities and services (11.J).
(11) Maintain water quality (11.K).
(12) Employ stormwater best management practices (11.L).
(13) Employ erosion and sediment control best management practices (11.M).
(14) Provide sufficient water supply (11.N).
(15) Maintain the natural beauty of the site (11.O).
(16) Protect historic and archeological resources (11.P).
(17) Meet filling and excavation standards (11.Q).
(18) Meet sewage disposal standards of the State Plumbing Code (11.R).
(19) Meet phosphorus export standards for the four identified watersheds (11.S).
(20) Provide and maintain buffer and screening standards (11.T).
(21) Meet standards for signs (11.U).

g. Building(s) less than 7,500 sq. ft. singly or in the aggregate on a site: (In addition to Section 11) meet aesthetic standards.

h. Large-scale Development 7,500 sq. ft. and larger in a single building or in aggregate buildings on a site: (In addition to Section 11) Responses to Performance Standards per Section 12.A – 12.H referred to below. The Board's decision as to compliance will be based on the information it receives from you. You are required to provide written responses to show that your project will at least:

(1) Meet building appearance standards (12.A).
(2) Meet outdoor sales standards (12.B).
(3) Meet parking standards (12.C).
(4) Meet bicycle and pedestrian facility standards (12.D).
(5) Meet landscaping standards (12.E).
(6) Meet screening standards (12.F).
(7) Meet building reuse standards (12G).

i. **The applicant must be able to demonstrate that she/he has the financial and technical capacity to complete the project as proposed, in accordance with this Ordinance and the approved plan.**

j. Application Fee. An application fee of $.02 per square foot of floor space (but not less than $50.00 is required at time of submitting Site Plan Review Ordinance Application Form.

k. Signature of Applicant:

To the best of my knowledge, all information submitted on this Application is true and correct.

Signed: _____, Applicant

Date: 9/19/2022

Town of Damariscotta

Site Plan Review Ordinance

Chapter 102.6

Performance Standards

In conjunction with the combined Site Plan Review and Subdivision application submittals, the Applicant, Clippership Landing Development, LLC, has also outlined below how the proposed skilled-nursing home facility will meet the performance standards outlined in the Site Plan Review Ordinance, Chapter 102.6.

A. Preserve and Enhance the Landscape

The design and layout for the proposed development has been tailored to fit the topography of the site to the maximum extent practical. The building is located centrally on the site, allowing retention of the natural vegetation around the perimeters of the property. The Landscape Plan included with the application shows areas where additional new plantings will be provided to compliment the natural vegetation and to infill areas where trees have been historically cleared in favor of grass meadow. The new plantings are designed to shield views of the new development from abutting properties and public streets.

B. Relationship to Environment and Neighboring Buildings

The proposed facility has been cited to fit harmoniously within the surrounding development and Section 14 of this application outlines the specific buffers provided to be compatible with the surrounding area.

C. Air Quality

The proposed project will not result in undue air pollution or odors, or the emission of dust, fly ash, fumes, vapors, smoke, or other particulate matter or gases.

D. Lighting and Glare

The new development will have limited exterior lighting to provide safe lighting levels within the parking lot and along key access paths to the building. All proposed exterior lights will have high efficiency, full cut-off, targeted LED style fixtures that limit light trespass. A photometrics plan has been included in Section 14 of this application.

E. Noise

The new facility is a residential care nursing home and will not create any significant noise impacts. Noises created by the construction of the proposed facility is exempt from sound pressure level regulations between 6:30am and 8pm.

F. Adequacy of Public Road System

The new use will have limited impacts on traffic in the area surrounding the site. Nursing Home uses are low traffic generators and peak traffic associated with staff shift changes usually occur outside peak traffic times on abutting streets. A Traffic Assessment Report has been produced for the proposed development by Barton and Loguidice and is included with this submission.

G. Access into the Site

Access into the site is provided by two new driveways off Piper Mill Road, a private street that is part of the project parcel. The main driveway is located opposite the entrance to Ledgewood Apartments, with a secondary service access provided at the west side of the site. This allows for safe separation of service vehicles from the general traffic circulation in and out of the site. Some minor tree clearing is recommended to extend the sight distance from the secondary entrance to the site. This will improve safety for both current and future road users.

H. Parking and Circulation

Parking for the facility is provided in a new parking lot towards the south side of the site. A wooded buffer will be retained between the new parking area and Piper Mill Road, and landscaped islands are included within the lot to limit the visual impact of the new paved area. Parking is provided for a total of 103 vehicles at a rate of just over one space per bed. Nine handicapped parking spaces are provided proximate to the main entrance to the building. Although this significantly exceeds the town code requirement for parking, the Applicant has substantial experience in operating similar facilities and feels that this number will be required for the safe and efficient operation of the facility. It should be noted that should the capacity of the parking lot be exceeded, there are no safe alternative parking areas adjacent to the facility.

I. Pedestrian Circulation

Pedestrian walkways are provided from the parking lot to the main entrance from each aisle, with striped crosswalks at driveway crossings. Supplemental walking routes are provided for residents within the courtyards associated with each wing of the building.

J. Existing Public Utilities and Services

The new development will served by water for fire protection and domestic use by Great Salt Bay Sanitary District. Sewer service will also be provided by GSBSD. Three phase power and fiber-optic data service for the facility will be provided via the recently installed overhead lines along Piper Mill Road.

K. Water Quality

The project site is not located over a significant sand and gravel aquifer does not propose subsurface wastewater disposal, or any commercial or industrial processes that have the potential to impact surface or groundwater resources on, or adjacent to the site.

L. Stormwater Management

A Low Impact Development approach has been taken to stormwater management design for the new facility, with numerous, small Best Management Practices (BMPs) designed to treat runoff close to source. The stormwater BMPs proposed to capture and treat runoff from the new developed areas of the site include seven small bioretention cells and three larger underdrained soil filters. Filtering drip edges around the perimeter of the building will capture and treat runoff from pitched roof areas. The western

fire lane has been designed with a sixteen-foot paved width, each half draining to a two-foot wide reinforced turf pervious pavement section with a filter sand layer. The new BMP's have been sized and designed in accordance with current State of Maine Chapter 500 Stormwater Law. The stormwater BMPs are designed to capture, treat and detain runoff from impervious areas of the site and will discharge to existing receiving waters via riprap aprons designed to dissipate runoff velocities. Stormwater BMP designations and details can be found in the accompanying project plan set.

M. Erosion and Sediment Control

An erosion and sediment control plan has been created specifically for this project and can be seen in Section 6 and on the drawings and details accompanying this submission.

N. Water Supply

Water for the development will be supplied by Great Salt Bay Sanitary District through the existing main on Piper Mill Road. A capacity to serve letter is included in Section 11. Details of the connection to the GSBSD system are subject to review and approval by the GSBSD Board of Trustees.

O. Natural Beauty

The applicant will not have an undue adverse effect on the scenic or natural beauty of the area or rare and irreplaceable natural areas. The site plan has been designed to maintain the existing natural vegetation around the perimeters of the property to the maximum extent practical. The existing woodland provides visual and audible screening around most sides of the site. Additional plantings are proposed to enhance the screening where trees have been historically cleared in favor of grassed meadow. The Applicant has submitted a landscaping plan, which can be seen in Section 14.

P. Historic and Archaeological Resources

The project site does not contain historic or archeologic resources, according to correspondence with Maine Historic Preservation Commission and THPO. See Section 10.

Q. Filling and Excavation

The proposed project does not propose any excavation of sand, gravel, topsoil, silt or rock that are not incidental to the development.

R. Sewage Disposal

Sewage disposal for the development will be provided by Great Salt Bay Sanitary District via the Piper Mill Road to the treatment plant. A capacity to serve letter is included in Section 16. Details of the connection to the GSBSD system are subject to review and approval by the GSBSD Board of Trustees.

S. Phosphorus Control

The proposed project is not located in the watershed of a Great Pond; therefore, the phosphorus provisions do not apply to this project.

T. Buffer Areas

The site plan has been designed to maintain the existing natural vegetation around the perimeters of the property to the maximum extent practical. The existing woodland provides visual and audible screening around most sides of the site. Additional plantings are proposed to enhance the screening where trees have been historically cleared in favor of grassed meadow. The Applicant has submitted a landscaping plan, which can be seen in Section 14.

U. Signs

The project is proposing a single monument sign at the entrance to the property on Piper Mill Road. The sign will be designed to meet the Town of Damariscotta ordinance.

V. Building Appearance

The new building has been carefully designed to present a residential aesthetic, with varying height pitched roofs, building insets and subtle, natural tone façade colors. Building elevations and floor plans are included in Section 20.

Section 102.7 Large-Scale Development Standards

A. Building Appearance

The new building has been carefully designed to present a residential aesthetic, with varying height pitched roofs, building insets and subtle, natural tone façade colors. The wings of the building present as residential scale from the end views and are designed to be an attractive and welcoming presence to both residents, abutting properties and adjacent public streets, as required by the proposed use. Building elevations and floor plans are included in Section 20.

B. Outdoor Sales

There are no outdoor sales proposed as part of this project.

C. Parking

The parking layout has been designed to retain a wooded buffer and natural screening between the main parking field and Piper Mill Road. The parking lot will be screened from the nearest public street, School Street by an extensive natural wooded buffer. Further to comments received by The Applicant at the Sketch Plan Review, the parking field has been amended to eliminate parking between the facade of the building and the front property line.

D. Bicycles and Pedestrian Facilities

The Applicant is requesting a waiver from some of the standards in this section of the ordinance on that grounds that the required sidewalk widths are excessive for a development of this nature, add additional unnecessary impervious area and reduce the area available for landscaping in the interior of the property. the

E. Landscaping

A comprehensive Landscape Plan has been developed for the project based on the ordinance standards and is submitted with this application.

F. Screening

The site plan has been developed to incorporate fencing and screening around the trash collection pad in the service area. All ground-mounted mechanical units will be similarly screened. The Applicant has chosen to install the propane tanks serving the facility underground to further reduce the visual impact of essential utility infrastructure. Additional landscape screening is provided outboard of the service area along the top of the slope down towards the stream on the west side of the site.

G. Building Reuse

The Applicant request further clarification as to what is needed to meet this standard before submitting additional information.

H. Additional Standards for Large Scale Developments with buildings 20,000 square feet or greater in total floor area.

Not applicable – this standard relates to Retail Buildings greater than 20,000sf

SECTION 1

PROJECT DESCRIPTION

PROJECT SUMMARY

The project is the construction of a new memory care facility on +/- 19.98-acre parcel of land on Piper Mill Road in Damariscotta, Maine. The proposed facility will be a 102+ bed skilled nursing home facility with associated access drives, parking, fire lanes, stormwater BMP's, and on-site utilities. Two fire lanes with turnarounds are necessary to provide access to all sides of the building for public safety services (fire trucks, ambulances, etc.). The development will be a single-story facility with six wings to avoid the need for stairs and/or elevators for residents of the nursing home.

EXISTING CONDITIONS AND SITE HISTORY

The project site is an undeveloped parcel that is predominantly wooded with some open grassy areas. The Soil Survey, as provided by the NRCS has the site being Scantic and Lamoine, which are both silty loam soils. Geotechnical explorations were completed by S.W. Cole Engineering, Inc. on April 1, 2022, which revealed soils with roots and organics, silty clay, glacial till with cobbles and large boulders and possible shallow bedrock.

The site generally slopes downward in all directions from a knoll in the northwest corner of the site. Three stream channels are identified on-site, of which one is a USGS stream (unnamed). All three stream channels drain into Castners Creek, which drains to the Damariscotta River and Atlantic Ocean. There will be no impacts to on-site streams.

CONSTRUCTION SCHEDULE

Construction will begin once all site permits have been received. We anticipate the start of construction will be in the spring of 2023.

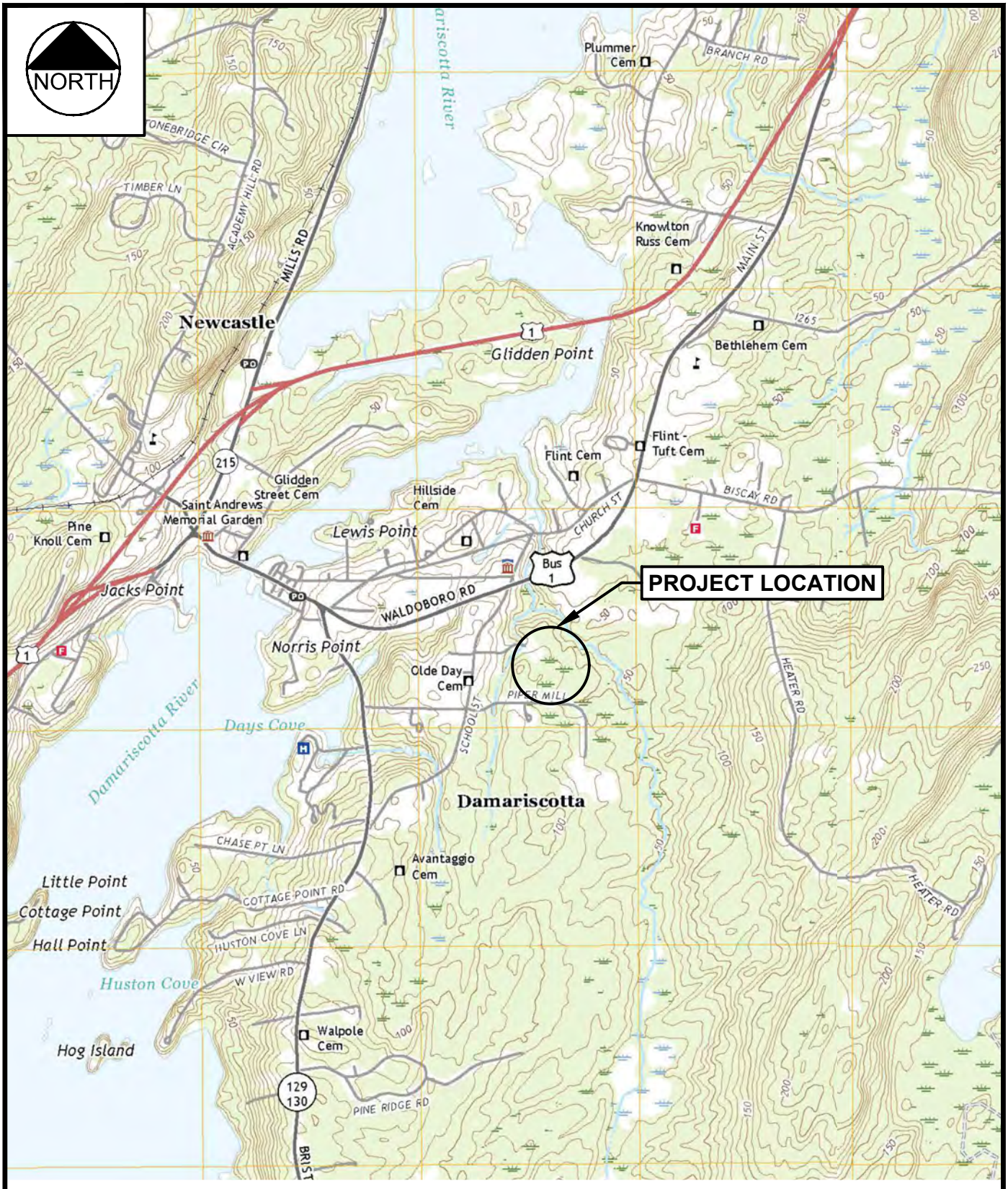
TOPOGRAPHIC AND SITE MAPPING

Figures showing the proposed project site are included in Attachment A and include:

Figure No.	**Title**
1	USGS Topographic Map

FIGURE 1

USGS TOPOGRAPHIC MAP



REFERENCE: USGS TOPOGRAPIC SURVEY DAMARISCOTTA QUADRANGLE

CLIPPERSHIP, LLC
PIPER MILL ROAD, DAMARISCOTTA

USGS LOCATION MAP

Atlantic Resource Consultants
ENGINEERING STRATEGIES AND SOLUTIONS

DRAWN:	VMW	DATE:	MAY 2022	FIGURE 1
DESIGNED:	ADJ	SCALE:	NTS	
CHECKED:	ADJ	JOB NO.	21-025	
		FILE NAME:	USGS LOC MAP	

SECTION 2

TITLE, RIGHT, OR INTEREST

The proposed project will be undertaken on Lot 50 of Tax Map 1 in the Town of Damariscotta, Maine. The total parcel is approximately 19.98 +/- acres in size and the applicant, Clippership Landing Development, LLC is under a Purchase Option Agreement. A copy of the Purchase Option Agreement is included in Attachment A. A Boundary Survey is included in the plan set that accompanies this submission.

Attachments

Attachment A – Copy of Purchase Option Agreement

ATTACHMENT A

COPY OF PURCHASE OPTION AGREEMENT

AGREEMENT FOR PURCHASE AND SALE
OF
REAL ESTATE

AGREEMENT ("Agreement") made and entered into this 18th day of July 2022, by and between Clippership Landing Development, LLC, a Maine corporation ("Buyer"), having a mailing address of c/o Sandy River Company, P.O. Box 110, Portland, Maine and John C. Orestis and Barbra M. Crowley, having a mailing address of P.O. Box 1408, Lewiston, Maine 04243-1408 or its assigns ("Seller").

RECITALS

This Agreement for the Purchase and Sale of Real Estate ("Property") whereby Buyer intends to develop, build and operate a new nursing care facility ("Facility") on said Property.

In consideration of the mutual covenants and agreements herein contained herein, the receipt and sufficiency of which are hereby acknowledged, Seller and Buyer hereby agree as follows:

1. PURCHASE AND SALE. Seller agrees to sell, and Buyer agrees to buy, on the terms and conditions hereinafter set forth certain real estate, and all appurtenances thereof, consisting of real estate shown in Exhibit A along with legal descriptions to be used in conveying the Property (collectively to be referred to as the "Property").

2. PURCHASE PRICE AND DEPOSIT: As consideration for the conveyance of the Property, Buyer shall pay to Seller at Closing the sum of $_____. (Left Blank)

3. PERFORMANCE AT CLOSING: At Closing, Seller shall deliver to Buyer a deed, conveying the Property in fee simple with good and marketable title in accordance with standards of title adopted by the Maine Bar Association, and subject to the Permitted Encumbrances, and Buyer shall pay the Purchase Price as provided herein and execute all necessary papers for the completion of the purchase on or before July 1, 2023, unless extended by mutual agreement of the parties.

    a. If Seller is unable to convey title to the Property in accordance with the provisions of this paragraph, then Seller shall have a reasonable time period, not to exceed 30 days from the time Seller receives written notice of the defect, unless otherwise agreed to by both parties, to remedy the

title, after which time, if such defect is not corrected so that there is marketable title, Buyer may within forty-five (45) days thereafter, at Buyer's option, withdraw said earnest money and neither party shall have any further obligation hereunder. Seller hereby agrees to make a good-faith effort to cure any title defect during such period, but shall not be obligated to expend more than $5,000 to cure. If Closing of the real estate transaction is delayed on account of such defects, the parties shall bargain regarding whether and the terms under which the remainder of the closing contemplated under the Memorandum of Agreement may be consummated and this real estate transaction completed thereafter.

b. Seller further agrees to execute and deliver to Buyer at Closing the following documents: (i) a Certificate of Non-Foreign Status (as required by Internal Revenue Service regulations); (ii) a title insurance "Seller's Affidavit" regarding mechanics liens and persons in possession; (iii) an affidavit regarding underground storage tanks (as required by Maine Law), and (iv) documents demonstrating Seller's authority to convey and good standing as evidenced by a copy of Seller's resolution authorizing the transaction contemplated herein and all other documents regarding authority or any other matter reasonably required from the Closing.

c. To the extent that the conveyance of title to the Property to Buyer requires the subdivision of lots, Buyer shall bear the cost, or shall reimburse Seller, for the cost of any outside legal and surveyor expense reasonably necessary to secure such subdivision, including any necessary municipal or other approvals.

4. DEED: The Property shall be conveyed by a quitclaim with covenant deed and shall be free and clear of all encumbrances except for Permitted Encumbrances, and except for covenants, conditions, easements and restrictions of record and usual public utilities servicing the Property and shall be subject to applicable land use and building laws and regulations.

5. POSSESSION/OCCUPANCY: Possession/occupancy of Property shall be given to Buyer immediately at Closing unless otherwise agreed by both parties in writing.

6. RISK OF LOSS: Until transfer of title, the risk of loss or damage to said Property by fire or otherwise is assumed by Seller unless otherwise agreed in writing. Said Property shall at closing be in substantially the same condition as at present, excepting reasonable use and wear.

7. PRORATIONS: The following items shall be prorated as of the date of closing:

a. Buyer and Seller shall each pay one-half of the transfer tax as required by the laws of the State of Maine.

b. Buyer and Seller shall reasonably cooperate on the proration of any other needed item at Closing. The property is vacant land, and so no heating oil or water and sewer charges are expected.

c. Real Estate Taxes for any potions of the Property subject to such taxes, based on the municipality's current tax year.

8. INSPECTION. Buyer may enter into any part of the Property at all reasonable times in order to inspect the Property, conduct surveys, soil tests and engineering studies and to do such things as are reasonably necessary with respect to its acquisition and intended development of the Property. In the event that the Buyer does not terminate this Agreement, this inspection contingency to its obligation to close shall be conclusively deemed waived.

9. AGENCY DISCLOSURE: Buyer and Seller acknowledge that they have not engaged a real estate broker in their transaction.

10. PRIOR STATEMENTS: This Agreement and the referenced Memorandum of Agreement set forth the entire agreement between the parties relating to the conveyance of the property described in Exhibit A, and there are no other representations, agreements or understandings with respect to the subject matter of this Agreement.

11. ASSIGNS: This Agreement shall extend to and be obligatory upon successors, and assigns of the respective parties. This Agreement may be assigned only to persons or entities controlling, controlled by, or under common control of a party.

12. COUNTERPARTS: This Agreement may be signed on any number of identical counterparts, including telefax copies, with the same binding effect as if all of the signatures were on one instrument.

13. BUYER'S NOMINEE: Buyer may transfer its rights under this Agreement to an entity or the nominee which it controls. Buyer shall, however, remain jointly and severally liable with such transferee for all of Buyer's obligations under this Agreement and under the Memorandum of Agreement, and such transferee shall be required to assume joint and several liability for all such obligations. Buyer shall give Seller prompt written notice of any such transfer at least seven (7) days before the scheduled Closing, which notice shall include sufficient information to identify the transferee entity or nominee and certified copies of its organizational documents. No assignment shall be valid unless Seller has approved the agreement pursuant to which the assignment is consummated. No other assignment of this Agreement by Buyer is permitted.

14. EFFECTIVE DATE: This Agreement is a binding contract when signed by both Seller and Buyer and when that fact has been communicated to all parties or to their agents. Time is of the essence of this Agreement to the extent set forth in the Master Agreement.

15. BEST EFFORTS: Each of the parties shall undertake to take all reasonable steps necessary to achieve the satisfaction of conditions leading to a Closing under this Agreement.

16. FACSIMILE COPIES: All parties to this Agreement agree to accept facsimile or photocopies of this document and any signatures thereto as originals.

17. REPRESENTATIONS OF SELLER: Seller represents to Buyer that the following are true as of the date of this Agreement and will be true as of the Closing:

a. To the best of Seller's knowledge, there are no violations of any applicable law, ordinance or regulation at the Property.

b. To the best of Seller's knowledge, there are no special wastes, underground storage tanks, asbestos containing materials, waste oil, petroleum and any other hazardous substances, materials or wastes contaminating the Property. The terms used in the foregoing sentence shall include, without limitation, all substances, materials, etc., designated by such terms under any laws, ordinances, or regulations, whether federal, state, or local. This presentation shall except such materials used in the regular course of business and disposed of in compliance with all applicable laws.

c. Other than matters of record that constitute Permitted Encumbrances, there are no outstanding pending or threatened liens, claims, rights of first refusal, or encumbrances against the Property.

18. NOTICES. Any notice or communication given pursuant to this Agreement by either of the parties to the other shall be in writing and delivered as provided in the Master Agreement for notices.

19. GOVERNING LAW. This Agreement shall be construed according to the laws of the State of Maine.

20. TERMINATION OF AGREEMENT. This Agreement shall terminate if:

a. A Certificate of Need application to be filed to the Maine Department of Health and Human Services is denied.

b. Any local or state permits required to develop the Facility are denied.

c. The Buyer is unable to secure financing to develop the Facility, to include the purchase of the Property, at terms and conditions acceptable to the Buyer.

Seller acknowledges that the laws of the State of Maine provide that every buyer of real property located in Maine must withhold a withholding tax equal to 2-1/2% of the consideration unless Seller furnishes to Buyer a certificate by the Seller stating, under penalty of perjury, that Seller is a resident of Maine or the transfer is otherwise exempt from withholding.

Buyer: Clippership Landing Development LLC Tax I.D. #88-2936759

Signature

Daniel J Maguire, Member

Seller accepts Buyer's offer and agrees to deliver the Property at the price and upon the terms and conditions set forth above.

Signed this 18 day of July, 2022.

Seller: John C. Orestis

Signature

JOHN C. ORESTIS

Name/Title, there unto duly authorized

Seller: Barbra M. Crowley

Signature

BARBRA M. CROWLEY

Name/Title, there unto duly authorized

SECTION 3

FINANCIAL CAPACITY

Project Costs

The overall project costs are summarized in Attachment A, which includes construction cost estimate. As shown, the overall project cost is estimated at approximately $4,000,000.00.

Project Financing

The applicant has provided a letter of financial assurance for the proposed project which can be seen in Attachment B. The applicant anticipates providing funding for the proposed project through a combination of bank loans and equity raised from private investors. A copy of the Certificate of Good Standing for Clippership Landing Development, LLC from the Maine Secretary of State is included in Attachment C.

Attachments

Attachment A – Construction Cost Estimate
Attachment B – Financial Assurance Letter
Attachment C – Certificate of Good Standing

ATTACHMENT A

CONSTRUCTION COST ESTIMATE

Atlantic Resource Consultants
541 US Route One
Freeport, Maine 04032

ARC Project No. 21-025
Issued: July 20, 2022
Updated:

Preliminary Engineer's Opinion of Probable Construction Cost
CLIPPERSHIP LANDING
Damariscotta, Maine

9.0% Inflation to 2023 *1.090 Escalation Factor*

A	**General Conditions**					
	Mobilization and Insurances (4.2% of Construction Cost)					$144,979.66
	Bonds and Insurances (0.8% of Construction Cost)					$27,615.18
	TOTAL					**$172,594.84**
1	**Site Preparation**	**QUANTITY**	**UNIT**	**UNIT PRICE**	**ESCALATED UNIT PRICE**	**TOTAL COST**
	Site Preparation	8.38	AC	$5,000.00	$5,450.00	$45,671.00
	Erosion Control	1	LS	$80,000.00	$87,200.00	$87,200.00
	SUBTOTAL					**$132,871.00**
2	**Earthwork/ Site Improvements**	**QUANTITY**	**UNIT**	**UNIT PRICE**	**ESCALATED UNIT PRICE**	**TOTAL COST**
	Mass Excavation and Grading	29,600	CY	$12.00	$13.08	$387,168.00
	Unsuitable Soil Excavation -Haul and Dispose	10,350	CY	$16.00	$17.44	$180,504.00
	Imported Granular Borrow	5,500	CY	$36.00	$39.24	$215,820.00
	Rock Excavation (Open) - Estimate	1,000	CY	$140.00	$152.60	$152,600.00
	Rock Excavation (Trench) - Estimate	500	CY	$220.00	$239.80	$119,900.00
	Concrete Block Retaining Wall -375ft long -avge 7ft high plus 176ft long avge 7.5ft high	3,950	SF	$55.00	$59.95	$236,802.50
	Railing (set in top block of wall)	551	LF	$55.00	$59.95	$33,032.45
	Wood Guard rail	820	LF	$50.00	$54.50	$44,690.00
	SUBTOTAL					**$1,370,516.95**
3	**Drainage**	**QUANTITY**	**UNIT**	**UNIT PRICE**	**ESCALATED UNIT PRICE**	**TOTAL COST**
	4" Perforated Underdrain in Stone-Drip Strip	2,005	LF	$40.00	$43.60	$87,418.00
	12" Diameter Storm Drain Pipe	1,500	LF	$70.00	$76.30	$114,450.00
	Storm Drain Cleanout	12	EACH	$600.00	$654.00	$7,848.00
	2' Type F Catch Basin Structure	12	EACH	$2,200.00	$2,398.00	$28,776.00
	4' Diameter Storm Drain Manhole	0	EACH	$3,400.00	$3,706.00	$0.00
	4' Diameter Catch Basin Structure	9	EACH	$3,400.00	$3,706.00	$33,354.00
	Riprap Aprons D50 = 6"	12	EACH	$800.00	$872.00	$10,464.00
	ADS Drain Basins	10	EACH	$3,000.00	$3,270.00	$32,700.00
	Bioretention Cells	15,256	SF	$12.00	$13.08	$199,548.48
	SUBTOTAL					**$514,558.48**
4	**Utilities**	**QUANTITY**	**UNIT**	**UNIT PRICE**	**ESCALATED UNIT PRICE**	**TOTAL COST**
	Trenching and Conduit for Electrical and Communications	520	LF	$ 90.00	$98.10	$ 51,012.00
	Trenching and Conduit for Site Lighting (Estimate)	1,200	LF	$ 40.00	$43.60	$ 52,320.00
	Transformer Pad	1	EACH	$3,600.00	$3,924.00	$3,924.00
	Generator Pad	1	EACH	$4,500.00	$4,905.00	$4,905.00
	Tap 8" Water Main	1	EACH	$4,800.00	$5,232.00	$5,232.00
	8" Gate Valve	1	EACH	$ 1,600.00	$1,744.00	$ 1,744.00
	8" Water Main	420	LF	$ 160.00	$174.40	$ 73,248.00
	6" Fire Service	50	LF	$ 140.00	$152.60	$ 7,630.00
	6" Gate Valve	1	EACH	$ 1,400.00	$1,526.00	$ 1,526.00
	4" Domestic Service	50	LF	$ 100.00	$109.00	$ 5,450.00
	4" Gate Valve	1	EACH	$ 1,200.00	$1,308.00	$ 1,308.00
	6" DI Hydrant Services	50	LF	$ 150.00	$163.50	$ 8,175.00
	6" Hydrant Connections (incl swivel tee, valve, restraints)	1	EACH	$ 1,250.00	$1,362.50	$ 1,362.50
	New Fire Hydrants	1	EACH	$ 2,700.00	$2,943.00	$ 2,943.00
	8" SDR35 PVC Sewer Pipe	707	LF	$ 75.00	$81.75	$ 57,797.25
	Sewer Manholes	3	EACH	$ 3,600.00	$3,924.00	$ 11,772.00
	2,000 Gallon Grease Trap	1	EACH	$ 5,500.00	$5,995.00	$ 5,995.00
	Sewer Force Main	1230	LF	$ 60.00	$65.40	$ 80,442.00
	Sewer Force Main Connections	2	EACH	$ 900.00	$981.00	$ 1,962.00
	Sewer Pump Station - 8,000gpd+/-	1	EACH	$ 80,000.00	$87,200.00	$ 87,200.00
	SUBTOTAL					**$465,947.75**

5	Curbing Paving and Surfaces	QUANTITY	UNIT	UNIT PRICE	ESCALATED UNIT PRICE	TOTAL COST
	Curbing and Concrete					
	Granite Curb	358	LF	$52.00	$56.68	$20,291.44
	Slipform Concrete Curb	1,240	LF	$28.00	$30.52	$37,844.80
	Concrete Sidewalks and Patios	758	SY	$125.00	$136.25	$103,232.08
	Base Gravel (MDOT Type A)	126	CY	$40.00	$43.60	$5,505.71
	Subbase Gravel (MDOT Type D)	505	CY	$36.00	$39.24	$19,820.56
	Bituminous Sidewalk Areas					
	Bituminous Surface Pavement (MDOT 9.5 mm)	0	TON	$110.00	$119.90	$0.00
	Base Gravel (MDOT Type A)	0	CY	$40.00	$43.60	$0.00
	Subbase Gravel (MDOT Type D)	0	CY	$36.00	$39.24	$0.00
	Light Duty Pavement Areas					
	Bituminous Surface Pavement (MDOT 9.5 mm)	850	TON	$110.00	$119.90	$101,916.50
	Bituminous Binder Pavement (MDOT 19 mm)	1,417	TON	$100.00	$109.00	$154,418.94
	Base Gravel (MDOT Type A)	1,679	CY	$40.00	$43.60	$73,206.01
	Subbase Gravel (MDOT Type D)	4,198	CY	$36.00	$39.24	$164,713.53
	Woven Geotextile Underlay	10,074	SY	$3.25	$3.54	$35,687.93
	Trench Cap Road Repair					
	Sawcut	120	LF	$7.50	$8.18	$981.00
	Pavement Milling	26	SY	$15.00	$16.35	$425.10
	Replace Gravels	13	CY	$50.00	$54.50	$708.50
	Pavement Replacement	40	SY	$120.00	$130.80	$5,232.00
	Reinforced Turf Fire Lane Edges					
	Geoblock and stone/gravel infill	2,085	SF	$14.00	$15.26	$31,817.10
	Loam and seed/restoration					
	Stone Dust Walkway	0	SF	$2.00	$2.18	$0.00
	Re-spread 6" Screened Loam	1,420	CY	$10.00	$10.90	$15,478.00
	Seeding	80	1,000SF	$30.00	$32.70	$2,616.00
	Mulch	80	1,000SF	$15.00	$16.35	$1,308.00
	SUBTOTAL					**$775,203.21**
6	**Miscellaneous Site Furnishings**	**QUANTITY**	**UNIT**	**UNIT PRICE**	**ESCALATED UNIT PRICE**	**TOTAL COST**
	Pavement Striping	1	EACH	$ 8,000.00	$8,720.00	$8,720.00
	Screen Fence along Loading Area	132	LF	$ 90.00	$98.10	$12,949.20
	Steel Pipe Bollards	8	EACH	$ 800.00	$872.00	$6,976.00
	Bollard Signs	4	EACH	$ 1,100.00	$1,199.00	$4,796.00
	Signs	8	EACH	$ 350.00	$381.50	$3,052.00
	Monument Sign - Allowance	1	EACH	$ 30,000.00	$32,700.00	$32,700.00
	Light Pole Bases- Estimate	16	EACH	$850.00	$926.50	$14,824.00
	Light Poles	16	EACH	$2,750.00	$2,997.50	$47,960.00
	Light Bollards - Estimate	12	EACH	$800.00	$872.00	$10,464.00
	Detectable warning pavers	0	EACH	$500.00	$545.00	$0.00
	Dumpster Pad and Enclosure	1	EACH	$20,000.00	$21,800.00	$21,800.00
	Bicycle Rack	1	EACH	$1,200.00	$1,308.00	$1,308.00
	Mailboxes	0	EACH	$1,200.00	$1,308.00	$0.00
	Benches	4	EACH	$4,000.00	$4,360.00	$17,440.00
	Flagpole	1	EACH	$9,000.00	$9,810.00	$9,810.00
	SUBTOTAL					**$192,799.20**

SUBTOTAL BASE PROJECT EXCLUDING GENERAL CONDITIONS	**$ 3,451,896.59**
TOTAL BASE PROJECT INCLUDING GENERAL CONDITIONS	**$ 3,624,491.43**
CONTINGENCY (10%)	**$ 362,449.14**
TOTAL OPINION OF COST	**$ 3,986,940.57**

References:

1. Concept Site Plan - July 2022
2. Unit Prices for this Engineer's Opinion of Cost are based on other similar projects completed by ARC staff.

Notes:

In providing this Engineer's Opinion of Probable Construction Costs, the Client understands that ARC has no control over the cost or availability of labor, equipment or materials, or over market conditions or the Contractor's method of pricing , and that the Engineer's Opinion of Probable Construction Costs are made on the basis of ARC's professional judgment and experience. ARC makes no warranty, express or implied, that the bids or the negotiated cost of the work will not vary from the Engineer's Opinion of Probable Construction Costs.

1. The pavement quantities are based on the following pavement section buildup and areas:

	Heavy Duty	Light Duty	Sidewalk/Hard Play	Concrete Sidewalk	Pervious Pavers
	Thickness (In)	Thickness (In)	Thickness (In)	Thickness (In)	Thickness (In)
Bituminous Surface Pavement MDOT 9.5mm	1.5	1.5	2	5	8
Bituminous Binder Pavement MDOT 12.5mm	2.5	2.5	0	0	0
Base Gravel MDOT Type "A"	6	6	6	6	9
Subbase Gravel MDOT Type "D"	18	15	15	24	24
Area (sf)	0	90,668	0	6,819	0

6. This Opinion of Cost does not include costs associated with the following project elements:
   - A. Hazardous waste disposal
   - B. Building pad preparation, underslab piping and utilties, foundation excavation and backfill
   - C. Project Soft Costs
   - D. Off-site improvements, utility fees or charges
   - E. Courtyard Patios and Landscaping

ATTACHMENT B

FINANCIAL ASSURANCE LETTER

Sandy River
COMPANY

Re: Financing for Clippership Landing, June 30, 2022

To Whom it May Concern,
On behalf of Clippership Landing, we are submitting this letter to assure you we can fund the proposed new 102-bed nursing care facility in Damariscotta on Piper Mills Road.

The development and ownership of Clippership Landing is a joint venture between the ownership of two successful Maine companies: Sandy River Company, headquartered in Portland, and North Country Associates, an operator and manager of over 25 senior care facilities throughout Maine and headquartered in Lewiston.

The development team has a long history of successfully developing and securing debt and equity financing for senior care facilities throughout Maine. In the past 5 years alone, Sandy River has developed facilities in Maine with over $150M in total project costs. Our projects are funded with a combination of bank loans and equity raised from our pool of private investors.

Most recently, Androscoggin Savings Bank financed a 66-unit new assisted living center in Auburn with $13M in bank financing. This center opened in April 2020. NBT Bank financed a new 90-bed facility in Sanford, opened in May 2021, with $17M in bank financing. Camden National Bank is the lender on Breakwater Commons, a 96-bed nursing home currently under construction in Rockland. We are continuously in discussions with Maine banks who are eager to participate in the financing of our projects. We have obtained financing from five different Maine banks on new projects in Maine in the last 7 years.

Please note that we have not selected a bank for the Clippership Landing project and generally will not select a bank while we are still going through the permitting process to include a Certificate of Need approval from the Maine Department of Health and Human Services. We hope to break ground in early 2023 and will negotiate with several banks and make a final bank selection near that time.

On equity, we have a long-standing pool of private investors eager to invest in these kinds of projects based on our decades of experience creating successful senior care facilities throughout Maine. Typically, 30% of a project's funding comes from private equity and 70% from bank financing. We have raised over $50M in equity from our pool of individual investors in the past 5-7 years.

We assure you we can finance this proposed project.

Sincerely,

Daniel J Maguire
Managing Partner
Sandy River Company

ATTACHMENT C

CERTIFICATE OF GOOD STANDING

State of Maine

Department of the Secretary of State

I, the Secretary of State of Maine, certify that according to the provisions of the Constitution and Laws of the State of Maine, the Department of the Secretary of State is the legal custodian of the Great Seal of the State of Maine which is hereunto affixed and that the paper to which this is attached is a true copy from the records of this Department.

In testimony whereof, I have caused the Great Seal of the State of Maine to be hereunto affixed. Given under my hand at Augusta, Maine, this sixteenth day of December 2021.

Shenna Bellows

Shenna Bellows

Secretary of State

Additional Addresses

Legal Name	Title	Name	Charter #	Status
CLIPPERSHIP, LLC	Registered Agent	DAVID J. PERKINS	20163251DC	GOOD STANDING

Home Office Address (of foreign entity)	Other Mailing Address
	ONE CANAL PLAZA SUITE 1000 PORTLAND, ME 04101

SECTION 4

TECHNICAL CAPABILITY

PROJECT TEAM

Atlantic Resource Consultants is the primary consultant involved with the site permitting of the project and has assembled the materials in this application. The following firms are acting as consultants to Clippership Landing Development, LLC, or as sub-consultants for the project:

Firm	Services	Contact
Atlantic Resource Consultants, LLC 541 US Route One, Suite 21 Freeport, ME 04032	Site/Civil Engineering, Site Permitting, and Wetlands Consulting	Jason Vafiades, PE jasonv@arc-maine.com (207)-266-5618
S.W. Cole Engineering, Inc. 26 Coles Crossing Drive Sidney, ME 040330	Geotechnical Engineering	Michael A. St. Pierre, PE (207) 626-0600
Watershed Resource Consultants, LLC	Soil Scientist	Aleita M. Burman lburman@wrcmaine.com 207-944-7288

EXPERIENCE OF PROJECT TEAM

The team of consultants retained by the Applicant has expertise and experience in the design of similar large facilities throughout the State of Maine and New England.

ABILITY OF THE APPLICANT

The development and ownership of Clippership Landing is a joint venture between the ownership of two Maine companies: Sandy River Company, headquartered in Portland, and North Country Associates, which is headquartered in Lewiston. North Country Associates is an operator and manager of over 25 senior care facilities throughout Maine and has experience in maintenance and management of these facilities. The applicant owns similar developments, such as:

- 66-unit assisted living center in Auburn, Maine
- 90-bed facility in Sanford, Maine
- 96-bed nursing home in Rockland, Maine, and more.

Project team resumes can be provided upon request.

SECTION 5

STORMWATER MANAGEMENT REPORT

A copy of the Stormwater Management Report is included in this section.

SECTION 6

EROSION & SEDIMENTATION CONTROL PLAN

A copy of the Erosion and Sedimentation Control Plan is included in this section.

SECTION 6

SOIL EROSION AND SEDIMENTATION CONTROL

INTRODUCTION

Atlantic Resource Consultants, LLC (ARC) has prepared the following stormwater management analysis for the proposed new Clippership Landing Nursing Home on Piper Mill Road in Damariscotta, Maine. The aim of the project is to construct a new 102-bed Skilled Nursing Home facility on a 19.99 acre+/- parcel of land located on the north side of Piper Mill Road, directly opposite the Ledgewood Court apartment complex. The new development will include the construction of 74,500sf+/- single story building and the associated site access, parking, utility, and stormwater infrastructure to support the project, as well as the development of landscaped areas to serve residents and visitors to the site.

SITE HISTORY AND EXISTING SITE CONDITIONS

The project site is currently vacant and mostly wooded, with a large, cleared grass area towards the high point of the parcel. Previous proposals have been made to develop the parcel, but none implemented. The project site was originally a 107.8-acre parcel, part of the Piper Village Subdivision. This was split into two lots, and the larger 87.8-acre parcel was transferred to the Damariscotta River Association (DRA) for preservation. The remaining 19.98-acre parcel, referred to as the "Clippership Parcel" (the project site) was retained for development.

The site is located on the north side of Piper Mill Road, approximately 800 feet east of the intersection with School Street. Public water is available at the site via an existing main owned and operated by Great Salt Bay Sanitary District. Three phase power and fiber optic service are also available along the frontage of the property. The Great Salt Bay Sanitary District sewer plant is located approximately 1,500ft further along Piper Mill Road to the southeast.

The topography of the site slopes gently at 5-6% from the highest elevations along the central ridge that runs north-south through the property. Slopes become increasingly steep as elevations drop to the west and north towards the edges of the site, reaching over 15%. Slopes to the east remain in the 5-6% range until steepening in gullies associated with the three main drainageways that extend off the property towards the stream. Predominant surface soil types across the site are identified as Buxton/Lamoine and Scantic silt loams, with small areas of Tunbridge/Lyman complex rocky soils at the perimeters of the property. General soil mapping was taken from the Natural Resource Conservation Service (NRCS) Web Soil Survey.

Additional sub-surface soil data was gathered from site specific Geotechnical Investigations undertaken by SW Cole Engineering and Soil Classification test pits for stormwater BMPs undertaken by Watershed Resource Consultants, LLC. The test pits undertaken for these reports confirm the general soil mapping from the NRCS Web Soil Survey. The soil profile consists of forest duff and topsoil overlying very stiff silty clay, silty sand, and gravel with varying amounts of boulders and relatively shallow bedrock.

Historical natural resource mapping on the site was undertaken for a previously proposed development in 2016. Resource agencies require a recent wetland delineation for permit applications. Since the wetlands were mapped over five years ago, a new wetland delineation was conducted by ARC in December 2021. Freshwater wetlands have been identified on the property, associated with the three drainageways that extend towards the east of the site. These are shown on the project drawings. The drainageways associated with these wetlands drain to small stream channels that are tributary to the larger off-site stream to the east of the site. These stream channels, in addition to the larger intermittent stream on the west side of the site are also shown on the project drawings.

EXISTING EROSION PROBLEMS

There are no existing erosion problems evident at the site.

CRITICAL AREAS

The critical areas in the proximity of the site are the delineated freshwater wetlands, drainage channels and streams. Forested wetlands and streams were delineated by ARC in December 2021 and are shown on the drawings that accompany this submission.

SOIL EROSION AND SEDIMENTATION CONTROL PLAN AIMS AND OBJECTIVES

The primary goals of the Erosion and Sediment Control Plan for the project are to minimize exposure of native soil materials during construction, to prevent soil erosion and sediment transport to downstream areas, receiving waters and natural resources. Measures will also be taken to ensure sediment is not tracked onto adjacent streets and that stockpiles of imported construction materials are protected from potential contamination. The susceptibility of soils to erosion is indicated on a relative "K" scale of values over a range of 0.02 to 0.69. The "K" value is frequently used with the universal soil loss equation. The higher values are indicative of the more erodible soils. The project area consists of made land with pavements and building slabs covering about one-half of the site. The rear portion of the site is natural forest. Assuming the site overlays soils with similar characteristics to those found on adjacent areas, the relative K values of the underlying material would be as follows:

Soil Name	Soil Description	K Value
Buxton/Lamoine Series	Silt loam	0.37
Scantic	Silt loam	0.28
Tunbridge/Lyman	Rocky	Not rated

Based on a review of the K values, the onsite soils in the area exhibit low to moderately susceptible to erosion after the cover material is stripped.

The primary emphasis of the Erosion and Sedimentation Control Plan to be implemented for this project is as follows:

- Construction Schedule – Major earth moving activities at the site will be scheduled for the late Spring and early Summer and will be started when a suitable weather window has been identified. This will minimize the potential for exposure of bare soil to inclement weather.
- Temporary Measures – Planning the project to have erosion resistant measures in place with measures to prevent erosion from occurring. The plan includes measures to intercept and convey runoff to temporary sediment control devices as the construction of the project occurs.
- Stabilization of areas denuded to underlying parent material to minimize the period of soil exposure.
- Stabilization of drainage paths to avoid rill and gully erosion.
- The use of on-site measures to capture sediment (hay bales/silt fence, erosion berms, etc.) before it is conveyed to sediment sumps.

DESCRIPTION AND LOCATION OF LIMITS OF ALL PROPOSED EARTH MOVEMENTS

The proposed project will require stripping and grubbing for the construction of the new facility, and the associated access, parking and utilities infrastructure. Tree cutting will be limited around the perimeter of the site to maintain existing visual and audible screening to the maximum extent practical. The native silt loam soil material is not suitable for re-use as fill on the site due to high moisture and fines content, which make these soils highly frost susceptible. The topography is relatively flat at the center of the site, but some leveling and grade adjustment will be required, particularly around the site perimeters. Where fill is required to bring the site to grade, imported material meeting the Maine DOT specification for Granular Borrow will be used. Boulders and cobbles withing excavated areas may be retained for use in

bank stabilization, roadway edge protection, or natural walls. Some limited blasting may be required at the site to remove large boulders, and a potential bedrock outcrop on the west side of the new building.

SOIL EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES

Construction Schedule

The primary and most proactive best management practice for soil erosion and sediment control at the site is careful planning and phasing of construction tasks. The major earthwork activities have been broken into manageable phases in order to efficiently accomplish the necessary work while minimizing the risks associated with exposure of native fine-grained soils. The installation of Best Management Practices is integrated into the individual phases to ensure that effective diversion, cover and perimeter control measures are in place to protect the work area, limit soil exposure times and prevent transport of sediment to downstream areas. Major earthwork phasing is described in the narrative and shown on the Earthwork and Soil Erosion and Sediment Control Phasing Plans.

It is anticipated that work on the site will begin in the late Spring/early Summer of 2023. This will allow for the major earthwork to be undertaken in the early and mid-summer months, when the risk of inclement weather is significantly lower. Scheduling of the field work will be critical to minimizing potential soil erosion impacts. The Contractor will be responsible for selecting an appropriate weather window in which to commence the work to minimize erosion and sediment transport risk.

Temporary Erosion/Sediment Control Measures

As part of the site development, the Contractor will be obligated to implement the following erosion and sediment control devices. These devices shall be installed as indicated on the plans or as described within this report. For further reference on these devices, see the *Maine Erosion and Sediment Control Best Management Practices (BMPs) Manual for Designers and Engineers, Maine DEP, October 2016.* The following are planned as temporary erosion/sedimentation control measures during construction:

1. Crushed stone stabilized construction entrances will be placed at any construction access points from adjacent streets, and at interior locations shown on the phasing plans. The locations of the construction entrances shown on the drawings should be considered illustrative and will need to be adjusted as appropriate and located at any area where there is the potential for tracking of mud and debris onto existing roads or streets. Stone stabilized construction entrances will require the stone to be removed and replaced, as it becomes covered or filled with mud and material tracked by vehicles exiting the site.
2. Silt fence shall be installed down slope of any disturbed areas to trap runoff borne sediments. The silt fence shall be installed per the detail provided in the plan set and inspected immediately after each rainfall, and at least weekly in the absence of significant rainfall. The Contractor shall make repairs immediately if there are any signs of erosion or sedimentation below the fence line. If such erosion is observed, the Contractor shall take proactive action to identify the cause of the erosion and take action to avoid its reoccurrence. Proper placement of stakes and keying the bottom of the fabric into the ground is critical to the fence's effectiveness. If there are signs of undercutting at the center or the edges or impounding of large volumes of water behind the fence, the barrier shall be replaced with a stone check dam and measures taken to avoid the concentration of flows not intended to be directed to the silt fence. Wood chips from clearing can be used in front of the silt fence to provide an extra margin of safety and security for the silt fence. This practice is encouraged, provided the chips are removed when the fence is removed. Silt fencing with a maximum stake spacing of 6 feet should be used, unless the fence is supported by wire fence reinforcement of minimum 14 gauge and with a maximum mesh spacing of 6 inches, in which case stakes may be spaced a maximum of 10 feet apart. The bottom of the fence should be properly anchored a minimum of 6" per the plan detail and backfilled. Silt fence shall be installed along the downgradient side of construction work areas, with locations being adjusted along with the construction phasing areas. The Contractor may use erosion mix in place of single row silt fence barrier.

3. Twin rows of siltation fence with hay bales shall be installed at the foot of steep slopes and adjacent to protected natural resources (wetland areas).
4. Erosion Control Mix - Erosion control mix is a dense, processed mixture of intertwining shredded wood fragments and grit that will stabilize a site immediately without vegetation. This product may be used in place of silt fence to protect downstream areas not adjacent to natural resources. Erosion control mix consists primarily of organic material and may include: shredded bark, stump grindings, or partially composted wood products and shall be placed to form berms in accordance with the detail on the plan set. Care shall be taken to ensure berms are level and provide an even depth of protection throughout the length of the berm. The Contractor shall make repairs immediately if there are any signs of erosion or breaches in the berm, and supplement berms with additional material if settlement is observed.
5. Stone check dams, silt logs, or hay bale barriers will be installed at any evident concentrated flow discharge points during construction and earthwork operations.
6. All slopes steeper than 4:1 shall receive erosion control blankets, or temporary riprap stabilization. Where temporary riprap is used, slopes shall be stabilized with loam, seed and erosion control blanket, or sod when the riprap is removed for final stabilization. Slope stabilization fabric shall be a fully biodegradable double net, coir fiber blanket, anchored in accordance with manufacturers recommendations.
7. Areas of visible erosion and the temporary sediment sumps shall be stabilized with crushed stone. The size of the stone shall be determined by the Contractor's designated representative in consultation with the Owner.
8. Temporary sediment sumps and sediment basins will provide sedimentation control for stormwater runoff from disturbed areas during construction until stabilization has been achieved. The sides and floors of sediment basins shall be stabilized with geotextile fabric laid over prepared subgrade materials. Outlets shall be as shown on the construction drawings and shall include sand filters around all risers and outlet pipes.
9. Flocculants will be used to control turbidity in runoff entering the sediment basins and sumps, if found to be effective in doing so. Flocculant selection will be based on lab analysis of at least three samples of native soil materials. A copy of the lab reports shall be issued to Maine DEP for review and approval prior to use. Flocculants shall be used in accordance with manufacturer's instructions.
10. Dirtbags™ will be required to be on site and available for construction dewatering. The Contractor will be required to provide four Dirtbags™ with one prepared for operation prior to commencing any trenching operations.
11. Silt logs may be used in areas where sheet flow drains off impervious surfaces to spread and filter the flow. Silt logs should be anchored in accordance with manufacturer recommendations.

Special Measures for Summer Construction

The summer period is generally optimum for construction in Maine, but it is also the period when intense short duration storms are most common, making denuded areas very susceptible to erosion, when dust control needs to be the most stringent, and when the potential to establish vegetation is often restricted by moisture deficit. During these periods, the Contractor must:

1. Implement a program to apply dust control measures on a daily basis except those days where precipitation is sufficient to suppress dust formation. This program shall extend to and include adjacent streets.
2. Spray any mulches with water after anchoring to dampen the soil and encourage early growth. Spraying may be required several times. Temporary seed may be required until the late summer seeding season.
3. Cover stockpiles of fine-grained materials, or excavated soils which are susceptible to erosion. To protect from the intense, short-duration storms which are more prevalent in the summer months.

4. Take additional steps needed, including watering, or covering excavated materials to control fugitive dust emissions to minimize reductions in visibility and the airborne disbursement of fine-grained soils. This is particularly important given the potential presence of soil contaminants, and the proximity of along the adjacent streets and properties.
5. These measures may also be required in the spring and fall during the drier periods of these seasons.

Special Measures for Winter Construction

The winter construction season runs from November 1st through April 15th, however little or no vegetation growth can be anticipated after October 15th. Additional stabilization measures should be provided in the Fall (by November 15th) in preparation for winter conditions and permanent seeding should occur at least 45 days before the first killing frost. More frequent site inspections and BMP maintenance should be scheduled at the site towards the end of winter in preparation for the Spring thaw. The following additional winter measures should be taken:

- **Overwinter Hay Mulch** should be applied at double the normal rate (150 pounds per 1000 square feet or 3 tons/acre) and should be anchored with netting (peg and twine) or a tackifier to prevent mulch displacement before freezing conditions. No soil should be visible through the mulch. Hay mulch cannot be applied over snow.
- **Dormant Seeding and Mulch** should be applied at 3 times the specified amount after the first killing frost. All dormant seeding beds should be covered with overwinter mulch or an anchored erosion control blanket.
- **Temporary vegetation** should be applied by October 1st (to prepare for winter conditions) with winter rye at 3 pounds per 1000 square feet5 and mulched with anchored hay at 75 pounds per 1000 square feet or with erosion control blanket. If the rye fails to grow at least three inches and have 75% coverage by November 1st, the area should be stabilized for overwinter protection.
- **Erosion control mix** is the best overwinter cover, but is not recommended for slopes steeper than 1:1 or in areas with flowing water.
- **Erosion Control Blankets** should be used on slopes where hay would be disturbed by wind or water. The matting should be installed, anchored and stapled in accordance with the manufacturer's recommendations. Full contact between the blanket and the soil is critical for an effective erosion control cover.
- **Riprap** should be properly sized and installed to ensure long-term stability. In the winter, newly constructed ditches and channels should be stabilized with riprap. Widening of the channel may be required to accommodate placement of stones. Angular riprap is preferred to round stone.
- **Sod** may be used for late-season stabilization (after October 1st), but it is not recommended for slopes steeper than 3:1 or in areas with groundwater seeps. Follow the supplier's instructions.

A brief Winter Construction Risk Analysis is included below:

Overwinter Construction Risk Analysis		
Subject	**Risk**	**Mitigation**
Increased precipitation with no vegetation uptake or evaporation	More surface runoff that can be directed to erosion control measures	Observation and frequent maintenance of BMPs, temporary dewatering deployment
Frozen Grounds	The soil loses it capacity to retain water and cause more surface runoff and potential erosion	Prompt cover and stabilization of exposed soils, maintenance of fill embankments and high traffic areas
Vegetative Ground Cover	Cannot be established outside of growing season.	Seed areas at least 45 days between first frost
Runoff Diversion	Snow or icing may clog diversion structures.	Observation, maintenance and clearing of snow from BMPs

		where practical
Sedimentation Basins	Can be overwhelmed by spring flows.	Install before ground is frozen, stabilize upstream areas prior to Spring thaw
Silt Fence	Difficult to install on frozen ground. Often fails during spring melt	Use erosion control mix berms if required during winter conditions
Erosion Control Blankets	Cannot be anchored on frozen ground	Install prior to frost, or replace with temporary riprap stabilization over winter
Hydro-seeding	Stabilizers are ineffective in cold temperatures	Install prior to winter
Vegetated Swales	Cannot be established outside of growing season	Establish and seed 45 days prior to first frost, stabilize with temporary riprap
Impervious Stabilization	Base gravel on driving/parking areas. Pavement cannot be installed in winter.	Install sacrificial surface where necessary, frequent winter maintenance of gravel surfaces
'Mud' Season	Spring thaw	Frequent preventative maintenance of BMPs, focus on stabilization prior to onset of thaw

Permanent Erosion Control Measures

The following permanent erosion control measures have been designed as part of the Erosion/Sedimentation Control Plan:

1. The drainage conveyance systems have been designed to intercept and convey the 25-year storm.
2. All areas disturbed during construction, but not subject to other restoration (paving, riprap, etc.), will be loamed, limed, fertilized, mulched, and seeded. Fabric netting, anchored with staples, shall be placed over the mulch in areas where the finish grade slope is greater than 10 percent. Native topsoil shall be stockpiled and temporarily stabilized with seed and mulch and reused for final restoration when it is of sufficient quality.
3. Catch basins shall be provided with sediment sumps for all outlet pipes that are 12" in diameter or greater or where winter sand use is contemplated. A sediment collection bag shall be installed in all basins.

Timing and Sequence of Erosion/Sedimentation Control Measures

The following construction sequence shall be required to ensure the effectiveness of the erosion and sedimentation control measures is optimized.

The following construction sequence is required:

1. Install construction entrances.
2. Install safety and construction fence to secure the site for demolition.
3. Install all perimeter siltation fence and erosion control barriers. Particular attention shall be paid to areas upstream of protected natural resources and in the vicinity of the streams at the project site. Signs shall be erected periodically along these perimeter barriers indicating that the downstream areas are off limits to all construction activities.
4. Conduct site clearing and grubbing activities in accordance with project drawings and specifications.
5. Construct activities on the site to optimize the handling of materials and restrict the denuded areas to the time stipulated.
6. Stormwater BMPs may be excavated while construction is ongoing provided that no underdrain sand, filter soil material, or permanent outlet is installed. The excavations may be used as

temporary sediment basins as long as protected, temporary outlets are installed per the project drawings

7. Construct and maintain stabilized pads for foundation and building and road construction. Do not allow subbase, or base gravels to be contaminated with fine material, silt, or construction debris
8. Maintain stabilized site access and working areas during building construction.
9. Install binder pavement and stabilized surface materials as soon as practical.
10. Grade, topsoil, seed and stabilize perimeter slopes as soon as possible after major earth moving activities are complete.
11. Maintain access roads, laydown pads and entrances while building work is completed.
12. Landscape (loam and seed) exterior areas of the site.
13. Install curbing and surface surface pavement materials.
14. Install underdrain sand and filter soil materials and permanent outlet structures in stormwater BMPs as soon as all upstream contributing areas are stabilized.
15. Install striping, signage, and miscellaneous site improvements.
16. Review and punch the site.
17. Remove any temporary erosion control measures.

It is anticipated that site construction on the project will be completed in the Fall of 2024. The site will be stabilized prior to October 1st and there will be no Winter Site Construction work.

PERMIT REQUIREMENTS

This project will require review and approval by Federal, State and Local Regulatory Authorities. Permit approvals from these bodies may include specific conditions related to soil erosion and sediment control in addition to the standards described below. The Owner and Contractor will be responsible for review of, and adherence to any and all specific permit conditions applicable to the project, and these will become part of the Contract Documents for the project.

The scale and nature of the project will require coverage under the Maine Pollutant Discharge Elimination System (MPDES) General Permit - Construction Activity. The following procedures will be required to meet the minimum regulatory standards associated with this permit:

Preconstruction Conference

Prior to any construction at the site, representatives of the Contractor, the Project Engineer, the Owner, Regulatory Agency Representatives and the Town of Damariscotta shall meet to discuss the scheduling of the site construction and the designation of the responsible parties for implementing the plan. The Contractor shall be responsible for scheduling the meeting. Prior to the meeting, the Contractor will prepare a detailed schedule and a marked-up site plan indicating areas and components of the work and key dates showing date of disturbance and completion of the work. The Contractor shall conduct a meeting with employees and sub-contractors to review the erosion control plan, the construction techniques which will be employed to implement the plan and provide a list of attendees and items discussed at the meeting to the Owner. Three copies of the schedule, the Contractor's meeting minutes, and marked-up site plan shall be provided to the Owner.

Inspection of Soil Erosion and Sediment Control Measures

The CM shall prepare a list and designate by name, address and telephone number all individuals who will be responsible for implementation, inspection, and maintenance of all erosion control measures identified within this section and as contained in the Erosion and Sedimentation Control Plan of the contract drawings. Specific responsibilities of the inspector(s) will include:

- Execution of the Contractor/Subcontractor Certification contained in **Attachment C** by any and all parties responsible for erosion control measures on the site.
- A weekly certification stating compliance, any deviations, and corrective measures necessary to comply with the erosion control requirements of this section shall be prepared and signed by the inspector(s).

Inspection of the project work site shall include:

1. Identification of proper erosion control measure installation in accordance with the erosion control detail sheet or as specified in this section.
2. Determine whether each erosion control measure is properly operating. If not, identify damage to the control device and determine remedial measures.
3. Identify areas which appear vulnerable to erosion and determine additional erosion control measures which should be used to improve conditions.
4. Inspect areas of recent seeding to determine percent catch of grass. A minimum catch of 90 percent is required prior to removal of erosion control measures.
5. All erosion controls shall be removed within 30 days of permanent stabilization except for mulch and netting not detrimental to the project. Removals shall include but not be limited to all silt fence, hay bales, inlet protection, and stone check dams.
6. Accumulated silt/sediment should be removed when the depth of sediment reaches 50 percent of the barrier height. Accumulated silt/sediment should be removed from behind silt fencing when the depth of the sediment reaches 6 inches.
7. Silt sacks should be removed and replaced at least every three months and at any time where the weekly inspection reveals that siltation has significantly retarded the rate of flow through the silt sack.
8. If inspection of the site indicates a change should be made to the erosion control plan, to either improve effectiveness or correct a site-specific deficiency, the inspector shall immediately implement the corrective measure and notify the Owner of the change.

A summary of standard Erosion Control Inspections is given in the table below. It is anticipated that inspection and maintenance tasks will be adapted throughout the project to reflect field conditions and construction progress:

EROSION AND SEDIMENT CONTROL MEASURES AND ACTIVITY	INSPECTION FREQUENCY		
	Weekly	Before & After a Storm	After Construction
SEDIMENT BARRIERS			
Sediment barriers are installed prior to soil disturbances	X	X	
Silt fences are keyed in and tight	X	X	
Barriers are repaired and replaced as necessary	X	X	
Barriers are removed when the site is stabilized - Silt fence should be cut at the ground surface			X
TEMPORARY STABILIZATION			
Areas are stabilized if idle for 14 days or more	X	X	
Daily stabilization within 100 ft of a natural resource	X	X	
MULCH			
Seed and mulch within 7 days of final grading. Ground is not visible	X	X	
Erosion control mix is 4-6 inch thick	X	X	
Erosion control blankets or hay mulch are anchored	X	X	
VEGETATION			
Vegetation provides 90% soil cover	X		X
Loam or soil amendment were provided	X		X
New seeded areas are mulched and protected from vehicle, foot traffic and runoff	X	X	X
Areas that will remain unworked for more than 1 year are vegetated with grass	X		

EROSION AND SEDIMENT CONTROL MEASURES AND ACTIVITY	INSPECTION FREQUENCY		
	Weekly	Before & After a Storm	After Construction
SLOPES AND EMBANKMENTS			
Final graded slopes and embankments are stabilized	X	X	X
Diversions are provided for areas with rill erosion	X	X	X
Areas steeper than 2:1 are riprapped	X		
Stones are angular, durable and various in size	X		
Riprap is underlain with a gravel layer or filter fabric	X		
STORMWATER CHANNELS AND CULVERTS			
Ditches and swales are permanently stabilized– channels that will be riprapped have been over-excavated	X	X	X
Ditches are clear of obstructions, accumulated sediments or debris	X	X	X
Ditch lining/bottoms are free of erosion	X	X	X
Check dams are spaced correctly to slow flow velocity	X		
Underlying filter fabric or gravel is not visible	X	X	X
Culvert aprons and plunge pools are sized for expected flows volume and velocity	X		
Stones are angular, durable and various in size	X		
Culverts are sized to avoid upgradient flooding	X	X	
Culvert protection extends to the maximum flow elevation within the ditch	X	X	X
Culvert is embedded, not hanging	X	X	X
CATCH BASIN SYSTEMS			
Catch basins are built properly	X		
Accumulated sediments and debris are removed from sump, grate and collection area		X	X
Floating debris and floating oils are removed from trap			X
ROADWAYS AND PARKING SURFACES			
The gravel pad at the construction entrance is clear from sediments	X	X	
Roads are crowned		X	X
Cross drainage (culvert) is provided	X		
False ditches (from winter sand) are graded		X	X
BUFFERS			
Buffers are free of erosion or concentrated flows		X	X
The downgradient of spreaders and turnouts is stable		X	X
Level spreaders are on the contour			X
The number of spreaders and ditch turnouts is adequate for flow distribution		X	X
Any sediment accumulation is removed from within spreader or turnouts		X	X
STORMWATER BASINS AND TRAPS			
Embankments are free of settlement, slope erosion, internal piping, and downstream swamping		X	X
All flow control structure or orifices are operational and clear of debris or sediments		X	X
Any pre-treatment structure that collects sediment or hydrocarbons is clean or maintained		X	X
Vegetated filters and infiltration basins have adequate grass growth			X
Any impoundment or forebay is free of sediment		X	X

EROSION AND SEDIMENT CONTROL MEASURES AND ACTIVITY	INSPECTION FREQUENCY		
	Weekly	Before & After a Storm	After Construction
WINTER CONSTRUCTION (November 1st-April15th)			
Final graded areas are mulched daily at twice the normal rate with hay, and anchor (not on snow)	Daily		
A double row of sediment barrier is provided for all areas within 100 ft of a sensitive resource (use erosion control mix on frozen ground)	Daily		
Newly constructed ditches are riprapped	Daily		
Slopes greater than 8% are covered with an erosion control blanket or a 4-inch layer of erosion control mix	Daily		
HOUSEKEEPING PUNCH LIST			
All disturbed areas are permanently stabilized, and plantings are established (grass seeds have germinated with 90% vegetative cover)			X
All trash, sediments, debris or any solid waste have been removed from stormwater channels, catch basins, detention structures, discharge points, etc.			X
All ESC devices have been removed: (silt fence and posts, diversions and sediment structures, etc.)			X
All deliverables (certifications, survey information, as-built plans, reports, notice of termination (NOT), etc.) in accordance with all permit requirements have been submitted to town, Maine DEP, association, owner, etc.			X

Maintenance of Soil Erosion and Sediment Control Measures

The following general maintenance requirements shall apply to the installed erosion control BMPs. Additional maintenance may be required based on field conditions, or at the recommendation of the Project Engineer, Third Party Inspector, Owners Representative, or regulatory authorities:

1. Stabilized Construction Entrances - Stone stabilized construction entrances will require the stone to be removed and replaced, as it becomes covered or filled with mud and material tracked by vehicles exiting the site.
2. The surface of the Runoff Diversion Trench shall be inspected on a weekly basis and cleared of any accumulating surface debris that could reduce the capacity of the BMP to divert surface water. The outlets should be inspected to ensure that groundwater flows are being adequately conveyed around the construction area.
3. The upgradient (diversion) silt fence barrier shall be repaired or replaced immediately if any breaches are found, or there are signs of undercutting. Sediment and debris shall be removed from the upstream side of the barrier periodically. The downstream ends of the barrier should be checked for any erosion caused by concentrated flows running along the barrier. These areas should be repaired immediately with stone check dams to prevent further damage.
4. Inlets and outlets of bypass culverts shall be cleared of accumulating debris and any signs of erosion shall be repaired immediately with riprap.
5. Riprap plunge pool outlets shall be cleared of debris and monitored for sediment accumulation. If sediment reaches a depth of six inches, it shall be removed, and the plunge pool repaired or re-constructed.
6. Silt Fence Barriers - The Contractor shall make repairs immediately if there are any signs of erosion or sedimentation below the fence line. If such erosion is observed, the Contractor shall take proactive action to identify the cause of the erosion and take action to avoid its reoccurrence. If there are signs of undercutting at the center or the edges or impounding of large volumes of water behind the fence, the barrier shall be replaced with a stone check dam and measures taken to avoid the concentration of flows not intended to be directed to the silt fence.

7. Silt Fence Haybale Barriers – The Contractor shall maintain the silt fence as described above. Should the central haybale barrier deteriorate, or show signs of contamination, the material shall be removed and replaced.
8. Erosion Control Mix – The Contractor shall maintain erosion control berms to ensure they remain level and continue to provide an even depth of protection throughout the length of the berm. The Contractor shall make repairs immediately if there are any signs of erosion or breaches in the berm, and supplement berms with additional material if settlement is observed.
9. Stone check dams, silt logs, or hay bale barriers installed at concentrated flow discharge points shall be inspected and cleared of accumulated debris periodically. If sediment accumulation is observed, this shall be removed when it reaches a depth of not more than six inches.
10. Slopes stabilized with erosion control blankets, or temporary riprap stabilization shall be inspected and repaired if any signs of rill erosion or stone displacement are observed. Sloughing of slopes or evidence of slip, rotational or base failure shall be reported immediately to the project engineer for design of remedial actions.
11. Any open graded areas of visible erosion and the temporary sediment sumps shall be stabilized with crushed stone. The size of the stone shall be determined by the contractor's designated representative in consultation with the Owner.
12. Temporary sediment sumps and sediment basins shall be inspected on a weekly basis. Routine maintenance shall include the removal of debris around inlets and outlets, repair of any uneven areas on basin berms, repair of any observed rill erosion in embankments and replacement of bench and outlet control filter material when slow drainage is observed.
13. Anchoring of silt logs shall be checked on a weekly basis. These shall be removed and replaced when clogged with sediment.
14. Mulched areas shall be repaired when ground is visible through the mulch layer. Anchoring of erosion control blankets and hay mulch shall be repaired is any evidence of separation is observed.
15. Vegetated areas shall be over-seeded and stabilized where 90% cover is not achieved.

Reporting Requirements

In addition to the weekly certifications, the inspector(s) shall maintain written reports recording construction activities on site which include:

1. Dates when major grading activities occur in a particular areas of the site.
2. Dates when major construction activities cease in a particular area, either temporarily or permanently.
3. Dates when an area is stabilized.
4. Inspection of the project work site on a weekly basis and after each significant rainfall event (0.25 inch or more within any consecutive 24-hour period) during construction until permanent erosion control measures have been properly installed and the site has been stabilized.
5. A log (report) must be kept summarizing the scope of the inspection, name(s) and qualifications of the personnel making the inspection, the date(s) of the inspection, and major observations relating to operation of erosion and sedimentation controls and pollution prevention measures. Major observations must include BMPs that need maintenance, BMPs that failed to operate as designed or proved inadequate for a particular location, and location(s) where additional BMPs are needed. For each BMP requiring maintenance, BMP needing replacement, and location needing additional BMPs, note in the log the corrective action taken and when it was taken.

Record Keeping

1. All certifications, inspection forms, and written reports prepared by the inspector(s) shall be filed with the Owner, and the Permit File contained on the project site, and available for inspection and review upon request. All written certifications, inspection forms, and written reports must be filed within one (1) week of the inspection date.
2. Inspections Reports and Logs must be made accessible to regulatory agency staff and a copy must be provided upon request.

3. Copies of all reports must be kept on file and available upon request for a period of at least three years from the completion of permanent stabilization.

CONSTRUCTION PROCUREMENT AND ADMINISTRATION

The project will be constructed by a Construction Manager under contract to the Owner/Applicant. The Construction Manager will submit a detailed schedule for the completion of the work, broken into specific tasks, with anticipated milestones and completion dates, at the start of construction. The project schedule will be reviewed at regular bi-weekly project meetings, with updates and amendments to be recorded in the project file.

The work will be conducted in sections which will limit the amount of exposed area to those areas in which work is expected to be undertaken during the next 30 days. Exposed areas will be covered and stabilized as rapidly as practical. All areas will be permanently stabilized within 7 days of final grading and temporarily stabilized within 7 days of initial disturbance or before a predicted storm event of over ½" of rain. The area of denuded, non-stabilized construction shall be limited to the minimum area practicable. An area shall be considered to be denuded until the subbase gravel is installed in parking areas, or the areas of future loam and seed have been loamed, seeded, and mulched, or stabilized with erosion control blanket.

The Contractor must maintain an accurate set of record drawings indicating the date when an area is first denuded, the date of temporary stabilization, and the date of final stabilization. On October 1 of any calendar year, the Contractor shall submit a detailed plan for stabilizing the site for the winter and a description of what activities are planned during the winter.

The Contractor must install any added measures which may be necessary to control erosion/sedimentation and fugitive dust emissions from the site, with adjustments made dependent upon forecasted and actual site and weather conditions.

The Contractor has sole responsibility for complying with the erosion/sediment control report, including control of fugitive dust, and shall be responsible for any monetary penalties resulting from failure to comply with these standards.

Once construction has been completed, long-term maintenance of the stormwater management system will the responsibility of the applicant. Operations & Maintenance items with a list of maintenance requirements and frequency are listed at the end of Section 12 of the Maine DEP Permit Application.

Attachments

Attachment A – Sample Erosion Control Compliance Certification and Inspection Forms

ATTACHMENT A

Sample Erosion Control Compliance Certification and Inspection Forms

Stormwater Inspection and Maintenance Log

Site Name **Clippership Landing** **Location** **Damariscotta** **Date of Inspection**

BMP	Inspection tasks	Completed	Notes	Maintenance Required	Maintenance Complete
Ditches, swales and open channels	Inspect for debris and channel blockages Check vegetation for overgrowth Inspect for evidence of erosion				
Catch Basins	Check sediment level in sumps Inspect grates, frames and structures				
Pipe Inlet and Outlet	Inspect riprap aprons Look for evidence of erosion				
Bioretention Cells & Underdrained Filters	Check plantings/grass cover Inspect soil bed Inspect underdrain outlets Evidence of high water level Verify structure is draining Inspect inlet grate and outlet structure Look for evidence of sedimentation Check stability of side slopes				
Filtering Drip Strips	Inspect surface for displacement/erosion Check for poor drainage Check for debris/ soil ingress				
Paved areas, walkways	Check for sand and salt accumulation Check integrity of surfaces and edges				
Culverts	Inspect structural integrity Look for joint displacement Inspect inlet and outlet structures Check for sediment accumulation				
Pervious Pavers	Check for ponding after storm events Check gaps for sediment ingress Remove organics/debris from surface				

SECTION 7

FLOODING

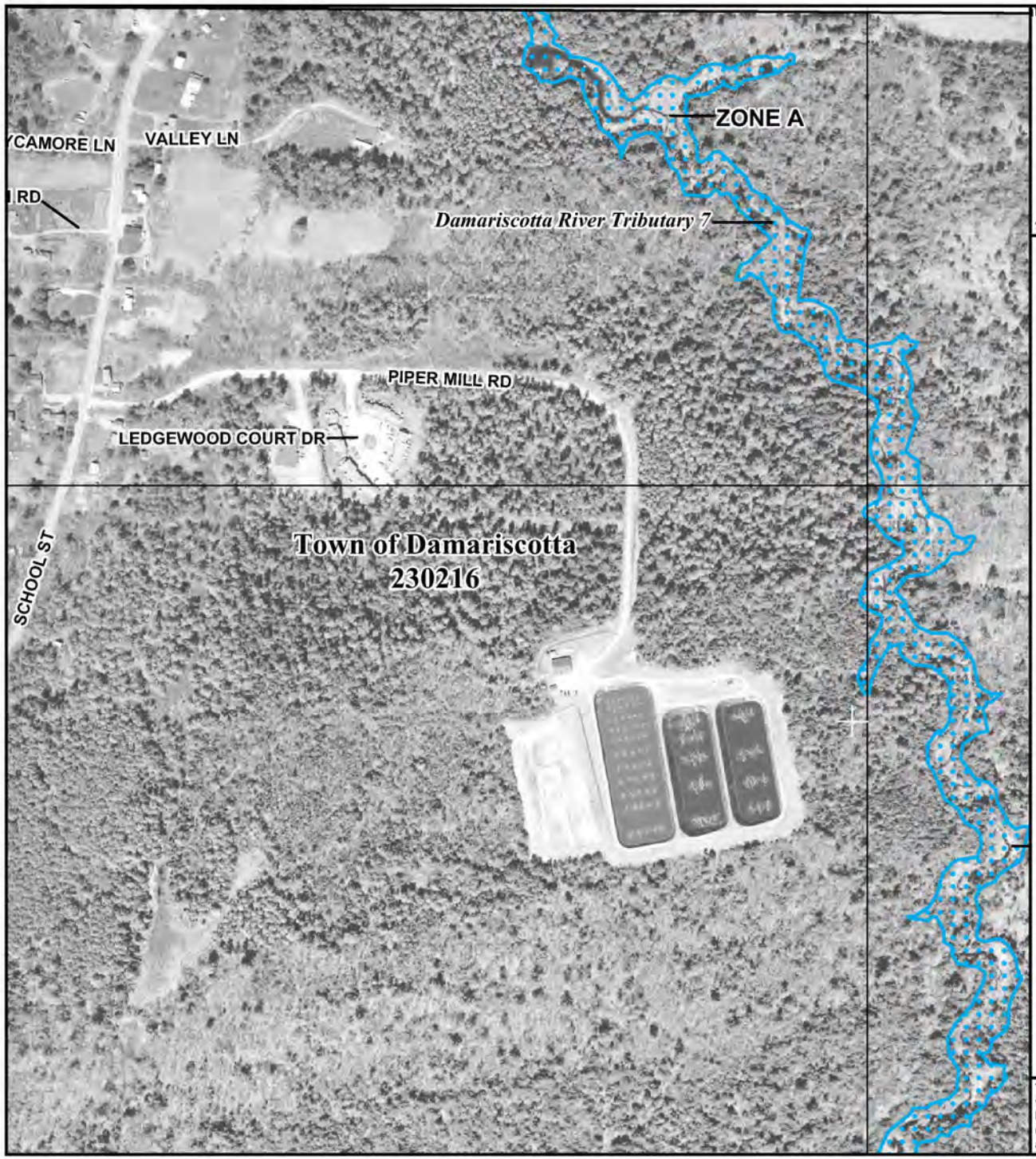
The project site is located within Flood Zone X, Areas of Minimal Flooding according to the FEMA Flood Insurance Rate Map for the area. The project site abuts the Damariscotta River Tributary 7, which is located in Zone A, a Special Flood Hazard Area. The proposed project will not adversely affect the 100-year flood elevation.

Attachments

Attachment A – FEMA Map

ATTACHMENT A

FEMA MAP



tional Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

250 0 500 1000 FEET

150 0 150 300 ME

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0269D

FIRM

FLOOD INSURANCE RATE MAP

LINCOLN COUNTY, MAINE

(ALL JURISDICTIONS)

PANEL 269 OF 525

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
BRISTOL, TOWN OF	230215	0269	D
DAMARISCOTTA, TOWN OF	230216	0269	D

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
23015C0269D

EFFECTIVE DATE
JULY 16, 2015

Federal Emergency Management Agency

SECTION 8

SOILS

Soil Survey Map

A Class D Medium Intensity Soil Survey from Natural Resource Conservation Service (NRCS) Web Soil Survey is included in Attachment A. A geotechnical exploration was undertaken at the site by S. W. Cole Engineering, Inc. A copy of the Geotechnical Report is included in Attachment B. Additional soil test pits were conducted in locations where stormwater BMPs are proposed. The mapped soils at the site are mostly Scantic and Lamoine silt loams. Scantic soils are generally poorly drained, exhibiting shallow depth to groundwater. Lamoine soils are generally somewhat poorly drained soils with a seasonal water table 0.5 foot to 1.5 feet below the soil surface. Smaller areas of Buxton and Turnbridge-Lyman complexes were identified. These soil types are typical fine glaciomarine deposits associated with marine terraces and river valleys. The new development will be in areas mapped as Buxton, Scantic, and Turnbridge-Lyam soils.

Geotechnical Investigation

A detailed geotechnical exploration was undertaken at the project site by S.W. Cole Engineering, Inc. A copy of the report is included in Attachment B. The observed soils conditions identified relatively shallow bedrock. The geotechnical report recommended blasting in locations of bedrock to support the proposed development. Blasting details are included in Attachment C.

Hydric Soils Mapping

Wetland investigations and delineation at the site were undertaken by Atlantic Resource Consultants, LLC, in accordance with the US army Corps of Engineers Wetland Delineation Manual (1987). Areas of forested, freshwater wetlands and scrub shrub wetlands were identified on the property. The wetlands identified at the site are described in detail in the Wetland Delineation Report included in Attachment D.

Soils Conditions and Design Implications

The Existing Conditions Plan shows the locations of subsurface soil investigations and delineated natural resources at the site. Subsurface explorations identified shallow bedrock in various areas of the project site. The applicant anticipates blasting to achieve proposed grades to support the proposed development.

Attachments

Attachment A – Class D Medium Intensity Soil Survey from NRCS
Attachment B – Geotechnical Report conducted by S.W. Cole Engineering, Inc.
Attachment C – Blasting Specifications
Attachment D – Wetland Delineation Report by Atlantic Resource Consultants, LLC
Attachment E – Soil Test Pit Logs by Watershed Resource Consultants,LLC

ATTACHMENT A

CLASS D MEDIUM INTENSITY SOIL SURVEY

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 Knox and Lincoln Counties, Maine

April 15, 2019

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

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Soil Map (Clippership)

Map Scale: 1:4,190 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 200 400 800 1200

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

MAP LEGEND

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

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

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Knox and Lincoln Counties, Maine
Survey Area Data: Version 18, Sep 11, 2018

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

Date(s) aerial images were photographed: Jul 17, 2010—Aug 31, 2010

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 (Clippership)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BuB	Lamoine silt loam, 3 to 8 percent slopes	26.7	30.6%
BuC	Buxton silt loam, 8 to 15 percent slopes	13.9	15.9%
Sc	Scantic silt loam, 0 to 3 percent slopes	31.5	36.1%
TrB	Tunbridge-Lyman complex, 3 to 8 percent slopes, rocky	5.9	6.8%
TrC	Tunbridge-Lyman complex, 8 to 15 percent slopes, rocky	9.3	10.6%
Totals for Area of Interest		**87.2**	**100.0%**

Map Unit Descriptions (Clippership)

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.

Knox and Lincoln Counties, Maine

BuB—Lamoine silt loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2t0kc
Elevation: 10 to 490 feet
Mean annual precipitation: 33 to 60 inches
Mean annual air temperature: 36 to 52 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Lamoine and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lamoine

Setting

Landform: Marine terraces, river valleys
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Fine glaciomarine deposits

Typical profile

Ap - 0 to 7 inches: silt loam
Bw - 7 to 13 inches: silt loam
Bg - 13 to 24 inches: silty clay loam
Cg - 24 to 65 inches: silty clay

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat 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 6 to 17 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water storage in profile: Moderate (about 7.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C/D
Hydric soil rating: No

BuC—Buxton silt loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2x1by
Elevation: 10 to 490 feet
Mean annual precipitation: 33 to 60 inches
Mean annual air temperature: 36 to 52 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Buxton and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Buxton

Setting

Landform: Marine terraces, river valleys
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Fine glaciomarine deposits

Typical profile

Ap - 0 to 7 inches: silt loam
Bw1 - 7 to 18 inches: silt loam
Bw2 - 18 to 23 inches: silty clay loam
BC - 23 to 35 inches: silty clay loam
C - 35 to 65 inches: silty clay

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well 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 17 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water storage in profile: High (about 9.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C/D
Hydric soil rating: No

Sc—Scantic silt loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2slv3
Elevation: 10 to 900 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

Scantic and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Scantic

Setting

Landform: Marine terraces, river valleys
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Glaciomarine deposits

Typical profile

Ap - 0 to 9 inches: silt loam
Bg1 - 9 to 16 inches: silty clay loam
Bg2 - 16 to 29 inches: silty clay
Cg - 29 to 65 inches: silty clay

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 6.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: D
Hydric soil rating: Yes

TrB—Tunbridge-Lyman complex, 3 to 8 percent slopes, rocky

Map Unit Setting

National map unit symbol: 2trq3
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: All areas are prime farmland

Map Unit Composition

Tunbridge, rocky, and similar soils: 59 percent
Lyman, rocky, and similar soils: 27 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tunbridge, Rocky

Setting

Landform: Hills, mountains
Landform position (two-dimensional): Backslope, summit, shoulder
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 3 inches: moderately decomposed plant material
Oa - 3 to 5 inches: highly decomposed plant material
E - 5 to 8 inches: fine sandy loam
Bhs - 8 to 11 inches: fine sandy loam
Bs - 11 to 26 inches: fine sandy loam
BC - 26 to 28 inches: fine sandy loam
R - 28 to 38 inches: bedrock

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 6.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: C
Hydric soil rating: No

Description of Lyman, Rocky

Setting

Landform: Mountains, hills
Landform position (two-dimensional): Summit, backslope, shoulder
Landform position (three-dimensional): Mountaintop, mountainbase, crest, side slope
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
Natural 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 storage in profile: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: D
Hydric soil rating: No

TrC—Tunbridge-Lyman complex, 8 to 15 percent slopes, rocky

Map Unit Setting

National map unit symbol: 2trq4
Elevation: 0 to 720 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

Tunbridge, rocky, and similar soils: 60 percent
Lyman, rocky, and similar soils: 27 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tunbridge, Rocky

Setting

Landform: Mountains, hills
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Mountaintop, mountainflank, 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 3 inches: moderately decomposed plant material
Oa - 3 to 5 inches: highly decomposed plant material
E - 5 to 8 inches: fine sandy loam
Bhs - 8 to 11 inches: fine sandy loam
Bs - 11 to 26 inches: fine sandy loam
BC - 26 to 28 inches: fine sandy loam
R - 28 to 38 inches: bedrock

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 6.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Hydric soil rating: No

Description of Lyman, Rocky

Setting

Landform: Hills, mountains
Landform position (two-dimensional): Shoulder, summit, backslope
Landform position (three-dimensional): Mountaintop, mountainflank, mountainbase, crest, side slope
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
Depth to restrictive feature: 11 to 24 inches to lithic bedrock
Natural 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 storage in profile: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Hydric soil rating: No

Soil Information for All Uses

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

Soil Erosion Factors

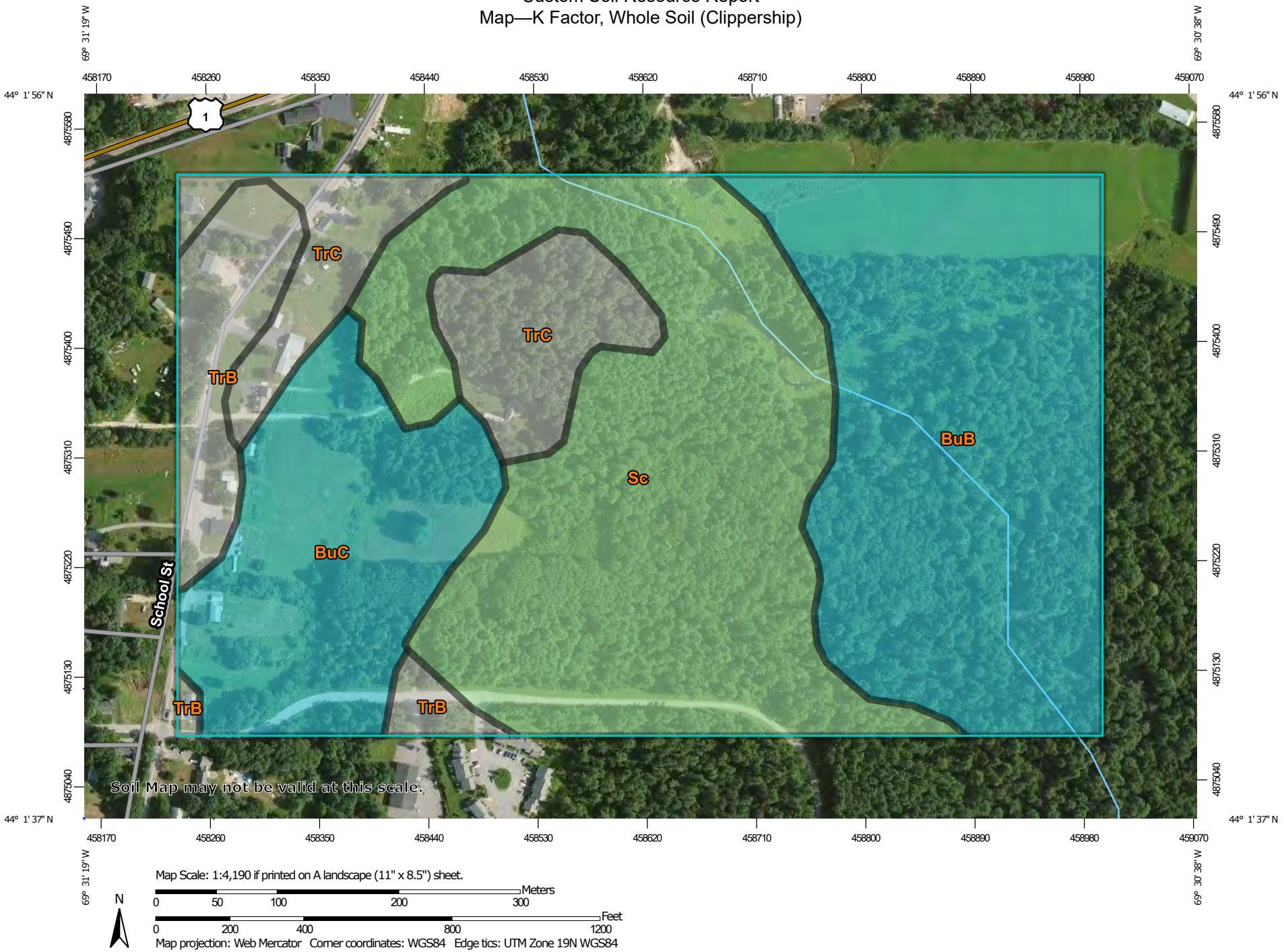
Soil Erosion Factors are soil properties and interpretations used in evaluating the soil for potential erosion. Example soil erosion factors can include K factor for the whole soil or on a rock free basis, T factor, wind erodibility group and wind erodibility index.

K Factor, Whole Soil (Clippership)

Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and saturated hydraulic conductivity (Ksat). Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

"Erosion factor Kw (whole soil)" indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Map—K Factor, Whole Soil (Clippership)



Map Scale: 1:4,190 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 200 400 800 1200

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

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

.02
.05
.10
.15
.17
.20
.24
.28
.32
.37
.43
.49
.55
.64
Not rated or not available

Soil Rating Lines

.02
.05
.10
.15
.17
.20
.24
.28
.32
.37
.43
.49
.55
.64
Not rated or not available

Soil Rating Points

.02
.05
.10
.15
.17
.20
.24
.28
.32
.37
.43
.49
.55
.64
Not rated or not available

Water Features

Streams and Canals

Transportation

Rails
Interstate Highways
US Routes
Major Roads
Local Roads

Background

Aerial Photography

MAP INFORMATION

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

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: Knox and Lincoln Counties, Maine
Survey Area Data: Version 18, Sep 11, 2018

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

Date(s) aerial images were photographed: Jul 17, 2010—Aug 31, 2010

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.

Table—K Factor, Whole Soil (Clippership)

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BuB	Lamoine silt loam, 3 to 8 percent slopes	.37	26.7	30.6%
BuC	Buxton silt loam, 8 to 15 percent slopes	.37	13.9	15.9%
Sc	Scantic silt loam, 0 to 3 percent slopes	.28	31.5	36.1%
TrB	Tunbridge-Lyman complex, 3 to 8 percent slopes, rocky		5.9	6.8%
TrC	Tunbridge-Lyman complex, 8 to 15 percent slopes, rocky		9.3	10.6%
Totals for Area of Interest			**87.2**	**100.0%**

Rating Options—K Factor, Whole Soil (Clippership)

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Layer Options (Horizon Aggregation Method): Surface Layer (Not applicable)

Soil Qualities and Features

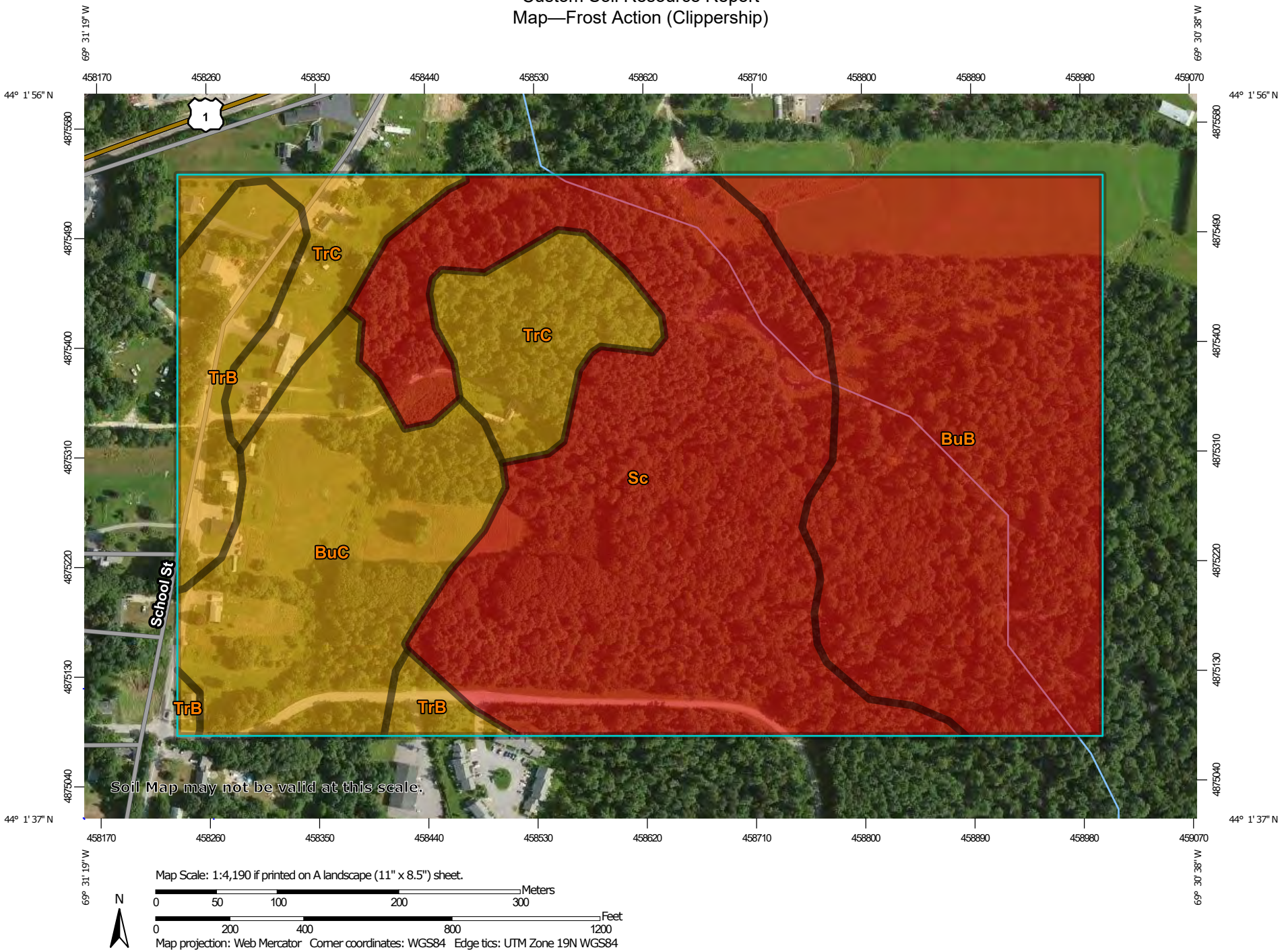
Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

Frost Action (Clippership)

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, saturated hydraulic conductivity (Ksat), content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly,

or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Map—Frost Action (Clippership)



Map Scale: 1:4,190 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 200 400 800 1200

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

MAP LEGEND

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

Soils

Soil Rating Polygons
- High
- Moderate
- Low
- None
- Not rated or not available

Soil Rating Lines
- High
- Moderate
- Low
- None
- Not rated or not available

Soil Rating Points
- High
- Moderate
- Low
- None
- Not rated or not available

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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)

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Survey Area Data: Version 18, Sep 11, 2018

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Date(s) aerial images were photographed: Jul 17, 2010—Aug 31, 2010

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.

Table—Frost Action (Clippership)

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BuB	Lamoine silt loam, 3 to 8 percent slopes	High	26.7	30.6%
BuC	Buxton silt loam, 8 to 15 percent slopes	Moderate	13.9	15.9%
Sc	Scantic silt loam, 0 to 3 percent slopes	High	31.5	36.1%
TrB	Tunbridge-Lyman complex, 3 to 8 percent slopes, rocky	Moderate	5.9	6.8%
TrC	Tunbridge-Lyman complex, 8 to 15 percent slopes, rocky	Moderate	9.3	10.6%
Totals for Area of Interest			**87.2**	**100.0%**

Rating Options—Frost Action (Clippership)

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Hydrologic Soil Group (Clippership)

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

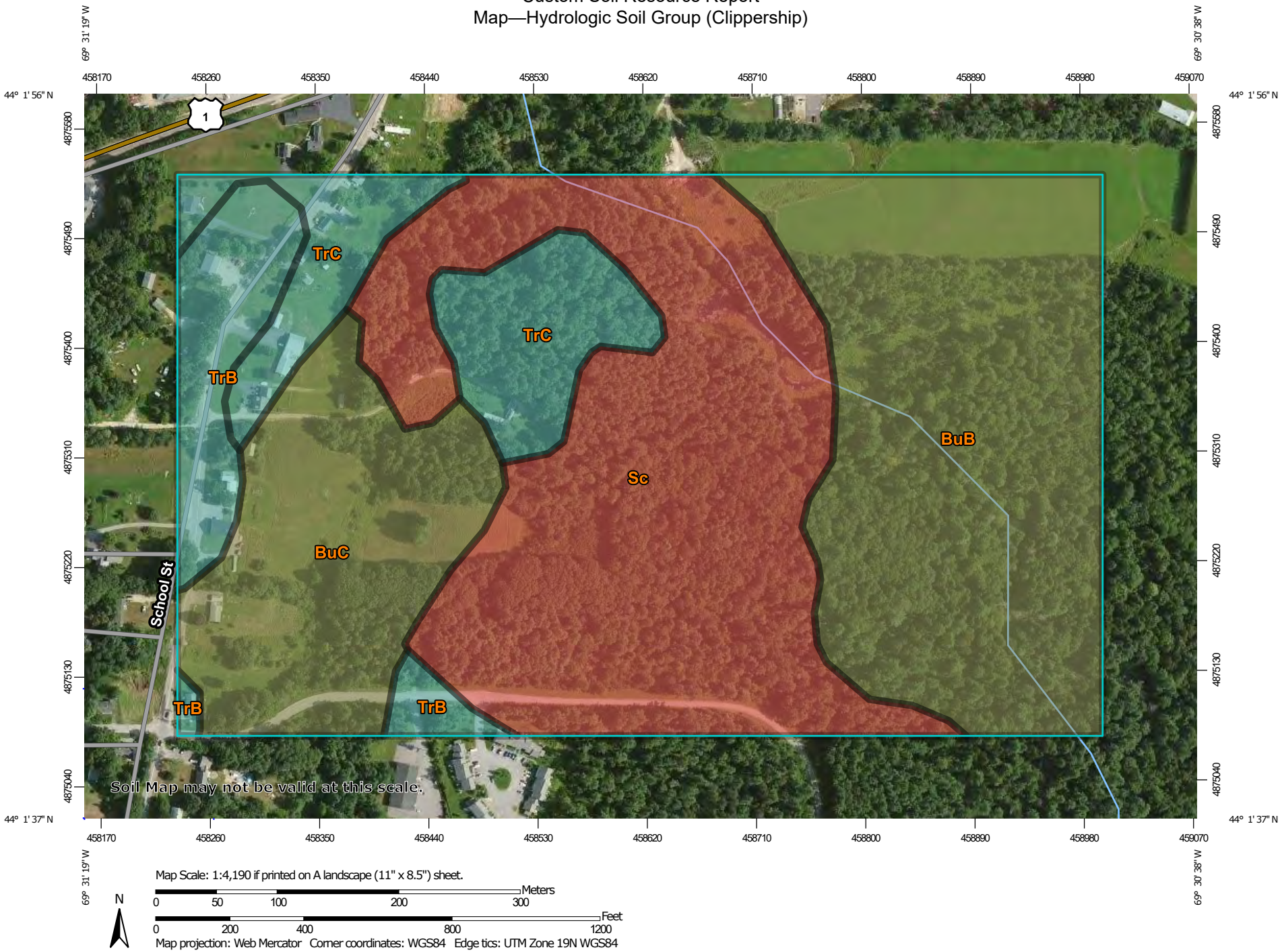
Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or

soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Map—Hydrologic Soil Group (Clippership)



Map Scale: 1:4,190 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 200 400 800 1200

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

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

- Streams and Canals

Transportation

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

Background

- Aerial Photography

MAP INFORMATION

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

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Please rely on the bar scale on each map sheet for map measurements.

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Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

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Survey Area Data: Version 18, Sep 11, 2018

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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.

Table—Hydrologic Soil Group (Clippership)

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BuB	Lamoine silt loam, 3 to 8 percent slopes	C/D	26.7	30.6%
BuC	Buxton silt loam, 8 to 15 percent slopes	C/D	13.9	15.9%
Sc	Scantic silt loam, 0 to 3 percent slopes	D	31.5	36.1%
TrB	Tunbridge-Lyman complex, 3 to 8 percent slopes, rocky	C	5.9	6.8%
TrC	Tunbridge-Lyman complex, 8 to 15 percent slopes, rocky	C	9.3	10.6%
Totals for Area of Interest			**87.2**	**100.0%**

Rating Options—Hydrologic Soil Group (Clippership)

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

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ATTACHMENT B

GEOTECHNICAL REPORT

S.W.COLE ENGINEERING, INC.

REPORT

22-0179

April 8, 2022

Explorations and Geotechnical Engineering Services

Proposed Senior Living Facility
Clipper Ship Site
Piper Mill Road
Damariscotta, Maine

Prepared For:
Atlantic Resource Consultants, LLC
Attention: Andrew Johnston, PE
541 US-1, Suite 21
Freeport, Maine 04032

Prepared By:
S. W. Cole Engineering, Inc.
26 Coles Crossing Drive
Sidney, ME 04330
T: 207.626.0600

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22-0179

April 8, 2022

Atlantic Resource Consultants, LLC
Attention: Andrew Johnston, PE
541 US-1, Suite 21
Freeport, Maine 04032

Subject: Explorations and Geotechnical Engineering Services
Proposed Senior Living Facility
Clipper Ship Site
Piper Mill Road
Damariscotta, Maine

Dear Andy:

In accordance with our Proposal, dated March 3, 2022, we have completed subsurface explorations for the subject project. This report summarizes our findings and geotechnical recommendations, and its contents are subject to the limitations set forth in Appendix A.

1.0 INTRODUCTION

1.1 Scope and Purpose

The purpose of our services was to obtain subsurface information at the site and develop geotechnical recommendations relative to foundations, earthwork and pavement associated with the proposed construction. Our scope of services included test pit explorations, soils laboratory testing, a geotechnical analysis of the subsurface findings, and preparation of this report.

1.2 Site and Proposed Construction

The site is located in a moderately wooded area east of School Street and north of Piper Mill Road in Damariscotta, Maine. Based on the provided Site Plan, dated October 2021, the site generally slopes downward in all directions from a knoll at about

elevation 85 feet (project datum) in the northwest corner of the site. The westerly flank of the knoll slopes down to a stream at about elevation 45 feet.

We understand development plans call for construction of single story, wood-framed senior living building with spread footing foundations and slab-on-grade floors. Associated paved parking and access roads, site retaining walls, and stormwater management areas are proposed around the new building. We understand the proposed building will be irregular in shape with a central area and six wings that covers an area roughly 350 by 400 feet in plan dimensions. We understand the building will have a finish floor at elevation 75 feet. Paved parking measuring approximately 350 by 400 feet in plan dimensions is proposed on the south side of the building and paved access roads are proposed on the east and west sides of the new building. Site retaining walls are proposed along the east and west access roads. A sewer pump station is proposed on the south side and eight stormwater management areas are proposed around the building.

Existing grades within the proposed building area vary from about elevation 85 feet to 65 feet requiring tapered cuts and fills approaching 10 feet to achieve proposed finish floor elevation. Exterior site grading is not available at this time; however, we anticipate tapered fills approaching 4 to 9 feet will be needed for the proposed fire lane/retaining wall areas with as much as 15 feet of fill in the northwest corner. Minor cuts to fills approaching 5 feet are anticipated in the southerly entrance/parking area. Cuts and fills for the proposed pond areas are also not known at this time.

Proposed and existing site features are shown on the “Exploration Location Plan” attached in Appendix B.

2.0 EXPLORATION AND TESTING

2.1 Explorations

Twenty-nine test pits (TP-1 through TP-28 and TP-3A) were excavated at the site on March 17 and 18, 2022, by Hager Enterprises working under subcontract to S. W. Cole Engineering, Inc. (S.W.COLE). The exploration locations were selected by others and established in the field by S.W.COLE using a mapping-grade GPS. The approximate exploration locations are shown on the “Exploration Location Plan” attached in Appendix

B. Logs of the explorations and a key to the notes and symbols used on the logs are attached in Appendix C. The elevations shown on the logs were estimated based on topographic information shown on the "Exploration Location Plan".

2.2 Field Testing

The test pits were excavated using a Komatsu 238 excavator and logged at the time of excavation by S.W.COLE. A representative from Atlantic Resources Consultants was also present to observe the excavation of test pits TP-21 through TP-28 for the stormwater management areas. Representative soil samples were obtained during excavation. Pocket Penetrometer Tests (PPT) were performed where stiffer cohesive soils were encountered. PPT results are shown on the logs.

2.3 Laboratory Testing

Soil samples obtained during the explorations were returned to our laboratory for further classification and testing. Atterberg Limits and moisture content test results are noted on the logs. The results of 3 gradation tests are attached in Appendix D.

3.0 SUBSURFACE CONDITIONS

3.1 Soil and Bedrock

Test pits TP-1 through TP-13 and TP-3A were made for the proposed building, TP-14 through TP-20 were made for the proposed paved areas and site retaining walls, and TP-21 through TP-28 were made for the proposed stormwater management areas. The test pits encountered a soils profile generally consisting of forest duff and topsoil overlying very stiff silty clay with sand overlying silty sand with varying amounts of gravel with cobbles and boulders (glacial till) overlying areas of shallow refusal surfaces (probable bedrock). Refusal surfaces were encountered in TP-3, TP-3A, TP-6, TP-7, TP-9, TP-14, TP-18, TP-22, TP-23, TP-24, and TP-28 at depths varying from about 2 to 9 feet below existing ground surface.

Not all the strata were encountered at each exploration; refer to the attached logs for more detailed subsurface information.

3.2 Groundwater

The soils encountered at the test borings were moist to wet from the ground surface. Saturated soils and groundwater seepage were encountered in test pits TP-2 through TP-5, TP-9, TP-13 through TP-15, TP-18, TP-19, TP-21, TP-22, TP-24 through TP-28, and TP-3A at depths varying from about 1 to 8.5 feet. Groundwater likely becomes perched on the relatively impervious silty clay, glacial till, and shallow refusal surfaces encountered at the test borings. Long term groundwater information is not available. It should be anticipated that groundwater levels will fluctuate, particularly in response to periods of snowmelt and precipitation, as well as changes in site use.

4.0 EVALUATION AND RECOMMENDATIONS

4.1 General Findings

Based on the subsurface findings, the proposed construction appears feasible from a geotechnical standpoint. The principle geotechnical considerations include:

- Relatively shallow bedrock is present at the site and should be anticipate in excavations, particularly in cut areas. The bedrock, if encountered, will require blasting for excavation. Loose and over-blasted bedrock must be removed beneath the proposed building footprint.

- Based on the subsurface conditions encountered, foundation and slab subgrades for the proposed building are anticipated to transition from bedrock to glacial till to stiff silty clay soils to compacted fills. Excavations to soil subgrades should be completed with a smooth-edged bucket to lessen subgrade disturbance. A layer of Crushed Stone should be provided below all footings to help transition between bedrock and soil bearing conditions and to help minimize differential settlement between differing subgrade materials.

- Footings should bear on at least 12 inches of compacted Structural Fill or 6 inches of compacted Crushed Stone overlying properly prepared subgrades. The Crushed Stone should be wrapped in geotextile fabric when underlain by soil subgrades. For bedrock subgrades, the Crushed Stone should be thoroughly worked into the bedrock surface to choke any voids or fractures in the prepared bedrock surface. On-grade floor slabs should bear on at least 12-inches of properly compacted Structural Fill overlying properly prepared subgrades.

- Foundation drainage will be needed.

- Groundwater seepage may occur from rock and soil cut slopes. The contractor should anticipate the need to dewater temporary excavations for foundations and utilities.

- Blasted bedrock may be processed on-site to reuse for mass fills in the proposed paved areas as well as gravels for pavements. The existing site soils are generally silty or clayey and appear unsuitable for fill within the building area but may be suitable for reuse as Common Borrow in paved areas, provided the material is at a compactable moisture content and earthwork is completed during dry, non-freezing weather.

4.2 Site and Subgrade Preparation

We recommend site preparation begin with the construction of an erosion control system to protect adjacent drainage ways and areas outside the construction limits. Surficial organics, roots and topsoil should be completely removed from areas of proposed fill and construction. As much vegetation as possible should remain outside the construction areas to lessen the potential for erosion and site disturbance.

Building and Footings: Following stripping and grubbing of the site, blasting will be required to achieve proposed grades in the building area and maybe needed for deeper excavations at the site depending on proposed site grades. We recommend blasting for bedrock removal be performed to a depth of at least 2 feet below bottom of slab-on-grade elevations and at least 1 foot below footing subgrade elevation for the proposed building and structures (catch basins, stormwater ponds). Loose and over-blasted bedrock should be removed prior to placing new fills to expose sound, intact bedrock. Crushed stone should be thoroughly worked into the bedrock surface to choke any voids or fractures in the bedrock. We anticipate blasting fines will create a choking material in areas of deeper bedrock cuts. Subgrade soils which become disturbed due to be removed and replaced with compacted Structural Fill.

We recommend excavations to soil subgrades be completed using a smooth-edged bucket to lessen disturbance of the bearing soils. Excavations to bedrock subgrades may use a toothed, digging bucket. Footings should bear on at least 12 inches of Structural Fill or 6 inches of compacted Crushed Stone overlying properly prepared subgrades. The

Crushed Stone should be wrapped in non-woven geotextile filter fabric, such as Mirafi 180N when underlain by soil subgrades. For bedrock subgrades, the Crushed Stone should be thoroughly worked into the bedrock surface to choke any voids or fractures in the prepared bedrock surface and a non-woven geotextile fabric should be placed on top of the Crushed Stone prior to placing new fills.

Slabs in heated areas should be underlain by at least 12 inches of Structural Fill overlying properly prepared subgrades.

Paved Areas and Utilities: Pavement area subgrades are anticipated to consist of stiff silty clay, dense glacial till, and compacted fill. We recommend installing woven geotextile fabric, such as Mirafi X-series 600X, over silty clay subgrades.

We anticipate utilities can be constructed with customary bedding materials. The depth of customary bedding materials for soft trench bottoms should be at least 6 inches of pipes and 12 inches of structures. Where bedrock is blasted to achieve utility subgrades, we recommend all loose and over-blasted bedrock be removed and at least 6 inches of compacted Crushed Stone be placed and thoroughly worked into the bedrock surface to choke any voids or fractures in the bedrock.

Fill Embankments: Following removal of topsoil and organics, fill embankments over wet areas should be built by placing a minimum 12-inch-thick lift of free-draining sand and gravel, such as Structural Fill followed by compacted Granular Borrow. Following removal of all unsuitable material beneath the site, compacted Granular Borrow should be placed to raise grades to proposed subgrade elevations. Where native subgrade soils are wet, we recommend an initial lift of compacted Structural Fill before filling with compacted Granular Borrow. Additionally, woven geotextile fabric, such as Mirafi X-series 600X may be needed on wet or saturated silty clay subgrades prior to fill placement.

4.3 Excavation and Dewatering

Excavation work will generally encounter topsoil, soils with roots and organics, silty clay, glacial till with cobbles and large boulders, and possible shallow bedrock soils. Care must be exercised during construction to limit disturbance of the bearing soils. Earthwork and grading activities should occur during drier, non-freezing weather of Spring, Summer, and Fall. Construction equipment should not operate directly on the native silt and clays, when

wet. Final cuts to soil subgrade should be performed with a smooth-edged bucket to help reduce strength loss from soil disturbance.

Based on the subsurface findings, we anticipate blasting will be required for bedrock removal. We recommend a licensed blasting contractor be engaged to provide bedrock removal. Pre-blast surveys should be completed on surrounding structures, water supply wells and infrastructure prior to commencing blasting activities.

Vibrations from construction should be controlled below threshold limits of 0.5 in/sec for structures, water supply wells and infrastructure within 500 feet of the project site. More restrictive vibration limits may be warranted in specific cases with sensitive equipment, historic structures or artifacts on-site or within close proximity.

Sumping and pumping dewatering techniques should be adequate to control groundwater in excavations. Controlling the water levels to at least one foot below planned excavation depths will help stabilize subgrades during construction. Excavations must be properly shored or sloped in accordance with OSHA Regulations to prevent sloughing and caving of the sidewalls during construction. The design and planning of excavations, excavation support systems, and dewatering is the responsibility of the contractor.

4.4 Foundations

We recommend the proposed buildings be supported on spread footings founded on at least 12 inches of compacted Structural Fill or 6 inches of Crushed Stone overlying properly prepared subgrades. The Crushed Stone should be wrapped in non-woven geotextile filter fabric, such as Mirafi 180N when underlain by soil subgrades. For bedrock subgrades, the Crushed Stone should be thoroughly worked into the bedrock surface to choke any voids or fractures in the prepared bedrock surface and a non-woven geotextile fabric should be placed on top of the Crushed Stone prior to placing new fills. For foundations bearing on properly prepared subgrades, we recommend the following geotechnical parameters for design consideration:

Geotechnical Parameters for Spread Footings and Foundation Walls	
Design Frost Depth (100-year AFI)	4.5 feet
Net Allowable Soil Bearing Pressure	3.0 ksf
Base Friction Factor	0.4
Total Unit Weight of Backfill	125 pcf
At-Rest Lateral Earth Pressure Coefficient	0.5
Internal Friction Angle of Backfill	30°
Seismic Soil Site Class	C (IBC 2015)
Estimated Total Settlement	1-inch or less
Differential Settlement	½-inch or less

4.5 Foundation Drainage

We recommend an underdrain system be installed on the outside edge of perimeter footings. The underdrain pipe should consist of 4-inch diameter, perforated SDR-35 foundation drainpipe bedded in Crushed Stone and wrapped in non-woven geotextile fabric. The underdrain pipe must have a positive gravity outlet protected from freezing, clogging and backflow. Surface grades should be sloped away from the building for positive surface water drainage. General underdrain details are illustrated on the "Foundation Detail Sketch" attached in Appendix B.

4.6 Slab-On-Grade

On-grade floor slabs in heated areas may be designed using a subgrade reaction modulus of 100 pci (pounds per cubic inch) provided the slab is underlain by at least 12 inches of compacted Structural Fill placed over properly prepared subgrades. The structural engineer or concrete consultant must design steel reinforcing and joint spacing appropriate to slab thickness and function.

The presence of shallow bedrock beneath the proposed building increases the risk of radon intrusion in the building. Consequently, building design should include a sub-slab radon venting system and positive building pressurization. We recommend a qualified radon specialist be consulted for radon mitigation.

We recommend a sub-slab vapor retarder particularly in areas of the building where the concrete slab will be covered with an impermeable surface treatment or floor covering that may be sensitive to moisture vapors. The vapor retarder must have a permeance that is less than the floor cover or surface treatment that is applied to the slab. The vapor retarder must have sufficient durability to withstand direct contact with the sub-

slab base material and construction activity. The vapor retarder material should be placed according to the manufacturer's recommended method, including the taping and lapping of all joints and wall connections. The architect and/or flooring consultant should select the vapor retarder products compatible with flooring and adhesive materials.

The floor slab should be appropriately cured using moisture retention methods after casting. Typical floor slab curing methods should be used for at least 7 days. The architect or flooring consultant should assign curing methods consistent with current applicable American Concrete Institute (ACI) procedures with consideration of curing method compatibility to proposed surface treatments, flooring, and adhesive materials.

4.7 Entrance Slabs and Sidewalks

Entrance slabs and sidewalks adjacent to the building must be designed to reduce the effects of differential frost action between adjacent pavement, doorways, and entrances. We recommend that non-frost susceptible Structural Fill be provided to a depth of at least 4.5 feet below the top of entrance slabs. This thickness of Structural Fill should extend the full footprint of the entrance slab, thereafter, transitioning up to the bottom of the adjacent sidewalk or pavement gravels at a 3H:1V or flatter slope. General details of this frost transition zone are shown on the "Foundation Detail Sketch" attached in Appendix B.

For plaza slabs extending beyond immediate building entrances, we recommend extending the thickness of Structural Fill beneath the entire plaza slab thereafter transitioning up to the bottom of the adjacent sidewalk or pavement gravels at a 3H:1V or flatter slope. Alternatively, the entrance slab and plaza slab may be insulated for frost protection. General details of this frost transition zone are shown on the "Foundation Detail Sketch" attached in Appendix B.

4.8 Segmental Retaining Wall

For the proposed site retaining walls, we recommend wet-cast segmental retaining walls. We recommend the facing blocks be founded on a minimum 6-inch-thick leveling course of compacted Crushed Stone overlying properly prepared subgrades. For design of Segmental Retaining Walls (SRW), we recommend the following geotechnical parameters for design:

Geotechnical Parameters for Segmental Retaining Wall		
Wall Zone	**Unit Weight (pcf)**	**Friction Angle**
Reinforced Soil	130	34
Retained Soil	125	30
Foundation Soil	125	30

Design of the retaining wall and evaluation of base sliding, overturning and internal stability of the wall are the responsibility of the wall design engineer. The wall designer must account for construction surcharge loads and future live load conditions. S.W.COLE should be retained to perform a global stability analysis of the SRW and to review the SRW submittal if designed by others.

We recommend SRW walls meet the requirements of current NCMA design methodologies and material requirements.

4.9 Paved Areas

We anticipate paved areas will be subjected primarily to passenger vehicle and light delivery truck traffic with occasional heavy delivery truck traffic. Considering the site soils, and proposed usage, we offer the following pavement section for consideration.

FLEXIBLE (HMA) PAVEMENT SECTION – 2020 MaineDOT Standard Specs	
Pavement Layer	**Material Thickness**
MaineDOT 9.5 mm Hot Mix Asphalt	1 ½ inches
MaineDOT 19.0 mm Hot Mix Asphalt	2 ½ inches
MaineDOT 703.06 Aggregate Base Type A	6 inches
MaineDOT 703.06 Aggregate Subbase Type D	12 inches
Woven Geotextile Fabric: Mirafi 600X over silty clay subgrades	

The base and subbase materials should be compacted to at least 95 percent of their maximum dry density as determined by ASTM D-1557. Hot mix asphalt pavement should be compacted to 92 to 97 percent of its theoretical maximum density as determined by ASTM D-2041. A tack coat should be used between successive lifts of bituminous pavement.

4.10 Fill, Backfill and Compaction

We recommend the following fill and backfill materials: recycled products must also be tested in accordance with applicable environmental regulations and approved by a qualified environmental consultant.

Common Borrow: Fill to raise grades in landscape areas should be non-organic compactable earth meeting the requirements of 2020 MaineDOT Standard Specification 703.18 Common Borrow.

Granular Borrow: Fill to raise grades in paved areas, as well as to repair soft areas, should be sand or silty sand meeting the requirements of 2020 MaineDOT Standard Specification 703.19 Granular Borrow.

Structural Fill: Backfill for foundations, slab base material and material below exterior entrances slabs should be clean, non-frost susceptible sand and gravel meeting the gradation requirements for Structural Fill as given below:

Structural Fill	
Sieve Size	**Percent Finer by Weight**
4 inch	100
3 inch	90 to 100
¼ inch	25 to 90
No. 40	0 to 30
No. 200	0 to 6

Crushed Stone: Crushed Stone, used beneath foundations and for underdrain aggregate should be washed ¾-inch crushed stone meeting the requirements of 2020 MaineDOT Standard Specification 703.13 Crushed Stone ¾-Inch.

Reuse of Site Soils: The non-organic on-site soils are unsuitable for reuse in building areas. The glacial till soils appear suitable for reuse as Granular Borrow in embankment fills below paved areas. The stiffer silty clay soil may be suitable for reuse as Common Borrow in landscape areas, provided they are at a compactable moisture content at the time of reuse.

Placement and Compaction: Fill should be placed in horizontal lifts and compacted such that the desired density is achieved throughout the lift thickness with 3 to 5 passes of the compaction equipment. Loose lift thicknesses for grading, fill and backfill activities should not exceed 12 inches. We recommend that fill and backfill in building and paved areas be compacted to at least 95 percent of its maximum dry density as determined by ASTM D-1557. Crushed Stone should be compacted with 3 to 5 passes of a vibratory plate compactor having a static weight of at least 500 pounds.

4.11 Weather Considerations

Construction activity should be limited during wet and freezing weather and the site soils may require drying or thawing before construction activities may continue. The contractor should anticipate the need for water to temper fills in order to facilitate compaction during dry weather. If construction takes place during cold weather, subgrades, foundations, and floor slabs must be protected during freezing conditions. Concrete and fill must not be placed on frozen soil; and once placed, the concrete and soil beneath the structure must be protected from freezing.

4.12 Design Review and Construction Testing

S.W.COLE should be retained to review the construction documents prior to bidding to determine that our earthwork, foundation and pavement recommendations have been properly interpreted and implemented.

A construction material testing and quality assurance program should be implemented during construction to observe compliance with the design concepts, plans, and specifications. S.W.COLE is available to observe earthwork activities, the preparation of foundation bearing surfaces and pavement subgrades, as well as to provide testing and IBC Special Inspection services for soils, concrete, steel, spray-applied fireproofing, fire-stopping, structural masonry, and asphalt construction materials.

5.0 CLOSURE

It has been a pleasure to be of assistance to you with this phase of your project. We look forward to working with you during the construction phase of the project.

Sincerely,

S. W. Cole Engineering, Inc.

Michael A. St. Pierre, P.E.
Senior Geotechnical Engineer

MAS:pfk

APPENDIX A

Limitations

This report has been prepared for the exclusive use of Atlantic Resource Consultants for specific application to the proposed Senior Living Facility on Piper Mill Road in Damariscotta, Maine. S. W. Cole Engineering, Inc. (S.W.COLE) has endeavored to conduct our services in accordance with generally accepted soil and foundation engineering practices. No warranty, expressed or implied, is made.

The soil profiles described in the report are intended to convey general trends in subsurface conditions. The boundaries between strata are approximate and are based upon interpretation of exploration data and samples.

The analyses performed during this investigation and recommendations presented in this report are based in part upon the data obtained from subsurface explorations made at the site. Variations in subsurface conditions may occur between explorations and may not become evident until construction. If variations in subsurface conditions become evident after submission of this report, it will be necessary to evaluate their nature and to review the recommendations of this report.

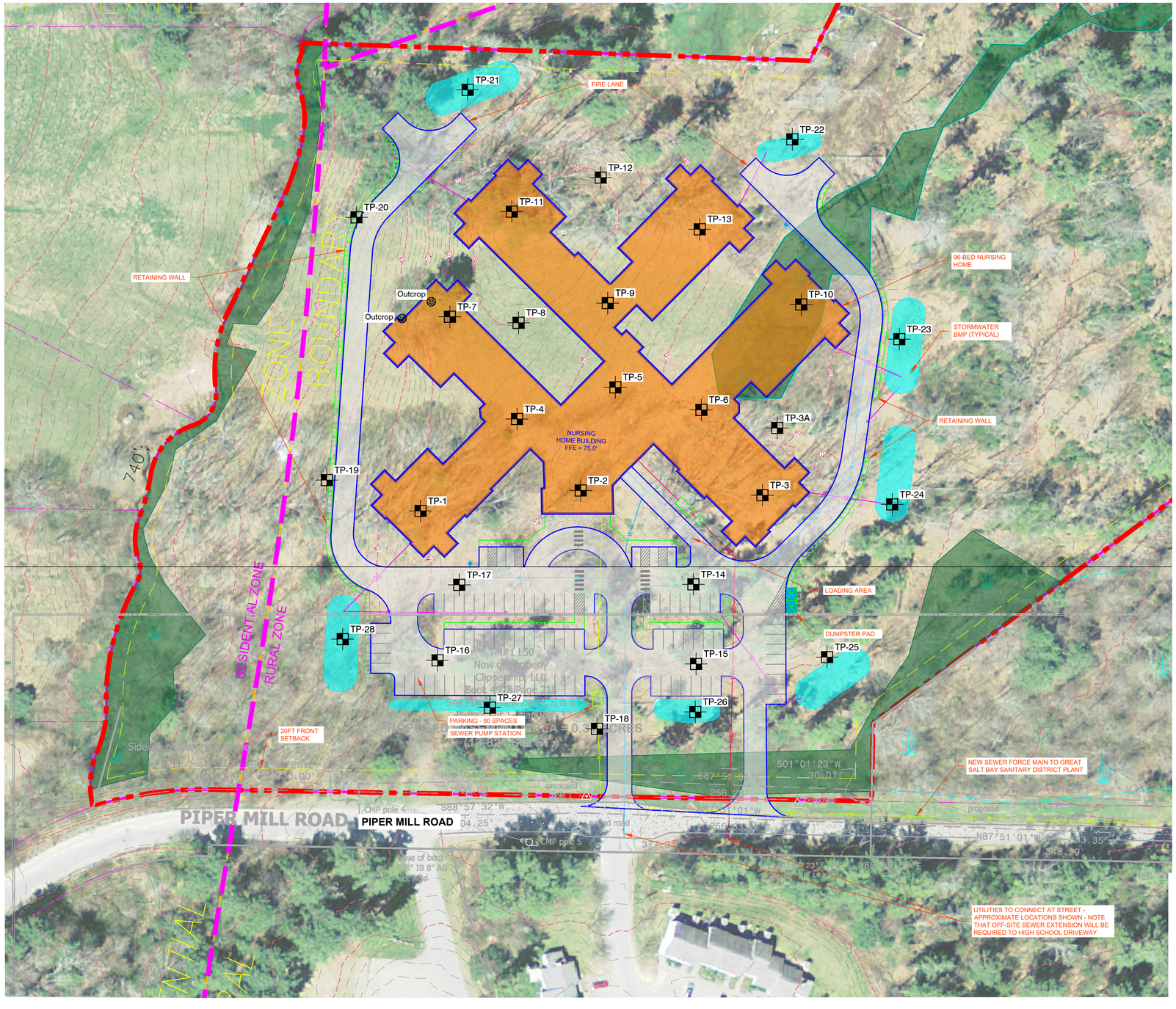
Observations have been made during exploration work to assess site groundwater levels. Fluctuations in water levels will occur due to variations in rainfall, temperature, and other factors.

S.W.COLE's scope of services has not included the investigation, detection, or prevention of any Biological Pollutants at the project site or in any existing or proposed structure at the site. The term "Biological Pollutants" includes, but is not limited to, molds, fungi, spores, bacteria, and viruses, and the byproducts of any such biological organisms.

Recommendations contained in this report are based substantially upon information provided by others regarding the proposed project. In the event that any changes are made in the design, nature, or location of the proposed project, S.W.COLE should review such changes as they relate to analyses associated with this report. Recommendations contained in this report shall not be considered valid unless the changes are reviewed by S.W.COLE.

APPENDIX B

Figures



LEGEND:

- APPROXIMATE TEST PIT LOCATION
- APPROXIMATE OBSERVED OUTCROP LOCATION

NOTES:

1. EXPLORATION LOCATION PLAN WAS PREPARED FROM A 1"=50' SCALE PLAN OF THE SITE ENTITLED "CONCEPT SITE PLAN," PREPARED BY ATLANTIC RESOURCE CONSULTANTS (ARC), DATED OCTOBER 2021.
2. THE TEST PIT LOCATIONS WERE SELECTED BY ARC AND SUBSEQUENTLY LOCATED IN THE FIELD BY S. W. COLE ENGINEERING, INC. USING A MAPPING GRADE GPS RECEIVER.
3. THIS PLAN SHOULD BE USED IN CONJUNCTION WITH THE ASSOCIATED S. W. COLE ENGINEERING, INC. GEOTECHNICAL REPORT.
4. THE PURPOSE OF THIS PLAN IS ONLY TO DEPICT THE LOCATION OF THE EXPLORATIONS IN RELATION TO THE EXISTING CONDITIONS AND PROPOSED CONSTRUCTION AND IS NOT TO BE USED FOR CONSTRUCTION.

0 100 200 Feet

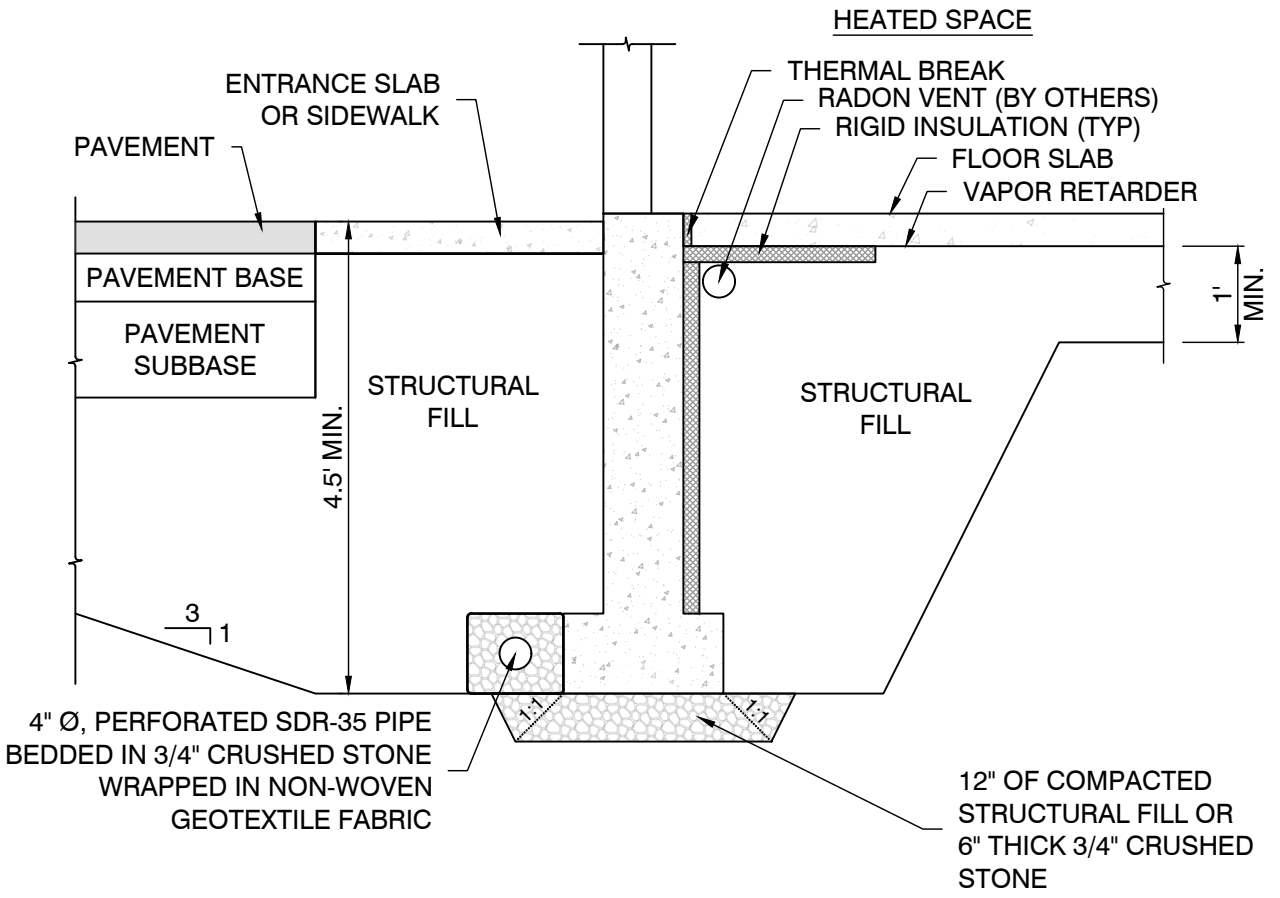
S.W. COLE ENGINEERING, INC.

ATLANTIC RESOURCE CONSULTANTS, LLC

EXPLORATION LOCATION PLAN

PROPOSED SENIOR LIVING FACILITY
CLIPPER SHIP SITE
PIPER MILL ROAD
DAMARISCOTTA, MAINE

Job No.:	22-0179	Scale:	1" = 50'
Date :	03/28/2022	Sheet:	1



NOTE:

1. UNDERDRAIN INSTALLATION AND MATERIAL GRADATION RECOMMENDATIONS ARE CONTAINED WITHIN THIS REPORT.

2. DETAIL IS PROVIDED FOR ILLUSTRATIVE PURPOSES ONLY, NOT FOR CONSTRUCTION.

S.W.COLE ENGINEERING, INC.

ATLANTIC RESOURCE CONSULTANTS, LLC

FOUNDATION DETAIL SKETCH

PROPOSED SENIOR LIVING FACILITY
CLIPPER SHIP SITE
PIPER MILL ROAD
DAMARISCOTTA, MAINE

Job No.:	22-0179	Scale:	Not to Scale
Date :	04/01/2022	Sheet:	2

APPENDIX C

Exploration Logs and Key

TEST PIT LOGS

CLIENT: Atlantic Resource Consultants, LLC
PROJECT: Proposed Senior Living Facility - Clipper Ship Site
LOCATION: Piper Mill Road, Damariscotta, ME

PROJECT NO.: 22-0179
LOGGED BY: Patrick Otto
CONTRACTOR: Hagar
EQUIPMENT: Kamatsu 238

TEST PIT TP- 1

DATE: 3/18/2022 **LOCATION:** See Exploration Location Plan **SURFACE ELEVATION (FT):** 74.5' Estimated **COMPLETION DEPTH (FT):** 11.0
WATER LEVEL DEPTHS (FT): No free water **REMARKS:**

Depth (feet)	Graphic Log	Stratum Description	H_20 Depth	Sample No.	Type	Sample Depth (ft)	Field / Lab Test Data
		Dark brown sandy SILT with roots					
		1.0 Gray-brown sandy SILT with roots					
		1.8 Very stiff to hard, brown silty CLAY with sand seams		S-1	☒	3-4	q_P=6 to 9 ksf
5		5.5 Brown silty gravelly SAND with cobbles and boulders					
10							

Bottom of Exploration at 11.0 feet

TEST PIT TP- 2

DATE: 3/17/2022 **LOCATION:** See Exploration Location Plan **SURFACE ELEVATION (FT):** 74' Estimated **COMPLETION DEPTH (FT):** 10.7
WATER LEVEL DEPTHS (FT): Free water at 1.5' **REMARKS:**

Depth (feet)	Graphic Log	Stratum Description	H_20 Depth	Sample No.	Type	Sample Depth (ft)	Field / Lab Test Data
		5" Forest duff / brown SAND and SILT with roots					
		1.5 Gray-brown silty CLAY with rootlets	▽ 1.5	S-1	☒	1.5-2.5 2-	q_P=8 to 9 ksf
		3.0 Very stiff, brown silty CLAY with sand seams		S-2	☒	3.5- 4-4.5	q_P=6 to 7 ksf
5						6-	q_P=5 ksf
		7.3 Brown silty SAND and GRAVEL with frequent cobbles		S-3	☒	9-10	
10		10.5					

Bottom of Exploration at 10.7 feet

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

KEY TO NOTES AND SYMBOLS:
Water Level
▽ At time of Digging
▼ At Completion of Digging
▼ After Digging

q_p = Pocket Penetrometer Strength, kips/sq.ft.

TEST PIT LOGS

CLIENT: Atlantic Resource Consultants, LLC
PROJECT: Proposed Senior Living Facility - Clipper Ship Site
LOCATION: Piper Mill Road, Damariscotta, ME

PROJECT NO.: 22-0179
LOGGED BY: Patrick Otto
CONTRACTOR: Hagar
EQUIPMENT: Kamatsu 238

TEST PIT TP- 3

DATE: 3/17/2022 **LOCATION:** See Exploration Location Plan **SURFACE ELEVATION (FT):** 71' Estimated **COMPLETION DEPTH (FT):** 3.2
WATER LEVEL DEPTHS (FT): Free water at 1' **REMARKS:**

Depth (feet)	Graphic Log	Stratum Description	H_20 Depth	Sample No.	Type	Sample Depth (ft)	Field / Lab Test Data
		0.3 3" Forest duff	▽ 1				
		Brown sandy SILT with roots					
		1.5 Brown silty SAND, some gravel with roots to 2.3'					

Refusal at 3.2 feet
Probable bedrock sloping from 3.2'-2'

TEST PIT TP- 3A

DATE: 3/17/2022 **LOCATION:** See Exploration Location Plan **SURFACE ELEVATION (FT):** 69.5' Estimated **COMPLETION DEPTH (FT):** 6.8
WATER LEVEL DEPTHS (FT): Free water at 0.8' **REMARKS:**

Depth (feet)	Graphic Log	Stratum Description	H_20 Depth	Sample No.	Type	Sample Depth (ft)	Field / Lab Test Data
		4" Forest duff / brown sandy SILT with roots and organics	▽ 0.8				
		1.8 Hard to very stiff, brown-gray silty CLAY, some sand				2.5-	q_P=8 to 9 ksf
5		4.5 Brown silty SAND, some gravel					
		6.1					

Refusal at 6.8 feet
Probable bedrock

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

KEY TO NOTES AND SYMBOLS:
Water Level
▽ At time of Digging
▼ At Completion of Digging
▼ After Digging

q_p = Pocket Penetrometer Strength, kips/sq.ft.

TEST PIT 22-0179.GPJ SWCE TEMPLATE.GDT 3/31/22

TEST PIT LOGS

CLIENT: Atlantic Resource Consultants, LLC
PROJECT: Proposed Senior Living Facility - Clipper Ship Site
LOCATION: Piper Mill Road, Damariscotta, ME

PROJECT NO.: 22-0179
LOGGED BY: Patrick Otto
CONTRACTOR: Hagar
EQUIPMENT: Kamatsu 238

TEST PIT TP- 4

DATE: 3/18/2022 **LOCATION:** See Exploration Location Plan **SURFACE ELEVATION (FT):** 77' Estimated **COMPLETION DEPTH (FT):** 7.5
WATER LEVEL DEPTHS (FT): Free water at 1' **REMARKS:**

Depth (feet)	Graphic Log	Stratum Description	H_20 Depth	Sample No.	Type	Sample Depth (ft)	Field / Lab Test Data
		Dark brown sandy SILT with organics and roots	▽ 1			2-	q_P=8 to 9 ksf
		0.8 Brown silty SAND with roots to 1'					
		1.7 Hard to very dense, brown sandy silty CLAY					
5		4.0 Brown silty SAND and GRAVEL with frequent cobbles and boulders, immovable boulder from 5-7' in one side of test pit					

Bottom of Exploration at 7.5 feet

TEST PIT TP- 5

DATE: 3/18/2022 **LOCATION:** See Exploration Location Plan **SURFACE ELEVATION (FT):** 72.5' Estimated **COMPLETION DEPTH (FT):** 8.0
WATER LEVEL DEPTHS (FT): Free water at 5.6' (light seepage) **REMARKS:**

Depth (feet)	Graphic Log	Stratum Description	H_20 Depth	Sample No.	Type	Sample Depth (ft)	Field / Lab Test Data
		Dark brown sandy SILT with organics and roots					
		1.0 Hard to very stiff, gray-brown clayey SILT/silty CLAY with rootlets to 1.5'					
5		4.5 Brown SAND and GRAVEL, some silt to silty with cobbles and boulders	▽ 5.6				

Bottom of Exploration at 8.0 feet

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

KEY TO NOTES AND SYMBOLS:
Water Level
▽ At time of Digging
▼ At Completion of Digging
▼ After Digging

q_p = Pocket Penetrometer Strength, kips/sq.ft.

TEST PIT LOGS

CLIENT: Atlantic Resource Consultants, LLC
PROJECT: Proposed Senior Living Facility - Clipper Ship Site
LOCATION: Piper Mill Road, Damariscotta, ME

PROJECT NO.: 22-0179
LOGGED BY: Patrick Otto
CONTRACTOR: Hagar
EQUIPMENT: Kamatsu 238

TEST PIT TP- 6

DATE: 3/17/2022 **LOCATION:** See Exploration Location Plan **SURFACE ELEVATION (FT):** 70' Estimated **COMPLETION DEPTH (FT):** 6.1
WATER LEVEL DEPTHS (FT): No free water observed **REMARKS:**

Depth (feet)	Graphic Log	Stratum Description	H_20 Depth	Sample No.	Type	Sample Depth (ft)	Field / Lab Test Data
		3" Forest duff / dark brown sandy SILT with roots					
		1.3 Gray-brown sandy clayey SILT					
		2.2 Very stiff to hard, brown sandy silty CLAY				3-	q_P=6 to 8 ksf
5							
		5.7 Brown silty SAND and GRAVEL					

Refusal at 6.1 feet
Probable bedrock

TEST PIT TP- 7

DATE: 3/18/2022 **LOCATION:** See Exploration Location Plan **SURFACE ELEVATION (FT):** 78' Estimated **COMPLETION DEPTH (FT):** 2.8
WATER LEVEL DEPTHS (FT): No free water observed **REMARKS:** Bedrock outcrop near test pit location

Depth (feet)	Graphic Log	Stratum Description	H_20 Depth	Sample No.	Type	Sample Depth (ft)	Field / Lab Test Data
		0.5 Dark brown sandy SILT with roots, organics					
		Brown silty SAND					
		1.9 Brown SAND and GRAVEL, some silt with fractured bedrock pieces					

Refusal at 2.8 feet
Probable bedrock

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

KEY TO NOTES AND SYMBOLS:
Water Level
▽ At time of Digging
▼ At Completion of Digging
▼ After Digging

q_p = Pocket Penetrometer Strength, kips/sq.ft.

TEST PIT LOGS

CLIENT: Atlantic Resource Consultants, LLC
PROJECT: Proposed Senior Living Facility - Clipper Ship Site
LOCATION: Piper Mill Road, Damariscotta, ME

PROJECT NO.: 22-0179
LOGGED BY: Patrick Otto
CONTRACTOR: Hagar
EQUIPMENT: Kamatsu 238

TEST PIT TP- 8

DATE: 3/18/2022 **LOCATION:** See Exploration Location Plan **SURFACE ELEVATION (FT):** 80' Estimated **COMPLETION DEPTH (FT):** 11.0
WATER LEVEL DEPTHS (FT): No free water observed **REMARKS:**

Depth (feet)	Graphic Log	Stratum Description	H_20 Depth	Sample No.	Type	Sample Depth (ft)	Field / Lab Test Data
		0.4 Dark brown sandy SILT Brown SAND and SILT, some clay with roots to 1'					
		2.0 Brown silty CLAY with sand seams				4-	q_P=8 to 9 ksf
5							
		6.2 Brown SAND and GRAVEL, some silt to silty					
10							

Bottom of Exploration at 11.0 feet

TEST PIT TP- 9

DATE: 3/18/2022 **LOCATION:** See Exploration Location Plan **SURFACE ELEVATION (FT):** 75.5' Estimated **COMPLETION DEPTH (FT):** 9.0
WATER LEVEL DEPTHS (FT): Free water at 8.5' **REMARKS:**

Depth (feet)	Graphic Log	Stratum Description	H_20 Depth	Sample No.	Type	Sample Depth (ft)	Field / Lab Test Data
		Dark brown sandy SILT with organics, roots					
		0.9 Gray-brown sandy silty CLAY/clayey SILT					
		3.0 Brown SAND and GRAVEL, some silt to silty with cobbles and immovable boulder in one side of test pit					
5							
		6.5 Brown gravelly SAND and SILT	▽ 8.5				

Refusal at 9.0 feet
Practical refusal - dense / boulder

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

KEY TO NOTES AND SYMBOLS:
Water Level
▽ At time of Digging
▼ At Completion of Digging
▼ After Digging

q_p = Pocket Penetrometer Strength, kips/sq.ft.

TEST PIT 22-0179.GPJ SWCE TEMPLATE.GDT 3/31/22

S.W.COLE ENGINEERING, INC.

TEST PIT LOGS

CLIENT: Atlantic Resource Consultants, LLC
PROJECT: Proposed Senior Living Facility - Clipper Ship Site
LOCATION: Piper Mill Road, Damariscotta, ME

PROJECT NO.: 22-0179
LOGGED BY: Patrick Otto
CONTRACTOR: Hagar
EQUIPMENT: Kamatsu 238

TEST PIT TP-10

DATE: 3/17/2022 **LOCATION:** See Exploration Location Plan **SURFACE ELEVATION (FT):** 68' Estimated **COMPLETION DEPTH (FT):** 9.5
WATER LEVEL DEPTHS (FT): No free water observed **REMARKS:**

Depth (feet)	Graphic Log	Stratum Description	H_20 Depth	Sample No.	Type	Sample Depth (ft)	Field / Lab Test Data
		3" Forest duff / dark brown sandy SILT with roots, organics					
		0.8 Brown silty SAND with roots					
		1.7 Brown silty gravelly SAND with frequent cobbles and boulders below 4'		S-1	☒	3-4	ID 13794A w =11.1 %
5							

Bottom of Exploration at 9.5 feet
Surficial boulders in test pit area

TEST PIT TP-11

DATE: 3/18/2022 **LOCATION:** See Exploration Location Plan **SURFACE ELEVATION (FT):** 83' Estimated **COMPLETION DEPTH (FT):** 12.0
WATER LEVEL DEPTHS (FT): No free water observed **REMARKS:**

Depth (feet)	Graphic Log	Stratum Description	H_20 Depth	Sample No.	Type	Sample Depth (ft)	Field / Lab Test Data
		"3 Forest duff / dark brown sandy SILT with roots, organics"					
		0.6 Rust brown- brown silty SAND with roots					
		1.8 Light brown silty SAND and GRAVEL, rootlets to 3.1' with cobbles and boulders					
5				S-1	☒	7-8	ID 13795A w =6.5 %
10							

Bottom of Exploration at 12.0 feet

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

KEY TO NOTES AND SYMBOLS:
Water Level
▽ At time of Digging
▼ At Completion of Digging
▼ After Digging

q_p = Pocket Penetrometer Strength, kips/sq.ft.

TEST PIT LOGS

CLIENT: Atlantic Resource Consultants, LLC
PROJECT: Proposed Senior Living Facility - Clipper Ship Site
LOCATION: Piper Mill Road, Damariscotta, ME

PROJECT NO.: 22-0179
LOGGED BY: Patrick Otto
CONTRACTOR: Hagar
EQUIPMENT: Kamatsu 238

TEST PIT TP-12

DATE: 3/18/2022 **LOCATION:** See Exploration Location Plan **SURFACE ELEVATION (FT):** 80' Estimated **COMPLETION DEPTH (FT):** 10.8
WATER LEVEL DEPTHS (FT): No free water observed **REMARKS:**

Depth (feet)	Graphic Log	Stratum Description	H_20 Depth	Sample No.	Type	Sample Depth (ft)	Field / Lab Test Data
		3" Forest duff / dark brown sandy SILT with roots, organics					
		0.6 Brown silty SAND with roots					
		1.7 Light brown SAND and GRAVEL, some silt to silty with frequent cobbles and boulders below 4'		S-1	☒	4-5	
5							
10							

Bottom of Exploration at 10.8 feet
Surficial boulders in test pit area

TEST PIT TP-13

DATE: 3/18/2022 **LOCATION:** See Exploration Location Plan **SURFACE ELEVATION (FT):** 70.5' Estimated **COMPLETION DEPTH (FT):** 11.0
WATER LEVEL DEPTHS (FT): Free water at 3' **REMARKS:**

Depth (feet)	Graphic Log	Stratum Description	H_20 Depth	Sample No.	Type	Sample Depth (ft)	Field / Lab Test Data
		3" Forest duff / dark brown sandy SILT with roots, organics					
		1.0 Rust brown to gray SAND and SILT with cobbles and rootlets to 3'					
		2.0 Brown SAND and GRAVEL, some silt to silty with cobbles and boulders below 7'	▽ 3				
5							
10							

Bottom of Exploration at 11.0 feet
Surficial boulders in test pit area

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

KEY TO NOTES AND SYMBOLS:
Water Level
▽ At time of Digging
▼ At Completion of Digging
▼ After Digging

q_p = Pocket Penetrometer Strength, kips/sq.ft.

TEST PIT 22-0179.GPJ SWCE TEMPLATE.GDT 3/31/22

TEST PIT LOGS

CLIENT: Atlantic Resource Consultants, LLC
PROJECT: Proposed Senior Living Facility - Clipper Ship Site
LOCATION: Piper Mill Road, Damariscotta, ME

PROJECT NO.: 22-0179
LOGGED BY: Patrick Otto
CONTRACTOR: Hagar
EQUIPMENT: Kamatsu 238

TEST PIT TP-14

DATE: 3/17/2022 **LOCATION:** See Exploration Location Plan **SURFACE ELEVATION (FT):** 73.5' Estimated **COMPLETION DEPTH (FT):** 9.0
WATER LEVEL DEPTHS (FT): Free water at 8.5' **REMARKS:**

Depth (feet)	Graphic Log	Stratum Description	H_20 Depth	Sample No.	Type	Sample Depth (ft)	Field / Lab Test Data
		4" Forest duff / dark brown SAND and SILT					
		1.7 Hard to very stiff, brown silty CLAY, some sand				2-	q_P=7 to 9 ksf
						3-	q_P=9 ksf
5						4.5-	q_P=9 ksf
		5.3 Brown SAND and GRAVEL with cobbles	▽ 8.5				

Refusal at 9.0 feet
Probable large boulder / bedrock sloping from 9'-7'

TEST PIT TP-15

DATE: 3/17/2022 **LOCATION:** See Exploration Location Plan **SURFACE ELEVATION (FT):** 74' Estimated **COMPLETION DEPTH (FT):** 10.1
WATER LEVEL DEPTHS (FT): Free water at 7.5' (heavy seapage) **REMARKS:**

Depth (feet)	Graphic Log	Stratum Description	H_20 Depth	Sample No.	Type	Sample Depth (ft)	Field / Lab Test Data
		3" Forest duff / rust brown SAND and SILT with roots					
		1.3 Gray-brown SAND and SILT					
		2.0 Hard to very stiff, brown silty CLAY with sand seams				2-	q_P=8 ksf
5		5.3 Brown silty gravelly SAND					
		6.5 Brown SAND and GRAVEL, some silt with frequent cobbles and boulders	▽ 7.5				
10							

Bottom of Exploration at 10.1 feet

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KEY TO NOTES AND SYMBOLS:
Water Level
▽ At time of Digging
▼ At Completion of Digging
▼ After Digging

q_p = Pocket Penetrometer Strength, kips/sq.ft.

TEST PIT LOGS

CLIENT: Atlantic Resource Consultants, LLC
PROJECT: Proposed Senior Living Facility - Clipper Ship Site
LOCATION: Piper Mill Road, Damariscotta, ME

PROJECT NO.: 22-0179
LOGGED BY: Patrick Otto
CONTRACTOR: Hagar
EQUIPMENT: Kamatsu 238

TEST PIT TP-16

DATE: 3/18/2022 **LOCATION:** See Exploration Location Plan **SURFACE ELEVATION (FT):** 74.5' Estimated **COMPLETION DEPTH (FT):** 9.8
WATER LEVEL DEPTHS (FT): No free water observed **REMARKS:**

Depth (feet)	Graphic Log	Stratum Description	H_20 Depth	Sample No.	Type	Sample Depth (ft)	Field / Lab Test Data
		2" Forest duff / dark brown sandy SILT with organics					
		0.9 Hard to very stiff, brown sandy silty CLAY/clayey SILT with roots to 1.5'				2-	q_P=6 to 9 ksf
		2.7 Brown silty gravelly SAND with cobbles and boulders, immovable boulder one side of test pit					
5							

Bottom of Exploration at 9.8 feet

TEST PIT TP-17

DATE: 3/18/2022 **LOCATION:** See Exploration Location Plan **SURFACE ELEVATION (FT):** 76' Estimated **COMPLETION DEPTH (FT):** 9.7
WATER LEVEL DEPTHS (FT): No free water observed **REMARKS:**

Depth (feet)	Graphic Log	Stratum Description	H_20 Depth	Sample No.	Type	Sample Depth (ft)	Field / Lab Test Data
		0.5 2" Forest duff / dark brown sandy SILT with organics					
		Gray-brown sandy clayey SILT with roots and rootlets to 2'					
		1.9 Very stiff to stiff, brown silty CLAY with sand seams				2-	q_P=6 to 8 ksf
						3-	q_P=8 ksf
5		5.0 Brown silty gravelly SAND with cobbles and boulders				4.5-	q_P=4.5 to 6 ksf

Bottom of Exploration at 9.7 feet

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KEY TO NOTES AND SYMBOLS:
Water Level
▽ At time of Digging
▼ At Completion of Digging
▼ After Digging

q_p = Pocket Penetrometer Strength, kips/sq.ft.

TEST PIT LOGS

CLIENT: Atlantic Resource Consultants, LLC
PROJECT: Proposed Senior Living Facility - Clipper Ship Site
LOCATION: Piper Mill Road, Damariscotta, ME

PROJECT NO.: 22-0179
LOGGED BY: Patrick Otto
CONTRACTOR: Hagar
EQUIPMENT: Kamatsu 238

TEST PIT TP-18

DATE: 3/17/2022 **LOCATION:** See Exploration Location Plan **SURFACE ELEVATION (FT):** 72' Estimated **COMPLETION DEPTH (FT):** 8.0
WATER LEVEL DEPTHS (FT): Free water at 2' and 7.5' **REMARKS:**

Depth (feet)	Graphic Log	Stratum Description	H_20 Depth	Sample No.	Type	Sample Depth (ft)	Field / Lab Test Data
		3" Forest duff / brown silty SAND with organics					
		1.3 Gray-brown sandy SILT	▽ 2				
		2.5 Hard to very stiff, gray-brown silty CLAY, some sand, cobble at 5'				2.5-	q_P=5 to 8 ksf
						3-	q_P=7 to 9 ksf
5							
						6-	q_P=6 ksf
		7.5 Brown silty SAND, some gravel					

Refusal at 8.0 feet
Probable bedrock

TEST PIT TP-19

DATE: 3/18/2022 **LOCATION:** See Exploration Location Plan **SURFACE ELEVATION (FT):** 64.5' Estimated **COMPLETION DEPTH (FT):** 9.7
WATER LEVEL DEPTHS (FT): Free water at 1.5' **REMARKS:**

Depth (feet)	Graphic Log	Stratum Description	H_20 Depth	Sample No.	Type	Sample Depth (ft)	Field / Lab Test Data
		Dark brown sandy SILT with roots and organics					
		0.6 Brown SAND and SILT with roots	▽ 1.5				
		1.7 Hard to very stiff, brown silty CLAY					
						3-	q_P=8 to 9 ksf
5						5-	q_P=8 to 9 ksf
		5.5 Stiff, gray-brown silty CLAY					
						7-	q_P=3.5 to 4.5 ksf
						8-	q_P=2.5 to 3 ksf
		8.6 Brown silty gravelly SAND with gray silt seams					

Bottom of Exploration at 9.7 feet

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KEY TO NOTES AND SYMBOLS:
Water Level
▽ At time of Digging
▼ At Completion of Digging
▼ After Digging

q_p = Pocket Penetrometer Strength, kips/sq.ft.

TEST PIT LOGS

CLIENT: Atlantic Resource Consultants, LLC
PROJECT: Proposed Senior Living Facility - Clipper Ship Site
LOCATION: Piper Mill Road, Damariscotta, ME

PROJECT NO.: 22-0179
LOGGED BY: Patrick Otto
CONTRACTOR: Hagar
EQUIPMENT: Kamatsu 238

TEST PIT TP-20

DATE: 3/18/2022 **LOCATION:** See Exploration Location Plan **SURFACE ELEVATION (FT):** 58' Estimated **COMPLETION DEPTH (FT):** 5.5
WATER LEVEL DEPTHS (FT): No free water observed **REMARKS:**

Depth (feet)	Graphic Log	Stratum Description	H_20 Depth	Sample No.	Type	Sample Depth (ft)	Field / Lab Test Data
		0.3 Dark brown sandy SILT with roots, organics					
		Very stiff, gray sandy SILT with rootlets					
		2.2 Very stiff to hard, brown silty CLAY				2.2-	q_P=8 to 9 ksf
		3.7 Brown gravelly SAND and SILT with cobbles and boulders					
5							

Bottom of Exploration at 5.5 feet

TEST PIT TP-21

DATE: 3/17/2022 **LOCATION:** See Exploration Location Plan **SURFACE ELEVATION (FT):** 60.5' Estimated **COMPLETION DEPTH (FT):** 8.2
WATER LEVEL DEPTHS (FT): Free water at 2' (heavy seapage) **REMARKS:**

Depth (feet)	Graphic Log	Stratum Description	H_20 Depth	Sample No.	Type	Sample Depth (ft)	Field / Lab Test Data
		Forest duff					
		0.6 Rust brown silty SAND, trace gravel with roots					
		1.3 Brown SAND and SILT with roots to 1.5'	▽ 2				
		2.5 Brown silty SAND and GRAVEL with cobbles and boulders					
5							

Bottom of Exploration at 8.2 feet

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KEY TO NOTES AND SYMBOLS:
Water Level
▽ At time of Digging
▼ At Completion of Digging
▼ After Digging

q_p = Pocket Penetrometer Strength, kips/sq.ft.

TEST PIT LOGS

CLIENT: Atlantic Resource Consultants, LLC
PROJECT: Proposed Senior Living Facility - Clipper Ship Site
LOCATION: Piper Mill Road, Damariscotta, ME

PROJECT NO.: 22-0179
LOGGED BY: Patrick Otto
CONTRACTOR: Hagar
EQUIPMENT: Kamatsu 238

TEST PIT TP-22

DATE: 3/17/2022 **LOCATION:** See Exploration Location Plan **SURFACE ELEVATION (FT):** 67.5' Estimated **COMPLETION DEPTH (FT):** 9.1
WATER LEVEL DEPTHS (FT): Free water at 1.2' (Light seepage) **REMARKS:**

Depth (feet)	Graphic Log	Stratum Description	H_20 Depth	Sample No.	Type	Sample Depth (ft)	Field / Lab Test Data
		3" Forest duff / brown silty SAND with roots	▽ 1.2				
		1.2 Gray-brown sandy SILT, some clay					
5							
		6.0 Brown gravelly SAND					

Refusal at 9.1 feet
Probable bedrock sloping from 9.1'-7.7'

TEST PIT TP-23

DATE: 3/17/2022 **LOCATION:** See Exploration Location Plan **SURFACE ELEVATION (FT):** 70' Estimated **COMPLETION DEPTH (FT):** 7.8
WATER LEVEL DEPTHS (FT): No free water observed **REMARKS:**

Depth (feet)	Graphic Log	Stratum Description	H_20 Depth	Sample No.	Type	Sample Depth (ft)	Field / Lab Test Data
		3" Forest duff / dark brown SAND and SILT with organics and roots					
		1.0 Brown silty SAND					
		1.4 Gray-brown sandy SILT, some clay with rootlets					
		3.5 Brown SAND and SILT, some clay, some gravel with cobbles					
5							

Refusal at 7.8 feet
Probable bedrock

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

KEY TO NOTES AND SYMBOLS:
Water Level
▽ At time of Digging
▼ At Completion of Digging
▼ After Digging

q_p = Pocket Penetrometer Strength, kips/sq.ft.

TEST PIT LOGS

CLIENT: Atlantic Resource Consultants, LLC
PROJECT: Proposed Senior Living Facility - Clipper Ship Site
LOCATION: Piper Mill Road, Damariscotta, ME

PROJECT NO.: 22-0179
LOGGED BY: Patrick Otto
CONTRACTOR: Hagar
EQUIPMENT: Kamatsu 238

TEST PIT TP-24

DATE: 3/17/2022 **LOCATION:** See Exploration Location Plan **SURFACE ELEVATION (FT):** 67.5' Estimated **COMPLETION DEPTH (FT):** 7.0
WATER LEVEL DEPTHS (FT): Free water at 2' (light seapage at 2' and 6') **REMARKS:**

Depth (feet)	Graphic Log	Stratum Description	H_20 Depth	Sample No.	Type	Sample Depth (ft)	Field / Lab Test Data
5		3" Forest duff / dark brown silty SAND with organics, roots 0.8 Light brown silty SAND with roots organics 1.1 Gray-brown SAND and SILT 1.8 Brown silty CLAY with sand seams	▽ 2				
		5.7 Brown silty gravelly SAND					

Refusal at 7.0 feet
Probable large boulder / bedrock

TEST PIT TP-25

DATE: 3/17/2022 **LOCATION:** See Exploration Location Plan **SURFACE ELEVATION (FT):** 70' Estimated **COMPLETION DEPTH (FT):** 9.7
WATER LEVEL DEPTHS (FT): Free water at 7' (heavy seapage) **REMARKS:**

Depth (feet)	Graphic Log	Stratum Description	H_20 Depth	Sample No.	Type	Sample Depth (ft)	Field / Lab Test Data
5		3" Forest duff / brown silty SAND with roots 1.4 Brown silty gravelly SAND, with frequent cobbles	▽ 7	S-1	☒	7-8	ID 13796A w =10.1 %

Bottom of Exploration at 9.7 feet

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

KEY TO NOTES AND SYMBOLS:
Water Level
▽ At time of Digging
▼ At Completion of Digging
▼ After Digging

q_p = Pocket Penetrometer Strength, kips/sq.ft.

TEST PIT LOGS

CLIENT: Atlantic Resource Consultants, LLC
PROJECT: Proposed Senior Living Facility - Clipper Ship Site
LOCATION: Piper Mill Road, Damariscotta, ME

PROJECT NO.: 22-0179
LOGGED BY: Patrick Otto
CONTRACTOR: Hagar
EQUIPMENT: Kamatsu 238

TEST PIT TP-26

DATE: 3/17/2022 **LOCATION:** See Exploration Location Plan **SURFACE ELEVATION (FT):** 70.5' Estimated **COMPLETION DEPTH (FT):** 10.3
WATER LEVEL DEPTHS (FT): Soils wet below 8.4' **REMARKS:**

Depth (feet)	Graphic Log	Stratum Description	H_20 Depth	Sample No.	Type	Sample Depth (ft)	Field / Lab Test Data
		3" Forest duff / brown silty SAND with organics					
		1.0 Gray-brown SILT and SAND					
		2.3 Very stiff, brown silty CLAY					
5						7-	q_P=7 ksf
			▽ 8.4				
		8.4 Brown gravelly silty SAND with cobbles					
10							

Bottom of Exploration at 10.3 feet

TEST PIT TP-27

DATE: 3/17/2022 **LOCATION:** See Exploration Location Plan **SURFACE ELEVATION (FT):** 73.5' Estimated **COMPLETION DEPTH (FT):** 10.5
WATER LEVEL DEPTHS (FT): Free water at 6' **REMARKS:**

Depth (feet)	Graphic Log	Stratum Description	H_20 Depth	Sample No.	Type	Sample Depth (ft)	Field / Lab Test Data
		3" Forest duff / brown sandy SILT with organics and roots					
		1.4 Very stiff to medium, gray-brown silty CLAY with sand seams					
5			▽ 6			8-	q_P=2 to 3 ksf
		8.8 Brown silty gravelly SAND with cobbles					
10							

Bottom of Exploration at 10.5 feet

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

KEY TO NOTES AND SYMBOLS:
Water Level
▽ At time of Digging
▼ At Completion of Digging
▼ After Digging

q_p = Pocket Penetrometer Strength, kips/sq.ft.

TEST PIT 22-0179.GPJ SWCE TEMPLATE.GDT 3/31/22

TEST PIT LOGS

CLIENT: Atlantic Resource Consultants, LLC
PROJECT: Proposed Senior Living Facility - Clipper Ship Site
LOCATION: Piper Mill Road, Damariscotta, ME

PROJECT NO.: 22-0179
LOGGED BY: Patrick Otto
CONTRACTOR: Hagar
EQUIPMENT: Kamatsu 238

TEST PIT TP-28

DATE: 3/17/2022 **LOCATION:** See Exploration Location Plan **SURFACE ELEVATION (FT):** 67' Estimated **COMPLETION DEPTH (FT):** 7.9
WATER LEVEL DEPTHS (FT): Free water at 1.9' **REMARKS:**

Depth (feet)	Graphic Log	Stratum Description	H_20 Depth	Sample No.	Type	Sample Depth (ft)	Field / Lab Test Data
		4" Forest duff / brown silty SAND with organics and roots					
		1.1 Dark gray-brown SAND and SILT					
		1.7 Very hard, gray-brown sandy clayey SILT	▽ 1.9			4-	q_P=8 ksf
5							
		5.8 Brown silty SAND and GRAVEL					

Refusal at 7.9 feet
Probable bedrock

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

KEY TO NOTES AND SYMBOLS:
Water Level
▽ At time of Digging
▼ At Completion of Digging
▼ After Digging

q_p = Pocket Penetrometer Strength, kips/sq.ft.

KEY TO NOTES & SYMBOLS
Test Boring and Test Pit Explorations

Stratification lines represent the approximate boundary between soil types and the transition may be gradual.

Key to Symbols Used:

w	-	water content, percent (dry weight basis)
q_u	-	unconfined compressive strength, kips/sq. ft. - laboratory test
S_v	-	field vane shear strength, kips/sq. ft.
L_v	-	lab vane shear strength, kips/sq. ft.
q_p	-	unconfined compressive strength, kips/sq. ft. – pocket penetrometer test
O	-	organic content, percent (dry weight basis)
W_L	-	liquid limit - Atterberg test
W_P	-	plastic limit - Atterberg test
WOH	-	advance by weight of hammer
WOM	-	advance by weight of man
WOR	-	advance by weight of rods
HYD	-	advance by force of hydraulic piston on drill
RQD	-	Rock Quality Designator - an index of the quality of a rock mass.
γ_T	-	total soil weight
γ_B	-	buoyant soil weight

Description of Proportions:

Trace:	0 to 5%
Some:	5 to 12%
"Y"	12 to 35%
And	35+%
With	Undifferentiated

Description of Stratified Soils

Parting:	0 to 1/16" thickness
Seam:	1/16" to 1/2" thickness
Layer:	½" to 12" thickness
Varved:	Alternating seams or layers
Occasional:	one or less per foot of thickness
Frequent:	more than one per foot of thickness

REFUSAL: **Test Boring Explorations** - Refusal depth indicates that depth at which, in the drill foreman's opinion, sufficient resistance to the advance of the casing, auger, probe rod or sampler was encountered to render further advance impossible or impracticable by the procedures and equipment being used.

REFUSAL: **Test Pit Explorations** - Refusal depth indicates that depth at which sufficient resistance to the advance of the backhoe bucket was encountered to render further advance impossible or impracticable by the procedures and equipment being used.

Although refusal may indicate the encountering of the bedrock surface, it may indicate the striking of large cobbles, boulders, very dense or cemented soil, or other buried natural or man-made objects or it may indicate the encountering of a harder zone after penetrating a considerable depth through a weathered or disintegrated zone of the bedrock.

APPENDIX D

Laboratory Test Results

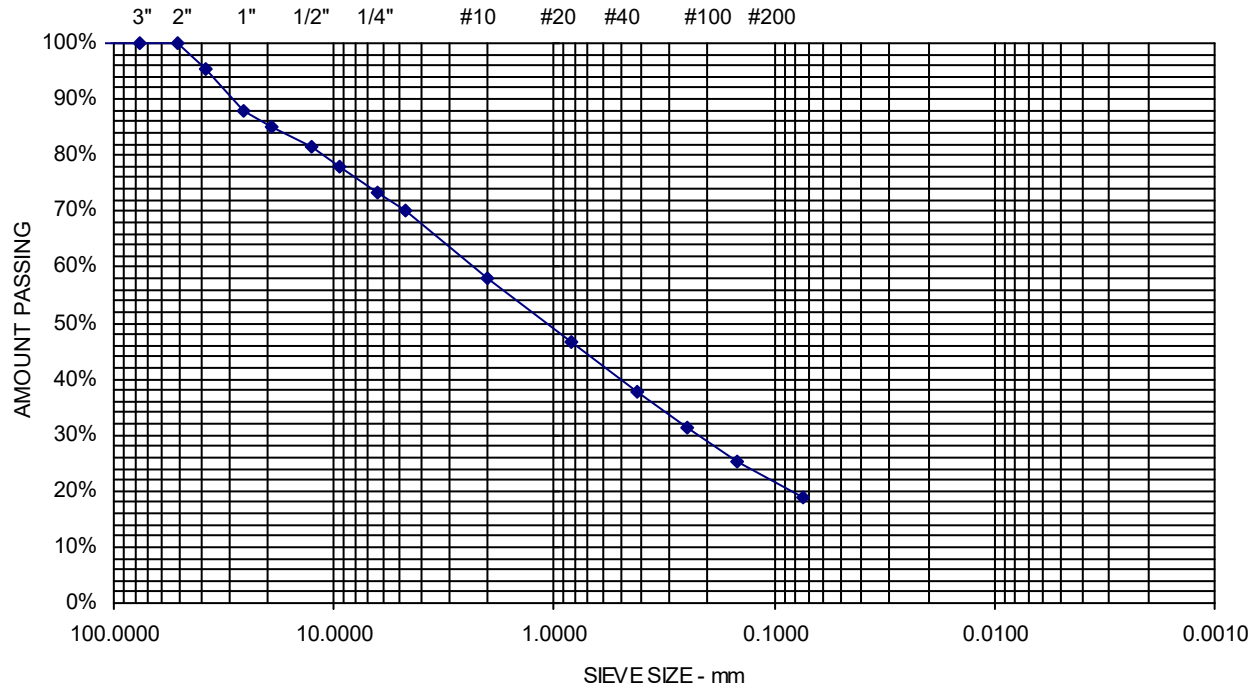
S.W.COLE ENGINEERING, INC.

Report of Gradation

ASTM C-117 & C-136

Project Name	DAMARISCOTTA ME - PROPOSED NURSING HOME FACILITY - EXPLORATIONS AND GEOTECHNICAL ENGINEERING SERVICES	Project Number	22-0179
Client	ATLANTIC RESOURCE CONSULTANTS, LLC	Lab ID	13794A
		Date Received	3/23/2022
		Date Completed	3/30/2022
Material Source	**TP-10, S-1, 3-4 FT**	Tested By	ERNEST FORGIONE JR

STANDARD DESIGNATION (mm/µm)	SIEVE SIZE	AMOUNT PASSING (%)	
150 mm	**6"**	**100**	
100 mm	**4"**	**100**	
75 mm	**3"**	**100**	
50 mm	**2"**	**100**	
38.1 mm	**1-1/2"**	**95**	
25.0 mm	**1"**	**88**	
19.0 mm	**3/4"**	**85**	
12.5 mm	**1/2"**	**81**	
9.5 mm	**3/8"**	**78**	
6.3 mm	**1/4"**	**73**	
4.75 mm	**No. 4**	**70**	29.9% Gravel
2.00 mm	**No. 10**	**58**	
850 um	**No. 20**	**46**	
425 um	**No. 40**	**38**	51.3% Sand
250 um	**No. 60**	**31**	
150 um	**No. 100**	**25**	
75 um	**No. 200**	**18.8**	18.8% Fines



Comments: As Delivered MC: 11.1%

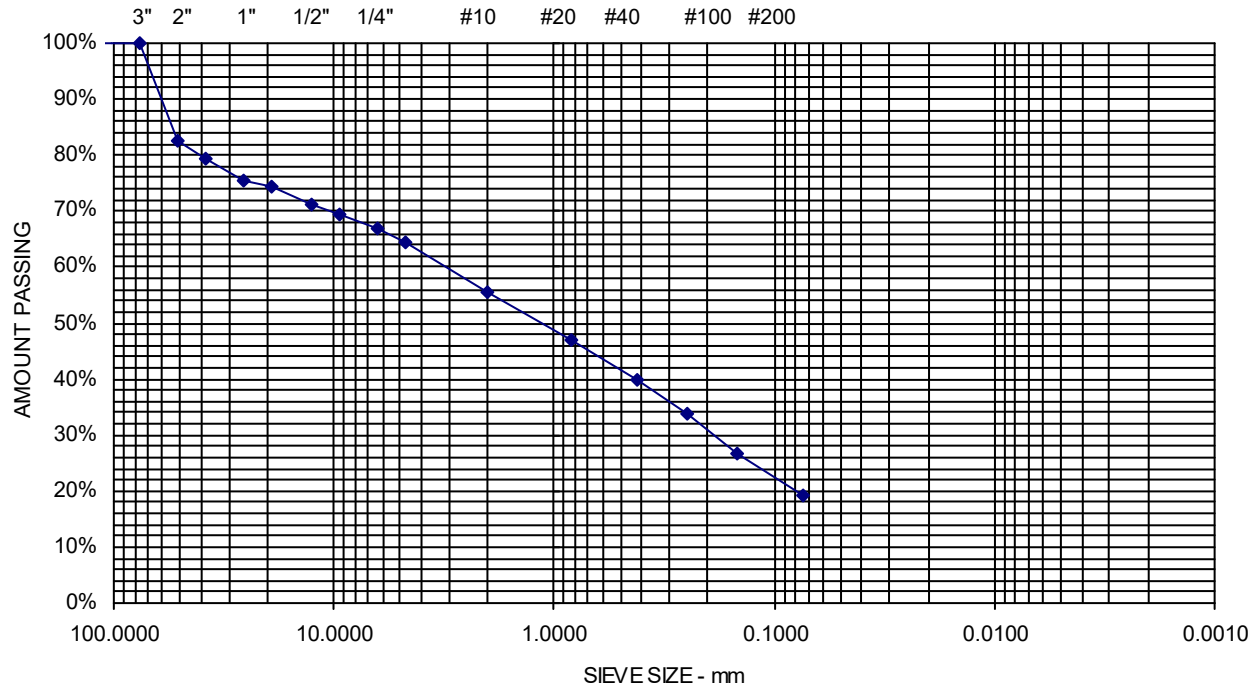
S.W.COLE ENGINEERING, INC.

Report of Gradation

ASTM C-117 & C-136

Project Name	DAMARISCOTTA ME - PROPOSED NURSING HOME FACILITY - EXPLORATIONS AND GEOTECHNICAL ENGINEERING SERVICES	Project Number	22-0179
Client	ATLANTIC RESOURCE CONSULTANTS, LLC	Lab ID	13795A
		Date Received	3/23/2022
		Date Completed	3/30/2022
Material Source	**TP-11, S-1, 7-8 FT**	Tested By	ERNEST FORGIONE JR

STANDARD DESIGNATION (mm/µm)	SIEVE SIZE	AMOUNT PASSING (%)	
150 mm	**6"**	**100**	
100 mm	**4"**	**100**	
75 mm	**3"**	**100**	
50 mm	**2"**	**83**	
38.1 mm	**1-1/2"**	**79**	
25.0 mm	**1"**	**75**	
19.0 mm	**3/4"**	**74**	
12.5 mm	**1/2"**	**71**	
9.5 mm	**3/8"**	**70**	
6.3 mm	**1/4"**	**67**	
4.75 mm	**No. 4**	**64**	35.6% Gravel
2.00 mm	**No. 10**	**55**	
850 um	**No. 20**	**47**	
425 um	**No. 40**	**40**	45.1% Sand
250 um	**No. 60**	**34**	
150 um	**No. 100**	**27**	
75 um	**No. 200**	**19.3**	19.3% Fines



Comments: As Delivered MC: 6.5%

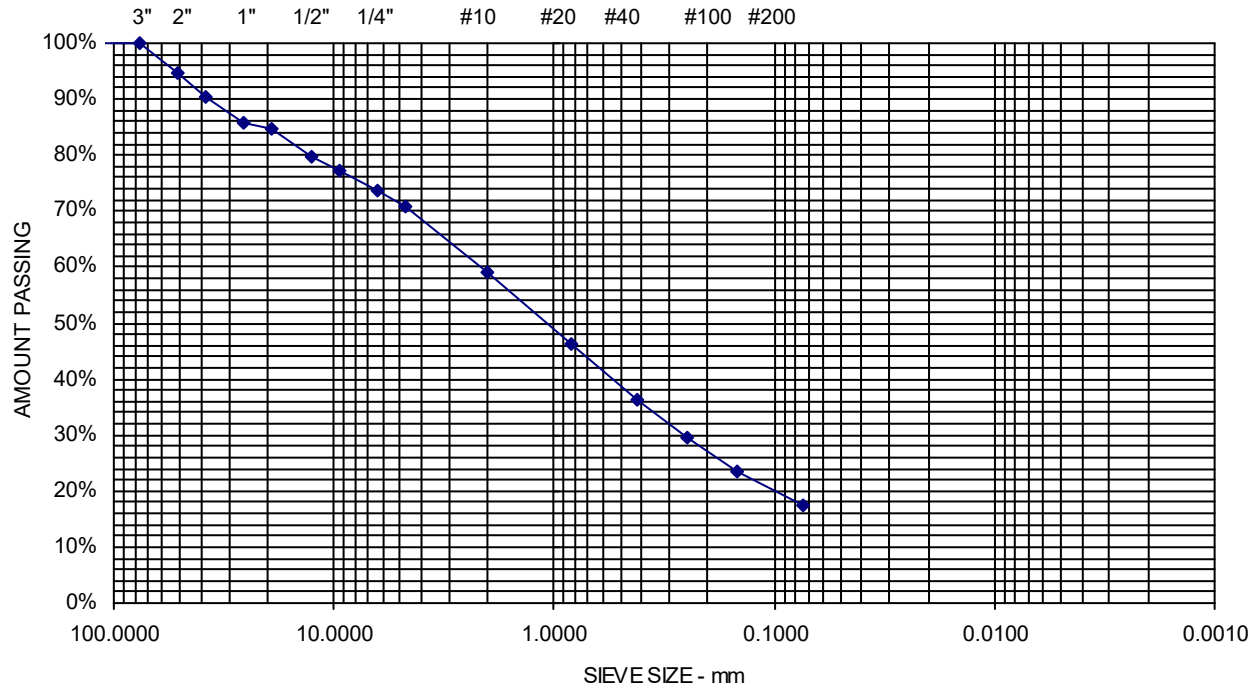
S.W.COLE ENGINEERING, INC.

Report of Gradation

ASTM C-117 & C-136

Project Name	DAMARISCOTTA ME - PROPOSED NURSING HOME FACILITY - EXPLORATIONS AND GEOTECHNICAL ENGINEERING SERVICES	Project Number	22-0179
Client	ATLANTIC RESOURCE CONSULTANTS, LLC	Lab ID	13796A
		Date Received	3/23/2022
		Date Completed	3/30/2022
Material Source	**TP-25, S-1, 7-8 FT**	Tested By	ERNEST FORGIONE JR

STANDARD DESIGNATION (mm/µm)	SIEVE SIZE	AMOUNT PASSING (%)	
150 mm	**6"**	**100**	
100 mm	**4"**	**100**	
75 mm	**3"**	**100**	
50 mm	**2"**	**95**	
38.1 mm	**1-1/2"**	**90**	
25.0 mm	**1"**	**86**	
19.0 mm	**3/4"**	**85**	
12.5 mm	**1/2"**	**80**	
9.5 mm	**3/8"**	**77**	
6.3 mm	**1/4"**	**74**	
4.75 mm	**No. 4**	**71**	29.3% Gravel
2.00 mm	**No. 10**	**59**	
850 um	**No. 20**	**46**	
425 um	**No. 40**	**36**	53.1% Sand
250 um	**No. 60**	**30**	
150 um	**No. 100**	**23**	
75 um	**No. 200**	**17.5**	17.5% Fines



Comments: As Delivered MC: 10.1%

ATTACHMENT C

BLASTING SPECIFICATIONS

SECTION 312316 – ROCK REMOVAL

PART 1 - GENERAL

Rock removal shall be completed as required to complete the work of this contract. The base bid includes the rock removal allowance specified in the allowance section of the contract. An adjustment will be made to the contract amount for the actual rock removal as part of the contract, in accordance with the unit prices stipulated herein.

The work to be done includes furnishing all labor, equipment, materials and services and performing operations required to fragment intact bedrock utilizing controlled blasting techniques to enable the excavation of blasted material using conventional excavation equipment. The work shall be completed such that damage is prevented to adjacent pipes, structures, property, utilities, and operations.

1.1 RELATED DOCUMENTS

A. 023200 - Geotechnical Investigation

B. 312000 - Earth Moving

C. Maine Department of Environmental Protection Site Location of Development Act Permit

1.2 SUMMARY

A. Section Includes:

1. Contractor Qualifications.
2. Regulatory Requirements
3. Pre-blast Surveys, Meetings, and Quality Control.
4. Removal of identified and discovered rock during excavation.
5. Use of Explosives to assist rock removal.
6. Incorporating removed rock into fills and embankments.
7. Conducting blast monitoring of every blast round during construction and utilizing the blast monitoring procedures and equipment specified herein.
8. Blasting in the existing school foundation area for utilities.
9. Coordinate work with other trades affecting or affected by the work and cooperate with such trades to assure the steady progress of work.
10. Obtaining all required permits and licenses to perform the blasting for this project.

11. The Owner and Design Engineer reserve the right to adjust and modify the design o reduce rock or boulder removal that may be required for the project.

B. Related Sections:

1. Geotechnical Report for boring locations and findings of subsurface materials and conditions.
2. Construction Drawings

1.3 REFERENCE STANDARDS

A. NFPA 495 – Code for Explosive Materials

1.4 ENVIRONMENTAL REQUIREMENTS

A. Determine all environmental effects associated with proposed work and safeguard those concerns as regulated by law and all others by reasonable and practiced methods.

B. This project is subject to licensure through Maine Department of Environmental Protection Site Location of Development Act. The Site Contractor and Blasting Sub-Contractor shall familiarize themselves with the details and written conditions of the permit prior to engaging in work on this project.

C. Perchlorates shall not be used as a blasting agent.

D. Coordinate blasting, monitoring, seismographs.

1.5 SUBMITTALS

A. The Site Contractor shall submit the following information to the Owner and Engineer a minimum of fourteen (14) days prior to commencing drilling and blasting operations. Technical Submittals and blast designs shall be completed by experienced, competent Engineers familiar with controlled blasting.

1. Sequence and schedule of blasting rounds, including the general method developing the excavation, lift heights, etc.

2. Specifics of a typical blast round to be implemented in each of the following areas:

(a) test blast areas,

(b) the closest blasting area to adjacent structures,

(c) where perimeter control blasting is required and

(d) at the deepest rock cut areas.

3. In each area specified, include the following blast round details:

   (a) Diameter, spacing, burden, depth and orientation of each blast hole for each round design.

   (b) Nomenclature and amount (in terms of weight and number of cartridges) of explosive and distribution of charge to be used within each hole, on each delay and the total for the blast.

   (c) Nomenclature and type of detonators, delay pattern wiring diagram for the round, type and capacity of firing source, size, type and location of safety switches and lightening gap.

   (d) Type and location of stemming to be used in the holes.

   (e) Calculations of anticipated vibration levels at nearest adjacent structure.

   (f) Methods of matting or covering of the blast area in open excavations to prevent fly rock and excessive air-blast over-pressure.

   (g) Written evidence of the licensing, experience and qualifications of the blasters who will be directly responsible for the loading and firing of each shot.

   (h) Name and qualifications of the person(s) responsible for the design and directing the blasting.

   (i) Name and qualifications of the independent professional responsible for conducting the pre-blast condition surveys.

   (j) Name and qualifications of the independent professional or seismologist responsible for monitoring and reporting blast vibrations.

   (k) Recent calibration certificates (within previous 6 months) for the proposed blast monitoring instrumentation.

   (l) Listing of instrumentation that the Site Contractor proposed to use to monitor vibrations and air-blast over-pressure levels complete with performance specifications and users manual supplied by the manufacturer.

   (m) Submit a Certificate of Insurance documenting that liability insurance coverage in an amount no less than $2,000,000, or as otherwise required by the Owner, will be in force during the duration of the project.

   (n) Pre-blast condition surveys for neighboring residential and commercial property. A written report of the pre-condition survey shall be provided to the property owners. Notification shall be given to the neighbors prior to the commencement of any blasting.

   (o) The Site Contractor shall perform a pre-blast survey of nearby structures as specified in this specification. The survey will include, as a minimum, video with audio description of areas of exterior and interior building surfaces. One copy will be maintained by the Site Contractor and one copy shall be supplied to the Owner.

B. In the event that the ground vibrations and/or air blast over-pressures exceed the blasting limit criteria in this Section, the Site Contractor shall immediately revise the design appropriately and submit the revised design to the Engineer for review.

C. Review by the Engineer or Owner of the blast design and techniques shall not relieve the Site Contractor of responsibility for the accuracy, adequacy and safety of the blasting as well as the protection of existing structures and overall safety. Loose, over-hanging or unstable rock along permanent rock cuts shall be removed as necessary or as directed by the Engineer. Controlled blasting procedures shall be utilized in areas of permanent rock cuts to minimize over-breakage and fracturing.

D. The material that will be used including MSDS Data Sheets.

E. Perchlorates are not permitted as a blasting agent.

F. Blasting agents used below the water table shall be canister type.

1.6 MEETINGS

A. The Site Contractor and the contractor who will conduct the rock removal shall attend a Pre-Blast Meeting with the Owner and Owner's representative to address questions and explain the techniques and methods which will be used for rock removal. This meeting shall occur at least 14 days prior to any rock removal.

1.7 QUALITY ASSURANCE

A. Qualifications

1. Rock removal shall only be conducted by qualified contractors who have at least 15 years experience in rock removal by blasting and have five recent projects and references for rock removal within 100 feet of existing buildings. The qualifications of the contractor who will conduct the rock removal shall be provided for review at the preconstruction conference. Persons responsible for blasting shall be licensed blasters in the State of Maine and shall have had experience in similar excavations in rock and controlled blasting techniques.

2. The Site Contractor shall engage the services of a qualified, independent professional consultant, acceptable to the Engineer, to conduct a pre-blast condition survey of adjacent buildings, utilities and other concerned structures within 1,000 ft. of the blast or as required by Code, whichever is greater.

3. Blast monitoring shall be conducted by a qualified professional engineer or seismologist trained in the use of seismographs. The name and experience of the seismologist shall be submitted to the Owner for review and approval. The seismologist shall also attend the public informational meeting. The blast records shall be maintained, analyzed and reported by persons familiar with the frequency content of a seismograph record.

B. Codes, Permits and Regulations

1. The Site Contractor shall comply with all applicable laws, rules, ordinances and regulations of the Federal Government, the State of Maine, and the Owner governing the transportation, storage, handling and use of explosives. All labor, material, equipment and

services necessary to make a blasting operation comply with such requirements shall be provided without additional cost to the Owner.

2. The Site Contractor shall obtain and pay for all permits and licenses required to complete the work of this Section.

3. In the case of a conflict between regulations or between regulations and Specifications, the Site Contractor shall comply with the strictest applicable codes, regulation or specification.

C. Blast Vibration Limits for Curing Concrete

1. Mass concrete on-grade which would not be subject to bending such as footings:

Age of Concrete	Allowable (PPV)
Less than 72 hours	1.0 inch/second
At least 72 hours	4.0 inch/second

2. Concrete which could potentially undergo bending such as walls, structural slabs, columns, and elevated slabs:

Age of Concrete	Allowable (PPV)
Less than 72 hours	0.5 inch/second
At least 72 hours	2.0 inch/second

3. Blasting shall not be permitted within 50 ft. of new concrete unless a blast plan for the specified blast is forwarded by the Site Contractor and approved by the Engineer.

4. The Site Contractor shall comply with the Blasting Limit Criteria during all blasting. Adjustments to the drilling and blasting program and procedures to comply with the Blasting Limit Criteria shall be made by the Site Contractor during the execution of the work at no additional expense to the Owner.

D. Blast Monitoring

1. The Site Contractor shall monitor PPV and air-blast over-pressures resulting from each blast. Additional locations for blast monitoring may be necessary due to concerned structures within and around the blast.

E. Blast Monitoring Reports

1. Following each blast, a Blast Monitoring Report shall be submitted to the Owner and Engineer within 24 hours.

2. Any vibrations or air over-blast pressures close to or exceeding the specified limits shall be immediately reported to the Owner and Engineer. Maine Department of Environmental Protection shall be notified of any blasting activity that exceeds the limits stated in the Site Location of Development Act application, or permit conditions, whichever is more stringent.

F. Blast Monitoring Instrumentation

1. All instrumentation proposed for use on the project shall have been calibrated within the previous six (6) months to a Standard which is traceable to the National Bureau of Standards. Characteristics of the required instrumentation are listed below.

2. Measure the three (3) mutually perpendicular components of particle velocity in directions vertical, radial and perpendicular to the vibration source.

3. Measure and display the maximum PPV component, the associated frequency, and the peak air-blast over-pressure. The readings must be displayed and be able to read in the field immediately after each blast.

4. Furnish a permanent time history record on a strip chart (or from computer disk), of PPV components and air-blast over-pressure.

5. The Site Contractor shall cooperate with the Engineer in permitting observation of the Site Contractor's drilling and loading procedures, as well as providing detailed information on blasting operations.

G. The Site Contractor shall be completely responsible for all damages resulting from the blasting operations and shall, at a minimum, take whatever measures necessary to maintain PPV and peak air-blast over-pressure within specified or required limits. Modifications to the blasting and excavation methods required to meet these requirements shall be undertaken at no additional cost to the owner.

H. Airborne Dust and Noise Limits: The Site Contractor shall take precautions, such as the use of water, vacuums, and mufflers to minimize noise and dust from the air track operations, and shall keep noise and airborne dust levels below regulatory limits.

1.8 PROJECT CONDITIONS

A. **The Site Contractor shall be fully responsible for conducting any investigations necessary to determine the extent and quality of rock on the site prior to submitting his bid. Rock locations may vary from that inferred by the geotechnical report based upon the inherent limitations of this work.**

B. Rock blasting and removal is included as an allowance in the contract. An adjustment to the contract sum will be made based upon the unit price specified within this section and the difference between the approved, measured quantity of rock removal and the contract allowance. The Owner may modify the design to reduce rock removal cost. The reduction and or adjustment of rock removal quantity shall not be a basis of claims for loss of materials obtained from rock removal for use on other portions of the work.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Explosives, delay device and blast mat materials shall be the type recommended by the explosive firm that will comply with the requirements of this section.

PART 3 - EXECUTION

3.1 SAFETY PRECAUTIONS

A. Clearing the Danger Area Before Blasting: No blasting shall be permitted until all personnel in the danger area have been removed to a place of safety. A loud, audible warning system shall be sounded before each blast. The Site Contractor shall familiarize all personnel on the project, Engineer, Owner and the general public with the implemented system. The danger area shall be patrolled before each blast to make certain that it has been completely cleared prior to a blast.

B. Explosives shall be stored, handled and employed in accordance with federal, state and local regulations.

C. No explosives, caps, detonators or fuses shall be stored on the site during non-working hours.

D. The Site Contractor shall be responsible for determining any other safety requirements unique to blasting operations so as not to endanger life, property, utility services, any existing or new construction, or any property adjacent to the site.

E. Blasting mats or other cover shall be used for each blast to secure all fly rock.

3.2 GENERAL BLASTING PROCEDURES

A. Blasting shall be limited to between the hours of 7:00 am and 7:00 pm, Monday through Friday, or as otherwise restricted by the Town of Bar Harbor and Bar Harbor Fire Department. No blasting shall be completed on weekends, holidays or other weekday times until written permission is received by the Owner.

B. The Site Contractor shall notify the Owner and Engineer at least 48 hours before blasting operations are to commence.

C. The Site Contractor shall conduct all blasting operations such that damage or disruption is prevented to adjacent structures, utilities, property and operations, and such that PPV and air-blast over-pressure levels do not exceed the maximum specified limits.

D. The Site Contractor shall control dust so as to prevent dust from leaving the site boundaries.

E. Designed blast rounds shall be utilized with adjacent relief to allow the rock to move out towards a free face.

F. All overburden soils and loose rock shall be removed from areas where blasting is planned. The exposed bedrock surface shall be surveyed by a licensed land surveyor to determine the limits for payment unless the Site Contractor has agreed to a lump sum price for the work with no measurement for additional rock.

G. In areas where blasting is required within the building footprint, a base gravel fill is required one foot below and laterally beyond the subgrade limits. Loose, heaved and/or highly fractured bedrock below this depth shall be completely removed to expose intact bedrock or a tight fragmented over-blast suitable to the Engineer. In order to ensure good bearing material for the subbase materials, the Site Contractor shall conduct blasting such that over-break and fracturing of the rock is minimized below the required subgrade level. Sub-drilling (depth of blast hole below required subgrade) shall be kept to the minimum necessary to adequately fragment and remove the rock to the limits of excavation. The sub-drilling shall not exceed 2 ft. unless the Site Contractor has submitted in advance a written request indicating why additional sub-drilling is necessary for the project.

H. Highly fractured, heaved and/or disturbed over-blast ledge beyond the payment limits shall be removed by the Site Contractor and replaced with compacted Structural Fill or ¾ inch crushed stone at no additional cost to the Owner except in the foundation overblast area. Tight over blast ledge may remain in-place provided it is reviewed and acceptable to the Engineer.

I. The Site Contractor shall use controlled blasting procedures by pre-splitting the rock prior to primary blasting.

3.3 MEASUREMENT AND PAYMENT

A. Payment for bedrock blasting and removal will be based on the allowance included in the Base Bid Contract Sum, adjusted in accordance with the unit prices stated in this section and the Owner/Engineer approved, measured quantity of rock removal within the Payment Lines described herein:
   1. For structures and appurtenances – payment line a vertical line offset one foot horizontally from the edge of the structure to a depth of one foot below the structure.
   2. For the bioretention cells the payment limit shall be six inches (6”) below the underdrain elevation.
   3. For utility and storm drain trenches – payment line shall be six inches (6”) below the pipe invert. The payment width shall be 4/3 of the inside diameter of the conduit plus eighteen inches (18”) for all utility and storm drain trenches, with a minimum pay width of two-and-one-half feet (2.5’).
   4. For underdrain trenches – payment line shall be six inches (6”) below the pipe invert. The payment width shall be 4/3 of the inside diameter of the conduit plus eighteen inches (18”) for all utility and storm drain trenches, with a minimum pay width of two-and-one-half feet (2.5’).

B. The top of the exposed bedrock surface shall be surveyed by a licensed Land Surveyor prior to blasting and calculations shall be provided to determine the volume of bedrock removal. The stamped survey and all computations shall be submitted to and approved by the Engineer and Owner prior to bedrock blasting or removal.

C. Bedrock blasting and removal beyond the pay limits shall be replaced with compacted structural fill at no additional cost to the Owner. Highly fractured, heaved, and/or distribution over-blast shall be removed from the area of the track and field improvements as required by the Engineer, at no additional cost to the Owner.

D. No separate payment will be made for pre-condition surveys, surveying, vibration monitoring, blast designs, blast re-designs, acquisition of permits, safety measures, or other associated items which are considered incidental to the safe performance of controlled drilling and blasting.

E. Boulders shall be measured and paid for as rock only if the size of an individual boulder exceeds three cubic yards (3 C.Y.). Boulders shall be numbered with permanent paint and measured by a Licensed Surveyor.

F. Unit Prices: Unit prices shall only apply to changes to the contract scope. A quantity of one thousand five hundred cubic yards (150CY) of mass rock removal and a quantity of one hundred cubic yards (100CY) of trench rock removal shall be included in the Base Bid Contract Sum for the work. The unit price will be used to adjust the Contract Sum based on the difference between the measured and approved quantity of rock removal and the base bid quantity stated above.

G. The Unit Prices for this project are:
1. Mass Rock Removal: $140/ cubic yard (CY)
2. Trench Rock Removal $200/ cubic yard (CY)

3.4 PREPARATION

A. Verify site conditions and note subsurface conditions affecting work of this section. Identify required lines, levels, and elevations that will determine the extent of the proposed removals.

B. Conduct a pre-blast survey in accordance with the following requirements:

1. The Site Contractor shall conduct a Pre-Blast Survey of all structures within the Blast Area and provide the Owner and Maine Department of Environmental Protection (MDEP), a written report of the Pre-Blast Survey and Blasting Plan. The Pre-Blast Survey shall be filed, reviewed, and approved by the MDEP. This survey should include:

- All structures within a minimum distance of 1,000 feet from any blasting activity. The area extending beyond the 1,000 feet minimum shall be determined by the Site Contractor. This distance shall be confirmed after consultation of the Site Contractor, Blasting Contractor and Insurance Companies.

- A blasting plan which addresses:

  - Airblast limits
  - Ground vibrations
  - Maximum peak particle velocity

- The blasting plan shall meet criteria established in Chapter 3 (Control of Adverse Effects) in the Blasting Guidance Manual of the United States Dept. of the Interior.

- Provisions and measures to monitor and assure compliance with the blasting plan.

2. The Site Contractor shall provide the Engineer with a Blasting Log for the work. The Blasting Log shall contain the following information:

   - Location
   - Time and Date
   - Number of Holes
   - Amount and type of explosive used per hole
   - The names of persons, companies, corporations, or public utilities contacted, owning, leasing, or occupying property or structures in proximity to the site of the work of the Site Contractor's intention to use explosives.

3. Drilling equipment will be equipped with suitable dust control apparatus which must be kept in repair and used during all drilling operations.

   A copy of the MDEP approval of the pre-blast survey and blasting plan obtained by the Site Contractor shall be submitted to the Owner prior to blasting.

3.5 ROCK EXCAVATION

A. Rock Excavation - definition - Rock excavation is defined as the excavation of all hard, compacted, or cemented materials that require blasting or the use of ripping and excavating equipment larger than defined for common excavation. The excavation and removal of isolated boulders or rock fragments larger than 3 cubic yards encountered in materials otherwise conforming to the definition of common excavation shall be classified as rock excavation. The presence of isolated boulders or rock fragments larger than 3 cubic yards is not in itself sufficient cause to change the classification of the surrounding material. For the purpose of these classifications, the following definitions shall apply:
   1. Heavy ripping equipment is a rear-mounted, heavy duty, single-tooth, ripping attachment mounted on a track type tractor having a power rating of at least 250 flywheel horsepower unless otherwise specified.
   2. Wheel tractor-scraper is a self-loading (not elevating) and unloading scraper having a struck bowl capacity of at least 12 cubic yards.
   3. Pusher tractor is a track type tractor having a power rating of at least 250 flywheel horsepower equipped with appropriate attachments.

B. Trench Rock Excavation – definition – The excavation and removal of rock specifically encountered within a trench excavation required for the construction of utility and storm drain trenches, utility and storm drain structures and linear, or pier footings. Rock removal in areas where mass excavation is required to meet subgrade, and trenches are to be constructed above the surrounding subgrade is excluded from this definition. Payment for trench rock removal shall be defined by the pay limits listed in Section 3.3 A (1, 4, and 5) of this specification.

C. Mass Rock Removal – definition – All excavation and removal of rock not specifically associated with trench excavation as described above, regardless of the method proposed for removal.

D. Comply with all laws, rules, and regulations of Federal, State and local authorities and insurer which govern storage, use, manufacture, sale, handling, transportation, licensing, or other disposition of explosives. Take special precautions for proper use of explosives to prevent harm to human life and damage to surface structures, all utility lines, or other subsurface structures.

Do not conduct blasting operations until persons in vicinity have had ample notice and have reached positions of safety.

All blasting shall be performed in accordance with all pertinent provisions of the "Manual of Accident Prevention in Construction" issued by the Associated General Contractors of America, Inc., of the "Construction Safety Rules and Regulations," as adopted by the State Board of Construction Safety, Auburn, Maine, and Maine Department of Transportation "Standard Specifications" Section 107.12, Use of Explosives. Blasting through the over burden will not be allowed.

E. Site Contractor shall save harmless owner, architect, and owner's representative from any claim growing out of use of such explosives. Removal of materials of any nature by blasting shall be done in such manner and such time as to avoid damage affecting integrity of design and to avoid damage to any new or existing structure included in or adjacent to work. It shall be the Site Contractor’s responsibility to determine method of operation to ensure desired results and integrity of completed work.

F. Perform rock excavation in a manner that will produce material of such size as to permit it being placed in embankments in accordance with Section 31 20 00. Remove rock to limits as indicated. Remove loose or shattered rock, overhanging ledges and boulders which might dislodge.

G. When during the process of excavation rock is encountered, such material shall be uncovered and exposed. Remove as much weathered rock as possible with conventional excavating equipment. Notify the Engineer before proceeding with any excavating, blasting or removal of materials which might be claimed as rock. The Site Contractor shall not proceed with the removal of the material claimed as rock until the material has been classified by the Engineer. Failure to uncover such material or notify the Engineer to take cross sections prior to any excavation shall forfeit the Site Contractor's claim for ledge removal.

The Site Contractor shall employ and pay for an approved licensed Civil Engineer or Land Surveyor acceptable to the Engineer to take cross sections of rock before removal of same and to provide computations of cross sections within the limit lines of the excavation. No material claimed as rock shall be excavated, blasted or removed until the following procedures have been performed:

Site Contractor shall quantify rock excavation and provide Engineer with sections and profiles for review. Engineer shall provide to the Site Contractor a letter of authorization to proceed with the excavation of material claimed as rock. The letter shall indicate the agreed upon quantity of rock and the price for the entire process of excavation, hauling and disposal.

H. Regulatory Provisions for Blasting: Blasting shall be performed only after approval has been given by the Owner for such operations and must comply with the following regulatory provisions:

1. *The Contractor or any subcontractor shall use sufficient stemming, matting or natural protective cover to prevent flyrock from leaving property owned or under control of the owner or operator or from entering protected natural resources or natural buffer strips. Crushed rock or other suitable material must be used for stemming when available; native gravel, drill cuttings or other material may be used for stemming only if no other suitable material is available.*

2. *The maximum allowable airblast at any inhabited building not owned or controlled by the developer may not exceed 129 decibels peak when measured by an instrument having a flat response (+ or – 3 decibels) over the range of 5 to 200 hertz.*

3. *The maximum allowable airblast at an uninhabited building not owned or controlled by the developer may not exceed 140 decibels peak when measured by an instrument having a flat response (+ or – 3 decibels) over the range of 5 to 200 hertz.*

4. *Monitoring of airblast levels is required in all cases for which a preblast survey is required by paragraph F. The Contractor may file an MDEP Permit Modification requesting the MDEP waive the monitoring requirement if the Contractor or subcontractor secures the permission of affected property owners to increase allowable airblast levels on their property and the department determines that no protected natural resource will be adversely affected by the increased airblast levels. The cost to prepare the permit modification and the effect of project delay while MeDEP reviews the request shall be borne solely by the Contractor or his subcontractor.*

5. *If a blast is to be initiated by detonating cord, the detonating cord must be covered by crushed rock or other suitable cover to reduce noise and concussion effects.*

6. *A preblast survey is required and must extend a minimum radius of 1,000' feet from the blast site. The preblast survey must document any preexisting damage to structures and buildings and any other physical features within the survey radius that could reasonably be affected by blasting. Assessment of features such as pipes, cables, transmission lines and wells and other water supply systems must be limited to surface conditions and other readily available data, such as well yield and water quality. The preblast survey must be conducted prior to the initiation of blasting at the operation. The Contractor or subcontractor shall retain a copy of all preblast surveys for at least one year from the date of the last blast on the development site.*

    (a) *The Contractor or the subcontractor is not required to conduct a preblast survey on properties for which the owner or operator documents the rejection of an offer by registered letter, return receipt requested, to conduct a preblast survey. Any person owning a building within a preblast survey radius may voluntarily waive the right to a survey.*

7. *Blasting may not occur in the period between sundown and sunrise the following day or in the period 7:00 p.m. and 7:00 a.m., whichever is greater. Routine production blasting is not allowed in the daytime on Sunday. Detonation of misfires may occur outside of these times but must be reported to the department within 5 business days of the misfire detonation. Blasting may not occur more frequently than 4 times per day. Underground*

production blasting may be exempted from these requirements provided that a waiver is granted by the department.

8. *Sound from blasting may not exceed the following limits at any protected location:*

Number of Blasts Per Day	*Sound Level Limit*
1	*129 dbl*
2	*126 dbl*
3	*124 dbl*
4	*123 dbl*

Blast sound shall be measured in peak liner sound level (dbl) with a linear response down to 5Hz.

9. *The maximum peak particle velocity at inhabitable structures not owned or controlled by the developer may not exceed the levels established in Table 1 in paragraph E and the graph published by the United States Department of the Interior in "Bureau of Mines Report of Investigations 8507," Appendix B, Figure B-1. The Contractor or subcontractor may apply for a MDEP Project Modification to request a variance to allow ground vibration levels greater than 2 inches per second on undeveloped property not owned or controlled by the applicant if the department determines that no protected natural resource, unusual natural area or historic site will be adversely affected by the increased ground vibration levels. If inhabitable structures are constructed on the property after approval of the MDEP and prior to completion of blasting, the Contractor immediately must notify the department and modify blasting procedures to remain in compliance with the standards of this subsection. The cost to prepare the permit modification and the effect of project delay while MDEP reviews the request shall be borne solely by the Contractor or his subcontractor.*

10. *Table 1 of this paragraph or the graph published by the United States Department of the Interior in "Bureau of Mines Report of Investigations 8507", Appendix B. Figure B-1 must be used to evaluate ground vibration effects for those blasts for which a preblast survey is required.*

    (a) *Either Table 1 of this paragraph or graph published by the United States Department of the Interior in "Bureau of Mines report of Investigations 8507", Appendix B, Figure B-1 may be used to evaluate ground vibration when blasting is to be monitored by seismic instrumentation.*

    (b) *Blasting measured in accordance with Table 1 of this paragraph must be conducted so that the peak particle velocity of any one of the 3 mutually perpendicular components of motion does not exceed the ground vibration limits at the distances specified in Table 1 of this paragraph.*

    (c) *Seismic instruments that monitor blasting in accordance with Table 1 of this paragraph must have the instrument's transducer firmly coupled to the ground.*

    (d) *An owner or operator using Table 1 of this paragraph must use the scaled-distance equation, W=(D/Ds)2, to determine the allowable charge weight of explosives to be detonated in any 8 millisecond or greater delay period without seismic monitoring, where W is equal to the maximum weight of explosives, in pounds, and D and Ds are*

defined as in Table 1 of this paragraph. The Contractor may apply for a Permit Modification to MDEP to authorize the use of a modified scaled-distance factor for production blasting if the contractor can demonstrate to a 95% confidence level, based upon records of seismographic monitoring at the specific site of the mining activity covered by the permit, that use of the modified scaled-distance factor will not cause the ground vibration to exceed the maximum allowable peak particle velocities of Table 1 of this paragraph. The cost to prepare the permit modification and the effect of project delay while MDEP reviews the request shall be borne solely by the Contractor or his subcontractor.

(e) Blasting monitored in accordance with the graph published by the United States Department of the Interior in "Bureau of Mines Report of Investigations 8507", Appendix B, Figure B-1 must be conducted so that the continuously variable particle velocity criteria are not exceeded.

The Contractor may apply for a Permit Modification to MDEP for a variance of the ground vibration monitoring requirement prior to conducting blasting at the development site if the Contractor agrees to design all blasts so that the weight of explosives per 8 millisecond or greater delay does not exceed that determined by the equation $W=(D/D_s)^2$, where W is the maximum allowable weight of explosives per delay of 8 milliseconds or greater, D is the shortest distance between any area to be blasted and any inhabitable structure not owned or controlled by the developer, and Ds equals 70 ft./lb.$^{1/2}$. As a condition of the variance, the department may require submission of records certified as accurate by the blaster and may require the owner or operator to document compliance with the conditions of this paragraph. The cost to prepare the permit modification and the effect of project delay while MDEP reviews the request shall be borne solely by the Contractor or his subcontractor.

The following is Table 1.

Distance Versus Peak Particle Velocity Method		
Distance (D) from the blast area	***Maximum allowable peak particle velocity (Vmax) for ground vibration (in./sec.)***	***Scaled-distance factor (Ds) to be applied without seismic monitoring***
0 to 300	*1.25*	*50*
301-5000	*1.00*	*55*
Greater than 5000	*0.75*	*65*

11. A record of each blast, including seismographic data, must be kept for at least one year from the date of the last blast, must be available for inspection at the development or at the offices of the owner or operator if the development has been closed, completed or abandoned before the one-year limit has passed and must contain at a minimum the following data:

(a) Name of blasting company or blasting contractor;

(b) Location, date and time of blast;

(c) Name, signature and social security number of blaster;

(d) Type of material blasted;

(e) Number and spacing of holes and depth of burden or stemming;

(f) Diameter and depth of holes;

(g) Type of explosives used;

(h) Total amount of explosives used;

(i) Maximum amount of explosives used per delay period of 8 milliseconds or greater;

(j) Maximum number of holes per delay period of 8 milliseconds or greater;

(k) Method of firing and type of circuit;

(l) Direction and distance in feet to the nearest dwelling, public building, school, church or commercial or institutional building neither owned nor controller by the developer;

(m) Weather conditions, including such factors as wind direction and cloud cover;

(n) Height or length of stemming;

(o) Amount of mats or other protection used;

(p) Type of detonators used and delay periods used;

(q) The exact location of each seismograph and the distance of each seismograph from the blast;

(r) Seismographic readings;

(s) Name and signature of the person operating each seismograph; and

(t) Names of the person and the firm analyzing the seismographic data.

12. All field seismographs must record the full analog wave form of each of the 3 mutually perpendicular components of motion in terms of particle velocity. All seismographs must be capable of sensor check and must be calibrated according to the manufacturer's recommendations.

END OF SECTION 312316

ATTACHMENT D

WETLAND DELINEATION REPORT

CLIPPERSHIP LANDING
DAMARISCOTTA, MAINE

Wetland Delineation Report

September 2022

Prepared by:
Atlantic Resource Consultants
541 US Route One, Suite 21
Freeport, Maine 04032

Atlantic Resource Consultants
Engineering Strategies and Solutions

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WETLAND DELINEATION REPORT

Overview

The following report, including site photographs, was prepared by Atlantic Resource Consultants (ARC). A wetland delineation at the site was conducted in 2016 by Mark Cenci Geologic, Inc. Resource agencies require a recent wetland delineation for permit applications. Since the wetlands were mapped over five years ago, a new wetland delineation was conducted by ARC in 2021. Natural resource locations and boundaries are depicted in Appendix A.

Freshwater wetlands were delineated in accordance with the 1987 U.S. Army Corps of Engineers Wetland Delineation Manual and Northeast Regional Supplement. Wetlands are defined as areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. The methodology designed by the U.S. Army Corps of Engineers to identify wetlands uses three environmental parameters: hydrology, soil, and vegetation. Examples of wetlands include but are not limited, to wet meadows, emergent marshes, scrub-shrub wetlands, forested wetlands, peatlands, and vernal pools.

Jurisdictional river, stream, or brook features were evaluated as outlined in the Natural Resource Protection Act (NRPA) 38 M.R.S. § 480-B (9) and expanded in the NRPA Identification Guide for Rivers, Streams, and Brooks. Vernal pool habitat identifications were performed in accordance with the NRPA, 38 M.R.S § 480-B (10) regulations that are also outlined in Chapter 335, Significant Wildlife Habitat. Geographical Information System data was reviewed, and resource agencies were contacted regarding rare plants and rare, threatened, and endangered animal species.

Site History

A 107.8-acre parcel, once part of the Piper Village Subdivision, was split into two lots. The applicant, Clippership, LLC, retained 19.98 acres and sold the remaining 87.8 acres to the Damariscotta River Association (DRA) for preservation. A large network of wetlands and streams including Castners Creek are located on the DRA parcel. Wetland boundaries on the large parcel were delineated by Mark Cenci Geologic, Inc. The plan named "Subdivision Plan of The Piper Village Subdivision" dated September 27, 2007, and the revision "Amended Lot Plan of the Clippership, LLC parcel" dated January 29, 20219 can be viewed in Appendix B. Site plans have been attached to show the connectivity of natural resources on the parcel to be developed. Connectivity of wetlands off-site can result in adjacent jurisdiction and/or special significance designations by the MDEP. A field determination by MDEP to confirm the connections to on-site wetlands has been included in Appendix C.

Site Location & Description

The project site is located on the north side of Piper Mill Road, across from the Ledgewood Court apartment complex and Lincoln County Ambulance building. The 19.9-acre parcel is

identified in the Town of Damariscotta's tax assessing data as Lot 50 on Tax Map 1. The site is characterized by an upland white pine community but also contains a network of forested wetlands and intermittent streams. The project site is primarily wooded and undeveloped. A portion of the site has been selectively harvested for timber. It is believed that forestry operations were conducted sometime between 2012 and 2014. Impacts from the forestry operation created areas of hydric soils, populated with hydrophytic vegetation and signs of hydrology. Therefore, additional wetland areas were found on the project site that may not have been present during the previous delineation in 2016.

Access to the site is at the highest part of Piper Mill Road. The road crests approximately at the mid-point of the street frontage, and adjacent to the Lincoln County Ambulance site entrance. The elevation at this point is approximately 74ft (NAVD 1988). A ridge then extends northwards into the property to the highest point on the site approximately 500ft from the road. The elevation at the high point is approximately 80ft. The property slopes off fairly steeply (10%-15%) towards the north and west from the high point to approximate elevation 50 ft. at the parcel boundary and less steeply to the east (4%-5% over a greater distance) to the same approximate elevation at the property line.

General surficial soil mapping for the site has been obtained through the Natural Resource Conservation Service (NRCS) Web Soil Survey. This indicates the presence of predominantly Scantic and Lamoine Series silt loam soils, with a small area of Tunbridge-Lyman Complex (rocky) identified at the southern boundary of the site. Soil explorations during the wetland delineation confirmed that on-site soils are primarily somewhat poorly drained silt loams.

Natural Resources within Project Area

Freshwater Wetlands

U.S. Fish & Wildlife Service (FWS) National Wetland Inventory (NWI) maps were reviewed for the project and compared to the on-site wetland delineation. As shown on the NWI maps, and based on the Cowardin Classification system, the forested wetlands on the site are PFO4&1B or palustrine, forested, broad-leaved deciduous and needle-leaved evergreen wetlands with a seasonally saturated water regime. Field observations found this classification to be an accurate description of on-site forested wetlands. Forested wetlands are the dominant wetland type on the project site. Scrub-shrub and wet meadow wetland habitats were also identified during the delineation. Wetlands are labeled as Wetlands 1-3 on the attached site plans.

The wetlands are dominated by tree species such as red maple (*Acer rubrum*) and balsam fir (*Abies balsamea*) and ground cover including crested wood ferns (*Dropteris cristata)* and sensitive ferns (*Onoclea sensibilis*). Wetland drainage flows northeast, channelizing in ravines as they meet up with Castners Creek. Both narrow drainage ways were found to contain characteristics of a jurisdictional stream. Most of the wetland areas are natural wetlands but recent forestry operations have created additional jurisdictional wetland areas. Forested wetlands that have been logged contain plant species such as bulrush and cattails in the skidder ruts.

Scrub-shrub wetlands surround the western stream along the border of the property. Small areas of wet meadow wetlands are also present within the floodplain of the stream. Another scrub-shrub wetland was found along the edge of Piper Mill Road and extending off the property to the east. Scrub-shrub wetlands were found to contain willow (*Salix* spp.), speckled alder (*Alnus incana)*, winterberry holly (*Ilex verticillate)* and sensitive fern (*Onoclea sensibilis)*.

Streams

Streams were studied extensively in the field, and the following characteristics were documented: hydrology, morphology, substrate, vegetation, stability, aquatic organism assemblage, connectivity, and functions and values. Three unnamed streams have been identified on the parcel. All streams primarily flow in a northerly direction, eventually conjoining with a perennial stream off-site known as Castners Creek. Castners Creek flows into the area of the Damariscotta River known as Great Salt Bay. Castners Creek contains a beaver dam which has created an open water and emergent marsh wetland. Streams are labeled as Streams 1-3 on the attached site plans.

The first stream is labeled as Stream 1 on the attached plans. The channel is depicted as an intermittent drainage on a 7.5-minute USGS topographic map. The stream crosses Piper Mill Road, flowing north along the western property boundary of the site. The section of stream on the project site is surrounded by scrub-shrub and wet meadow wetlands. As the stream moves off-site, it becomes surrounded by forested wetlands before joining with Castners Creek. The Cowardin Classification system describes the stream as R4SBC or riverine, intermittent, stream with a seasonally flooded water regime. The MDEP designates the stream as “Class B” waters. An existing culvert crossing is located approximately 450’ north of the Piper Mill Road crossing. Fish were observed in the stream during natural resource mapping.

The second and third streams are short segments located within narrow ravines at the northeastern corner of the site. As the grade steepens, wetland drainage transitions into well-defined stream channels. Mineralized channel bottoms and aquatic insects were discovered within each stream segment. Channel braiding is occasional. Moderate amounts of wood debris are found within the streams. There was no evidence of prior stream manipulation or alteration. Both streams conjoin with the impounded section of Castners Creek off-site. Although Castners Creek contains fish habitat, natural conditions within the tributary streams prevent fish from traveling to the upper reaches of the streams. The two tributary streams were not documented during the 2016 wetland delineation. The beginning of each jurisdictional stream marks where wetland drainage with organic muck, fines and shallow silty pools becomes gravel and cobble substrate within channels between defined banks.

Vernal Pools

Potential vernal pool habitat was not identified within the study area. Wetland habitats were not found to contain seasonal surface water to support vernal pool indicator species. The wetland delineation was completed in the early winter of 2021. Wetland conditions during the delineation were found to be somewhat similar to seasonal high water in early spring.

Rare Plants and Rare, Threatened, and Endangered Animal Species

Natural resource agencies were contacted and/or databases were accessed to identify Rare, Threatened, Endangered, or Essential species and/or habitats mapped on the subject site. The agencies contacted include the Maine Department of Inland Fisheries and Wildlife (MDIFW) and Maine Natural Areas Program (MNAP) with the Maine Department of Agriculture Conservation & Forestry. Response letters are included within the permit applications. As shown on the response letter dated May 17, 2022, the MNAP has not identified Rare or Endangered Plant Species within the vicinity of the project. According to the MDIFW response letter dated June 13, 2022, bat species may be present on the site during migration and/or the breeding season. Three *Myotis* species are protected under the Maine Endangered Species Act and five other species are listed as being of Special Concern in Maine. The U.S. Fish & Wildlife Service (FWS) database was accessed on January 3, 2022, which indicated that the habitat range of the Threatened Northern Long-Eared Bat is potentially within the project area.

Regulatory Summary

Forested, scrub-shrub and wet meadow wetlands are not typically considered to be *Wetlands of Special Significance* (WOSS) per MDEP's Chapter 310 of the Natural Resources Protection Act. However, some wetland areas may contain certain characteristics or share proximity to other natural resources which designate them as WOSS such as:

- any wetland area located within 25 feet of a stream
- any wetland area located within the 100-year floodplain along a stream
- any wetland containing or consisting of at least 20,000 square feet of open water or emergent marsh vegetation

The Castners Creek wetlands were found to contain over 20,000 square feet of open water and emergent marsh vegetation due to a natural beaver impoundment. Wetlands which are hydrologically connected to the wetland complex surrounding Castners Creek may be designated as WOSS. These same wetland areas will also contain 75-feet of adjacent jurisdiction as a result of their connection to Castners Creek.

ARC wetland scientists met on-site with MDEP staff on April 27, 2022, for a field determination to ascertain if Wetlands 2 and 3 are considered to be WOSS due to the connectivity to Castners Creek. MDEP staff observed an area where the topography of the uplands forced the wetlands to concentrate their flow forming a channel between defined banks. MDEP determined that the two wetland fingers were not contiguous, and the stream portion separated the two. MDEP determined that the wetlands that are outside of the 250-foot set back would not be designated as WOSS. The field determination by MDEP has been included in Appendix C.

Wetland impacts are reviewed by MDEP based on the type of wetland, type of activity, and size of impact. The proposed wetland impacts are eligible for review under a Tier 1 permit application. For the purposes of NRPA, all on-site streams contain 75-feet of adjacent jurisdiction. Per their response letter dated June 13, 2022, MDIFW recommends a 100-foot undisturbed stream buffer be maintained along on-site streams. The project has been designed to maintain a 100-foot undisturbed buffer adjacent to all streams.

APPENDIX A
RESOURCE MAP

A map depicting natural resource boundaries and locations is provided on the following page.

0 ft 150 ft 300 ft 450 ft

Maine_Parcels_Organized_Towns.shp
Stream
Study Limit
Wetland Boundary

Created By: Kayla Gray
Date Created: 7/13/2022
Projection: UTM 19N (NAD83)
Project # 21-025

Clippership, LLC
Piper Mill Road
Damariscotta, ME 04543

Atlantic Resource Consultants
541 US Route One
Freeport, ME 04032
Tel: 207.869.9050

APPENDIX B
DEED RECORDED SUBDIVISION PLANS

Deed recorded subdivision plans have been included to show historical, field-verified wetland and stream locations within the vicinity of the project. Connectivity of wetlands on and off the project site can be used to ascertain specific jurisdiction under the NRPA.

TOWN OF DAMARISCOTTA PLANNING BOARD

CHAIRMAN DATE: 9/10/07

C:\sc14\WORK_MANN ASSOCIATES_FRENCH PROPERTIES\06031 FRENCH DAMARISCOTTA SUBDIVISION\06031C_091007.dwg Mon Sep 10 14:18:19 2007

BUSINESS ROUTE 1

TO BUSINESS ROUTE 1

TO BISCAY ROAD

HEATER ROAD

SCHOOL STREET

HIGH STREET

TO BRISTOL ROAD

PIPER MILL ROAD See Plan Reference 5

VALLEY LANE

See Plan Reference 10

See Plan Reference 10

TAX MAP I LOT 56-1

N/F HANNAFORD BROTHERS REAL ESTATE DEPARTMENT Sampsons Supermarkets, Inc. Book 1010 Page 287 October 2, 1979 See Plan Reference 6

TAX MAP I LOT 59

TAX MAP I LOT 62-1

N/F INHABITANTS OF THE TOWN OF DAMARISCOTTA Book 1949 Page 143 January 25, 1994

N/F F & G ENTERPRISES, INC. Book 2609 Page 169 October 20, 2000 TAX MAP I LOT 68

N/F LINCOLN COUNTY RIFLE CLUB, INC. Book 440 Page 533 February 11, 1942

TAX MAP I LOT 57

N/F LINCOLN COUNTY RIFLE CLUB, INC. Book 503 Page 420 June 18, 1952 See Plan Reference 1

TAX MAP I LOT 58

N/F AMELIA K. FRENCH ESTATE Book 3484 Page 157 March 10, 2005 See Plan Reference 7

N/F LEEANNA HUTCHINGS Book 3744 Page 193 September 27, 2006 See Plan Reference 7

TAX MAP 2 LOT 56

N/F FRENCH FAMILY IRREVOCABLE TRUST Book 2781 Page 315 December 10, 2001 Book 2781 Page 318 December 10, 2001 See Plan Reference 7

N/F CHESTER A. RICE KATHERINE RICE Book 879 Page 3 April 22, 1976 See Plan Reference 3

TAX MAP I LOT 53

N/F BARRY W. KNOTT ANNE W. KNOTT Book 3157 Page 294 September 26, 2003

TAX MAP 10 LOT 26

N/F JULIETTE M. SANBORN EST. Bk. 3620 Pg. 146 January 17, 2006

TAX MAP 10 LOT 27

TAX MAP 10 LOT 28

N/F BARRY W. KNOTT ANNE W. KNOTT Book 545 Page 212 August 26, 1958 See Plan Ref. 8 & 13

N/F DAVID A. HATCH Book 3553 Page 119 September 15, 2005

TAX MAP I LOT 50-1

TAX MAP I LOT 50-5

N/F DALE C. BOND Book 2121 Page 168 January 31, 1996

TAX MAP 10 LOT 29

N/F MICHAEL GREENLEAF DAWN MARIE GREENLEAF Book 2365 Page 143 July 16, 1998 See Also Book 1276 Pages 276 & 280

TAX MAP 10 LOT 30

N/F DEAN W. KNOTT Book 1103 Page 40 May 26, 1982 See Easement Book 1759 Page 109

TAX MAP 10 LOT 31

N/F CENTRAL LINCOLN COUNTY AMBULANCE SERVICES, INC. Book 2485 Page 337 August 4, 1999 See Plan Reference 9

TAX MAP I LOT 50-2

N/F PIPER MILL HOUSING ASSOCIATES, L.P. Book 2996 Page 310 February 6, 2003 See Plan Reference 11

TAX MAP I LOT 50-3

N/F JOEL HUSTON DODGE Book 493 Page 433 January 4, 1951

TAX MAP II LOT 20

N/F GREAT SALT BAY SANITARY DISTRICT Book 1276 Page 285 November 13, 1985 See Easement Book 1276 Page 282 See Plan Reference 5

TAX MAP I LOT 47-8

TAX MAP I LOT 47-9

N/F FRANK AVANTAGGIO Book 2303 Page 140 January 2, 1998 Book 2303 Page 138 December 26, 1997

N/F DANIEL A. HATCH Book 3484 Page 151 March 10, 2005 See Plan Reference 12

TAX MAP I LOT 50-4

N/F SEA LARK, L.P. Book 3484 Page 155 March 10, 2005

TAX MAP 2 LOT 57

N/F JEREL A. ELWELL SUSAN F. ELWELL Book 2439 Page 112 February 15, 1999 See Plan Reference 4

TAX MAP 2 LOT 58

TAX MAP I LOT 52

OWNER OF RECORD: FRENCH FAMILY IRREVOCABLE TRUST BOOK 2717 PAGE 266 AUGUST 6, 2001

OWNER OF RECORD: FRENCH FAMILY IRREVOCABLE TRUST BOOK 3621 PAGE 295 DECEMBER 23, 2005 BOOK 3484 PAGE 153 MARCH 10, 2005

TO BE CONVEYED TO AN ABUTTER AREA = 44± ACRES INCLUDING 12.3± ACRES WETLAND

See Plan Reference 2

LOT 1 AREA = 44± ACRES INCLUDING: 1.96 ACRES PIPER MILL ROAD EASEMENT, 11.9± ACRES WETLAND

LOT 2 AREA = 13± ACRES INCLUDING: 0.90 ACRES PIPER MILL ROAD EASEMENT, 2.6± ACRES WETLAND

LOT 3 AREA = 47± ACRES INCLUDING: 1.97 ACRES CENTRAL MAINE POWER CO. EASEMENT, 4.3± ACRES WETLAND

WADING BIRD HABITAT "UMO-17984" SCALED FROM I.F.&W. MAPS

CENTRAL MAINE POWER CO. 100' WIDE EASEMENT SECTION 28

BOUNDARY FOLLOWS BROOK

SEE VIEW EASEMENT FOR LAND OF HATCH BOOK 3621 PAGE 293

BOUNDARY OF LAND OF DANIEL HATCH IS 25' FROM CENTERLINE OF ROAD.

BOUNDARY IS 5' SOUTH OF STONEWALL

BOUNDARY IS CENTERLINE OF ROAD

GRID NORTH
MAINE STATE PLANE COORDINATE SYSTEM
WEST ZONE
SEE PLAN REFERENCE 5

MANN ASSOCIATES, INC.

PLAN REFERENCES:

1. "LINCOLN COUNTY RIFLE CLUB, INC." DATED JANUARY, 1953 BY HENRY F. HILL, JR. NOT RECORDED
2. "LAND OF LOUIS R. FRENCH" DATED DECEMBER, 1953 BY GEORGE S. HULEN NOT RECORDED
3. "FREEMAN PROPERTY - FOSTER FIELD" UNDATED BY BOOTHBAY ENGINEERING SERVICES, INC. NOT RECORDED
4. "SPENCER GAY" DATED APRIL 12, 1979 BY LINCOLN ENGINEERING COMPANY NOT RECORDED
5. "GREAT SALT BAY SANITARY DISTRICT" SHEETS 1 & 2 OF 2 DATED OCTOBER, 1985 BY MAINE COAST SURVEYING RECORDED IN PLAN BOOK 35 PAGES 76 & 77
6. "SHOP 'N SAVE SUPERMARKET" SHEETS 1 & 2 OF 2 DATED APRIL, 1990 BY E.C. JORDAN CO. NOT RECORDED
7. "JOHN & JANE BRYANT PROPERTY" DATED JANUARY 6, 1995 BY MAINE COAST SURVEYING RECORDED IN PLAN BOOK 64 PAGE 73
8. "NORTHERLY BOUNDARY LINE OF LOUIS R. FRENCH & AMELIA K. FRENCH ALONG LAND OF BARRY W. KNOTT & ANNE W. KNOTT" DATED JUNE 12, 1995 BY MANN ASSOCIATES, INC. RECORDED IN PLAN BOOK 56 PAGE 55
9. "CENTRAL LINCOLN COUNTY AMBULANCE SERVICE, INC." DATED JUNE 7, 1999 BY MANN ASSOCIATES, INC. RECORDED IN PLAN BOOK 64 PAGE 22
10. "LINCOLN BLOCK & L. DENHAM PIERCE TO DAMARISCOTTA HARDWARE, INC." DATED NOVEMBER, 2000 BY L.L. BROWN ASSOCIATES RECORDED IN PLAN BOOK 69 PAGE 26
11. "AMELIA K. FRENCH" DATED JANUARY 30, 2003 BY MANN ASSOCIATES, INC. NOT RECORDED
12. "DANIEL A. HATCH" DATED JULY 5, 2006 BY MANN ASSOCIATES, INC. NOT RECORDED
13. "BARRY W. KNOTT & ANNE W. KNOTT" DATED JANUARY 8, 2007 BY MCCONNELL & ASSOCIATES NOT RECORDED

LEGEND

- APPARENT RECORD BOUNDARY LINE
- PROPOSED NEW BOUNDARY
- APPROXIMATE DEED OR PLAN LINES
- EASEMENT LINE
- STONEWALL
- TREE LINE
- WETLAND BOUNDARY DETERMINED BY MARK CENCI GEOLOGIC, INC.
- UTILITY POLE
- EDGE OF TRAVELED WAY
- N/F — NOW OR FORMERLY
- BOOK 3621 PAGE 295 — REFERS TO A BOOK AND PAGE NUMBER OF A DEED RECORDED AT THE COUNTY REGISTRY OF DEEDS
- —X— WIRE FENCE ON GROUND OR IN TREES
- • INDICATES AN IRON FENCE BAR
- ■ INDICATES A STONE MONUMENT FOUND
- ● INDICATES AN IRON BAR OR PIPE FOUND
- ● GSBSD FOUND 5/8" IRON BAR - SEE PLAN REF. 5
- ● P.R. 9 IRON BAR SET FOR PLAN REFERENCE (P.R.) NOTED
- ○ INDICATES A 5/8" IRON BAR SET OR TO BE SET
- DRAINAGE WAY
- L1 LINE LABEL - SEE LINE TABLE
- C2 CURVE LABEL - SEE CURVE TABLE
- A POINT LABEL - SEE LINE TABLE

LINE TABLE

LINE	BEARING	DISTANCE
L1	S 00°59'44" W	10.00'
L2	N 02°46'09" E	7.59'
L3	N 85°27'13" W	123.80'
L4	N 11°05'19" E	51.54'
L5	S 86°00'54" E	112.03'
A-B	N 15°24'07" E	713.9' (TIE)
B-C	N 51°28'06" E	195.04' (TIE)
D-E	S 05°09'39" E	1918.4' (TIE)
F-G	S 16°33'44" W	442.01' (TIE)
H-J	S 44°07'29" E	1732.3' (TIE)
J-K	S 03°24'21" W	622.9' (TIE)
L-M	N 18°54'22" W	1004.6' (TIE)
M-N	N 40°43'07" W	1208.0' (TIE)

CURVE TABLE

CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD LENGTH	CHORD BEARING
C1	164.79'	250.00'	37°46'02"	161.82'	S 72°06'44" W
C2	221.39'	320.00'	39°38'20"	217.00'	S 73°10'16" W
C3	184.37'	260.00'	40°37'46"	180.53'	N 73°40'13" E
C4	95.45'	310.00'	17°38'31"	95.07'	N 62°05'22" E

NOTES:

1. THIS PLAN REPRESENTS THE RESULTS OF A SURVEY OF THE PROPERTIES OF THE FAMILY IRREVOCABLE TRUST. THE BOUNDARIES BETWEEN THESE PARCELS WERE NOT SURVEYED.
2. THE RECORD LAYOUT OF SCHOOL STREET WAS NOT FOUND. THE SIDELINE OF THE ROAD SHOWN HEREON IS BASED ON THE MONUMENTS FOUND. SEE MAINE STATE HIGHWAY COMMISSION RIGHT OF WAY MAP TITLED "STATE AID HIGHWAY NO. 3" SHC FILE NO. 8-8-170 DATED DECEMBER, 1961.
3. THE RECORD LAYOUT OF HEATER ROAD WAS NOT FOUND. A PORTION OF THE ROAD IS BELIEVED TO BE MAINTAINED BY THE TOWN OF DAMARISCOTTA. THE EXTENT OF ANY PUBLIC OR PRIVATE RIGHTS IN HEATER ROAD HAS NOT BEEN DETERMINED. THE DEED TO DANIEL A. HATCH (BOOK 3484 PAGE 151) DESCRIBES A 50' WIDE EASEMENT OVER THAT PORTION OF HEATER ROAD ADJACENT TO THE PARCEL DESCRIBED.
3. PIPER MILL ROAD IS A PRIVATE EASEMENT SERVING THE PROPERTIES OF CENTRAL LINCOLN COUNTY AMBULANCE SERVICES, INC., PIPER MILL HOUSING ASSOCIATES, L.P. AND GREAT SALT BAY SANITARY DISTRICT. SEE THEIR RESPECTIVE DEEDS FOR ADDITIONAL INFORMATION REGARDING THIS EASEMENT. SEE ALSO BOOK 1759 PAGE 109.
4. THE DEED TO ELEANOR & RICHARD YORK (BOOK 1640 PAGE 260) INCLUDES AN EASEMENT OF UNSPECIFIED WIDTH TO SCHOOL STREET.
5. THE PROPERTY IS SUBJECT TO A 100' WIDE EASEMENT GRANTED TO CENTRAL MAINE POWER CO. - SEE BOOK 491 PAGE 316 AND BOOK 491 PAGE 326.
6. THE TRIANGULAR AREA AT THE SOUTHEAST CORNER OF THE LAND OF LINCOLN COUNTY RIFLE CLUB, INC. REPRESENTS AN OVERLAP CREATED BY THE DESCRIPTION IN BOOK 503 PAGE 420. PLAN REFERENCE 1 INDICATES THE BLAZED LINE AND 1" x 22" IRON PIPE WERE SET BY HENRY F. HILL.
7. THE BOUNDARIES WITH THE LAND OF ELWELL SHOWN HEREON ARE TO BE ESTABLISHED BY AN EXCHANGE OF DEEDS.
8. WETLAND LOCATION WAS PERFORMED BY MARK CENCI GEOLOGIC, INC.
9. UNDERGROUND FEATURES AND/OR EASEMENTS WERE NOT LOCATED.
10. ADDITIONAL IRON FENCE BARS ALONG THE NORTHERLY BOUNDARIES OF THE PROPERTY WERE NOT LOCATED.
11. THE AREA EAST OF THE LAND OF DAVID A. HATCH (TAX MAP I LOT 50-5) IS SUBJECT TO A VIEW EASEMENT DESCRIBED IN BOOK 3621 PAGE 293.

State of Maine LINCOLN, ss Registry of Deeds
Received September 27, 2007
at 12 H. 59 M. P M., and
Recorded in Book 89 Page 12
Attest: Rebecca S. Watton Deputy Register

SUBDIVISION PLAN OF THE PIPER VILLAGE SUBDIVISION

FOR RECORD OWNER:
FRENCH FAMILY
IRREVOCABLE TRUST
192 MILL ROAD
EDGECOMB, MAINE 04556

LOCATION:
SCHOOL STREET & HEATER ROAD
DAMARISCOTTA, MAINE 04543
LINCOLN COUNTY
STATE OF MAINE

SCALE: 1"=200'

DATE: SEPTEMBER 10, 2007

0 40 100 200 400 800 FEET
0 20 40 100 200 METERS

BY: MANN ASSOCIATES, INC.
P.O. BOX 51
BOWDOIN, ME 04287
PH# (207) 353-9047
DAVID C. TONRY P.L.S. #2142

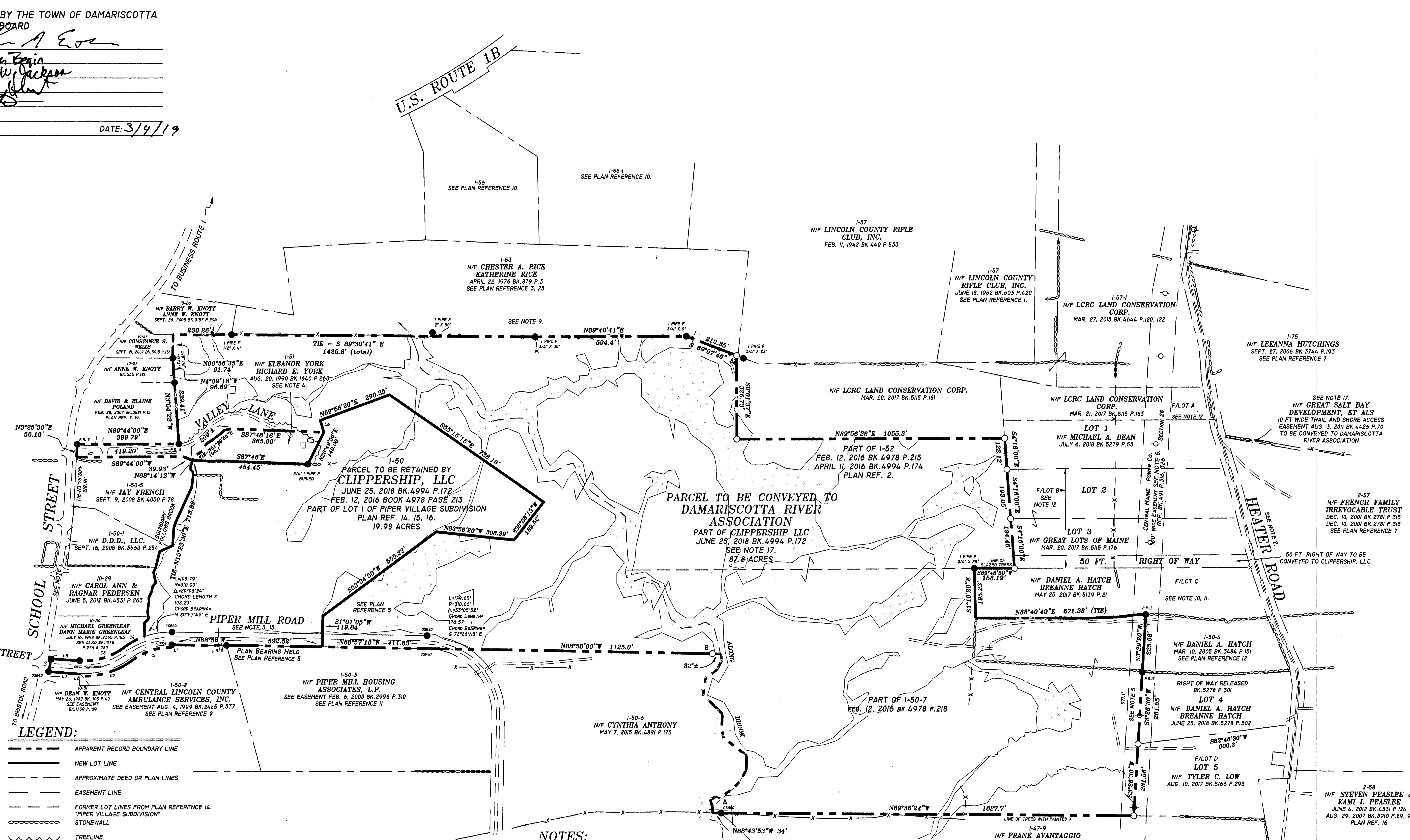
JOB NO.: 9863
PROJ. NO.: 06031

89-12

APPROVED BY THE TOWN OF DAMARISCOTTA PLANNING BOARD

[signatures]

NAME: DATE: 3/4/19



LEGEND:

▬ ▬ ▬	APPARENT RECORD BOUNDARY LINE
▬▬▬	NEW LOT LINE
— — —	APPROXIMATE DEED OR PLAN LINES
— —	EASEMENT LINE
— — —	FORMER LOT LINES FROM PLAN REFERENCE 14. "PIPER VILLAGE SUBDIVISION"
	STONEWALL
	TREELINE
	WETLAND BOUNDARY DETERMINED BY MARK CENCI GEOLOGIC, INC.
	UTILITY POLE
	EDGE OF TRAVELED WAY
N/F	NOW OR FORMERLY
BOOK (BK.) 3621 PAGE (P.) 295	REFERS TO A BOOK AND PAGE NUMBER OF A DEED RECORDED AT THE COUNTY REGISTRY OF DEEDS
—X—	WIRE FENCE ON GROUND OR IN TREES
•	INDICATES AN IRON FENCE BAR
■	INDICATES A STONE MONUMENT FOUND
●	INDICATES AN IRON ROD OR PIPE FOUND
● GSBSD	FOUND 5/8" IRON ROD - SEE PLAN REF. 5
● P.R. 8	IRON ROD SET FOR PLAN REFERENCE (P.R.) NOTED
○	INDICATES A 5/8" IRON ROD SET OR TO BE SET
	DRAINAGEWAY
L1	LINE LABEL - SEE LINE TABLE
C2	CURVE LABEL - SEE CURVE TABLE
A	POINT LABEL - SEE LINE TABLE

LINE TABLE

LINE	BEARING	DISTANCE
L1	S 00°59'44" W	10.00'
L2	N 02°46'09" E	7.59'
L3	N 85°27'13" W	123.80'
L4	N 11°05'19" E	51.54'
L5	S 86°00'54" E	112.03'
L6	N 16°28'10" W	49.1'
A-B	N 3°03'00" W	624.4' (TIE)

CURVE TABLE

CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD LENGTH	CHORD BEARING
C1	164.79'	250.00'	37°46'02"	161.82'	S 72°06'44" W
C2	221.39'	320.00'	39°38'20"	217.00'	S 73°10'16" W
C3	184.37'	260.00'	40°37'46"	180.53'	N 73°40'13" E
C4	95.45'	310.00'	17°38'31"	95.07'	N 62°05'22" E

NOTES:

1. THE RECORD LAYOUT OF SCHOOL STREET WAS NOT FOUND. THE SIDELINE OF THE ROAD SHOWN HEREON IS BASED ON THE MONUMENTS FOUND. SEE MAINE STATE HIGHWAY COMMISSION RIGHT OF WAY MAP TITLED "STATE AID HIGHWAY NO. 3" SHC FILE NO. 8-8-170 DATED DECEMBER, 1961.

2. THE RECORD LAYOUT OF HEATER ROAD WAS NOT FOUND. A PORTION OF THE ROAD IS BELIEVED TO BE MAINTAINED BY THE TOWN OF DAMARISCOTTA. THE EXTENT OF ANY PUBLIC OR PRIVATE RIGHTS IN HEATER ROAD HAS NOT BEEN DETERMINED. OTHER EASEMENTS OF RECORD INCLUDE BK.4558 P.58, BK.3991 P.307, BK.3971 P.253, BK.3991 P.73. BK.2781 P.308, 311, 313, 315, 318, 320, BK.3744 P.193, BK.3484 P.151, BK.3902 P.102, BK.3911 P.71, 75.

3. PIPER MILL ROAD IS A PRIVATE EASEMENT SERVING THE PROPERTIES OF CENTRAL LINCOLN COUNTY AMBULANCE SERVICES, INC., PIPER MILL HOUSING ASSOCIATES, L.P. AND GREAT SALT BAY SANITARY DISTRICT. SEE THEIR RESPECTIVE DEEDS FOR ADDITIONAL INFORMATION REGARDING THIS EASEMENT. SEE ALSO BOOK 1759 PAGE 109.

4. THE DEED TO ELEANOR & RICHARD YORK (BOOK 1640 PAGE 260) INCLUDES AN EASEMENT OF UNSPECIFIED WIDTH TO SCHOOL STREET.

5. THE PROPERTY IS SUBJECT TO A 100' WIDE EASEMENT GRANTED TO CENTRAL MAINE POWER CO. - SEE BOOK 491 PAGE 316 AND BOOK 491 PAGE 326.

6. THE BOUNDARIES WITH THE LAND FORMERLY OF ELWELL, NOW PEASLEE, WERE CONFIRMED BY AN EXCHANGE OF DEEDS. SEE PLAN REF.14 AND 15 REFERENCE BOUNDARY AGREEMENT BOOK 3910 PAGE 89, 91, 93, 95..

7. WETLAND LOCATION WAS PERFORMED BY MARK CENCI GEOLOGIC, INC.

8. UNDERGROUND FEATURES AND/OR EASEMENTS WERE NOT FOUND OR LOCATED.

9. NOT ALL IRON FENCE BARS ALONG THE NORTHERLY BOUNDARIES OF THE PROPERTY WERE LOCATED.

10. LOT C WAS PART OF LOT 3 ON PLAN REFERENCE 14. LOT C MERGED WITH LOT 3 BY A DEED TO FRENCH FAMILY IRREVOCABLE TRUST SEPT. 20, 2007 RECORDED IN BOOK 3911 PAGE 71. LOT C WAS INCORRECTLY SHOWN AS A PART OF LOT 1-52 ON THE CURRENT DAMARISCOTTA TAX MAP.

11. LOT C AND D RESULT FROM A SINGLE DIVISION OF PIPER VILLAGE SUBDIVISION'S LOT 3, AFTER THE CONVEYANCE OF THE REMAINDER OF LOT 3 TO AN ABUTTING LAND OWNER, CLIPPERSHIP, LLC (LOT 1 OF SAID PIPER VILLAGE SUBDIVISION).

12. LOTS A AND B RESULT FROM A SINGLE DIVISION OF THE REMAINING LAND WITHIN LOT 1-52 OF COASTAL REALTY CAPITAL, LLC AFTER THE CONVEYANCE OF LAND TO AN ABUTTING LAND OWNER, CLIPPERSHIP, LLC.

13. THE COMBINED TOTAL AREA OF CLIPPERSHIP, LLC ABOVE IS 114 ACRES, INCLUDING 1.96 ACRES IN THE PIPER MILL ROAD EASEMENT.

14. A FORMER VIEW EASEMENT DESCRIBED IN BOOK 3621 PAGE 293 WAS TERMINATED IN BOOK 4049 PAGE 1.

15. THE PERIMETER BOUNDARY LOCATIONS ARE BASED ON PLAN REFERENCES 14, 15, 20 AND 21.

16. THE LOCATION OF THE NEW BOUNDARY FOR LAND TO BE CONVEYED IS BASED ON INFORMATION PROVIDED BY "DIRIGO CAPITAL ADVISORS. NO UPDATED FIELD SURVEY OR UPDATE OF ABUTTER DATA HAS BEEN PERFORMED.

17. A TRAIL AND SHORE ACCESS EASEMENT DESCRIBED IN BOOK 4426 PAGE 70 WILL BE CONVEYED TO BENEFIT DAMARISCOTTA RIVER ASSOCIATION.

PLAN REFERENCES:

1. "LINCOLN COUNTY RIFLE CLUB, INC." DATED JANUARY, 1953 BY HENRY F. HILL, JR. NOT RECORDED
2. "LAND OF LOUIS R. FRENCH" DATED DECEMBER, 1953 BY GEORGE S. HULEN NOT RECORDED
3. "FREEMAN PROPERTY - FOSTER FIELD" UNDATED BY BOOTHBAY ENGINEERING SERVICES, INC. NOT RECORDED
4. "SPENCER GAY" DATED APRIL 12, 1979 BY LINCOLN ENGINEERING COMPANY NOT RECORDED
5. "GREAT SALT BAY SANITARY DISTRICT" SHEETS 1 & 2 OF 2 DATED OCTOBER, 1985 BY MAINE COAST SURVEYING RECORDED IN PLAN BOOK 35 PAGES 76 & 77
6. "SHOP 'N SAVE SUPERMARKET" SHEETS 1 & 2 OF 2 DATED APRIL, 1990 BY E.C. JORDAN CO. NOT RECORDED
7. "JOHN & JANE BRYANT PROPERTY" DATED JANUARY 6, 1995 BY MAINE COAST SURVEYING RECORDED IN PLAN BOOK 64 PAGE 73
8. "NORTHERLY BOUNDARY LINE OF LOUIS R. FRENCH & AMELIA K. FRENCH ALONG LAND OF BARRY W. KNOTT & ANNE W. KNOTT" DATED JUNE 12, 1995 BY MANN ASSOCIATES, INC. RECORDED IN PLAN BOOK 56 PAGE 55
9. "CENTRAL LINCOLN COUNTY AMBULANCE SERVICE, INC." DATED JUNE 7, 1999 BY MANN ASSOCIATES, INC. RECORDED IN PLAN BOOK 64 PAGE 22
10. "LINCOLN BLOCK & L. DENHAM PIERCE TO DAMARISCOTTA HARDWARE, INC." DATED NOVEMBER, 2000 BY L.L. BROWN ASSOCIATES RECORDED IN PLAN BOOK 69 PAGE 26
11. "AMELIA K. FRENCH" DATED JANUARY 30, 2003 BY MANN ASSOCIATES, INC. NOT RECORDED
12. "DANIEL A. HATCH" DATED JULY 5, 2006 BY MANN ASSOCIATES, INC. NOT RECORDED
13. "BARRY W. KNOTT & ANNE W. KNOTT" DATED JANUARY 8, 2007 BY MCCONNELL & ASSOCIATES NOT RECORDED
14. "SUBDIVISION PLAN OF THE PIPER VILLAGE SUBDIVISION" SEPT. 10, 2007 RECORDED IN PLAN BOOK 89 PAGE 12.
15. "BOUNDARY RETRACEMENT SURVEY OF THE FRENCH FAMILY IRREVOCABLE TRUST, SEA LARK L.P. & AMELIA K. FRENCH ESTATE" AUG. 23, 2007 BY MANN ASSOCIATES, INC.
16. "JEREL & SUSAN ELWELL PROPERTY" AUG. 10, 2006, MAINE COAST SURVEYING
17. "TOWN OF BRISTOL" JUNE 12, 1815 BY WM. McCLINTOCK
18. "SCHOOL STREET LAND" JULY 14, 2008 BY MANN ASSOCIATES, INC. RECORDED IN PLAN BOOK 65 PAGE 68A
19. "SBS BARRY W. KNOTT AND ANNE W. KNOTT" JAN. 8, 2007 BY McCONNELL AND ASSOCIATES.
20. "LOT PLAN OF THE CLIPPERSHIP, LLC PARCEL" FEB. 17, 2016, PLAN BOOK 106 PAGE 13.
21. "FINAL PLAN OF THE HEATER ROAD SUBDIVISION" JUNE 1, 2017, PLAN BOOK 109 PAGE 5.
22. "TOPOGRAPHIC SCHEMATIC CLIPPERSHIP PARCELS" SEPT. 2018, REVISED THROUGH JAN. 17, 2019 BY SJR ENGINEERING, INC.
23. "BOUNDARY SURVEY PROPERTY OF RICE AND K.E.A., INC." 05 APRIL 2017, PLAN BOOK 108 PAGE 47.

AMENDED LOT PLAN OF THE CLIPPERSHIP, LLC PARCEL

FOR:
DIRIGO CAPITAL ADVISORS
6 CHESTNUT ST., SUITE 206
AUGUSTA, ME 04330
C/O DAVID TUCCI

LOCATION: PIPER MILL ROAD
SCHOOL STREET & HEATER ROAD
DAMARISCOTTA, MAINE 04543
LINCOLN COUNTY
STATE OF MAINE

DATE: FEB. 17, 2016
REVISED: MARCH 1, 2016 TO ADD A DIMENSION TO LOT D
REVISED: JAN. 29, 2019 TO ADD DCA PARCEL, HEATER ROAD SUBDIVISION LOTS, AND NOTE 17.

SCALE: 1"=200'

0 40 100 200 400 800 FEET
0 20 40 100 200 METERS

State of Maine
LINCOLN, ss Registry of Deeds
Received March 6, 2019
at 11 h. 22 m. A m., and
Recorded in Book 112 Page 61
ATTEST: Carolyn M Cook Register Deputy

RECORD OWNER:
CLIPPERSHIP, LLC
6 CITY CENTER, 3RD FLOOR
PORTLAND, ME 04101

[signature]

BY: MANN ASSOCIATES, INC.
38 MAGEE ROAD
BOWDOIN, ME 04287
PH# (207) 353-9047

DRAWN BY: VAL MANN
JOB NO.: 1902_1530

112-61

APPENDIX C
MDEP FIELD DETERMINATION

In the attachment, you will find a copy of the MDEP field determination report explaining specific jurisdiction of wetland resources on the project site.

DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF LAND RESOURCES

4/27/2022

CONTACT ID 12865

FIELD DETERMINATION FORM

CONTACT
KAYLA GRAY

2078699050

PROPERTY OWNER
CLIPPERSHIP LLC

STAFF DUFOUR, CAMERON

DIRECTIONS

Piper Mill Road

SITE TOWN DAMARISCOTTA
MAP 001
LOT 50

MEMO

On 4/21/2022 Department staff met with Kayla Gray and Lucien Langlois of Atlantic Resource Consultants acting on behalf of Clippership LLC. The location of the visit was at a parcel on Piper Mill Road in the Town of Damariscotta identified as Map 001 Lot 050. The reason for the visit was to review on-site natural resources, receive a field determination, and then discuss the permitting implications for wetlands connected over 20,000 square feet of emergent vegetation and open water.

Chapter 310 defines a freshwater wetland that contains under normal circumstances at least 20,000 square feet of aquatic vegetation, emergent marsh vegetation, or open water as a wetland of special significance or (WOSS). Furthermore, any wetlands contiguously connected to said WOSS would also gain the designation of WOSS.

Department staff observed a water feature at the northern portion of the parcel that was comprised of over 20,000 square feet of emergent marsh vegetation/ open water. Department staff also observed two separate wetland fingers draining water to the WOSS in a south to north direction. While observing each wetland finger Department staff observed an area where the topography of the uplands forced the wetlands to concentrate their flow forming a channel between defined banks. Atlantic Resources Consultants delineated these two areas as a stream. After observing the two pinch points Department staff agreed with the Atlantic Resource Consultants determination of stream. Furthermore it was determined that the two wetland fingers were not contiguous and the stream portion separated the two. Therefore the wetlands to the south of the stream that are outside of 250 feet of the 20,000 square feet of open water would not have the designation of WOSS. Any alterations of wetlands over 4,300 square feet of freshwater wetlands not designated at WOSS will require a Department permit.

Erosion control devices must be installed and maintained on the project site during any soil disturbance activity. A Stormwater Management Law PBR or Maine Construction General Permit "NOI" and "NOT" must be filed with the Department if more than 1 acre of area is going to be disturbed on the project site at any given time during construction.

NAME: _____

RECEIVED 4/21/2022 **SITE VISIT** 4/21/2022 **COMPLETED**

ATTACHMENT E

SOIL TEST PIT LOGS

WATERSHED RESOURCE CONSULTANTS, LLC

NATURAL RESOURCE AND SOIL SCIENCE CONSULTING

22555
August 19, 2022

Atlantic Resource Consultants
Attention: Andrew D. Johnston, PE, LEED AP
541 US Route 1, Suite 21
Freeport, ME 04032

Subject: Soil Documentation in Stormwater Systems Report
Proposed Clippership Landing
Piper Mill Road
Damariscotta, Maine

Dear Andy,

Watershed Resource Consultants, LLC is pleased to present this Soil Documentation in Stormwater Systems Report for the proposed Clippership Landing nursing home on Piper Mill Road in Damariscotta, Maine. The purpose of the services was to document and classify soils in and near proposed stormwater system areas in support of Atlantic Resource Consultants (ARC's) design. The proposed project, including proposed stormwater system areas, was shown on the ARC Concept Site Plan dated June 2022.

Appendix A of this Report contains a Test Pit Documentation Plan and Test Pit Logs.

Exploration and Methodology

Watershed Resource Consultants, LLC (WRC) visited the site in August of 2022 to document and classify soils in nine locations near or in proposed stormwater system areas, the locations as determined by ARC. The soil test pits, labeled TP SW-1 through TP SW-9 were dug to approximately 6.5 feet in depth or to refusal by an excavator and operator from Hagar Construction. A plan showing the test pit locations as GPS located in the field is included with this Report.

At each test pit, WRC documented soil horizon depths, soil texture, color, consistence, structure, depth of observed fill, depth to seasonal water table, depth to restrictive layer, depth to observed seeping, and depth to bedrock (if observed) to the depth of the test pit. Using the collected soil data, WRC then classified the observed soils to the closest Maine soil series based on data published by the Natural Resources Conservation Service (NRCS). WRC used published NRCS data on the soil series and Maine

BAR HARBOR OFFICE
1366 STATE HIGHWAY 102, #6
BAR HARBOR, ME 04609
(207) 944-7288

ORRINGTON OFFICE
P.O. BOX 145
ORRINGTON, ME 04474
(207) 385-6056

Department of Environmental Protection (MDEP) E&SC BMP's[1] to report the soil's hydrologic soil group. Soil classification and hydrologic soil group for each test pit are included below in Table 1. The hydrologic soil group presented is based on NRCS published soils data/MAPSS method and does not represent laboratory or in-situ testing results.

Findings

Table 1 – Test Pit Documentation Summary

Test Pit	Depth to Seasonal Water Table	Depth to Restrictive Layer	Depth to Bedrock	Soil Series	Hydrologic Soil Group (NRCS)
TP SW-1	12"	12"	N/O	Lamoine silt loam	D
TP SW-2	12"	12"	N/O	Lamoine silt loam	D
TP SW-3	16"	16"	N/O	Peru loam	C/D
TP SW-4	10"	10"	N/O	Lamoine silt loam	D
TP SW-5	28"	28"	32"	Tunbridge loam, MWD phase	C
TP SW-6	9"	9"	N/O	Lamoine silt loam	D
TP SW-7	6"	6"	N/O	Lamoine silt loam, eroded phase	D
TP SW-8	27"	27"	64"-75"	Peru loam	C
TP SW-9	24"	24"	N/O	Peru loam	C/D

N/O = Not Observed

Lamoine soils are somewhat poorly drained soils formed in glacio-lacustrine/marine sediments. Peru soils are moderately well drained soils formed in glacial till. Tunbridge soils are moderately deep to bedrock soils formed in bedrock controlled glacial till. The Tunbridge named soil at TP SW-5 is a moderately well drained due to evidence of seasonal water table and restrictive layer above the bedrock at 28" in depth.

[1] Maine Department of Environmental Protection. MAINE EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMPs) Manual for Designers and Engineers, October 2016.

Closing

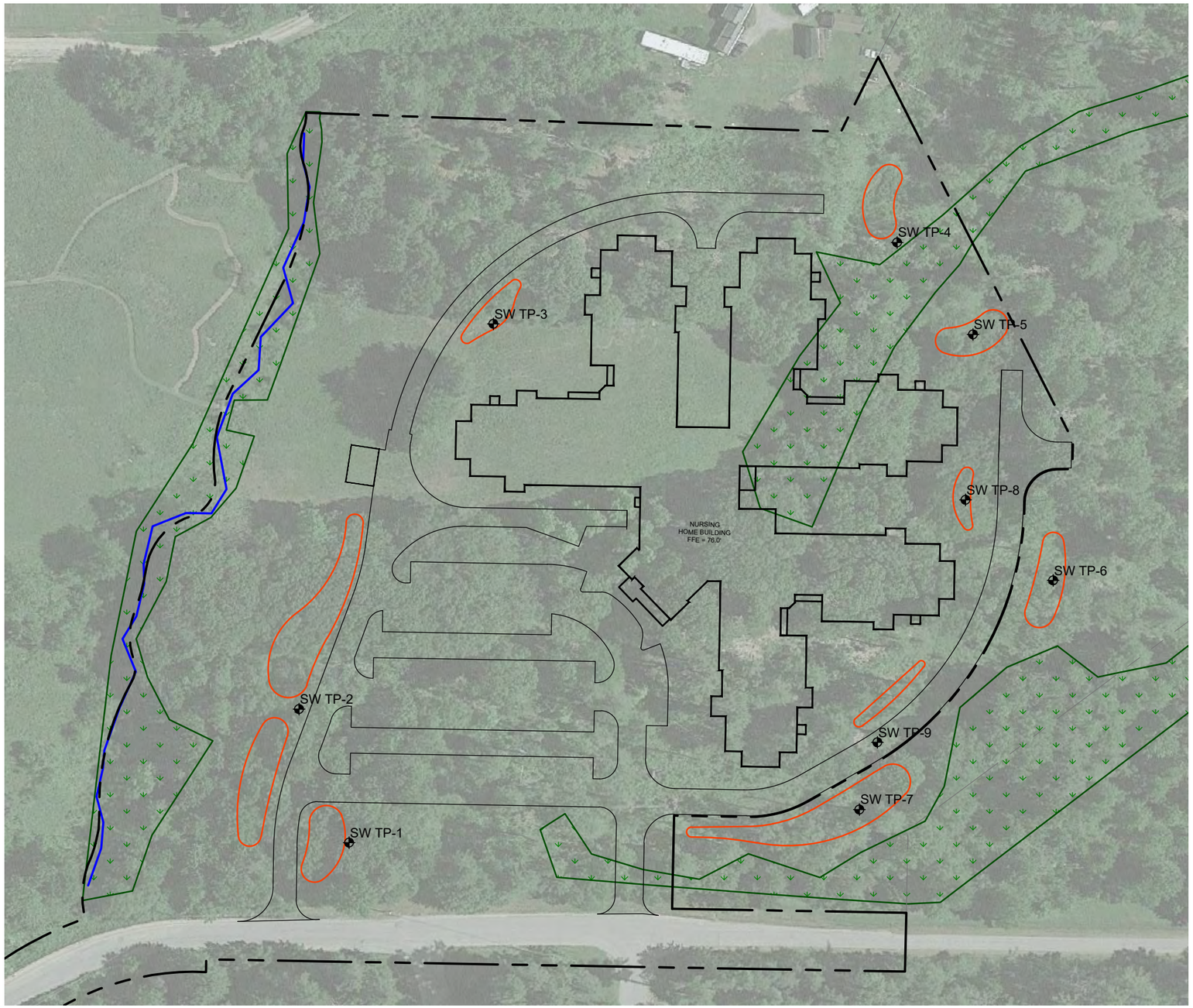
WRC appreciates the opportunity to assist you during this phase of the project. If you have any questions, please contact us.

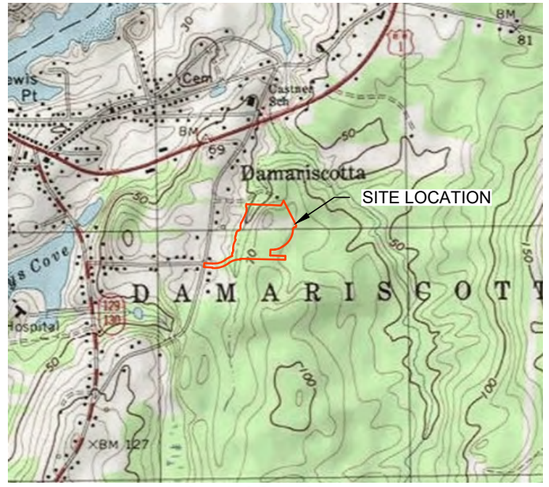
Sincerely,

Watershed Resource Consultants, LLC

Aleita M. Burman, Certified Soil Scientist #SS430
lburman@wrcmaine.com
Principal, Member| *Watershed Resource Consultants, LLC*

APPENDIX A
Soil Documentation Plan
Test Pit Logs





SITE LOCATION MAP
Scale: 1" = 2000'

N

LEGEND

- PROJECT PARCEL
- SW TP-1 - TEST PIT (TYPICAL)

NOTES:
THIS PLAN IS TO ACCOMPANY WATERSHED RESOURCE CONSULTANTS LLC'S SOIL DOCUMENTATION REPORT.

Watershed Resource Consultants, LLC.
1366 State Hwy 102
#6 Bar Harbor, ME 04609
(207) 944-7288
rstamand@wrcmaine.com
PO Box 145
Orrington, ME 825-4050
(207) 825-4050
lburman@wrcmaine.com

Do Not Use for Construction
For Regulatory Review Only

0 100 200 300

Soil Documentation Plan
Proposed Clippership Landing Nursing Home

Atlantic Resource Consultants
Piper Mill Road
Damariscotta, Maine

Job No.: 22555	Scale: 1" = 100'
Date: 8/18/2022	Sheet: 1

FORM F (SS2) Rev. 7/21

SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name: Clippership Landing

Applicant Name: Atlantic Resource Consultants

Project Location (municipality): Damariscotta, ME

Exploration Symbol # TPSW-1 ■ Test Pit ☐ Boring ☐ Probe

<1 " Organic horizon thickness Ground surface elev. _____

80 " Depth: ■ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
AP	10YR 4/3	SILT LOAM	GRANULAR	FRIABLE	NONE
B			WEAK BLOCKY		
Bw	2.5Y 5/3		BLOCKY	FIRM	CF 2.5Y 5/6 CM 5Y 6/2
BC	5Y 4/3	SILTY CLAY LOAM			MA 2.5Y 5/6 MM 5Y 6/2
C			MASSIVE	VERY FIRM	MA 2.5Y 5/6 MM 5Y 5/2 MN STAIN

Depth below mineral soil horizon (inches)

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

//////LIMIT OF EXPLORATION//////

Soil Details

Soil Series/Phase Name: Lamoine silt loam

Limiting Factor: 12 " Depth ■ Groundwater ■ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☑ SPD ☐ PD ☐ VPD

Slope: 6 Percent

Hydric Soil: ☑ No ☐ Yes

Hydrologic Soil Group: D

Exploration Symbol # TPSW-2 ■ Test Pit ☐ Boring ☐ Probe

<1 " Organic horizon thickness Ground surface elev. _____

80 " Depth: ■ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
AP	10YR 4/3	SILT LOAM	GRANULAR	FRIABLE	NONE
BW	2.5Y 4/4		WEAK BLOCKY		
BC	2.5Y 5/3		BLOCKY	FIRM	CF 2.5Y 5/6 CM 5Y 6/2
C_1	5Y 5/3	SILTY CLAY LOAM	MASSIVE		MF 2.5Y 5/6 GM 5Y 6/3
C_2				VERY FIRM	MA 2.5Y 5/6 MM 5Y 5/2 MN STAIN

Depth below mineral soil horizon (inches)

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

//////LIMIT OF EXPLORATION//////

Soil Details

Soil Series/Phase Name: Lamoine silt loam

Limiting Factor: 12 " Depth ■ Groundwater ■ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☑ SPD ☐ PD ☐ VPD

Slope: 5 Percent

Hydric Soil: ☑ No ☐ Yes

Hydrologic Soil Group: D

SOIL SCIENTIST INFORMATION AND SIGNATURE

Aleita M. Burman
Signature

Aleita M. Burman
Name Printed

2022-08-09
Date

SS 430
SS License No.

STATE OF MAINE
ALEITA M. BURMAN
NO. SS430
Soil Professional Geologist
CERTIFIED SOIL SCIENTIST

FORM F (SS2) Rev. 7/21

SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name:	Applicant Name:	Project Location (municipality):
Clippership Landing	Atlantic Resource Consultants	Damariscotta, ME

Exploration Symbol # TPSW-3 ■ Test Pit ☐ Boring ☐ Probe

< 1 " Organic horizon thickness Ground surface elev. _____

78 " Depth: ■ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	10YR 4/3	LOAM	GRANULAR	FRIABLE	NONE
Bs	10 YR 5/4	FINE SANDY LOAM	WEAK BLOCKY		
BC	2.5Y 5/3	COBBLY SANDY LOAM	BLOCKY	FIRM	FM 10YR 4/6
C	5Y 5/3			very firm	CM 10YR 5/6 CM 5Y 6/2
					LIMIT OF EXPLORATION

Soil Details

Soil Series/Phase Name: Peru loam

Limiting Factor: 16 " Depth — ■ Groundwater ■ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☑ MWD ☐ SPD ☐ PD ☐ VPD

Slope: 14 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group: C/D

Exploration Symbol # TPSW-4 ■ Test Pit ☐ Boring ☐ Probe

2 " Organic horizon thickness Ground surface elev. _____

80 " Depth: ■ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	10YR 3/3	SILT LOAM	GRANULAR	FRIABLE	NONE
Bw	10YR 4/2		WEAK BLOCKY		
BC	2.5Y 5/3		BLOCKY	FIRM	MF 10YR 4/6 FM 5Y 6/2
C	5Y 4/3	SILTY CLAY LOAM	MASSIVE	VERY FIRM	MM 2.5Y 5/6 MM 5Y 5/2 MN STAIN
					LIMIT OF EXPLORATION

Soil Details

Soil Series/Phase Name: Lamoine silt loam

Limiting Factor: 10 " Depth — ■ Groundwater ■ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☑ SPD ☐ PD ☐ VPD

Slope: 3 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group: D

SOIL SCIENTIST INFORMATION AND SIGNATURE

Signature

Aleita M. Burman

Name Printed

2022-08-09

Date

SS430

SS License No.

STATE OF MAINE — ALEITA M. BURMAN NO. SS430 — CERTIFIED SOIL SCIENTIST — official professional seal

FORM F (SS2) Rev. 7/21

SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name:	Applicant Name:	Project Location (municipality):
Clippership Landing	Atlantic Resource Consultants	Damariscotta, ME

Exploration Symbol # TPSW-5 ■ Test Pit ☐ Boring ☐ Probe

2 " Organic horizon thickness Ground surface elev. _____

32 " Depth: ☐ of exploration, or ■ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
A_p	10YR 3/3	LOAM	GRANULAR	FRIABLE	NONE
B_w	10YR 4/6	FINE SANDY LOAM			
BC	2.5Y 5/6	FINE SANDY LOAM	WEAK BLOCKY		
C	2.5Y 5/3		BLOCKY	FIRM	CM 2.5Y 5/6
R	REFUSAL - PROBABLE BEDROCK				

Depth below mineral soil horizon (inches)

Soil Details

Soil Series/Phase Name: Tunbridge loam, MWD phase

Limiting Factor: 32" Depth; ☒ Bedrock; Groundwater 28"; Restrictive Layer 28"

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: 4 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group: C

Exploration Symbol # TPSW-6 ■ Test Pit ☐ Boring ☐ Probe

1 " Organic horizon thickness Ground surface elev. _____

80 " Depth: ■ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	10YR 5/3	SILT LOAM	GRANULAR	FRIABLE	NONE
BW	2.5Y 4/3		BLOCKY		
B_{we}	2.5Y 5/3			FIRM	4.2.5Y 5/6 CM 5Y 6/2 MM 2.5Y 6/6 MM 5Y 6/2
BL	5Y 4/3	SILTY CLAY LOAM			
C			MASSIVE	VERY FIRM	MM 2.5Y 5/6 MM 5Y 5/2 MW STAIN
	LIMIT OF EXPLORATION				

Depth below mineral soil horizon (inches)

Soil Details

Soil Series/Phase Name: Lamoine silt loam

Limiting Factor: 9" Depth; ■ Groundwater; ■ Restrictive Layer; ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☒ SPD ☐ PD ☐ VPD

Slope: 5 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group: D

SOIL SCIENTIST INFORMATION AND SIGNATURE

Alleita M. Burman
Signature

Aleita M. Burman
Name Printed

2022-08-09
Date

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SS License No.

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ALEITA M. BURMAN
NO. SS430
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CERTIFIED SOIL SCIENTIST

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SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name:	Applicant Name:	Project Location (municipality):
Clippership Landing	Atlantic Resource Consultants	Damariscotta, ME

Exploration Symbol # TPSW-7 ■ Test Pit ☐ Boring ☐ Probe

21 " Organic horizon thickness Ground surface elev. _____

84 " Depth: ■ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	2.5Y 4/3	SILT LOAM	GRANULAR	FRIABLE	NONE
Bw	2.5Y 5/3	↓	BLOCKY	FIRM	CF 2.5Y 5/6 CM 5Y 6/3
BC	5Y 4/3	SILTY CLAY LOAM	↓	↓	MM 2.5Y 5/6 MM 5Y 6/2
C		↓	MASSIVE	VERY FIRM	MM 2.5Y 5/6 MM 5Y 5/2 MN STAIN
2C	5Y 5/3	STONY SANDY LOAM	BLOCKY	FIRM	MC 10YR 5/6 MC 5Y 5/2

LIMIT OF EXPLORATION

Soil Series/Phase Name: Lamoine silt loam, eroded phase

Limiting Factor: 6 " Depth ■ Groundwater ■ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ■ SPD ☐ PD ☐ VPD

Slope: 3 Percent

Hydric Soil: ■ No ☐ Yes

Hydrologic Soil Group: D

Exploration Symbol # TPSW-8 ■ Test Pit ☐ Boring ☐ Probe

2 " Organic horizon thickness Ground surface elev. _____

64 " Depth: ☐ of exploration, or ■ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	10YR 4/3	LOAM	GRANULAR	FRIABLE	NONE
Bs1	10YR 4/6	FINE SANDY LOAM	↓	↓	↓
Bs2	10YR 5/6	SANDY LOAM	WEAK BLOCKY	↓	↓
BC	2.5Y 5/4	↓	BLOCKY	FIRM	CF 10YR 4/6
C	5Y 6/3	COBBLY SANDY LOAM	↓	VERY FIRM	CM 2.5Y 5/6

REFUSAL - BEDROCK PROBABLE, VARIABLE DEPTH 64-75"

Soil Series/Phase Name: Peru loam

Limiting Factor: 27 " Depth ■ Groundwater ■ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ■ MWD ☐ SPD ☐ PD ☐ VPD

Slope: 8 Percent

Hydric Soil: ■ No ☐ Yes

Hydrologic Soil Group: C

SOIL SCIENTIST INFORMATION AND SIGNATURE

Signature

Aleita M. Burman

Name Printed

2022-08-09

Date

SS 430

SS License No.

STATE OF MAINE ALEITA M. BURMAN NO. SS430 affix professional seal CERTIFIED SOIL SCIENTIST

FORM F (SS2) Rev. 7/21

SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name:	Applicant Name:	Project Location (municipality):
Clippership Landing	Atlantic Resource Consultants	

Exploration Symbol # TPSW-9 ■ Test Pit ☐ Boring ☐ Probe

<1 " Organic horizon thickness Ground surface elev. _____

80 " Depth: ■ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
A_p	10YR4/3	LOAM	GRANULAR	FRIABLE	NONE
B	10YR4/4	FINE SANDY LOAM	WEAK BLOCKY		
B_2	10YR5/4		BLOCKY		
BC	2.5Y5/6			FIRM	7.5YR4/6
					10YR5/2
Cd	2.5Y5/3				7.5YR4/6
					10YR6/3
		COBBLY FINE SANDY LOAM			

Depth below mineral soil horizon (inches)

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

//////LIMIT OF EXPLORATION//////

Soil Details

Soil Series/Phase Name: Peru loam

Limiting Factor: 24 " Depth ■ Groundwater ■ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☑ MWD ☐ SPD ☐ PD ☐ VPD

Slope: 6 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group: C/D

Exploration Symbol # _____ ☐ Test Pit ☐ Boring ☐ Probe

_____ " Organic horizon thickness Ground surface elev. _____

_____ " Depth: ☐ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox

Depth below mineral soil horizon (inches)

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

Soil Details

Soil Series/Phase Name:

Limiting Factor: _____ " Depth ☐ Groundwater ☐ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☐ PD ☐ VPD

Slope: _____ Percent

Hydric Soil: ☐ No ☐ Yes

Hydrologic Soil Group: _____

SOIL SCIENTIST INFORMATION AND SIGNATURE

Aleita M. Burman
Signature

Aleita M. Burman
Name Printed

2022-08-09
Date

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SECTION 9

NATURAL RESOURCES

Maine Department of Inland Fisheries and Wildlife
The proposed project will not result in any significant impacts to wildlife and fisheries. The Maine Department of Inland Fisheries and Wildlife (MDIFW) was contacted to provide an initial review of the proposed project. Their review discussed the presence of Endangered, Threatened and Special Concern Species, Significant Wildlife Habitat, and Fisheries Habitat.

Three bat species are protected under Maine's Endangered Species Act and include the little brown bat, northern long-eared bat, and eastern small-footed bat. To prevent impacts to these three species, the majority of tree removal will be limited to October 16 – April 14 of any given year.

Atlantic Resource Consultants, LLC reviewed the project site and conducted a wetland delineation, stream identification, and inspection for potential vernal pools in the Spring of 2022. No vernal pools were identified on the project site. A copy of the wetland delineation is included in Attachment B.

MDIFW's review recommended a 100-foot buffer from all perennial and intermittent streams on the project site. The project parcel has three streams. The proposed project maintains a 100-foot buffer from the stream on the western portion of the site, except for a few areas of grading. Otherwise, the remainder of the development is located approximately at least 300 feet or more from the other two on-site streams that are located to the northeast of the parcel.

The proposed project will not result in any significant impacts to wildlife and fisheries.

Correspondence with the Maine Department of Inland Fisheries and Wildlife (MDIFW) is included in Attachment A of this section.

Maine Natural Areas Program
Additionally, no rare and exemplary botanical features have been identified in the vicinity of the project site according to correspondence received from the Maine Natural Areas Program (MNAP). Therefore, the project will not result in impacts to unusual natural areas or rare or unique botanical features.

Correspondence with MNAP is included in Attachment C.

Attachments
Attachment A – Correspondence with MDIFW
Attachment B – Wetland Delineation Report
Attachment C – Correspondence with MNAP

ATTACHMENT A

CORRESPONDENCE WITH MDIFW

JANET T. MILLS
GOVERNOR

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

JUDITH CAMUSO
COMMISSIONER

June 13, 2022

Kayla Gray
Atlantic Resource Co, LLC
541 US Route One, Suite 21
Freeport, ME 04032

RE: Information Request – Clippership, LLC Piper Mill Road Project, Damariscotta

Dear Kayla:

Per your request received on May 16, 2022, we have reviewed current Maine Department of Inland Fisheries and Wildlife (MDIFW) information for known locations of Endangered, Threatened, and Special Concern species; designated Essential and Significant Wildlife Habitats; and inland fisheries habitat concerns within the vicinity of the *Clippership, LLC Piper Mill Road* project in Damariscotta.

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

Endangered, Threatened, and Special Concern Species

Bat Species – Of the eight species of bats that occur in Maine, the three *Myotis* species are protected under Maine's Endangered Species Act (MESA) and are afforded special protection under 12 M.R.S §12801 - §12810. The three *Myotis* species include little brown bat (State Endangered), northern long-eared bat (State Endangered), and eastern small-footed bat (State Threatened). The five remaining bat species are listed as Special Concern: big brown bat, red bat, hoary bat, silver-haired bat, and tri-colored bat. While a comprehensive statewide inventory for bats has not been completed, based on historical evidence it is likely that several of these species occur within the project area during migration and/or the breeding season. However, our Agency does not anticipate significant impacts to any of the bat species as a result of this project.

Significant Wildlife Habitat

Significant Vernal Pools - At this time MDIFW Significant Wildlife Habitat (SWH) maps indicate no known presence of SWHs subject to protection under the Natural Resources Protection Act (NRPA) within the project area, which include Waterfowl and Wading Bird Habitats, Seabird Nesting Islands, Shorebird Areas, and Significant Vernal Pools. However, a comprehensive statewide inventory for Significant Vernal Pools has not been completed. It is unclear if surveys for vernal pools have been conducted; if not, we recommend that surveys for vernal pools be conducted within the project boundary by qualified wetland scientists prior to final project design to determine whether there are Significant Vernal Pools present in the area. These surveys should extend up to 250 feet beyond the anticipated project footprint because of potential performance standard requirements for off-site Significant Vernal Pools, assuming such pools are located on land owned or controlled by the applicant. Once surveys are completed, survey forms should be submitted to our Agency for review well before the submission of any necessary permits. Our Department will need to review and verify any vernal pool data prior to final determination of significance.

Fisheries Habitat

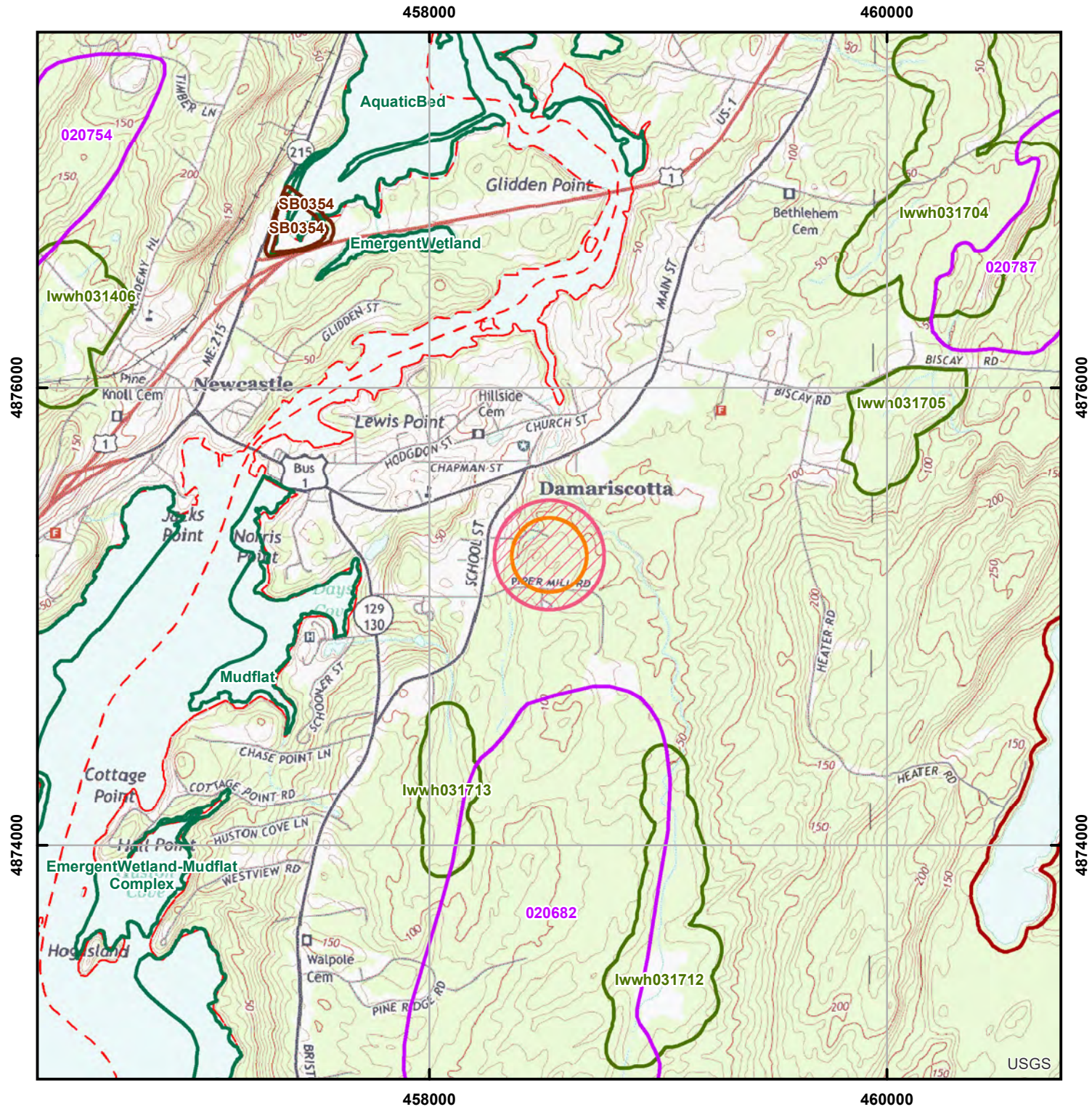
We generally recommend maintaining 100-foot undisturbed vegetated buffers from the upland edge of all intermittent and perennial streams and any contiguous wetlands. Maintaining and enhancing buffers along these resources is critical to the protection of water temperatures, water quality, natural inputs of coarse woody debris, and various forms of aquatic life necessary to support fish and other aquatic species. Riparian buffers also provide critical habitat and important travel corridors for a variety of wildlife species. Construction Best Management Practices should be closely followed to avoid erosion, sedimentation, alteration of stream flow, and other impacts as eroding soils can travel significant distances as well as transport other pollutants resulting in direct impacts to fish, other aquatic life, and their habitats. In addition, we recommend that any necessary instream work occur between July 15 and October 1.

This consultation review has been conducted specifically for known MDIFW jurisdictional features and should not be interpreted as a comprehensive review for the presence of other regulated features that may occur in this area. Prior to the start of any future site disturbance we recommend additional consultation with the municipality, and other state resource agencies including the Maine Natural Areas Program, Maine Department of Marine Resources, and Maine Department of Environmental Protection in order to avoid unintended protected resource disturbance.

Please feel free to contact my office if you have any questions regarding this information, or if I can be of any further assistance.

Best regards,

Becca Settele
Wildlife Biologist



Environmental Review of Fish and Wildlife Observations and Priority Habitats

Project Name: Clippership, LLC Piper Mill Road, Damariscotta (Version 1)

Miles

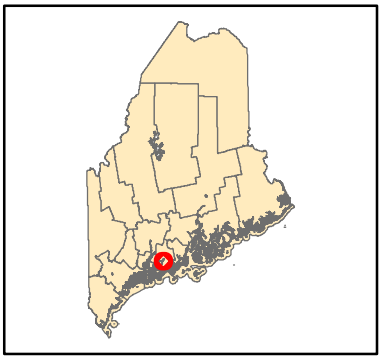
0 0.1250.25 0.5 0.75 1

Projection: UTM, NAD83, Zone 19N

Date: 5/16/2022

Maine Department of Inland Fisheries and Wildlife

- ProjectSearchAreas - All Versions
- Maine Cliff and Talus Areas
- Deer Winter Area
- LUPC p-fw
- Cooperative DWAs
- Seabird Nesting Islands
- Shorebird Areas
- Inland Waterfowl and Wading Bird
- 2008 Iwwh - Shoreland Zoning
- Tidal Waterfowl and Wading Bird
- Significant Vernal Pools
- Environmental Review Polygons
- Roseate Tern
- Piping Plover and Least Tern
- Aquatic ETSc - 2.5 mi review
- Rare Mussels - 5 mi review
- Maine Heritage Fish Waters
- Arctic Charr Habitat
- Redfin Pickerel and Swamp Darter Habitats - buffer100ft
- Special Concern occupied habitats - 100ft buffer
- Wild Lake Trout Habitats



ATTACHMENT B

WETLAND DELINEATION REPORT

CLIPPERSHIP LANDING
DAMARISCOTTA, MAINE

Wetland Delineation Report

September 2022

Prepared by:
Atlantic Resource Consultants
541 US Route One, Suite 21
Freeport, Maine 04032

Atlantic Resource Consultants
Engineering Strategies and Solutions

TABLE OF CONTENTS

WETLAND DELINEATION REPORT

Overview

The following report, including site photographs, was prepared by Atlantic Resource Consultants (ARC). A wetland delineation at the site was conducted in 2016 by Mark Cenci Geologic, Inc. Resource agencies require a recent wetland delineation for permit applications. Since the wetlands were mapped over five years ago, a new wetland delineation was conducted by ARC in 2021. Natural resource locations and boundaries are depicted in Appendix A.

Freshwater wetlands were delineated in accordance with the 1987 U.S. Army Corps of Engineers Wetland Delineation Manual and Northeast Regional Supplement. Wetlands are defined as areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. The methodology designed by the U.S. Army Corps of Engineers to identify wetlands uses three environmental parameters: hydrology, soil, and vegetation. Examples of wetlands include but are not limited, to wet meadows, emergent marshes, scrub-shrub wetlands, forested wetlands, peatlands, and vernal pools.

Jurisdictional river, stream, or brook features were evaluated as outlined in the Natural Resource Protection Act (NRPA) 38 M.R.S. § 480-B (9) and expanded in the NRPA Identification Guide for Rivers, Streams, and Brooks. Vernal pool habitat identifications were performed in accordance with the NRPA, 38 M.R.S § 480-B (10) regulations that are also outlined in Chapter 335, Significant Wildlife Habitat. Geographical Information System data was reviewed, and resource agencies were contacted regarding rare plants and rare, threatened, and endangered animal species.

Site History

A 107.8-acre parcel, once part of the Piper Village Subdivision, was split into two lots. The applicant, Clippership, LLC, retained 19.98 acres and sold the remaining 87.8 acres to the Damariscotta River Association (DRA) for preservation. A large network of wetlands and streams including Castners Creek are located on the DRA parcel. Wetland boundaries on the large parcel were delineated by Mark Cenci Geologic, Inc. The plan named "Subdivision Plan of The Piper Village Subdivision" dated September 27, 2007, and the revision "Amended Lot Plan of the Clippership, LLC parcel" dated January 29, 20219 can be viewed in Appendix B. Site plans have been attached to show the connectivity of natural resources on the parcel to be developed. Connectivity of wetlands off-site can result in adjacent jurisdiction and/or special significance designations by the MDEP. A field determination by MDEP to confirm the connections to on-site wetlands has been included in Appendix C.

Site Location & Description

The project site is located on the north side of Piper Mill Road, across from the Ledgewood Court apartment complex and Lincoln County Ambulance building. The 19.9-acre parcel is

identified in the Town of Damariscotta's tax assessing data as Lot 50 on Tax Map 1. The site is characterized by an upland white pine community but also contains a network of forested wetlands and intermittent streams. The project site is primarily wooded and undeveloped. A portion of the site has been selectively harvested for timber. It is believed that forestry operations were conducted sometime between 2012 and 2014. Impacts from the forestry operation created areas of hydric soils, populated with hydrophytic vegetation and signs of hydrology. Therefore, additional wetland areas were found on the project site that may not have been present during the previous delineation in 2016.

Access to the site is at the highest part of Piper Mill Road. The road crests approximately at the mid-point of the street frontage, and adjacent to the Lincoln County Ambulance site entrance. The elevation at this point is approximately 74ft (NAVD 1988). A ridge then extends northwards into the property to the highest point on the site approximately 500ft from the road. The elevation at the high point is approximately 80ft. The property slopes off fairly steeply (10%-15%) towards the north and west from the high point to approximate elevation 50 ft. at the parcel boundary and less steeply to the east (4%-5% over a greater distance) to the same approximate elevation at the property line.

General surficial soil mapping for the site has been obtained through the Natural Resource Conservation Service (NRCS) Web Soil Survey. This indicates the presence of predominantly Scantic and Lamoine Series silt loam soils, with a small area of Tunbridge-Lyman Complex (rocky) identified at the southern boundary of the site. Soil explorations during the wetland delineation confirmed that on-site soils are primarily somewhat poorly drained silt loams.

Natural Resources within Project Area

Freshwater Wetlands

U.S. Fish & Wildlife Service (FWS) National Wetland Inventory (NWI) maps were reviewed for the project and compared to the on-site wetland delineation. As shown on the NWI maps, and based on the Cowardin Classification system, the forested wetlands on the site are PFO4&1B or palustrine, forested, broad-leaved deciduous and needle-leaved evergreen wetlands with a seasonally saturated water regime. Field observations found this classification to be an accurate description of on-site forested wetlands. Forested wetlands are the dominant wetland type on the project site. Scrub-shrub and wet meadow wetland habitats were also identified during the delineation. Wetlands are labeled as Wetlands 1-3 on the attached site plans.

The wetlands are dominated by tree species such as red maple (*Acer rubrum*) and balsam fir (*Abies balsamea*) and ground cover including crested wood ferns (*Dropteris cristata)* and sensitive ferns (*Onoclea sensibilis*). Wetland drainage flows northeast, channelizing in ravines as they meet up with Castners Creek. Both narrow drainage ways were found to contain characteristics of a jurisdictional stream. Most of the wetland areas are natural wetlands but recent forestry operations have created additional jurisdictional wetland areas. Forested wetlands that have been logged contain plant species such as bulrush and cattails in the skidder ruts.

Scrub-shrub wetlands surround the western stream along the border of the property. Small areas of wet meadow wetlands are also present within the floodplain of the stream. Another scrub-shrub wetland was found along the edge of Piper Mill Road and extending off the property to the east. Scrub-shrub wetlands were found to contain willow (*Salix* spp.), speckled alder (*Alnus incana)*, winterberry holly (*Ilex verticillate)* and sensitive fern (*Onoclea sensibilis)*.

Streams

Streams were studied extensively in the field, and the following characteristics were documented: hydrology, morphology, substrate, vegetation, stability, aquatic organism assemblage, connectivity, and functions and values. Three unnamed streams have been identified on the parcel. All streams primarily flow in a northerly direction, eventually conjoining with a perennial stream off-site known as Castners Creek. Castners Creek flows into the area of the Damariscotta River known as Great Salt Bay. Castners Creek contains a beaver dam which has created an open water and emergent marsh wetland. Streams are labeled as Streams 1-3 on the attached site plans.

The first stream is labeled as Stream 1 on the attached plans. The channel is depicted as an intermittent drainage on a 7.5-minute USGS topographic map. The stream crosses Piper Mill Road, flowing north along the western property boundary of the site. The section of stream on the project site is surrounded by scrub-shrub and wet meadow wetlands. As the stream moves off-site, it becomes surrounded by forested wetlands before joining with Castners Creek. The Cowardin Classification system describes the stream as R4SBC or riverine, intermittent, stream with a seasonally flooded water regime. The MDEP designates the stream as “Class B” waters. An existing culvert crossing is located approximately 450’ north of the Piper Mill Road crossing. Fish were observed in the stream during natural resource mapping.

The second and third streams are short segments located within narrow ravines at the northeastern corner of the site. As the grade steepens, wetland drainage transitions into well-defined stream channels. Mineralized channel bottoms and aquatic insects were discovered within each stream segment. Channel braiding is occasional. Moderate amounts of wood debris are found within the streams. There was no evidence of prior stream manipulation or alteration. Both streams conjoin with the impounded section of Castners Creek off-site. Although Castners Creek contains fish habitat, natural conditions within the tributary streams prevent fish from traveling to the upper reaches of the streams. The two tributary streams were not documented during the 2016 wetland delineation. The beginning of each jurisdictional stream marks where wetland drainage with organic muck, fines and shallow silty pools becomes gravel and cobble substrate within channels between defined banks.

Vernal Pools

Potential vernal pool habitat was not identified within the study area. Wetland habitats were not found to contain seasonal surface water to support vernal pool indicator species. The wetland delineation was completed in the early winter of 2021. Wetland conditions during the delineation were found to be somewhat similar to seasonal high water in early spring.

Rare Plants and Rare, Threatened, and Endangered Animal Species

Natural resource agencies were contacted and/or databases were accessed to identify Rare, Threatened, Endangered, or Essential species and/or habitats mapped on the subject site. The agencies contacted include the Maine Department of Inland Fisheries and Wildlife (MDIFW) and Maine Natural Areas Program (MNAP) with the Maine Department of Agriculture Conservation & Forestry. Response letters are included within the permit applications. As shown on the response letter dated May 17, 2022, the MNAP has not identified Rare or Endangered Plant Species within the vicinity of the project. According to the MDIFW response letter dated June 13, 2022, bat species may be present on the site during migration and/or the breeding season. Three *Myotis* species are protected under the Maine Endangered Species Act and five other species are listed as being of Special Concern in Maine. The U.S. Fish & Wildlife Service (FWS) database was accessed on January 3, 2022, which indicated that the habitat range of the Threatened Northern Long-Eared Bat is potentially within the project area.

Regulatory Summary

Forested, scrub-shrub and wet meadow wetlands are not typically considered to be *Wetlands of Special Significance* (WOSS) per MDEP's Chapter 310 of the Natural Resources Protection Act. However, some wetland areas may contain certain characteristics or share proximity to other natural resources which designate them as WOSS such as:

- any wetland area located within 25 feet of a stream
- any wetland area located within the 100-year floodplain along a stream
- any wetland containing or consisting of at least 20,000 square feet of open water or emergent marsh vegetation

The Castners Creek wetlands were found to contain over 20,000 square feet of open water and emergent marsh vegetation due to a natural beaver impoundment. Wetlands which are hydrologically connected to the wetland complex surrounding Castners Creek may be designated as WOSS. These same wetland areas will also contain 75-feet of adjacent jurisdiction as a result of their connection to Castners Creek.

ARC wetland scientists met on-site with MDEP staff on April 27, 2022, for a field determination to ascertain if Wetlands 2 and 3 are considered to be WOSS due to the connectivity to Castners Creek. MDEP staff observed an area where the topography of the uplands forced the wetlands to concentrate their flow forming a channel between defined banks. MDEP determined that the two wetland fingers were not contiguous, and the stream portion separated the two. MDEP determined that the wetlands that are outside of the 250-foot set back would not be designated as WOSS. The field determination by MDEP has been included in Appendix C.

Wetland impacts are reviewed by MDEP based on the type of wetland, type of activity, and size of impact. The proposed wetland impacts are eligible for review under a Tier 1 permit application. For the purposes of NRPA, all on-site streams contain 75-feet of adjacent jurisdiction. Per their response letter dated June 13, 2022, MDIFW recommends a 100-foot undisturbed stream buffer be maintained along on-site streams. The project has been designed to maintain a 100-foot undisturbed buffer adjacent to all streams.

APPENDIX A
RESOURCE MAP

A map depicting natural resource boundaries and locations is provided on the following page.

0 ft 150 ft 300 ft 450 ft

Maine_Parcels_Organized_Towns.shp
Stream
Study Limit
Wetland Boundary

Created By: Kayla Gray
Date Created: 7/13/2022
Projection: UTM 19N (NAD83)
Project # 21-025

Clippership, LLC
Piper Mill Road
Damariscotta, ME 04543

Atlantic Resource Consultants
541 US Route One
Freeport, ME 04032
Tel: 207.869.9050

APPENDIX B
DEED RECORDED SUBDIVISION PLANS

Deed recorded subdivision plans have been included to show historical, field-verified wetland and stream locations within the vicinity of the project. Connectivity of wetlands on and off the project site can be used to ascertain specific jurisdiction under the NRPA.

TOWN OF DAMARISCOTTA PLANNING BOARD

CHAIRMAN DATE: 9/10/07

C:\sc14\WORK_MANN ASSOCIATES_FRENCH PROPERTIES\06031 FRENCH DAMARISCOTTA SUBDIVISION\06031C_091007.dwg Mon Sep 10 14:18:19 2007

BUSINESS ROUTE 1

TO BUSINESS ROUTE 1

TO BISCAY ROAD

HEATER ROAD

SCHOOL STREET

HIGH STREET

TO BRISTOL ROAD

PIPER MILL ROAD See Plan Reference 5

VALLEY LANE

See Plan Reference 10

See Plan Reference 10

TAX MAP I LOT 56-1

N/F HANNAFORD BROTHERS REAL ESTATE DEPARTMENT Sampsons Supermarkets, Inc. Book 1010 Page 287 October 2, 1979 See Plan Reference 6

TAX MAP I LOT 59

TAX MAP I LOT 62-1

N/F INHABITANTS OF THE TOWN OF DAMARISCOTTA Book 1949 Page 143 January 25, 1994

N/F F & G ENTERPRISES, INC. Book 2609 Page 169 October 20, 2000 TAX MAP I LOT 68

N/F LINCOLN COUNTY RIFLE CLUB, INC. Book 440 Page 533 February 11, 1942

TAX MAP I LOT 57

N/F LINCOLN COUNTY RIFLE CLUB, INC. Book 503 Page 420 June 18, 1952 See Plan Reference 1

TAX MAP I LOT 58

N/F AMELIA K. FRENCH ESTATE Book 3484 Page 157 March 10, 2005 See Plan Reference 7

N/F LEEANNA HUTCHINGS Book 3744 Page 193 September 27, 2006 See Plan Reference 7

TAX MAP 2 LOT 56

N/F FRENCH FAMILY IRREVOCABLE TRUST Book 2781 Page 315 December 10, 2001 Book 2781 Page 318 December 10, 2001 See Plan Reference 7

N/F CHESTER A. RICE KATHERINE RICE Book 879 Page 3 April 22, 1976 See Plan Reference 3

TAX MAP I LOT 53

N/F BARRY W. KNOTT ANNE W. KNOTT Book 3157 Page 294 September 26, 2003

TAX MAP 10 LOT 26

N/F JULIETTE M. SANBORN EST. Bk. 3620 Pg. 146 January 17, 2006

TAX MAP 10 LOT 27

TAX MAP 10 LOT 28

N/F BARRY W. KNOTT ANNE W. KNOTT Book 545 Page 212 August 26, 1958 See Plan Ref. 8 & 13

N/F DAVID A. HATCH Book 3553 Page 119 September 15, 2005

TAX MAP I LOT 50-1

TAX MAP I LOT 50-5

N/F DALE C. BOND Book 2121 Page 168 January 31, 1996

TAX MAP 10 LOT 29

N/F MICHAEL GREENLEAF DAWN MARIE GREENLEAF Book 2365 Page 143 July 16, 1998 See Also Book 1276 Pages 276 & 280

TAX MAP 10 LOT 30

N/F DEAN W. KNOTT Book 1103 Page 40 May 26, 1982 See Easement Book 1759 Page 109

TAX MAP 10 LOT 31

N/F CENTRAL LINCOLN COUNTY AMBULANCE SERVICES, INC. Book 2485 Page 337 August 4, 1999 See Plan Reference 9

TAX MAP I LOT 50-2

N/F PIPER MILL HOUSING ASSOCIATES, L.P. Book 2996 Page 310 February 6, 2003 See Plan Reference 11

TAX MAP I LOT 50-3

N/F JOEL HUSTON DODGE Book 493 Page 433 January 4, 1951

TAX MAP II LOT 20

N/F GREAT SALT BAY SANITARY DISTRICT Book 1276 Page 285 November 13, 1985 See Easement Book 1276 Page 282 See Plan Reference 5

TAX MAP I LOT 47-8

TAX MAP I LOT 47-9

N/F FRANK AVANTAGGIO Book 2303 Page 140 January 2, 1998 Book 2303 Page 138 December 26, 1997

N/F DANIEL A. HATCH Book 3484 Page 151 March 10, 2005 See Plan Reference 12

TAX MAP I LOT 50-4

N/F SEA LARK, L.P. Book 3484 Page 155 March 10, 2005

TAX MAP 2 LOT 57

N/F JEREL A. ELWELL SUSAN F. ELWELL Book 2439 Page 112 February 15, 1999 See Plan Reference 4

TAX MAP 2 LOT 58

TAX MAP I LOT 52

OWNER OF RECORD: FRENCH FAMILY IRREVOCABLE TRUST BOOK 2717 PAGE 266 AUGUST 6, 2001

OWNER OF RECORD: FRENCH FAMILY IRREVOCABLE TRUST BOOK 3621 PAGE 295 DECEMBER 23, 2005 BOOK 3484 PAGE 153 MARCH 10, 2005

TO BE CONVEYED TO AN ABUTTER AREA = 44± ACRES INCLUDING 12.3± ACRES WETLAND

See Plan Reference 2

LOT 1 AREA = 44± ACRES INCLUDING: 1.96 ACRES PIPER MILL ROAD EASEMENT, 11.9± ACRES WETLAND

LOT 2 AREA = 13± ACRES INCLUDING: 0.90 ACRES PIPER MILL ROAD EASEMENT, 2.6± ACRES WETLAND

LOT 3 AREA = 47± ACRES INCLUDING: 1.97 ACRES CENTRAL MAINE POWER CO. EASEMENT, 4.3± ACRES WETLAND

WADING BIRD HABITAT "UMO-17984" SCALED FROM I.F.&W. MAPS

CENTRAL MAINE POWER CO. 100' WIDE EASEMENT SECTION 28

BOUNDARY FOLLOWS BROOK

SEE VIEW EASEMENT FOR LAND OF HATCH BOOK 3621 PAGE 293

BOUNDARY OF LAND OF DANIEL HATCH IS 25' FROM CENTERLINE OF ROAD.

BOUNDARY IS 5' SOUTH OF STONEWALL

BOUNDARY IS CENTERLINE OF ROAD

GRID NORTH
MAINE STATE PLANE COORDINATE SYSTEM
WEST ZONE
SEE PLAN REFERENCE 5

MANN ASSOCIATES, INC.

PLAN REFERENCES:

1. "LINCOLN COUNTY RIFLE CLUB, INC." DATED JANUARY, 1953 BY HENRY F. HILL, JR. NOT RECORDED
2. "LAND OF LOUIS R. FRENCH" DATED DECEMBER, 1953 BY GEORGE S. HULEN NOT RECORDED
3. "FREEMAN PROPERTY - FOSTER FIELD" UNDATED BY BOOTHBAY ENGINEERING SERVICES, INC. NOT RECORDED
4. "SPENCER GAY" DATED APRIL 12, 1979 BY LINCOLN ENGINEERING COMPANY NOT RECORDED
5. "GREAT SALT BAY SANITARY DISTRICT" SHEETS 1 & 2 OF 2 DATED OCTOBER, 1985 BY MAINE COAST SURVEYING RECORDED IN PLAN BOOK 35 PAGES 76 & 77
6. "SHOP 'N SAVE SUPERMARKET" SHEETS 1 & 2 OF 2 DATED APRIL, 1990 BY E.C. JORDAN CO. NOT RECORDED
7. "JOHN & JANE BRYANT PROPERTY" DATED JANUARY 6, 1995 BY MAINE COAST SURVEYING RECORDED IN PLAN BOOK 64 PAGE 73
8. "NORTHERLY BOUNDARY LINE OF LOUIS R. FRENCH & AMELIA K. FRENCH ALONG LAND OF BARRY W. KNOTT & ANNE W. KNOTT" DATED JUNE 12, 1995 BY MANN ASSOCIATES, INC. RECORDED IN PLAN BOOK 56 PAGE 55
9. "CENTRAL LINCOLN COUNTY AMBULANCE SERVICE, INC." DATED JUNE 7, 1999 BY MANN ASSOCIATES, INC. RECORDED IN PLAN BOOK 64 PAGE 22
10. "LINCOLN BLOCK & L. DENHAM PIERCE TO DAMARISCOTTA HARDWARE, INC." DATED NOVEMBER, 2000 BY L.L. BROWN ASSOCIATES RECORDED IN PLAN BOOK 69 PAGE 26
11. "AMELIA K. FRENCH" DATED JANUARY 30, 2003 BY MANN ASSOCIATES, INC. NOT RECORDED
12. "DANIEL A. HATCH" DATED JULY 5, 2006 BY MANN ASSOCIATES, INC. NOT RECORDED
13. "BARRY W. KNOTT & ANNE W. KNOTT" DATED JANUARY 8, 2007 BY MCCONNELL & ASSOCIATES NOT RECORDED

LEGEND

- APPARENT RECORD BOUNDARY LINE
- PROPOSED NEW BOUNDARY
- APPROXIMATE DEED OR PLAN LINES
- EASEMENT LINE
- STONEWALL
- TREE LINE
- WETLAND BOUNDARY DETERMINED BY MARK CENCI GEOLOGIC, INC.
- UTILITY POLE
- EDGE OF TRAVELED WAY
- N/F — NOW OR FORMERLY
- BOOK 3621 PAGE 295 — REFERS TO A BOOK AND PAGE NUMBER OF A DEED RECORDED AT THE COUNTY REGISTRY OF DEEDS
- —X— WIRE FENCE ON GROUND OR IN TREES
- • INDICATES AN IRON FENCE BAR
- ■ INDICATES A STONE MONUMENT FOUND
- ● INDICATES AN IRON BAR OR PIPE FOUND
- ● GSBSD FOUND 5/8" IRON BAR - SEE PLAN REF. 5
- ● P.R. 9 IRON BAR SET FOR PLAN REFERENCE (P.R.) NOTED
- ○ INDICATES A 5/8" IRON BAR SET OR TO BE SET
- DRAINAGE WAY
- L1 LINE LABEL - SEE LINE TABLE
- C2 CURVE LABEL - SEE CURVE TABLE
- A POINT LABEL - SEE LINE TABLE

LINE TABLE

LINE	BEARING	DISTANCE
L1	S 00°59'44" W	10.00'
L2	N 02°46'09" E	7.59'
L3	N 85°27'13" W	123.80'
L4	N 11°05'19" E	51.54'
L5	S 86°00'54" E	112.03'
A-B	N 15°24'07" E	713.9' (TIE)
B-C	N 51°28'06" E	195.04' (TIE)
D-E	S 05°09'39" E	1918.4' (TIE)
F-G	S 16°33'44" W	442.01' (TIE)
H-J	S 44°07'29" E	1732.3' (TIE)
J-K	S 03°24'21" W	622.9' (TIE)
L-M	N 18°54'22" W	1004.6' (TIE)
M-N	N 40°43'07" W	1208.0' (TIE)

CURVE TABLE

CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD LENGTH	CHORD BEARING
C1	164.79'	250.00'	37°46'02"	161.82'	S 72°06'44" W
C2	221.39'	320.00'	39°38'20"	217.00'	S 73°10'16" W
C3	184.37'	260.00'	40°37'46"	180.53'	N 73°40'13" E
C4	95.45'	310.00'	17°38'31"	95.07'	N 62°05'22" E

NOTES:

1. THIS PLAN REPRESENTS THE RESULTS OF A SURVEY OF THE PROPERTIES OF THE FAMILY IRREVOCABLE TRUST. THE BOUNDARIES BETWEEN THESE PARCELS WERE NOT SURVEYED.
2. THE RECORD LAYOUT OF SCHOOL STREET WAS NOT FOUND. THE SIDELINE OF THE ROAD SHOWN HEREON IS BASED ON THE MONUMENTS FOUND. SEE MAINE STATE HIGHWAY COMMISSION RIGHT OF WAY MAP TITLED "STATE AID HIGHWAY NO. 3" SHC FILE NO. 8-8-170 DATED DECEMBER, 1961.
3. THE RECORD LAYOUT OF HEATER ROAD WAS NOT FOUND. A PORTION OF THE ROAD IS BELIEVED TO BE MAINTAINED BY THE TOWN OF DAMARISCOTTA. THE EXTENT OF ANY PUBLIC OR PRIVATE RIGHTS IN HEATER ROAD HAS NOT BEEN DETERMINED. THE DEED TO DANIEL A. HATCH (BOOK 3484 PAGE 151) DESCRIBES A 50' WIDE EASEMENT OVER THAT PORTION OF HEATER ROAD ADJACENT TO THE PARCEL DESCRIBED.
3. PIPER MILL ROAD IS A PRIVATE EASEMENT SERVING THE PROPERTIES OF CENTRAL LINCOLN COUNTY AMBULANCE SERVICES, INC., PIPER MILL HOUSING ASSOCIATES, L.P. AND GREAT SALT BAY SANITARY DISTRICT. SEE THEIR RESPECTIVE DEEDS FOR ADDITIONAL INFORMATION REGARDING THIS EASEMENT. SEE ALSO BOOK 1759 PAGE 109.
4. THE DEED TO ELEANOR & RICHARD YORK (BOOK 1640 PAGE 260) INCLUDES AN EASEMENT OF UNSPECIFIED WIDTH TO SCHOOL STREET.
5. THE PROPERTY IS SUBJECT TO A 100' WIDE EASEMENT GRANTED TO CENTRAL MAINE POWER CO. - SEE BOOK 491 PAGE 316 AND BOOK 491 PAGE 326.
6. THE TRIANGULAR AREA AT THE SOUTHEAST CORNER OF THE LAND OF LINCOLN COUNTY RIFLE CLUB, INC. REPRESENTS AN OVERLAP CREATED BY THE DESCRIPTION IN BOOK 503 PAGE 420. PLAN REFERENCE 1 INDICATES THE BLAZED LINE AND 1" x 22" IRON PIPE WERE SET BY HENRY F. HILL.
7. THE BOUNDARIES WITH THE LAND OF ELWELL SHOWN HEREON ARE TO BE ESTABLISHED BY AN EXCHANGE OF DEEDS.
8. WETLAND LOCATION WAS PERFORMED BY MARK CENCI GEOLOGIC, INC.
9. UNDERGROUND FEATURES AND/OR EASEMENTS WERE NOT LOCATED.
10. ADDITIONAL IRON FENCE BARS ALONG THE NORTHERLY BOUNDARIES OF THE PROPERTY WERE NOT LOCATED.
11. THE AREA EAST OF THE LAND OF DAVID A. HATCH (TAX MAP I LOT 50-5) IS SUBJECT TO A VIEW EASEMENT DESCRIBED IN BOOK 3621 PAGE 293.

State of Maine LINCOLN, ss Registry of Deeds
Received September 27, 2007
at 12 H. 59 M. P M., and
Recorded in Book 89 Page 12
Attest: Rebecca S. Watton Deputy Register

SUBDIVISION PLAN OF THE PIPER VILLAGE SUBDIVISION

FOR RECORD OWNER:
FRENCH FAMILY
IRREVOCABLE TRUST
192 MILL ROAD
EDGECOMB, MAINE 04556

LOCATION:
SCHOOL STREET & HEATER ROAD
DAMARISCOTTA, MAINE 04543
LINCOLN COUNTY
STATE OF MAINE

SCALE: 1"=200'

DATE: SEPTEMBER 10, 2007

0 40 100 200 400 800 FEET
0 20 40 100 200 METERS

BY: MANN ASSOCIATES, INC.
P.O. BOX 51
BOWDOIN, ME 04287
PH# (207) 353-9047
DAVID C. TONRY P.L.S. #2142

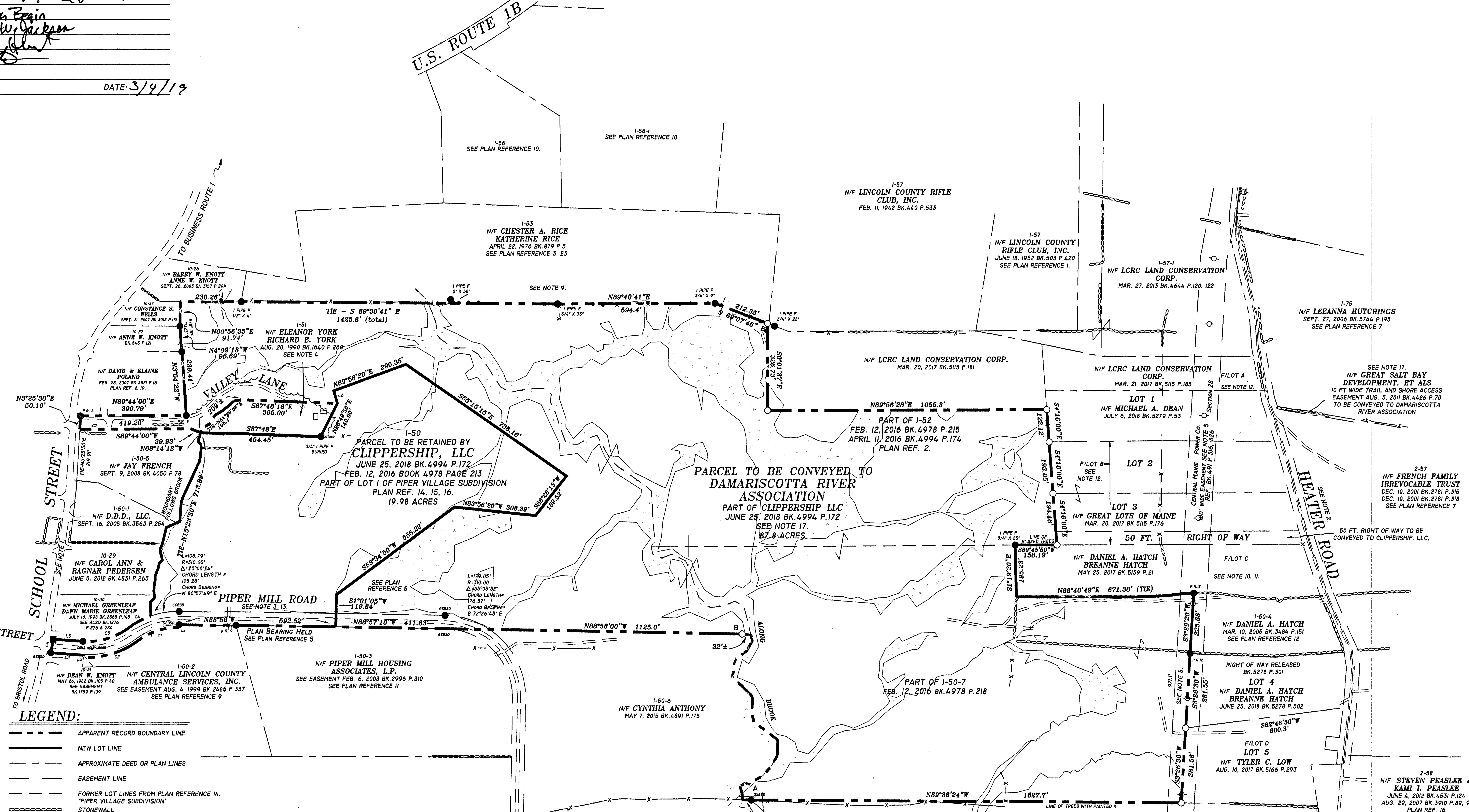
JOB NO.: 9863
PROJ. NO.: 06031

89-12

APPROVED BY THE TOWN OF DAMARISCOTTA PLANNING BOARD

NAME: Jennifer Begin

DATE: 3/4/19



GRID NORTH
MAINE STATE PLANE
COORDINATE SYSTEM WEST ZONE
SEE PLAN REFERENCE 5.

PLAN REFERENCES:

1. "LINCOLN COUNTY RIFLE CLUB, INC." DATED JANUARY, 1953 BY HENRY F. HILL, JR. NOT RECORDED
2. "LAND OF LOUIS R. FRENCH" DATED DECEMBER, 1953 BY GEORGE S. HULEN NOT RECORDED
3. "FREEMAN PROPERTY - FOSTER FIELD" UNDATED BY BOOTHBAY ENGINEERING SERVICES, INC. NOT RECORDED
4. "SPENCER GAY" DATED APRIL 12, 1979 BY LINCOLN ENGINEERING COMPANY NOT RECORDED
5. "GREAT SALT BAY SANITARY DISTRICT" SHEETS 1 & 2 OF 2 DATED OCTOBER, 1985 BY MAINE COAST SURVEYING RECORDED IN PLAN BOOK 35 PAGES 76 & 77
6. "SHOP 'N SAVE SUPERMARKET" SHEETS 1 & 2 OF 2 DATED APRIL, 1990 BY E.C. JORDAN CO. NOT RECORDED
7. "JOHN & JANE BRYANT PROPERTY" DATED JANUARY 6, 1995 BY MAINE COAST SURVEYING RECORDED IN PLAN BOOK 64 PAGE 73
8. "NORTHERLY BOUNDARY LINE OF LOUIS R. FRENCH & AMELIA K. FRENCH ALONG LAND OF BARRY W. KNOTT & ANNE W. KNOTT" DATED JUNE 12, 1995 BY MANN ASSOCIATES, INC. RECORDED IN PLAN BOOK 56 PAGE 55
9. "CENTRAL LINCOLN COUNTY AMBULANCE SERVICE, INC." DATED JUNE 7, 1999 BY MANN ASSOCIATES, INC. RECORDED IN PLAN BOOK 64 PAGE 22
10. "LINCOLN BLOCK & L. DENHAM PIERCE TO DAMARISCOTTA HARDWARE, INC." DATED NOVEMBER, 2000 BY L.L. BROWN ASSOCIATES RECORDED IN PLAN BOOK 69 PAGE 26
11. "AMELIA K. FRENCH" DATED JANUARY 30, 2003 BY MANN ASSOCIATES, INC. NOT RECORDED
12. "DANIEL A. HATCH" DATED JULY 5, 2006 BY MANN ASSOCIATES, INC. NOT RECORDED
13. "BARRY W. KNOTT & ANNE W. KNOTT" DATED JANUARY 8, 2007 BY MCCONNELL & ASSOCIATES NOT RECORDED
14. "SUBDIVISION PLAN OF THE PIPER VILLAGE SUBDIVISION" SEPT. 10, 2007 RECORDED IN PLAN BOOK 89 PAGE 12.
15. "BOUNDARY RETRACEMENT SURVEY OF THE FRENCH FAMILY IRREVOCABLE TRUST, SEA LARK L.P. & AMELIA K. FRENCH ESTATE" AUG. 23, 2007 BY MANN ASSOCIATES, INC.
16. "JEREL & SUSAN ELWELL PROPERTY" AUG. 10, 2006, MAINE COAST SURVEYING
17. "TOWN OF BRISTOL" JUNE 12, 1815 BY WM. McCLINTOCK
18. "SCHOOL STREET LAND" JULY 14, 2008 BY MANN ASSOCIATES, INC. RECORDED IN PLAN BOOK 65 PAGE 68A
19. "SBS BARRY W. KNOTT AND ANNE W. KNOTT" JAN. 8, 2007 BY McCONNELL AND ASSOCIATES.
20. "LOT PLAN OF THE CLIPPERSHIP, LLC PARCEL" FEB. 17, 2016, PLAN BOOK 106 PAGE 13.
21. "FINAL PLAN OF THE HEATER ROAD SUBDIVISION" JUNE 1, 2017, PLAN BOOK 109 PAGE 5.
22. "TOPOGRAPHIC SCHEMATIC CLIPPERSHIP PARCELS" SEPT. 2018, REVISED THROUGH JAN. 17, 2019 BY SJR ENGINEERING, INC.
23. "BOUNDARY SURVEY PROPERTY OF RICE AND K.E.A., INC." 05 APRIL 2017, PLAN BOOK 108 PAGE 47.

LEGEND:

Symbol	Meaning
(heavy dash-dot line)	APPARENT RECORD BOUNDARY LINE
(heavy solid line)	NEW LOT LINE
(long-short dash line)	APPROXIMATE DEED OR PLAN LINES
(long dash line)	EASEMENT LINE
(dash line)	FORMER LOT LINES FROM PLAN REFERENCE 14. "PIPER VILLAGE SUBDIVISION"
(chain)	STONEWALL
(scallops)	TREELINE
(line)	WETLAND BOUNDARY DETERMINED BY MARK CENCI GEOLOGIC, INC.
(pole symbol)	UTILITY POLE
(double dashes)	EDGE OF TRAVELED WAY
N/F	NOW OR FORMERLY
BOOK (BK.) 3621 PAGE (P.) 295	REFERS TO A BOOK AND PAGE NUMBER OF A DEED RECORDED AT THE COUNTY REGISTRY OF DEEDS
—x—	WIRE FENCE ON GROUND OR IN TREES
(small dot)	INDICATES AN IRON FENCE BAR
(square)	INDICATES A STONE MONUMENT FOUND
(large dot)	INDICATES AN IRON ROD OR PIPE FOUND
(dot) GSBSD	FOUND 5/8" IRON ROD - SEE PLAN REF. 5
(dot) P.R. 8	IRON ROD SET FOR PLAN REFERENCE (P.R.) NOTED
(circle)	INDICATES A 5/8" IRON ROD SET OR TO BE SET
(arrow)	DRAINAGEWAY
L1	LINE LABEL - SEE LINE TABLE
C2	CURVE LABEL - SEE CURVE TABLE
A	POINT LABEL - SEE LINE TABLE

LINE TABLE

LINE	BEARING	DISTANCE
L1	S 00°59'44" W	10.00'
L2	N 02°46'09" E	7.59'
L3	N 85°27'13" W	123.80'
L4	N 11°05'19" E	51.54'
L5	S 86°00'54" E	112.03'
L6	N 16°28'10" W	49.1'
A-B	N 3°03'00" W	624.4' (TIE)

CURVE TABLE

CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD LENGTH	CHORD BEARING
C1	164.79'	250.00'	37°46'02"	161.82'	S 72°06'44" W
C2	221.39'	320.00'	39°38'20"	217.00'	S 73°10'16" W
C3	184.37'	260.00'	40°37'46"	180.53'	N 73°40'13" E
C4	95.45'	310.00'	17°38'31"	95.07'	N 62°05'22" E

NOTES:

1. THE RECORD LAYOUT OF SCHOOL STREET WAS NOT FOUND. THE SIDELINE OF THE ROAD SHOWN HEREON IS BASED ON THE MONUMENTS FOUND. SEE MAINE STATE HIGHWAY COMMISSION RIGHT OF WAY MAP TITLED "STATE AID HIGHWAY NO. 3" SHC FILE NO. 8-8-170 DATED DECEMBER, 1961.
2. THE RECORD LAYOUT OF HEATER ROAD WAS NOT FOUND. A PORTION OF THE ROAD IS BELIEVED TO BE MAINTAINED BY THE TOWN OF DAMARISCOTTA. THE EXTENT OF ANY PUBLIC OR PRIVATE RIGHTS IN HEATER ROAD HAS NOT BEEN DETERMINED. OTHER EASEMENTS OF RECORD INCLUDE BK.4558 P.58, BK.3991 P.307, BK.3971 P.253, BK.3991 P.73. BK.2781 P.308, 311, 313, 315, 318, 320, BK.3744 P.193, BK.3484 P.151, BK.3902 P.102, BK.3911 P.71, 75.
3. PIPER MILL ROAD IS A PRIVATE EASEMENT SERVING THE PROPERTIES OF CENTRAL LINCOLN COUNTY AMBULANCE SERVICES, INC., PIPER MILL HOUSING ASSOCIATES, L.P. AND GREAT SALT BAY SANITARY DISTRICT. SEE THEIR RESPECTIVE DEEDS FOR ADDITIONAL INFORMATION REGARDING THIS EASEMENT. SEE ALSO BOOK 1759 PAGE 109.
4. THE DEED TO ELEANOR & RICHARD YORK (BOOK 1640 PAGE 260) INCLUDES AN EASEMENT OF UNSPECIFIED WIDTH TO SCHOOL STREET.
5. THE PROPERTY IS SUBJECT TO A 100' WIDE EASEMENT GRANTED TO CENTRAL MAINE POWER CO. - SEE BOOK 491 PAGE 316 AND BOOK 491 PAGE 326.
6. THE BOUNDARIES WITH THE LAND FORMERLY OF ELWELL, NOW PEASLEE, WERE CONFIRMED BY AN EXCHANGE OF DEEDS. SEE PLAN REF.14 AND 15 REFERENCE BOUNDARY AGREEMENT BOOK 3910 PAGE 89, 91, 93, 95..
7. WETLAND LOCATION WAS PERFORMED BY MARK CENCI GEOLOGIC, INC.
8. UNDERGROUND FEATURES AND/OR EASEMENTS WERE NOT FOUND OR LOCATED.
9. NOT ALL IRON FENCE BARS ALONG THE NORTHERLY BOUNDARIES OF THE PROPERTY WERE LOCATED.
10. LOT C WAS PART OF LOT 3 ON PLAN REFERENCE 14. LOT C MERGED WITH LOT 3 BY A DEED TO FRENCH FAMILY IRREVOCABLE TRUST SEPT. 20, 2007 RECORDED IN BOOK 3911 PAGE 71. LOT C WAS INCORRECTLY SHOWN AS A PART OF LOT 1-52 ON THE CURRENT DAMARISCOTTA TAX MAP.
11. LOT C AND D RESULT FROM A SINGLE DIVISION OF PIPER VILLAGE SUBDIVISION'S LOT 3, AFTER THE CONVEYANCE OF THE REMAINDER OF LOT 3 TO AN ABUTTING LAND OWNER, CLIPPERSHIP, LLC (LOT 1 OF SAID PIPER VILLAGE SUBDIVISION).
12. LOTS A AND B RESULT FROM A SINGLE DIVISION OF THE REMAINING LAND WITHIN LOT 1-52 OF COASTAL REALTY CAPITAL, LLC AFTER THE CONVEYANCE OF LAND TO AN ABUTTING LAND OWNER, CLIPPERSHIP, LLC.
13. THE COMBINED TOTAL AREA OF CLIPPERSHIP, LLC ABOVE IS 114 ACRES, INCLUDING 1.96 ACRES IN THE PIPER MILL ROAD EASEMENT.
14. A FORMER VIEW EASEMENT DESCRIBED IN BOOK 3621 PAGE 293 WAS TERMINATED IN BOOK 4049 PAGE 1.
15. THE PERIMETER BOUNDARY LOCATIONS ARE BASED ON PLAN REFERENCES 14, 15, 20 AND 21.
16. THE LOCATION OF THE NEW BOUNDARY FOR LAND TO BE CONVEYED IS BASED ON INFORMATION PROVIDED BY "DIRIGO CAPITAL ADVISORS. NO UPDATED FIELD SURVEY OR UPDATE OF ABUTTER DATA HAS BEEN PERFORMED.
17. A TRAIL AND SHORE ACCESS EASEMENT DESCRIBED IN BOOK 4426 PAGE 70 WILL BE CONVEYED TO BENEFIT DAMARISCOTTA RIVER ASSOCIATION.

State of Maine
LINCOLN, ss Registry of Deeds
Received March 6, 2019
at 11 H. 22 M. A M., and
Recorded in Book 112 Page 61
Attest: Carolyn M Cook Register Deputy

AMENDED LOT PLAN OF THE CLIPPERSHIP, LLC PARCEL

FOR:
DIRIGO CAPITAL ADVISORS
6 CHESTNUT ST., SUITE 206
AUGUSTA, ME 04330
C/O DAVID TUCCI

LOCATION: PIPER MILL ROAD
SCHOOL STREET & HEATER ROAD
DAMARISCOTTA, MAINE 04543
LINCOLN COUNTY
STATE OF MAINE

DATE: FEB. 17, 2016
REVISED: MARCH 1, 2016 TO ADD A DIMENSION TO LOT D
REVISED: JAN. 29, 2019 TO ADD DCA PARCEL, HEATER ROAD SUBDIVISION LOTS, AND NOTE 17.

SCALE: 1"=200'

0 40 100 200 400 800 FEET
0 20 40 100 200 METERS

RECORD OWNER:
CLIPPERSHIP, LLC
6 CITY CENTER, 3RD FLOOR
PORTLAND, ME 04101

BY: MANN ASSOCIATES, INC.
38 MAGEE ROAD
BOWDOIN, ME 04287
PH# (207) 353-9047

DRAWN BY: VAL MANN
JOB NO.: 1902_1530

112-61

APPENDIX C
MDEP FIELD DETERMINATION

In the attachment, you will find a copy of the MDEP field determination report explaining specific jurisdiction of wetland resources on the project site.

DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF LAND RESOURCES

4/27/2022

CONTACT ID 12865

FIELD DETERMINATION FORM

CONTACT
KAYLA GRAY

2078699050

PROPERTY OWNER
CLIPPERSHIP LLC

STAFF DUFOUR, CAMERON

DIRECTIONS

Piper Mill Road

SITE TOWN DAMARISCOTTA
MAP 001
LOT 50

MEMO

On 4/21/2022 Department staff met with Kayla Gray and Lucien Langlois of Atlantic Resource Consultants acting on behalf of Clippership LLC. The location of the visit was at a parcel on Piper Mill Road in the Town of Damariscotta identified as Map 001 Lot 050. The reason for the visit was to review on-site natural resources, receive a field determination, and then discuss the permitting implications for wetlands connected over 20,000 square feet of emergent vegetation and open water.

Chapter 310 defines a freshwater wetland that contains under normal circumstances at least 20,000 square feet of aquatic vegetation, emergent marsh vegetation, or open water as a wetland of special significance or (WOSS). Furthermore, any wetlands contiguously connected to said WOSS would also gain the designation of WOSS.

Department staff observed a water feature at the northern portion of the parcel that was comprised of over 20,000 square feet of emergent marsh vegetation/ open water. Department staff also observed two separate wetland fingers draining water to the WOSS in a south to north direction. While observing each wetland finger Department staff observed an area where the topography of the uplands forced the wetlands to concentrate their flow forming a channel between defined banks. Atlantic Resources Consultants delineated these two areas as a stream. After observing the two pinch points Department staff agreed with the Atlantic Resource Consultants determination of stream. Furthermore it was determined that the two wetland fingers were not contiguous and the stream portion separated the two. Therefore the wetlands to the south of the stream that are outside of 250 feet of the 20,000 square feet of open water would not have the designation of WOSS. Any alterations of wetlands over 4,300 square feet of freshwater wetlands not designated at WOSS will require a Department permit.

Erosion control devices must be installed and maintained on the project site during any soil disturbance activity. A Stormwater Management Law PBR or Maine Construction General Permit "NOI" and "NOT" must be filed with the Department if more than 1 acre of area is going to be disturbed on the project site at any given time during construction.

NAME: _____

RECEIVED 4/21/2022 **SITE VISIT** 4/21/2022 **COMPLETED**

ATTACHMENT C

CORRESPONDENCE WITH MNAP

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

JANET T. MILLS
GOVERNOR

AMANDA E. BEAL
COMMISSIONER

May 17, 2022

Kayla Gray
Atlantic Resource Consultants
541 US Route One, Suite 21
Freeport, ME 04032

Via email: kayla@arc-maine.com

Re: Rare and exemplary botanical features in proximity to: #21-025, Clippership LLC Memory Care Facility, Piper Mill Road, Damariscotta, Maine

Dear Ms. Gray:

I have searched the Maine Natural Areas Program's Biological and Conservation Data System files in response to your request received May 16, 2022 for information on the presence of rare or unique botanical features documented from the vicinity of the project in Damariscotta, Maine. Rare and unique botanical features include the habitat of rare, threatened, or endangered plant species and unique or exemplary natural communities. Our review involves examining maps, manual and computerized records, other sources of information such as scientific articles or published references, and the personal knowledge of staff or cooperating experts.

Our official response covers only botanical features. For authoritative information and official response for zoological features you must make a similar request to the Maine Department of Inland Fisheries and Wildlife, 284 State Street, Augusta, Maine 04333.

According to the information currently in our Biological and Conservation Data System files, there are no rare botanical features documented specifically within the project area. This lack of data may indicate minimal survey efforts rather than confirm the absence of rare botanical features. You may want to have the site inventoried by a qualified field biologist to ensure that no undocumented rare features are inadvertently harmed.

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

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

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

DEPARTMENT OF Agriculture Conservation & Forestry

PHONE: (207) 287-804490
WWW.MAINE.GOV/DACF/MNAP

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

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

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

Sincerely,

Lisa St. Hilaire

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

Rare and Exemplary Botanical Features within 4 miles of
Project: #21-025, Clippership LLC Memory Care Facility, Piper Mill Road, Damariscotta, ME

Common Name	State Status	State Rank	Global Rank	Date Last Observed	Occurrence Number	Habitat
Adder's Tongue Fern						
	SC	S1	G5	1932-07-28	9	Non-tidal rivershore (non-forested, seasonally wet),Open
Brackish Tidal Marsh						
		S3	GNR	2011-06-21	14	Tidal wetland (non-forested, wetland)
Mixed Saltmarsh						
		S3	G5	2011-09-27	7	Tidal wetland (non-forested, wetland)
Saltmarsh False-foxglove						
	SC	S3	G5	2011-06-21	17	Tidal wetland (non-forested, wetland)
Smooth Winterberry Holly						
	SC	S3	G5	1897-07-13	42	Forested wetland
Spotted Pondweed						
	T	S1	G5	2002-08-01	5	Open water (non-forested, wetland)

Date Exported: 2022-05-17 08:25

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

maine DEPARTMENT OF Agriculture Conservation & Forestry
NATURAL AREAS

SECTION 10

HISTORIC SITES

The proposed project will not result in any significant impacts to historic resources. The Maine Historic Preservation Commission (MHPC) has been contacted regarding potential historic sites in the vicinity of the project. Their response indicates that there are no known historical or archaeological sites near the project site.

Tribal Historic Preservation Officers (THPO) from the five Maine Indian tribes were also contacted regarding potential historic sites in the vicinity of the project. Reponses from the Mi'kmaq Nation and Passamaquoddy Tribe indicate that there are no known historical or archeological sites near the project site.

Correspondence with MHPC is included in Attachment A. Correspondence with the THPO is included in Attachment B.

Attachments

Attachment A – Correspondence with MHPC
Attachment B – Correspondence with THPO

ATTACHMENT A

CORRESPONDENCE WITH MHPC

Atlantic Resource Consultants
Engineering Strategies and Solutions

541 US Route One, Suite 21
Freeport, Maine 04032
Tel: 207.869.9050
info@arc-maine.com

May 16, 2022

Mr. Kirk Mohney
Maine Historic Preservation Commission
55 Capitol Street
65 State House Station
Augusta, Maine 04333

RE: Clippership, LLC, Damariscotta, Maine

Dear Mr. Mohney,

On behalf of our client Clippership, LLC, we are contacting you regarding the referenced project. The proposed development will consist of a memory care facility on a parcel of land on Piper Mill Road in the Town of Damariscotta, Maine. We have enclosed a site location map and preliminary site plan showing the nature and extents of the proposed work.

We would be most grateful if you could review the attached information and contact our office with any information you have on the presence of any historically significant areas in the project area.

If you have any questions regarding this letter, please do not hesitate to contact us.

Regards,

Kayla Gray

Kayla Gray
Environmental Specialist
Atlantic Resource Consultants

Based on the information submitted, I have concluded that there will be no historic properties affected by the proposed undertaking, as defined by Section 106 of the National Historic Preservation Act. Consequently, pursuant to 36 CFR 800.4(d)(1), no further Section 106 consultation is required unless additional resources are discovered during project implementation pursuant to 36 CFR 800.13.

Kirk F. Mohney

Kirk F. Mohney,
State Historic Preservation Officer
Maine Historic Preservation Commission

5/23/22
Date

Cc: File: 21-025 Clippership Landing/Correspondence

ATTACHMENTS:
Location Map
Sketch Plan

ATTACHMENT B

CORRESPONDENCE WITH THPO

Tribal Historic Preservation Office
Passamaquoddy Tribe
PO Box 159 Princeton, Me. 04668
207-214-4051

June 2, 2022

Kayla Gray
Environmental Specialist
Atlantic Resource Consultants, LLC
541 US Route One, Suite 21
Freeport, Maine 04032

Re: Damariscotta - Piper Mill Rd

Dear Kayla;

The Passamaquoddy THPO has reviewed the following applications regarding the historic properties and significant religious and cultural properties in accordance with NHPA, NEPA, AIRFA, NAGPRA, ARPA, Executive Order 13007 Indian Sacred Sites, Executive Order 13175 Consultation and Coordination with Indian Tribal Governments, and Executive Order 12898 Environmental Justice.

The Projects listed above will not have any impact on cultural and historical concerns of the Passamaquoddy Tribe. Should buried artifacts, human remains, cultural sites or ground features be unexpectedly unearthed during ground disturbing activities, all construction should immediately cease and the resources be examined by a professional archaeologist. Additionally, all appropriate authorities-including all pertinent tribal entities should be notified.

Sincerely;

Donald Soctomah
Soctomah@gmail.com
THPO
Passamaquoddy Tribe

Tribal Historic Preservation Office
Mi'kmaq Nation (Formerly known as the Aroostook Band of Micmac)
Kendyl Reis
Tribal Historic Preservation Officer
7 Northern Road
Presque Isle, ME 04769
Phone: (207)764-1972 ext. 161
Fax: (207)764-7667
Clippership LLC, Memory Care Facility Project

Damariscotta, Maine
May 25th, 2022

Thank you for the opportunity to review the above-referenced project for compliance with National Environmental Policy Act (NEPA) and National Historic Preservation Act (NHPA), or other, requirements.

Based on the project description, we do not have knowledge of any specific sites or cultural features that exist at the proposed project location.

However, this geographic area does constitute traditional areas that were historically utilized by members of the Mi'kmaq Nation and the other Wabanaki Tribes. Therefore, we respectfully request that if during the course of excavation/construction activities, human remains, artifacts, or any other evidence of Native American presence is discovered, that site activities in the vicinity of the discovery immediately cease, pending notification to us.

In addition, if this project results in wetland disturbances requiring mitigation, we are requesting that you utilize the black ash (Fraginus nigra) as the principal wetland species for wetland restoration activities. The black ash tree has special significance in the culture of the northeastern Tribes and is used extensively for weaving baskets and other Native American crafts. The black ash tree also provides valuable food and habitat for migratory waterfowl and other wildlife. Unfortunately, however, this species has been selected against by foresters and landowners who favor other tree species. As a result of this, and other environmental factors, the black ash tree is in serious decline in Maine. The Mi'kmaq Nation has completed several black ash wetland restoration projects and have a dependable source for highly-quality seedlings, and the experience and expertise to assist you with black ash wetland restoration projects.

On the subject of human remains, artifacts, or any other evidence of Native American presence is discovered. The human remains will be reburied with the appropriate respect for the remains that is required at a distinctive and respectable site. The artifacts and other evidence of Native American discovery will be documented with appropriate detail. The items will be analyzed for the precise period of the items' distinctive period and will be documented by the Tribal Historic Preservation Officer for the Mi'kmaq Nation.

If you have any questions or comments, please feel free to contact me.

Sincerely,

Kendyl Reis
Tribal Historic Preservation Officer

SECTION 11

WATER SUPPLY

The proposed project will be served water by the Great Salt Bay Sanitary District located on Piper Mill Road in the Town of Damariscotta. The capacity to serve letter is provided in Attachment A.

The project is anticipating 102 beds in the nursing home, with an 85 gallon per person per day allowance. Total gallons per day usage of water is 8,670.

Attachments

Attachment A – Utility District Correspondence

ATTACHMENT A

UTILITY DISTRICT CORRESPONDENCE

The Great Salt Bay
Sanitary District
Water and Wastewater
P. O. Box 23, Damariscotta, Me. 04543 207-563-5105

Date May 17, 2022

Jonathan Eaton
Chairman, Planning Board
Town of Damariscotta
21 School St.
Damariscotta, ME 04543

Dear Mr. Eaton,

Andrew D. Johnston, PE, LEED AP for Atlantic Resource Consultants, has contacted the District regarding Sandy River Companies plan, to build a new 102- bed skilled Nursing Home on Piper Mill Rd (Map 1, Lot 50).

Mr. Johnston and I discussed possible connection of the facility's wastewater and the capacity for treating that waste.

Water Manager: Scott Abbotoni and I have received and reviewed the facility plan.

The District has both the ability to provide portable water and capacity to treat the facility's wastewater.

If you have any questions, please do not hesitate to contact me.

Best regards,

LeeAnna Libby
Wastewater Manager
Great Salt Bay Sanitary District

SECTION 12

WASTEWATER DISPOSAL AND SOLID WASTE

WASTEWATER DISPOSAL

Wastewater from the proposed development will be collected and directed to the Great Salt Bay Sanitary District on Piper Mill Road in the Town of Damariscotta. Wastewater will be treated and disposed of by the utility company. Approximately 8,670 gal/day of wastewater are anticipated to be created as a result of the proposed project.

A capacity to serve letter is provided in Attachment A.

SOLID WASTE

Solid Wastes Generated During Construction of the Site Improvements and Buildings:

This project will require about 6.20-acres of woodland and scrub to be cleared to make room for the proposed building, access road, fire lanes, parking, and associated stormwater management areas. The clearing of trees associated with this development, which had been previously logged for large timber, is expected to generate about 248 CY of stumps. The clearing may include high-quality trees, suitable for saw logs. These will be cut and exported to an appropriate sawmill from the site, separately from the remaining materials. The remaining wood biomass will be cut or chipped on site. The biomass will either be retained on site for erosion control materials or processed and sent to a biomass facility. Since pine stumps are larger and bulky, these stumps will be excavated and/or chipped onsite for use as erosion control mix or landscaping mulch.

Other Demolition and Removal Wastes include:

Other solid waste from site activity will be minor. Some cardboard or Kraft wrapping is anticipated for the building construction and minor solid wastes may also be generated by the workers. Other waste could include various containers, short lengths of pipe, or conduit. The construction contract will require the Contractor to attempt a recycling level of 75%. Materials not recycled will be required to be disposed of at the locations specified in this section.

Construction and Demolition Debris from the proposed project is accepted at the Nobleboro-Jefferson Transfer Station and is transported from the facility by Jon R. Chadwick, INC., to the Crossroads Landfill in Norridgewock where it is disposed of. The volume of solid waste generated by site construction, which will be hauled for disposal, is estimated by Atlantic Resource Consultants to be approximately 1,120 CY.

Hazardous & Special Wastes:

There are no known areas of hazardous or special wastes at the project site. If any hazardous or special waste is identified during construction, MaineDEP will be notified immediately. A licensed waste hauler will be retained to dispose of the material at a licensed facility. The applicant will retain records of the collection, transport, and disposal of any such material.

Solid Waste Generated from the Operation of the Facility:

Municipal Solid Wastes (MSW) will be handled through the Nobleboro-Jefferson Transfer Station. This transfer station serves the communities of Nobleboro, Jefferson, Bremen, Damariscotta, and Newcastle. MSW is disposed of at PERC in Orrington. The applicant also has the option of hiring a private company to haul municipal solid waste.

Fluorescent Lights and Fixtures:

The applicant will segregate fluorescent light bulbs for legal disposal.

Miscellaneous Solid Wastes:

Provisions for miscellaneous wastes will follow MaineDEP recommendations.

SOLID WASTES COMPUTATIONS AND DISPOSAL

- Type: Wood Waste from Clearing Operations
- Basis of Quality Computations: Assume 40c.y. of Stumps/acre
- Site Construction: Miscellaneous Areas Onsite

Location	Area to be Cleared	Rate per Acre	Yield
Clippership Landing project site	6.20 ac+/-	40 cubic yards per acre	248 CY
Total			**248 CY**

DISPOSITION

Trees: Cut above stump line – chip and haul to biomass burner; paper company; or use on-site as mulch.

Stumps: Provide the Contractor the option in the construction documents to chip on site and use for erosion control mix, or haul to approved disposal area.

Other Wastes Associated with Other Site Construction:
Cardboard from packaging etc. – quantity should be limited. Construction documents will require a recycling program. Specify a goal of 75% recycling. All other to be placed in a separate dumpster on the site paid for and designated for Contractor.

NEW BUILDING CONSTRUCTION:

Basis of Estimate: 5 c.y./1,000 s.f. of finished space

Area: Approximately 74,500 square foot building

Solid Waste: Approximately 3,725 c.y.

Set a goal in the construction documents to require segregation of cardboard and paper with a goal of 75%; segregation of metals with a goal of 85%.

Total: 3,725 c.y. before recycling

Net: 1,117.5 c.y. if 70 % of material is recycled

Require Contractor to: Provide 30 c.y. dumpster. Haul to facilities identified in the narrative above with shipping manifest. The contractor should identify recycling methods and sites prior to construction.

ATTACHMENT A

UTILITY DISTRICT CORRESPONDENCE

The Great Salt Bay
Sanitary District
Water and Wastewater
P. O. Box 23, Damariscotta, Me. 04543 207-563-5105

Date May 17, 2022

Jonathan Eaton
Chairman, Planning Board
Town of Damariscotta
21 School St.
Damariscotta, ME 04543

Dear Mr. Eaton,

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Mr. Johnston and I discussed possible connection of the facility's wastewater and the capacity for treating that waste.

Water Manager: Scott Abbotoni and I have received and reviewed the facility plan.

The District has both the ability to provide portable water and capacity to treat the facility's wastewater.

If you have any questions, please do not hesitate to contact me.

Best regards,

LeeAnna Libby
Wastewater Manager
Great Salt Bay Sanitary District

SECTION 13

HYDROGEOLOGIC STUDY

Quantity

The project site is not located on a Significant Sand and Gravel Aquifer. Additionally, the project will be served by Town water and sewer; therefore, there will be no impact on groundwater. For that reason, the applicant is requesting a waiver of the requirement for a hydrogeologic study.

Sources

Materials at the site with the potential to cause groundwater contamination include:

- Household cleaning chemicals – stored inside buildings
- Fuel tanks – used for heating, cooking, etc.

The risk of contamination to the groundwater from these sources is considered very low.

- Household cleaning chemicals and solvents will be stored in normal household quantities only.
- Fuel tanks will be stored in normal household quantities and certified tanks.

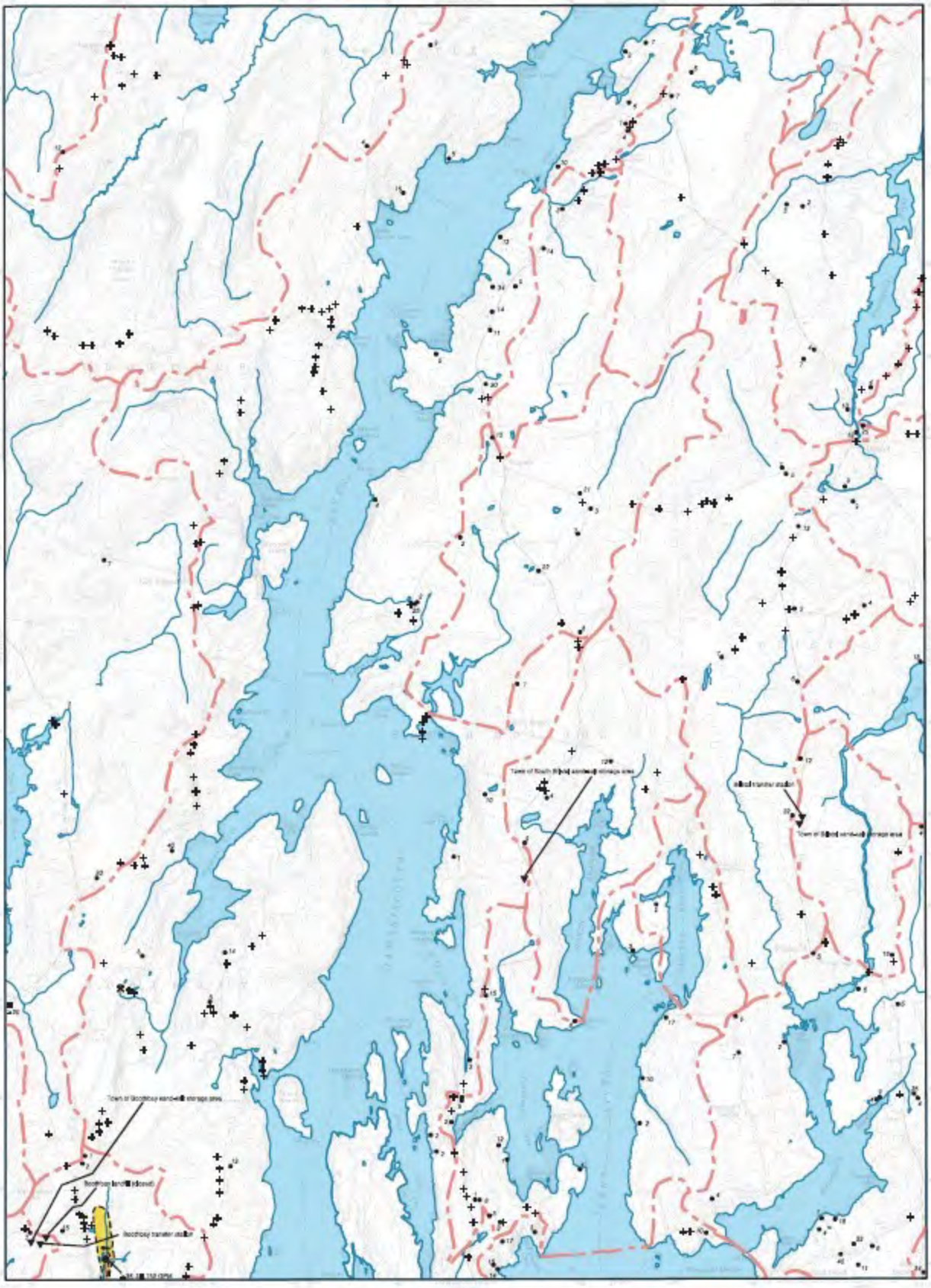
Attachments

Attachment A – Significant Sand and Gravel Aquifer Map
Attachment B – Surficial Geology Map
Attachment C – Bedrock Geology Map

ATTACHMENT A

SIGNIFICANT SAND AND GRAVEL AQUIFER MAP

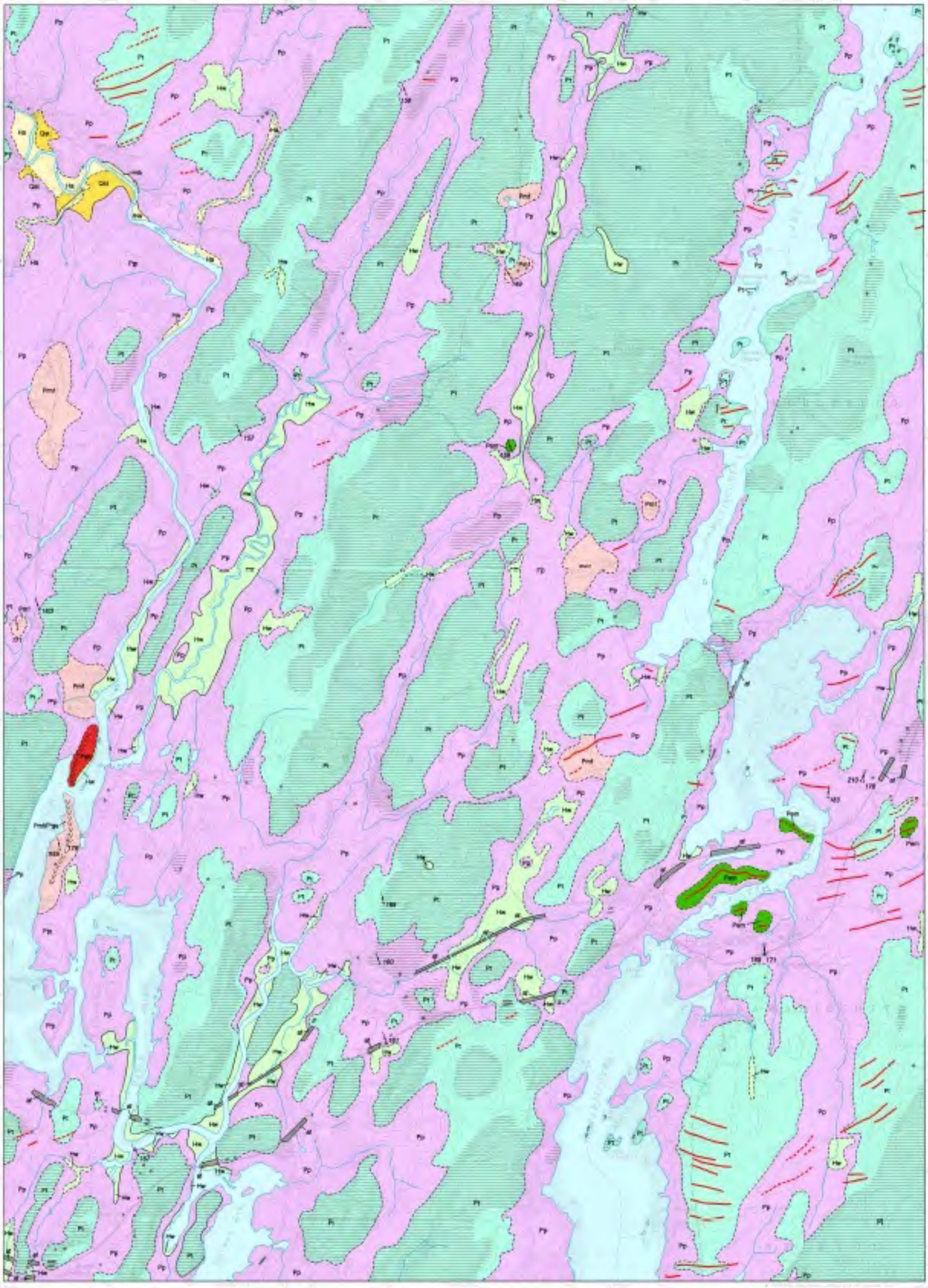
Significant Sand and Gravel Aquifers



ATTACHMENT B

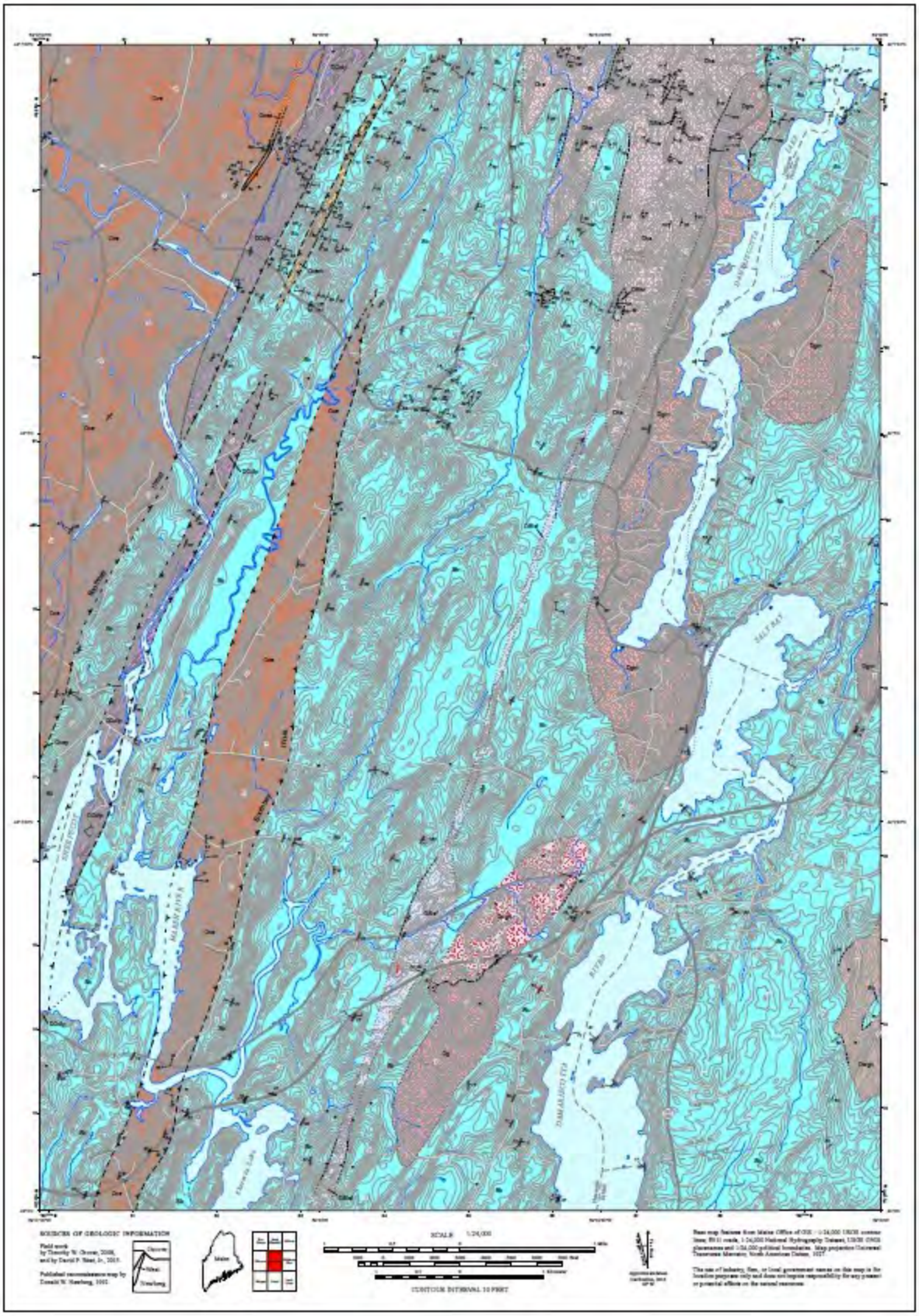
SURFICIAL GEOLOGY MAP

Surficial Geology



ATTACHMENT C

BEDROCK GEOLOGY MAP


SALT BAY
SCALE 1:24,000
CONTOUR INTERVAL 10 FEET

SECTION 14

SCENIC, LANDSCAPING & LIGHTING

Description

The proposed project consists of the development of a skilled-nursing home facility located on Piper Mill Road in Damariscotta, Maine. The project site is located within the Rural District; however, the applicant is working towards an approval for a conditional use permit at the Town level, to allow the proposed nursing home within the Rural District.

The abutter to the south is the Ledgewood Apartment Complex, and a wastewater treatment facility. The abutter to the east is the Coastal Rivers Conservation Trust. Other abutters are single-family residences. The proposed memory care facility is located approximately 0.70 miles from the existing Lincoln Health hospital. The applicant chose the subject parcel for the proposed project due to its proximity to the Miles Campus, which will allow residents to receive further services.

Land use districts directly adjacent to the project site include the residential, municipal, and medical districts. The proposed development will be consistent with the surrounding properties. The construction of the facility will have a minimal impact on the visual quality and scenic character of the site and surrounding area due to the proposed buffers provided below:

- The project site has a 20-foot buffer that has been included around the perimeter of the property. The applicant plans to maintain the existing vegetation for the purpose of providing visual screening of the proposed project.

- The project site contains three streams. A tributary stream to the Damariscotta River surrounds the property boundary to the North and West. The applicant is proposing an approximately 100-foot buffer from this stream.

- The stream located at the north portion of the property drains to the open-water wetland located off the parcel. The applicant has maintained an approximately 300-foot buffer from this stream.

- The stream located on the northeast portion of the property drains to the open-water wetland located off the parcel. The applicant has maintained an approximately 450-foot buffer from this stream.

- The applicant has maintained a 580-foot buffer from the off-site open-water wetland, that is considered to be a wetland of special significance because the freshwater wetland contains under normal circumstances, at least 20,000 square feet of aquatic vegetation, emergent marsh vegetation or open water.

Additionally, the project site was once part of a larger 107.8-acre parcel, of which over 87.8-acres was put into conservation. When the division of the parcel occurred, the parcel with the majority of the natural resources was put into conservation, while the remainder of the parcel, the project site, was slotted for future development. The majority of the project site has existed as an open

field area that continues up to a stream to the western property boundary. Because this area consists mainly of understory vegetation ad because the project is proposed at the top of the slope, the proposed facility will be visible to abutters; however, after conversations with abutters, the applicant has implemented a landscaping plan that will help to further shield the project from the abutters. In an effort to evaluate any potential visual impacts, the applicant completed the MDEP visual evaluation field survey checklist which is included in this section. Furthermore, the applicant designed the building to be one-story, which reduces the size and scope of the building to those viewing the building from a public way. In conclusion, the proposed project will have a minimal impact on the visual quality and scenic character of the site and surrounding area.

The proposed project includes the installation of outdoor lighting for public safety. A copy of the photometrics plan has been included in Attachment A. A copy of the landscaping plan has been included in Attachment B.

Attachments

Attachment A – Photometrics Plan
Attachment B – Landscaping Plan

ATTACHMENT A

PHOTOMETRICS PLAN

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DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

VIPER Area/Site

VIPER LUMINAIRE

MICRO STRIKE | OPTICS STRIKE

FEATURES

- Low profile LED area/site luminaire with a variety of IES distributions for lighting applications such as auto dealership, retail, commercial, and campus parking lots
- Featuring two different optical technologies, Strike and Micro Strike Optics, which provide the best distribution patterns for retrofit or new construction
- Rated for high vibration applications including bridges and overpasses. All sizes are rated for 1.5G
- Control options including photo control, occupancy sensing, NX Distributed Intelligence™, wiSCAPE and 7-Pin with networked controls
- New customizable lumen output feature allows for the wattage and lumen output to be customized in the factory to meet whatever specification requirements may entail
- Field interchangeable mounting provides additional flexibility after the fixture has shipped

c UL us IP65

BUY AMERICAN SOLUTIONS

See Certification Specifications

CONTROL TECHNOLOGY

NX DISTRIBUTED INTELLIGENCE™ wiSCAPE™

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

INSTALLATION (CONTINUED)

- Knuckle arm fitter option available for 2-3/8" OD tenon
- For products with EPA less than 1 mounted to a pole greater that 20ft, a vibration damper is recommended

ELECTRICAL

- Universal 120-277 VAC or 347-480 VAC input voltage, 50/60 Hz
- Ambient operating temperature -40˚C to 40˚C
- Drivers have greater than 90% power factor and less than 20% THD
- LED drivers have output power over-voltage, over-current protection and short circuit protection with auto recovery
- Field replaceable surge protection device provides 20kA protection meeting ANSI/IEEE C62.41.2 Category C High and Surge Location Category C3; Automatically takes fixture off-line for protection when device is compromised

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 and dimming leads are extended out of the luminaire unless control options require connection to the dimming leads. Must specify if wiring leads are to be greater than the 6" standard

CONTROLS (CONTINUED)

- NX Distributed Intelligence™ available with in fixture wireless control module, features dimming and occupancy sensor
- wiSCAPE® available with in fixture wireless control module, features dimming and occupancy sensor. Also available in 7-pin configuration

CERTIFICATIONS

- Meets the qualifications for DLC Premium
- 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 qualifies as a "designated country construction material" per FAR 52.225-11 Buy American-Construction Materials under Trade Agreements effective 04/23/2020. See Buy American Solutions.

WARRANTY

- 5 year warranty
- See HLI Commercial and Industrial Outdoor Lighting Warranty for additional information

KEY DATA	
Lumen Range	5,000–80,000
Wattage Range	36–600
Efficacy Range (LPW)	92–155
Weight lbs. (kg)	13.7-30.9 (6.2-13.9)

HUBBELL Lighting

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DATE: | LOCATION:

TYPE: | PROJECT:

CATALOG #:

VIPER Area/Site

VIPER LUMINAIRE

MICROSTRIKE OPTICS – ORDERING GUIDE

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	Optic Platform	Size	Light Engine		CCT/CRI		Distribution		Optic Rotation		Voltage	
VP	Viper	Micro Strike	1	Size 1	160L-35 [6]	5500 lumens	AP	AP-Amber Phosphor Converted	2	Type 2	L	Optic rotation left	UNV	120-277V
					160L-50 [6]	7500 lumens	27K8	2700K, 80 CRI	3	Type 3	R	Optic rotation right	120	120V
					160L-75	10000 lumens	3K7	3000K, 70 CRI	4F	Type 4 Forward			208	208V
					160L-100	12500 lumens	3K8	3000K, 80 CRI	4W	Type 4 Wide			240	240V
					160L-115	15000 lumens	35K8	3500K, 80 CRI	5QM	Type 5 Square Medium			277	277V
					160L-135	18000 lumens	3K9	3000K, 90 CRI	5QW	Type 5 Square Wide			347	347V
					160L-160	21000 lumens	4K7	4000K, 70 CRI					480	480V
			2	Size 2	320L-145	21000 lumens	4K8	4000K, 80 CRI						
					320L-170	24000 lumens	4K9	4000K, 90 CRI						
					320L-185	27000 lumens	5K7	5000K, 70 CRI						
					320L-210	30000 lumens	5K8	5000K, 80 CRI						
					320L-235	33000 lumens								
					320L-255	36000 lumens								
					320L-315 [6]	40000 lumens								
			3	Size 3	480L-285	40000 lumens								
					480L-320	44000 lumens								
					480L-340	48000 lumens								
					480L-390	52000 lumens								
					480L-425	55000 lumens								
					480L-470	60000 lumens								
			4	Size 4	720L-435	60000 lumens								
					720L-475	65000 lumens								
					720L-515	70000 lumens								
					720L-565 [6]	75000 lumens								
					720L-600 [6]	80000 lumens								
					CLO	Custom Lumen Output [1]								

– Mounting | – Color | – Options | – Network Control Options

Mounting		Color		Options		Network Control Options	
A	Arm mount for square pole/flat surface	BLT	Black Matte Textured	F	Fusing	NXSPW-14F	NX Wireless, PIR Occupancy Sensor, Dimming Daylight Harvesting, 14' [1,3,4]
A_	Arm mount for round pole [2]	BLS	Black Gloss Smooth	2PF	Dual Power Feed	NXSPW-40F	NX Wireless, PIR Occupancy Sensor, Dimming Daylight Harvesting, 40' [1,3,4]
ASQU	Universal arm mount for square pole	DBT	Dark Bronze Matte Textured	2DR	Dual Driver	NXSP-14F	NX, PIR Occupancy Sensor, Dimming Daylight Harvesting, 14' [3,4]
A_U	Universal arm mount for round pole [2]	DBS	Dark Bronze Gloss Smooth	TE	Tooless Entry	NXSP-40F	NX, PIR Occupancy Sensor, Dimming Daylight Harvesting, 40' [3,4]
AAU	Adjustable arm for pole mounting (universal drill pattern)	GTT	Graphite Matte Textured	BC	Backlight Control	NXWE	NX Wireless Enabled (module + radio) [3,4]
AA_U	Adjustable arm mount for round pole [2]	LGS	Light Grey Gloss Smooth	TB	Terminal Block	WIR	wiSCAPE® In-Fixture Module [3,4]
ADU	Decorative upswept Arm (universal drill pattern)	LGT	Light Grey Gloss Textured			WIRSC	wiSCAPE® Module and Occupancy Sensor [3,4]
AD_U	Decorative upswept arm mount for round pole [2]	PSS	Platinum Silver Smooth			**Stand Alone Sensors**	
MAF	Mast arm fitter for 2-3/8" OD horizontal arm	WHT	White Matte Textured			BTS-14F	Bluetooth® Programmable, PIR Occupancy/Daylight Sensor [4]
K	Knuckle	WHS	White Gloss Smooth			BTS-40F	Bluetooth® Programmable, PIR Occupancy/Daylight Sensor [4]
T	Trunnion	VGT	Verde Green Textured			BTSO-12F	Bluetooth® Programmable, PIR Occupancy/Daylight Sensor, up to 12' mounting height [4]
WB	Wall Bracket, horizontal tenon with MAF	**Color Option**				7PR	7-Pin Receptacle [4]
WM	Wall mount bracket with decorative upswept arm	CC	Custom Color			7PR-SC	7-Pin Receptacle with shorting cap [4]
WA	Wall mount bracket with adjustable arm					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	
						ADD	AutoDim Timer Based Dimming [4]
						ADT	AutoDim Time of Day Dimming [4]
						Photocontrols	
						PC	Button Photocontrol [4,7]

1 – Items with a grey background can be done as a custom order. Contact brand representative for more information
2 – Replace "_" with "2" for 2.5"-3.4" OD pole, "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

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TYPE: PROJECT:

CATALOG #:

VIPER Area/Site

VIPER LUMINAIRE

STRIKE OPTIC – ORDERING GUIDE

Example: VP–ST–1–36L-39–3K7–2–UNV–A–BLT

CATALOG #

VP –

Series	
VP	Viper

– | Optic Platform | |
|---|---|
| ST | Strike |

– | Size | |
|---|---|
| 1 | Size 1 |
| 2 | Size 2 |
| 3 | Size 3 |
| 4 | Size 4 |

– | Light Engine | |
|---|---|
| 36L-39 [8] | 5500 lumens |
| 36L-55 [8] | 7500 lumens |
| 36L-85 | 10000 lumens |
| 36L-105 | 12500 lumens |
| 36L-120 | 14000 lumens |
| 72L-115 | 15000 lumens |
| 72L-145 | 18000 lumens |
| 72L-180 | 21000 lumens |
| 72L-210 | 24000 lumens |
| 72L-240 | 27000 lumens |
| 108L-215 [8] | 27000 lumens |
| 108L-250 | 30000 lumens |
| 108L-280 | 33000 lumens |
| 108L-325 | 36000 lumens |
| 108L-365 | 40000 lumens |
| 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] |

– | CCT/CRI | |
|---|---|
| AM | monochromatic amber, 595nm |
| 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 |

– | Distribution | |
|---|---|
| FR | Auto Front Row |
| 2 | Type 2 |
| 3 | Type 3 |
| 4F | Type 4 Forward |
| 4W | Type 4 Wide |
| 5QN | Type 5 Square Narrow |
| 5QM | Type 5 Square Medium |
| 5QW | Type 5 Square Wide |
| 5W | Type 5 Wide (Round) |
| 5RW | Type 5 Rectangular |
| C | Corner Optic |
| TC | Tennis Court Optic |

– | Optic Rotation | |
|---|---|
| L | Optic rotation left |
| R | Optic rotation right |

– | Voltage | |
|---|---|
| UNV | 120-277V |
| 120 | 120V |
| 208 | 208V |
| 240 | 240V |
| 277 | 277V |
| 347 | 347V |
| 480 | 480V |

– | Mounting | |
|---|---|
| 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 |

– | Color | |
|---|---|
| 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

– | Options | |
|---|---|
| F | Fusing |
| E | Battery Backup [1,2,7,8,9] |
| 2PF | Dual Power Feed |
| 2DR | Dual Driver |
| TE | Tooless Entry |
| BC | Backlight Control |
| TB | Terminal Block |

– | Network Control Options | |
|---|---|
| NXSPW-14F | NX Wireless, PIR Occupancy Sensor, Dimming Daylight Harvesting, 14' [1,4,5] |
| NXSPW-40F | NX Wireless, PIR Occupancy Sensor, Dimming Daylight Harvesting, 40') [1,4,5] |
| NXSP-14F | NX, PIR Occupancy Sensor, Dimming Daylight Harvesting, 14' [4,5] |
| NXSP-40F | NX, PIR Occupancy Sensor, Dimming Daylight Harvesting, 40' [4,5] |
| NXWE | NX Wireless Enabled [4,5] |
| WIR | wiSCAPE® In-Fixture Module [4,5] |
| WIRSC | wiSCAPE® Module and Occupancy Sensor [4,5] |

Stand Alone Sensors	
BTS-14F	Bluetooth® Programmable, PIR Occupancy/Daylight Sensor [5]
BTS-40F	Bluetooth® Programmable, PIR Occupancy/Daylight Sensor [5]
BTSO-12F	Bluetooth® Programmable, PIR Occupancy/Daylight Sensor, up to 12' mounting height [5]
7PR	7-Pin Receptacle [5]
7PR-SC	7-Pin Receptacle with shorting cap [5]
3PR	3-Pin twist lock [5]
3PR-SC	3-Pin receptacle with shorting cap [5]
3PR-TL	3-Pin PCR with photocontrol [5]

Programmed Controls	
ADD	AutoDim Timer Based Dimming [5]
ADT	AutoDim Time of Day Dimming [5]

Photocontrols	
PC	Button Photocontrol [5,6]

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 "2" for 2.5"-3.4" OD pole, "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
10 – Some voltage restrictions may apply when combined with controls

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DATE: | LOCATION:

TYPE: | PROJECT:

CATALOG #:

VIPER Area/Site

VIPER LUMINAIRE

ORDERING GUIDE (CONTINUED)

CATALOG #

Accessory Type		Size		Option		Color	
SHD	Shield	1	Size 1	HSS-90-B	House Side Shield 90° Back	BLS	Black Gloss Smooth
		2	Size 2	HSS-90-F	House Side Shield 90° Front	BLT	Black Matte Textured
		3	Size 3	HSS-90-S	House Side Shield 90° Side	DBS	Dark Bronze Gloss Smooth
		4	Size 4	HSS-270-BSS	House Side Shield 270° Back/Side/Side	DBT	Dark Bronze Matte Textured
				HSS-270-FSS	House Side Shield 270° Front/Side/Side	GTT	Graphite Matte Textured
				HSS-270-FSB	House Side Shield 270° Front/Side/Back	LGS	Light Gray Gloss Smooth
				HSS-360	House Side Shield 360°	PSS	Platinum Silver Smooth
				BC	Back Light Control	WHS	White Gloss Smooth
MTG	Mounting			A	Arm Mount for square pole/flat surface	WHT	White Matte Textured
				ASQU	Universal Arm Mount for square pole	VGT	Green Landscape Decorative
				AAU	Adjustable Arm for pole mounting	LEG	Legacy Colors
				ADU	Decorative upswept Arm	**Color Option**	
				RPA	Round Pole Adapter	CC	Custom Color
				MAF	Mast Arm Fitter for 2-3/8" OD horizontal arm		
				K	Knuckle		
				T	Trunnion		
				WB	Wall Bracket (compatible with universal arm mounts)		

Accessory Type		Option	
MSC	Miscellaneous	BIRD SPK	Bird Spike

Hubbell Control Solutions — Accessories (Sold Separately)

NX Distributed Intelligence™

☐ **NXOFM-1R1D-UNV** — On-fixture Module (7-pin), On / Off / Dim, Daylight Sensor with HubbNET Radio and Bluetooth® Radio, 120–480VAC

wiSCAPE® Lighting Control

☐ **WIR-RME-L** — On-fixture Module (7-pin or 5-pin), On / Off / Dim, Daylight Sensor with wiSCAPE 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 www.hubbellcontrolsolutions.com. Options provided for use with integrated sensor, please view specification sheet ordering information table for details.

CONTROLS

wiSCAPE™ NX DISTRIBUTED™ INTELLIGENCE

Control Option	Sensor	Networkable	Scheduling	Occupancy	Daylight Harvesting	On/Off Control	Programming	Pair with Sensor	Sensor Mounting Height
NXWE	–	✔	✔	–	–	✔	✔	–	–
NXSPW_F	NXSM-P	✔	✔	✔	✔	✔	✔	–	14ft, 40ft
NXSP_F	NXSM-P	–	–	✔	✔	✔	–	–	14ft, 40ft
BTSO12F	BTSMP-OMNI	–	–	✔	✔	✔	Bluetooth	–	12ft
BTS_F	BTSMP	–	–	✔	✔	–	–	–	14ft, 40ft
ADD	–	–	✔	–	–	✔	–	✔	–
ADT	–	–	✔	–	–	✔	–	✔	–
7PR	–	Paired with external control	Paired with external control	–	Paired with external control	Paired with external control	–	✔	–
7PR-SC	–	–	–	–	–	–	–	✔	–
3PR	–	–	–	–	–	Paired with external control	–	✔	–
3PR-SC	–	–	–	–	–	–	–	✔	–
3PR-TL	–	–	–	–	✔	✔	–	✔	–
WIR	–	✔	✔	–	✔	✔	Gateway	–	–
WIRSC	BTSMP	✔	✔	✔	✔	✔	Gateway	–	14ft, 40ft

HUBBELL Lighting

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

VIPER Area/Site

VIPER LUMINAIRE

DELIVERED LUMENS

For delivered lumens, please see Lumens Data PDF on www.hubbelllighting.com

PROJECTED LUMEN MAINTENANCE

Ambient Temp.	0	25,000	*TM-21-11 36,000	50,000	100,000	Calculated L_{70} (Hours)
25°C / 77°F	1.00	0.97	0.96	0.95	0.91	408,000
40°C / 104°F	0.99	0.96	0.95	0.94	0.89	356,000

LUMINAIRE AMBIENT TEMPERATURE FACTOR (LATF)

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

Micro Strike Lumen Multiplier			
CCT	70 CRI	80 CRI	90 CRI
2700K	–	0.841	–
3000K	0.977	0.861	0.647
3500K	–	0.900	–
4000K	1	0.926	0.699
5000K	1	0.937	0.791
Monochromatic Amber Multiplier			
Amber	0.250		

Strike Lumen Multiplier			
CCT	70 CRI	80 CRI	90 CRI
2700K	–	0.859	–
3000K	0.941	0.912	0.703
3500K	–	0.906	–
4000K	1	0.894	0.734
5000K	1	0.879	0.711
Monochromatic Amber Multiplier			
Amber	0.255		

DATE: | LOCATION:

TYPE: | PROJECT:

CATALOG #:

VIPER Area/Site

VIPER LUMINAIRE

ELECTRICAL DATA: MICRO STRIKE

# OF LEDS	160						
NOMINAL WATTAGE	35	50	75	100	115	135	160
SYSTEM POWER (W)	34.9	50.5	72.1	97.2	111.9	132.2	157.8
INPUT VOLTAGE (V)	CURRENT (Amps)						
120	0.29	0.42	0.63	0.83	0.96	1.13	1.33
208	0.17	0.24	0.36	0.48	0.55	0.65	0.77
240	0.15	0.21	0.31	0.42	0.48	0.56	0.67
277	0.13	0.18	0.27	0.36	0.42	0.49	0.58
347	0.10	0.14	0.22	0.29	0.33	0.39	0.46
480	0.07	0.10	0.16	0.21	0.24	0.28	0.33

# OF LEDS	320						
NOMINAL WATTAGE	145	170	185	210	235	255	315
SYSTEM POWER (W)	150	166.8	185.7	216.2	240.9	261.5	312
INPUT VOLTAGE (V)	CURRENT (Amps)						
120	1.21	1.42	1.54	1.75	1.96	2.13	2.63
208	0.70	0.82	0.89	1.01	1.13	1.23	1.51
240	0.60	0.71	0.77	0.88	0.98	1.06	1.31
277	0.52	0.61	0.67	0.76	0.85	0.92	1.14
347	0.42	0.49	0.53	0.61	0.68	0.73	0.91
480	0.30	0.35	0.39	0.44	0.49	0.53	0.66

# OF LEDS	480					
NOMINAL WATTAGE	285	320	340	390	425	470
SYSTEM POWER (W)	286.2	316.7	338.4	392.2	423.2	468
INPUT VOLTAGE (V)	CURRENT (Amps)					
120	2.38	2.67	2.83	3.25	3.54	3.92
208	1.37	1.54	1.63	1.88	2.04	2.26
240	1.19	1.33	1.42	1.63	1.77	1.96
277	1.03	1.16	1.23	1.41	1.53	1.70
347	0.82	0.92	0.98	1.12	1.22	1.35
480	0.59	0.67	0.71	0.81	0.89	0.98

# OF LEDS	720				
NOMINAL WATTAGE	435	475	515	565	600
SYSTEM POWER (W)	429.3	475	519.1	565.2	599.9
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	3.63	3.96	4.29	4.71	5.00
208	2.09	2.28	2.48	2.72	2.88
240	1.81	1.98	2.15	2.35	2.50
277	1.57	1.71	1.86	2.04	2.17
347	1.25	1.37	1.48	1.63	1.73
480	0.91	0.99	1.07	1.18	1.25

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

VIPER Area/Site

VIPER LUMINAIRE

ELECTRICAL DATA: STRIKE

# OF LEDS	36				
NOMINAL WATTAGE	39	55	85	105	115
SYSTEM POWER (W)	39.6	56.8	83.6	108.2	113.7
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	0.33	0.46	0.71	0.88	1.00
208	0.19	0.26	0.41	0.50	0.58
240	0.16	0.23	0.35	0.44	0.50
277	0.14	0.20	0.31	0.38	0.43
347	0.11	0.16	0.24	0.30	0.35
480	0.08	0.11	0.18	0.22	0.25

# OF LEDS	72				
NOMINAL WATTAGE	120	145	180	210	215
SYSTEM POWER (W)	120.9	143.2	179.4	210.2	214.8
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	0.96	1.21	1.50	1.75	2.00
208	0.55	0.70	0.87	1.01	1.15
240	0.48	0.60	0.75	0.88	1.00
277	0.42	0.52	0.65	0.76	0.87
347	0.33	0.42	0.52	0.61	0.69
480	0.24	0.30	0.38	0.44	0.50

# OF LEDS	108				
NOMINAL WATTAGE	240	250	280	320	325
SYSTEM POWER (W)	241.7	250.8	278.3	322.1	324.7
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	1.79	2.08	2.33	2.71	3.04
208	1.03	1.20	1.35	1.56	1.75
240	0.90	1.04	1.17	1.35	1.52
277	0.78	0.90	1.01	1.17	1.32
347	0.62	0.72	0.81	0.94	1.05
480	0.45	0.52	0.58	0.68	0.76

# OF LEDS	162				
NOMINAL WATTAGE	365	405	445	485	545
SYSTEM POWER (W)	362.6	403.6	445.1	487.1	543.9
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	2.67	3.38	3.71	4.04	4.54
208	1.54	1.95	2.14	2.33	2.62
240	1.33	1.69	1.85	2.02	2.27
277	1.16	1.46	1.61	1.75	1.97
347	0.92	1.17	1.28	1.40	1.57
480	0.67	0.84	0.93	1.01	1.14

DATE: LOCATION:

TYPE: PROJECT:

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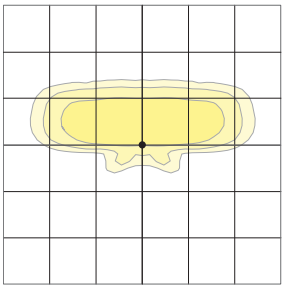
VIPER Area/Site

VIPER LUMINAIRE

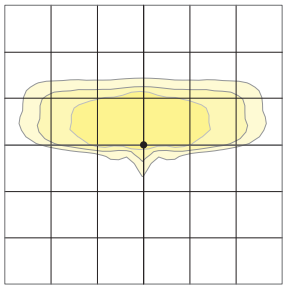
MICRO STRIKE PHOTOMETRY

The following diagrams represent the general distribution options offered for this product. For detailed information on specific product configurations, see website photometric test reports.

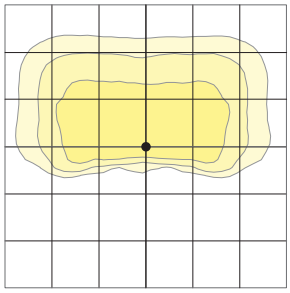
Type 2



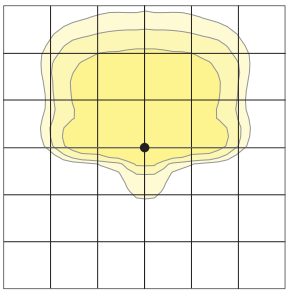
Type 3



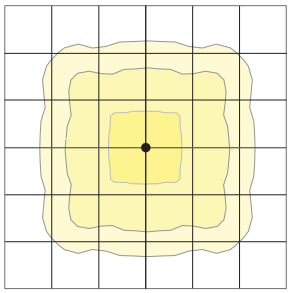
Type 4 Wide



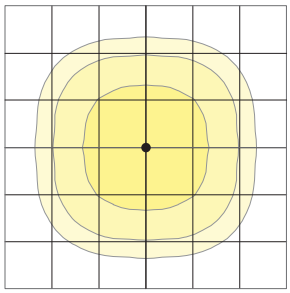
Type 4F



Type 5QM



Type 5QW



DATE: LOCATION:

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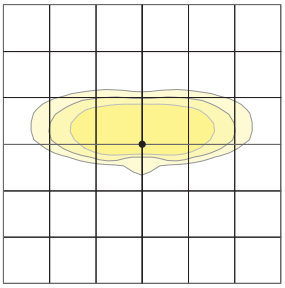
VIPER LUMINAIRE

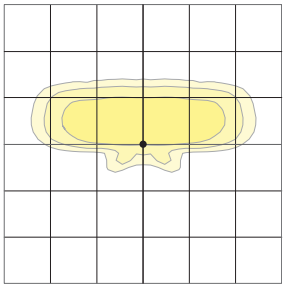
OPTIC STRIKE PHOTOMETRY

The following diagrams represent the general distribution options offered for this product. For detailed information on specific product configurations, see website photometric test reports.

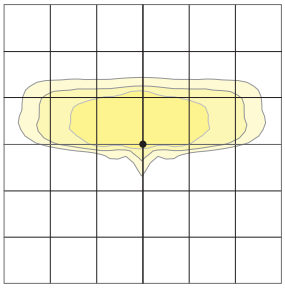
Type FR – Front Row/Auto Optic



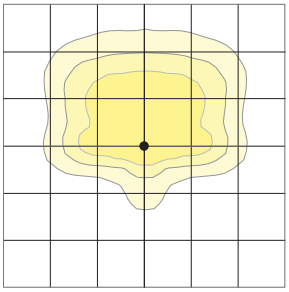
Type 2



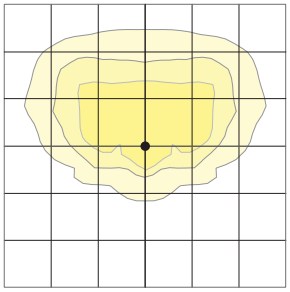
Type 3



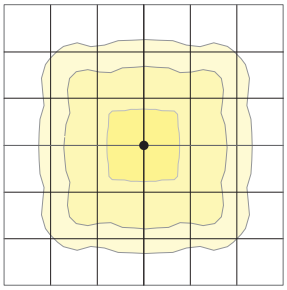
Type 4 Forward



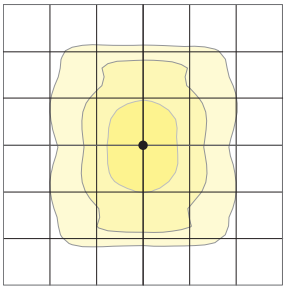
Type 4 Wide



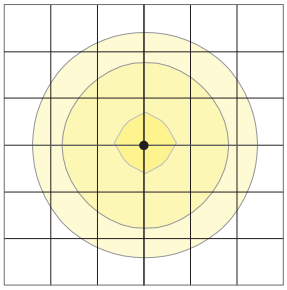
Type 5QM



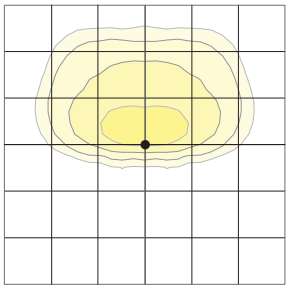
Type 5R (rectangular)



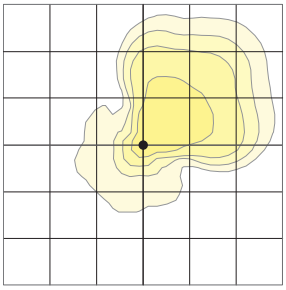
Type 5W (round wide)



Type TC



Type Corner



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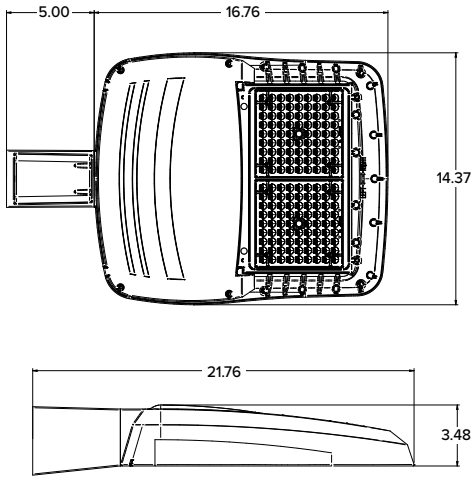
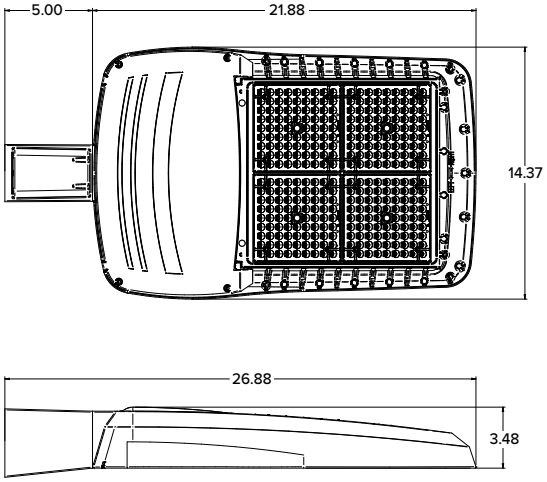
VIPER LUMINAIRE

DIMENSIONS

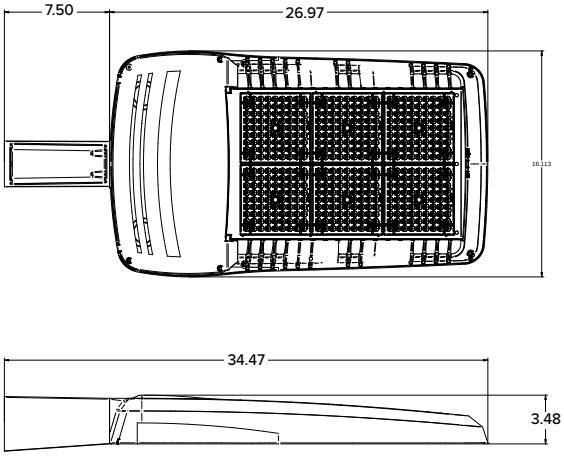
SIZE 1



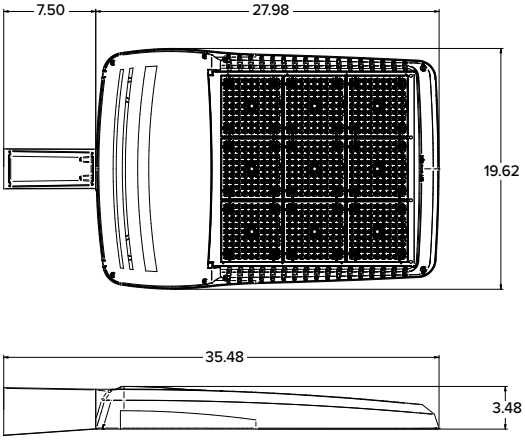
SIZE 2



SIZE 3



SIZE 4



	EPA				
	VP1 (Size 1)	VP2 (Size 2)	VP3 (Size 3)	VP4 (Size 4)	Config.
Single Fixture	0.454	0.555	0.655	0.698	
Two at 180	0.908	1.110	1.310	1.396	
Two at 90	0.583	0.711	0.857	0.948	
Three at 90	1.037	1.266	1.512	1.646	
Three at 120	0.943	1.155	1.392	1.680	
Four at 90	1.166	1.422	1.714	1.896	

	Weight	
	lbs	kgs
VP1 (Size 1)	13.7	6.2
VP2 (Size 2)	16.0	7.26
VP3 (Size 3)	25.9	11.7
VP4 (Size 4)	30.8	13.9

HUBBELL Lighting

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DATE: LOCATION:

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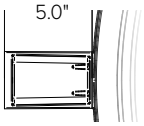
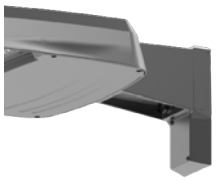
VIPER LUMINAIRE

MOUNTING

ASQ–STRAIGHT ARM MOUNT

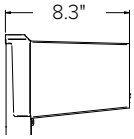
Fixture ships with integral arm for ease of installation. Compatible with Hubbell Outdoor B3 drill pattern. For round poles add applicable suffix (2/3/4/5)

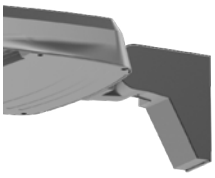




ASQU–UNIVERSAL ARM MOUNT

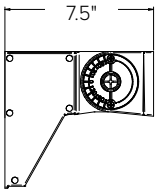
Universal mounting block for ease of installation. Compatible with drill patterns from 2.5" to 4.5" and Hubbell drill pattern S2. For round poles add applicable suffix (2/3/4/5)

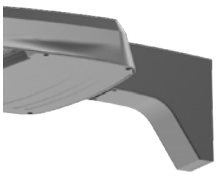




AAU–ADJUSTABLE ARM FOR POLE MOUNTING

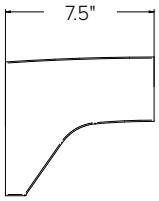
Rotatable arm mounts directly to pole. Compatible with drill patterns from 2.5" to 4.5" and Hubbell drill pattern S2. For round poles add applicable suffix (2/3/4/5). Rotatable in 15˚ aiming angle increments. Micro Strike configurations have a 45° aiming limitation. Strike configurations have a 30° aiming limitation.

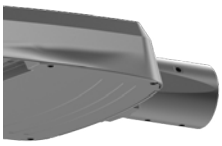




ADU–DECORATIVE UPSWEPT ARM

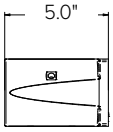
Upswept Arm compatible with drill patterns from 2.5" to 4.5". For round poles add applicable suffix (2/3/4/5).

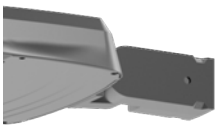




MAF–MAST ARM FITTER

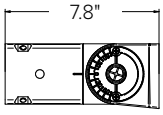
Fits 2-3/8" OD horizontal tenons.

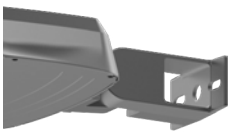




K–KNUCKLE

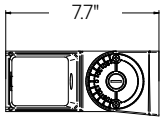
Knuckle mount 15˚ aiming angle increments for precise aiming and control, fits 2-3/8" tenons or pipes. Micro Strike configurations have a 45° aiming limitation. Strike configurations have a 30° aiming limitation.





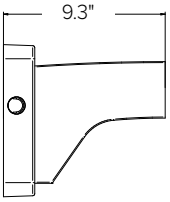
T–TRUNNION

Trunnion for surface and crossarm mounting using (1) 3/4" or (2) 1/2" size through bolts. Micro Strike configurations have a 45° aiming limitation. Strike configurations have a 30° aiming limitation.



WM–WALL MOUNT

Compatible with universal arm mount, adjustable arm mount, and decorative arm mount. The WA option uses the same wall bracket but replaces the decorative arm with an adjustable arm.



HUBBELL Lighting

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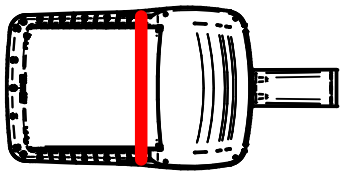
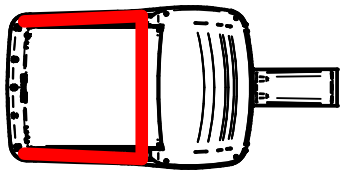
ADDITIONAL INFORMATION (CONTINUED)

HOUSE SIDE SHIELD FIELD INSTALL ACCESSORIES

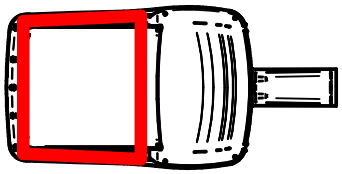
VPR2x HSS-90-B-xx



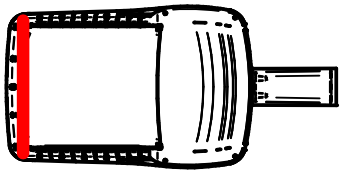
VPR2x HSS-270-BSS-xx



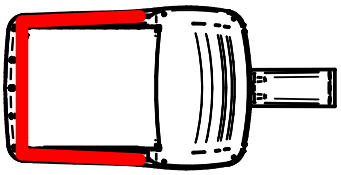
VPR2x HSS-360-xx



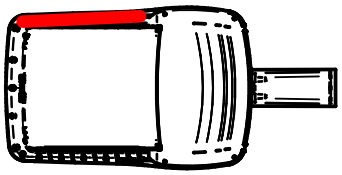
VPR2x HSS-90-F-xx



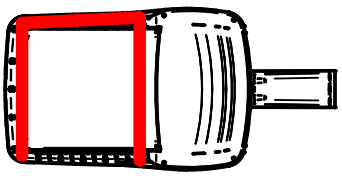
VPR2x HSS-270-FSS-xx



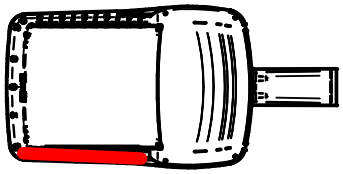
VPR2x HSS-90-S-xx



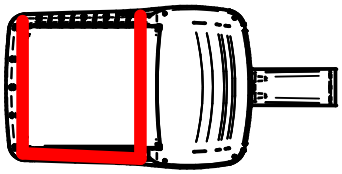
VPR2x HSS-270-FSB-xx



VPR2x HSS-90-S-xx



VPR2x HSS-270-FSB-xx



VIPER Area/Site

VIPER LUMINAIRE

ADDITIONAL INFORMATION (CONTINUED)

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

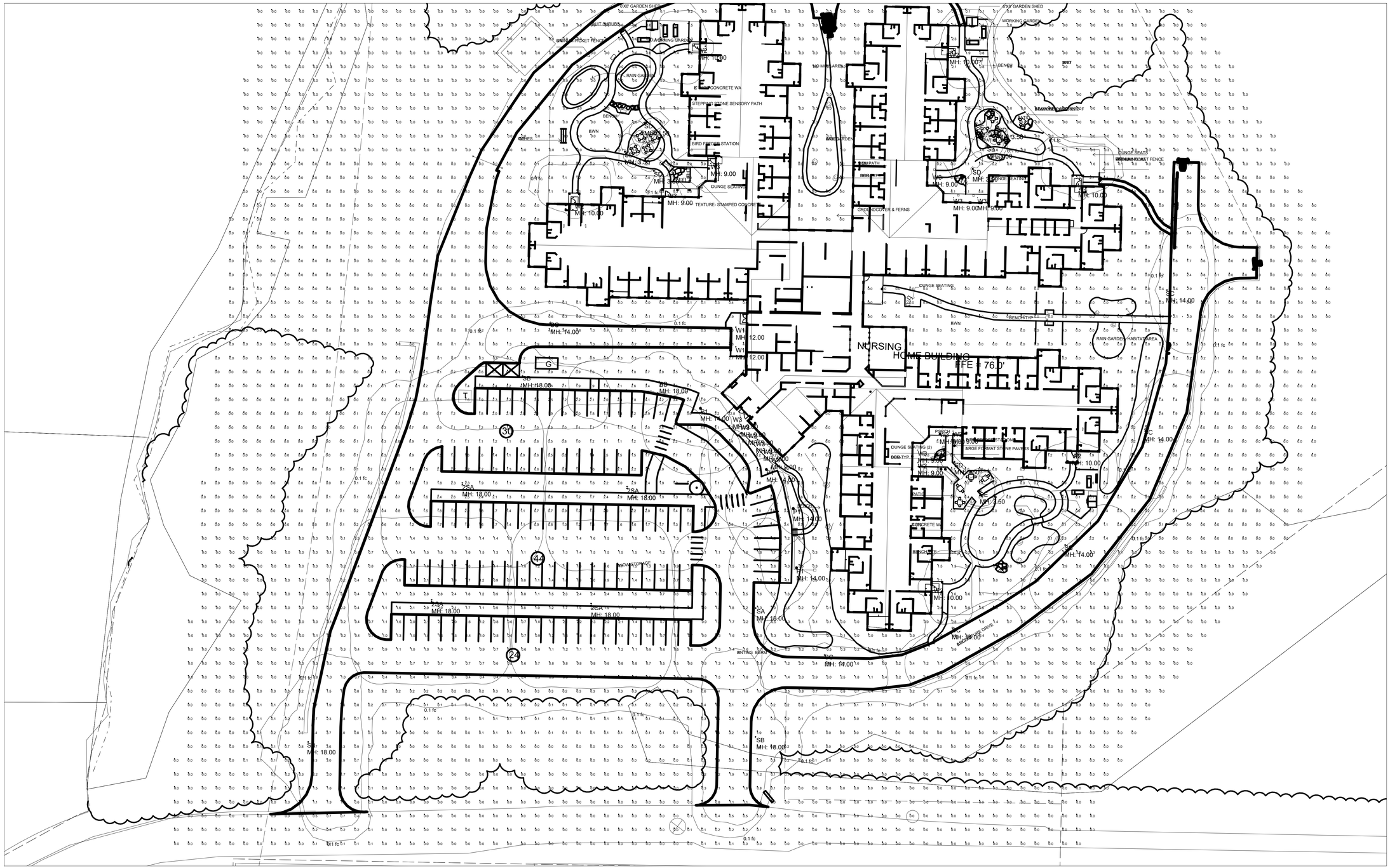
ADD Control Options	Configurations Choices	Example Choice Picked
Auto-Dim Options	12-3 AM and 6-11 PM	6 - Dim at 6PM
Auto-Dim Brightness	10-100% Brightness	5 - Dim to 50%
Auto-Dim Return	12-6 AM and 9-11P	R6 - Return to full output at 6AM

USE OF TRADEMARKS AND TRADE NAMES

Luminaire Schedule (note fixture catalogue numbers are not complete)						
Type	**Qty**	**Lum. Lumens**	**LLF**	**Lum. Watts**	**Mounting Height**	**Description**
2SA	4	8085	0.900	83.6	18	TWIN - VP-1-36L-85-3K7-4W
P1	4	4346	0.900	67	14	LEx194E35-60L3K-NFO
SA	1	8085	0.900	83.6	18	VP-1-36L-85-3K7-4W
SB	4	9214	0.900	83.6	18	VP-1-36L-85-3K7-3
SC	6	4650	0.900	55	14	VP-S-36L-65-3K7-3-BC
SD	6	684	0.900	14	3.5	PA7R-NU3HS-12L-010-3K7
SE	3	908	0.900	14	3.5	PA7R-NU5-12L-010-3K7
W1	2	2364	0.900	16.85	12	SRT1-15-3K7-5C-UNV
W2	6	2369	0.900	19.9	10	GEO1-24L-20-3K7-4-UNV-DBT
W3	15	1750	0.900	15.198	9	LFR-4RD-M-20L35K8XW-DM1_ LFR-4RD-T-CL-SS

Calculation Summary					
Label	**Avg**	**Max**	**Min**	**Avg/Min**	**Max/Min**
SITE	0.38	22.4	0.0	N.A.	N.A.

NOTES:
1) EXACT MOUNTING DETAILS TO BE DETERMINED AT JOBSITE BY OTHERS.
2) CALCULATIONS MAY or MAY NOT SHOW THE EFFECT OF SHADOWING CAUSED BY BUILDINGS AND OBJECTS WITHIN THE CALCULATED SPACE OR IN THE SITE AREA.
3) READINGS SHOWN ARE INITIAL HORIZONTAL FOOTCANDLES ON A FLAT SITE WITHOUT REFLECTIONS OR OBSTRUCTIONS UNLESS OTHERWISE INDICATED.
4) THIS CALCULATION IS BASED ON LIMITED INFORMATION SUPPLIED BY OTHERS TO SWANEY LIGHTING ASSOCIATES AND STANDARD ASSUMPTIONS OF THE SPACE AND/OR SITE.
5) CONFORMANCE TO CODES AND OTHER LOCAL REQUIREMENTS AS DETERMINED BY THE AHJ ARE THE RESPONSIBILITY OF THE OWNER AND/OR THE OWNER'S REPRESENTATIVE.
6) THIS LAYOUT DRAWING MUST BE COORDINATED WITH THE SITE LOCATION FOR CORRECT FIXTURE ORIENTATION.
7) 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.



PLAN VIEW

SWANEY LIGHTING ASSOCIATES, INC.

site ltg 9-14-22.AGI

GENERATED BY SWANEY LIGHTING, SCARBOROUGH ME - 207-883-7100 - swaneylighting.com

TITLE: CLIPPERSHIP LANDING
DAMARISCOTTA, ME
SITE LIGHTING LAYOUT

GENERATED FOR: SASHIE MISNER
LAND AND PLAY

SCALE: NOT TO SCALE

Page 1 of 1

Date:9/14/2022

LEB19SC

19" Era® Lantern PicoEmitter® LED

Medium Housing, Bottom Mount, Single Curved Arm, kl_leb19sceled_spec.pdf

KIM LIGHTING

JOB _____ TYPE _____

NOTES _____ APPROVALS _____

FEATURES

- Full Cutoff PicoEmitter technology
- Available in 580nm, 3000K, 4000K and 5000K standard CCT
- Type 1, 2, 3, 4, 5, R & L distributions
- 0-10V dimming drivers standard
- Sealed optical chamber, IP66 certified

Certifications

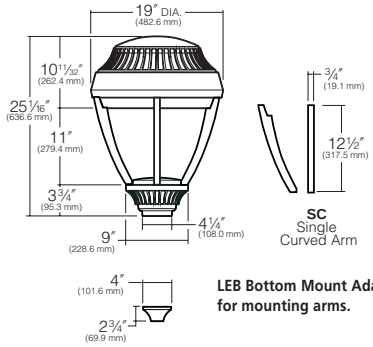
c UL us LISTED

ida DARK SKY APPROVED 2016

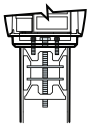
3000K and warmer CCTs only

SPECIFICATIONS

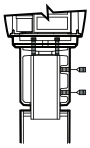
Approx. Weight = 54 lbs. EPA 1.0 for FM.
See Configuration for Additional EPAs.



LEB Bottom Mount Adapter for mounting arms.



Flush Mount
slips into a 3.375" Ø - 5" Ø open top pole or tenon with up to .25" profile thickness



Post Top
slips over a 2 3/8" Ø pole or tenon with 4" of engagement

ORDERING CODE

	LEB19SC		E35	60L					
Configuration	Fixture			Electrical Module			Fixture Finish	Photocell Options	

Configuration

			EPA
•	FM	Flush Mount	1.0
•	PT	Pipe Tenon Mt.	1.0
•	1SA	1 Arm Side Mt.	0.7
••	2SB	2 Arm Side Mt.	1.4
⁘	3SY	3 Arm Side Mt.	2.1
✣	4SC	4 Arm Side Mt.	2.4
•	1W	Single Wall Mt.	n/a

NOTE: EPA is for Fixture only

Fixture

LEB19SC Lantern, Era Bottom Mnt. 19" Single Curved Arm

Distribution
1 Type I
2 Type II
3 Type III
4 Type IV
5 Type V
R Type R Right
L Type L Left

Drive Current
E35 350mA PicoEmitter

Electrical Module

Source
60L 60 LEDs, 67W

Color Temperature[1]
2K 580nm[2]
3K 3000K
4K 4000K
5K 5000K

Voltages
UV 120-277V
120 120V
208 208V
240 240V
277 277V
347[3] 347V
480[3] 480V

Fixture Finish

BL Black
DB Dark Bronze
GT Graphite
LG Light Gray
PS Platinum Silver
TT Titanium
WH White
CC Custom Color*
*Consult Representative

Photocell Options

A25-7 7-pin Photocell Receptacle
A30 120V Button Photocell
A31 208V Button Photocell
A32 240V Button Photocell
A33 277V Button Photocell
A34 480V Button Photocell
A35 347V Button Photocell

Fuse Options

SF 120, 277, 347 Line Volts
DF 208, 240, 480 Line Volts

NFO Option

NFO Neighbor Friendly Optic. Photometry available for Type III/IV. All others, consult factory.

Control Options

Wireless
WIR-RMI-IO 120-480V, 1000' range, wiSCAPE RF control system with on/off/dim, alerts, monitoring and metering capabilities

Motion
SCH-R Round Pole Mounted Occupancy Sensor up to 30'
SCH-S Square Pole Mounted Occupancy Sensor up to 30'

Arm Options

Pole Arm	Pole Tenon Mount	Wall Mount	Style
HA11S	HA11S-TM1, HA11S-TM2, HA11S-TM3, HA11S-TM4	HA11S-W	Side Pole Swept Cast Arm
HA12S	HA12S-TM1, HA12S-TM2, HA12S-TM3, HA12S-TM4	HA12S-W	Side Pole S-Shaped Up Cast Arm
HA14S	HA14S-TM1, HA14S-TM2, HA14S-TM3, HA14S-TM4	HA14S-W	Side Pole Neo-Classic Arm
HA31S	HA31S-TM1, HA31S-TM2, HA31S-TM3, HA31S-TM4	HA31S-W	Side Pole Arm w/ Top Scroll
HA33S	HA33S-TM1, HA33S-TM2, HA33S-TM3, HA33S-TM4	HA33S-W	Side Pole Ribbon Arm w/Top Gusset
HA37S	HA37S-TM1	HA37S-W	Side Pole Ribbon w/ Top Brace, Bottom Scroll
HA38S	HA38S-TM1	HA38S-W	Side Pole Ribbon w/ Top Brace, Bottom Gusset

Arm Finial	Finial
HAF02	TF

Mounting Options

Side Arm Mount
3 3" O.D. Pole
3.5 3.5" O.D. Pole
4 4" O.D. Pole
5 5" O.D. Pole
6 6" O.D. Pole
SQ Square Pole

For Pole Spec Select: http://www.kimlighting.com/products/arms_and_poles/
For Control Spec Select: http://trpssl.com/index.html

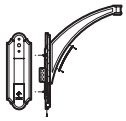
[1] For custom optics and color temperature configurations, contact factory.
[2] Turtle friendly. Maximum 500mA drive current for 2K amber option.
[3] 347V & 480V currents may be supplied with step-down transformer.

Kim Lighting reserves the right to change specifications without notice.

ARM OPTIONS

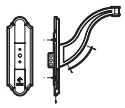
Note: Refer to Kim Lighting's Arms and Poles Specification Guide for EPA information and additional information on arm, tenon and wall mounting.
1W Wall Mount arm is not included and must be ordered separately.

Side Pole Swept Cast Arm

ARM	Tenon Mount	Wall Mt
		
HA11S	**HA11S-TM1** **HA11S-TM2** **HA11S-TM3** **HA11S-TM4**	**HA11S-W**

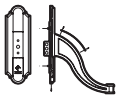
Mounting: 1A 2B 3Y 4C

Side Pole S-Shaped Up Cast Arm

ARM	Tenon Mount	Wall Mt
		
HA12S	**HA12S-TM1** **HA12S-TM2** **HA12S-TM3** **HA12S-TM4**	**HA12S-W**

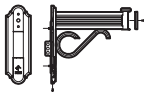
Mounting: 1A 2B 3Y 4C

Side Pole S-Shaped Down Cast Arm

ARM	Tenon Mount	Wall Mt
		
HA13S	**HA13S-TM1** **HA13S-TM2** **HA13S-TM3** **HA13S-TM4**	**HA13S-W**

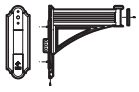
Mounting: 1A 2B 3Y 4C

Side Pole/Wall Mount Ribbon Arm w/Bottom Scroll

ARM	Tenon Mount	Wall Mt
		
HA32S	**HA32S-TM1** **HA32S-TM2** **HA32S-TM3** **HA32S-TM4**	**HA32S-W**

Mounting: 1A 2B 3Y 4C

Side Pole/Wall Mount Ribbon Arm w/Bottom Gusset

ARM	Tenon Mount	Wall Mt
		
HA34S	**HA34S-TM1** **HA34S-TM2** **HA34S-TM3** **HA34S-TM4**	**HA33S-W**

Mounting: 1A 2B 3Y 4C

Side Pole Ribbon Arm w/Bottom Brace

ARM	Tenon Mount	Wall Mt
	*Consult Factory for other mtgs.*	*Consult Factory for other mtgs.*
HA36S	**HA36S-TM1**	**HA36S-W**

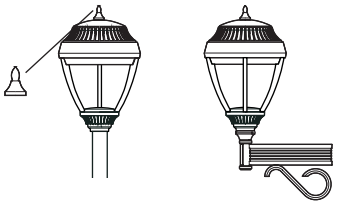
Mounting: 1A

Arm Finial

HAF02 Traditional style finial available to close off mounting hub opposite fixture.

Finial

TF Heavy cast aluminum finial on top of lantern housing. For use with Bottom Mount (BM) luminaire only.



Kim Lighting reserves the right to change specifications without notice.

LUMINAIRE PERFORMANCE

Spectroradiometric			
	3000K Average	4000K Average	5000K Average
Color Rendering Index (CRI)	≤80	≤80	≤70
Power Factor	>.90	>.90	>.90

Projected Lumen Maintenance		
mA	100,000 hrs	(Calculated L70)
350 mA	93.33%	596,000 hrs.

Electrical Drive Current		
Volts - AC	Amps - AC	System Watts
120	0.56	67
208	0.32	67
240	0.28	67
277	0.24	67
347	0.19	67
480	0.14	67

B.U.G. Rating (TM15) in Lumens wher B = Backlight, U = Uplight, G = Glare								
Temperature	TYPE 1	TYPE 2	TYPE 3	TYPE 3 NFO	TYPE 4	TYPE 4 NFO	TYPE 5	TYPE L/R
3000K	TBD	B1 U0 G1	B1 U0 G1	N/A	B1 U0 G1	B0 U0 G1	B2 U0 G1	TBD
4000K	TBD	B2 U0 G2	B1 U0 G1	N/A	B1 U0 G1	B1 U0 G1	B2 U0 G1	TBD
5000K	TBD	B2 U0 G2	B1 U0 G1	N/A	B1 U0 G1	B1 U0 G1	B3 U0 G1	TBD

Absolute Lumens								
Temperature	TYPE 1	TYPE 2	TYPE 3	TYPE 3 NFO	TYPE 4	TYPE 4 NFO	TYPE 5	TYPE L/R
3000K	TBD	5471	5187	4216	5165	4346	5427	TBD
4000K	TBD	5611	5320	4324	5298	4457	5566	TBD
5000K	TBD	5675	5381	4373	5358	4508	5630	TBD

LED performance and lumen output continues to improve at a rapid pace. Log onto www.kimlighting.com to download the most current photometric files from Kim Lighting's IES File Library.
For custom optics and color temperature configurations, contact factory.
*Data is prorated from 5000K IES files.

Kim Lighting reserves the right to change specifications without notice.

SPECIFICATIONS

Housing:

- One-piece die-cast, low copper (<0.6% Cu) aluminumalloy with integral cooling ribs over the optical chamber and electrical compartment.
- Solid barrier wall separates optical and electrical compartments.
- Double-thick wall with gussets on the support-arm mounting end.
- Housing forms a half cylinder with 55° front face plane providing a recess to allow a flush single-latch detail.
- All hardware is stainless steel or electro-zinc plated steel.

Lens Frame:

- One-piece die-cast, low copper (<0.6% Cu) aluminum alloy lens frame with 1" minimum depth around the gasket flange.
- Integral hinges with stainless steel pins provide no-tool mounting and removal from housing.
- Single die-cast aluminum cam-latch provides positive locking and sealing of the optical chamber by a one-piece extruded and vulcanized silicone gasket to provide an IP66 rating for the optical module.
- Clear 3/8" thick tempered glass lens retained by eight steel clips with full silicone gasketing around the perimeter.

Neighbor Friendly Optic

- Integrated Neighbor Friendly Optic on each PicoEmitter module to completely control unwanted backlight. Most effective with Type III and IV distibutions.

Lens:

- One-piece clear tempered glass lens sealed with silicone gasket.

Optical Module:

- Precision, replaceable PicoEmitters are positioned to achieve directional control toward desired task.
- The entire EmitterDeck fastens to the housing as a one-piece module.
- Type I, II, III, IV, V, L (left), and R (right) standard distributions. Custom available.
- 3000K, 4000K, 5000K standard CCT. Amber and custom available.
- IP66 certified
- Die-cast, low copper aluminum heat sink modules provide thermal transfer at PCB level.
- Anodized aluminum carrier plate and heat sink modules.

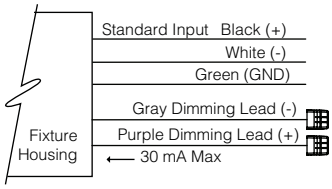
Electrical Characteristics:

- 120V through 480V @ 50/60Hz.
- Class 1, 350mA.
- Power Factor = >.90
- National Electrical Code, ANSI/NFPA 70.
- 10kV surge suppression.
- Thermalshield thermal control.
- -40c starting driver.
- 0-10V dimming interface.
- All electronic components are IP66 rated.
- Electronic components are UL and/or CSA recognized.

Dimming:

- 10% to 100% dimming using standard 0-10V interface driver.
- To activate the dimming system, a wiring harness is supplied and attached to the DIM Port (DIM IN) on the thermal shield protection system. This port allows the 0-10V Interface to bypass the thermal shield and control the driver.
- The thermal shield works in conjunction with the control system to assure that overheating will not harm the LEDs.

The wiring harness is connected with the use of the Purple lead as the positive (+) and the Grey lead as the negative (-) to an available control signal (by others).



Support Arm:

- One-piece extruded aluminum with internal bolt guides and fully radiussed top and bottom.
- Luminaire-to-pole attachment is by internal draw bolts, and includes a pole reinforcing plate with wire strain relief.
- Arm is circular cut for specified round pole.
- Optional cast, low copper aluminum horizontal slip-fitter with adaptor plate to secure the luminaire to 2" IPS pipe size arms.
- Optional cast aluminum wall mount plate assembly. Attaches to the wall over the junction box. Luminaire attaches to the wall plate.

Finish:

- Fade and abrasion resistant, electrostatically applied, thermally cured, triglycidal isocyanurate (TGIC) polyester powdercoat.
- Standard colors include (BL) Black, (DB) Dark Bronze, (GT) Graphite, (WH) White, (PS) Platinum Silver, (LG) Light Gray, (TT) Titanium, and (CC) Custom Color (Include RAL#).

Fusing:

SF for 120, 277 and 347 Line Volts
DF for 208, 240 and 480 Line Volts.

- High temperature fuse holders factory installed inside the fixture housing. Fuse is included.

Certifications and Listings:

- UL 1598 Standard for wet locations for Luminaires.
- UL 8750 Standard for Safety for Light Emitting Diode (LED) Equipment for use in Lighting Products.
- IP66 certified.
- CSA C22.2#250.0 Luminaires.
- ANSI C136.31-2010 3G Vibration tested and compliant.
- RoHS compliant.
- IDA approved, 3000K and warmer CCTs only.

CAUTION:

- Fixtures must be grounded in accordance with national, state and/or local electrical codes, Failure to do so may result in serious personal injury.

WARRANTY:

- For full warranty see http://www.hubbelllighting.com/resources/warranty

Kim Lighting reserves the right to change specifications without notice.

CONTROLS

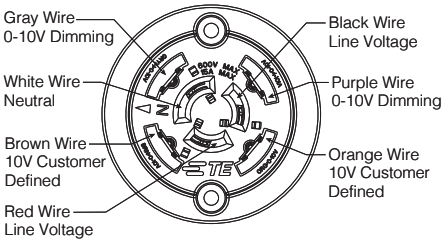
Photocell Receptacle

A25-7

Fully gasketed and wired 7-pin receptacle option. Easy access location above the electrical compartment. 7-pin construction allows for a user-defined interface and provides a controlled definition of operational performance. ANSI twist-lock control module by-others.

Standard customer operation modes:

1. Traditional on/off photoelectric control.
2. 5-pin wireless photoelectric control for added dimming feature.
3. 7-pin wireless photoelectric control for dimming and additional I/O connections for customer use.



Button Photocell

A30 for 120V, **A31** for 208V, **A32** for 240V, **A33** for 277V, **A35** for 347V, **A34** for 480V,

Photocell is factory installed inside the housing with a fully gasketed sensor on the side wall. For multiple fixture mountings, one fixture is supplied with a photocell to operate the others.

Wireless Control

Hubbell Building Automation's wiSCAPE™ In-Fixture Module is a bi-directional wireless RF device that allows an individual fixture to be managed, monitored and metered. The wiSCAPE In-Fixture Module communicates wirelessly over a robust 2.4GHz ISM (Industrial, Scientific and Medical) certified meshed radio signal. The wiSCAPE Fixture Module drastically simplifies control and automation of projects, especially in retrofit environments, and challenges the legacy world of wired-systems. wiSCAPE wireless control technology easily adapts to complex automation situations for quick, simple and economical commissioning. The On-Fixture Module is compatible with A-25-7H option.

WIR-RMI-IO

120 - 347V 1000 Foot Range WiScape RF mesh control system with off/on/dim, motion, photo, GPS location, alert, monitoring and metering capabilities.

Pole Mounted

Round Pole-Mounted Occupancy Sensor up to 30'

SCH-R

Round Pole-Mounted Occupancy Sensor: up to 30' - an outdoor occupancy sensor with 0-10V interface dimming control that mounts directly to the pole. Wide 360° pattern. Module colors are available in Black, Gray, and White. Module is cut for round pole mounting. Pole diameter is needed upon order. Poles to be drilled in the field will be provided with installation instructions.

Ordering Example: SCH-R4[1]/277[2]/BL[3]

Square Pole-Mounted Occupancy Sensor up to 30'

SCH-S

Square Pole-Mounted Occupancy Sensor: up to 30' - an outdoor occupancy sensor with 0-10V interface dimming control that mounts directly to the pole. Wide 360° pattern. Module colors are available in Black, Gray, and White. Module is cut for round pole mounting. Pole diameter is needed upon order. Poles to be drilled in the field will be provided with installation instructions.

Ordering Example: SCH-S/277[2]/BL[3]

SCP

The SCP is a photo-control with motion sensing accessory thats mounts to the side of any new or existing 3"-5" round or square straight pole. The SCP enables any pole mounted luminaire in excess of 75 watts, to meet California Title 24 requirements with integral 20KV/10KA surge protection for added reliability and serviceability.

For more detail:

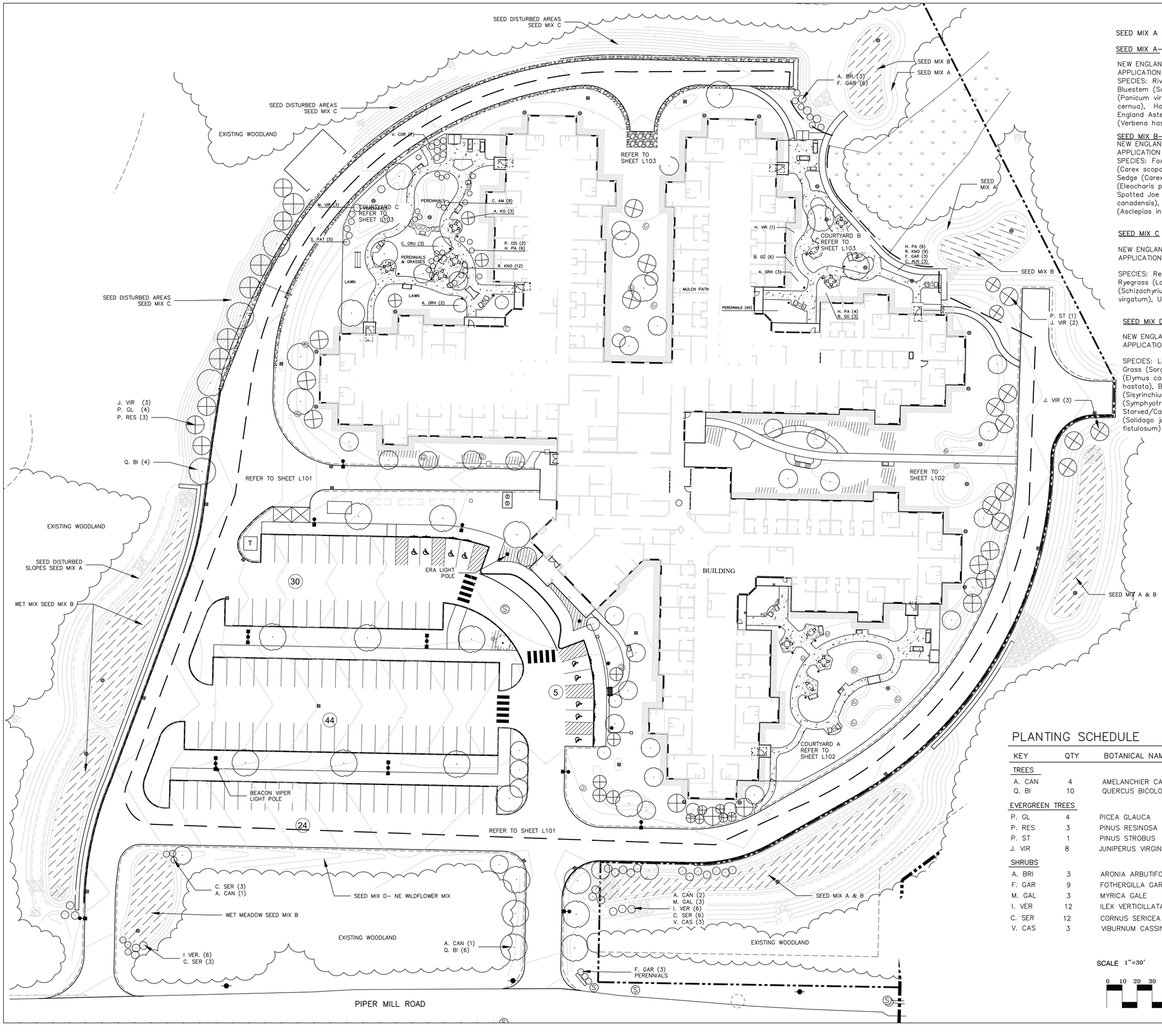
http://www.aal.net/products/sensor_control_programmable

[1]Pole Diameter, [2]Voltage, [3]Color

Kim Lighting reserves the right to change specifications without notice.

ATTACHMENT B

LANDSCAPING PLAN



SEED MIX A & B FOR USE IN BIORETENTION BASINS.

SEED MIX A– BIORETENTION BASIN SIDE SLOPES

NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR MOIST SITES
APPLICATION RATE: 1#/1250 SF
SPECIES: Riverbank Wild Rye (Elymus riparius), Creeping Red Fescue (Festuca rubra), Little Bluestem (Schizachyrium scoparium), Big Bluestem (Andropogon gerardii), Switch Grass (Panicum virgatum), Upland Bentgrass (Agrostis perennans), Nodding Bur Marigold (Bidens cernua), Hollow–Stem Joe Pye Weed (Eupatorium fistulosum/Eutrochium fistulosum), New England Aster (Aster novae–angliae), Boneset (Eupatorium perfoliatum), Blue Vervain (Verbena hastata), Soft Rush (Juncus effusus), Wool Grass (Scirpus cyperinus).

SEED MIX B– BIORETENTION BASIN
NEW ENGLAND WET MIX
APPLICATION RATE: 1#/2500 SF
SPECIES: Fox Sedge (Carex vulpinoidea), Lurid Sedge (Carex lurida), Blunt Broom Sedge (Carex scoparia), Blue Vervain (Verbena hastata), Fowl Bluegrass (Poa palustris), Hop Sedge (Carex lupulina), Green Bulrush (Scirpus atrovirens), Creeping Spike Rush (Eleocharis palustris), Fringed Sedge (Carex crinita), Soft Rush (Juncus effusus), Spotted Joe Pye Weed (Eupatorium maculatum), Rattlesnake Grass (Glyceria canadensis), Swamp aster (Aster puniceus), Blueflag (Iris versicolor), Swamp Milkweed (Asclepias incarnata), Square stemmed Monkey Flower (Mimulus ringens).

SEED MIX C

NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DRY SITES
APPLICATION RATE: 35 lb/acre | 1250 sq ft/lb

SPECIES: Red Fescue (Festuca rubra), Canada Wild Rye (Elymus canadensis), Annual Ryegrass (Lolium multiflorum), Perennial Ryegrass (Lolium perenne), Little Bluestem (Schizachyrium scoparium), Indian Grass (Sorghastrum nutans), Switch Grass (Panicum virgatum), Upland Bentgrass (Agrostis perennans).

SEED MIX D

NEW ENGLAND WILDFLOWER MIX
APPLICATION RATE: 23 lb/acre | 1900 sq ft/lb

SPECIES: Little Bluestem (Schizachyrium scoparium), Red Fescue (Festuca rubra), Indian Grass (Sorghastrum nutans), Partridge Pea (Chamaecrista fasciculata), Canada Wild Rye (Elymus canadensis), Virginia Wild Rye (Elymus virginicus), Blue Vervain (Verbena hastata), Butterfly Milkweed (Asclepias tuberosa), Narrowleafed Blue Eyed Grass (Sisyrinchium angustifolium), Black Eyed Susan (Rudbeckia hirta), New England Aster (Symphyotrichum novae–angliae), Spiked Gayfeather/ Marsh Blazing Star (Liatris spicata), Starved/Calico Aster (Aster lateriflorus/Symphyotrichum lateriflorum), Early Goldenrod (Solidago juncea), Hollow–Stem Joe Pye Weed (Eupatorium fistulosum/Eutrochium fistulosum)

PLANTING SCHEDULE

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE
TREES				
A. CAN	4	AMELANCHIER CANADENSIS	AUTUMN BRILLIANCE SHAD	7'–8' CLUMP
Q. BI	10	QUERCUS BICOLOR	SWAMP WHITE OAK	2.5" CAL
EVERGREEN TREES				
P. GL	4	PICEA GLAUCA	WHITE SPRUCE	6'–7' HT
P. RES	3	PINUS RESINOSA	RED PINE	6'–7' HT
P. ST	1	PINUS STROBUS	WHITE PINE	6'–7' HT
J. VIR	8	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	6'–7' HT
SHRUBS				
A. BRI	3	ARONIA ARBUTIFOLIA 'BRILLIANTISSIMA'	RED CHOKEBERRY	#3
F. GAR	9	FOTHERGILLA GARDENII	FOTHERGILLA	#3
M. GAL	3	MYRICA GALE	BAYBERRY	#3
I. VER	12	ILEX VERTICILLATA VAR	WINTERBERRY MIX	#3
C. SER	12	CORNUS SERICEA 'BAILEYI"	RED TWIG DOGWOOD	#3
V. CAS	3	VIBURNUM CASSINOIDES	WITHEROD VIBURNUM	#3

SCALE 1"=30'

0 10 20 30 60 ft.

NORTH

PREPARED BY:

Sashie Misner
Landscape
Architecture LLC
www.landandplay.com | 207-406-0734

LICENSED LANDSCAPE ARCHITECT
SARAH E. MISNER
No. 3657
STATE OF MAINE

29 BLACK POINT ROAD
SCARBOROUGH, MAINE 04074
207-883-6307
WWW.GAWRONTURGEON.COM

GAWRON TURGEON ARCHITECTS, PC

CLIPPERSHIP LANDING
SANDY RIVER
DAMARISCOTTA, MAINE

REVISIONS

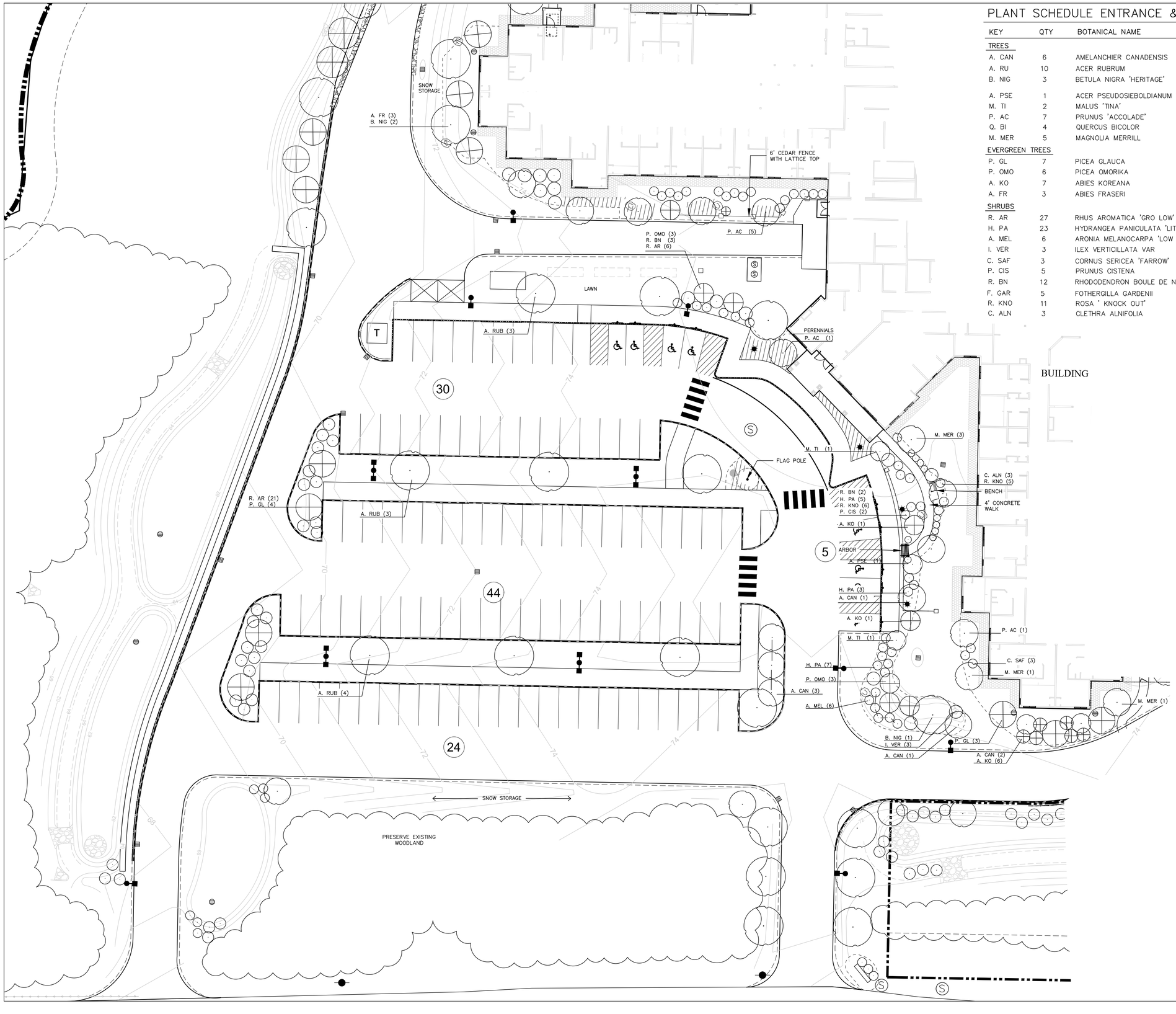
#	DATE	DESCRIPTION

DATE:	09-15-22
PROJECT #	2206
DRAWN BY:	
CHECKED BY:	
DRAWING SCALE	

NOT FOR CONSTRUCTION

OVERALL PLANTING PLAN

L100



PLANT SCHEDULE ENTRANCE & PARKING LOT

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE
TREES				
A. CAN	6	AMELANCHIER CANADENSIS	AUTUMN BRILLIANCE SHAD	7'–8' CLUMP
A. RU	10	ACER RUBRUM	RED MAPLE	2.5" CAL
B. NIG	3	BETULA NIGRA 'HERITAGE'	RIVER BIRCH	7'–8' CLUMP
A. PSE	1	ACER PSEUDOSIEBOLDIANUM 'NORTH WIND'	NORTH WIND KOREAN MAPLE	5'–6 HT'
M. TI	2	MALUS 'TINA'	TINA CRABAPPLE	1.75" CAL
P. AC	7	PRUNUS 'ACCOLADE'	ACCOLADE CHERRY	2" CAL
Q. BI	4	QUERCUS BICOLOR	SWAMP WHITE OAK	2.5" CAL
M. MER	5	MAGNOLIA MERRILL	MERRILL MAGNOLIA	1.5" CAL
EVERGREEN TREES				
P. GL	7	PICEA GLAUCA	WHITE SPRUCE	6'–7' HT
P. OMO	6	PICEA OMORIKA	SERBIAN SPRUCE	6'–7' HT
A. KO	7	ABIES KOREANA	KOREAN FIR	6'–7' HT
A. FR	3	ABIES FRASERI	FRASER FIR	6'–7' HT
SHRUBS				
R. AR	27	RHUS AROMATICA 'GRO LOW'	GRO LOW SUMAC	#3
H. PA	23	HYDRANGEA PANICULATA 'LITTLE QUICKFIRE'	LITTLE QUICKFIRE HYD	#3
A. MEL	6	ARONIA MELANOCARPA 'LOW SCAPE'	LOW SCAPE MOUND CHOKECHERRY	#3
I. VER	3	ILEX VERTICILLATA VAR	WINTERBERRY MIX	#3
C. SAF	3	CORNUS SERICEA 'FARROW'	ARCTIC FIRE RED DOGWOOD	#3
P. CIS	5	PRUNUS CISTENA	PURPLE SANDCHERRY	#3
R. BN	12	RHODODENDRON BOULE DE NEIGE	RHODODENDRON	#3
F. GAR	5	FOTHERGILLA GARDENII	FOTHERGILLA	#3
R. KNO	11	ROSA ' KNOCK OUT'	KNOCK OUT ROSE	#3
C. ALN	3	CLETHRA ALNIFOLIA	SUMMERSWEET	#3

NORTH

SCALE 1"=20'

0 10 20 40 ft.

PREPARED BY:

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CLIPPERSHIP LANDING
SANDY RIVER
DAMARISCOTTA, MAINE

REVISIONS

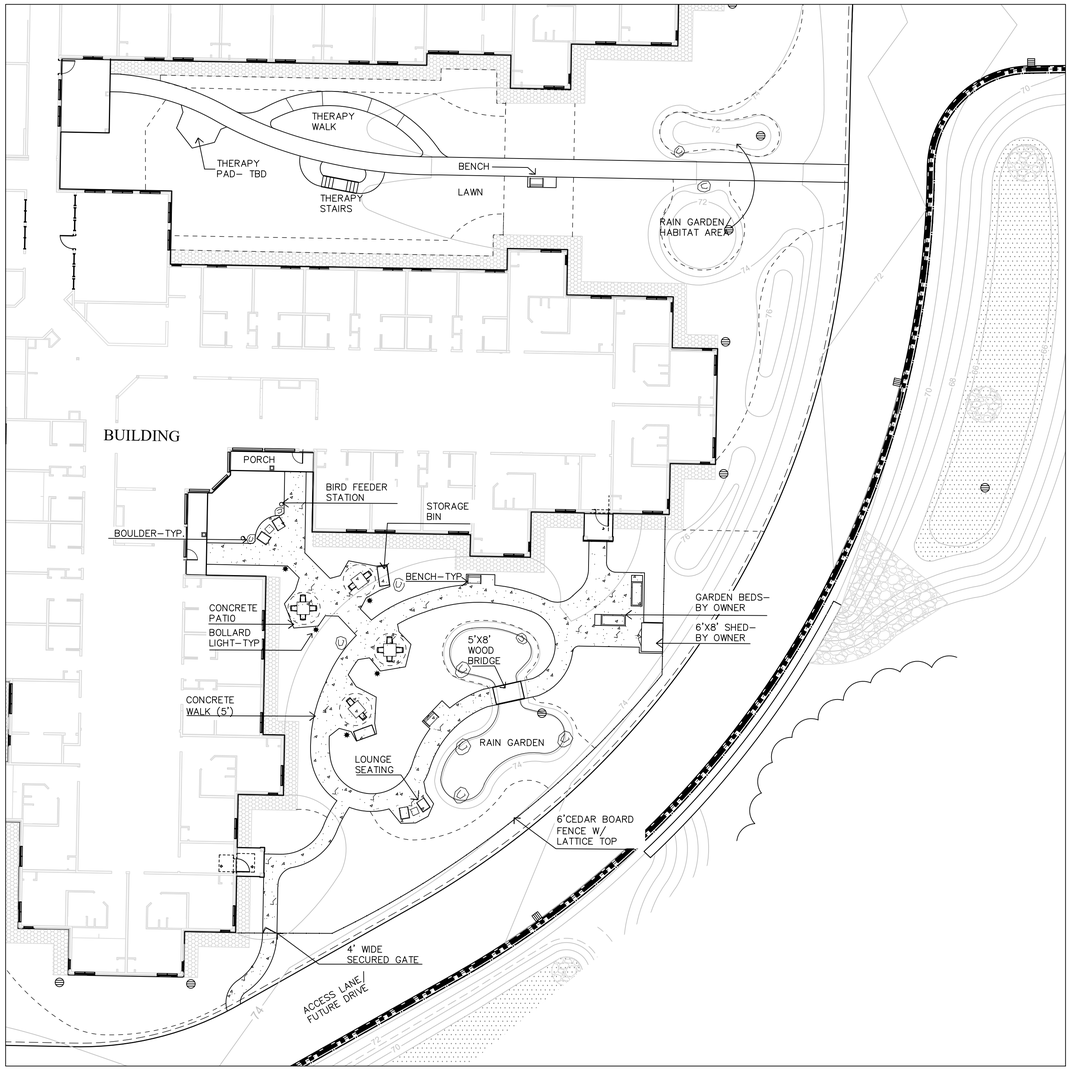
#	DATE	DESCRIPTION

DATE:	09-15-22
PROJECT #	2206
DRAWN BY:	
CHECKED BY:	
DRAWING SCALE	

NOT FOR CONSTRUCTION

ENTRANCE PLANTING PLAN

L101



ENLARGEMENT COURTYARD A
LAYOUT PLAN

PLANT LIST COURTYARD A

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE
TREES				
A. CAN	10	AMELANCHIER CANADENSIS	AUTUMN BRILLIANCE SHAD	7'–8' CLUMP
A. RUB	2	ACER RUBRUM	RED MAPLE	2.5" CAL
B. NIG	1	BETULA NIGRA 'HERITAGE'	RIVER BIRCH	7'–8' CLUMP
Q. BI	2	QUERCUS BICOLOR	SWAMP WHITE OAK	2.5" CAL
C. ALT	2	CORNUS ALTERNIFOLIA	PAGODA DOGWOOD	7'–8' HT
M. DW	6	MALUS DONALD WYMAN	DONALD WYMAN CRABAPPLE	1.5" CAL
M. ST	1	MAGNOLIA STELLATA	STAR MAGNOLIA	#7
C. CRU	4	CRATAEGUS CRUSGALLI	THORNLESS HAWTHORN	2.5" CAL
N. SYL	1	NYSSA SYLVATICA	BLACK TUPELO	2.5" CAL
EVERGREEN TREES				
P. NIG	3	PINUS NIGRA	AUSTRIAN PINE	6'–7' HT
J. VIR	7	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	6'–7' HT
SHRUBS				
H. PA	10	HYDRANGEA PANICULATA 'LITTLE QUICKFIRE'	LITTLE QUICKFIRE HYD	#3
B. GG	10	BUXUS 'GREEN GEM'	GREEN GEM BOXWOOD	#3
H. VIR	1	HAMAMELIS 'ARNOLDS PROMISE'	WITCHHAZEL	#3
C. SAF	11	CORNUS SERICEA 'FARROW'	ARCTIC FIRE RED DOGWOOD	#3
M. GAL	3	MYRICA GALE	BAYBERRY	#3
V. COR	7	VACCINIUM CORYMBOSUM	HIGHBUSH BLUEBERRY VAR.	#3
C. AM	6	CEANOTHUS AMERICANUS	NEW JERSEY TEA TREE	#3
R. KNO	11	ROSA ' KNOCK OUT'	KNOCK OUT ROSE	#3
C. ALN	4	CLETHRA ALNIFOLIA	SUMMERSWEET	#3
F. GAR	13	FOTHERGILLA GARDENII	DWARF BOTTLEBRUSH	#3

ENLARGEMENT COURTYARD A
PLANTING PLAN

SCALE 1"=20'

0 10 20 40 ft.

NORTH

PREPARED BY:

Sashie Misner Landscape Architecture LLC
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LICENSED LANDSCAPE ARCHITECT
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GAWRON TURGEON ARCHITECTS, PC

CLIPPERSHIP LANDING
. . . . . .
SANDY RIVER
DAMARISCOTTA, MAINE

REVISIONS

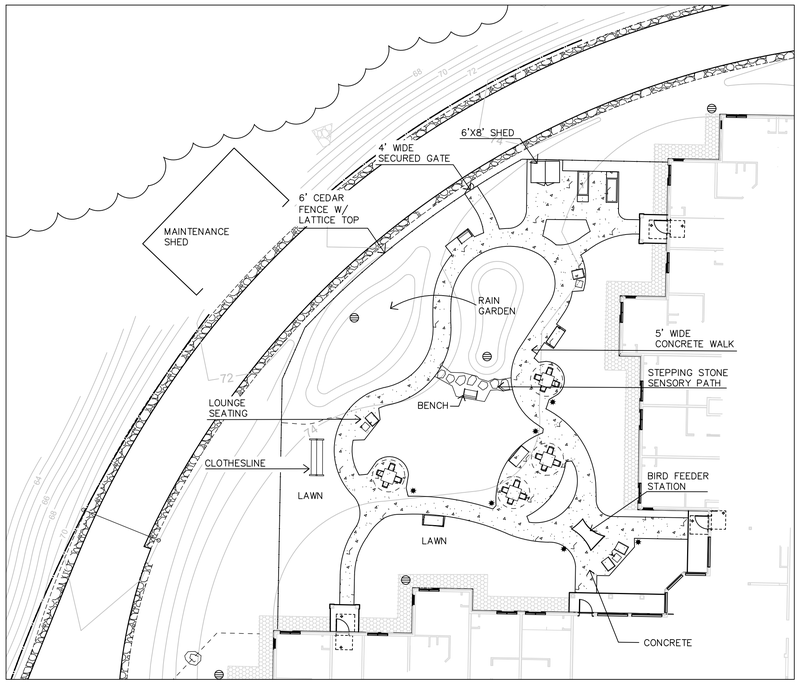
#	DATE	DESCRIPTION

DATE:	09-15-22
PROJECT #	2206
DRAWN BY:	SEM
CHECKED BY:	
DRAWING SCALE	1" = 20'

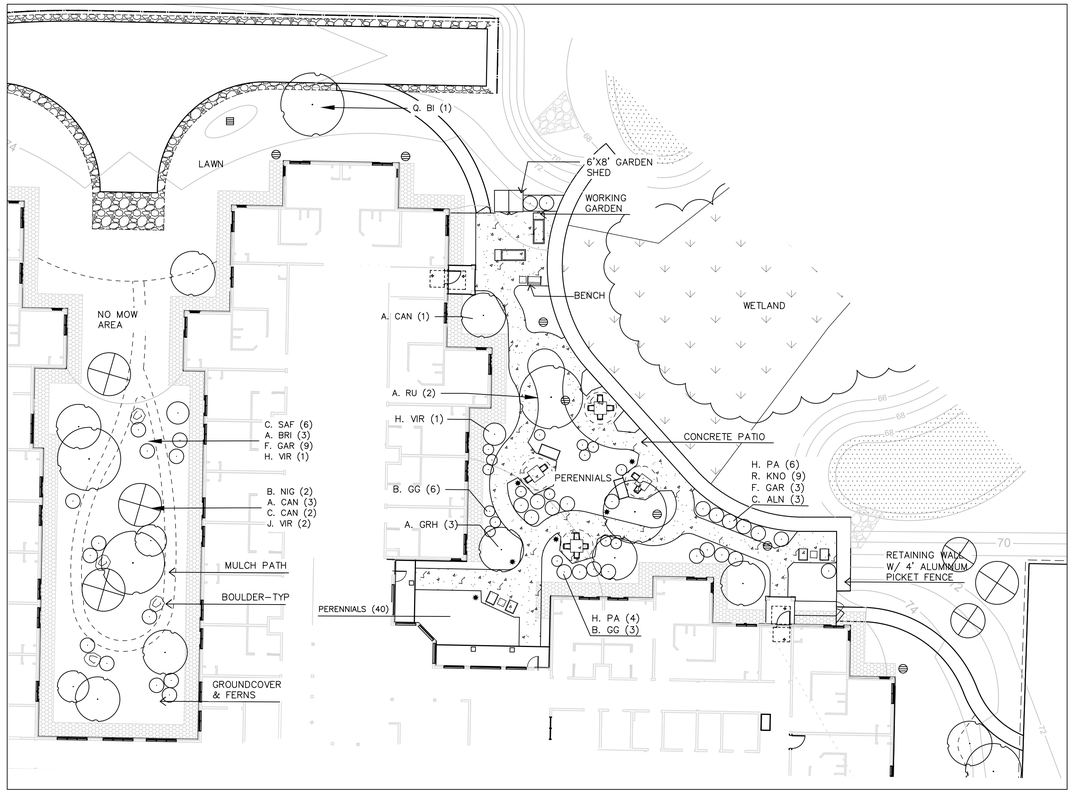
NOT FOR CONSTRUCTION

PLANTING PLAN
COURTYARD
A

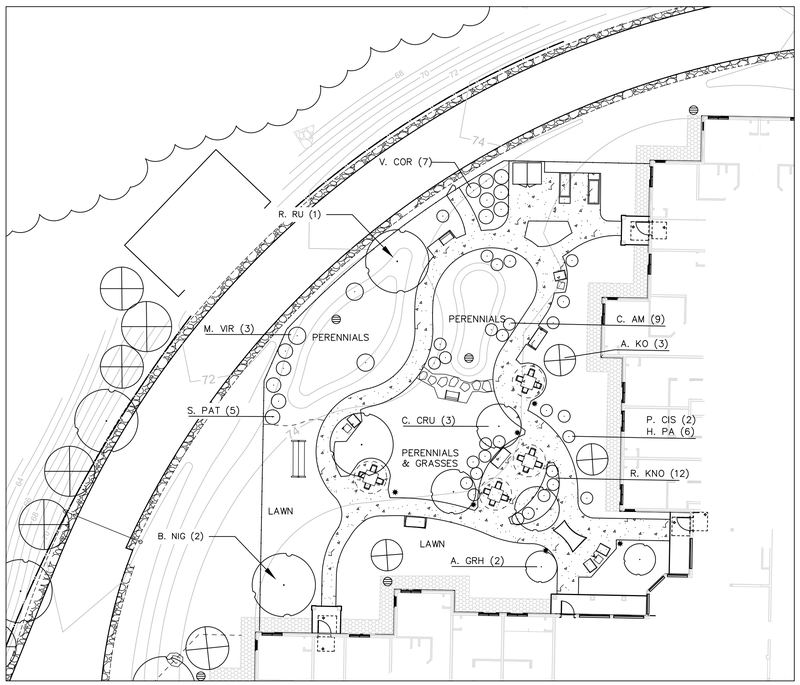
L102



ENLARGEMENT COURTYARD C
(MEMORY CARE)



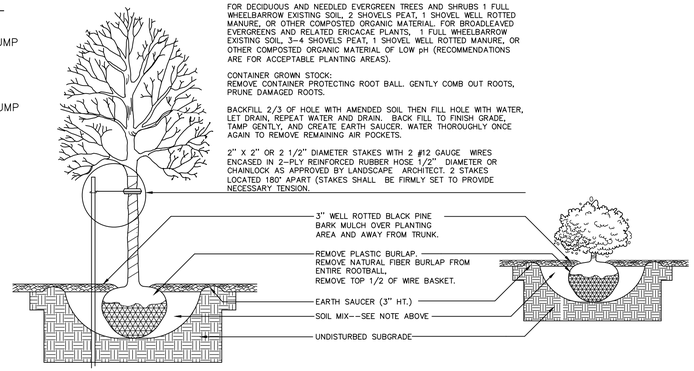
ENLARGEMENT COURTYARD B



ENLARGEMENT COURTYARD C PLANTING PLAN
(MEMORY CARE)

PLANTING SCHEDULE– SHEET L103

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE
TREES				
A. CAN	4	AMELANCHIER CANADENSIS	AUTUMN BRILLIANCE SHAD	7'–8' CLUMP
Q. BI	1	QUERCUS BICOLOR	SWAMP WHITE OAK	2.5" CAL
A. GRH	5	AMELANCHIER GRANDIFLORA ROBIN HILL	ROBIN HILL SINGLE STEM SHAD	1.5" CAL
A. RU	3	ACER RUBRUM	RED MAPLE	2.5" CAL
B. NIG	1	BETULA NIGRA 'HERITAGE'	RIVER BIRCH	7'–8' CLUMP
C. CAN	2	CERCIS CANADENSIS	REDBUD	7'–8'
C. CRU	3	CRATAEGUS CRUSGALLI	THORNLESS HAWTHORN	2.5" CAL
EVERGREEN TREES				
A. KO	3	ABIES KOREANA	KOREAN FIR	6'–7' HT
J. VIR	2	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	6'–7' HT
SHRUBS				
A. BRI	3	ARONIA ARBUTIFOLIA 'BRILLIANTISSIMA'	RED CHOKEBERRY	#3
F. GAR	12	FOTHERGILLA GARDENII	FOTHERGILLA	#3
C. AM	9	CEANOTHUS AMERICANUS	NEW JERSEY TEA	#3
M. VIR	3	MAGNOLIA VIRGINIANA	SWEET BAY MAGNOLIA	#3
C. ALN	3	CLETHRA ALNIFOLIA	SUMMERSWEET	#3
H. VIR	2	HAMAMELIS VERNALIS ARTHURS PROMISE	ARTHURS PROMISE WITCHHAZEL	#3
S. PAT	5	SYRINGA PATULA 'MISS KIM'	LILAC	#3
P. CIS	2	PRUNUS CISTENA	PURPLE SANDCHERRY	#3
B. GG	9	BUXUS 'GREEN GEM'	BOXWOOD	#3
C. SAF	6	CORNUS SERICEA 'FARROW'	ARCTIC FIRE RED DOGWOOD	#3
V. COR	5	VACCINIUM CORYMBOSUM BERKELY & BLUE	HIGHBUSH BLUEBERRY POLLINATOR MIX	#3
H. PA	16	HYDRANGEA PANICULATA 'LITTLE QUICKFIRE'	LITTLE QUICKFIRE HYD	#3
R. KNO	21	ROSA ' KNOCK OUT'	KNOCK OUT ROSE	#3



1 / L103 TREE AND SHRUB INSTALLATION
NOT TO SCALE

SCALE 1"=20'

0 10 20 40 ft.

NORTH

PREPARED BY:

Sashie Misner Landscape Architecture LLC
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LICENSED LANDSCAPE ARCHITECT
SARAH E. MISNER
No. 3657
STATE OF MAINE

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CLIPPERSHIP LANDING
SANDY RIVER
DAMARISCOTTA, MAINE

REVISIONS

#	DATE	DESCRIPTION

DATE:	09-15-22
PROJECT #	2206
DRAWN BY:	SEM
CHECKED BY:	
DRAWING SCALE	1" = 20'

NOT FOR CONSTRUCTION

PLANTING PLAN
COURTYARDS
C & B

L103

SECTION 15

NOISE & AIR QUALITY

Developments Producing a Minor Noise Impact

The proposed project is a healthcare institution and falls somewhere in between a residential development and a hospital. Therefore, the development is classified as a development producing a minor noise impact. Construction will be limited to 7 AM to 7 PM or during daylight hours. Potential sources of noise beyond the scope of construction includes but is not limited to, generators, a/c units, and noise associated with deliveries. A copy of the Town's Noise Ordinance is included in Attachment A.

Air Quality

The proposed project will not create air emissions and will have no unreasonable adverse effect on air quality.

Attachments

Attachment A – Noise Ordinance

ATTACHMENT A

NOISE ORDINANCE

lighting criteria shall not be exceeded:

a. Parking lots: a maximum of 1.5 foot-candles throughout.

b. Intersections: a maximum of 3 foot-candles.

c. At property lines: Maximum 0.1 foot-candles.

d. The maximum height of the luminaire of freestanding or building-attached lights on properties or in parking areas for multi-use residences, commercial and other non-residential uses shall be the same as the principal building, but shall not exceed 16 feet.

e. All lights shall have shielding to provide a beam cut-off at no more than 75 degrees nadir. The source of any light (illumination) shall not be visible from any place on any abutting lot.

f. All new or replacement outdoor lights in the public right-of-way shall not exceed 20 feet in height or the manufacturer's specifications.

5. The applicant shall demonstrate to the satisfaction of the Board that the proposed lighting is appropriate for the intended use. The Board shall consider the hours of operation, characteristics of the neighborhood and the specific activities proposed in making its determination. During nighttime hours when the activity is not occurring, lighting, as a condition of approval may be required by the Board to be turned off or turned down to the minimum security level.

   a. Automobile service stations may have canopy lights and freestanding lights that are full cut-off shielded and up to 20 feet in height. No more than 1.5 foot-candles may spill across the lot line onto abutting commercial or other non-residential uses. No more than one-tenth (.1) foot-candle shall spill across any lot line abutting a residential use.

   b. During nighttime hours when service stations are closed, all outdoor lighting shall be turned off or down to the minimum security level.

6. Lighting may be located along streets within the development, parking areas, at intersections and crosswalks and where various types of circulation systems merge, intersect or split.

7. Pathways, sidewalks and trails may be lighted with low mushroom-type standards or bollard type lights 3 feet or less in height.

E. Noise

The proposed development shall not increase noise levels to the extent that abutting or nearby properties are adversely affected. In order to comply with this, the development must meet the following requirements.

1. The maximum permissible sound level of any continuous, regular, frequent, or intermittent source of sound produced by any activity shall be limited according to the time of day and land use which abuts it as listed below except that 7 p.m. – 7 a.m. sound level limits shall apply all day on Sunday.

Abutting Use	Sound Level Limits dBA	
	7 a.m. – 7 p.m.	7 p.m. – 7 a.m.
Residential	55	45
Commercial	65	55
Industrial	70	60
Institutional	55	45

2. Where the abutting property is undeveloped, the sound level shall be equal to or less than the most restrictive other abutting use. Where there are no uses on abutting properties, the sound level at the property line shall be equal to or less than the least stringent use allowed in the zoning district.

3. Sound levels shall be measured at least four (4) feet above the ground at the property line of the development. Sound levels shall be measured by a meter set on the A-weighted response scale, fast response. The meter shall meet the latest version of American National Standards Institute (ANSI S1.4.) "American Standard Specification for General Purpose Sound Level Meters" and shall have been calibrated at a recognized laboratory within the past year.

4. The following uses and activities shall be exempt from the sound pressure level regulations.

   a. Noises created by construction and temporary maintenance activities between 6:30 a.m. and 8:00 p.m.

   b. The noises of safety signals, warning devices, and emergency pressure relief valve and other emergency activities.

   c. Traffic noise on public roads.

   d. Snow removal.

F. Adequacy of Public Road System

Vehicular access to the site must be on roads which have adequate capacity to accommodate the MDOT Level of Service Process, even if it is a Town owned road. A development not meeting this requirement may be approved if the applicant demonstrates that:

1. A public agency has committed funds to construct the improvements necessary to bring the level of access to this standard as soon as possible or,

2. The applicant will assume financial responsibility for the improvements necessary to bring the level of service to this standard and will assure the completion of the improvements as soon as possible, with a financial guarantee acceptable to the municipality.

G. Access into the Site

Vehicular access to and from the development must be safe and appropriate.

SECTION 16

FIRE SUPPRESSION

The proposed development will be equipped with a sprinkler system to provide fire suppression in the event of a fire within the facility. Hydrants will also be provided on-site for additional fire suppression.


NORTH
NURSING
HOME BUILDING
FFE = 76.0'
GEN
LPG
LPG
LPG
30
44
24
5
PIPER MILL ROAD
Filters
Contains text....
Country: All
Add: New Filter....
Select All...
Clear All...
AARHUS KOMMUNE 2011
AASHTO 2001 (US)
AASHTO 2004 (US)
AASHTO 2011 (US)
AASHTO 2018 (US)
AASHTO BICYCLES 2012
AASHTOM 2001 (US)
AASHTOM 2004 (US)
50 vehicles shown
Units: feet
40.54
6.60
19.46
Library | Name | Class | Region | Lock | # Parts | Length | Wheelbase | Trailer
CITY - FIRE & R... | CFD 100' Aerial... | Fire Truck ... | North Am... | 45.0 | 1 | 46.75 | 22.13 | N/A
CITY - FIRE & R... | Han-Le-Co FD ... | Fire Truck ... | North Am... | 50.0 | 1 | 33.96 | 18.63 | N/A
CITY - FIRE & R... | PBF 105' Aerial... | Fire Truck ... | North Am... | 45.0 | 1 | 40.54 | 19.46 | N/A

REV	DATE	DESCRIPTION

REVISIONS

STATE OF MAINE
ANDREW D. JOHNSTON
NO. 9994
9-9-22
LICENSED
PROFESSIONAL ENGINEER

P.E. ANDREW D. JOHNSTON
LIC. #9994

PROJECT:
CLIPPERSHIP LANDING NURSING HOME

PLAN:
FIRE TRUCK AUTOTURN FIGURE

CLIENT:
CLIPPERSHIP LANDING
DEVELOPMENT, LLC
PO BOX 9729, PORTLAND, ME 04101-5029

Atlantic Resource Consultants
541 US Route One
Freeport, ME 04032
Tel: 207.869.9050

DRAWN: AJ
DESIGNED: AJ
CHECKED:
FILE NAME:
SHEET: C-101A

DATE:
SCALE: 1"=30'
JOB NO. 21-025

S:\21-025 Clippership Landing\Drawings\CLIPPERSHIP DESIGN BASE.dwg

SECTION 17

TRAFFIC

A copy of the traffic memo prepared by Barton & Loguidice and dated July 18, 2022, is provided in Attachment A.

Attachments

Attachment A – Traffic Memo

ATTACHMENT A

TRAFFIC MEMO

Traffic Assessment

Date: July 18, 2022

To: Andrew Johnston, P.E. LEED, AP, Principal
Atlantic Resource Consultants, LLC

From: William Bray, P.E.
Senior Traffic Engineer
Barton & Loguidice, LLC.

Re: Piper Mill Road Nursing Home Project – Damariscotta, Maine

Introduction

Clippership Landing Development, LLC is proposing a 102-bed residential nursing home on Piper Mill Road, a private road intersecting School Street at the High Street intersection in the Town of Damariscotta. The proposed facility is sited more or less opposite the existing Ledgewood Apartment complex found on Piper Mill Road.

Access to the proposed site is planned with construction of two entrances; the most easterly or proposed main entrance aligns directly opposite the Ledgewood Apartment entrance; the secondary westerly driveway located approximately 130-feet west of the main entrance.

The purpose of this traffic assessment is to evaluate the level of impact on traffic operations and safety resulting with the development of the proposed project. Site generated trip projections are provided for "key" peak hour time periods throughout a typical weekday; road safety conditions were determined based upon a review of MaineDOT's latest three-year road safety data and intersection sight distance was field reviewed to ensure safe and acceptable sight distance is provided at the proposed site entrances with Piper Mill Road.

Site Trip Generation

Daily and peak hour trip generation was determined for the proposed project based upon trip tables presented in the eleventh edition of the Institute of Transportation Engineers (ITE) "**TRIP GENERATION**" handbook. The ITE publication provides numerous land use categories and the average volume of trips generated by each category.

Site trip estimates for the proposed residential nursing home are based upon LUC #620 –Nursing Home, which is described in the ITE publication as: "*a facility whose primary function is to provide care for persons who are unable to care for themselves. Residents often require treatment from a registered healthcare professional for ongoing medical issues. A nursing home resident is not capable of operating a vehicle. Traffic is entirely generated by employees, visitors and deliveries.*" Calculation of the total number of trips generated by the proposed Clipper Landing Nursing Home for each corresponding time period are summarized below in Table 1.1.

Trip Generation – Clipper Landing Nursing Home
Piper Mill Road, Damariscotta, ME

Table 1.1
ITE Trip Generation Calculations

Land Use	Nursing Home - LUC 620					
Time Period	**Size # of units**	**Trip Generation Rate (Trips Per Unit)**	**Trips Generated**	**Distribution Entering / Exiting**	**Enter**	**Exit**
Weekday	102 beds	3.06 trips/bed	312 trips	50% / 50%	156	156
AM Weekday Peak Hour (Street)	102 beds	0.14 trips/bed	14 trips	72% / 28%	10	4
PM Weekday Peak Hour (Street)	102 beds	0.14 trips/bed	14 trips	33% / 67%	5	9
AM Weekday Peak Hour (Generator)	102 beds	0.20 trips/bed	20 trips	63% / 37%	13	7
PM Weekday Peak Hour (Generator)	102 beds	0.33 trips/bed	34 trips	41% / 59%	14	20

Notes:
For the purpose of the trip generation calculation, any calculated partial trips were rounded up to the next whole number.

As presented in the preceding table, this development will generally be a low trip generator creating a maximum of 34 peak hour trips during the PM peak hour of the proposed site.

Vehicle Sight Distance

The Maine Department of Transportation's Highway Entrance and Driveway Rules require the following sight distances for a non-mobility roadway:

Sight Distance Standards

Speed Limit	Sight Distance
25 mph	**200 feet**
30	250
35	305
40	360
45	425
50	495

Piper Mill Road is a private roadway with the posted speed limit not regulated by the Maine Department of Transportation, therefore, roadway speed limits are not generally posted.

Sight distance for this evaluation is based upon an assumed speed limit of 25mph, which is consistent with an existing traffic warning sign posted near the School Street intersection. In accordance with MaineDOT's sight distance standards, a posted speed limit of 25mph requires a minimum unobstructed sight distance of 200-feet. All field measurements at both proposed site entrances were conducted in compliance with MaineDOT's Rules and Regulations, as follows:

> *"Sight distance is measured to and from the point on the centerline of the proposed access that is located 10-feet from the edge of traveled way. The height of the hypothetical person's view is considered to be 3½ feet above the pavement and the height of the object being viewed is considered to be 4¼ feet above the pavement."*

The field measurements recorded for both proposed driveway entrances are noted as follows:

Main Entrance:
- Left – 500-feet plus
- Right – 285-feet plus

Secondary Entrance:
- Left – 270-feet
- Right – 210-feet [1]

NOTE: [1] This measurement represents an approximate sightline measurement. Existing vegetation found on both sides of Piper Mill Road, west of the secondary site entrance, severely restricts sight distance not allowing for an exact measurement to be obtained. The following photographs highlight the sight distance restrictions found in this section of Piper Mill Road. Proposed roadway clearing limits will be established and submitted at a later date.

Existing Road Safety Conditions

The Maine Department of Transportation's (MaineDOT) Accident Records Section provided the latest three-year (2019 through 2021) crash data for the section of School Street between Main Street and High Street and the portion of High Street from School Street to Bristol Road, a combined distance of approximately 0.67 miles. Their report is presented as follows:

2019 -2021 Traffic Accident Summary

Location	Total Crashes	Critical Rate Factor
1. School Street @ High Street	0	0.00
2. School Street @ Main Street	9	1.87
3. High Street @ Bristol Road	1	0.38
4. School Street btw. Main Street and High Street	0	0.00
5. High Street btw. School Street and Bristol Road	0	0.00

The MaineDOT considers any roadway intersection or segment a high crash location if both of the following criteria are met:

- ***8 or more accidents***
- ***A Critical Rate Factor greater than 1.00***

As the data presented in the chart shows, the intersection of School Street at Main Street with a reported total of 9 crashes and a Critical Rate Factor of 1.87 meets both of MaineDOT's safety criterion for identification of a high crash location.

MaineDOT's Safety office prepared a detailed vehicle collision diagram for the School Street/Main Street intersection, which is illustrated on the attached report dated 6-1-2022. The crash report identifies a singular, very clear crash pattern, occurring within the intersection. Five (5) of the 9 total accidents reported at the intersection are *"rear-end"* crashes with two of the crashes happening on the north approach of School Street and single crashes on each of the remaining three approaches to the intersection. The State Agency's report also identifies a single fatal "angle" crash involving a vehicle turning left from the north approach of School Street being struck by a through vehicle traveling westerly

on Main Street. The remaining reported (3) vehicle crashes located within the immediate area of the intersection were singular crashes with different causes found within the intersection.

Barton & Loguidice, LLC conducted in-field observations at the intersection to more clearly understand possible driver behavior(s) and/or road geometric issues that potentially contribute to the higher-than-expected frequency of crashes occurring at the intersection.

Highlights of that field review are summarized as follows:

- Travel speeds of through traffic on both approaches of Main Street generally appear to be greater than the posted speed limit of 30mph, especially motorists traveling east to west on Main Street.
- It appears drivers entering the intersection from the north approach of School Street are often hesitant in completing both left-turn movements onto Main Street and crossing the intersection to the south approach of School Street. A large deciduous tree located on the east approach of Main Street appears to reduce visibility of approaching westbound Main Street traffic.
- Additionally, motorists crossing the intersection from the north approach of School Street are further hindered in determining if an acceptable vehicle gap exists due to the grade of the road embankment found on the west side of School Street at the intersection.
- Anecdotally, there appears to be a disproportional volume of traffic turning left onto the south approach of School Street from Main Street resulting in increased traffic conflicts within the intersection.

Summary

- The expected trip generation for the proposed development is estimated to be 312 weekday daily trips, 14 trips during both the weekday AM and PM peak hours of the street and a slightly higher volume of 20 and 34 vehicles in the AM and PM peak hours of the site, respectively.

- Vehicle sightlines measured directionally from both proposed site entrances at Piper Mill Road, with clearing improvements, will meet and exceed the sight distance standards for a posted roadway speed of 25mph. A detailed roadway clearing plan will be prepared and submitted at a later date defining the limits of clearing requirements.

- Barton and Loguidice, LLC recommends installation of a 25mph speed limit sign on Piper Mill Road near the School Street intersection. In addition, standard Manual on Uniform Traffic Control "curve" warning signs should be installed on both approaches to the "S" curve section of Piper Mill Road alerting approaching drivers of the pending roadway alignment change on Piper Mill Road.

- A review of MaineDOT Crash data for the latest three-year time period (2019 – 2021) for the section of School Street between Main and High Streets and the short section of High Street between School Street and Bristol Road, a combined distance of approximately 0.67 miles, identifies the School Street/Main Street intersection as a high crash location. MaineDOT's report shows a total of 9 crashes occurred at this intersection with a reported Critical Rate Factor of 1.87. The predominate crash pattern occurring at the intersection are "rear-end" collisions, with a total of five reported accidents. MaineDOT's detailed safety collision diagram intersection also identifies a fatal crash occurred involving a motorist turning left from the

north approach of School Street onto Main Street struck by a through vehicle traveling east to west on Main Street.

- Barton & Loguidice, LLC conducted a visual field review of the intersection observing driver behaviors and roadway geometric issues at the intersection that may be potentially contributing factors in the higher-than-expected number of motor vehicle crashes happening at the intersection. The field study findings are summarized as follows:

    - Roadway speeds on Main Street in both directions of travel appear to measurably exceed the posted speed limit of 30mph.

    - Existing tree limbs located adjacent to the edge of travel way on the north side of the Main Street east approach reduces driver sight distance (left) from the north approach of School Street.

    - The roadway embankment found on the west side of the north leg of School Street at Main Street appears to restrict vehicle sight distance (right) from the School Street approach.

    - Motorists turning onto Main Street from the north leg of School Street are somewhat apprehensive in completing either a left-turn movement onto Main Street or continued movement through the intersection to the south approach of School Street. The aforementioned sight restrictions may be partially responsible for their delayed action.

    - A somewhat heavy volume of traffic traveling east to west on Main Street complete left-turn movements onto the south approach of School Street. This traffic pattern introduces additional traffic conflicts within the intersection that motorists on either approach of School Street must encounter and process in completing desired turns onto or crossing Main Street.

- Barton and Loguidice, LLC contacted MaineDOT's Region 2 Traffic Engineer regarding the current crash problems at the intersection. A detailed conversation ensued discussing both MaineDOT's short term fix for the intersection and driver operational and behavior concerns identified from our separate overview of the intersection. MaineDOT advised short-term improvements to the intersection are tentatively scheduled for implementation in 2023; and, further long-range intersection improvements are also being studied that will add further intersection improvements.

APPENDIX

Appendix A - Maine DOT Crash Data

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

☑ Crash Summary I ☐ Section Detail ☑ Crash Summary II ☐ 1320 Public ☐ 1320 Private ☐ 1320 Summary

REPORT DESCRIPTION

Damariscotta
High St. & School St. Area

REPORT PARAMETERS

Year 2019, Start Month 1 through Year 2021 End Month: 12

Route: **1500682**	Start Node: **31307**	Start Offset: **0**	☐ **Exclude First Node**
	End Node: **32115**	End Offset: **0**	☐ **Exclude Last Node**
Route: **1500619**	Start Node: **32028**	Start Offset: **0**	☐ **Exclude First Node**
	End Node: **31307**	End Offset: **0**	☑ **Exclude Last Node**

Crash Summary I

Nodes

Node	Route - MP	Node Description	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
32115	1500682 - 0.29	Int of BRISTOL RD HIGH ST	1	1	0	0	0	1	0	100.0	2.079	0.16	0.42	0.00
												Statewide Crash Rate:	0.13	
31307	1500682 - 0	Int of HIGH ST, SCHOOL ST	1	0	0	0	0	0	0	0.0	1.425	0.00	0.54	0.00
												Statewide Crash Rate:	0.16	
P32028	1500619 - 0	Int of MAIN ST SCHOOL ST	1	9	1	0	0	1	7	22.2	4.694	0.64	0.34	1.87
												Statewide Crash Rate:	0.13	
Study Years:	3.00	**NODE TOTALS:**		10	1	0	0	2	7	30.0	8.198	0.41	0.31	1.33

Crash Summary I

Sections

Start Node	End Node	Element	Offset Begin - End	Route - MP	Section Length	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF
31307	32115	209293	0 - 0.29	1500682 - 0	0.29	1	0	0	0	0	0	0	0.0	0.00042	0.00	928.98	0.00
Int of HIGH ST, SCHOOL ST				RD INV 15 00682											Statewide Crash Rate: 228.84		
31307	32028	3118095	0 - 0.38	1500619 - 0	0.38	1	0	0	0	0	0	0	0.0	0.00559	0.00	476.46	0.00
Int of HIGH ST, SCHOOL ST				RD INV 15 00619											Statewide Crash Rate: 214.81		
Study Years: 3.00				**Section Totals:**	0.67		0	0	0	0	0	0	0.0	0.00602	0.00	469.77	0.00
				Grand Totals:	0.67		10	1	0	0	2	7	30.0	0.00602	554.07	517.73	1.07


Search...
Hillside Cemetery
SALT BAY DR
PLEASANT ST
HODGDON ST
31301
CHURCH ST
31303
31299
ELM ST
31298
CHAPMAN ST
31305
32028
60926
MAIN ST
1B
VINE ST
31300
SYCAMORE LN
VALLEY LN
LILAC GARDEN RD
SCHOOL ST
100
32115
HIGH ST
31307
130
129
MEADOW CT
32114
Scale: 1:6000
400ft

H. C. L.
CRASH COLLISION DIAGRAM
DATA PACKAGE

COUNTY: **LINCOLN** TOWN: **DAMARISCOTTA**

LOW NODE: **32028** HIGH NODE: **0000** REGION: **2** U/R: **RURAL**

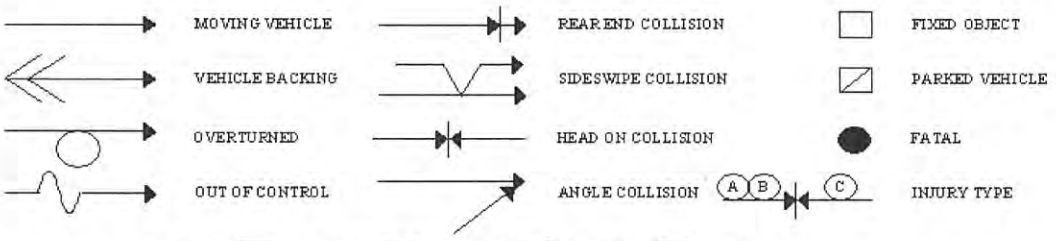
DESCRIPTION: **Jct of Main St & School St**

RTE # / RD #: **0001B** DATE DRAWN: **6/1/2022** DRAWN BY: **Michelle**

STUDY FROM: **1/1/2019** STUDY TO: **12/31/2021**

CRASH RATE: **0.64** CRF: **1.87** % INJURY: **22.2** TOTAL CRASHES: **9**

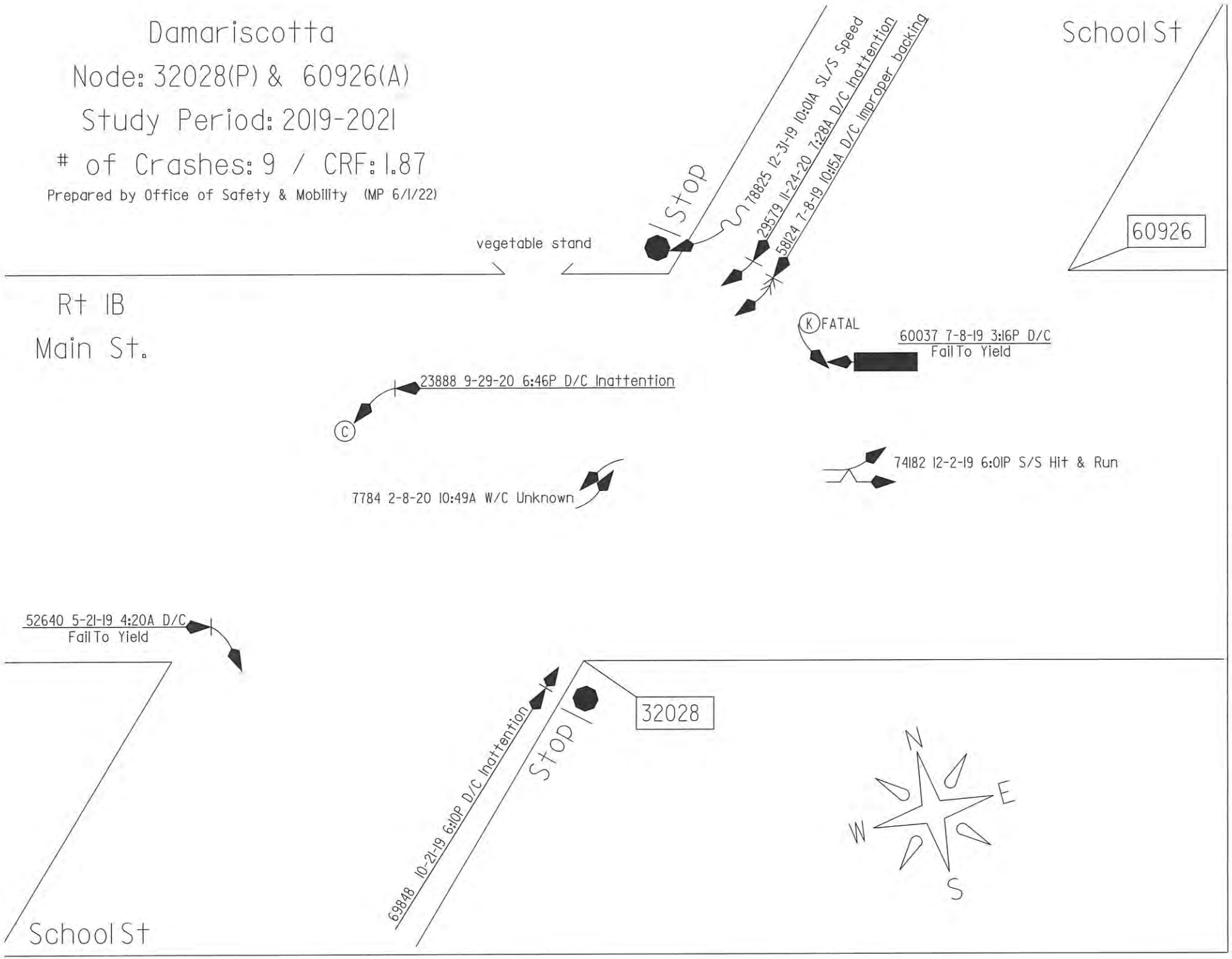
LEGEND

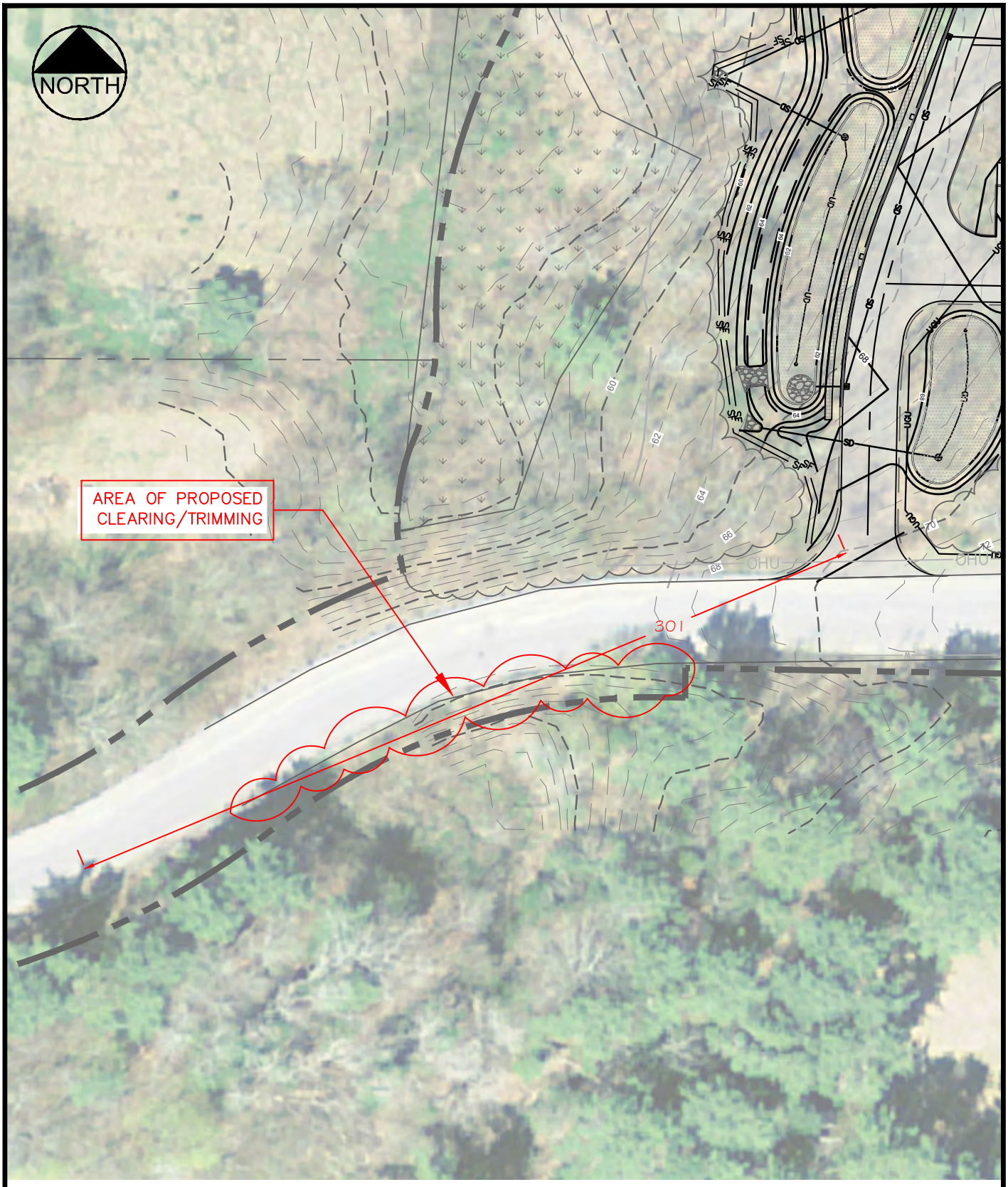


PAVEMENT: D - DRY, I - ICY, W - WET, S - SNOW

WEATHER: C - CLEAR, F - FOG, R - RAIN, SL - SLEET, S - SNOW, CL - CLOUDY

TIME: A - AM, P - PM


Damariscotta
Node: 32028(P) & 60926(A)
Study Period: 2019-2021
# of Crashes: 9 / CRF: 1.87
Prepared by Office of Safety & Mobility (MP 6/1/22)
School St
60926
Stop
78825 12-31-19 10:01A SL/S Speed
29579 11-24-20 7:28A D/C Inattention
5812A 7-8-19 10:15A D/C Improper backing
vegetable stand
Rt 1B
Main St.
K FATAL
60037 7-8-19 3:16P D/C
Fail To Yield
C
23888 9-29-20 6:46P D/C Inattention
74182 12-2-19 6:01P S/S Hit & Run
7784 2-8-20 10:49A W/C Unknown
52640 5-21-19 4:20A D/C
Fail To Yield
69848 10-21-19 6:10P D/C Inattention
Stop
32028
N
E
W
S
School St



REFERENCE: CLIPPERSHIP LANDING SITE PLAN

PIPER MILL ROAD
DAMARISCOTTA, MAINE

SIGHT LINE CLEARING PLAN

Atlantic Resource Consultants
Engineering Strategies and Solutions

DRAWN:	AJ	DATE:	09/08/2022
DESIGNED:	AJ	SCALE:	1"=50'
CHECKED:	AJ.	JOB NO.	21-025
FILE NAME:	SIGHT LINE		

FIGURE
1

S:\21-025 Clippership Landing\Drawings\CLIPPERSHIP DESIGN BASE.dwg andy 9/9/2022 7:54 AM

SECTION 18

ABUTTERS LIST

Notices

Abutters to the project site were identified using the Town of Damariscotta's Tax Assessment Database. The list of names and addresses of the owners abutting the subject property are provided in Attachment A. An accompanying abutter map has been included in Attachment B. Copies of the public notices sent to abutters are included in Attachment C. A copy of the published advertisement is included in Attachment D.

The applicant notified abutters on August 26, 2022, through certified mail of their intent to file the application to the MDEP on or about September 12, 2022. The applicant also notified the abutters of a Public Informational Meeting, required by the MDEP by certified mail on August 26, 2022. A copy of these notices was also submitted to the Lincoln County Newspaper and was issued on August 31, 2022. The Public Informational Meeting was held on September 8, 2022.

Additionally, the applicant notified abutters through certified mail of their intent to request Site Plan Review by the Town of Damariscotta. A copy of this notice and the certified mail receipts are included in Attachment C.

Attachments

Attachment A – Abutter List
Attachment B – Abutter Map
Attachment C – Public Notices
Attachment D – Published Advertisement

ATTACHMENT A

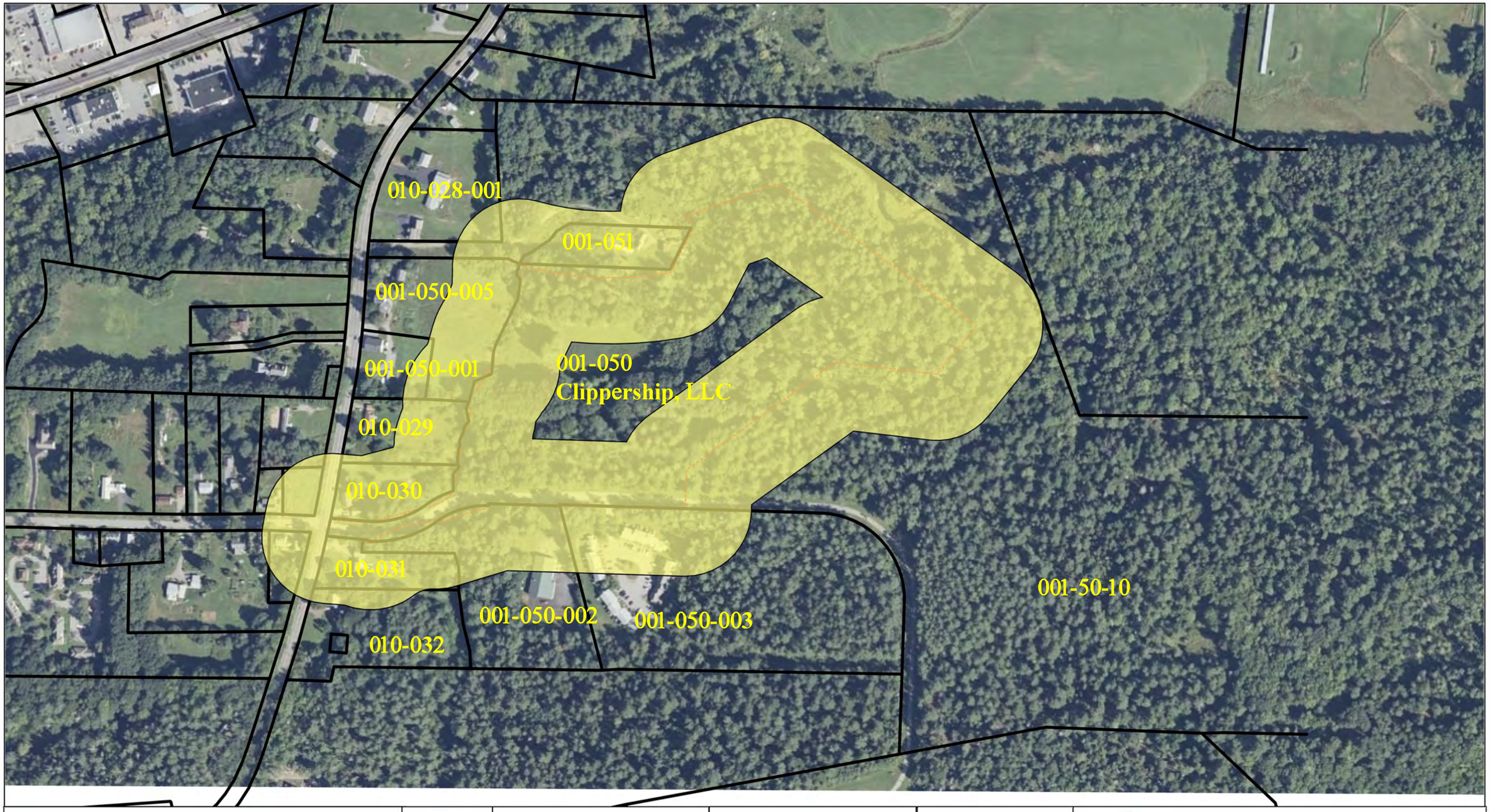
ABUTTERS LIST

Clippership LLC Abutters List

Map	Lot	Owner	Address	Town	State	Zip Code
1	50-010	Coastal Rivers Conservation Trust	PO BOX 333	DAMARISCOTTA	ME	04543
1	50-003	Piper Mill Housing Assoc., LLC	PO BOX 2506	AUGUSTA	ME	04330
1	50-002	Central Lincoln County Ambulance	PO BOX 373	DAMARISCOTTA	ME	04543
1	50-001	D.D.D., LLC	90 School Street	DAMARISCOTTA	ME	04543
1	50-005	Geoffrey Keochakian	86 School Street	DAMARISCOTTA	ME	04543
1	50- 051	Richard York	33 Valley Road	DAMARISCOTTA	ME	04543
10	29	Carol Pedersen	100 School Street	DAMARISCOTTA	ME	04543
10	30	Michael Greenleaf	110 School Street	DAMARISCOTTA	ME	04543
10	31	Dean Knott	116 School Street	DAMARISCOTTA	ME	04543
10	1	Shawn Carlson	35 Sheepscot Shores Rd	WISCASSET	ME	04578
10	4	Madelyn Woodbury	56 High Street	DAMARISCOTTA	ME	04543

ATTACHMENT B

ABUTTER MAP



0 ft 250 ft 500 ft 750 ft 1000 ft

N

Legend
- Maine_Parcels_Organized_Towns.shp
- 200ft Abutters
- Study Limit

Created By: Kayla Gray
Date Created: 9/12/2022
Source: Trimble Geo7X
Projection: UTM 19N (NAD83)
Project # 21-025

ABUTTER MAP

Clippership Landing
Piper Mill Rd
Damariscotta, ME

Atlantic Resource Consultants
541 US Route One
Freeport, ME 04032
Tel: 207.869.9050

ATTACHMENT C

PUBLIC NOTICES

NOTICE OF INTENT TO FILE
AND
NOTICE OF PUBLIC INFORMATIONAL MEETING

Please take notice that Clippership Landing Development, LLC (the "Applicant"), with principal offices at 100 Middle Street, West Tower, Portland, Maine 04101 intends to file a Site Location of Development Act Permit application and a Natural Resources Protection Act Tier 1 application with the Maine Department of Environmental Protection pursuant to the provisions of 38 M.R.S.A. § 481 thru 490 and § 480-A through 480-BB, respectively, for a proposed skilled nursing home facility on or about September 12, 2022. Prior to submitting the application, a Public Informational Meeting will be held.

The proposed project will include the construction of a new +/- 74,500 square foot skilled nursing home facility, associated access drives, parking, fire lanes, walkways, and utilities on a 19.98-acre parcel on Piper Mill Road in Damariscotta, Maine. The applicant has retained Atlantic Resource Consultants, LLC for engineering and permitting services. Atlantic Resource Consultants can be reached at (207) 869-9050.

The Public Informational Meeting will take place on September 8, 2022, at 6pm. The meeting will be held at the Town of Damariscotta Town Office at 21 School Street, Damariscotta, ME 04543. The purpose of the meeting is for the applicant to inform the public of the proposed project and it's anticipated environmental impacts and to educate the public about the opportunities for public comment to the Department during the application process.

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

The application will be filed for public inspection at the Department of Environmental Protection's office in **Augusta, Maine** during normal working hours. A copy of the application may also be seen at the municipal offices in **Damariscotta, Maine** after the filing date. Written public comments may be sent to the Department of Environmental Protection, Bureau of Land Resources, 17 House Station, Augusta, ME 04333.

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- ☐ Return Receipt (hardcopy) $
- ☐ Return Receipt (electronic) $
- ☐ Certified Mail Restricted Delivery $
- ☐ Adult Signature Required $
- ☐ Adult Signature Restricted Delivery $

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Street and Apt. No.

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SOUTH FREEPORT, MAINE AUG 26 2022 04078

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7020 2450 0000 8466 3946

RICHARD YORK
33 VALLEY ROAD
DAMARISCOTTA, ME 04543

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COASTAL RIVERS CONSERVATION TRUST
P.O. BOX 333
DAMARISCOTTA, ME 04543

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86 SCHOOL STREET
DAMARISCOTTA, ME 04543

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P.O. BOX 2506
AUGUSTA, ME 04330

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D.D.D., LLC
90 SCHOOL STREET
DAMARISCOTTA, ME 04543

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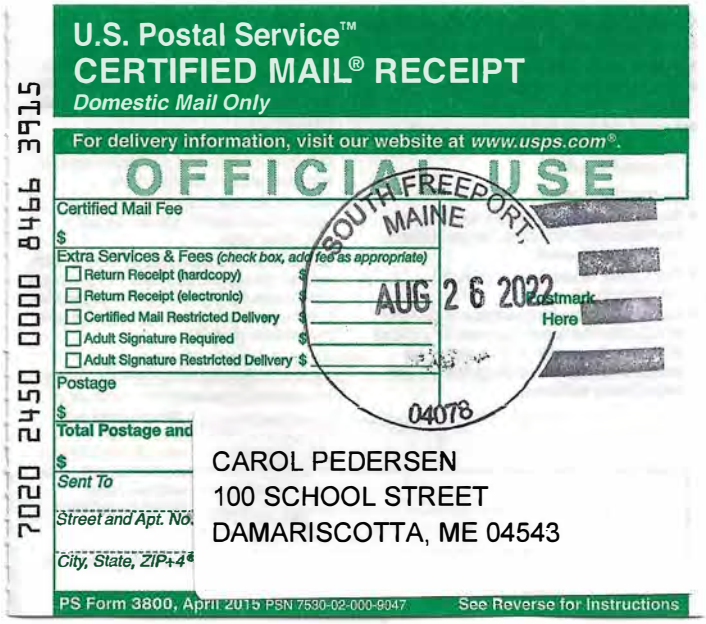
CENTRAL LINCOLN COUNTY AMBULANCE
P.O. BOX 373
DAMARISCOTTA, ME 04543

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions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7020 2450 0000 8466 3915
CAROL PEDERSEN
100 SCHOOL STREET
DAMARISCOTTA, ME 04543
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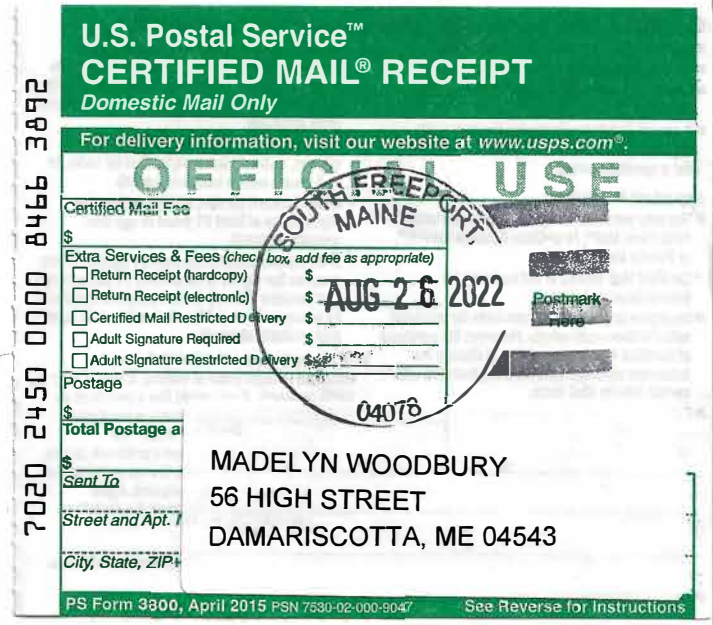
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Return Receipt (hardcopy)
Return Receipt (electronic)
Certified Mail Restricted Delivery
Adult Signature Required
Adult Signature Restricted Delivery
Postage
Total Postage a
Sent To
Street and Apt.
City, State, ZIP+
SOUTH FREEPORT, MAINE
AUG 26 2022
Postmark Here
04078
7020 2450 0000 8466 3892
MADELYN WOODBURY
56 HIGH STREET
DAMARISCOTTA, ME 04543
PS Form 3800, April 2015 PSN 7530-02-000-9047
See Reverse for Instructions


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Return Receipt (electronic)
Certified Mail Restricted Delivery
Adult Signature Required
Adult Signature Restricted Delivery
Postage
Total Postage an
Sent To
Street and Apt. No
City, State, ZIP+4
SOUTH FREEPORT, MAINE
AUG 26 2022
Postmark Here
04078
7020 2450 0000 8466 4011
TOWN OF DAMARISCOTTA
21 SCHOOL STREET
DAMARISCOTTA, ME 04543
PS Form 3800, April 2015 PSN 7530-02-000-9047
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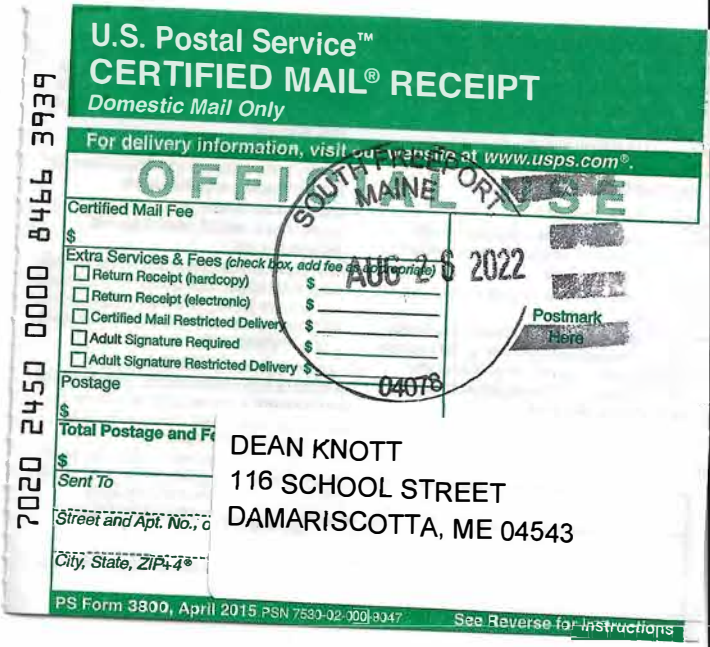
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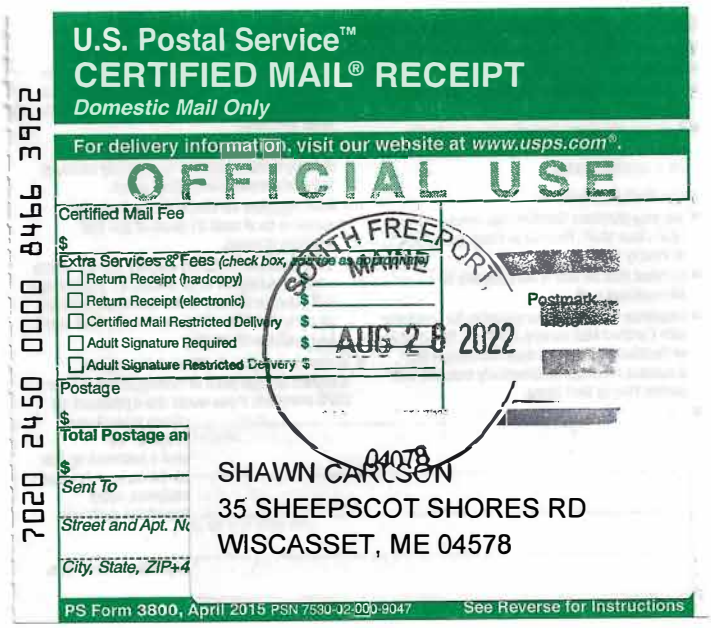
Adult Signature Required
Adult Signature Restricted Delivery
Postage
Total Postage and Fe
Sent To
Street and Apt. No.,
City, State, ZIP+4®
SOUTH FREEPORT, MAINE
AUG 26 2022
Postmark Here
04078
7020 2450 0000 8466 3939
DEAN KNOTT
116 SCHOOL STREET
DAMARISCOTTA, ME 04543
PS Form 3800, April 2015 PSN 7530-02-000-9047
See Reverse for Instructions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04078
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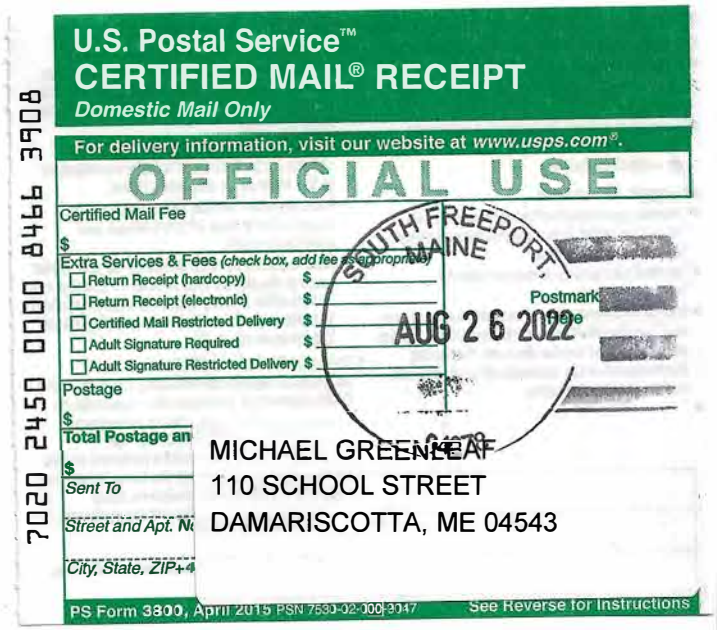
SHAWN CARLSON
35 SHEEPSCOT SHORES RD
WISCASSET, ME 04578
PS Form 3800, April 2015 PSN 7530-02-000-9047
See Reverse for Instructions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7020 2450 0000 8466 3908
MICHAEL GREENLEAF
110 SCHOOL STREET
DAMARISCOTTA, ME 04543
PS Form 3800, April 2015 PSN 7530-02-000-9047
See Reverse for Instructions

NOTICE OF REQUEST FOR SITE PLAN REVIEW

Please take notice that Clippership Landing Development, LLC (the "Applicant"), with principal offices at 100 Middle Street, West Tower, Portland, Maine 04101 intends to request a Site Plan Review through the Town of Damariscotta for a proposed skilled nursing home facility.

The proposed project will include the construction of a new +/- 74,500 square foot skilled nursing home facility, associated access drives, parking, fire lanes, walkways, and utilities on a 19.98-acre parcel on Piper Mill Road in Damariscotta, Maine.

Pursuant to the Town of Damariscotta's Site Plan Review Ordinance, Chapter 102 § 102.5 (G), "the applicant shall notify all abutting property owners by certified mail, return receipt requested, of all requests for site plan review. If two or more abutters, or 5 residents of the Town, object in writing, and such objection is received by the Board, or postmarked, within 15 days after a public notice of the request for Site Plan Review, the Board shall schedule a public hearing on the proposal. Such hearing shall be scheduled within 30 days of acceptance of an application as complete."

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GEOFFREY KEOCHAKIAN
86 SCHOOL STREET
DAMARISCOTTA, ME 04543

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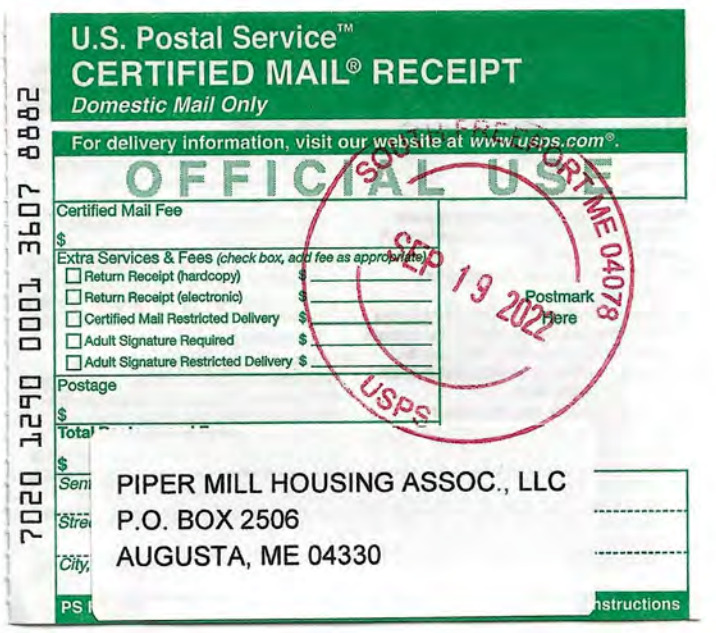
COASTAL RIVERS CONSERVATION TRUST
P.O. BOX 333
DAMARISCOTTA, ME 04543



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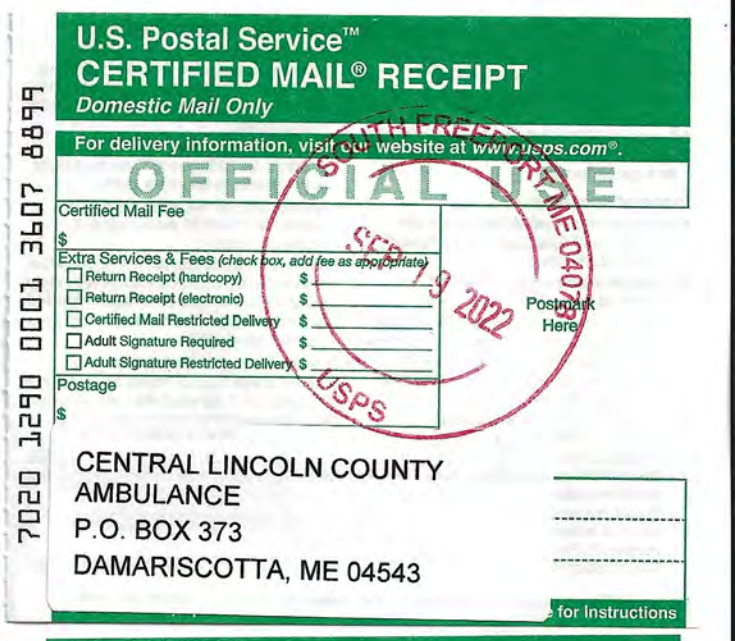
PIPER MILL HOUSING ASSOC., LLC
P.O. BOX 2506
AUGUSTA, ME 04330



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DAMARISCOTTA, ME 04543

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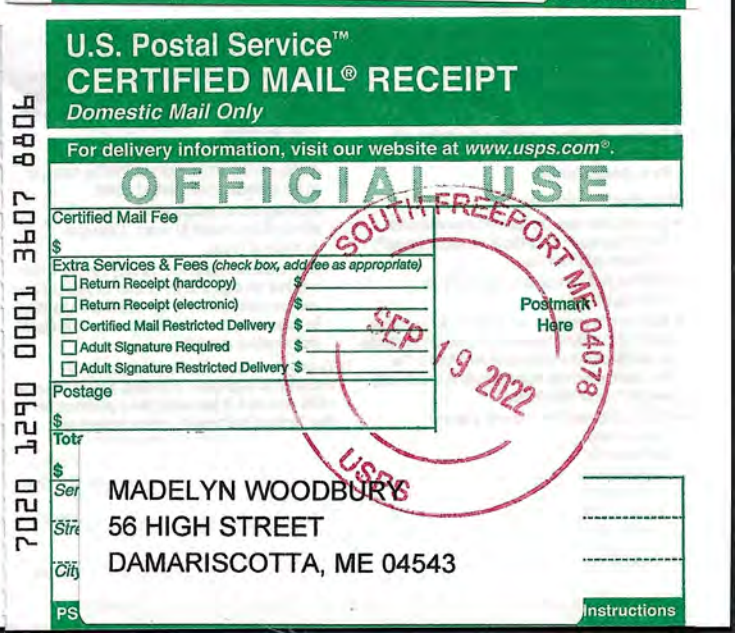
D.D.D., LLC
90 SCHOOL STREET
DAMARISCOTTA, ME 04543

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse



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MADELYN WOODBURY
56 HIGH STREET
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CAROL PEDERSEN
100 SCHOOL STREET
DAMARISCOTTA, ME 04543


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DAMARISCOTTA, ME 04543


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USPS
7020 1290 0001 3607 8820
DEAN KNOTT
116 SCHOOL STREET
DAMARISCOTTA, ME 04543


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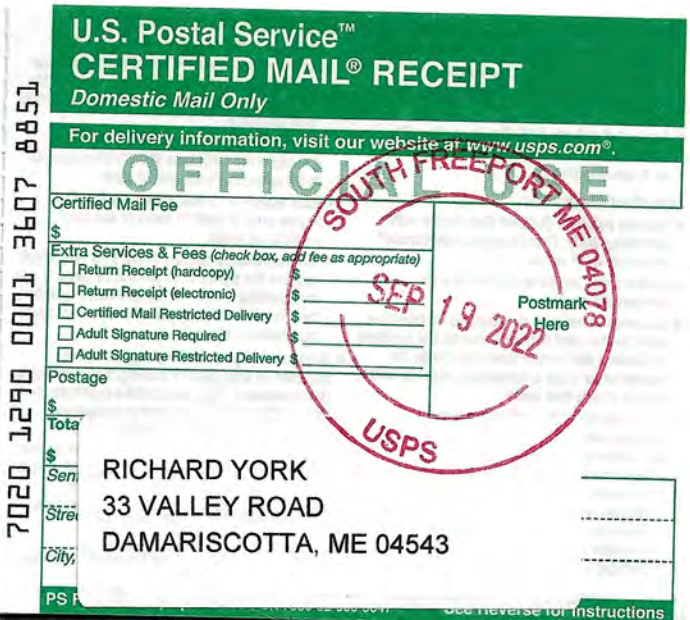
SHAWN CARLSON
35 SHEEPSCOT SHORES RD
WISCASSET, ME 04578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RICHARD YORK
33 VALLEY ROAD
DAMARISCOTTA, ME 04543

ATTACHMENT D

PUBLISHED ADVERTISEMENT

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LEGAL ADVERTISING

NOTICE OF INTENT TO FILE AND NOTICE OF PUBLIC INFORMATIONAL MEETING

Please take notice that Clippership Landing Development, LLC (the "Applicant"), with principal offices at 100 Middle Street, West Tower, Portland, Maine 04101 intends to file a Site Location of Development Act Permit application and a Natural Resources Protection Act Tier 1 application with the Maine Department of Environmental Protection pursuant to the provisions of 38 M.R.S.A. § 481 thru 490 and § 480-A through 480-BB, respectively, for a proposed skilled nursing home facility on or about September 12, 2022. Prior to submitting the application, a Public Informational Meeting will be held.

The proposed project will include the construction of a new +/- 74,500 square foot skilled nursing home facility, associated access drives, parking, fire lanes, walkways, and utilities on a 19.98-acre parcel on Piper Mill Road in Damariscotta, Maine. The applicant has retained Atlantic Resource Consultants, LLC for engineering and permitting services. Atlantic Resource Consultants can be reached at (207) 869-9050.

The Public Informational Meeting will take place on September 8, 2022, at 6 p.m. The meeting will be held at the Town of Damariscotta Town Office at 21 School Street, Damariscotta, ME 04543. The purpose of the meeting is for the applicant to inform the public of the proposed project and its anticipated environmental impacts and to educate the public about the opportunities for public comment to the Department during the application process.

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

The application will be filed for public inspection at the Department of Environmental Protection's office in Augusta, Maine during normal working hours. A copy of the application may also be seen at the municipal offices in Damariscotta, Maine after the filing date. Written public comments may be sent to the Department of Environmental Protection, Bureau of Land Resources, 17 House Station, Augusta, ME 04333.

35

SECTION 19

OTHER REQUIRED PERMITS

State Permits

The development, as proposed, will create greater than 3 acres of structure; therefore, a Site Location of Development Act permit is required from the Maine Department of Environmental Protection (MDEP). The project proposes approximately 14,505 square feet of impact to freshwater wetlands; therefore, a Natural Resources Protection Act Tier 1 application is required from MDEP.

Additionally, the development requires an entrance permit from the Maine Department of Transportation.

Federal Permits

The project proposes the discharge of fill material into waters of the U.S. including freshwater wetlands; therefore, authorization from the Army Corps of Engineers is required.

SECTION 20

BUILDING PLANS

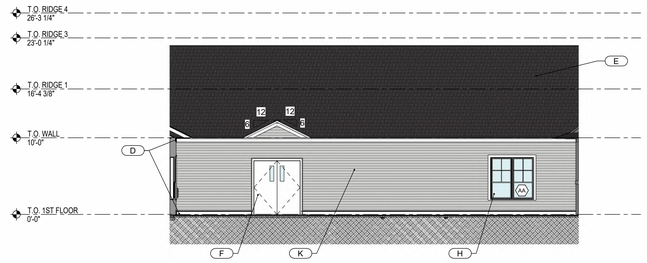
A copy of the building plans is included in Attachment A.

Attachments

Attachment A – Building Plans

ATTACHMENT A

BUILDING PLANS



R1 EXTERIOR BUILDING ELEVATION

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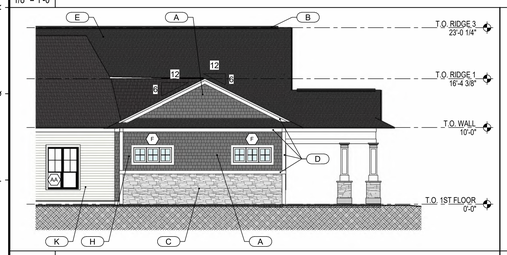

O1 EXTERIOR BUILDING ELEVATION

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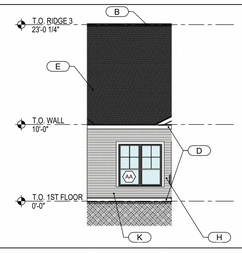

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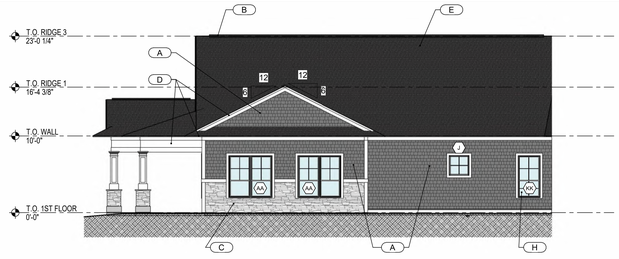

K1 EXTERIOR BUILDING ELEVATION

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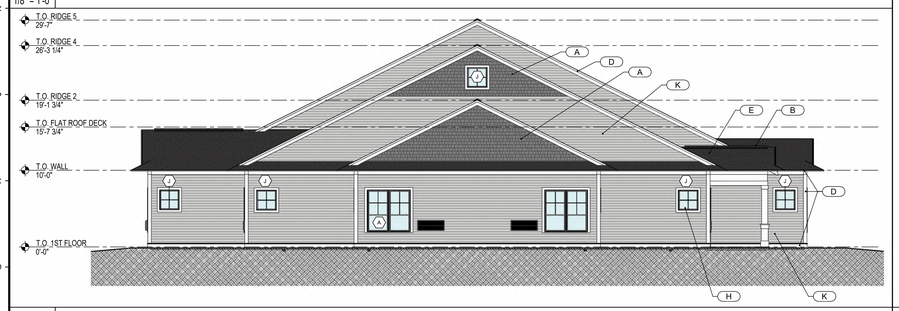

F1 EXTERIOR BUILDING ELEVATION

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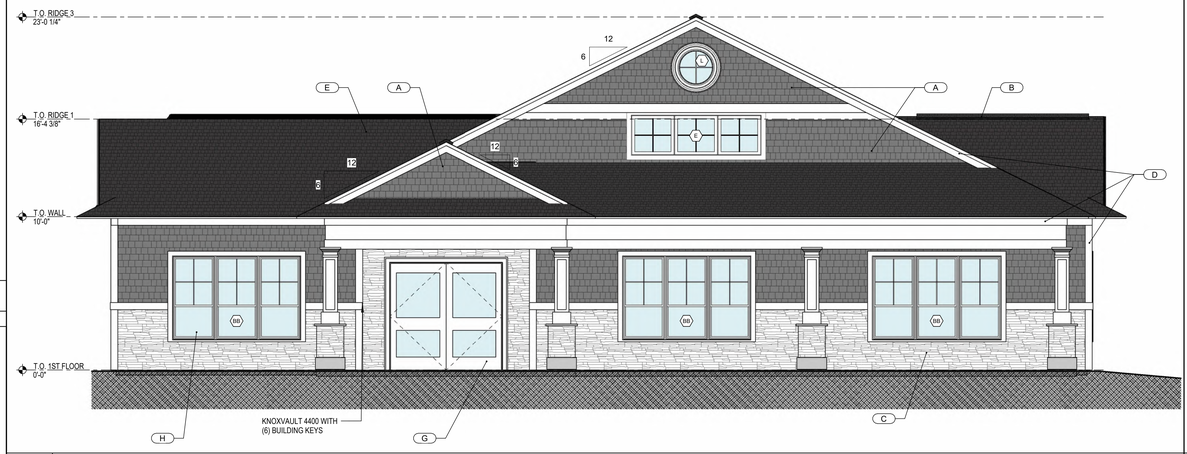


P10 EXTERIOR BUILDING ELEVATION

1/4" = 1'-0"

EXTERIOR ELEVATION NOTES :

1. COLORS ARE FOR GRAPHICAL PURPOSES ONLY. ACTUAL COLORS MAY VARY.

2. GRADES WILL VARY FROM SHOWN.

EXTERIOR MATERIALS LEGEND

A	VINYL SHAKE SIDING - 4" EXPOSURE
B	RIDGE VENT
C	THIN NATURAL STONE VENEER
D	PVC FASCIA AND TRIM / PANELING
E	ASPHALT SHINGLES
F	EXTERIOR HOLLOW METAL DOOR
G	ALUMINUM ENTRANCE ASSEMBLY
H	SINGLE-HUNG, FIXED, AND AWNING LOW-E FIBERGLASS WINDOWS
J	GUTTER SYSTEM - REFER TO ROOF PLAN
K	VINYL CLAPBOARD SIDING - 4" EXPOSURE
L	DOWNSPOUT

P22 EXT. MAT. LEGEND

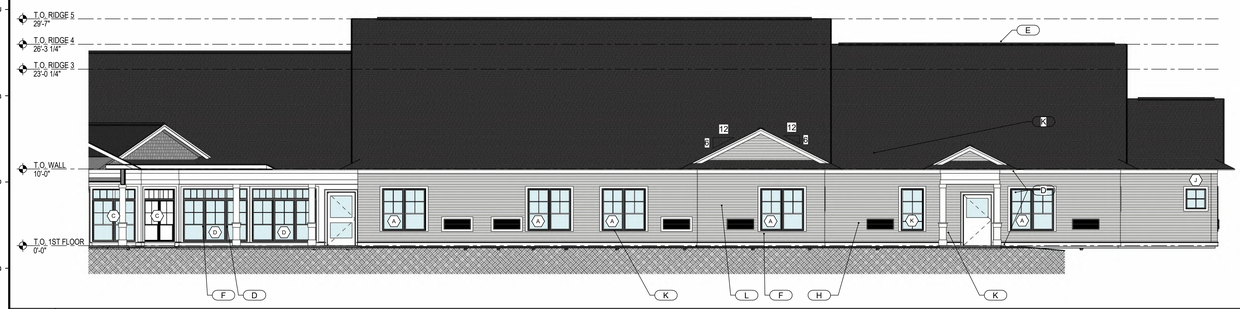
NTS

L10 EXTERIOR BUILDING ELEVATION

1/8" = 1'-0"

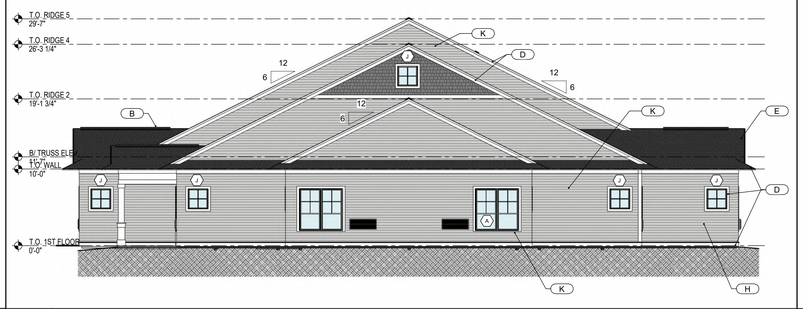
F10 EXTERIOR BUILDING ELEVATION

1/8" = 1'-0"



A1 EXTERIOR BUILDING ELEVATION

1/8" = 1'-0"



A14 EXTERIOR BUILDING ELEVATION

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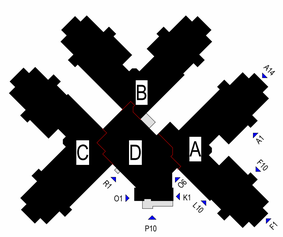

A22 KEY PLAN

NTS

LICENSED ARCHITECT
STANLEY R. GAWRON
1145
STATE OF MAINE

29 BLACK POINT ROAD
SCARBOROUGH, MAINE 04074
207-883-6307
WWW.GAWRONTURGEON.COM

GAWRON TURGEON ARCHITECTS PC

CLIPPER SHIP LANDING

PIPER MILL ROAD
DAMARISCOTTA, MAINE 04543

REVISIONS		
#	DATE	DESCRIPTION

DATE:	05.23.2022
PROJECT #	020722
DRAWN BY:	X
CHECKED BY:	RLD
DRAWING SCALE	As indicated

SHEET TITLE

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A401

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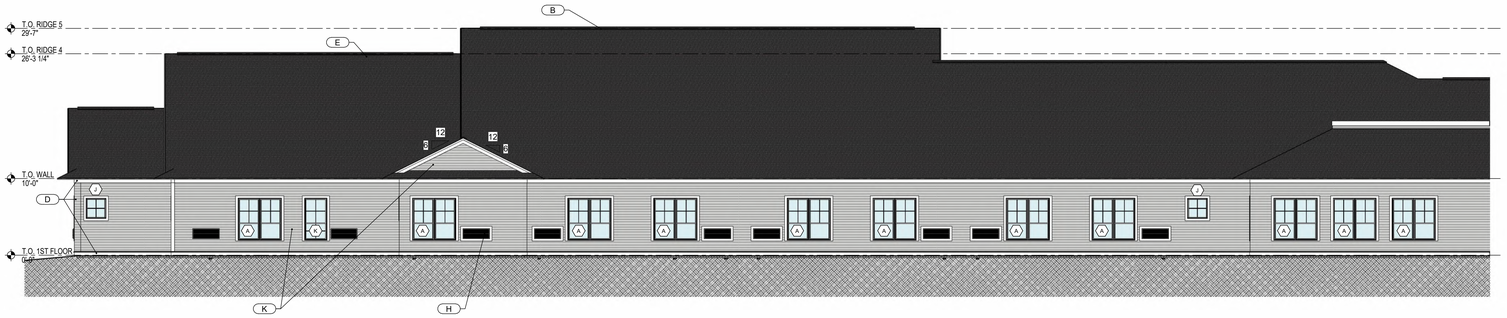

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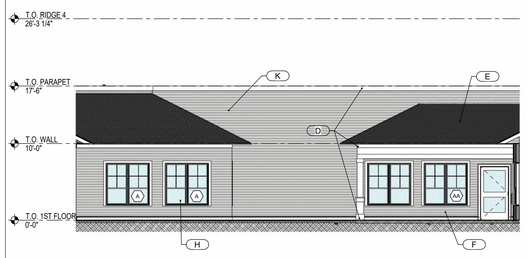


Q17 EXTERIOR BUILDING ELEVATION

1/8" = 1'-0"

EXTERIOR ELEVATION NOTES :

1. COLORS ARE FOR GRAPHICAL PURPOSES ONLY. ACTUAL COLORS MAY VARY.
2. GRADES WILL VARY FROM SHOWN.

EXTERIOR MATERIALS LEGEND

A	VINYL SHAKE SIDING - 4" EXPOSURE
B	RIDGE VENT
C	THIN NATURAL STONE VENEER
D	PVC FASCIA AND TRIM / PANELING
E	ASPHALT SHINGLES
F	EXTERIOR HOLLOW METAL DOOR
G	ALUMINUM ENTRANCE ASSEMBLY
H	SINGLE-HUNG, FIXED, AND AWNING LOW-E FIBERGLASS WINDOWS
J	GUTTER SYSTEM - REFER TO ROOF PLAN
K	VINYL CLAPBOARD SIDING - 4" EXPOSURE
L	DOWNSPOUT

Q22 EXT. MAT. LEGEND

NTS

L1 EXTERIOR BUILDING ELEVATION

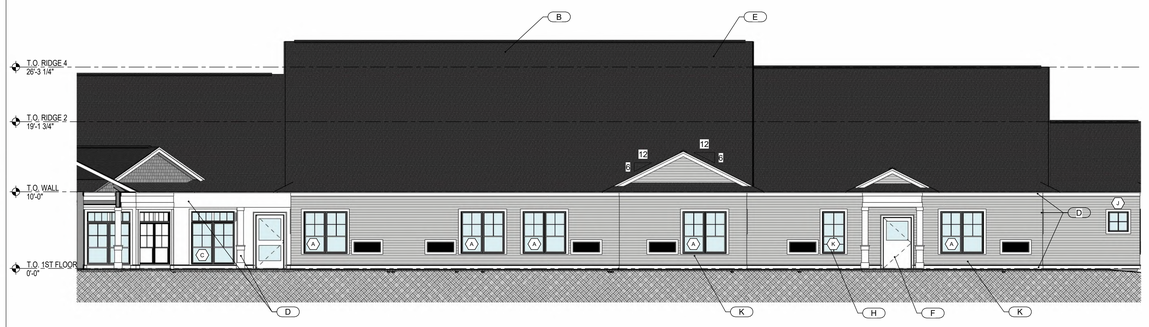
1/8" = 1'-0"

L18 EXTERIOR BUILDING ELEVATION

1/4" = 1'-0"

F1 EXTERIOR BUILDING ELEVATION

1/8" = 1'-0"



F13 EXTERIOR BUILDING ELEVATION

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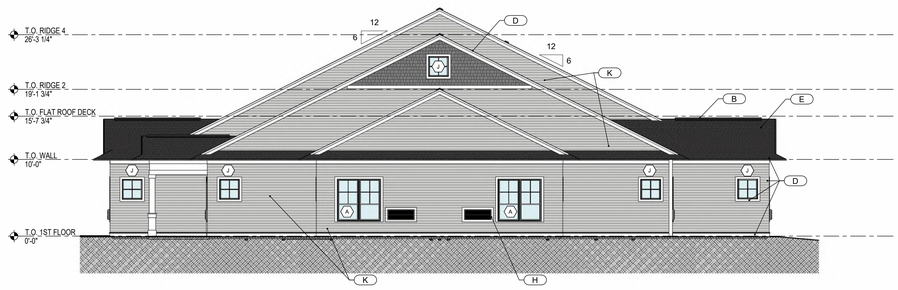

A1 EXTERIOR BUILDING ELEVATION

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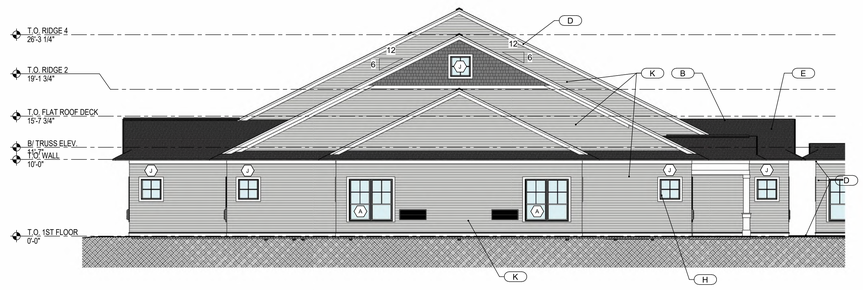

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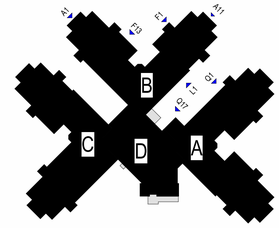

A22 KEY PLAN

NTS

LICENSED ARCHITECT
STANLEY R. GAWRON
1145
STATE OF MAINE

29 BLACK POINT ROAD
SCARBOROUGH, MAINE 04074
207-883-6307
WWW.GAWRONTURGEON.COM

GAWRON TURGEON ARCHITECTS PC

CLIPPER SHIP LANDING

PIPER MILL ROAD
DAMARISCOTTA, MAINE 04543

REVISIONS

#	DATE	DESCRIPTION

DATE:	05.23.2022
PROJECT #	020722
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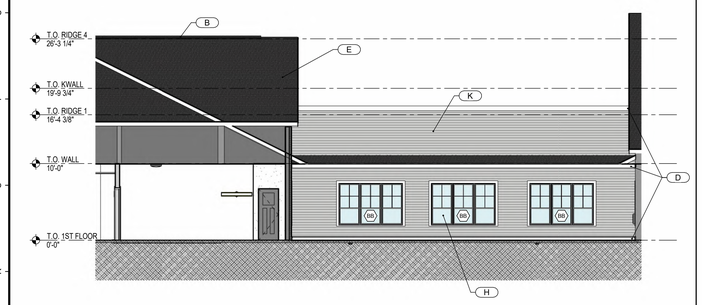
CHECKED BY:	RLD
DRAWING SCALE	As indicated

SHEET TITLE

EXTERIOR ELEVATIONS

A402

5/23/2022 8:00:43 AM



Q1 EXTERIOR BUILDING ELEVATION

1/8" = 1'-0"

Q8 EXTERIOR BUILDING ELEVATION

1/8" = 1'-0"

EXTERIOR ELEVATION NOTES :

1. COLORS ARE FOR GRAPHICAL PURPOSES ONLY. ACTUAL COLORS MAY VARY.
2. GRADES WILL VARY FROM SHOWN.

EXTERIOR MATERIALS LEGEND

A	VINYL SHAKE SIDING - 4" EXPOSURE
B	RIDGE VENT
C	THIN NATURAL STONE VENEER
D	PVC FASCIA AND TRIM / PANELING
E	ASPHALT SHINGLES
F	EXTERIOR HOLLOW METAL DOOR
G	ALUMINUM ENTRANCE ASSEMBLY
H	SINGLE-HUNG, FIXED, AND AWNING LOW-E FIBERGLASS WINDOWS
J	GUTTER SYSTEM - REFER TO ROOF PLAN
K	VINYL CLAPBOARD SIDING - 4" EXPOSURE
L	DOWNSPOUT

Q22 EXT. MAT. LEGEND

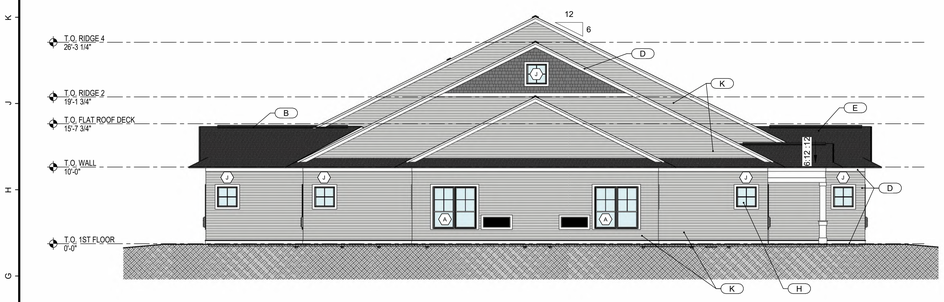
NTS

L1 EXTERIOR BUILDING ELEVATION

1/8" = 1'-0"

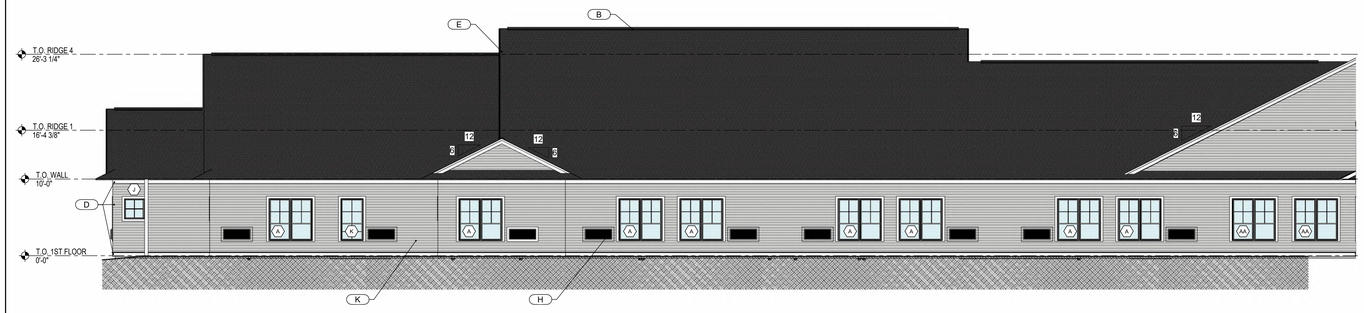
L13 EXTERIOR BUILDING ELEVATION

1/8" = 1'-0"



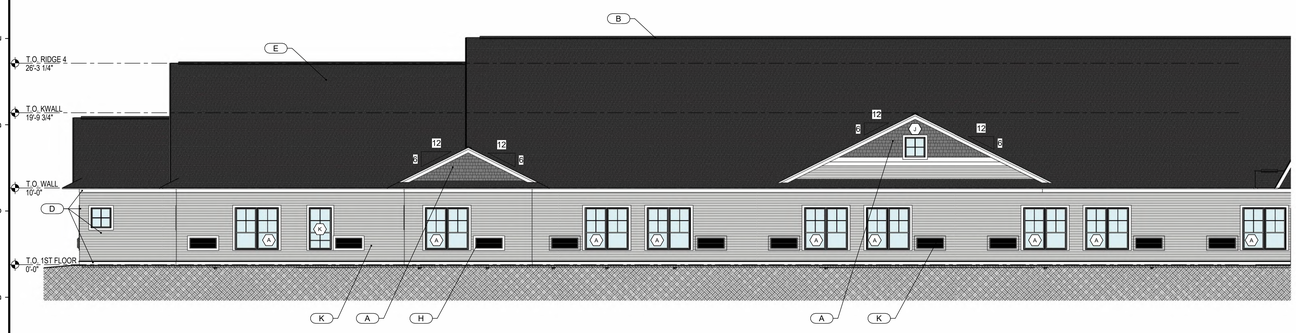
F1 EXTERIOR BUILDING ELEVATION

1/8" = 1'-0"



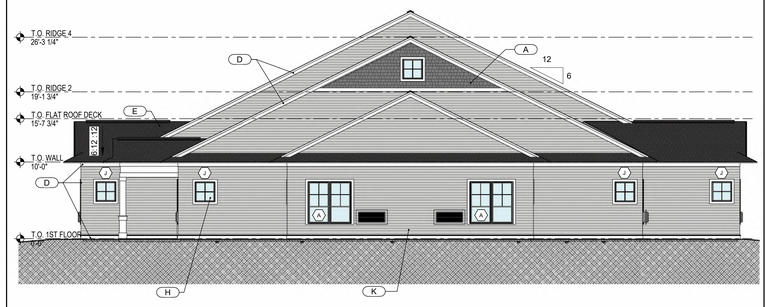
F11 EXTERIOR BUILDING ELEVATION

1/8" = 1'-0"



A1 EXTERIOR BUILDING ELEVATION

1/8" = 1'-0"



A14 EXTERIOR BUILDING ELEVATION

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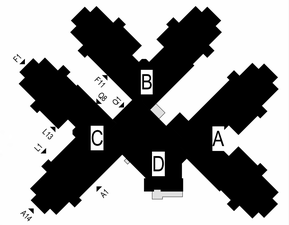


A22 KEY PLAN

NTS

LICENSED ARCHITECT
STANLEY R. GAWRON
1145
STATE OF MAINE

29 BLACK POINT ROAD
SCARBOROUGH, MAINE 04074
207-883-6307
WWW.GAWRONTURGEON.COM

GAWRON TURGEON ARCHITECTS, PC

CLIPPER SHIP LANDING

PIPER MILL ROAD
DAMARISCOTTA, MAINE 04543

REVISIONS		
#	DATE	DESCRIPTION

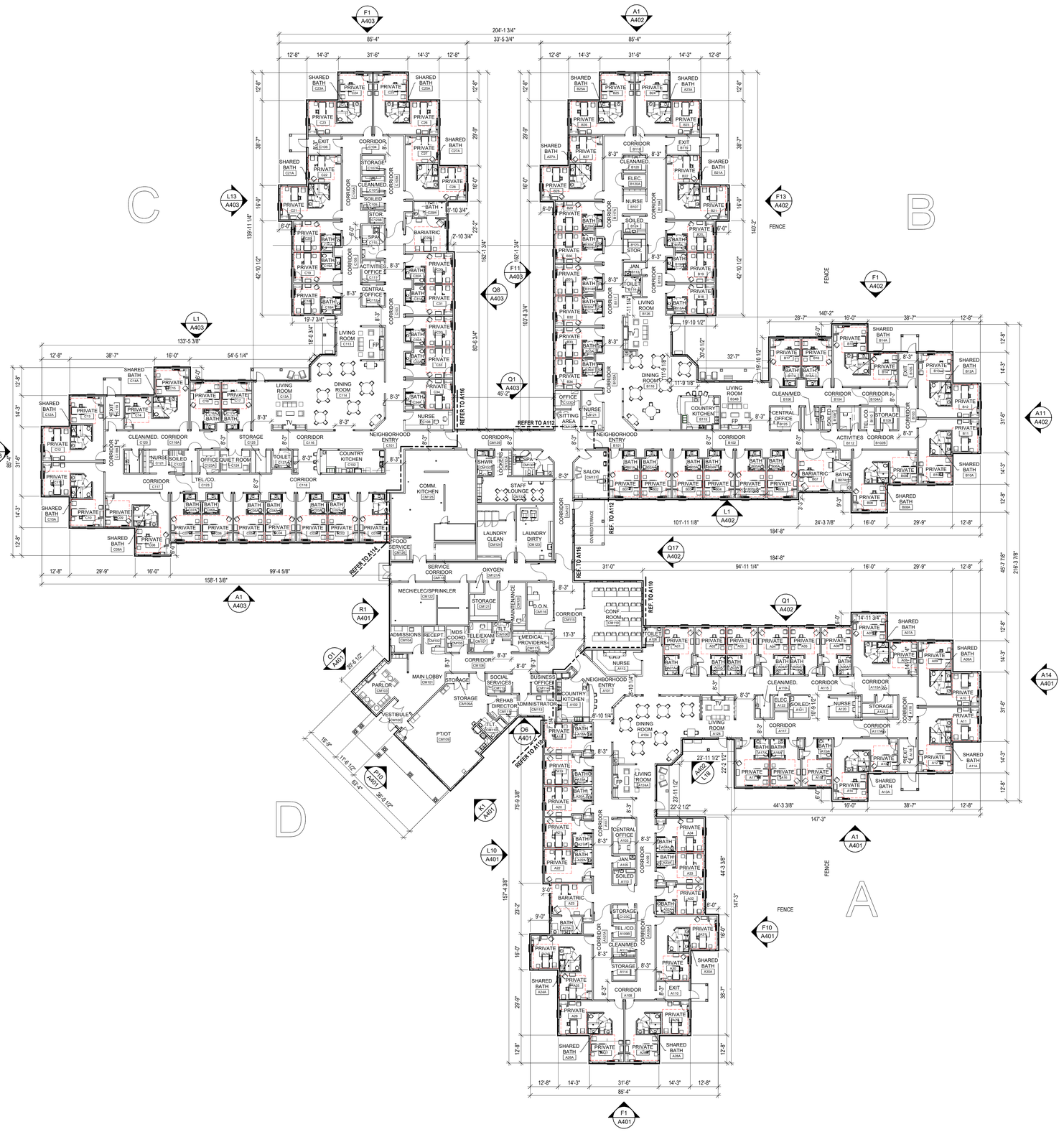
DATE:	05.23.2022
PROJECT #	020722
DRAWN BY:	x
CHECKED BY:	RLD
DRAWING SCALE	As indicated

SHEET TITLE

EXTERIOR ELEVATIONS

A403

5/23/2022 8:00:52 AM



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CLIPPER SHIP LANDING

PIPER MILL ROAD
DAMARISCOTTA, MAINE 04543

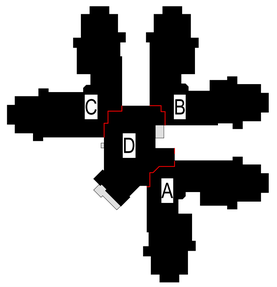
REVISIONS		
#	DATE	DESCRIPTION

DATE:	09.15.2022
PROJECT #	020722
DRAWN BY:	x
CHECKED BY:	RLD
DRAWING SCALE	As indicated

SHEET TITLE

OVERALL FIRST FLOOR PLAN

A101



A1 OVERALL FIRST FLOOR PLAN

1" = 20'-0"

PLAN NORTH

A22 KEY PLAN

NTS

PLAN NORTH

9/15/2022 11:27:16 AM

SECTION 21

PLAN SET

A copy of the plan set is provided in this section.

CLIPPERSHIP LANDING
NURSING HOME

STORMWATER MANAGEMENT REPORT

Prepared for:
Clippership Landing Development, LLC
PO Box 9729
Portland, ME 04101

Prepared by:

Atlantic Resource Consultants
Engineering Strategies and Solutions

Revision 0 – August 2022

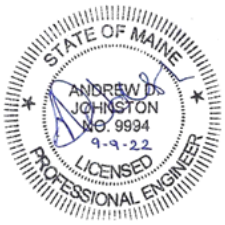


TABLE OF CONTENTS

INTRODUCTION AND BACKGROUND

Atlantic Resource Consultants (ARC) has prepared the following stormwater management analysis for the proposed new Clippership Landing Nursing Home on Piper Mill Road in Damariscotta, Maine. The aim of the project is to construct a new 102-bed Skilled Nursing Home facility of a 19.99 acre+/- parcel of land located on the north side of Piper Mill Road, directly opposite the Ledgewood Court apartment complex. The new development will include the construction of 74,500sf+/- single story building and the associated site access, parking, utility and stormwater infrastructure to support the project, as well as the development of landscaped areas to serve residents and visitors to the site. The project will result in approximately 3.95 acres of new impervious area and a total of approximately 6.73 acres of developed area. Location maps and background information can be found in the Figures Section of this report.

Site History

The project site is currently vacant and mostly wooded, with a large cleared grass area towards the high point of the parcel. Previous proposals have been made to develop the parcel, but none implemented. The project site was originally a 107.8-acre parcel, part of the Piper Village Subdivision. This was split into two lots, and the larger 87.8 acre parcel was transferred to the Damariscotta River Association (DRA) for preservation. The remaining 19.98 acre parcel (the project site) was retained for development.

Stormwater Management

Under the pre-development condition, stormwater runoff drains from a central ridge towards the west to an un-named stream that forms the western property boundary, and towards the east to three separate drainageways all of which drain into a stream on the adjacent Damariscotta River Association parcel that runs in a northerly direction.

Under the proposed condition, several new stormwater Best Management Practices BMPs have been designed to capture and treat runoff from the new improvements associated with this project. These include filtering drip edges around the perimeter of the new building, seven bioretention cells, three underdrained soil filters, and a section of pervious pavement. The new BMPS are located to intercept, and capture runoff from new developed areas of the site, providing detention and water quality treatment before allowing it to drain in a controlled manner to the existing receiving waters.

The new stormwater management system will maintain the existing drainage patterns at the site, while protecting water quality and ensuring that there is no increase in peak runoff from the property during design storm conditions. This stormwater management analysis has been prepared in accordance with the Maine Department of Environmental Protection (MDEP) Chapter 500 Regulations for Basic, General and Flooding Standards in order to ensure that the planned development will not result in a degradation of water quality or any other significant impacts to locations downstream of the development site as a result of stormwater runoff.

EXISTING CONDITIONS

The Clippership Landing site is located on the north side of Piper Mill Road, approximately 800 feet east of the intersection with School Street. Public water is available at the site via an existing main owned and operated by Great Salt Bay Sanitary District. Three phase power and fiber optic service are also available along the frontage of the property. The Great Salt Bay Sanitary District sewer plant is located approximately 1,500ft further along Piper Mill Road to the southeast. Sewer service for the new facility will be provided via a new private pump station that will connect to the GSBSD system.

The topography of the site slopes gently at 5-6% from the highest elevations along the central ridge that runs north-south through the property. Slopes become increasingly steep as elevations drop to the west and north towards the edges of the site, reaching over 15%. Slopes to the east remain in the 5-6% range until steepening in gullys associated with the three main drainageways that extend off the property towards the stream. Predominant surface soil types across the site are identified as Buxton and Scantic silt loams, with small areas of Tunbridge/Lyman complex rocky soils at the perimeters of the property. General soil mapping was taken from the Natural Resource Conservation Service (NRCS) Web Soil Survey.

Additional sub-surface soil data was gathered from site specific Geotechnical Investigations undertaken by SW Cole Engineering and Soil Classification test pits for stormwater BMPs undertaken by Burman Land and Tree Company.

The test pits undertaken for these reports confirm the general soil mapping form the NRCS Web Soil Survey. The soil profile consists of forest duff and topsoil overlying very stiff silty clay, silty sand and gravel with varying amounts of boulders and relatively shallow bedrock.

Historical natural resource mapping on the site was undertaken for a previously proposed development in 2016. Resource agencies require a recent wetland delineation for permit applications. Since the wetlands were mapped over five years ago, a new wetland delineation was conducted by ARC in December 2021. Freshwater wetlands have been identified on the property, associated with the three drainageways that extend towards the east of the site. These are shown on the project drawings. The drainageways associated with these wetlands drain to small stream channels that are tributary to the larger off-site stream to the east of the site. These stream channels, in addition to the larger intermittent stream on the west side of the site are also shown on the project drawings.

Receiving Waters

The site drains to natural stream channels to the east and west, which combine to form Castner's Brook. This flows to the north, under US Route 1 before discharging to the tidal waters of Great Salt Bay approximately half a mile north of the site.

Historical Flooding

There are no reports of historic flooding on the site, which site high above the adjacent drainageways to either side. The entire site is located within "Areas of Minimal flooding according to the FEMA Flood Insurance Rate Map for the area (Community Panel Number 23015C)269D, 7/16/2015).

Alterations to Natural Drainageways

The project will not result in any significant alteration of natural drainageways. The proposed development plan will require approximately 14,505sf of impact to the mapped freshwater wetland on the site.

PROJECT DESCRIPTION

The project proposes the construction of a 74,500sf single story Nursing Home facility and the associated access, parking, utilities and stormwater improvements on a 19.98 acre parcel of land on the north side of Piper Mill Road in Damariscotta, Maine.

Access to the site is provided via a paved twenty-four foot wide driveway that provides access from Piper Mill Road to the main entrance to the building. The main staff and visitor parking is provided in a lot on the west side of the main driveway, with connecting walkways ensuring safe pedestrian access to the building. A secondary service access is provided approximately 300 feet to the west and this allows delivery and maintenance vehicles to avoid the main entrance and parking area, providing a safe, separated traffic path for these larger vehicles. The main utility entrances are located in the service access area, which also accommodates an enclosed dumpster pad and propane gas tanks. A fire lane extends from the service area around the west side of the building, with a hammerhead turn around at the terminus at the north end of the building. A second roadway extends of the main entrance drive to the east of the building. This will provide fire lane access and will also serve as access to a potential future development parcel that will be subdivided on the east side of the site.

The grading plan seeks to preserve existing drainage patterns at the site and minimize cuts and fills to the extent practical for a facility of this size, while maintaining accessible grades to and from the recreation spaces around the exterior of the building. A retaining wall is proposed along the western edges of the service drive in order to maintain a 100-ft setback from the stream along the western property line. A second wall is proposed off the northeast corner of the building in order to minimize impacts to the adjacent wetland area. A third, much shorter wall is proposed along the eastern edge of the eastern access drive to avoid disturbance of an adjacent wetland finger.

The main utility services to the site will be provided from existing infrastructure in Piper Mill Road. A new water service to the site will connect to the 8" main in the street. Three phase power and fiber optic cable services will be extended for the new overhead lines along the north side of Piper Mill Road. Sewage from the new facility will drain by gravity to the street and, via a pump station and force main to the Great Salt Bay Sanitary District plant at the end of the street.

Stormwater Management

A Low Impact Development approach has been taken to stormwater management design for the new facility, with numerous, small Best Management Practices (BMPs) designed to treat runoff close to source. The stormwater BMPs proposed to capture and treat runoff from the new developed areas of the site include seven small bioretention cells and three larger underdrained soil filters. Filtering drip edges around the perimeter of the building will capture and treat runoff from pitched roof areas. The western fire lane has been designed with a

sixteen-foot paved width, each half draining to a two-foot wide reinforced turf pervious pavement section with a filter sand layer. The new BMP's have been sized and designed in accordance with current State of Maine Chapter 500 Stormwater Law. The stormwater BMPs are designed to capture, treat and detain runoff from impervious areas of the site and will discharge to existing receiving waters via riprap aprons designed to dissipate runoff velocities. Stormwater BMP designations and details can be found in the accompanying project plan set.

METHODOLOGY AND MODELING ASSUMPTIONS

Runoff and routing calculations have been performed for the watershed areas affected by the proposed development under pre-development and post-development conditions scenarios. Time of concentration and runoff curve number calculations have been performed using the method described in Natural Resource Conservation Service (NRCS) Technical Release 55 (TR-55) – Urban Hydrology for Small Watersheds. The TR-20 based HydroCAD modeling software has been utilized to perform the more complex runoff and routing calculations, some of which are beyond the scope of the TR-55 method. Time of concentration calculations have been amended where the value given by the TR-55 method is less than six minutes (0.1hr). In these cases, a standard minimum value of six minutes has been used to keep this parameter within the acceptable working range of the model and prevent computational errors. Design rainfall events have been modeled using the SCS Type III Hydrograph for 24-hour duration storms. The rainfall depth for each return period is taken from Maine Department of Environmental Protection Chapter 500 Stormwater Management, Appendix H (Lincoln County). The rainfall depth values for standard design storm frequencies are shown in the table below.

TABLE 1 - 24-Hr Rainfall Depths for Lincoln County at Design Storm Frequencies				
Maine Chapter 500: Stormwater Management, Appendix H				
Frequency	2-Year	10-Year	25-Year	50-Year*
Rainfall Depth	3.1 in	4.5 in	5.5 in	6.5 in

- Note that analysis of the 50-year event is required by the Town of Damariscotta Ordinance.

NRCS Web Soil Survey mapping for the site has been used for general soil mapping and classification of Hydrologic Soil Groups. Buxton silt loams are classified as Type C/D by this reference- HSG Type C has been assigned universally to this series in the calculations as it minimizes runoff during the pre-development condition and hence represents the most conservative approach to the pre versus post- analysis. The following table summarizes the surficial soil types that were identified on the project site, along with their associated Hydrologic Soil Group (HSG).

TABLE 2 – SOIL TYPES	
Soil Type	**Hydrologic Soil Group**
Buxton	C
Scantic	D
Tunbridge	C

NRCS Code 378, the Stormwater Management for Maine: Best Management Practices (MEDEP, 2016) and the Maine Erosion and Sediment Control Best Management Practices (BMPs) Manual for Designers and Engineers (October 2016) have been used as guidelines in the design of the stormwater system.

PROPOSED BMPS

Stormwater runoff from the new impervious areas at the project site will be captured and treated in a series of new Best Management Practices (BMPs). These include seven bioretention cells and three underdrained grass filters.

- Underdrained Grass Filters and Bioretention Cells – Underdrained grass filter is a shallow grassed depression filled with a filtering soil media and planted with native grasses. The bioretention cells consist of shallow depressions filled with filter soil media and planted with a variety of grasses and shrubs. These are designed to enhance the general landscape design for the site. Runoff directed to the BMPs is detained temporarily and passes slowly through the soil media and the root zone of the planted material before draining into an underdrain system that discharges to an outlet culvert. The soil media and root zone activity provide water quality treatment for the runoff by removing suspended particles, and through uptake and binding of dissolved pollutants and nutrients. Although primarily designed for quality treatment, these BMPs also provide significant detention storage and hence a reduction in the peak runoff rate to downstream receiving areas. The slow discharge through the underdrain system provides extended base flows and protects downstream receiving waters from erosive peak flows after storm events. In each case, dedicated overflow discharge structures are provided to allow excess flows to pass through the system without causing damage, during severe storm events.
- Roof Dripline Filters - The roof dripline filters consist of a cover layer of large, rounded river stone underlain by an eighteen-inch deep filtration layer of fine sandy material. Flow entering the drip strip lands on the cover layer and drains through the filter media into the soil below. The drip strip filters also provide a degree of runoff detention through storage in the stone backfill material. Overflow outlets are also provided at the dripline filters to convey flows from large storm events.
- Reinforced Turf Pervious Pavement - The reinforced turf pervious pavement section consists of a surface of interlocking PVC paver blocks filled with a topsoil/ sand and fine stone mix that allow surface runoff to enter the pervious stone layers below. The stone comprises a choke layer for setting the pavers, an open graded stone reservoir layer, and filter sand treatment layer and an underdrain layer. Flow entering the paver area lands on the cover layer and drains through the stone and filter layers into the underdrain below. In addition to water quality treatment the stone reservoir layers in the section also provide runoff detention storage for peak flow during storm events.

STORMWATER QUANTITY ANALYSIS

Pre-development Conditions

The overall model for the site is divided into four subcatchment areas, each of which drains to a Design Point located at, or near the property boundary. A summary of the subcatchment areas is given in the table below.

Full details of pre-development subcatchment areas, cover conditions and time of concentration flow paths are described in detail in the supporting HydroCAD documentation included in Attachment C of this report. A Predevelopment Conditions Watershed Plan is included in Attachment A of this report.

PRE-DEVELOPMENT WATERSHED CHARACTERISTICS			
SUBCATCHMENT	AREA (ac)	CN	Tc (mins)
101	5.49	71	18.0
102	5.78	77	23.8
103	5.71	76	26.9
104	2.64	77	20.2
TOTAL AREA	**19.62**		

Post-Development Conditions

A full listing of the post-development areas in the overall model is shown in the following table. Full details of the post-development subcatchment areas, cover conditions and time of concentration flow paths are described in detail in the supporting HydroCAD documentation included in Attachment C of this report. A Post-Development Conditions Watershed Plan is included in Attachment A of this report.

POST-DEVELOPMENT WATERSHED CHARACTERISTICS			
SUBCATCHMENT	AREA (ac)	CN	Tc (mins)
201A	0.52	82	6.0
201B	0.65	91	6.0
201C	0.96	87	6.0
201D	0.26	79	6.0
201E	0.56	98	6.0
201F	0.13	98	6.0
201G	3.51	71	13.0
202A	0.52	98	6.0
202B	0.36	82	6.0
202C	0.19	83	6.0
202D	0.11	98	6.0
202E	3.02	77	21.8

203A	0.25	82	6.0
203B	0.28	98	6.0
203C	0.40	86	6.0
203D	0.19	84	6.0
203E	5.17	76	23.2
204A	1.09	91	6.0
204B	0.33	98	6.0
204C	1.15	77	19.8
TOTAL AREA	**19.65**		

Water Quantity Analysis Summary

The table below summarizes the peak runoff values for predevelopment and post-development conditions during each of the analyzed design storm events.

PRE-DEVELOPMENT AND POST-DEVELOPMENT PEAK RUNOFF VALUES		
Storm Return Period	Pre-Dev	Post-Dev
	Peak Q at Design Point 1 (cfs)	
2-Year	3.29	3.15
10-Year	7.66	6.75
25-Year	11.18	9.87
50-Year	14.89	14.19
Peak Q at Design Point 2 (cfs)		
2-Year	4.66	3.24
10-Year	9.31	5.93
25-Year	12.89	7.98
50-Year	16.57	10.77
Peak Q at Design Point 3 (cfs)		
2-Year	4.11	4.10
10-Year	8.38	8.34
25-Year	11.69	11.66
50-Year	15.13	15.09
Peak Q at Design Point 4 (cfs)		
2-Year	2.28	1.55
10-Year	4.56	3.22
25-Year	6.32	5.71
50-Year	8.12	7.96

STORMWATER QUALITY ANALYSIS

Water Quality Treatment Measures

The project has been designed in accordance with the Site Location of Development Act and Stormwater Law (Chapter 500), which require water quality treatment for 95% of new impervious areas and 80% of new developed areas.

The project will utilize one new underdrained grass filter and seven new bioretention cells, designed in accordance with the latest version of the Maine Department of Environmental Protection BMPs Technical Design Manual, to achieve the following stormwater quality treatment percentages.

Clippership Landing Water Quality Calculations

Subcatchment Area	Impervious Area	Landscaped Area	Developed Area	Water Quality Volume Required	Water Quality Volume Provided	BMP	Min. Area Reqd	Area Provd
TREATED AREAS								
201A	8510	7470	15980	958	2425	BIOCELL-1	820	1438
201B	19638	8807	28445	1930	4505	USF-2	1158	1719
201C	22709	19009	41718	2526	7633	USF-3	1516	2939
201D	2395	8956	11351	498	764	BIOCELL-4	436	439
201E	22084	2495	24579	1924	5209	DRIP EDGE-5		
201F	4462	1116	5578	409		PP-1		
202A	20750	2060	22810	1798	3945	DRIP EDGE-6		
202B	1397	14073	15470	586	2042	BIOCELL-7	351	1208
202C	1629	6833	8462	364	2047	BIOCELL-8	319	1208
202D	3873	1094	3873	359		PP-2		
203A	1430	9518	10948	436	742	BIOCELL-9	386	421
203B	10202	1838	12040	911	3520	DRIP EDGE-10		
203C	6110	11319	17429	886	3132	BIOCELL-11	767	1819
203D	1919	6492	8411	376	1296	BIOCELL-12	329	755
204A	29060	18384	47444	3034	6258	USF-13	1821	2752
204B	12603	1624	14227	1104	3110	DRIP EDGE-14		
TOTAL TREATED	168771	121088	289859					
UNTREATED AREAS								
201G	760	0	760	63				
202E	0	0	0	0				
203E	1670	0	1670	139				
204C	917	0	917	76				
TOTAL UNTREATED	3347	0	3347					
% TREATED	98%		99%					

1. WQV is calculated as 1" over the contributing impervious area plus 0.4" over the contributing landscaped area
2. Minimum area requirements are calculated as 5% contributing impervious area plus 2% contributing landscaped area for underdrained soil filter and 7% contributing impervious area plus 3% contributing landscaped area for bioretention cells

SOIL EROSION AND SEDIMENT CONTROL

A comprehensive Soil Erosion and Sediment Control (SESC) narrative has been prepared that includes Best Management Practices (BMPs) associated with the proposed construction activities. The location of SESC BMPs is shown on the accompanying plans. These are further described on the details and notes sheets in the accompanying plan set.

The Erosion and Sediment Control Report outlines the required construction measures and techniques that will reduce potential degradation of the water quality at downstream locations. Temporary erosion control measures will be incorporated during construction, and long-term surface stabilization practices have been designed as part of the site development, thus minimizing the potential for erosion and sediment transport. These measures include the constructed BMPs for filtration of runoff from smaller storm events, riprap, permanent seeding and other vegetative stabilization measures. Detailed information on the specific erosion and sedimentation control practices that are to be used on the site are provided on the following plan sheet, which will be included as part of the construction documents for the project.

STORMWATER MAINTENANCE PLAN

The effectiveness of water quality management provisions and other components of the stormwater management system are dependent on their design, upkeep, and maintenance to assure they meet their intended function over an extended period of time. It is critical that the stormwater management facilities are regularly inspected and that maintenance is performed on an as-needed basis.

After construction is complete, Clippership Landing Development, LLC will own and maintain the entire stormwater system. A Stormwater Management Inspection and Maintenance Manual has been prepared specifically for the project and is included in Attachment D of this section.

CONCLUSIONS

The stormwater management system designed for this project will mitigate impacts of development on stormwater runoff peak discharge rates and provide treatment of non-point source pollutants in the runoff in accordance with Maine's Stormwater Management Act and Regulations. Based on the analysis described herein, it is expected that runoff from the proposed development will not cause adverse impacts to downstream properties.

Limitations

This analysis is based on the information available to the engineer on site conditions and has been conducted using standard industry software designed to analyze *comparative* changes in land cover conditions. The accuracy of the runoff and routing calculations is limited by the methodology used in the software and the results should be viewed as suitable for comparative studies only.

References

1. NRCS Web Soil Survey
2. NRCS TR-378
3. Stormwater Management for Maine BMPs Design Manual
4. Maine Erosion and Sediment Control Best Management Practices (BMPs): Manual for Designers and Engineers (October 2016)

FIGURES AND ATTACHMENTS

1. Figure 1 USGS Location Map
2. Figure 2 Aerial Photograph
3. Figure 3 FEMA Flood Map
4. Figure 4 USDA SCS Web Soil Survey Map
5. Attachment A Pre-development & Post-development Watershed Maps
6. Attachment B Water Quality Calculations
7. Attachment C TR-20 Computations (HydroCAD)
    i. Pre-development Model
    ii. Post-development Model
8. Attachment D Stormwater Operations and Maintenance Manual

FIGURES

ATTACHMENT A -WATERSHED MAPS

NORTH

DRAINAGE LEGEND

- 4S — SUBCATCHMENT LABEL
- POINT OF ANALYSIS
- SUBCATCHMENT DIVIDE
- TIME OF CONCENTRATION
- SOILS BOUNDARY

SOILS LEGEND	
Bub/BuC	Lamoine/Buxton Silt Loam
Sc	Scantic Silt Loam
TrB/TrC	Tunbridge/Lyman Complex

Reference: NRCS Web Soil Survey

SUBSURFACE EXPLORATION NOTES:
1. INFORMATION ON TEST PITS TP-1 TO TP-28 SHOWN ON THIS PLAN CAN BE FOUND IN REPORT ENTITLED "EXPLORATIONS AND GEOTECHNICAL ENGINEERING SERVICES - PROPOSED SENIOR LIVING FACILITY, CLIPPERSHIP SITE, PIPER MILL ROAD, DAMARISCOTTA, MAINE, DATED APRIL 8, 2022.
2. INFORMATION ON STORMWATER TEST PITS SW TP-1 TO SW TP-9 SHOWN ON THIS PLAN CAN BE FOUND IN REPORT ENTITLED "SOIL DOCUMENTATION IN STORMWATER SYSTEMS REPORT PROPOSED CLIPPERSHIP LANDING, PIPER MILL ROAD, DAMARISCOTTA, MAINE, BY WATERSHED RESOURCE CONSULTANTS, LLC, DATED AUGUST 19, 2022.
3. INFORMATION ON WETLANDS SHOWN ON THIS PLAN CAN BE FOUND IN REPORT ENTITLED " CLIPPERSHIP LANDING NURSING HOME, DAMARISCOTTA, MAINE - SITE CONDITIONS REPORT BY ATLANTIC RESOURCE CONSULTANTS, LLC, DATED DECEMBER 2021

DESIGN POINT #1
DESIGN POINT #2
DESIGN POINT #3
DESIGN POINT #4
PROPERTY LINE (TYPICAL)
FRESHWATER WETLAND (TYPICAL - SEE NOTES)
GEOTECHNICAL TEST PIT (TYPICAL - SEE NOTES)
STORMWATER TEST PIT (TYPICAL-SEE NOTES)
TREE LINE (TYPICAL)
PIPER MILL ROAD
WOODS
GRASS
TrC
BuC
Sc
BuB
TrB
101
102
103
104
OHU

PRE-DEVELOPMENT WATERSHED CHARACTERISTICS			
SUBCATCHMENT	AREA (ac)	CN	Tc (mins)
101	5.49	71	18
102	5.78	77	23.8
103	5.71	76	26.9
104	2.64	77	20.2
TOTAL AREA	**19.62**		

PRE-DEVELOPMENT AND POST-DEVELOPMENT PEAK RUNOFF VALUES		
Storm Return Period	Pre-Dev	Post-Dev
	Peak Q at Design Point 1 (cfs)	
2-Year	3.29	3.15
10-Year	7.66	6.75
25-Year	11.18	9.87
50-Year	14.89	14.19
Peak Q at Design Point 2 (cfs)		
2-Year	4.66	3.24
10-Year	9.31	5.93
25-Year	12.89	7.98
50-Year	16.57	10.77
Peak Q at Design Point 3 (cfs)		
2-Year	4.11	4.10
10-Year	8.38	8.34
25-Year	11.69	11.66
50-Year	15.13	15.09
Peak Q at Design Point 4 (cfs)		
2-Year	2.28	1.55
10-Year	4.56	3.22
25-Year	6.32	5.71
50-Year	8.12	7.96

STATE OF MAINE — JOSEPH D. JOHNSTON NO. 9994 — 9-9-22 — LICENSED PROFESSIONAL ENGINEER

CLIPPERSHIP
DAMARISCOTTA, MAINE
PRE - DEVELOPMENT DRAINAGE PLAN

CLIPPEERSHIP, LLC
AUGUST 2022

Atlantic Resource Consultants
541 US Route One
Freeport, ME 04032
Tel: 207.869.9050

0 25 50 100
SCALE in FEET
1"=50'

S:\21-025 Clippership Landing\Drawings\Clippership-Drainage.dwg

NORTH

DRAINAGE LEGEND

- SUBCATCHMENT LABEL (4S)
- POINT OF ANALYSIS
- SUBCATCHMENT DIVIDE
- TIME OF CONCENTRATION
- SOILS BOUNDARY

SOILS LEGEND	
Bub/BuC	Lamoine/Buxton Silt Loam
Sc	Scantic Silt Loam
TrB/TrC	Tunbridge/Lyman Complex

Reference: NRCS Web Soil Survey

SUBSURFACE EXPLORATION NOTES:
1. INFORMATION ON TEST PITS TP-1 TO TP-28 SHOWN ON THIS PLAN CAN BE FOUND IN REPORT ENTITLED "EXPLORATIONS AND GEOTECHNICAL ENGINEERING SERVICES - PROPOSED SENIOR LIVING FACILITY, CLIPPERSHIP SITE, PIPER MILL ROAD, DAMARISCOTTA, MAINE, DATED APRIL 8, 2022.
2. INFORMATION ON STORMWATER TEST PITS SW TP-1 TO SW TP-9 SHOWN ON THIS PLAN CAN BE FOUND IN REPORT ENTITLED "SOIL DOCUMENTATION IN STORMWATER SYSTEMS REPORT PROPOSED CLIPPERSHIP LANDING, PIPER MILL ROAD, DAMARISCOTTA, MAINE, BY WATERSHED RESOURCE CONSULTANTS, LLC, DATED AUGUST 19, 2022.
3. INFORMATION ON WETLANDS SHOWN ON THIS PLAN CAN BE FOUND IN REPORT ENTITLED " CLIPPERSHIP LANDING NURSING HOME, DAMARISCOTTA, MAINE - SITE CONDITIONS REPORT BY ATLANTIC RESOURCE CONSULTANTS, LLC, DATED DECEMBER 2021

DESIGN POINT #1
DESIGN POINT #2
DESIGN POINT #3
DESIGN POINT #4
1-R
2-R
3-R
4-R
5-R
201A
201B
201C
201D
201E
201F
201G
202A
202B
202C
202D
202E
203A
203B
203C
203D
203E
204A
204B
204C
PP-1
PP-2
B-1
B-4
B-7
B-8
B-9
B-11
B-12
DS-5
DS-6
DS-10
DS-14
UF-2
UF-3
UF-13
BuC
BuB
Sc
TrB
PIPER MILL ROAD
NURSING HOME BUILDING FFE = 76.0'

Clippership Landing Water Quality Calculations

Subcatchment Area	Impervious Area	Landscaped Area	Developed Area	Water Quality Volume Required	Water Quality Volume Provided	BMP	Min. Area Reqd	Area Provd
TREATED AREAS								
201A	8510	7470	15980	958	2425	BIOCELL-1	**820**	**1438**
201B	19638	8807	28445	1930	4505	USF-2	**1158**	**1719**
201C	22709	19009	41718	2526	7633	USF-3	**1516**	**2939**
201D	2395	8956	11351	498	764	BIOCELL-4	**436**	**439**
201E	22084	2495	24579	1924	5209	DRIP EDGE-5		
201F	4462	1116	5578	409		PP-1		
202A	20750	2060	22810	1798	3945	DRIP EDGE-6		
202B	1397	14673	15470	585	2042	BIOCELL-7	**351**	**1208**
202C	1629	6833	8462	364	2047	BIOCELL-8	**319**	**1208**
202D	3873	1094	3873	359		PP-2		
203A	1430	9518	10948	436	742	BIOCELL-9	**386**	**421**
203B	10202	1838	12040	911	3520	DRIP EDGE-10		
203C	6110	11319	17429	886	3132	BIOCELL-11	**767**	**1819**
203D	1919	6492	8411	376	1296	BIOCELL-12	**329**	**755**
204A	29060	18384	47444	3034	6258	USF-13	**1821**	**2752**
204B	12603	1624	14227	1104	3110	DRIP EDGE-14		
TOTAL TREATED	**168771**	**121088**	**289859**					
UNTREATED AREAS								
201G	760	0	760	63				
202E	0	0	0	0				
203E	1670	0	1670	139				
204C	917	0	917	76				
TOTAL UNTREATED	**3347**	**0**	**3347**					
% TREATED	**98%**		**99%**					

1. WQv is calculated as 1" over the contributing impervious area plus 0.4" over the contributing landscaped area
2. Minimum area requirements are calculated as 5% contributing impervious area plus 2% contributing landscaped area for underdrained soil filter and 7% contributing impervious area plus 3% contributing landscaped area for bioretention cells

PRE-DEVELOPMENT AND POST-DEVELOPMENT PEAK RUNOFF VALUES

Storm Return Period	Pre-Dev	Post-Dev
	Peak Q at Design Point 1 (cfs)	
2-Year	3.29	3.15
10-Year	7.66	6.75
25-Year	11.18	9.87
50-Year	14.89	14.19
Peak Q at Design Point 2 (cfs)		
2-Year	4.66	3.24
10-Year	9.31	5.93
25-Year	12.89	7.98
50-Year	16.57	10.77
Peak Q at Design Point 3 (cfs)		
2-Year	4.11	4.10
10-Year	8.38	8.34
25-Year	11.69	11.66
50-Year	15.13	15.09
Peak Q at Design Point 4 (cfs)		
2-Year	2.28	1.55
10-Year	4.56	3.22
25-Year	6.32	5.71
50-Year	8.12	7.96

POST-DEVELOPMENT WATERSHED CHARACTERISTICS

SUBCATCHMENT	AREA (ac)	CN	Tc (mins)
201A	0.52	82	6
201B	0.65	91	6
201C	0.96	87	6
201D	0.26	79	6
201E	0.56	98	6
201F	0.13	98	6
201G	3.51	71	13
TOTAL AREA - 201	**6.59**		
SUBCATCHMENT	AREA (ac)	CN	Tc (mins)
202A	0.52	98	6
202B	0.36	82	6
202C	0.19	83	6
202D	0.11	98	6
202E	3.02	77	21.8
TOTAL AREA - 202	**4.20**		
SUBCATCHMENT	AREA (ac)	CN	Tc (mins)
203A	0.25	82	6
203B	0.28	98	6
203C	0.40	86	6
203D	0.19	84	6
203E	5.17	76	23.2
TOTAL AREA	**6.29**		
SUBCATCHMENT	AREA (ac)	CN	Tc (mins)
204A	1.09	91	6
204B	0.33	98	6
204C	1.15	77	19.8
TOTAL AREA	**2.57**		

STATE OF MAINE — ANDREW D. JOHNSTON — 9-9-22 — LICENSED PROFESSIONAL ENGINEER

DAMARISCOTTA FEASIBILITY STUDY
CLIPPERSHIP LANDING POST DRAINAGE

SHEET D-101
AUGUST 2022

Atlantic Resource Consultants
541 US Route One
Freeport, ME 04032
Tel: 207.869.9050

0 25 50 100
SCALE in FEET
1" = 50'

S:\21-025 Clippership Landing\Drawings\Clippership-Drainage.dwg

ATTACHMENT B -WATER QUALITY CALCULATIONS

- Stormwater Area Summary
- WQ Calculation Summary
- WQ Volume Storage Tables
- WQ Volume Discharge Timing
- Emergency Overflow Calculations
- Pre-treatment/Forebay Sizing

Subcatchment Area Information

PRE-DEVELOPMENT

Subcatchment 101

Cover	Soil Unit	Description	Hydrologic Soil Group	Curve Number	Area (sf)	Area (acre)
Grass	Buc, TrC	Buxton, Tunbridge	C	74	44431	1.02
Woods	Buc, TrB	Buxton, Tunbridge	C	70	188439	4.33
Woods	Sc	Scantic	D	77	6334	0.15
		SUBCATCHMENT TOTALS		71	239204	5.49

Subcatchment 102

Cover	Soil Unit	Description	Hydrologic Soil Group	Curve Number	Area (sf)	Area (acre)
Grass	Buc, TrB	Buxton, Tunbridge	C	74	14521	0.33
Woods	Buc, TrB	Buxton, Tunbridge	C	70	7842	0.18
Grass	Sc	Scantic	D	80	15033	0.35
Woods	Sc	Scantic	D	77	214262	4.92
		SUBCATCHMENT TOTALS		77	251658	5.78

Subcatchment 103

Cover	Soil Unit	Description	Hydrologic Soil Group	Curve Number	Area (sf)	Area (acre)
Woods	BuB	Buxton	D	70	21566	0.50
Woods	Sc	Scantic	D	77	226963	5.21
		SUBCATCHMENT TOTALS		76	248529	5.71

Subcatchment 104

Cover	Soil Unit	Description	Hydrologic Soil Group	Curve Number	Area (sf)	Area (acre)
Woods	Buc, TrB	Buxton, Tunbridge	C	70	2296	0.05
Woods	Sc	Scantic	D	77	112891	2.59
		SUBCATCHMENT TOTALS		77	115187	2.64

TOTAL AREA SUBCATCHMENT 1S 854578 19.62

Subcatchment Area Information - Post Development Conditions

Subcatchment 201A - to BIO 1

Cover	Soil Unit	Description	HSG	CN	Area (sf)	Area (ac)
Pavement			C	98	8510	0.20
Landscaped	Buc, TrB	Buxton, Tunbridge	C	74	5820	0.13
Landscaped	Sc	Scantic	D	80	1650	0.04
Wooded	BuC, TrB	Buxton, Tunbridge	C	70	6486	0.15
		SUBCATCHMENT TOTAL		82	22466	0.52
		WATER QUALITY VOLUME REQUIRED	958	CU.FT		

Subcatchment 201B - to USF 2

Cover	Soil Unit	Description	HSG	CN	Area (sf)	Area (ac)
Pavement			C	98	19638	0.45
Landscaped	Sc	Scantic	D	80	854	0.02
Landscaped	Buc, TrB	Buxton, Tumbridge	C	74	7953	0.18
		SUBCATCHMENT TOTAL		91	28445	0.65
		WATER QUALITY VOLUME REQUIRED	1902	CU.FT		

Subcatchment 201C - to USF 3

Cover	Soil Unit	Description	HSG	CN	Area (sf)	Area (ac)
Pavement			C	98	22709	0.52
Landscaped	Sc	Scantic	D	80	2611	0.06
Landscaped	Buc, TrB	Buxton, Tunbridge	C	74	16398	0.38
		SUBCATCHMENT TOTAL		87	41718	0.96
		WATER QUALITY VOLUME REQUIRED	2439	CU.FT		

Subcatchment 201D - to BIO 4

Cover	Soil Unit	Description	HSG	CN	Area (sf)	Area (ac)
Pavement			C	98	2395	0.05
Landscaped	Buc, TrB	Buxton, Tumbridge, Scantic	C	74	8956	0.21
		SUBCATCHMENT TOTAL		79	11351	0.26
		WATER QUALITY VOLUME REQUIRED	498	CU.FT		

Subcatchment 201E - to Drip Edge 5

Cover	Soil Unit	Description	HSG	CN	Area (sf)	Area (ac)
Roof			C	98	22084	0.51
Drip Edge Area			C	98	2495	0.06
		SUBCATCHMENT TOTAL		98	24579	0.56
		WATER QUALITY VOLUME REQUIRED	1840	CU.FT		

Subcatchment 201F - to Pervious Pavement

Cover	Soil Unit	Description	HSG	CN	Area (sf)	Area (ac)
Pavement				98	4462	0.10
Reinf. Turf Area			C	98	1116	0.03
		SUBCATCHMENT TOTAL		98	5578	0.13
		WATER QUALITY VOLUME REQUIRED	372	CU.FT		

Subcatchment 201G - Uncaptured

Cover	Soil Unit	Description	HSG	CN	Area (sf)	Area (ac)
Grass	Buc, TrB	Buxton, Tumbridge	C	74	32098	0.74
Woods	Buc, TrB, TrC	Buxton, Tumbridge	C	70	120024	2.76
Roof			C	98	760	0.02
		SUBCATCHMENT TOTAL		71	152882	3.51

Subcatchment 202A - to Drip Edge 6

Cover	Soil Unit	Description	HSG	CN	Area (sf)	Area (ac)
Roof				98	20750	0.48
Drip Edge Area	Sc	Scantic	D	98	2060	0.05
		SUBCATCHMENT TOTAL		98	22810	0.52
		WATER QUALITY VOLUME REQUIRED	1798	CU.FT		

Subcatchment 202B - to BIO 7

Cover	Soil Unit	Description	HSG	CN	Area (sf)	Area (ac)
Pavement				98	1397	0.03
Landscaped	Sc	Scantic	D	80	14073	0.32
		SUBCATCHMENT TOTAL		82	15470	0.36
		WATER QUALITY VOLUME REQUIRED	586	CU.FT		

Subcatchment 202C - to BIO 8

Cover	Soil Unit	Description	HSG	CN	Area (sf)	Area (ac)
Pavement				98	1629	0.04
Landscaped	Sc	Scantic	D	80	6833	0.16
		SUBCATCHMENT TOTAL		83	8462	0.19
		WATER QUALITY VOLUME REQUIRED	364	CU.FT		

Subcatchment 202D - to Pervious Pavement

Cover	Soil Unit	Description	HSG	CN	Area (sf)	Area (ac)
Pavement				98	3873	0.09
Reinf. Turf Area			C	98	1094	0.03
		SUBCATCHMENT TOTAL		98	4967	0.11
		WATER QUALITY VOLUME REQUIRED	323	CU.FT		

Subcatchment 202E - Uncaptured

Cover	Soil Unit	Description	HSG	CN	Area (sf)	Area (ac)
Woods	Sc	Scantic	D	77	131343	3.02
		SUBCATCHMENT TOTAL		77	131343	3.02

Subcatchment 203A - to BIO 9

Cover	Soil Unit	Description	HSG	CN	Area (sf)	Area (ac)
Pavement	Sc	Scantic	D	98	1430	0.03
Landscaped	Sc	Scantic	D	80	9518	0.22
		SUBCATCHMENT TOTAL		82	10948	0.25
		WATER QUALITY VOLUME REQUIRED	436	CU.FT		

Subcatchment 203B - to Drip Edge 10

Cover	Soil Unit	Description	HSG	CN	Area (sf)	Area (ac)
Roof				98	10202	0.23
Drip Edge Area	Sc	Scantic	D	98	1838	0.04
		SUBCATCHMENT TOTAL		98	12040	0.28
		WATER QUALITY VOLUME REQUIRED	911	CU.FT		

Subcatchment 203C - to BIO 11

Cover	Soil Unit	Description	HSG	CN	Area (sf)	Area (ac)
Pavement				98	6110	0.14
Landscaped	Sc	Scantic	D	80	11319	0.26
		SUBCATCHMENT TOTAL		86	17429	0.40
		WATER QUALITY VOLUME REQUIRED	886	CU.FT		

Subcatchment 203D - to BIO 12

Cover	Soil Unit	Description	HSG	CN	Area (sf)	Area (ac)
Pavement				98	1919	0.04
Landscaped	Sc	Scantic	D	80	6492	0.15
		SUBCATCHMENT TOTAL		84	8411	0.19
		WATER QUALITY VOLUME REQUIRED	376	CU.FT		

Subcatchment 203E

Cover	Soil Unit	Description	HSG	CN	Area (sf)	Area (ac)
Pavement				98	1670	0.04
Woods	Buc, TrB	Buxton, Tunbridge	C	70	21566	0.50
Woods	Sc	Buxton, Tumbridge, Scantic	D	77	201964	4.64
		SUBCATCHMENT TOTAL		76	225200	5.17

Subcatchment 204A - USF 13

Cover	Soil Unit	Description	HSG	CN	Area (sf)	Area (ac)
Pavement				98	19920	0.46
Roof				98	9140	0.21
Landscaped	Sc	Scantic	D	80	18384	0.42
		SUBCATCHMENT TOTAL		91	47444	1.09
		WATER QUALITY VOLUME REQUIRED	2273	CU.FT		

Subcatchment 204B - to Drip Edge 14

Cover	Soil Unit	Description	HSG	CN	Area (sf)	Area (ac)
Roof				98	12603	0.29
Drip Edge Area	Sc	Scantic	D	98	1624	0.04
		SUBCATCHMENT TOTAL		98	14227	0.33
		WATER QUALITY VOLUME REQUIRED	1104	CU.FT		

Subcatchment 204C - Uncaptured

Cover	Soil Unit	Description	HSG	CN	Area (sf)	Area (ac)
Pavement				98	917	0.02
Woods	TrB	Tunbridge	C	70	2775	0.06
Woods	Sc	Scantic	D	77	46415	1.07
		SUBCATCHMENT TOTAL		77	50107	1.15

TOTAL AREA SUBCATCHMENT	855877	19.65
TOTAL NEW IMPERVIOUS	172118	3.95
TOTAL DEVELOPED	293206	6.73

Clippership Landing Stormwater Areas Summary

PRE-DEVELOPMENT WATERSHED CHARACTERISTICS			
SUBCATCHMENT	AREA (ac)	CN	Tc (mins)
101	5.49	71	18
102	5.78	77	23.8
103	5.71	76	26.9
104	2.64	77	20.2
TOTAL AREA	19.62		

SOILS LEGEND	
Bub/BuC	Lamoine/Buxton Silt Loam
Sc	Scantic Silt Loam
TrB/TrC	Tunbridge/Lyman Complex

Reference: NRCS Web Soil Survey

POST-DEVELOPMENT WATERSHED CHARACTERISTICS			
SUBCATCHMENT	AREA (ac)	CN	Tc (mins)
201A	0.52	82	6
201B	0.65	91	6
201C	0.96	87	6
201D	0.26	79	6
201E	0.56	98	6
201F	0.13	98	6
201G	3.51	71	13
TOTAL AREA - 201	6.59		
SUBCATCHMENT	AREA (ac)	CN	Tc (mins)
202A	0.52	98	6
202B	0.36	82	6
202C	0.19	83	6
202D	0.11	98	6
202E	3.02	77	21.8
TOTAL AREA - 202	4.20		
SUBCATCHMENT	AREA (ac)	CN	Tc (mins)
203A	0.25	82	6
203B	0.28	98	6
203C	0.40	86	6
203D	0.19	84	6
203E	5.17	76	23.2
TOTAL AREA	6.29		
SUBCATCHMENT	AREA (ac)	CN	Tc (mins)
204A	1.09	91	6
204B	0.33	98	6
204C	1.15	77	19.8
TOTAL AREA	2.57		

PRE-DEVELOPMENT AND POST-DEVELOPMENT PEAK RUNOFF VALUES		
Storm Return Period	Pre-Dev	Post-Dev
	Peak Q at Design Point 1 (cfs)	
2-Year	3.29	3.15
10-Year	7.66	6.75
25-Year	11.18	9.87
50-Year	14.89	14.19
Peak Q at Design Point 2 (cfs)		
2-Year	4.66	3.24
10-Year	9.31	5.93
25-Year	12.89	7.98
50-Year	16.57	10.77
Peak Q at Design Point 3 (cfs)		
2-Year	4.11	4.10
10-Year	8.38	8.34
25-Year	11.69	11.66
50-Year	15.13	15.09
Peak Q at Design Point 4 (cfs)		
2-Year	2.28	1.55
10-Year	4.56	3.22
25-Year	6.32	5.71
50-Year	8.12	7.96

Clippership Landing Water Quality Calculations

Subcatchment Area	Impervious Area	Landscaped Area	Developed Area	Water Quality Volume Required	Water Quality Volume Provided	BMP	Min. Area Reqd	Area Provd
TREATED AREAS								
201A	8510	7470	15980	958	2425	BIOCELL-1	820	1438
201B	19638	8807	28445	1930	4505	USF-2	1158	1719
201C	22709	19009	41718	2526	7633	USF-3	1516	2939
201D	2395	8956	11351	498	764	BIOCELL-4	436	439
201E	22084	2495	24579	1924	5209	DRIP EDGE-5		
201F	4462	1116	5578	409		PP-1		
202A	20750	2060	22810	1798	3945	DRIP EDGE-6		
202B	1397	14073	15470	586	2042	BIOCELL-7	351	1208
202C	1629	6833	8462	364	2047	BIOCELL-8	319	1208
202D	3873	1094	3873	359		PP-2		
203A	1430	9518	10948	436	742	BIOCELL-9	386	421
203B	10202	1838	12040	911	3520	DRIP EDGE-10		
203C	6110	11319	17429	886	3132	BIOCELL-11	767	1819
203D	1919	6492	8411	376	1296	BIOCELL-12	329	755
204A	29060	18384	47444	3034	6258	USF-13	1821	2752
204B	12603	1624	14227	1104	3110	DRIP EDGE-14		
TOTAL TREATED	168771	121088	289859					
UNTREATED AREAS								
201G	760	0	760	63				
202E	0	0	0	0				
203E	1670	0	1670	139				
204C	917	0	917	76				
TOTAL UNTREATED	3347	0	3347					
% TREATED	98%		99%					

1. WQV is calculated as 1" over the contributing impervious area plus 0.4" over the contributing landscaped area
2. Minimum area requirements are calculated as 5% contributing impervious area plus 2% contributing landscaped area for underdrained soil filter and 7% contributing impervious area plus 3% contributing landscaped area for bioretention cells

Hydrograph for Pond B-1: BIO 1

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	**0.00**	**2,425**	**67.50**	**0.03**
1.00	0.00	2,330	67.44	0.03
2.00	0.00	2,237	67.38	0.03
3.00	0.00	2,144	67.32	0.03
4.00	0.00	2,052	67.26	0.03
5.00	0.00	1,962	67.20	0.02
6.00	0.00	1,873	67.14	0.02
7.00	0.00	1,785	67.08	0.02
8.00	0.00	1,698	67.02	0.02
9.00	0.00	1,613	66.96	0.02
10.00	0.00	1,529	66.90	0.02
11.00	0.00	1,446	66.85	0.02
12.00	0.00	1,365	66.79	0.02
13.00	0.00	1,285	66.73	0.02
14.00	0.00	1,206	66.68	0.02
15.00	0.00	1,128	66.62	0.02
16.00	0.00	1,052	66.57	0.02
17.00	0.00	976	66.52	0.02
18.00	0.00	903	66.40	0.02
19.00	0.00	833	66.26	0.02
20.00	0.00	768	66.12	0.02
21.00	0.00	706	65.99	0.02
22.00	0.00	647	65.87	0.02
23.00	0.00	593	65.75	0.01
24.00	0.00	543	65.64	0.01
25.00	0.00	496	65.55	0.01
26.00	0.00	454	65.46	0.01
27.00	0.00	415	65.37	0.01
28.00	0.00	380	65.30	0.01
29.00	0.00	349	65.24	0.01
30.00	0.00	322	65.18	0.01
31.00	0.00	298	65.13	0.01
32.00	0.00	279	65.09	0.00
33.00	0.00	263	65.06	0.00
34.00	0.00	252	65.03	0.00
35.00	0.00	244	65.01	0.00
36.00	0.00	239	65.00	0.00
37.00	0.00	235	65.00	0.00
38.00	0.00	233	64.99	0.00
39.00	0.00	232	64.99	0.00
40.00	0.00	230	64.99	0.00
41.00	0.00	229	64.98	0.00
42.00	0.00	228	64.98	0.00
43.00	0.00	227	64.98	0.00
44.00	0.00	227	64.98	0.00
45.00	0.00	226	64.98	0.00
46.00	0.00	226	64.98	0.00
47.00	0.00	225	64.98	0.00
48.00	0.00	225	64.97	0.00

Hydrograph for Pond B-11: BIO 11

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	**0.00**	**1,227**	**65.50**	**0.03**
1.00	0.00	1,115	65.32	0.03
2.00	0.00	1,010	65.15	0.03
3.00	0.00	913	64.99	0.03
4.00	0.00	822	64.84	0.02
5.00	0.00	739	64.71	0.02
6.00	0.00	664	64.58	0.02
7.00	0.00	595	64.47	0.02
8.00	0.00	534	64.37	0.02
9.00	0.00	480	64.28	0.01
10.00	0.00	434	64.21	0.01
11.00	0.00	395	64.14	0.01
12.00	0.00	363	64.09	0.01
13.00	0.00	338	64.05	0.01
14.00	0.00	321	64.02	0.00
15.00	0.00	310	64.01	0.00
16.00	0.00	304	64.00	0.00
17.00	0.00	300	63.99	0.00
18.00	0.00	296	63.98	0.00
19.00	0.00	294	63.98	0.00
20.00	0.00	292	63.98	0.00
21.00	0.00	290	63.97	0.00
22.00	0.00	289	63.97	0.00
23.00	0.00	287	63.97	0.00
24.00	0.00	286	63.97	0.00
25.00	0.00	286	63.97	0.00
26.00	0.00	285	63.96	0.00
27.00	0.00	284	63.96	0.00
28.00	0.00	284	63.96	0.00
29.00	0.00	284	63.96	0.00
30.00	0.00	283	63.96	0.00
31.00	0.00	283	63.96	0.00
32.00	0.00	283	63.96	0.00
33.00	0.00	283	63.96	0.00
34.00	0.00	283	63.96	0.00
35.00	0.00	283	63.96	0.00
36.00	0.00	283	63.96	0.00
37.00	0.00	282	63.96	0.00
38.00	0.00	282	63.96	0.00
39.00	0.00	282	63.96	0.00
40.00	0.00	282	63.96	0.00
41.00	0.00	282	63.96	0.00
42.00	0.00	282	63.96	0.00
43.00	0.00	282	63.96	0.00
44.00	0.00	282	63.96	0.00
45.00	0.00	282	63.96	0.00
46.00	0.00	282	63.96	0.00
47.00	0.00	282	63.96	0.00
48.00	0.00	282	63.96	0.00

Hydrograph for Pond B-12: BIO 12

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	**0.00**	**1,296**	**73.50**	**0.02**
1.00	0.00	1,223	73.42	0.02
2.00	0.00	1,152	73.34	0.02
3.00	0.00	1,082	73.26	0.02
4.00	0.00	1,013	73.17	0.02
5.00	0.00	945	73.09	0.02
6.00	0.00	879	73.00	0.02
7.00	0.00	814	72.92	0.02
8.00	0.00	750	72.83	0.02
9.00	0.00	688	72.75	0.02
10.00	0.00	628	72.67	0.02
11.00	0.00	568	72.59	0.02
12.00	0.00	511	72.52	0.02
13.00	0.00	455	72.33	0.01
14.00	0.00	404	72.12	0.01
15.00	0.00	357	71.93	0.01
16.00	0.00	314	71.76	0.01
17.00	0.00	276	71.61	0.01
18.00	0.00	242	71.47	0.01
19.00	0.00	212	71.35	0.01
20.00	0.00	187	71.25	0.01
21.00	0.00	166	71.17	0.01
22.00	0.00	149	71.10	0.00
23.00	0.00	137	71.05	0.00
24.00	0.00	129	71.02	0.00
25.00	0.00	124	71.00	0.00
26.00	0.00	122	70.99	0.00
27.00	0.00	121	70.99	0.00
28.00	0.00	120	70.98	0.00
29.00	0.00	119	70.98	0.00
30.00	0.00	119	70.98	0.00
31.00	0.00	118	70.98	0.00
32.00	0.00	118	70.97	0.00
33.00	0.00	118	70.97	0.00
34.00	0.00	118	70.97	0.00
35.00	0.00	118	70.97	0.00
36.00	0.00	117	70.97	0.00
37.00	0.00	117	70.97	0.00
38.00	0.00	117	70.97	0.00
39.00	0.00	117	70.97	0.00
40.00	0.00	117	70.97	0.00
41.00	0.00	117	70.97	0.00
42.00	0.00	117	70.97	0.00
43.00	0.00	117	70.97	0.00
44.00	0.00	117	70.97	0.00
45.00	0.00	117	70.97	0.00
46.00	0.00	117	70.97	0.00
47.00	0.00	117	70.97	0.00
48.00	0.00	117	70.97	0.00

Hydrograph for Pond B-4: BIO 4

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	**0.00**	**767**	**72.50**	**0.01**
1.00	0.00	729	72.44	0.01
2.00	0.00	693	72.37	0.01
3.00	0.00	657	72.30	0.01
4.00	0.00	621	72.24	0.01
5.00	0.00	586	72.17	0.01
6.00	0.00	552	72.09	0.01
7.00	0.00	518	72.02	0.01
8.00	0.00	484	71.94	0.01
9.00	0.00	452	71.87	0.01
10.00	0.00	420	71.80	0.01
11.00	0.00	388	71.72	0.01
12.00	0.00	358	71.65	0.01
13.00	0.00	328	71.59	0.01
14.00	0.00	298	71.52	0.01
15.00	0.00	270	71.36	0.01
16.00	0.00	243	71.18	0.01
17.00	0.00	218	71.01	0.01
18.00	0.00	196	70.85	0.01
19.00	0.00	175	70.71	0.01
20.00	0.00	156	70.58	0.00
21.00	0.00	139	70.46	0.00
22.00	0.00	124	70.36	0.00
23.00	0.00	111	70.27	0.00
24.00	0.00	100	70.19	0.00
25.00	0.00	90	70.12	0.00
26.00	0.00	83	70.07	0.00
27.00	0.00	78	70.04	0.00
28.00	0.00	74	70.01	0.00
29.00	0.00	73	70.00	0.00
30.00	0.00	72	69.99	0.00
31.00	0.00	71	69.99	0.00
32.00	0.00	71	69.99	0.00
33.00	0.00	71	69.99	0.00
34.00	0.00	70	69.99	0.00
35.00	0.00	70	69.98	0.00
36.00	0.00	70	69.98	0.00
37.00	0.00	70	69.98	0.00
38.00	0.00	70	69.98	0.00
39.00	0.00	70	69.98	0.00
40.00	0.00	70	69.98	0.00
41.00	0.00	70	69.98	0.00
42.00	0.00	70	69.98	0.00
43.00	0.00	70	69.98	0.00
44.00	0.00	70	69.98	0.00
45.00	0.00	70	69.98	0.00
46.00	0.00	70	69.98	0.00
47.00	0.00	70	69.98	0.00
48.00	0.00	70	69.98	0.00

Hydrograph for Pond B-7: BIO-7

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	**0.00**	**2,042**	**66.50**	**0.03**
1.00	0.00	1,947	66.43	0.03
2.00	0.00	1,853	66.36	0.03
3.00	0.00	1,761	66.29	0.03
4.00	0.00	1,670	66.22	0.03
5.00	0.00	1,581	66.15	0.02
6.00	0.00	1,493	66.08	0.02
7.00	0.00	1,407	66.01	0.02
8.00	0.00	1,322	65.94	0.02
9.00	0.00	1,239	65.87	0.02
10.00	0.00	1,157	65.80	0.02
11.00	0.00	1,076	65.73	0.02
12.00	0.00	998	65.67	0.02
13.00	0.00	920	65.60	0.02
14.00	0.00	845	65.54	0.02
15.00	0.00	771	65.43	0.02
16.00	0.00	700	65.26	0.02
17.00	0.00	635	65.09	0.02
18.00	0.00	574	64.94	0.02
19.00	0.00	518	64.80	0.02
20.00	0.00	466	64.67	0.01
21.00	0.00	419	64.55	0.01
22.00	0.00	376	64.45	0.01
23.00	0.00	339	64.35	0.01
24.00	0.00	305	64.27	0.01
25.00	0.00	277	64.19	0.01
26.00	0.00	252	64.13	0.01
27.00	0.00	233	64.08	0.00
28.00	0.00	218	64.05	0.00
29.00	0.00	208	64.02	0.00
30.00	0.00	202	64.01	0.00
31.00	0.00	198	64.00	0.00
32.00	0.00	196	63.99	0.00
33.00	0.00	194	63.99	0.00
34.00	0.00	193	63.98	0.00
35.00	0.00	192	63.98	0.00
36.00	0.00	191	63.98	0.00
37.00	0.00	190	63.98	0.00
38.00	0.00	190	63.98	0.00
39.00	0.00	189	63.98	0.00
40.00	0.00	189	63.97	0.00
41.00	0.00	189	63.97	0.00
42.00	0.00	188	63.97	0.00
43.00	0.00	188	63.97	0.00
44.00	0.00	188	63.97	0.00
45.00	0.00	188	63.97	0.00
46.00	0.00	188	63.97	0.00
47.00	0.00	188	63.97	0.00
48.00	0.00	188	63.97	0.00

Hydrograph for Pond B-8: BIO 8

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	**0.00**	**2,047**	**67.50**	**0.03**
1.00	0.00	1,952	67.43	0.03
2.00	0.00	1,859	67.36	0.03
3.00	0.00	1,766	67.29	0.03
4.00	0.00	1,676	67.22	0.03
5.00	0.00	1,586	67.15	0.02
6.00	0.00	1,498	67.08	0.02
7.00	0.00	1,412	67.01	0.02
8.00	0.00	1,327	66.94	0.02
9.00	0.00	1,244	66.87	0.02
10.00	0.00	1,162	66.80	0.02
11.00	0.00	1,081	66.73	0.02
12.00	0.00	1,003	66.67	0.02
13.00	0.00	925	66.61	0.02
14.00	0.00	849	66.54	0.02
15.00	0.00	775	66.44	0.02
16.00	0.00	705	66.27	0.02
17.00	0.00	639	66.10	0.02
18.00	0.00	578	65.95	0.02
19.00	0.00	522	65.81	0.02
20.00	0.00	470	65.68	0.01
21.00	0.00	422	65.56	0.01
22.00	0.00	379	65.45	0.01
23.00	0.00	341	65.36	0.01
24.00	0.00	308	65.27	0.01
25.00	0.00	279	65.20	0.01
26.00	0.00	254	65.14	0.01
27.00	0.00	234	65.09	0.00
28.00	0.00	219	65.05	0.00
29.00	0.00	209	65.02	0.00
30.00	0.00	202	65.01	0.00
31.00	0.00	199	65.00	0.00
32.00	0.00	196	64.99	0.00
33.00	0.00	195	64.99	0.00
34.00	0.00	193	64.98	0.00
35.00	0.00	192	64.98	0.00
36.00	0.00	192	64.98	0.00
37.00	0.00	191	64.98	0.00
38.00	0.00	190	64.98	0.00
39.00	0.00	190	64.98	0.00
40.00	0.00	189	64.97	0.00
41.00	0.00	189	64.97	0.00
42.00	0.00	189	64.97	0.00
43.00	0.00	189	64.97	0.00
44.00	0.00	188	64.97	0.00
45.00	0.00	188	64.97	0.00
46.00	0.00	188	64.97	0.00
47.00	0.00	188	64.97	0.00
48.00	0.00	188	64.97	0.00

Hydrograph for Pond B-9: BIO 9

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	**0.00**	**742**	**72.50**	**0.01**
1.00	0.00	705	72.44	0.01
2.00	0.00	668	72.37	0.01
3.00	0.00	632	72.30	0.01
4.00	0.00	596	72.23	0.01
5.00	0.00	561	72.16	0.01
6.00	0.00	527	72.09	0.01
7.00	0.00	493	72.01	0.01
8.00	0.00	460	71.93	0.01
9.00	0.00	427	71.86	0.01
10.00	0.00	396	71.78	0.01
11.00	0.00	364	71.71	0.01
12.00	0.00	334	71.63	0.01
13.00	0.00	304	71.56	0.01
14.00	0.00	275	71.48	0.01
15.00	0.00	247	71.28	0.01
16.00	0.00	221	71.09	0.01
17.00	0.00	198	70.92	0.01
18.00	0.00	176	70.77	0.01
19.00	0.00	156	70.62	0.01
20.00	0.00	139	70.50	0.00
21.00	0.00	123	70.38	0.00
22.00	0.00	109	70.29	0.00
23.00	0.00	98	70.20	0.00
24.00	0.00	88	70.13	0.00
25.00	0.00	80	70.08	0.00
26.00	0.00	75	70.04	0.00
27.00	0.00	71	70.01	0.00
28.00	0.00	70	70.00	0.00
29.00	0.00	69	69.99	0.00
30.00	0.00	68	69.99	0.00
31.00	0.00	68	69.99	0.00
32.00	0.00	68	69.99	0.00
33.00	0.00	67	69.99	0.00
34.00	0.00	67	69.98	0.00
35.00	0.00	67	69.98	0.00
36.00	0.00	67	69.98	0.00
37.00	0.00	67	69.98	0.00
38.00	0.00	67	69.98	0.00
39.00	0.00	67	69.98	0.00
40.00	0.00	67	69.98	0.00
41.00	0.00	67	69.98	0.00
42.00	0.00	67	69.98	0.00
43.00	0.00	67	69.98	0.00
44.00	0.00	67	69.98	0.00
45.00	0.00	67	69.98	0.00
46.00	0.00	67	69.98	0.00
47.00	0.00	67	69.98	0.00
48.00	0.00	67	69.98	0.00

Hydrograph for Pond UF-13: UF 13

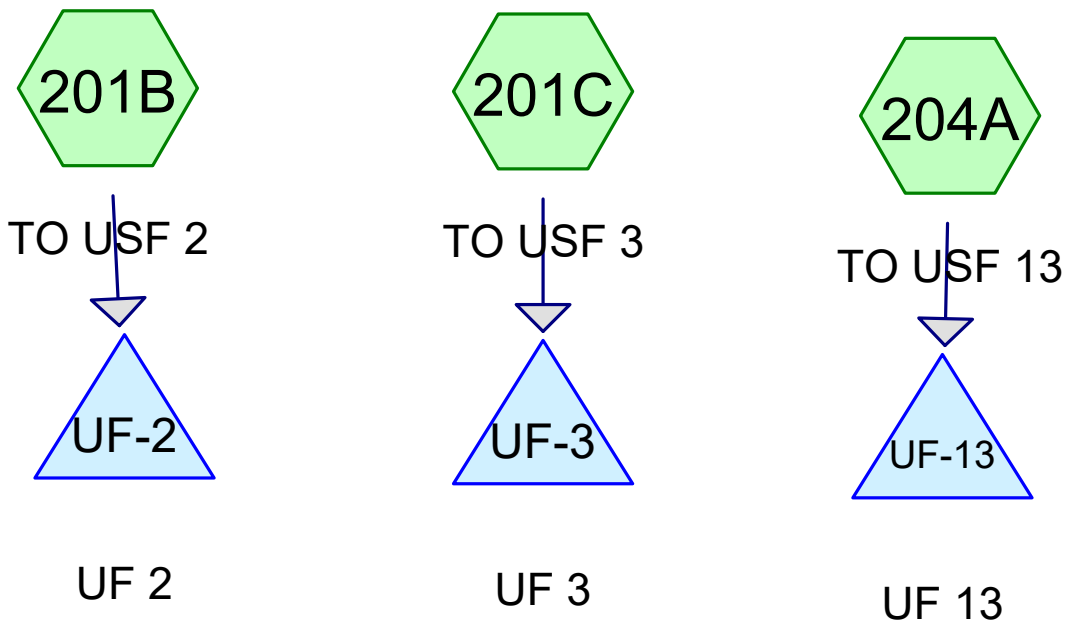
Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	**0.00**	**6,433**	**70.00**	**0.10**
1.00	0.00	6,067	69.90	0.10
2.00	0.00	5,707	69.80	0.10
3.00	0.00	5,353	69.69	0.10
4.00	0.00	5,006	69.59	0.10
5.00	0.00	4,666	69.49	0.09
6.00	0.00	4,333	69.38	0.09
7.00	0.00	4,007	69.28	0.09
8.00	0.00	3,689	69.17	0.09
9.00	0.00	3,378	69.06	0.09
10.00	0.00	3,076	68.95	0.08
11.00	0.00	2,782	68.84	0.08
12.00	0.00	2,495	68.74	0.08
13.00	0.00	2,217	68.64	0.08
14.00	0.00	1,947	68.54	0.07
15.00	0.00	1,688	68.35	0.07
16.00	0.00	1,452	68.09	0.06
17.00	0.00	1,241	67.86	0.06
18.00	0.00	1,054	67.65	0.05
19.00	0.00	892	67.48	0.04
20.00	0.00	755	67.33	0.03
21.00	0.00	643	67.20	0.03
22.00	0.00	555	67.11	0.02
23.00	0.00	493	67.04	0.01
24.00	0.00	455	67.00	0.01
25.00	0.00	434	66.97	0.00
26.00	0.00	421	66.96	0.00
27.00	0.00	414	66.95	0.00
28.00	0.00	408	66.95	0.00
29.00	0.00	403	66.94	0.00
30.00	0.00	399	66.94	0.00
31.00	0.00	396	66.93	0.00
32.00	0.00	394	66.93	0.00
33.00	0.00	392	66.93	0.00
34.00	0.00	390	66.93	0.00
35.00	0.00	389	66.93	0.00
36.00	0.00	388	66.92	0.00
37.00	0.00	387	66.92	0.00
38.00	0.00	386	66.92	0.00
39.00	0.00	386	66.92	0.00
40.00	0.00	385	66.92	0.00
41.00	0.00	385	66.92	0.00
42.00	0.00	385	66.92	0.00
43.00	0.00	385	66.92	0.00
44.00	0.00	384	66.92	0.00
45.00	0.00	384	66.92	0.00
46.00	0.00	384	66.92	0.00
47.00	0.00	384	66.92	0.00
48.00	0.00	384	66.92	0.00

Hydrograph for Pond UF-2: UF 2

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	**0.00**	**3,945**	**63.00**	**0.05**
1.00	0.00	3,782	62.92	0.04
2.00	0.00	3,621	62.85	0.04
3.00	0.00	3,463	62.77	0.04
4.00	0.00	3,306	62.70	0.04
5.00	0.00	3,152	62.62	0.04
6.00	0.00	3,000	62.55	0.04
7.00	0.00	2,851	62.47	0.04
8.00	0.00	2,703	62.39	0.04
9.00	0.00	2,558	62.31	0.04
10.00	0.00	2,416	62.24	0.04
11.00	0.00	2,276	62.16	0.04
12.00	0.00	2,138	62.08	0.04
13.00	0.00	2,003	62.01	0.04
14.00	0.00	1,870	61.93	0.04
15.00	0.00	1,741	61.85	0.04
16.00	0.00	1,613	61.78	0.04
17.00	0.00	1,489	61.71	0.03
18.00	0.00	1,366	61.63	0.03
19.00	0.00	1,247	61.57	0.03
20.00	0.00	1,130	61.49	0.03
21.00	0.00	1,018	61.30	0.03
22.00	0.00	915	61.11	0.03
23.00	0.00	819	60.94	0.03
24.00	0.00	731	60.79	0.02
25.00	0.00	651	60.65	0.02
26.00	0.00	579	60.52	0.02
27.00	0.00	515	60.41	0.02
28.00	0.00	459	60.31	0.01
29.00	0.00	410	60.22	0.01
30.00	0.00	370	60.15	0.01
31.00	0.00	337	60.09	0.01
32.00	0.00	313	60.05	0.01
33.00	0.00	296	60.02	0.00
34.00	0.00	286	60.00	0.00
35.00	0.00	280	59.99	0.00
36.00	0.00	275	59.99	0.00
37.00	0.00	272	59.98	0.00
38.00	0.00	269	59.97	0.00
39.00	0.00	267	59.97	0.00
40.00	0.00	266	59.97	0.00
41.00	0.00	265	59.97	0.00
42.00	0.00	264	59.96	0.00
43.00	0.00	263	59.96	0.00
44.00	0.00	262	59.96	0.00
45.00	0.00	262	59.96	0.00
46.00	0.00	262	59.96	0.00
47.00	0.00	262	59.96	0.00
48.00	0.00	261	59.96	0.00

Hydrograph for Pond UF-3: UF 3

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	**0.00**	**6,700**	**63.00**	**0.10**
1.00	0.00	6,335	62.90	0.10
2.00	0.00	5,976	62.80	0.10
3.00	0.00	5,623	62.70	0.10
4.00	0.00	5,278	62.59	0.10
5.00	0.00	4,939	62.49	0.09
6.00	0.00	4,607	62.39	0.09
7.00	0.00	4,281	62.29	0.09
8.00	0.00	3,964	62.18	0.09
9.00	0.00	3,653	62.08	0.09
10.00	0.00	3,350	61.98	0.08
11.00	0.00	3,055	61.88	0.08
12.00	0.00	2,767	61.78	0.08
13.00	0.00	2,487	61.69	0.08
14.00	0.00	2,215	61.59	0.07
15.00	0.00	1,951	61.50	0.07
16.00	0.00	1,701	61.25	0.07
17.00	0.00	1,475	61.02	0.06
18.00	0.00	1,272	60.81	0.05
19.00	0.00	1,092	60.63	0.05
20.00	0.00	936	60.47	0.04
21.00	0.00	803	60.33	0.03
22.00	0.00	693	60.21	0.03
23.00	0.00	607	60.13	0.02
24.00	0.00	544	60.06	0.01
25.00	0.00	505	60.02	0.01
26.00	0.00	483	60.00	0.00
27.00	0.00	469	59.98	0.00
28.00	0.00	459	59.97	0.00
29.00	0.00	452	59.97	0.00
30.00	0.00	447	59.96	0.00
31.00	0.00	443	59.96	0.00
32.00	0.00	441	59.95	0.00
33.00	0.00	439	59.95	0.00
34.00	0.00	438	59.95	0.00
35.00	0.00	437	59.95	0.00
36.00	0.00	436	59.95	0.00
37.00	0.00	436	59.95	0.00
38.00	0.00	435	59.95	0.00
39.00	0.00	435	59.95	0.00
40.00	0.00	434	59.95	0.00
41.00	0.00	434	59.95	0.00
42.00	0.00	433	59.95	0.00
43.00	0.00	433	59.95	0.00
44.00	0.00	433	59.95	0.00
45.00	0.00	432	59.95	0.00
46.00	0.00	432	59.95	0.00
47.00	0.00	432	59.95	0.00
48.00	0.00	431	59.94	0.00



Subcat Reach Pond Link

Routing Diagram for 21-025 OVERFLOW
Prepared by Atlantic Resource Consultants, Printed 8/16/2022

Summary for Pond UF-13: UF 13

Inflow Area = 1.089 ac, 61.25% Impervious, Inflow Depth > 4.22" for 25-Year event
Inflow = 5.30 cfs @ 12.09 hrs, Volume= 0.383 af
Outflow = 2.33 cfs @ 12.28 hrs, Volume= 0.203 af, Atten= 56%, Lag= 11.8 min
Primary = 2.33 cfs @ 12.28 hrs, Volume= 0.203 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 70.59' @ 12.28 hrs Surf.Area= 4,235 sf Storage= 8,772 cf

Plug-Flow detention time= 172.2 min calculated for 0.202 af (53% of inflow)
Center-of-Mass det. time= 89.0 min (844.4 - 755.4)

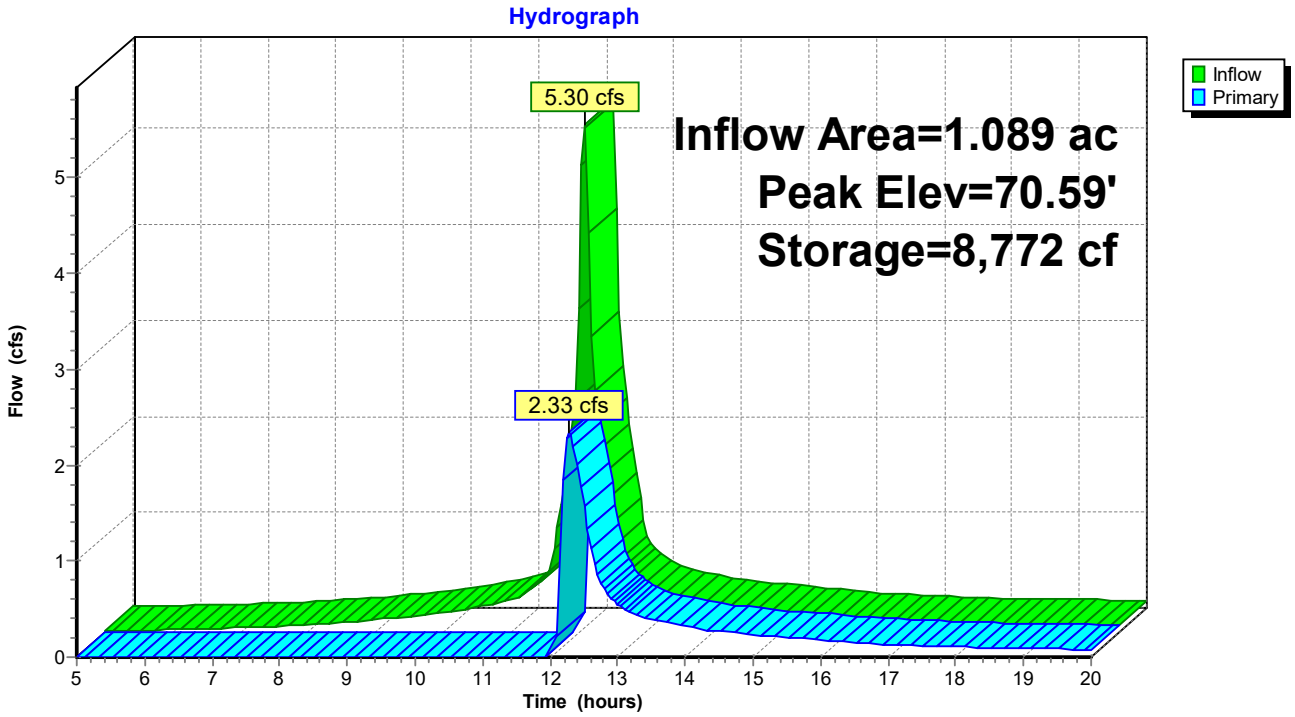
Volume	Invert	Avail.Storage	Storage Description
#1	66.50'	13,013 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
66.50	2,768	0.0	0	0
67.00	2,768	33.0	457	457
67.50	2,768	33.0	457	913
68.00	2,768	33.0	457	1,370
68.50	2,768	33.0	457	1,827
69.00	2,768	100.0	1,384	3,211
70.00	3,677	100.0	3,223	6,433
71.00	4,621	100.0	4,149	10,582
71.50	5,102	100.0	2,431	13,013

Device	Routing	Invert	Outlet Devices
#1	Primary	70.35'	**120.0 deg x 6.0' long x 1.15' rise Sharp-Crested Vee/Trap Weir** Cv= 2.48 (C= 3.10)

Primary OutFlow Max=2.31 cfs @ 12.28 hrs HW=70.59' (Free Discharge)
↑—**1=Sharp-Crested Vee/Trap Weir** (Weir Controls 2.31 cfs @ 1.50 fps)

Pond UF-13: UF 13



Summary for Pond UF-2: UF 2

Inflow Area = 0.653 ac, 69.04% Impervious, Inflow Depth > 4.22" for 25-Year event
Inflow = 3.18 cfs @ 12.09 hrs, Volume= 0.230 af
Outflow = 1.61 cfs @ 12.25 hrs, Volume= 0.121 af, Atten= 50%, Lag= 9.8 min
Primary = 1.61 cfs @ 12.25 hrs, Volume= 0.121 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 63.52' @ 12.25 hrs Surf.Area= 2,435 sf Storage= 5,143 cf

Plug-Flow detention time= 169.8 min calculated for 0.121 af (53% of inflow)
Center-of-Mass det. time= 86.3 min (841.7 - 755.4)

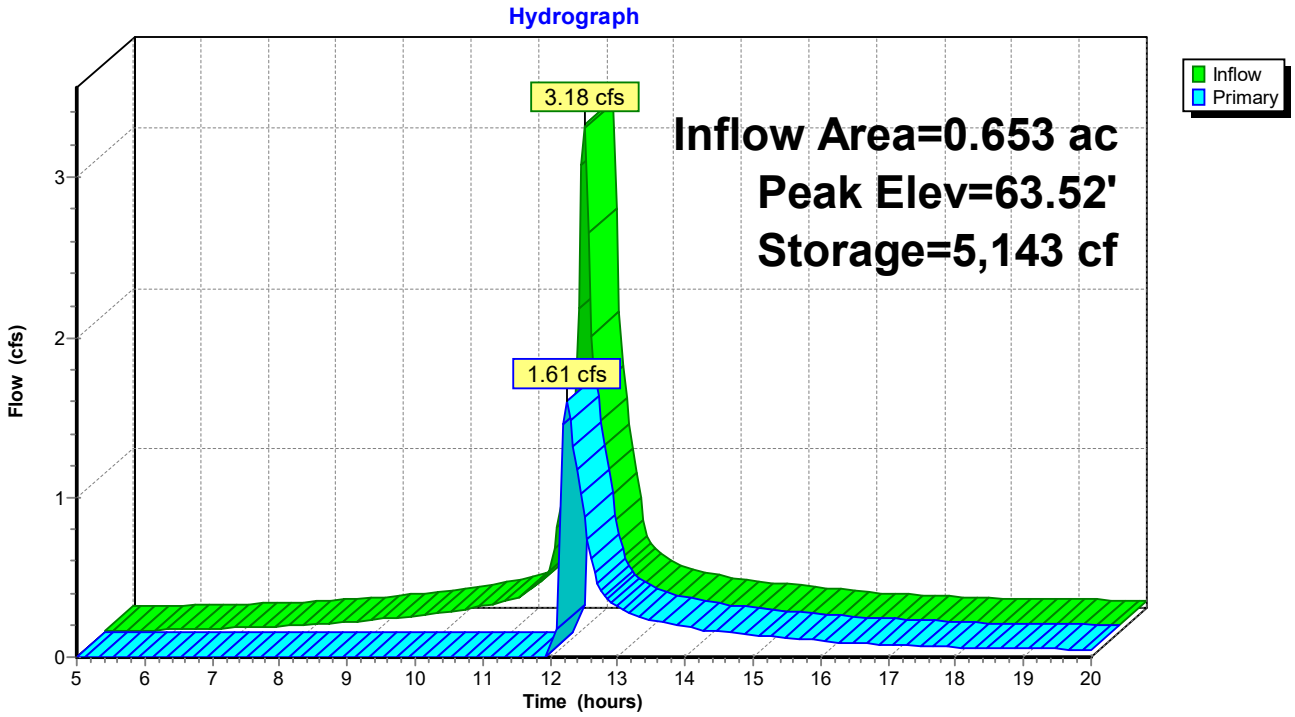
Volume	Invert	Avail.Storage	Storage Description
#1	59.50'	7,769 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
59.50	1,719	0.0	0	0
60.00	1,719	33.0	284	284
60.50	1,719	33.0	284	567
61.00	1,719	33.0	284	851
61.50	1,719	33.0	284	1,135
62.00	1,719	100.0	860	1,994
63.00	2,182	100.0	1,951	3,945
64.00	2,670	100.0	2,426	6,371
64.50	2,923	100.0	1,398	7,769

Device	Routing	Invert	Outlet Devices
#1	Primary	63.33'	**120.0 deg x 6.0' long x 1.17' rise Sharp-Crested Vee/Trap Weir** Cv= 2.48 (C= 3.10)

Primary OutFlow Max=1.59 cfs @ 12.25 hrs HW=63.52' (Free Discharge)
↑—**1=Sharp-Crested Vee/Trap Weir** (Weir Controls 1.59 cfs @ 1.33 fps)

Pond UF-2: UF 2


Hydrograph
3.18 cfs
1.61 cfs
Inflow Area=0.653 ac
Peak Elev=63.52'
Storage=5,143 cf
Inflow
Primary
Flow (cfs)
Time (hours)
0
1
2
3
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20

Summary for Pond UF-3: UF 3

Inflow Area = 0.958 ac, 54.43% Impervious, Inflow Depth > 3.81" for 25-Year event
Inflow = 4.33 cfs @ 12.09 hrs, Volume= 0.304 af
Outflow = 0.89 cfs @ 12.52 hrs, Volume= 0.128 af, Atten= 79%, Lag= 26.1 min
Primary = 0.89 cfs @ 12.52 hrs, Volume= 0.128 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 63.38' @ 12.52 hrs Surf.Area= 3,918 sf Storage= 8,129 cf

Plug-Flow detention time= 208.6 min calculated for 0.128 af (42% of inflow)
Center-of-Mass det. time= 114.9 min (881.6 - 766.7)

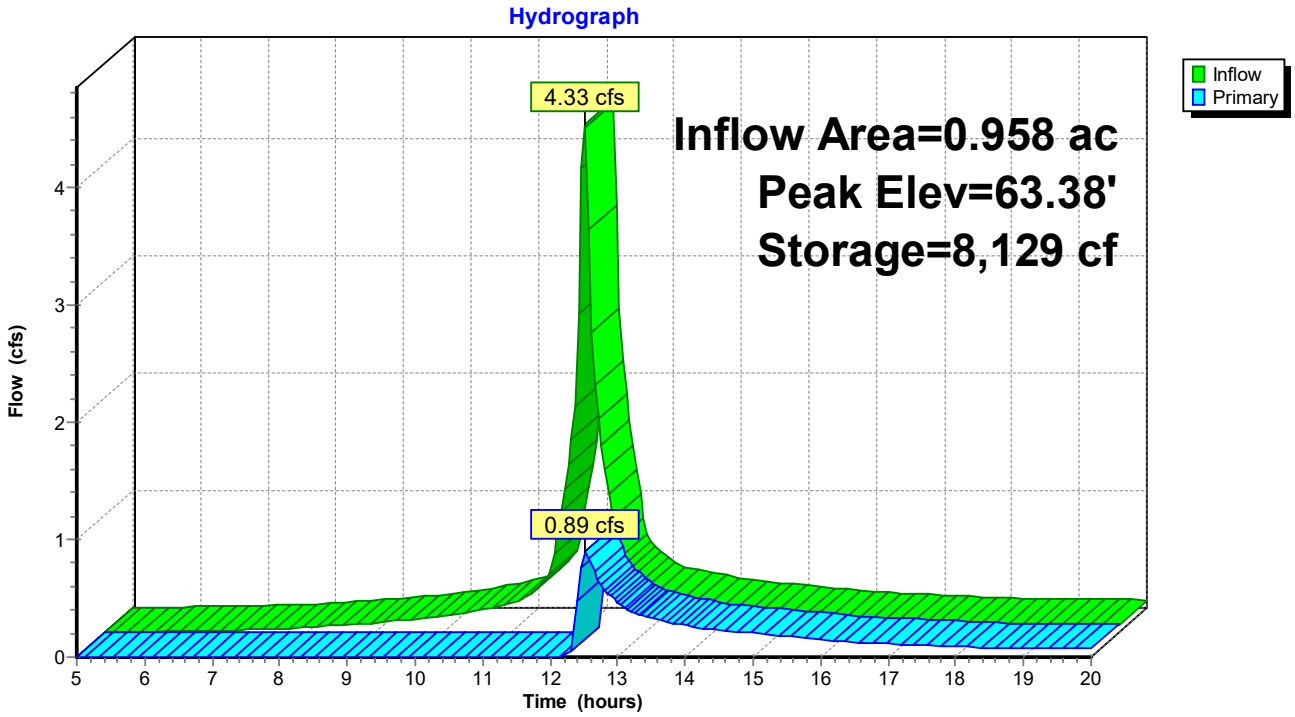
Volume	Invert	Avail.Storage	Storage Description
#1	59.50'	12,991 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
59.50	2,939	0.0	0	0
60.00	2,939	33.0	485	485
60.50	2,939	33.0	485	970
61.00	2,939	33.0	485	1,455
61.50	2,939	33.0	485	1,940
62.00	2,939	100.0	1,470	3,409
63.00	3,642	100.0	3,291	6,700
64.00	4,371	100.0	4,007	10,706
64.50	4,770	100.0	2,285	12,991

Device	Routing	Invert	Outlet Devices
#1	Primary	63.25'	**120.0 deg x 6.0' long x 1.25' rise Sharp-Crested Vee/Trap Weir** Cv= 2.48 (C= 3.10)

Primary OutFlow Max=0.86 cfs @ 12.52 hrs HW=63.38' (Free Discharge)
↑—**1=Sharp-Crested Vee/Trap Weir** (Weir Controls 0.86 cfs @ 1.09 fps)

Pond UF-3: UF 3


Hydrograph
4.33 cfs
0.89 cfs
Inflow Area=0.958 ac
Peak Elev=63.38'
Storage=8,129 cf
Inflow
Primary
Flow (cfs)
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
Time (hours)

Clippership Landing

Inlet Forebay Sizing

BIO-1	
Contributing Sanded Area	0.195363 ac
500lbs/acre	97.68136 lbs
90lbs/cuft	1.09 cuft
Volume Required (10 storms)	10.85 cuft

USF-2	
Contributing Sanded Area	0.450826 ac
500lbs/acre	225.4132 lbs
90lbs/cuft	2.50 cuft
Volume Required (10 storms)	25.05 cuft

USF-3	
Contributing Sanded Area	0.521327 ac
500lbs/acre	260.6635 lbs
90lbs/cuft	2.90 cuft
Volume Required (10 storms)	28.96 cuft

BIO-11	
Contributing Sanded Area	0.140266 ac
500lbs/acre	70.13315 lbs
90lbs/cuft	0.78 cuft
Volume Required (10 storms)	7.79 cuft

USF-13	
Contributing Sanded Area	0.4573 ac
500lbs/acre	228.6501 lbs
90lbs/cuft	2.54 cuft
Volume Required (10 storms)	25.41 cuft

Proposed Pre-treament BMPs

1 Grass Swale -2'x130'x 3" deep	65 cuft
TOTAL	65
YEARS OF CAPACITY	6.0

1 No. 8'dia. forebay 1.0ft deep	50.26 cuft
3 No. 4' dia catch basins with 2ft sumps	75.4 cuft
TOTAL	125.66
YEARS OF CAPACITY	5.0

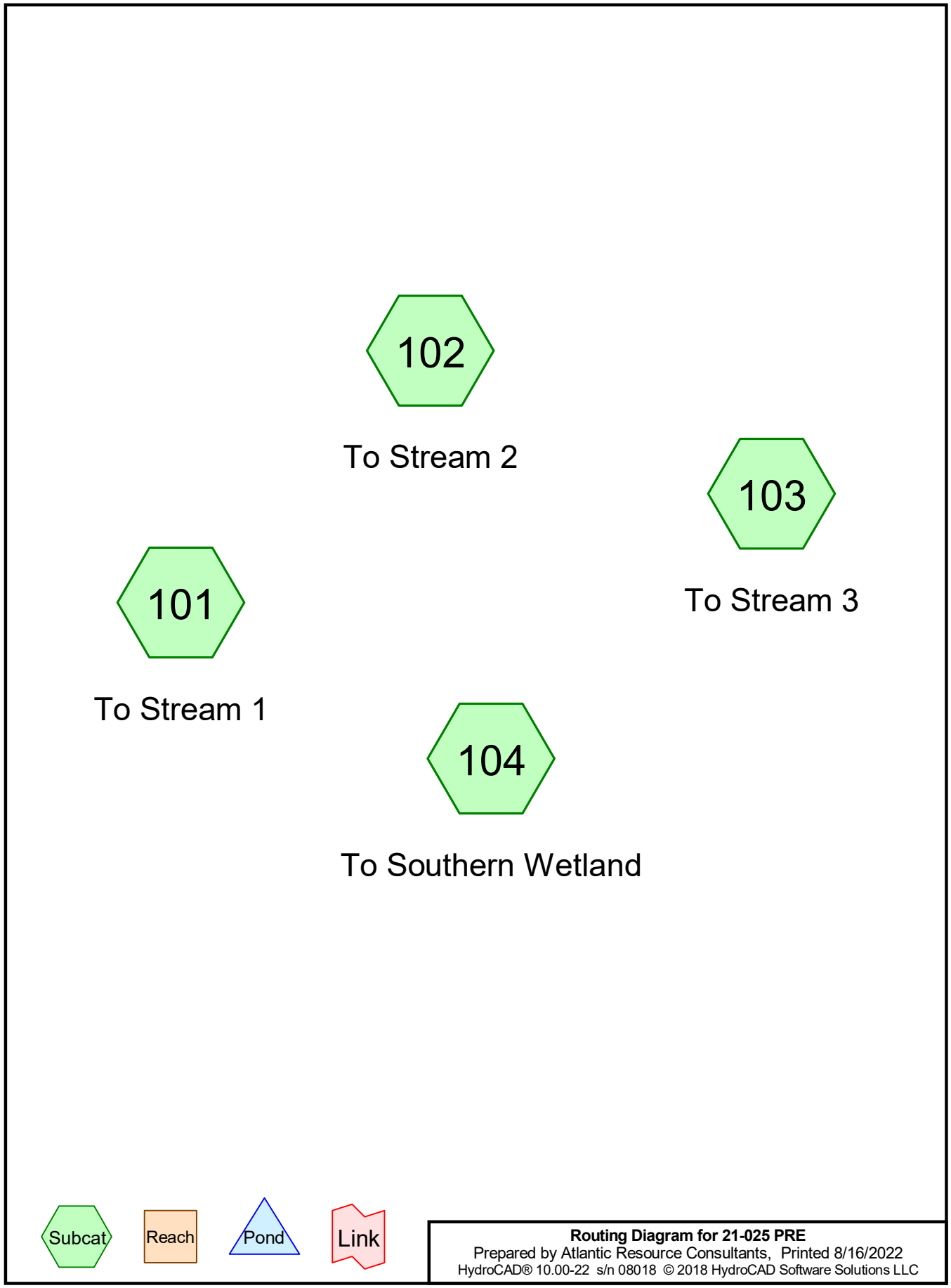
1 No. 8'dia. forebay 1.0ft deep	50.26 cuft
5 No. 4' dia catch basins with 2ft sumps	125.66 cuft
TOTAL	175.92
YEARS OF CAPACITY	6.1

2 No. 8'dia. forebay 0.5ft deep	50.26 cuft
2 No. 4' dia catch basins with 2ft sumps	50.24 cuft
TOTAL	100.5
YEARS OF CAPACITY	12.9

1 No. 14'dia. forebay 1.0ft deep	154 cuft
1 No. 8'dia. forebay 1.0ft deep	50.26 cuft
2 No. 2' TYPE F catch basins with 2ft sump	16 cuft
TOTAL	220.26
YEARS OF CAPACITY	8.7

ATTACHMENT C -HYDROCAD RUNOFF AND ROUTING CALCULATIONS

ATTACHMENT C (I) -PRE-DEVELOPMENT MODEL RESULTS



Routing Diagram for 21-025 PRE
Prepared by Atlantic Resource Consultants, Printed 8/16/2022

Time span=0.00-40.00 hrs, dt=0.05 hrs, 801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 101: To Stream 1 Runoff Area=239,204 sf 0.00% Impervious Runoff Depth=0.82"
Flow Length=1,090' Tc=18.0 min CN=71 Runoff=3.29 cfs 0.375 af

Subcatchment 102: To Stream 2 Runoff Area=251,658 sf 0.00% Impervious Runoff Depth=1.14"
Flow Length=1,000' Tc=23.8 min CN=77 Runoff=4.66 cfs 0.549 af

Subcatchment 103: To Stream 3 Runoff Area=248,529 sf 0.00% Impervious Runoff Depth=1.08"
Flow Length=944' Tc=26.9 min CN=76 Runoff=4.11 cfs 0.515 af

Subcatchment 104: To Southern Wetland Runoff Area=115,187 sf 0.00% Impervious Runoff Depth=1.14"
Flow Length=400' Tc=20.2 min CN=77 Runoff=2.28 cfs 0.251 af

Total Runoff Area = 19.618 ac Runoff Volume = 1.690 af Average Runoff Depth = 1.03"
100.00% Pervious = 19.618 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 101: To Stream 1

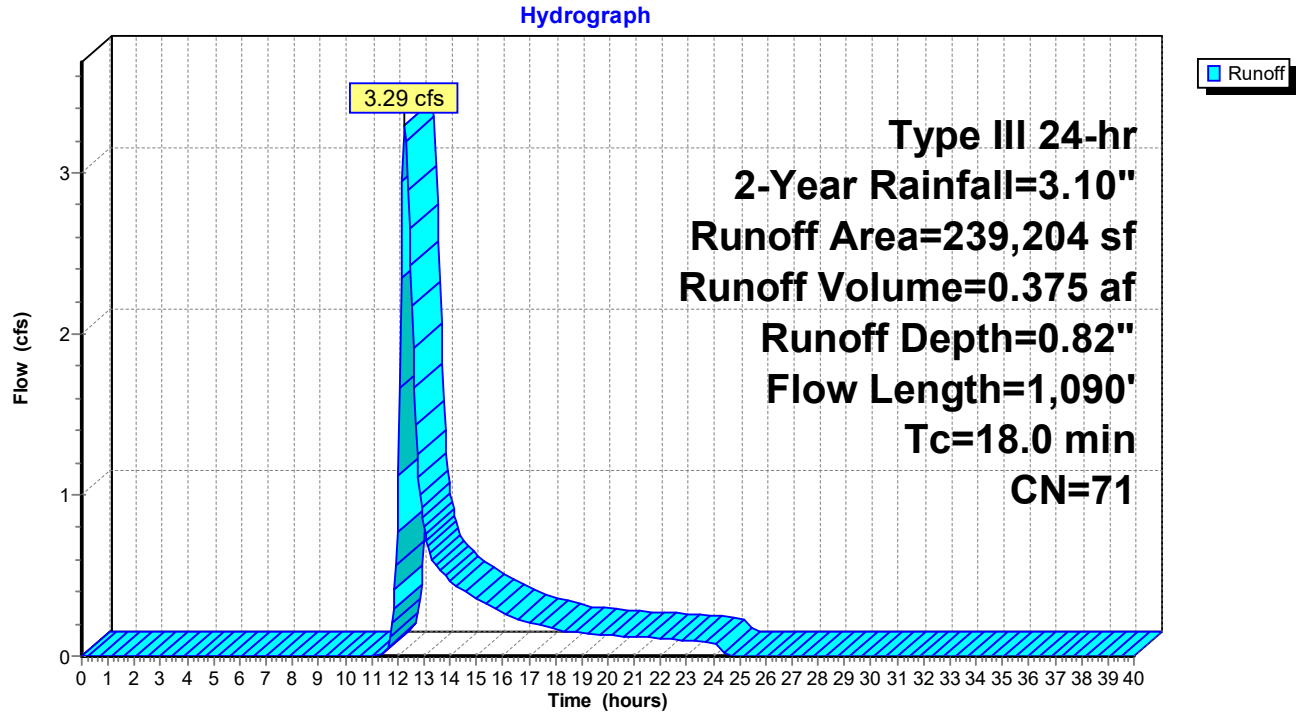
Runoff = 3.29 cfs @ 12.28 hrs, Volume= 0.375 af, Depth= 0.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-40.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
188,439	70	Woods, Good, HSG C
44,431	74	>75% Grass cover, Good, HSG C
6,334	77	Woods, Good, HSG D
239,204	71	Weighted Average
239,204		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.9	60	0.0410	0.09		**Sheet Flow, Woods** Woods: Light underbrush n= 0.400 P2= 3.10"
3.2	260	0.0720	1.34		**Shallow Concentrated Flow, Woods** Woodland Kv= 5.0 fps
3.9	770	0.0087	3.32	16.62	**Channel Flow, Stream** Area= 5.0 sf Perim= 6.5' r= 0.77' n= 0.035
18.0	1,090	Total			

Subcatchment 101: To Stream 1



Summary for Subcatchment 102: To Stream 2

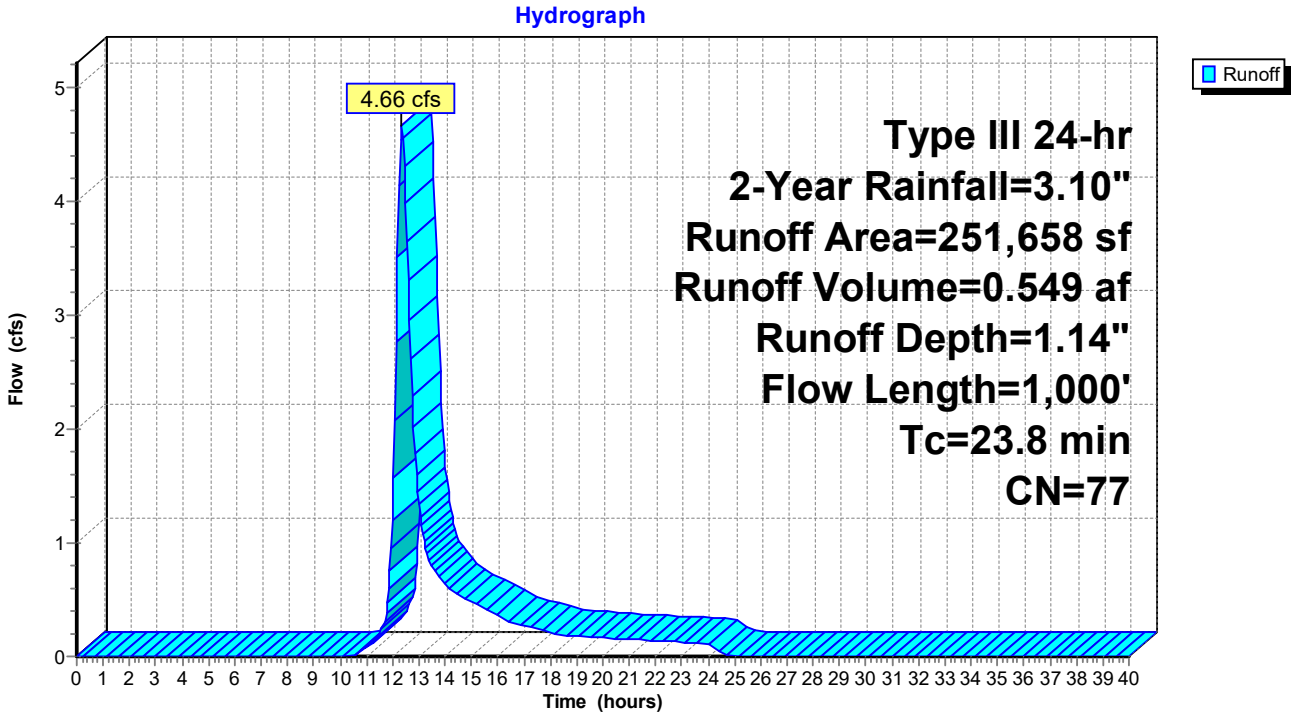
Runoff = 4.66 cfs @ 12.35 hrs, Volume= 0.549 af, Depth= 1.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-40.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
214,262	77	Woods, Good, HSG D
7,842	70	Woods, Good, HSG C
14,521	74	>75% Grass cover, Good, HSG C
15,033	80	>75% Grass cover, Good, HSG D
251,658	77	Weighted Average
251,658		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	60	0.0550	0.10		**Sheet Flow, Woods** Woods: Light underbrush n= 0.400 P2= 3.10"
13.3	590	0.0220	0.74		**Shallow Concentrated Flow, Woods/Wetland** Woodland Kv= 5.0 fps
0.8	350	0.0570	7.74	15.47	**Channel Flow, Drainageway/Stream** Area= 2.0 sf Perim= 3.0' r= 0.67' n= 0.035
23.8	1,000	Total			

Subcatchment 102: To Stream 2



Summary for Subcatchment 103: To Stream 3

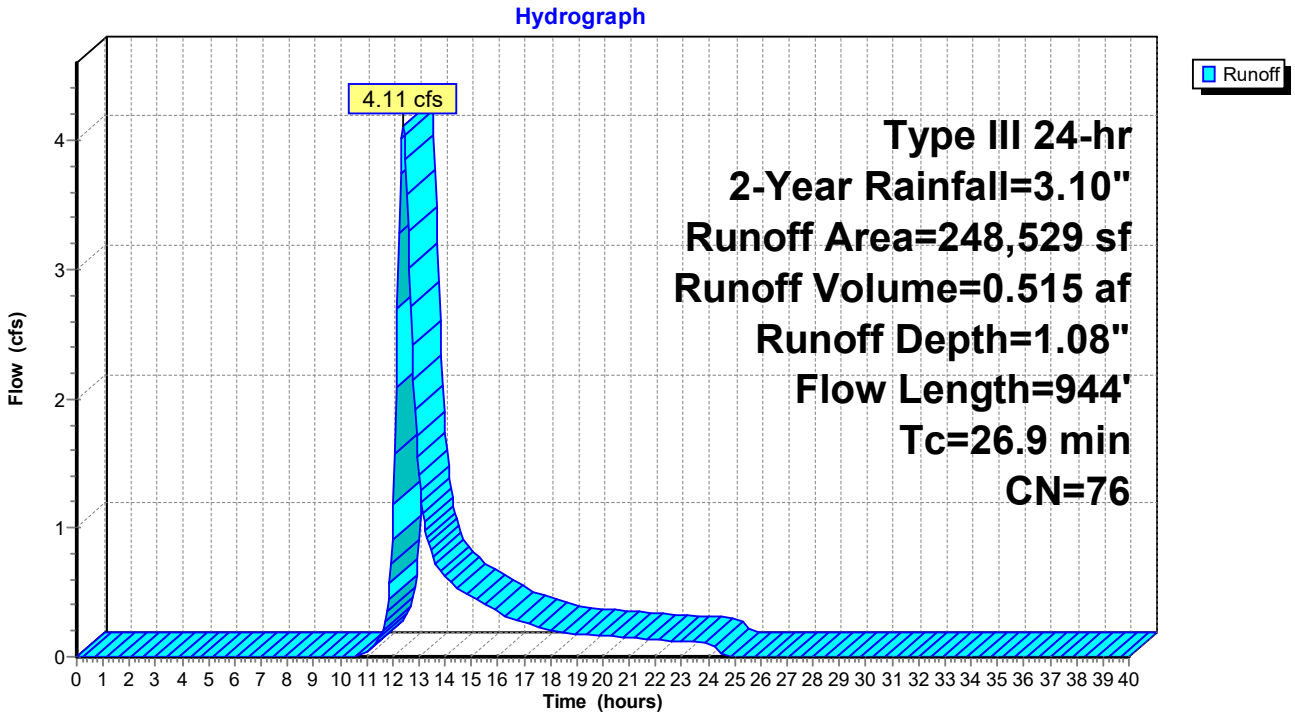
Runoff = 4.11 cfs @ 12.40 hrs, Volume= 0.515 af, Depth= 1.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-40.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
226,963	77	Woods, Good, HSG D
21,566	70	Woods, Good, HSG C
248,529	76	Weighted Average
248,529		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5	60	0.0200	0.07		**Sheet Flow, Woods** Woods: Light underbrush n= 0.400 P2= 3.10"
11.7	580	0.0275	0.83		**Shallow Concentrated Flow, Woods/Wetland** Woodland Kv= 5.0 fps
0.7	304	0.0550	7.60	15.20	**Channel Flow, Srtream** Area= 2.0 sf Perim= 3.0' r= 0.67' n= 0.035
26.9	944	Total			

Subcatchment 103: To Stream 3



Summary for Subcatchment 104: To Southern Wetland

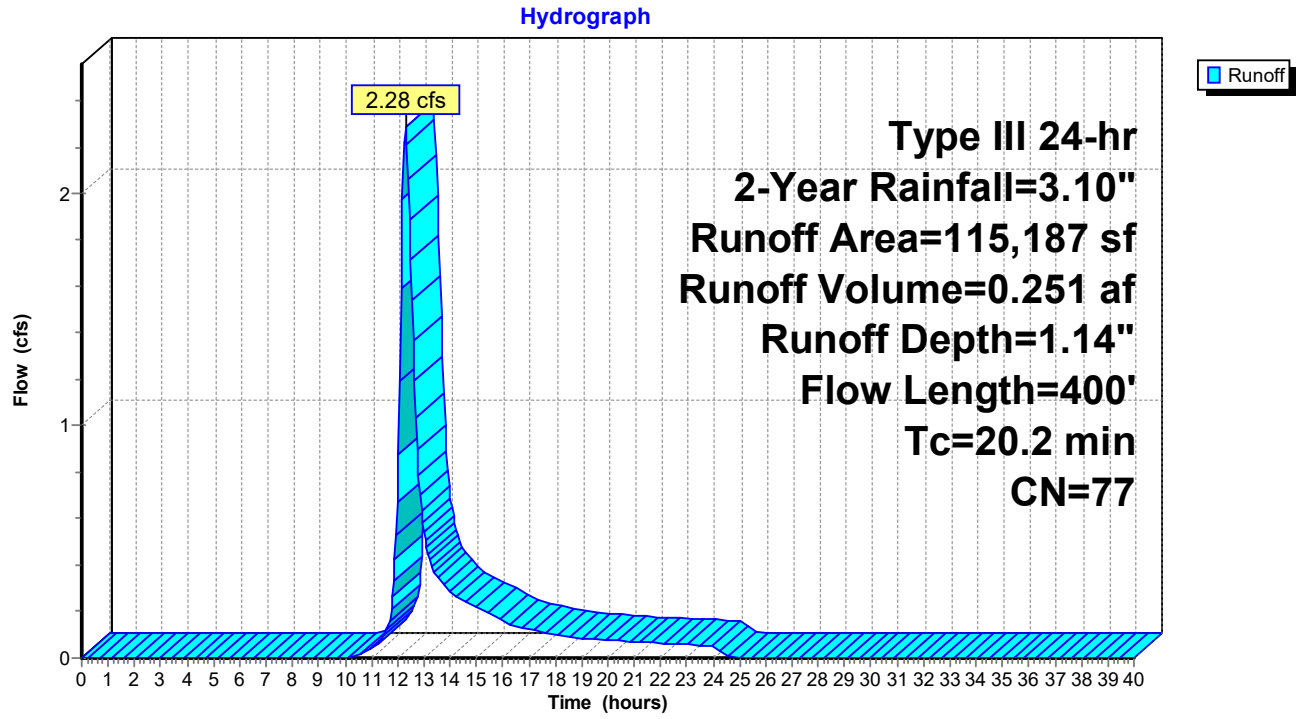
Runoff = 2.28 cfs @ 12.30 hrs, Volume= 0.251 af, Depth= 1.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-40.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
112,891	77	Woods, Good, HSG D
2,296	70	Woods, Good, HSG C
115,187	77	Weighted Average
115,187		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.3	60	0.0250	0.08		**Sheet Flow, Woods** Woods: Light underbrush n= 0.400 P2= 3.10"
6.9	340	0.0270	0.82		**Shallow Concentrated Flow, Woods/Wetland** Woodland Kv= 5.0 fps
20.2	400	Total			

Subcatchment 104: To Southern Wetland



Time span=0.00-40.00 hrs, dt=0.05 hrs, 801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 101: To Stream 1 Runoff Area=239,204 sf 0.00% Impervious Runoff Depth=1.75"
Flow Length=1,090' Tc=18.0 min CN=71 Runoff=7.66 cfs 0.799 af

Subcatchment 102: To Stream 2 Runoff Area=251,658 sf 0.00% Impervious Runoff Depth=2.21"
Flow Length=1,000' Tc=23.8 min CN=77 Runoff=9.31 cfs 1.064 af

Subcatchment 103: To Stream 3 Runoff Area=248,529 sf 0.00% Impervious Runoff Depth=2.13"
Flow Length=944' Tc=26.9 min CN=76 Runoff=8.38 cfs 1.013 af

Subcatchment 104: To Southern Wetland Runoff Area=115,187 sf 0.00% Impervious Runoff Depth=2.21"
Flow Length=400' Tc=20.2 min CN=77 Runoff=4.56 cfs 0.487 af

Total Runoff Area = 19.618 ac Runoff Volume = 3.363 af Average Runoff Depth = 2.06"
100.00% Pervious = 19.618 ac 0.00% Impervious = 0.000 ac

Time span=0.00-40.00 hrs, dt=0.05 hrs, 801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 101: To Stream 1 Runoff Area=239,204 sf 0.00% Impervious Runoff Depth=2.50"
Flow Length=1,090' Tc=18.0 min CN=71 Runoff=11.18 cfs 1.145 af

Subcatchment 102: To Stream 2 Runoff Area=251,658 sf 0.00% Impervious Runoff Depth=3.05"
Flow Length=1,000' Tc=23.8 min CN=77 Runoff=12.89 cfs 1.467 af

Subcatchment 103: To Stream 3 Runoff Area=248,529 sf 0.00% Impervious Runoff Depth=2.95"
Flow Length=944' Tc=26.9 min CN=76 Runoff=11.69 cfs 1.404 af

Subcatchment 104: To Southern Wetland Runoff Area=115,187 sf 0.00% Impervious Runoff Depth=3.05"
Flow Length=400' Tc=20.2 min CN=77 Runoff=6.32 cfs 0.671 af

Total Runoff Area = 19.618 ac Runoff Volume = 4.687 af Average Runoff Depth = 2.87"
100.00% Pervious = 19.618 ac 0.00% Impervious = 0.000 ac

Time span=0.00-40.00 hrs, dt=0.05 hrs, 801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 101: To Stream 1 Runoff Area=239,204 sf 0.00% Impervious Runoff Depth=3.31"
Flow Length=1,090' Tc=18.0 min CN=71 Runoff=14.89 cfs 1.513 af

Subcatchment 102: To Stream 2 Runoff Area=251,658 sf 0.00% Impervious Runoff Depth=3.92"
Flow Length=1,000' Tc=23.8 min CN=77 Runoff=16.57 cfs 1.887 af

Subcatchment 103: To Stream 3 Runoff Area=248,529 sf 0.00% Impervious Runoff Depth=3.82"
Flow Length=944' Tc=26.9 min CN=76 Runoff=15.13 cfs 1.814 af

Subcatchment 104: To Southern Wetland Runoff Area=115,187 sf 0.00% Impervious Runoff Depth=3.92"
Flow Length=400' Tc=20.2 min CN=77 Runoff=8.12 cfs 0.864 af

Total Runoff Area = 19.618 ac Runoff Volume = 6.078 af Average Runoff Depth = 3.72"
100.00% Pervious = 19.618 ac 0.00% Impervious = 0.000 ac

Time span=0.00-40.00 hrs, dt=0.05 hrs, 801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 101: To Stream 1 Runoff Area=239,204 sf 0.00% Impervious Runoff Depth=0.49"
Flow Length=1,090' Tc=18.0 min CN=71 Runoff=1.76 cfs 0.225 af

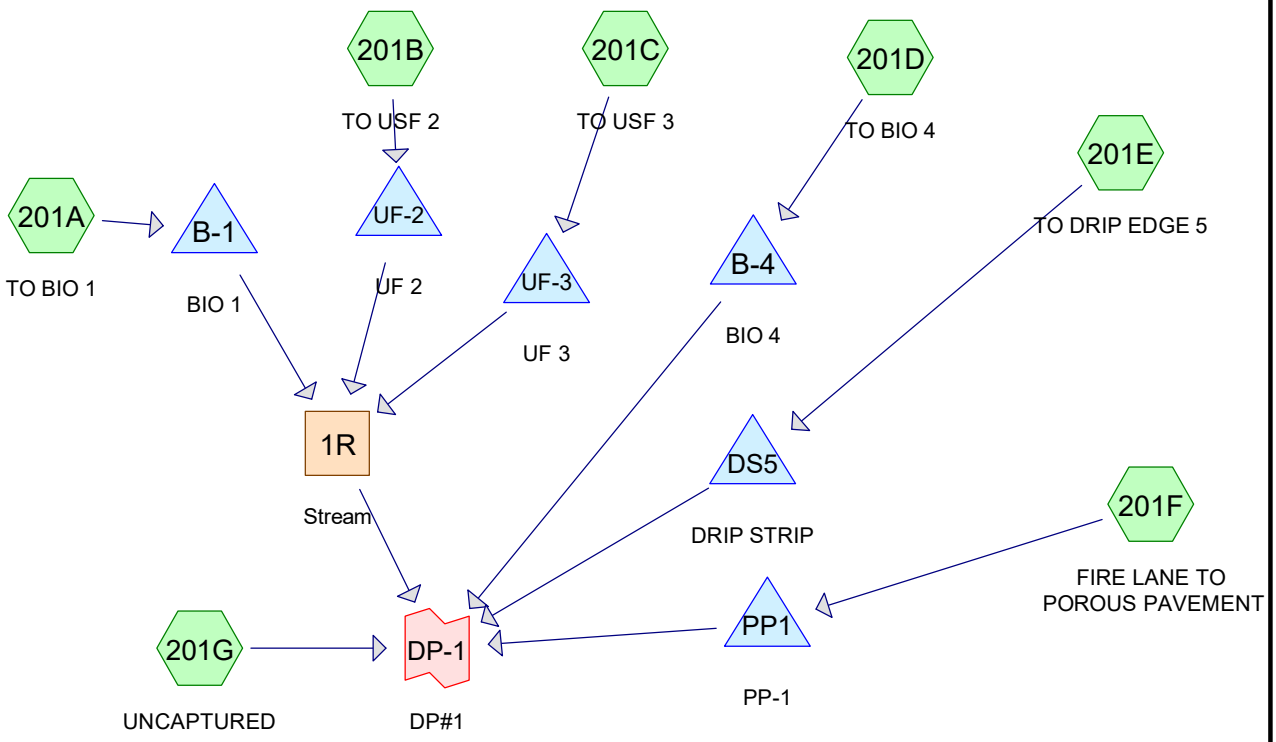
Subcatchment 102: To Stream 2 Runoff Area=251,658 sf 0.00% Impervious Runoff Depth=0.74"
Flow Length=1,000' Tc=23.8 min CN=77 Runoff=2.90 cfs 0.356 af

Subcatchment 103: To Stream 3 Runoff Area=248,529 sf 0.00% Impervious Runoff Depth=0.69"
Flow Length=944' Tc=26.9 min CN=76 Runoff=2.51 cfs 0.330 af

Subcatchment 104: To Southern Wetland Runoff Area=115,187 sf 0.00% Impervious Runoff Depth=0.74"
Flow Length=400' Tc=20.2 min CN=77 Runoff=1.42 cfs 0.163 af

Total Runoff Area = 19.618 ac Runoff Volume = 1.075 af Average Runoff Depth = 0.66"
100.00% Pervious = 19.618 ac 0.00% Impervious = 0.000 ac

ATTACHMENT C (II) -POST-DEVELOPMENT MODEL RESULTS



Subcat Reach Pond Link

Routing Diagram for 21-025 POST-201
Prepared by Atlantic Resource Consultants, Printed 8/25/2022

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 201A: TO BIO 1 Runoff Area=22,466 sf 37.88% Impervious Runoff Depth=1.46"
Tc=6.0 min CN=82 Runoff=0.86 cfs 0.063 af

Subcatchment 201B: TO USF 2 Runoff Area=28,445 sf 69.04% Impervious Runoff Depth=2.16"
Tc=6.0 min CN=91 Runoff=1.60 cfs 0.118 af

Subcatchment 201C: TO USF 3 Runoff Area=41,718 sf 54.43% Impervious Runoff Depth=1.83"
Tc=6.0 min CN=87 Runoff=2.01 cfs 0.146 af

Subcatchment 201D: TO BIO 4 Runoff Area=11,351 sf 21.10% Impervious Runoff Depth=1.26"
Tc=6.0 min CN=79 Runoff=0.37 cfs 0.027 af

Subcatchment 201E: TO DRIP EDGE 5 Runoff Area=24,579 sf 89.85% Impervious Runoff Depth=2.87"
Tc=6.0 min CN=98 Runoff=1.66 cfs 0.135 af

Subcatchment 201F: FIRE LANE TO POROUS Runoff Area=5,578 sf 100.00% Impervious Runoff Depth=2.87"
Tc=6.0 min CN=98 Runoff=0.38 cfs 0.031 af

Subcatchment 201G: UNCAPTURED Runoff Area=152,882 sf 0.50% Impervious Runoff Depth=0.82"
Flow Length=940' Tc=13.0 min CN=71 Runoff=2.38 cfs 0.239 af

Reach 1R: Stream Avg. Flow Depth=0.06' Max Vel=0.61 fps Inflow=0.16 cfs 0.300 af
n=0.035 L=687.0' S=0.0087 '/' Capacity=28.86 cfs Outflow=0.16 cfs 0.299 af

Pond B-1: BIO 1 Peak Elev=67.15' Storage=1,881 cf Inflow=0.86 cfs 0.063 af
Outflow=0.02 cfs 0.056 af

Pond B-4: BIO 4 Peak Elev=72.51' Storage=773 cf Inflow=0.37 cfs 0.027 af
Outflow=0.02 cfs 0.025 af

Pond DS5: DRIP STRIP Peak Elev=171.77' Storage=1,308 cf Inflow=1.66 cfs 0.135 af
Primary=0.54 cfs 0.135 af Secondary=0.00 cfs 0.000 af Outflow=0.54 cfs 0.135 af

Pond PP1: PP-1 Peak Elev=169.88' Storage=325 cf Inflow=0.38 cfs 0.031 af
Primary=0.19 cfs 0.028 af Secondary=0.00 cfs 0.000 af Outflow=0.19 cfs 0.028 af

Pond UF-2: UF 2 Peak Elev=62.85' Storage=3,622 cf Inflow=1.60 cfs 0.118 af
Outflow=0.04 cfs 0.108 af

Pond UF-3: UF 3 Peak Elev=62.19' Storage=3,985 cf Inflow=2.01 cfs 0.146 af
Outflow=0.09 cfs 0.136 af

Link DP-1: DP#1 Inflow=3.15 cfs 0.727 af
Primary=3.15 cfs 0.727 af

Total Runoff Area = 6.589 ac Runoff Volume = 0.759 af Average Runoff Depth = 1.38"
71.54% Pervious = 4.714 ac 28.46% Impervious = 1.875 ac

Summary for Subcatchment 201A: TO BIO 1

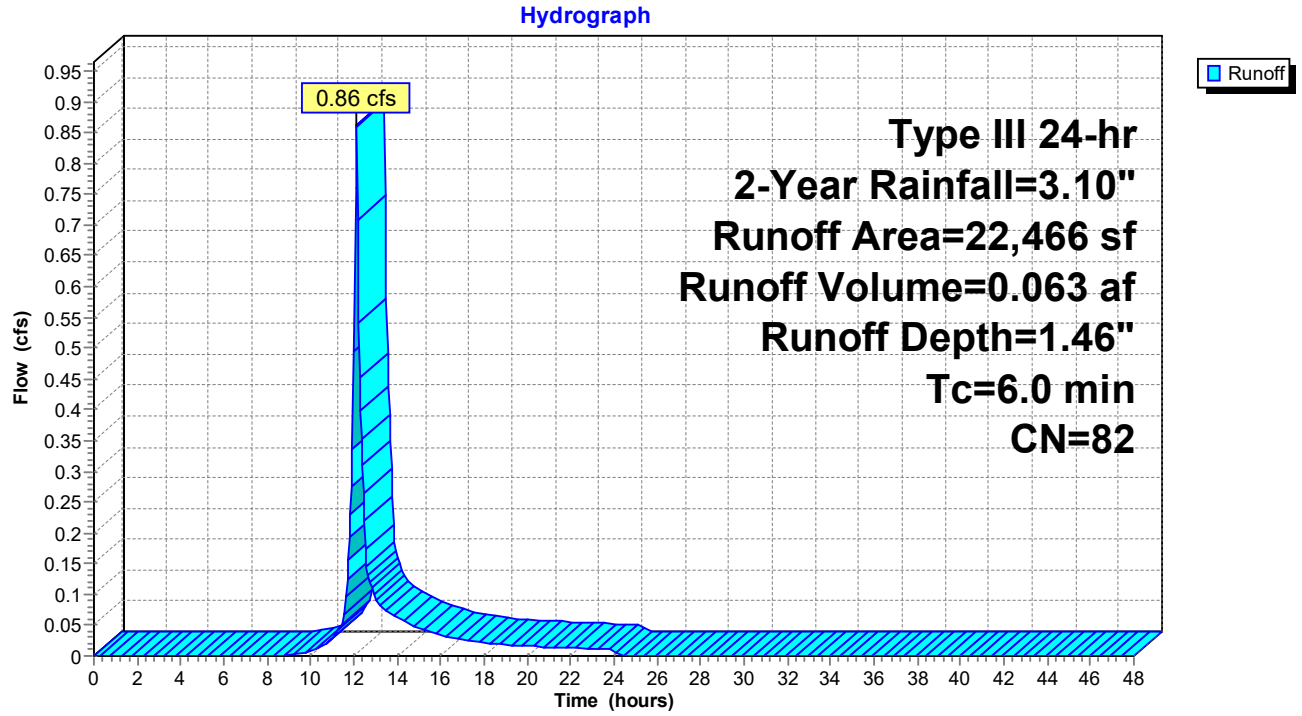
Runoff = 0.86 cfs @ 12.09 hrs, Volume= 0.063 af, Depth= 1.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
	5,820	74	>75% Grass cover, Good, HSG C
	1,650	80	>75% Grass cover, Good, HSG D
*	8,510	98	Paved parking,
	6,486	70	Woods, Good, HSG C
	22,466	82	Weighted Average
	13,956		62.12% Pervious Area
	8,510		37.88% Impervious Area

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

Subcatchment 201A: TO BIO 1



Summary for Subcatchment 201B: TO USF 2

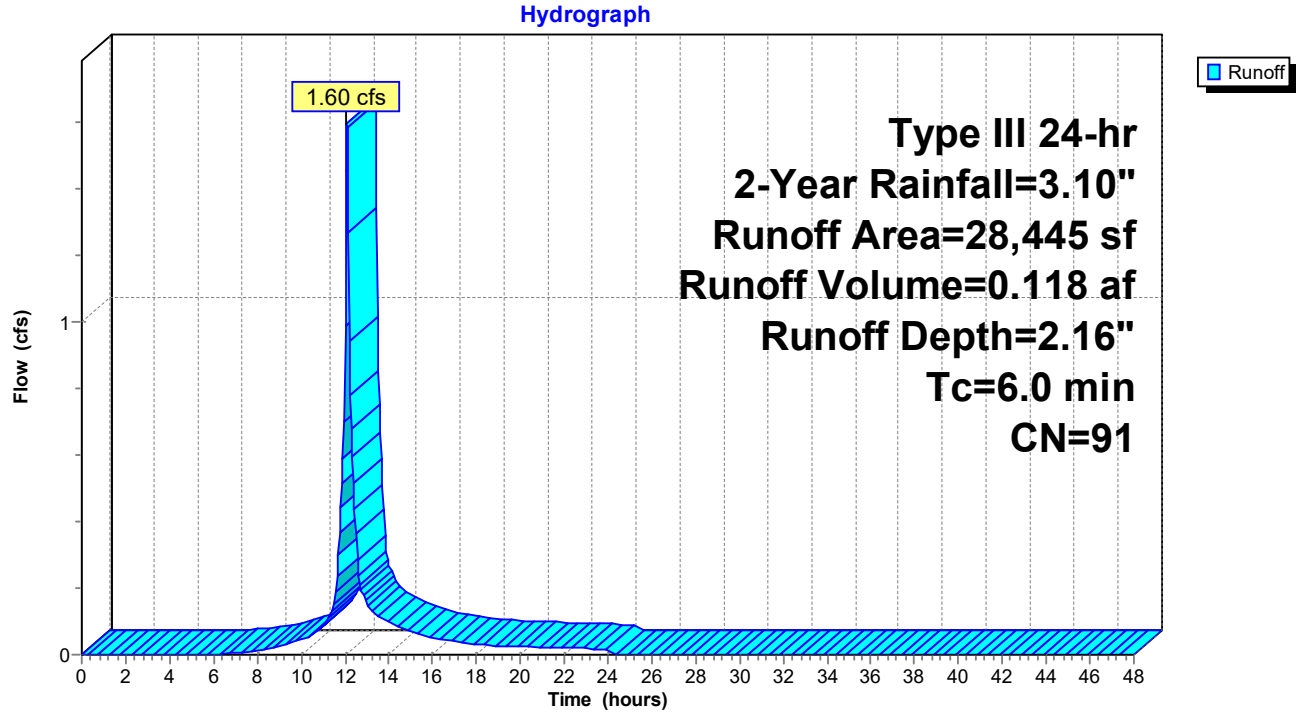
Runoff = 1.60 cfs @ 12.09 hrs, Volume= 0.118 af, Depth= 2.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
	7,953	74	>75% Grass cover, Good, HSG C
	854	80	>75% Grass cover, Good, HSG D
*	19,638	98	Paved parking
	28,445	91	Weighted Average
	8,807		30.96% Pervious Area
	19,638		69.04% Impervious Area

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

Subcatchment 201B: TO USF 2



Summary for Subcatchment 201C: TO USF 3

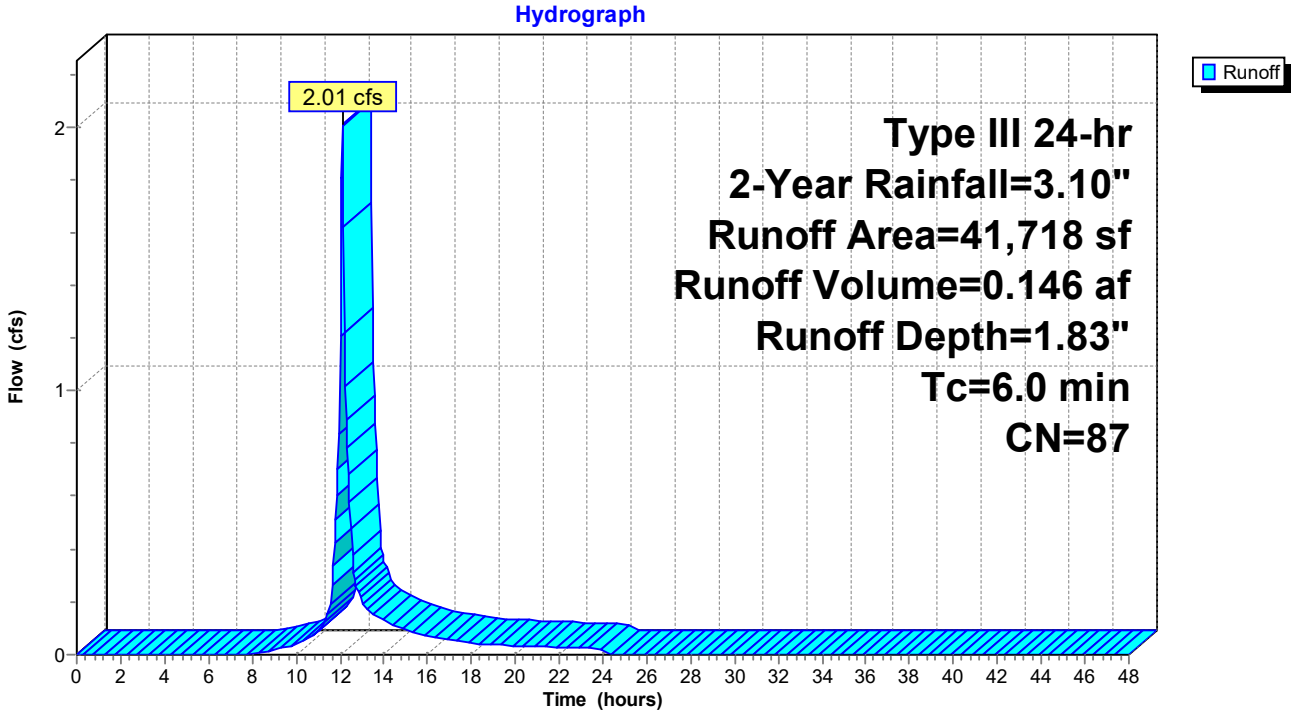
Runoff = 2.01 cfs @ 12.09 hrs, Volume= 0.146 af, Depth= 1.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
	16,398	74	>75% Grass cover, Good, HSG C
	2,611	80	>75% Grass cover, Good, HSG D
*	22,709	98	Paved parking, walkways
	41,718	87	Weighted Average
	19,009		45.57% Pervious Area
	22,709		54.43% Impervious Area

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

Subcatchment 201C: TO USF 3



Summary for Subcatchment 201D: TO BIO 4

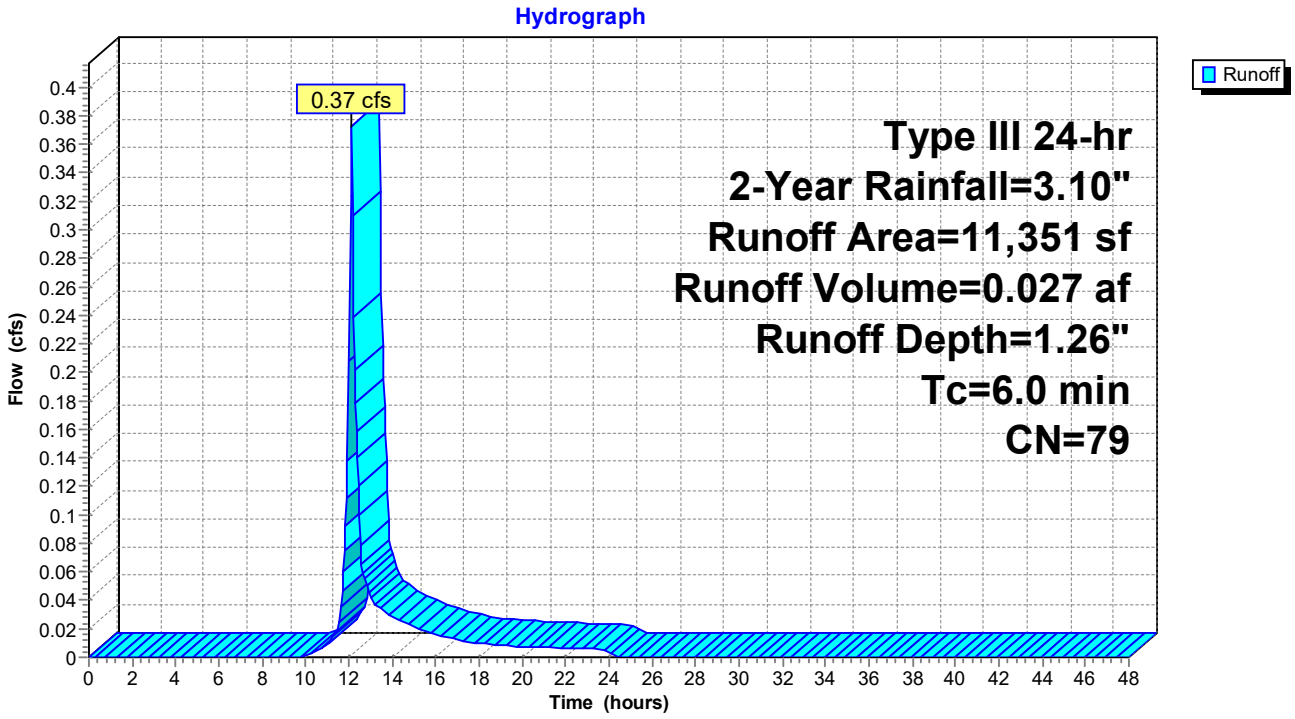
Runoff = 0.37 cfs @ 12.10 hrs, Volume= 0.027 af, Depth= 1.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
	8,956	74	>75% Grass cover, Good, HSG C
*	2,395	98	Paved patio
	11,351	79	Weighted Average
	8,956		78.90% Pervious Area
	2,395		21.10% Impervious Area

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

Subcatchment 201D: TO BIO 4



Summary for Subcatchment 201E: TO DRIP EDGE 5

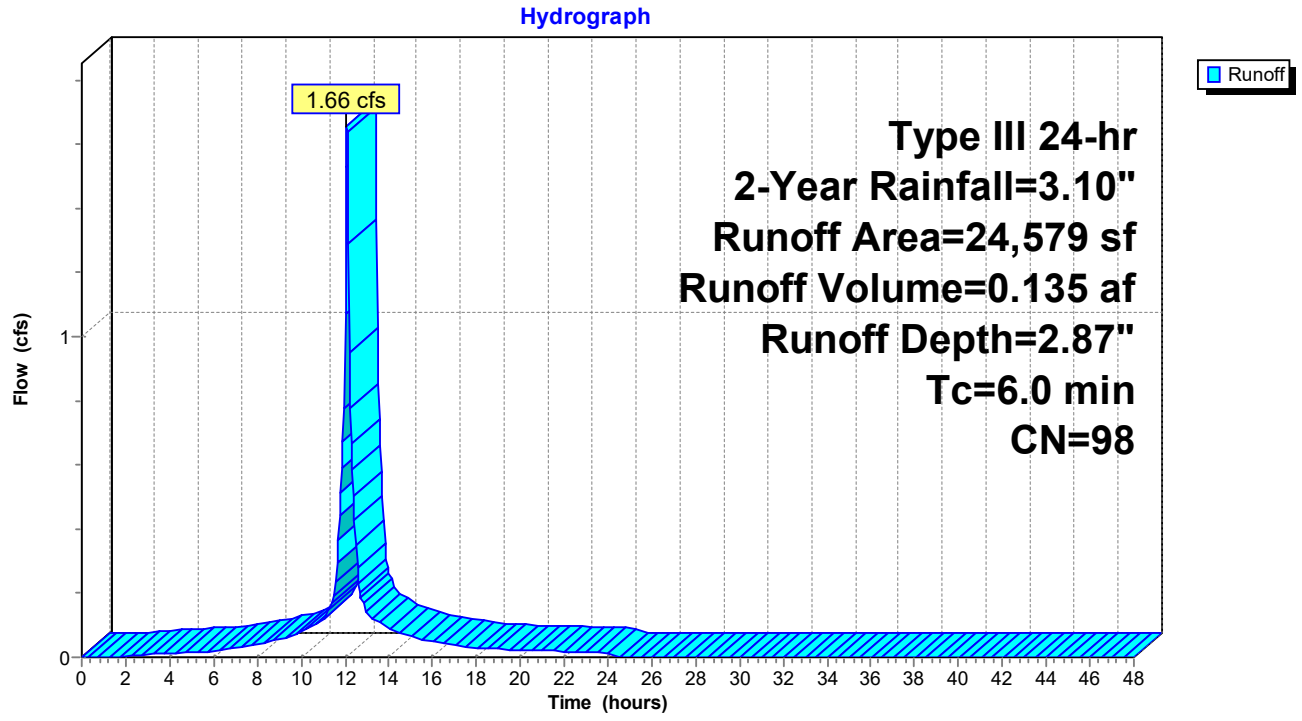
Runoff = 1.66 cfs @ 12.09 hrs, Volume= 0.135 af, Depth= 2.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
*	22,084	98	Roof
*	2,495	98	Drip Edge Surface, 0% imp, HSG C
	24,579	98	Weighted Average
	2,495		10.15% Pervious Area
	22,084		89.85% Impervious Area

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

Subcatchment 201E: TO DRIP EDGE 5



Summary for Subcatchment 201F: FIRE LANE TO POROUS PAVEMENT

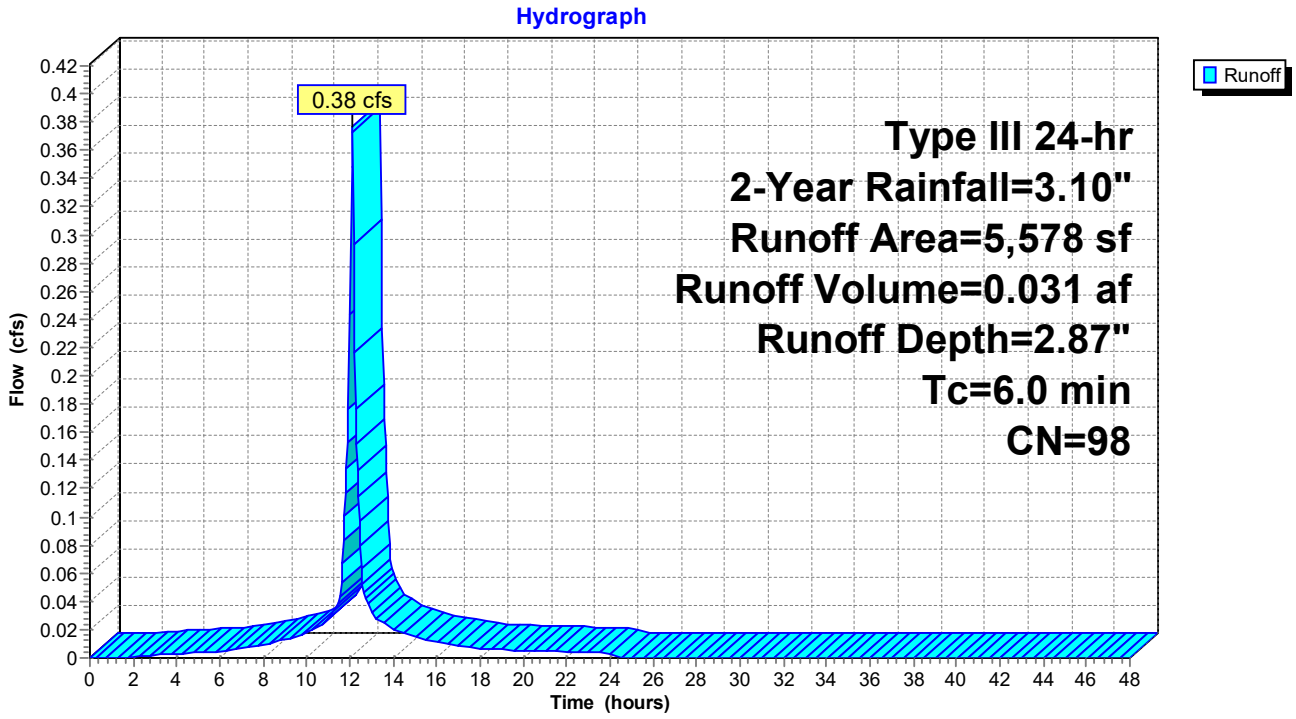
Runoff = 0.38 cfs @ 12.09 hrs, Volume= 0.031 af, Depth= 2.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
*	4,462	98	Pavement
*	1,116	98	Porous Pavement
	5,578	98	Weighted Average
	5,578		100.00% Impervious Area

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

Subcatchment 201F: FIRE LANE TO POROUS PAVEMENT



Summary for Subcatchment 201G: UNCAPTURED

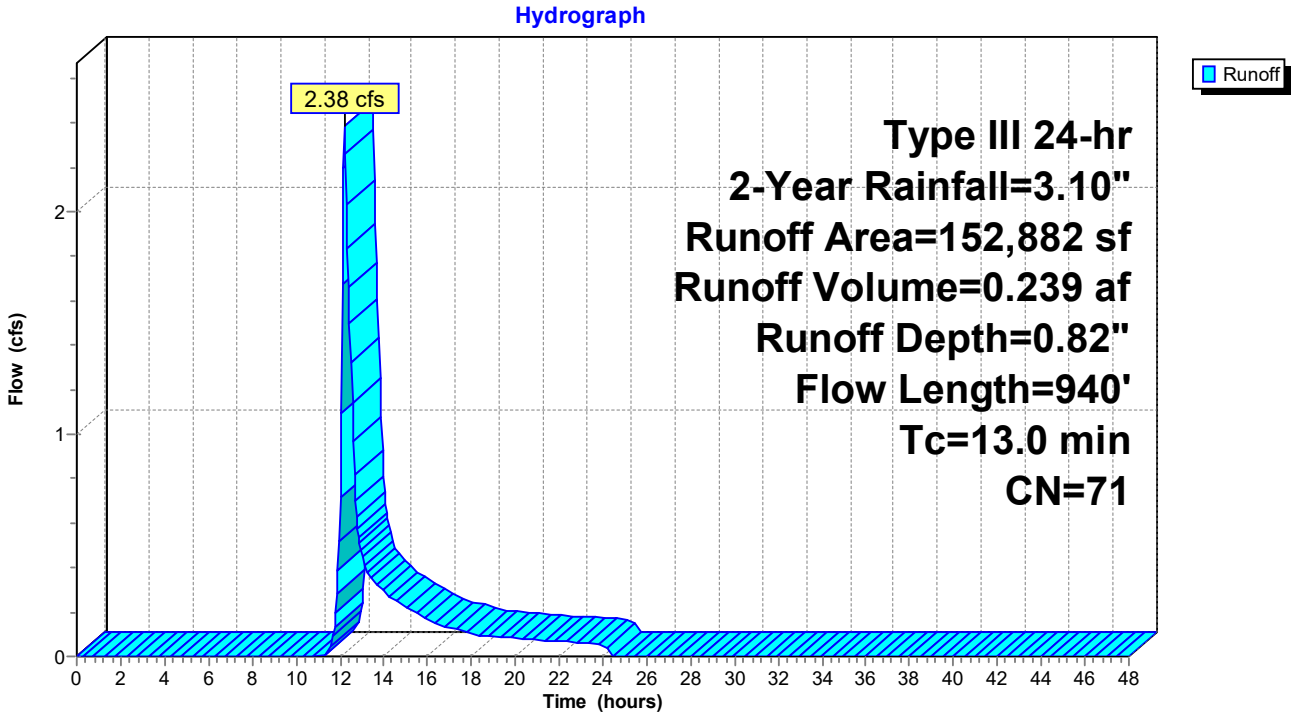
Runoff = 2.38 cfs @ 12.20 hrs, Volume= 0.239 af, Depth= 0.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
	32,098	74	>75% Grass cover, Good, HSG C
	120,024	70	Woods, Good, HSG C
*	760	98	Shed Roof
	152,882	71	Weighted Average
	152,122		99.50% Pervious Area
	760		0.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	60	0.0920	0.13		**Sheet Flow, Woods** Woods: Light underbrush n= 0.400 P2= 3.10"
1.2	110	0.0910	1.51		**Shallow Concentrated Flow, Woods** Woodland Kv= 5.0 fps
3.9	770	0.0087	3.32	16.62	**Channel Flow, Stream** Area= 5.0 sf Perim= 6.5' r= 0.77' n= 0.035
13.0	940	Total			

Subcatchment 201G: UNCAPTURED



Summary for Reach 1R: Stream

Inflow Area = 2.126 ac, 54.90% Impervious, Inflow Depth > 1.70" for 2-Year event
Inflow = 0.16 cfs @ 15.81 hrs, Volume= 0.300 af
Outflow = 0.16 cfs @ 16.33 hrs, Volume= 0.299 af, Atten= 0%, Lag= 31.2 min

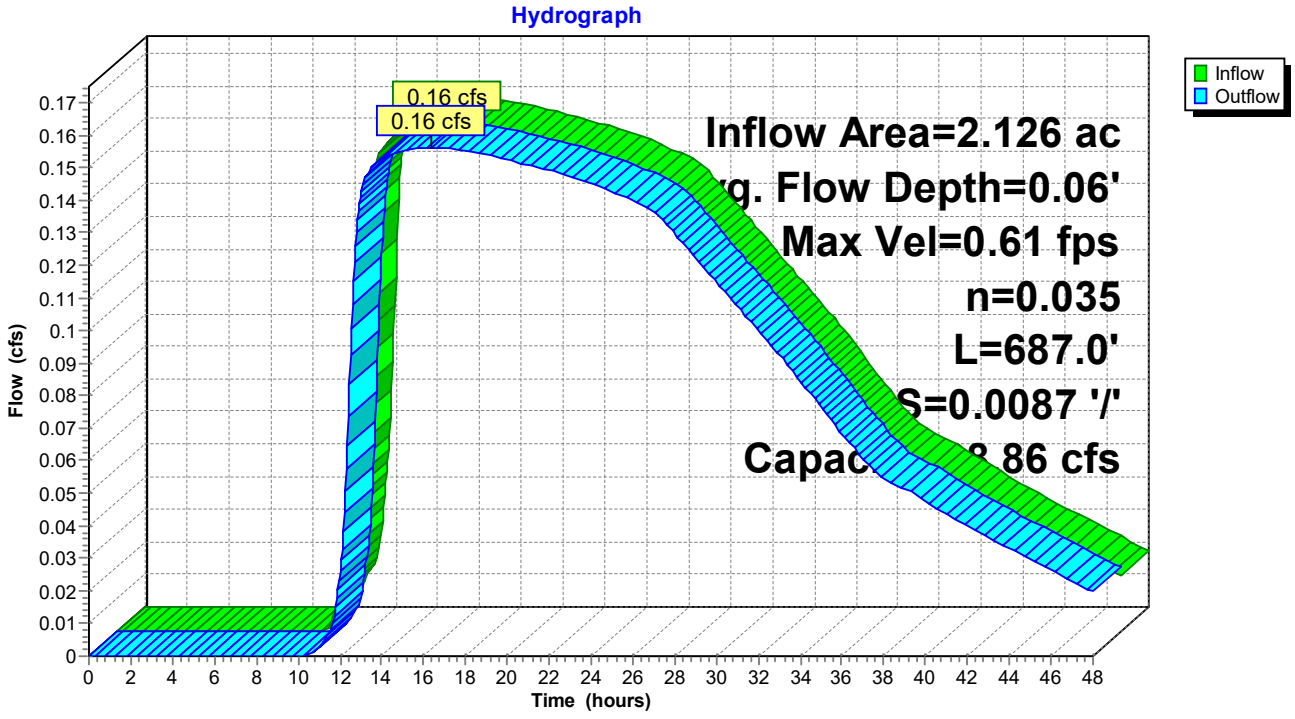
Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.61 fps, Min. Travel Time= 18.8 min
Avg. Velocity = 0.48 fps, Avg. Travel Time= 23.7 min

Peak Storage= 176 cf @ 16.02 hrs
Average Depth at Peak Storage= 0.06'
Bank-Full Depth= 1.25' Flow Area= 8.1 sf, Capacity= 28.86 cfs

4.00' x 1.25' deep channel, n= 0.035
Side Slope Z-value= 2.0 '/' Top Width= 9.00'
Length= 687.0' Slope= 0.0087 '/'
Inlet Invert= 52.00', Outlet Invert= 46.00'

‡

Reach 1R: Stream



Summary for Pond B-1: BIO 1

Inflow Area = 0.516 ac, 37.88% Impervious, Inflow Depth = 1.46" for 2-Year event
Inflow = 0.86 cfs @ 12.09 hrs, Volume= 0.063 af
Outflow = 0.02 cfs @ 17.34 hrs, Volume= 0.056 af, Atten= 97%, Lag= 314.4 min
Primary = 0.02 cfs @ 17.34 hrs, Volume= 0.056 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 67.15' @ 17.34 hrs Surf.Area= 1,484 sf Storage= 1,881 cf

Plug-Flow detention time= 827.4 min calculated for 0.056 af (90% of inflow)
Center-of-Mass det. time= 779.3 min (1,617.2 - 837.8)

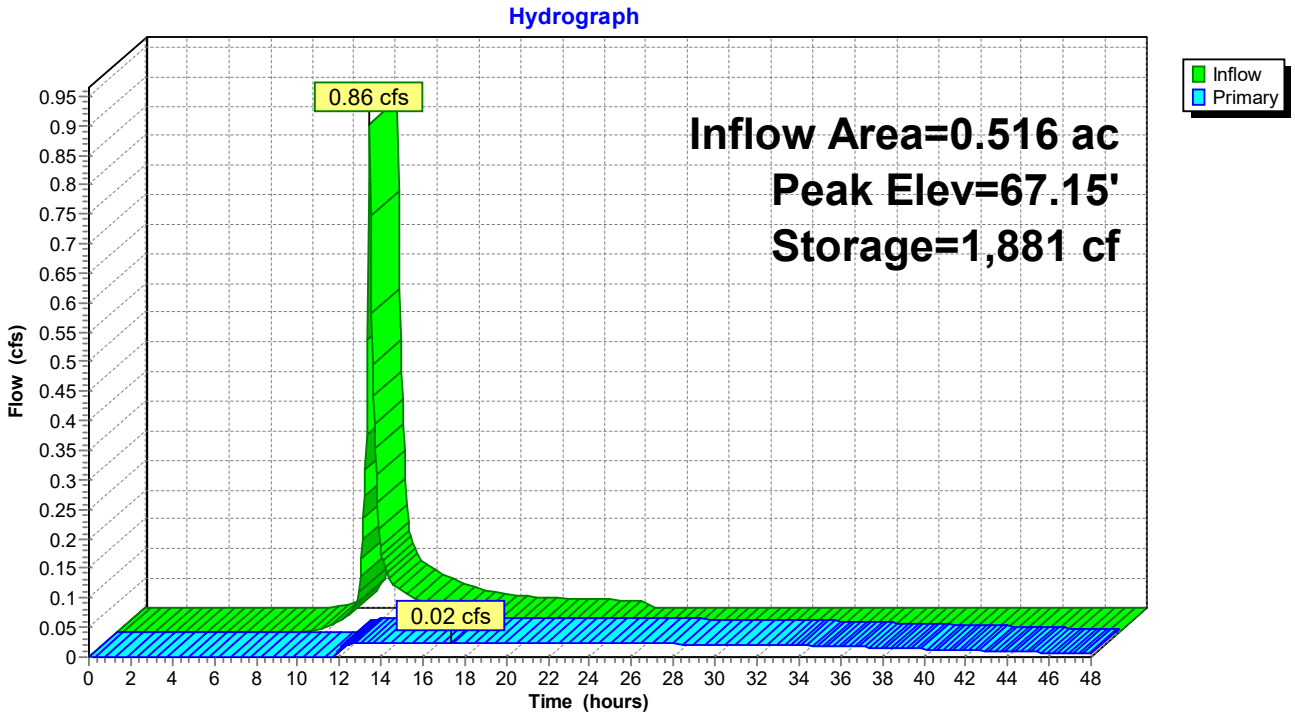
Volume	Invert	Avail.Storage	Storage Description
#1	64.50'	3,264 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
64.50	1,437	0.0	0	0
65.00	1,437	33.0	237	237
65.50	1,437	33.0	237	474
66.00	1,437	33.0	237	711
66.50	1,437	33.0	237	948
67.00	1,437	100.0	719	1,667
68.00	1,757	100.0	1,597	3,264

Device	Routing	Invert	Outlet Devices
#1	Primary	64.50'	**8.0" Round Culvert** L= 70.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 64.50' / 64.00' S= 0.0071 '/' Cc= 0.900 n= 0.012, Flow Area= 0.35 sf
#2	Device 1	64.97'	**0.8" Vert. Orifice/Grate** C= 0.600
#3	Device 1	67.50'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.02 cfs @ 17.34 hrs HW=67.15' (Free Discharge)
↑—**1=Culvert** (Passes 0.02 cfs of 1.95 cfs potential flow)
↑—**2=Orifice/Grate** (Orifice Controls 0.02 cfs @ 7.05 fps)
—**3=Orifice/Grate** (Controls 0.00 cfs)

Pond B-1: BIO 1


Hydrograph
Inflow
Primary
0.86 cfs
0.02 cfs
Inflow Area=0.516 ac
Peak Elev=67.15'
Storage=1,881 cf
Flow (cfs)
Time (hours)
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
0.55
0.6
0.65
0.7
0.75
0.8
0.85
0.9
0.95
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48

Summary for Pond B-4: BIO 4

Inflow Area = 0.261 ac, 21.10% Impervious, Inflow Depth = 1.26" for 2-Year event
Inflow = 0.37 cfs @ 12.10 hrs, Volume= 0.027 af
Outflow = 0.02 cfs @ 15.30 hrs, Volume= 0.025 af, Atten= 95%, Lag= 192.4 min
Primary = 0.02 cfs @ 15.30 hrs, Volume= 0.025 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 72.51' @ 15.30 hrs Surf.Area= 594 sf Storage= 773 cf

Plug-Flow detention time= 786.8 min calculated for 0.025 af (93% of inflow)
Center-of-Mass det. time= 751.2 min (1,598.9 - 847.7)

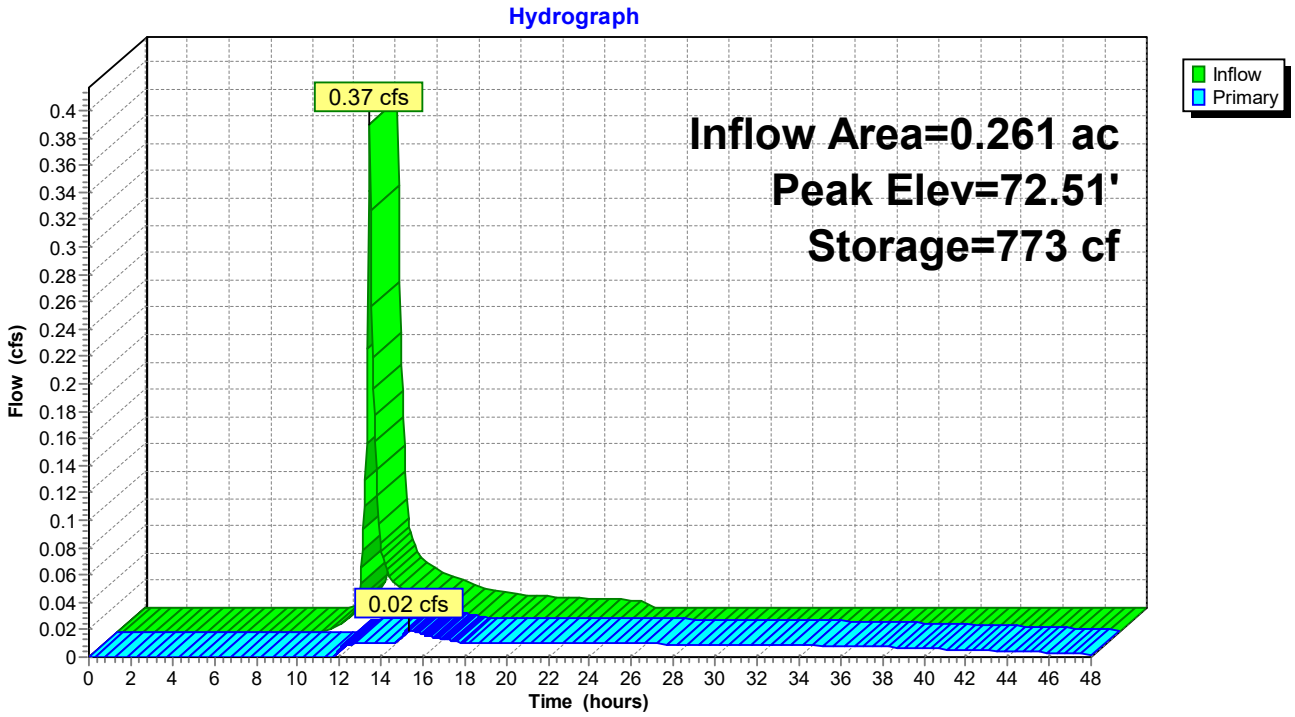
Volume	Invert	Avail.Storage	Storage Description
#1	69.50'	1,100 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.50	439	0.0	0	0
70.00	439	33.0	72	72
70.50	439	33.0	72	145
71.00	439	33.0	72	217
71.50	439	33.0	72	290
72.00	439	100.0	220	509
73.00	742	100.0	591	1,100

Device	Routing	Invert	Outlet Devices
#1	Primary	69.50'	**8.0" Round Culvert** L= 50.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.50' / 69.00' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.35 sf
#2	Device 1	69.98'	**0.5" Vert. Orifice/Grate** C= 0.600
#3	Device 1	72.50'	**10.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.02 cfs @ 15.30 hrs HW=72.51' (Free Discharge)
↑—**1=Culvert** (Passes 0.02 cfs of 2.17 cfs potential flow)
↑—**2=Orifice/Grate** (Orifice Controls 0.01 cfs @ 7.63 fps)
—**3=Orifice/Grate** (Weir Controls 0.01 cfs @ 0.33 fps)

Pond B-4: BIO 4


Hydrograph
Inflow
Primary
0.37 cfs
0.02 cfs
Inflow Area=0.261 ac
Peak Elev=72.51'
Storage=773 cf
Flow (cfs)
Time (hours)
0
0.02
0.04
0.06
0.08
0.1
0.12
0.14
0.16
0.18
0.2
0.22
0.24
0.26
0.28
0.3
0.32
0.34
0.36
0.38
0.4
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48

Summary for Pond DS5: DRIP STRIP

Inflow Area = 0.564 ac, 89.85% Impervious, Inflow Depth = 2.87" for 2-Year event
Inflow = 1.66 cfs @ 12.09 hrs, Volume= 0.135 af
Outflow = 0.54 cfs @ 12.38 hrs, Volume= 0.135 af, Atten= 67%, Lag= 17.5 min
Primary = 0.54 cfs @ 12.38 hrs, Volume= 0.135 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 171.77' @ 12.38 hrs Surf.Area= 2,720 sf Storage= 1,308 cf

Plug-Flow detention time= 31.4 min calculated for 0.135 af (100% of inflow)
Center-of-Mass det. time= 30.8 min (787.9 - 757.1)

Volume	Invert	Avail.Storage	Storage Description
#1	170.25'	5,372 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

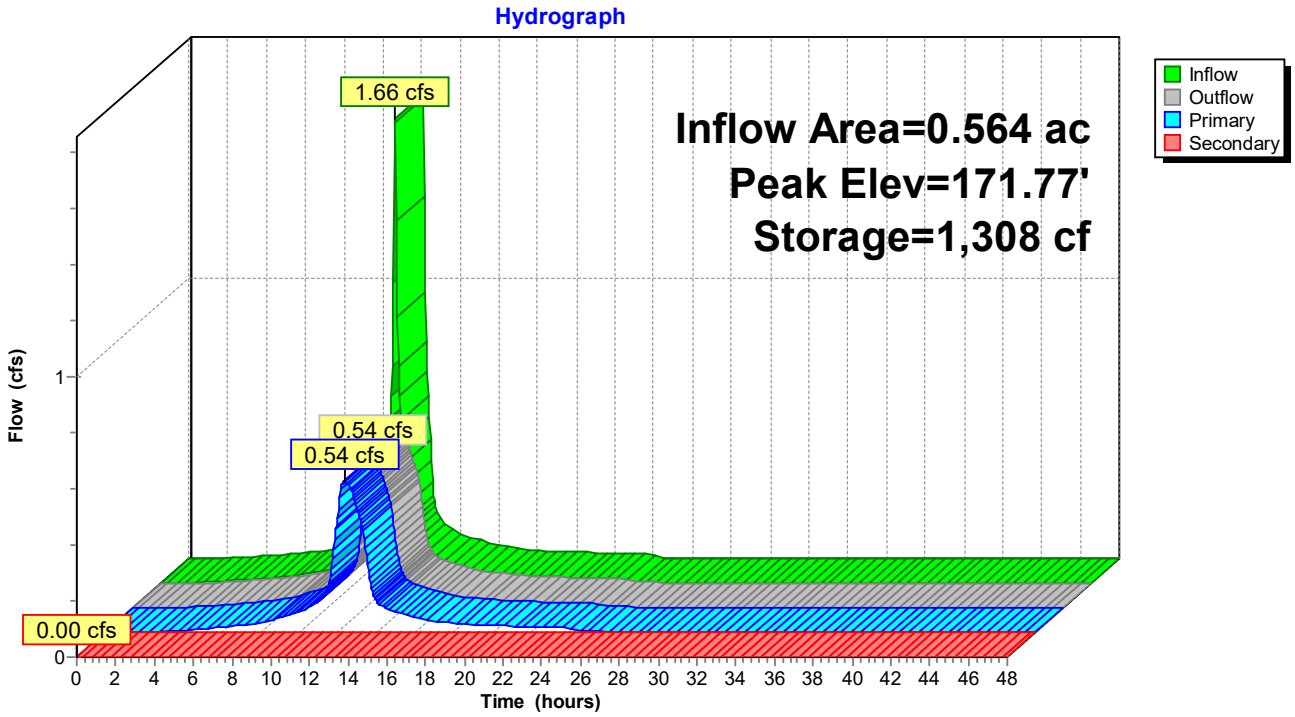
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
170.25	2,720	0.0	0	0
171.50	2,720	30.0	1,020	1,020
172.50	2,720	40.0	1,088	2,108
175.50	2,720	40.0	3,264	5,372

Device	Routing	Invert	Outlet Devices
#1	Primary	170.25'	**4.0" Round Culvert X 2.00** L= 96.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 170.25' / 169.50' S= 0.0078 '/' Cc= 0.900 n= 0.012, Flow Area= 0.09 sf
#2	Secondary	175.40'	**220.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.54 cfs @ 12.38 hrs HW=171.76' (Free Discharge)
1=Culvert (Barrel Controls 0.54 cfs @ 3.08 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=170.25' (Free Discharge)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond DS5: DRIP STRIP



Summary for Pond PP1: PP-1

Inflow Area = 0.128 ac,100.00% Impervious, Inflow Depth = 2.87" for 2-Year event
Inflow = 0.38 cfs @ 12.09 hrs, Volume= 0.031 af
Outflow = 0.19 cfs @ 12.24 hrs, Volume= 0.028 af, Atten= 50%, Lag= 9.2 min
Primary = 0.19 cfs @ 12.24 hrs, Volume= 0.028 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 169.88' @ 12.24 hrs Surf.Area= 1,116 sf Storage= 325 cf

Plug-Flow detention time= 98.3 min calculated for 0.028 af (93% of inflow)
Center-of-Mass det. time= 60.3 min (817.4 - 757.1)

Volume	Invert	Avail.Storage	Storage Description
#1	169.00'	1,388 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

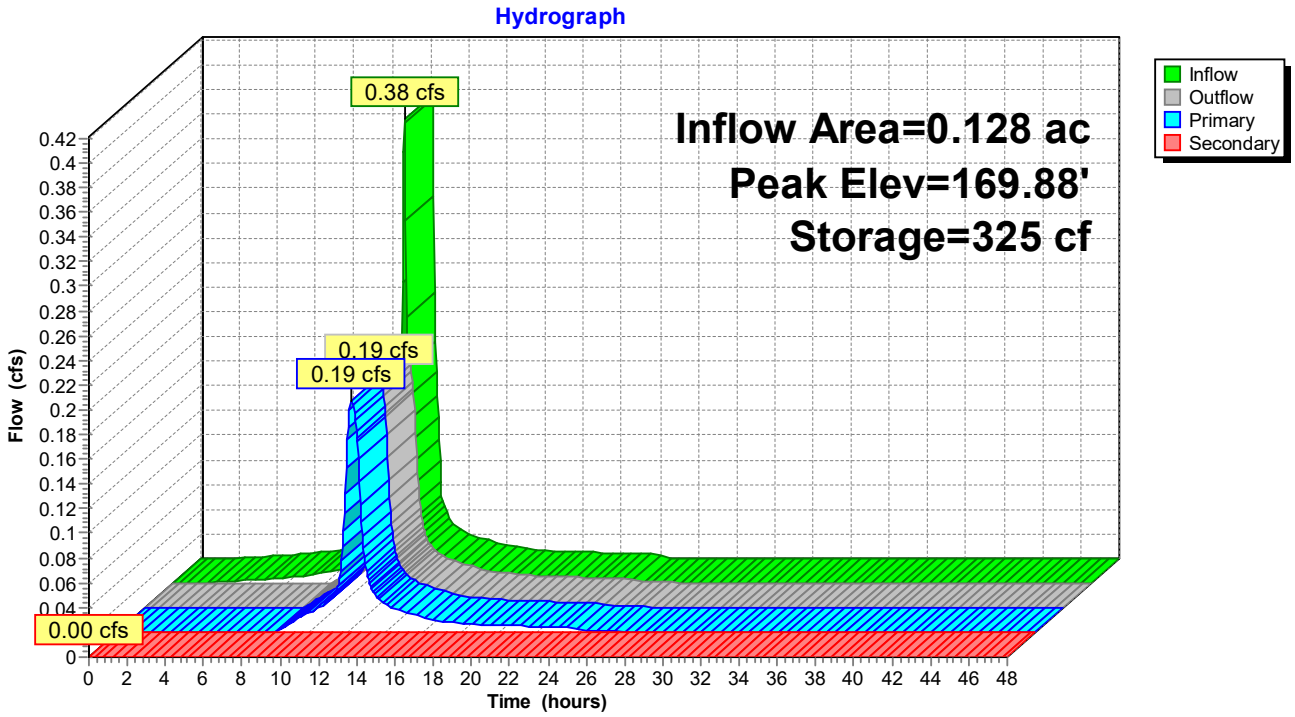
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
169.00	1,116	0.0	0	0
170.00	1,116	33.0	368	368
171.00	1,116	33.0	368	737
172.00	1,116	33.0	368	1,105
172.67	1,116	33.0	247	1,352
173.00	1,116	10.0	37	1,388

Device	Routing	Invert	Outlet Devices
#1	Primary	169.25'	**4.0" Round Culvert** L= 50.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 169.25' / 169.00' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 0.09 sf
#2	Secondary	172.83'	**220.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.19 cfs @ 12.24 hrs HW=169.88' (Free Discharge)
↑**1=Culvert** (Barrel Controls 0.19 cfs @ 2.14 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=169.00' (Free Discharge)
↑**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond PP1: PP-1


Hydrograph
Inflow Area=0.128 ac
Peak Elev=169.88'
Storage=325 cf
0.38 cfs
0.19 cfs
0.19 cfs
0.00 cfs
Inflow
Outflow
Primary
Secondary
Flow (cfs)
Time (hours)
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48
0 0.04 0.06 0.08 0.1 0.12 0.14 0.16 0.18 0.2 0.22 0.24 0.26 0.28 0.3 0.32 0.34 0.36 0.38 0.4 0.42

Summary for Pond UF-2: UF 2

Inflow Area = 0.653 ac, 69.04% Impervious, Inflow Depth = 2.16" for 2-Year event
Inflow = 1.60 cfs @ 12.09 hrs, Volume= 0.118 af
Outflow = 0.04 cfs @ 16.59 hrs, Volume= 0.108 af, Atten= 97%, Lag= 270.0 min
Primary = 0.04 cfs @ 16.59 hrs, Volume= 0.108 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 62.85' @ 16.59 hrs Surf.Area= 2,113 sf Storage= 3,622 cf

Plug-Flow detention time= 874.8 min calculated for 0.108 af (92% of inflow)
Center-of-Mass det. time= 834.0 min (1,637.6 - 803.7)

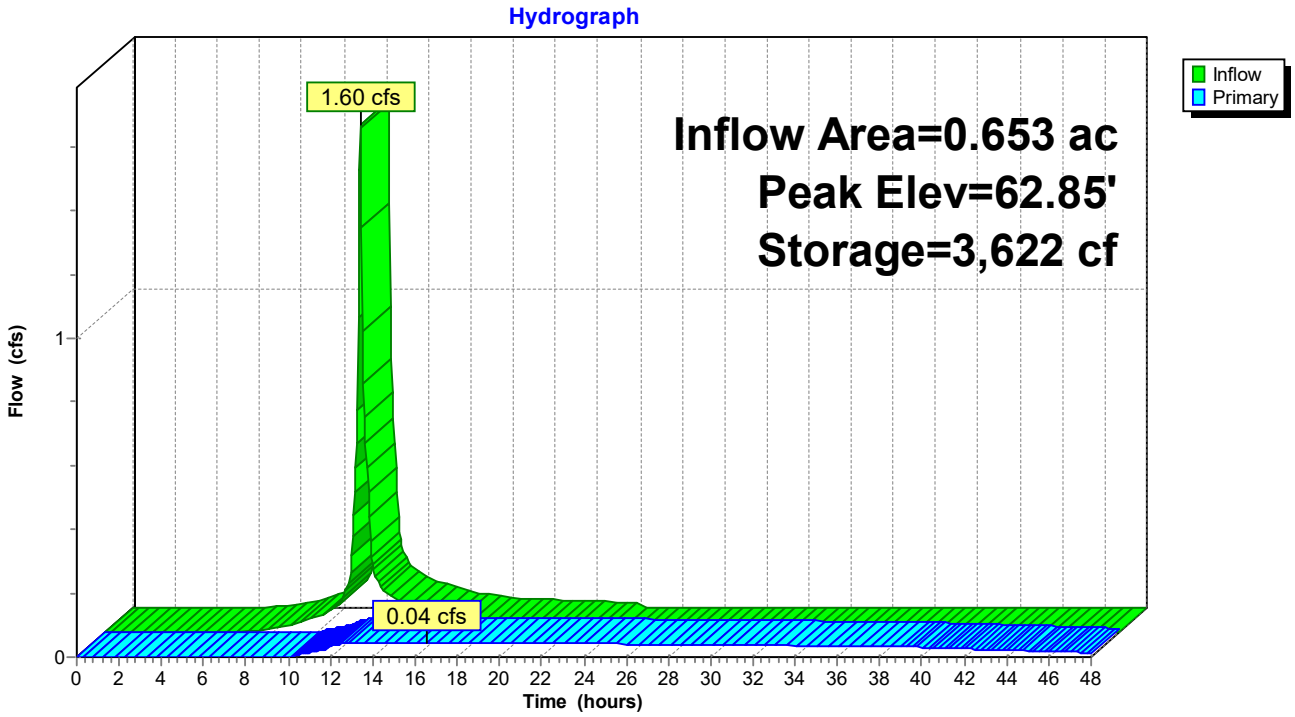
Volume	Invert	Avail.Storage	Storage Description
#1	59.50'	7,916 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
59.50	1,719	0.0	0	0
60.00	1,719	33.0	284	284
60.50	1,719	33.0	284	567
61.00	1,719	33.0	284	851
61.50	1,719	33.0	284	1,135
62.00	1,719	100.0	860	1,994
63.00	2,182	100.0	1,951	3,945
64.00	2,670	100.0	2,426	6,371
64.50	2,923	100.0	1,398	7,769
64.55	2,975	100.0	147	7,916

Device	Routing	Invert	Outlet Devices
#1	Primary	59.50'	**8.0" Round Culvert** L= 48.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 59.50' / 59.00' S= 0.0104 '/' Cc= 0.900 n= 0.012, Flow Area= 0.35 sf
#2	Device 1	59.96'	**1.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	63.00'	**10.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	63.33'	**120.0 deg x 6.0' long x 1.22' rise Sharp-Crested Vee/Trap Weir** Cv= 2.48 (C= 3.10)

Primary OutFlow Max=0.04 cfs @ 16.59 hrs HW=62.85' (Free Discharge)
- **1=Culvert** (Passes 0.04 cfs of 2.30 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 0.04 cfs @ 8.13 fps)
  - **3=Orifice/Grate** (Controls 0.00 cfs)
- **4=Sharp-Crested Vee/Trap Weir** (Controls 0.00 cfs)

Pond UF-2: UF 2


Hydrograph
Inflow
Primary
1.60 cfs
0.04 cfs
Inflow Area=0.653 ac
Peak Elev=62.85'
Storage=3,622 cf
Flow (cfs)
0
1
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48
Time (hours)

Summary for Pond UF-3: UF 3

Inflow Area = 0.958 ac, 54.43% Impervious, Inflow Depth = 1.83" for 2-Year event
Inflow = 2.01 cfs @ 12.09 hrs, Volume= 0.146 af
Outflow = 0.09 cfs @ 15.37 hrs, Volume= 0.136 af, Atten= 96%, Lag= 196.7 min
Primary = 0.09 cfs @ 15.37 hrs, Volume= 0.136 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 62.19' @ 15.37 hrs Surf.Area= 3,074 sf Storage= 3,985 cf

Plug-Flow detention time= 534.6 min calculated for 0.136 af (93% of inflow)
Center-of-Mass det. time= 499.7 min (1,319.9 - 820.2)

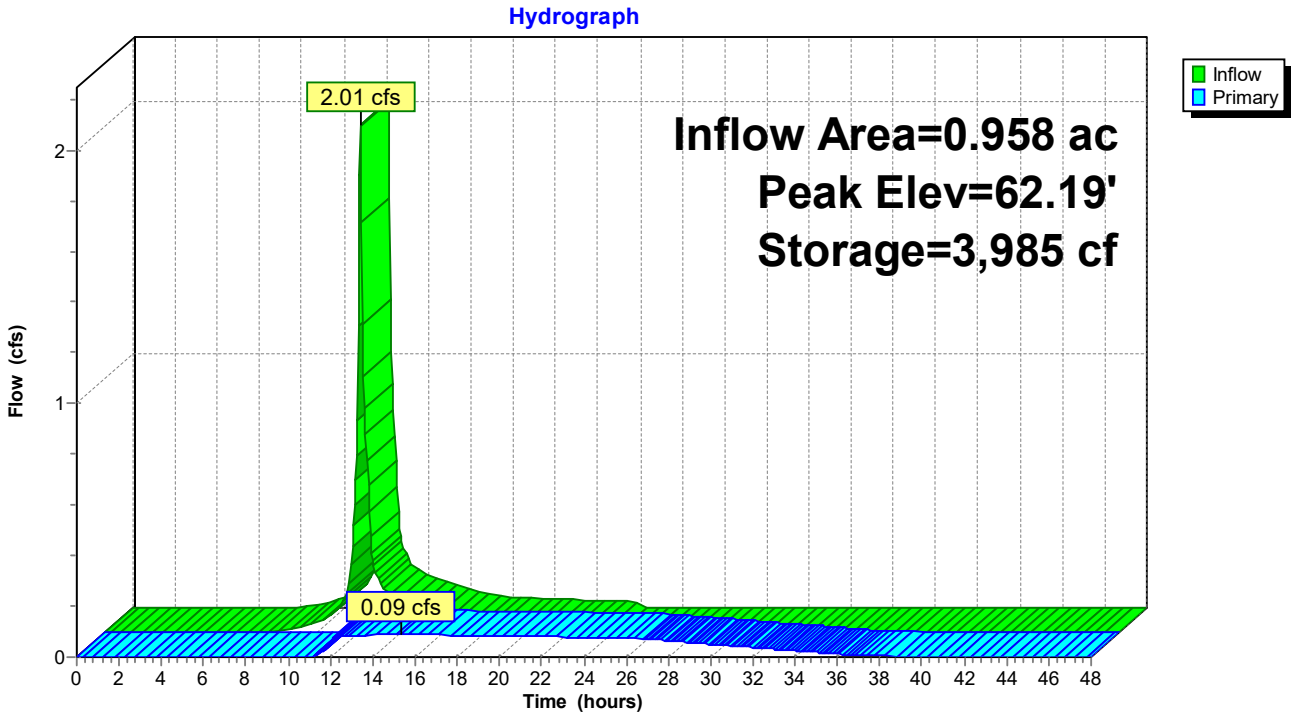
Volume	Invert	Avail.Storage	Storage Description
#1	59.50'	12,991 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
59.50	2,939	0.0	0	0
60.00	2,939	33.0	485	485
60.50	2,939	33.0	485	970
61.00	2,939	33.0	485	1,455
61.50	2,939	33.0	485	1,940
62.00	2,939	100.0	1,470	3,409
63.00	3,642	100.0	3,291	6,700
64.00	4,371	100.0	4,007	10,706
64.50	4,770	100.0	2,285	12,991

Device	Routing	Invert	Outlet Devices
#1	Primary	59.50'	**8.0" Round Culvert** L= 60.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 59.50' / 59.00' S= 0.0083 '/' Cc= 0.900 n= 0.012, Flow Area= 0.35 sf
#2	Device 1	59.94'	**1.5" Vert. Orifice/Grate** C= 0.600
#3	Device 1	63.00'	**10.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	63.25'	**120.0 deg x 6.0' long x 1.25' rise Sharp-Crested Vee/Trap Weir** Cv= 2.48 (C= 3.10)

Primary OutFlow Max=0.09 cfs @ 15.37 hrs HW=62.19' (Free Discharge)
- **1=Culvert** (Passes 0.09 cfs of 2.04 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 0.09 cfs @ 7.12 fps)
  - **3=Orifice/Grate** (Controls 0.00 cfs)
- **4=Sharp-Crested Vee/Trap Weir** (Controls 0.00 cfs)

Pond UF-3: UF 3

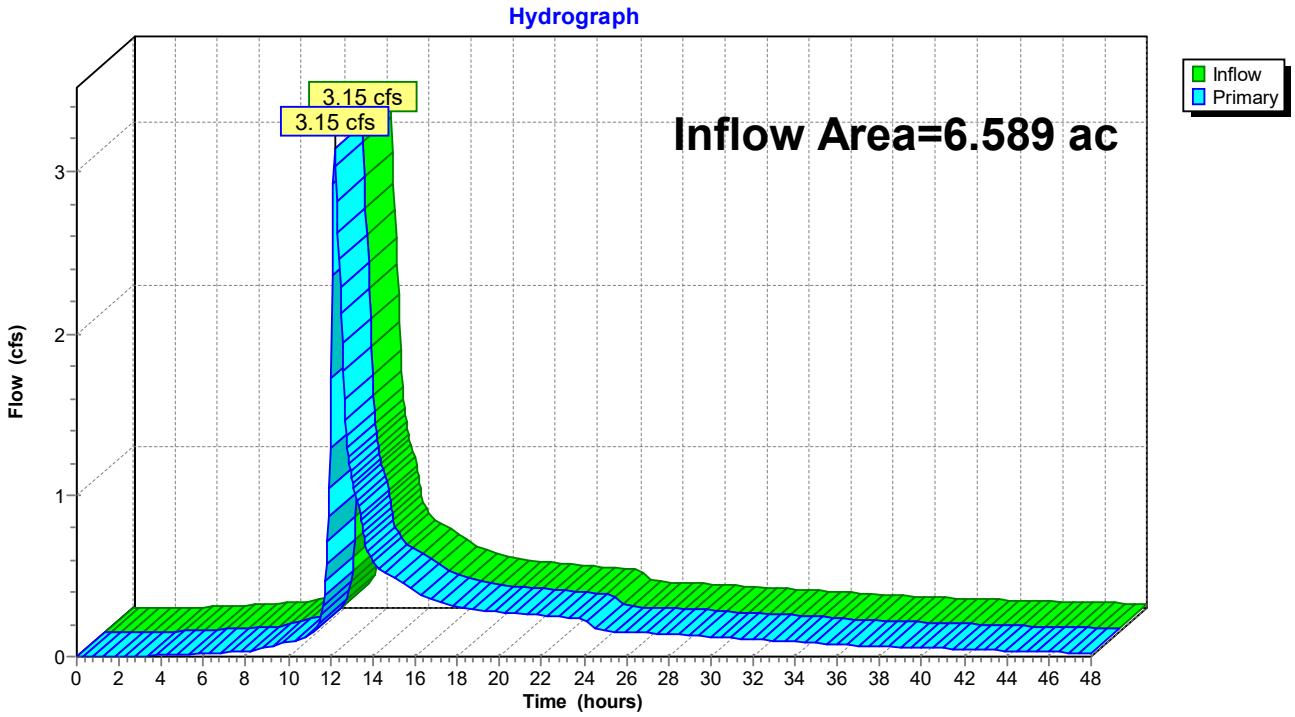

Hydrograph
Inflow
Primary
2.01 cfs
0.09 cfs
Inflow Area=0.958 ac
Peak Elev=62.19'
Storage=3,985 cf
Flow (cfs)
0
1
2
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48
Time (hours)

Summary for Link DP-1: DP#1

Inflow Area = 6.589 ac, 28.46% Impervious, Inflow Depth > 1.32" for 2-Year event
Inflow = 3.15 cfs @ 12.21 hrs, Volume= 0.727 af
Primary = 3.15 cfs @ 12.21 hrs, Volume= 0.727 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link DP-1: DP#1



Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 201A: TO BIO 1 Runoff Area=22,466 sf 37.88% Impervious Runoff Depth=2.64"
Tc=6.0 min CN=82 Runoff=1.56 cfs 0.113 af

Subcatchment 201B: TO USF 2 Runoff Area=28,445 sf 69.04% Impervious Runoff Depth=3.50"
Tc=6.0 min CN=91 Runoff=2.52 cfs 0.190 af

Subcatchment 201C: TO USF 3 Runoff Area=41,718 sf 54.43% Impervious Runoff Depth=3.10"
Tc=6.0 min CN=87 Runoff=3.36 cfs 0.247 af

Subcatchment 201D: TO BIO 4 Runoff Area=11,351 sf 21.10% Impervious Runoff Depth=2.38"
Tc=6.0 min CN=79 Runoff=0.71 cfs 0.052 af

Subcatchment 201E: TO DRIP EDGE 5 Runoff Area=24,579 sf 89.85% Impervious Runoff Depth=4.26"
Tc=6.0 min CN=98 Runoff=2.42 cfs 0.201 af

Subcatchment 201F: FIRE LANE TO POROUS Runoff Area=5,578 sf 100.00% Impervious Runoff Depth=4.26"
Tc=6.0 min CN=98 Runoff=0.55 cfs 0.046 af

Subcatchment 201G: UNCAPTURED Runoff Area=152,882 sf 0.50% Impervious Runoff Depth=1.75"
Flow Length=940' Tc=13.0 min CN=71 Runoff=5.52 cfs 0.511 af

Reach 1R: Stream Avg. Flow Depth=0.18' Max Vel=1.17 fps Inflow=1.04 cfs 0.514 af
n=0.035 L=687.0' S=0.0087 '/' Capacity=28.86 cfs Outflow=0.89 cfs 0.512 af

Pond B-1: BIO 1 Peak Elev=67.59' Storage=2,568 cf Inflow=1.56 cfs 0.113 af
Outflow=0.30 cfs 0.101 af

Pond B-4: BIO 4 Peak Elev=72.62' Storage=841 cf Inflow=0.71 cfs 0.052 af
Outflow=0.37 cfs 0.049 af

Pond DS5: DRIP STRIP Peak Elev=172.58' Storage=2,196 cf Inflow=2.42 cfs 0.201 af
Primary=0.64 cfs 0.201 af Secondary=0.00 cfs 0.000 af Outflow=0.64 cfs 0.201 af

Pond PP1: PP-1 Peak Elev=170.25' Storage=459 cf Inflow=0.55 cfs 0.046 af
Primary=0.24 cfs 0.043 af Secondary=0.00 cfs 0.000 af Outflow=0.24 cfs 0.043 af

Pond UF-2: UF 2 Peak Elev=63.18' Storage=4,339 cf Inflow=2.52 cfs 0.190 af
Outflow=0.69 cfs 0.176 af

Pond UF-3: UF 3 Peak Elev=63.05' Storage=6,867 cf Inflow=3.36 cfs 0.247 af
Outflow=0.19 cfs 0.237 af

Link DP-1: DP#1 Inflow=6.75 cfs 1.316 af
Primary=6.75 cfs 1.316 af

Total Runoff Area = 6.589 ac Runoff Volume = 1.359 af Average Runoff Depth = 2.48"
71.54% Pervious = 4.714 ac 28.46% Impervious = 1.875 ac

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 201A: TO BIO 1 Runoff Area=22,466 sf 37.88% Impervious Runoff Depth=3.53"
Tc=6.0 min CN=82 Runoff=2.08 cfs 0.152 af

Subcatchment 201B: TO USF 2 Runoff Area=28,445 sf 69.04% Impervious Runoff Depth=4.47"
Tc=6.0 min CN=91 Runoff=3.18 cfs 0.243 af

Subcatchment 201C: TO USF 3 Runoff Area=41,718 sf 54.43% Impervious Runoff Depth=4.04"
Tc=6.0 min CN=87 Runoff=4.33 cfs 0.322 af

Subcatchment 201D: TO BIO 4 Runoff Area=11,351 sf 21.10% Impervious Runoff Depth=3.24"
Tc=6.0 min CN=79 Runoff=0.97 cfs 0.070 af

Subcatchment 201E: TO DRIP EDGE 5 Runoff Area=24,579 sf 89.85% Impervious Runoff Depth=5.26"
Tc=6.0 min CN=98 Runoff=2.97 cfs 0.247 af

Subcatchment 201F: FIRE LANE TO POROUS Runoff Area=5,578 sf 100.00% Impervious Runoff Depth=5.26"
Tc=6.0 min CN=98 Runoff=0.67 cfs 0.056 af

Subcatchment 201G: UNCAPTURED Runoff Area=152,882 sf 0.50% Impervious Runoff Depth=2.50"
Flow Length=940' Tc=13.0 min CN=71 Runoff=8.05 cfs 0.732 af

Reach 1R: Stream Avg. Flow Depth=0.33' Max Vel=1.71 fps Inflow=2.79 cfs 0.678 af
n=0.035 L=687.0' S=0.0087 '/' Capacity=28.86 cfs Outflow=2.64 cfs 0.676 af

Pond B-1: BIO 1 Peak Elev=67.70' Storage=2,754 cf Inflow=2.08 cfs 0.152 af
Outflow=0.96 cfs 0.139 af

Pond B-4: BIO 4 Peak Elev=72.71' Storage=899 cf Inflow=0.97 cfs 0.070 af
Outflow=0.85 cfs 0.068 af

Pond DS5: DRIP STRIP Peak Elev=173.20' Storage=2,872 cf Inflow=2.97 cfs 0.247 af
Primary=0.71 cfs 0.247 af Secondary=0.00 cfs 0.000 af Outflow=0.71 cfs 0.247 af

Pond PP1: PP-1 Peak Elev=170.53' Storage=563 cf Inflow=0.67 cfs 0.056 af
Primary=0.28 cfs 0.054 af Secondary=0.00 cfs 0.000 af Outflow=0.28 cfs 0.054 af

Pond UF-2: UF 2 Peak Elev=63.33' Storage=4,681 cf Inflow=3.18 cfs 0.243 af
Outflow=1.54 cfs 0.227 af

Pond UF-3: UF 3 Peak Elev=63.20' Storage=7,446 cf Inflow=4.33 cfs 0.322 af
Outflow=0.88 cfs 0.312 af

Link DP-1: DP#1 Inflow=9.87 cfs 1.777 af
Primary=9.87 cfs 1.777 af

Total Runoff Area = 6.589 ac Runoff Volume = 1.823 af Average Runoff Depth = 3.32"
71.54% Pervious = 4.714 ac 28.46% Impervious = 1.875 ac

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 201A: TO BIO 1 Runoff Area=22,466 sf 37.88% Impervious Runoff Depth=4.45"
Tc=6.0 min CN=82 Runoff=2.60 cfs 0.191 af

Subcatchment 201B: TO USF 2 Runoff Area=28,445 sf 69.04% Impervious Runoff Depth=5.45"
Tc=6.0 min CN=91 Runoff=3.83 cfs 0.296 af

Subcatchment 201C: TO USF 3 Runoff Area=41,718 sf 54.43% Impervious Runoff Depth=5.00"
Tc=6.0 min CN=87 Runoff=5.30 cfs 0.399 af

Subcatchment 201D: TO BIO 4 Runoff Area=11,351 sf 21.10% Impervious Runoff Depth=4.13"
Tc=6.0 min CN=79 Runoff=1.23 cfs 0.090 af

Subcatchment 201E: TO DRIP EDGE 5 Runoff Area=24,579 sf 89.85% Impervious Runoff Depth=6.26"
Tc=6.0 min CN=98 Runoff=3.51 cfs 0.294 af

Subcatchment 201F: FIRE LANE TO POROUS Runoff Area=5,578 sf 100.00% Impervious Runoff Depth=6.26"
Tc=6.0 min CN=98 Runoff=0.80 cfs 0.067 af

Subcatchment 201G: UNCAPTURED Runoff Area=152,882 sf 0.50% Impervious Runoff Depth=3.31"
Flow Length=940' Tc=13.0 min CN=71 Runoff=10.72 cfs 0.967 af

Reach 1R: Stream Avg. Flow Depth=0.50' Max Vel=2.14 fps Inflow=5.75 cfs 0.846 af
n=0.035 L=687.0' S=0.0087 '/' Capacity=28.86 cfs Outflow=5.28 cfs 0.844 af

Pond B-1: BIO 1 Peak Elev=67.83' Storage=2,963 cf Inflow=2.60 cfs 0.191 af
Outflow=1.94 cfs 0.179 af

Pond B-4: BIO 4 Peak Elev=72.76' Storage=933 cf Inflow=1.23 cfs 0.090 af
Outflow=1.17 cfs 0.087 af

Pond DS5: DRIP STRIP Peak Elev=173.85' Storage=3,575 cf Inflow=3.51 cfs 0.294 af
Primary=0.78 cfs 0.294 af Secondary=0.00 cfs 0.000 af Outflow=0.78 cfs 0.294 af

Pond PP1: PP-1 Peak Elev=170.83' Storage=673 cf Inflow=0.80 cfs 0.067 af
Primary=0.31 cfs 0.065 af Secondary=0.00 cfs 0.000 af Outflow=0.31 cfs 0.065 af

Pond UF-2: UF 2 Peak Elev=63.47' Storage=5,026 cf Inflow=3.83 cfs 0.296 af
Outflow=2.86 cfs 0.280 af

Pond UF-3: UF 3 Peak Elev=63.33' Storage=7,954 cf Inflow=5.30 cfs 0.399 af
Outflow=2.08 cfs 0.388 af

Link DP-1: DP#1 Inflow=14.19 cfs 2.258 af
Primary=14.19 cfs 2.258 af

Total Runoff Area = 6.589 ac Runoff Volume = 2.304 af Average Runoff Depth = 4.20"
71.54% Pervious = 4.714 ac 28.46% Impervious = 1.875 ac

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 201A: TO BIO 1 Runoff Area=22,466 sf 37.88% Impervious Runoff Depth=1.00"
Tc=6.0 min CN=82 Runoff=0.58 cfs 0.043 af

Subcatchment 201B: TO USF 2 Runoff Area=28,445 sf 69.04% Impervious Runoff Depth=1.61"
Tc=6.0 min CN=91 Runoff=1.20 cfs 0.088 af

Subcatchment 201C: TO USF 3 Runoff Area=41,718 sf 54.43% Impervious Runoff Depth=1.31"
Tc=6.0 min CN=87 Runoff=1.44 cfs 0.105 af

Subcatchment 201D: TO BIO 4 Runoff Area=11,351 sf 21.10% Impervious Runoff Depth=0.84"
Tc=6.0 min CN=79 Runoff=0.24 cfs 0.018 af

Subcatchment 201E: TO DRIP EDGE 5 Runoff Area=24,579 sf 89.85% Impervious Runoff Depth=2.27"
Tc=6.0 min CN=98 Runoff=1.33 cfs 0.107 af

Subcatchment 201F: FIRE LANE TO POROUS Runoff Area=5,578 sf 100.00% Impervious Runoff Depth=2.27"
Tc=6.0 min CN=98 Runoff=0.30 cfs 0.024 af

Subcatchment 201G: UNCAPTURED Runoff Area=152,882 sf 0.50% Impervious Runoff Depth=0.49"
Flow Length=940' Tc=13.0 min CN=71 Runoff=1.27 cfs 0.144 af

Reach 1R: Stream Avg. Flow Depth=0.06' Max Vel=0.58 fps Inflow=0.14 cfs 0.214 af
n=0.035 L=687.0' S=0.0087 '/' Capacity=28.86 cfs Outflow=0.14 cfs 0.213 af

Pond B-1: BIO 1 Peak Elev=66.67' Storage=1,188 cf Inflow=0.58 cfs 0.043 af
Outflow=0.02 cfs 0.038 af

Pond B-4: BIO 4 Peak Elev=71.96' Storage=492 cf Inflow=0.24 cfs 0.018 af
Outflow=0.01 cfs 0.017 af

Pond DS5: DRIP STRIP Peak Elev=171.43' Storage=965 cf Inflow=1.33 cfs 0.107 af
Primary=0.49 cfs 0.107 af Secondary=0.00 cfs 0.000 af Outflow=0.49 cfs 0.107 af

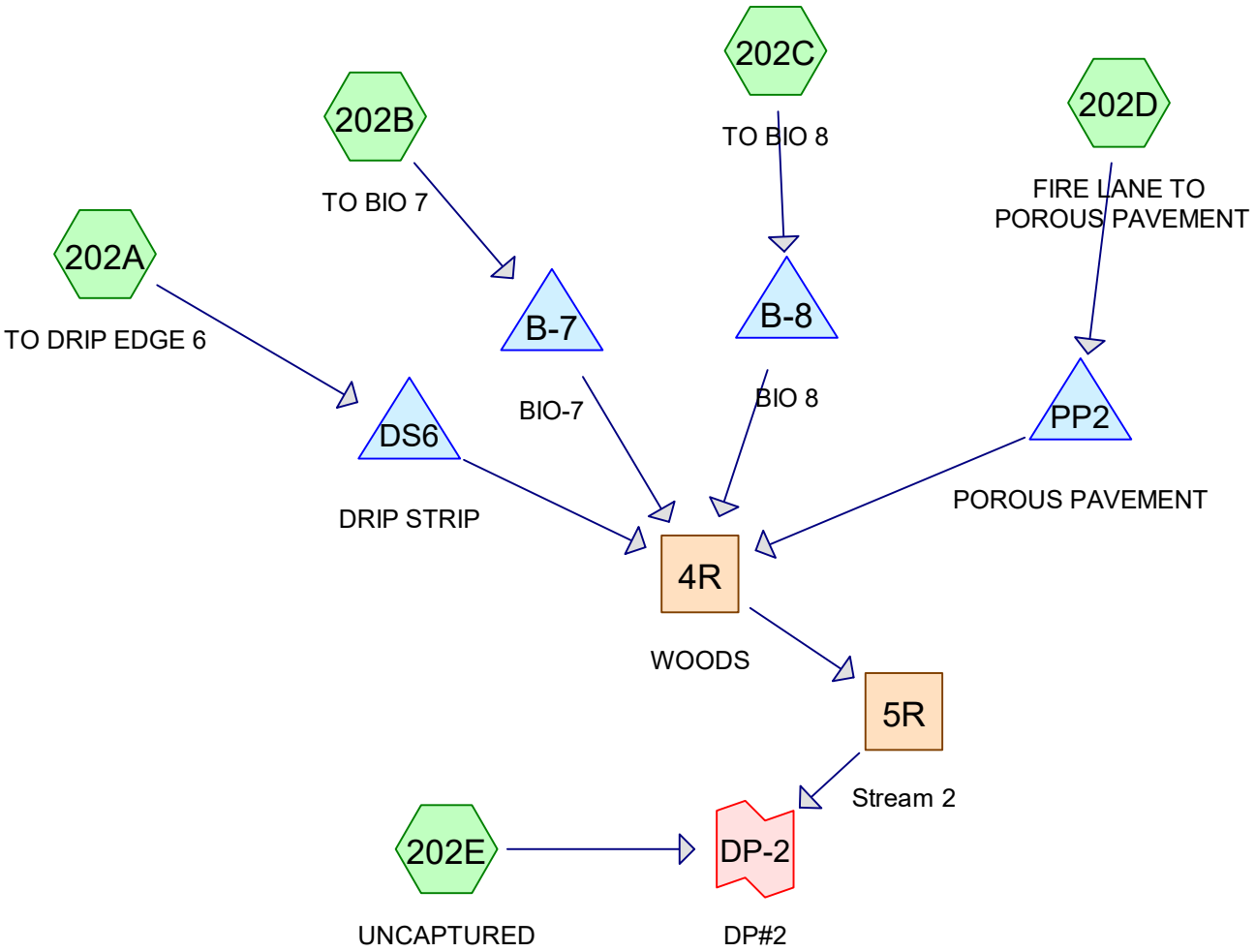
Pond PP1: PP-1 Peak Elev=169.75' Storage=274 cf Inflow=0.30 cfs 0.024 af
Primary=0.16 cfs 0.022 af Secondary=0.00 cfs 0.000 af Outflow=0.16 cfs 0.022 af

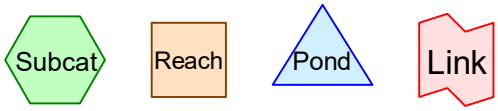
Pond UF-2: UF 2 Peak Elev=62.33' Storage=2,588 cf Inflow=1.20 cfs 0.088 af
Outflow=0.04 cfs 0.081 af

Pond UF-3: UF 3 Peak Elev=61.75' Storage=2,665 cf Inflow=1.44 cfs 0.105 af
Outflow=0.08 cfs 0.095 af

Link DP-1: DP#1 Inflow=1.93 cfs 0.503 af
Primary=1.93 cfs 0.503 af

Total Runoff Area = 6.589 ac Runoff Volume = 0.528 af Average Runoff Depth = 0.96"
71.54% Pervious = 4.714 ac 28.46% Impervious = 1.875 ac





Routing Diagram for 21-025 POST-202
Prepared by Atlantic Resource Consultants, Printed 8/25/2022

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 202A: TO DRIP EDGE 6 Runoff Area=22,810 sf 90.97% Impervious Runoff Depth=2.87"
Tc=6.0 min CN=98 Runoff=1.54 cfs 0.125 af

Subcatchment 202B: TO BIO 7 Runoff Area=15,470 sf 9.03% Impervious Runoff Depth=1.46"
Tc=6.0 min CN=82 Runoff=0.59 cfs 0.043 af

Subcatchment 202C: TO BIO 8 Runoff Area=8,462 sf 19.25% Impervious Runoff Depth=1.53"
Tc=6.0 min CN=83 Runoff=0.34 cfs 0.025 af

Subcatchment 202D: FIRE LANE TO POROUS Runoff Area=4,967 sf 100.00% Impervious Runoff Depth=2.87"
Tc=6.0 min CN=98 Runoff=0.33 cfs 0.027 af

Subcatchment 202E: UNCAPTURED Runoff Area=131,343 sf 0.00% Impervious Runoff Depth=1.14"
Flow Length=620' Tc=21.8 min CN=77 Runoff=2.52 cfs 0.287 af

Reach 4R: WOODS Avg. Flow Depth=0.06' Max Vel=0.64 fps Inflow=0.76 cfs 0.210 af
n=0.050 L=120.0' S=0.0233 '/' Capacity=9.97 cfs Outflow=0.76 cfs 0.210 af

Reach 5R: Stream 2 Avg. Flow Depth=0.14' Max Vel=2.46 fps Inflow=0.76 cfs 0.210 af
n=0.035 L=350.0' S=0.0577 '/' Capacity=7.66 cfs Outflow=0.76 cfs 0.209 af

Pond B-7: BIO-7 Peak Elev=65.83' Storage=1,200 cf Inflow=0.59 cfs 0.043 af
Outflow=0.02 cfs 0.039 af

Pond B-8: BIO 8 Peak Elev=66.11' Storage=644 cf Inflow=0.34 cfs 0.025 af
Outflow=0.02 cfs 0.020 af

Pond DS6: DRIP STRIP Peak Elev=171.87' Storage=1,078 cf Inflow=1.54 cfs 0.125 af
Primary=0.55 cfs 0.125 af Secondary=0.00 cfs 0.000 af Outflow=0.55 cfs 0.125 af

Pond PP2: POROUS PAVEMENT Peak Elev=169.81' Storage=293 cf Inflow=0.33 cfs 0.027 af
Primary=0.17 cfs 0.025 af Secondary=0.00 cfs 0.000 af Outflow=0.17 cfs 0.025 af

Link DP-2: DP#2 Inflow=3.24 cfs 0.496 af
Primary=3.24 cfs 0.496 af

Total Runoff Area = 4.202 ac Runoff Volume = 0.507 af Average Runoff Depth = 1.45"
84.30% Pervious = 3.542 ac 15.70% Impervious = 0.660 ac

Summary for Subcatchment 202A: TO DRIP EDGE 6

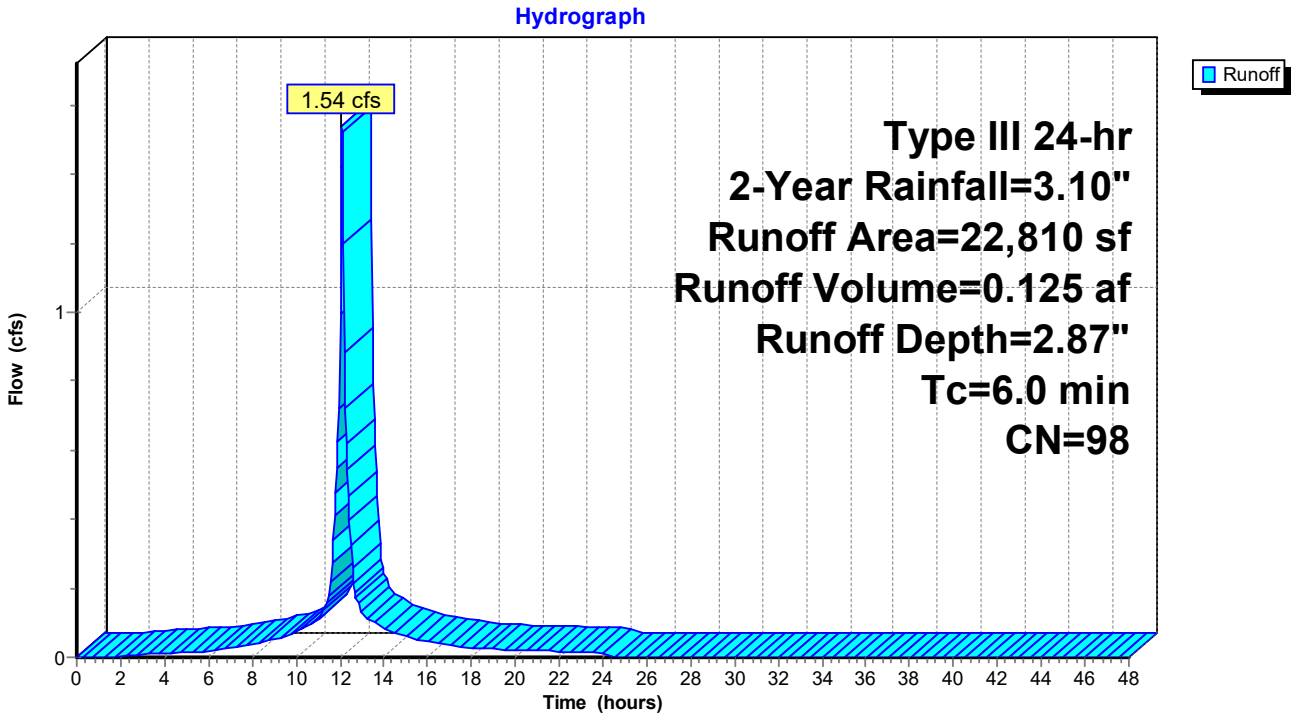
Runoff = 1.54 cfs @ 12.09 hrs, Volume= 0.125 af, Depth= 2.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
*	20,750	98	Roof
*	2,060	98	Drip Edge Surface, 0% imp, HSG C
	22,810	98	Weighted Average
	2,060		9.03% Pervious Area
	20,750		90.97% Impervious Area

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

Subcatchment 202A: TO DRIP EDGE 6



Summary for Subcatchment 202B: TO BIO 7

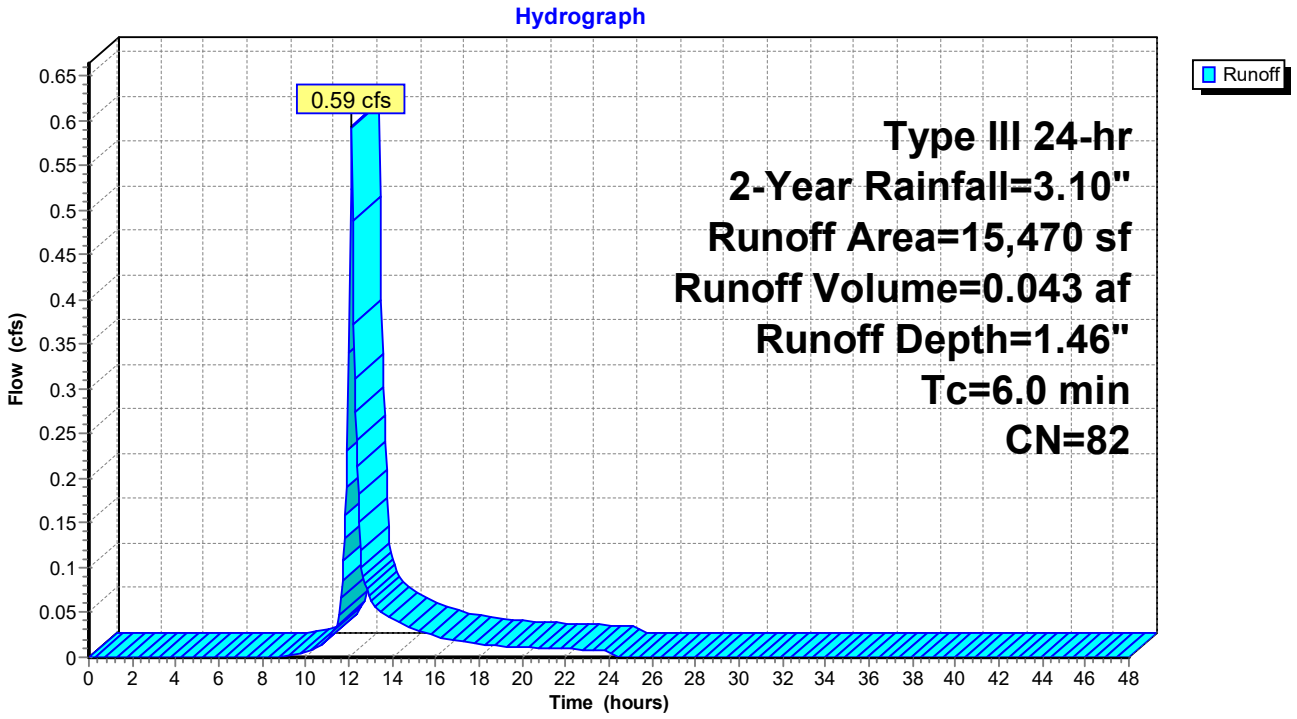
Runoff = 0.59 cfs @ 12.09 hrs, Volume= 0.043 af, Depth= 1.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
	14,073	80	>75% Grass cover, Good, HSG D
*	1,397	98	Paved walkways
	15,470	82	Weighted Average
	14,073		90.97% Pervious Area
	1,397		9.03% Impervious Area

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

Subcatchment 202B: TO BIO 7



Summary for Subcatchment 202C: TO BIO 8

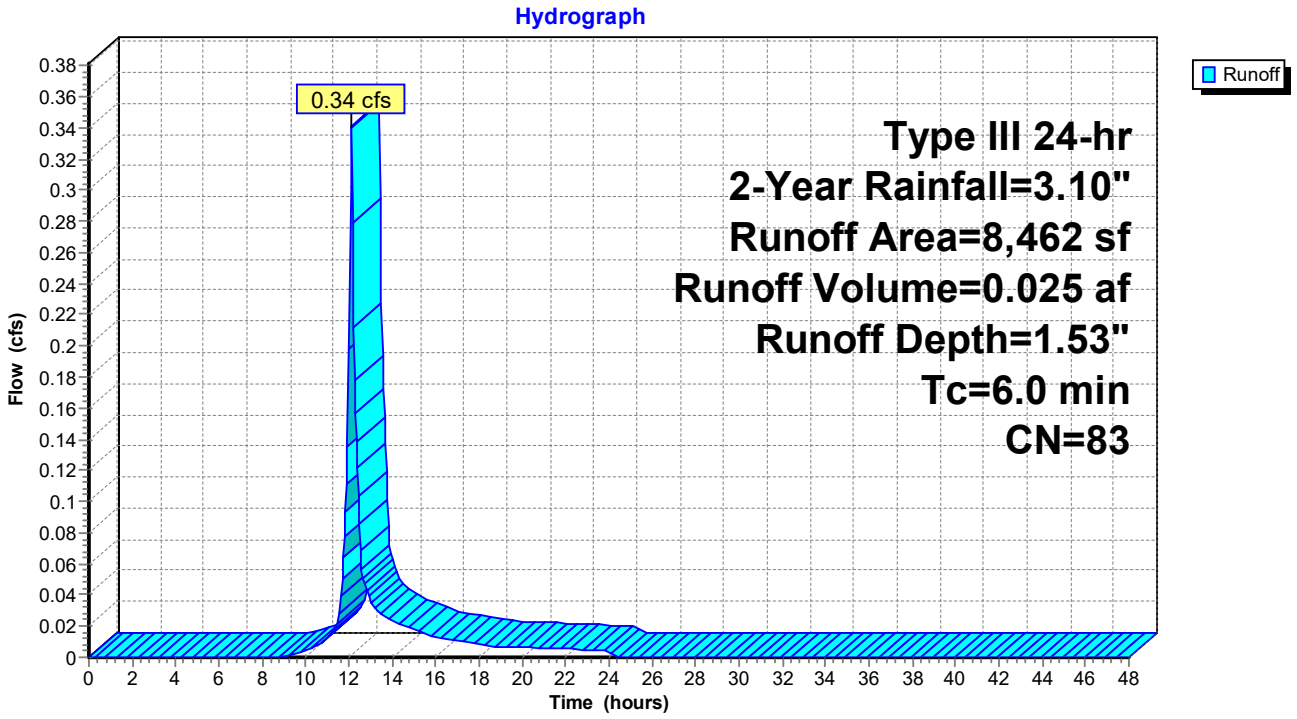
Runoff = 0.34 cfs @ 12.09 hrs, Volume= 0.025 af, Depth= 1.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
	6,833	80	>75% Grass cover, Good, HSG D
*	1,629	98	Paved parking,
	8,462	83	Weighted Average
	6,833		80.75% Pervious Area
	1,629		19.25% Impervious Area

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

Subcatchment 202C: TO BIO 8



Summary for Subcatchment 202D: FIRE LANE TO POROUS PAVEMENT

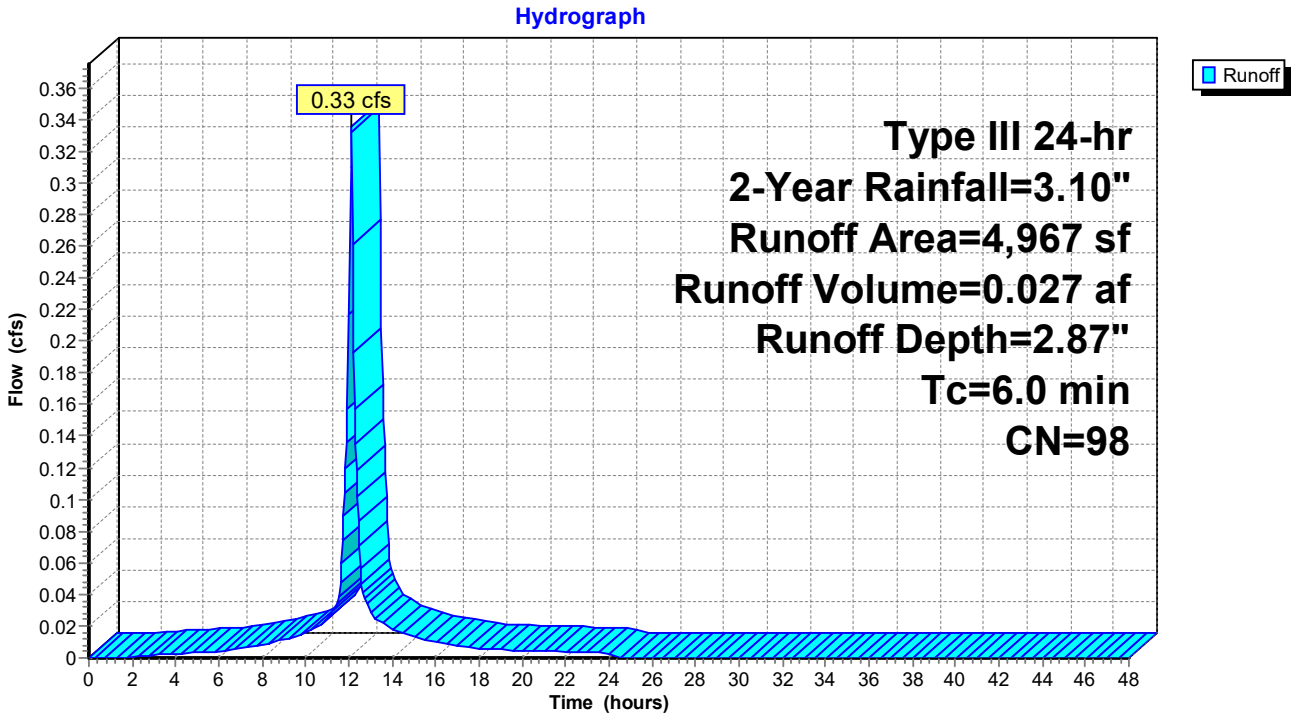
Runoff = 0.33 cfs @ 12.09 hrs, Volume= 0.027 af, Depth= 2.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
*	3,873	98	Roof
*	1,094	98	Porous Pavement
	4,967	98	Weighted Average
	4,967		100.00% Impervious Area

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

Subcatchment 202D: FIRE LANE TO POROUS PAVEMENT



Summary for Subcatchment 202E: UNCAPTURED

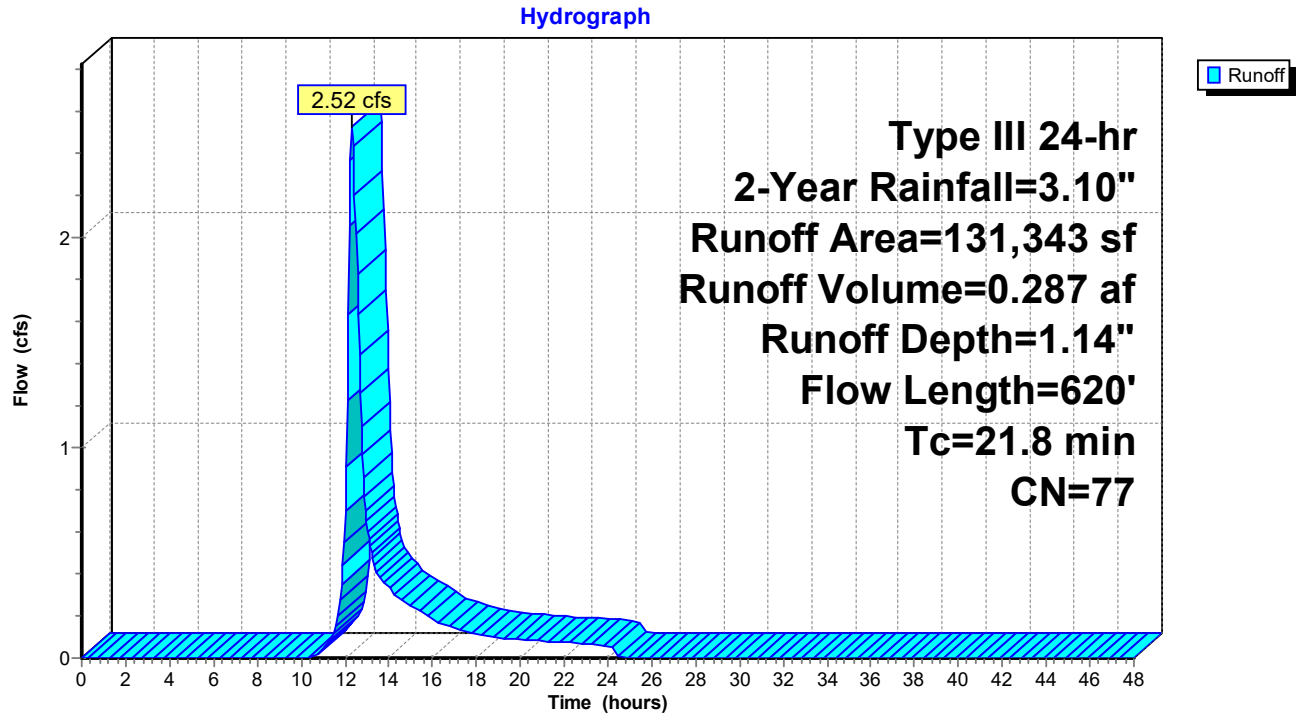
Runoff = 2.52 cfs @ 12.32 hrs, Volume= 0.287 af, Depth= 1.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
131,343	77	Woods, Good, HSG D
131,343		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.3	60	0.0150	0.06		**Sheet Flow, Woods** Woods: Light underbrush n= 0.400 P2= 3.10"
4.6	210	0.0230	0.76		**Shallow Concentrated Flow, Woods** Woodland Kv= 5.0 fps
0.9	350	0.0570	6.39	12.77	**Channel Flow, Drainage/Stream** Area= 2.0 sf Perim= 4.0' r= 0.50' n= 0.035
21.8	620	Total			

Subcatchment 202E: UNCAPTURED



Summary for Reach 4R: WOODS

Inflow Area = 1.187 ac, 55.59% Impervious, Inflow Depth > 2.12" for 2-Year event
Inflow = 0.76 cfs @ 12.30 hrs, Volume= 0.210 af
Outflow = 0.76 cfs @ 12.39 hrs, Volume= 0.210 af, Atten= 0%, Lag= 5.3 min

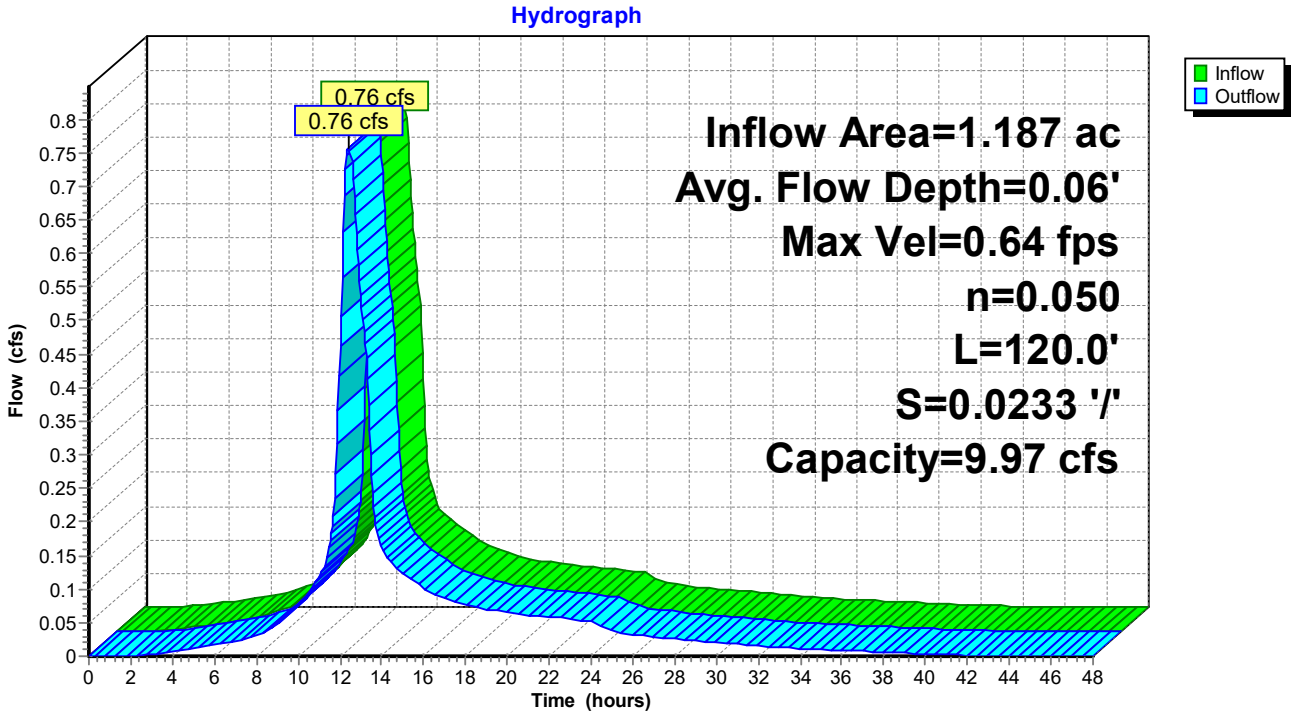
Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.64 fps, Min. Travel Time= 3.1 min
Avg. Velocity = 0.18 fps, Avg. Travel Time= 10.8 min

Peak Storage= 142 cf @ 12.34 hrs
Average Depth at Peak Storage= 0.06'
Bank-Full Depth= 0.25' Flow Area= 6.3 sf, Capacity= 9.97 cfs

20.00' x 0.25' deep channel, n= 0.050
Side Slope Z-value= 20.0 '/' Top Width= 30.00'
Length= 120.0' Slope= 0.0233 '/'
Inlet Invert= 61.50', Outlet Invert= 58.70'

‡

Reach 4R: WOODS



Summary for Reach 5R: Stream 2

Inflow Area = 1.187 ac, 55.59% Impervious, Inflow Depth > 2.12" for 2-Year event
Inflow = 0.76 cfs @ 12.39 hrs, Volume= 0.210 af
Outflow = 0.76 cfs @ 12.46 hrs, Volume= 0.209 af, Atten= 0%, Lag= 4.2 min

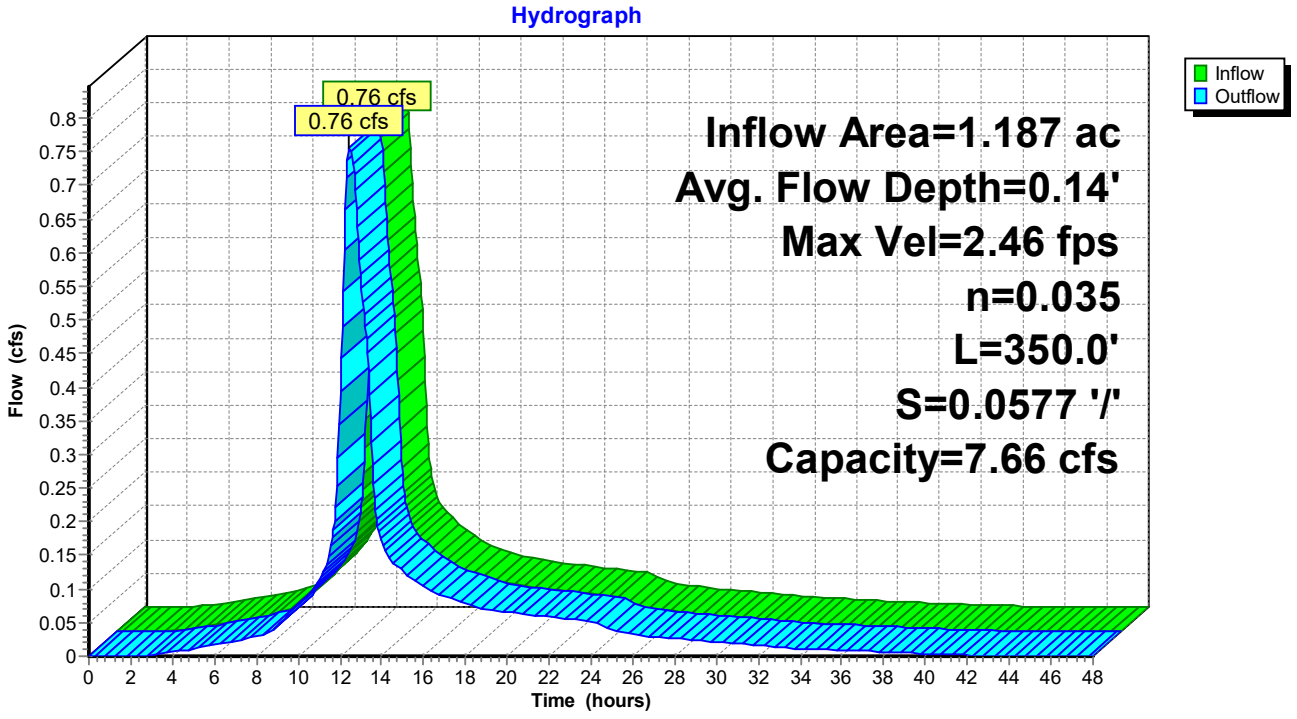
Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.46 fps, Min. Travel Time= 2.4 min
Avg. Velocity = 0.73 fps, Avg. Travel Time= 8.0 min

Peak Storage= 108 cf @ 12.42 hrs
Average Depth at Peak Storage= 0.14'
Bank-Full Depth= 0.50' Flow Area= 1.5 sf, Capacity= 7.66 cfs

2.00' x 0.50' deep channel, n= 0.035
Side Slope Z-value= 2.0 '/' Top Width= 4.00'
Length= 350.0' Slope= 0.0577 '/'
Inlet Invert= 58.70', Outlet Invert= 38.50'

‡

Reach 5R: Stream 2



Summary for Pond B-7: BIO-7

Inflow Area = 0.355 ac, 9.03% Impervious, Inflow Depth = 1.46" for 2-Year event
Inflow = 0.59 cfs @ 12.09 hrs, Volume= 0.043 af
Outflow = 0.02 cfs @ 16.02 hrs, Volume= 0.039 af, Atten= 96%, Lag= 235.2 min
Primary = 0.02 cfs @ 16.02 hrs, Volume= 0.039 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 65.83' @ 16.02 hrs Surf.Area= 1,207 sf Storage= 1,200 cf

Plug-Flow detention time= 608.1 min calculated for 0.039 af (90% of inflow)
Center-of-Mass det. time= 559.0 min (1,396.8 - 837.8)

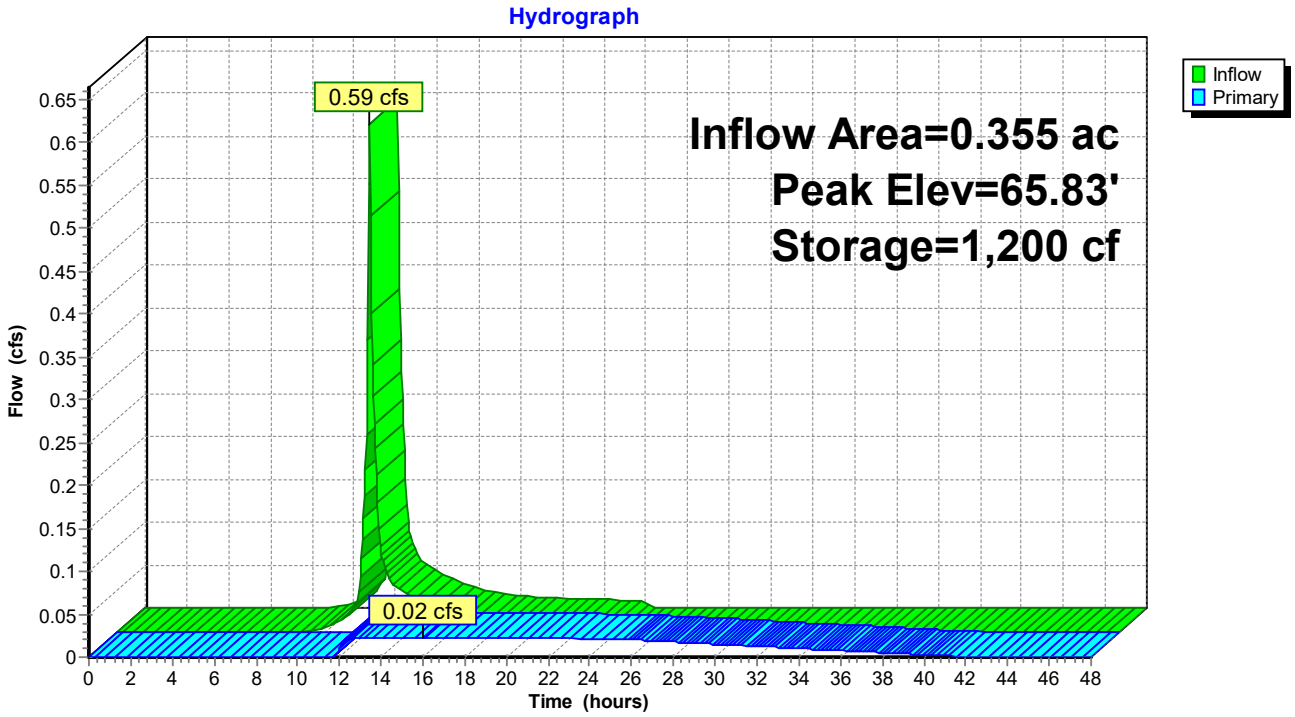
Volume	Invert	Avail.Storage	Storage Description
#1	63.50'	2,760 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
63.50	1,207	0.0	0	0
64.00	1,207	33.0	199	199
64.50	1,207	33.0	199	398
65.00	1,207	33.0	199	597
65.50	1,207	33.0	199	797
66.00	1,207	100.0	604	1,400
67.00	1,512	100.0	1,360	2,760

Device	Routing	Invert	Outlet Devices
#1	Primary	63.50'	**8.0" Round Culvert** L= 100.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 63.50' / 63.00' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 0.35 sf
#2	Device 1	63.97'	**0.8" Vert. Orifice/Grate** C= 0.600
#3	Device 1	66.50'	**10.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.02 cfs @ 16.02 hrs HW=65.83' (Free Discharge)
└**1=Culvert** (Passes 0.02 cfs of 1.62 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 0.02 cfs @ 6.52 fps)
  └**3=Orifice/Grate** (Controls 0.00 cfs)

Pond B-7: BIO-7


Hydrograph
Inflow
Primary
0.59 cfs
0.02 cfs
Inflow Area=0.355 ac
Peak Elev=65.83'
Storage=1,200 cf
Flow (cfs)
Time (hours)
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
0.55
0.6
0.65
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48

Summary for Pond B-8: BIO 8

Inflow Area = 0.194 ac, 19.25% Impervious, Inflow Depth = 1.53" for 2-Year event
Inflow = 0.34 cfs @ 12.09 hrs, Volume= 0.025 af
Outflow = 0.02 cfs @ 15.07 hrs, Volume= 0.020 af, Atten= 95%, Lag= 178.3 min
Primary = 0.02 cfs @ 15.07 hrs, Volume= 0.020 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 66.11' @ 15.07 hrs Surf.Area= 1,209 sf Storage= 644 cf

Plug-Flow detention time= 449.3 min calculated for 0.020 af (83% of inflow)
Center-of-Mass det. time= 377.0 min (1,211.4 - 834.4)

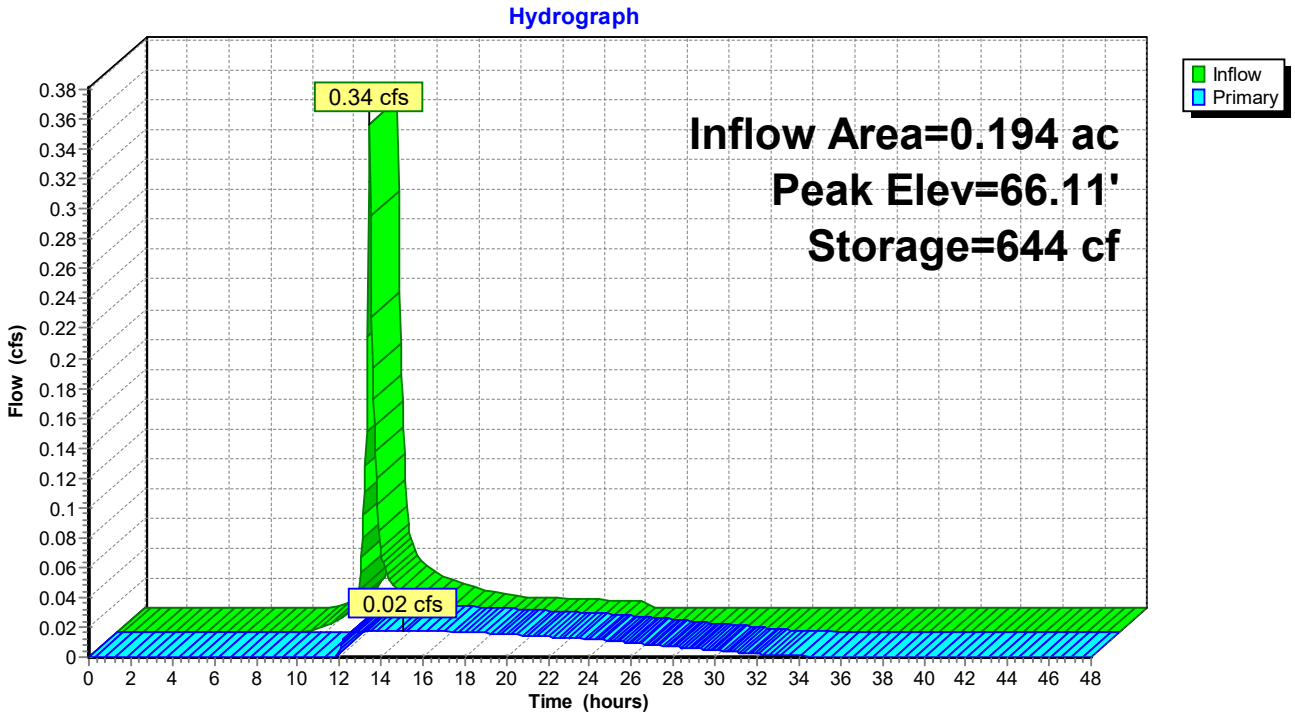
Volume	Invert	Avail.Storage	Storage Description
#1	64.50'	2,772 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
64.50	1,209	0.0	0	0
65.00	1,209	33.0	199	199
65.50	1,209	33.0	199	399
66.00	1,209	33.0	199	598
66.50	1,209	33.0	199	798
67.00	1,209	100.0	605	1,402
68.00	1,531	100.0	1,370	2,772

Device	Routing	Invert	Outlet Devices
#1	Primary	64.50'	**8.0" Round Culvert** L= 50.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 64.50' / 64.25' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 0.35 sf
#2	Device 1	64.97'	**0.8" Vert. Orifice/Grate** C= 0.600
#3	Device 1	67.50'	**10.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.02 cfs @ 15.07 hrs HW=66.11' (Free Discharge)
↑**1=Culvert** (Passes 0.02 cfs of 1.50 cfs potential flow)
↑**2=Orifice/Grate** (Orifice Controls 0.02 cfs @ 5.07 fps)
3=Orifice/Grate (Controls 0.00 cfs)

Pond B-8: BIO 8


Hydrograph
Inflow
Primary
0.34 cfs
0.02 cfs
Inflow Area=0.194 ac
Peak Elev=66.11'
Storage=644 cf
Flow (cfs)
Time (hours)
0
0.02
0.04
0.06
0.08
0.1
0.12
0.14
0.16
0.18
0.2
0.22
0.24
0.26
0.28
0.3
0.32
0.34
0.36
0.38
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48

Summary for Pond DS6: DRIP STRIP

Inflow Area = 0.524 ac, 90.97% Impervious, Inflow Depth = 2.87" for 2-Year event
Inflow = 1.54 cfs @ 12.09 hrs, Volume= 0.125 af
Outflow = 0.55 cfs @ 12.34 hrs, Volume= 0.125 af, Atten= 64%, Lag= 15.5 min
Primary = 0.55 cfs @ 12.34 hrs, Volume= 0.125 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 171.87' @ 12.34 hrs Surf.Area= 2,060 sf Storage= 1,078 cf

Plug-Flow detention time= 24.8 min calculated for 0.125 af (100% of inflow)
Center-of-Mass det. time= 24.2 min (781.2 - 757.1)

Volume	Invert	Avail.Storage	Storage Description
#1	170.25'	4,069 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

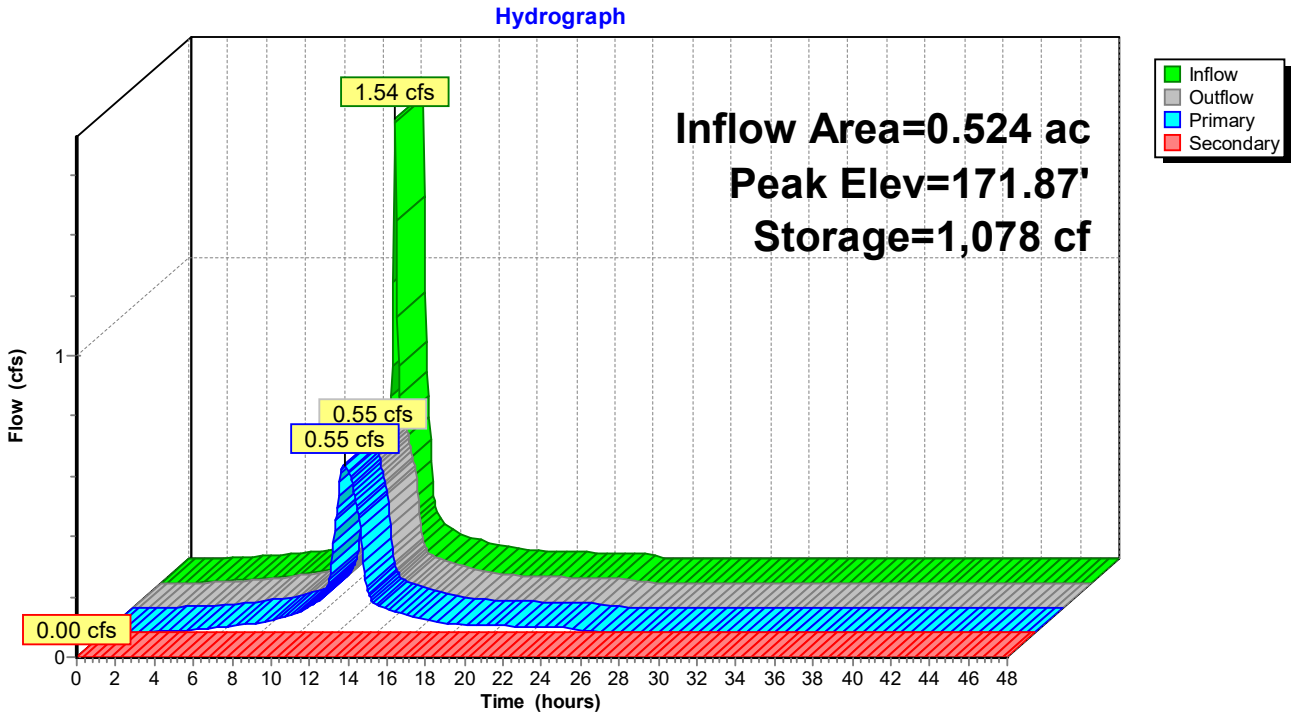
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
170.25	2,060	0.0	0	0
171.50	2,060	30.0	773	773
172.50	2,060	40.0	824	1,597
175.50	2,060	40.0	2,472	4,069

Device	Routing	Invert	Outlet Devices
#1	Primary	170.25'	**4.0" Round Culvert X 2.00** L= 96.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 170.25' / 169.50' S= 0.0078 '/' Cc= 0.900 n= 0.012, Flow Area= 0.09 sf
#2	Secondary	175.40'	**220.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.55 cfs @ 12.34 hrs HW=171.87' (Free Discharge)
1=Culvert (Barrel Controls 0.55 cfs @ 3.17 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=170.25' (Free Discharge)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond DS6: DRIP STRIP



Summary for Pond PP2: POROUS PAVEMENT

Inflow Area = 0.114 ac,100.00% Impervious, Inflow Depth = 2.87" for 2-Year event
Inflow = 0.33 cfs @ 12.09 hrs, Volume= 0.027 af
Outflow = 0.17 cfs @ 12.23 hrs, Volume= 0.025 af, Atten= 48%, Lag= 8.3 min
Primary = 0.17 cfs @ 12.23 hrs, Volume= 0.025 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 169.81' @ 12.23 hrs Surf.Area= 1,094 sf Storage= 293 cf

Plug-Flow detention time= 103.6 min calculated for 0.025 af (92% of inflow)
Center-of-Mass det. time= 62.8 min (819.9 - 757.1)

Volume	Invert	Avail.Storage	Storage Description
#1	169.00'	1,361 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

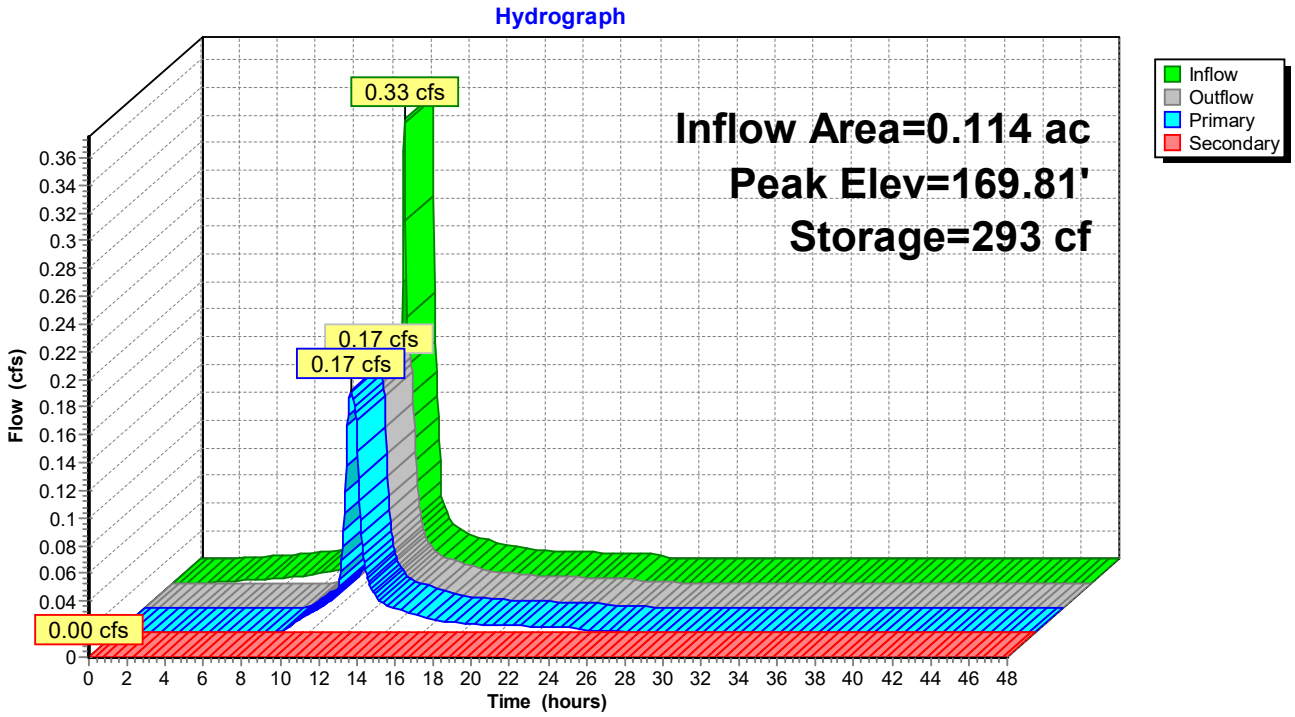
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
169.00	1,094	0.0	0	0
170.00	1,094	33.0	361	361
171.00	1,094	33.0	361	722
172.00	1,094	33.0	361	1,083
172.67	1,094	33.0	242	1,325
173.00	1,094	10.0	36	1,361

Device	Routing	Invert	Outlet Devices
#1	Primary	169.25'	**4.0" Round Culvert** L= 50.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 169.25' / 169.00' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 0.09 sf
#2	Secondary	172.83'	**220.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.17 cfs @ 12.23 hrs HW=169.81' (Free Discharge)
1=Culvert (Barrel Controls 0.17 cfs @ 2.00 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=169.00' (Free Discharge)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond PP2: POROUS PAVEMENT

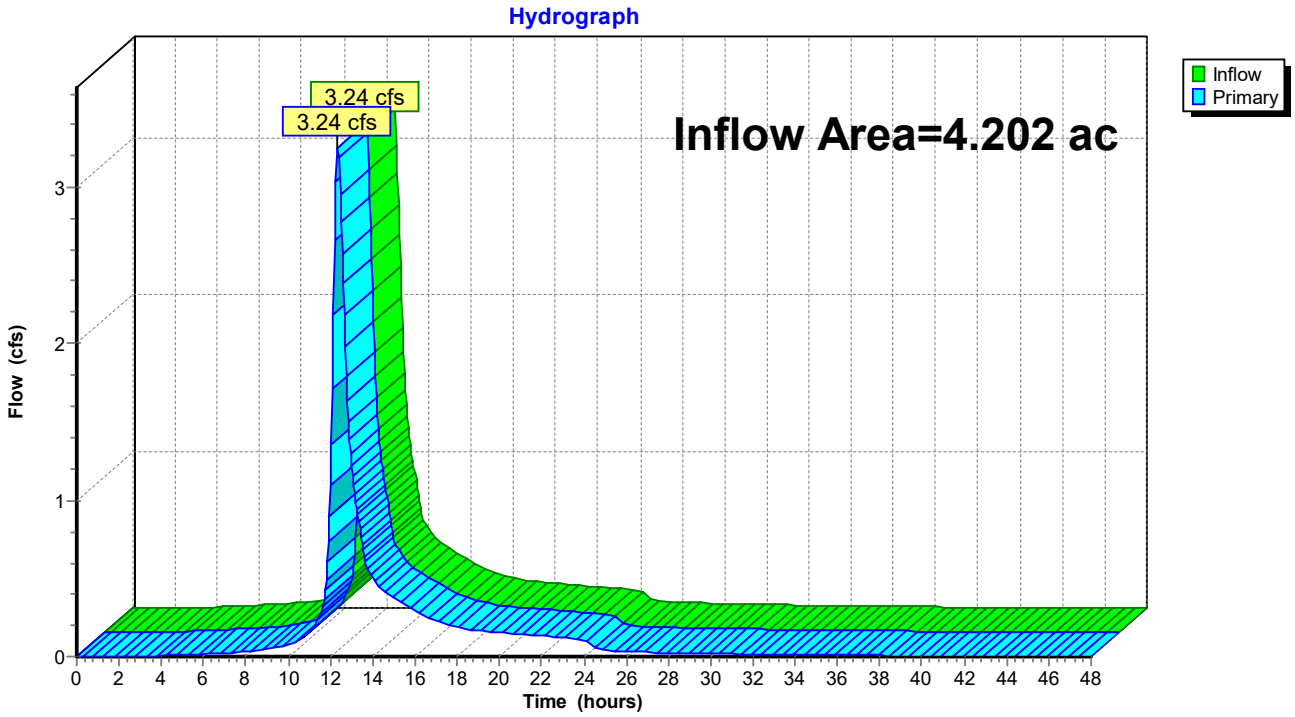


Summary for Link DP-2: DP#2

Inflow Area = 4.202 ac, 15.70% Impervious, Inflow Depth = 1.42" for 2-Year event
Inflow = 3.24 cfs @ 12.33 hrs, Volume= 0.496 af
Primary = 3.24 cfs @ 12.33 hrs, Volume= 0.496 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link DP-2: DP#2



Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 202A: TO DRIP EDGE 6 Runoff Area=22,810 sf 90.97% Impervious Runoff Depth=4.26"
Tc=6.0 min CN=98 Runoff=2.25 cfs 0.186 af

Subcatchment 202B: TO BIO 7 Runoff Area=15,470 sf 9.03% Impervious Runoff Depth=2.64"
Tc=6.0 min CN=82 Runoff=1.07 cfs 0.078 af

Subcatchment 202C: TO BIO 8 Runoff Area=8,462 sf 19.25% Impervious Runoff Depth=2.73"
Tc=6.0 min CN=83 Runoff=0.61 cfs 0.044 af

Subcatchment 202D: FIRE LANE TO POROUS Runoff Area=4,967 sf 100.00% Impervious Runoff Depth=4.26"
Tc=6.0 min CN=98 Runoff=0.49 cfs 0.041 af

Subcatchment 202E: UNCAPTURED Runoff Area=131,343 sf 0.00% Impervious Runoff Depth=2.21"
Flow Length=620' Tc=21.8 min CN=77 Runoff=5.05 cfs 0.555 af

Reach 4R: WOODS Avg. Flow Depth=0.06' Max Vel=0.69 fps Inflow=0.93 cfs 0.337 af
n=0.050 L=120.0' S=0.0233 '/' Capacity=9.97 cfs Outflow=0.93 cfs 0.336 af

Reach 5R: Stream 2 Avg. Flow Depth=0.15' Max Vel=2.64 fps Inflow=0.93 cfs 0.336 af
n=0.035 L=350.0' S=0.0577 '/' Capacity=7.66 cfs Outflow=0.93 cfs 0.336 af

Pond B-7: BIO-7 Peak Elev=66.53' Storage=2,085 cf Inflow=1.07 cfs 0.078 af
Outflow=0.08 cfs 0.072 af

Pond B-8: BIO 8 Peak Elev=66.89' Storage=1,265 cf Inflow=0.61 cfs 0.044 af
Outflow=0.02 cfs 0.040 af

Pond DS6: DRIP STRIP Peak Elev=172.80' Storage=1,843 cf Inflow=2.25 cfs 0.186 af
Primary=0.67 cfs 0.186 af Secondary=0.00 cfs 0.000 af Outflow=0.67 cfs 0.186 af

Pond PP2: POROUS PAVEMENT Peak Elev=170.12' Storage=405 cf Inflow=0.49 cfs 0.041 af
Primary=0.22 cfs 0.038 af Secondary=0.00 cfs 0.000 af Outflow=0.22 cfs 0.038 af

Link DP-2: DP#2 Inflow=5.93 cfs 0.892 af
Primary=5.93 cfs 0.892 af

Total Runoff Area = 4.202 ac Runoff Volume = 0.904 af Average Runoff Depth = 2.58"
84.30% Pervious = 3.542 ac 15.70% Impervious = 0.660 ac

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 202A: TO DRIP EDGE 6 Runoff Area=22,810 sf 90.97% Impervious Runoff Depth=5.26"
Tc=6.0 min CN=98 Runoff=2.75 cfs 0.230 af

Subcatchment 202B: TO BIO 7 Runoff Area=15,470 sf 9.03% Impervious Runoff Depth=3.53"
Tc=6.0 min CN=82 Runoff=1.43 cfs 0.104 af

Subcatchment 202C: TO BIO 8 Runoff Area=8,462 sf 19.25% Impervious Runoff Depth=3.63"
Tc=6.0 min CN=83 Runoff=0.80 cfs 0.059 af

Subcatchment 202D: FIRE LANE TO POROUS Runoff Area=4,967 sf 100.00% Impervious Runoff Depth=5.26"
Tc=6.0 min CN=98 Runoff=0.60 cfs 0.050 af

Subcatchment 202E: UNCAPTURED Runoff Area=131,343 sf 0.00% Impervious Runoff Depth=3.05"
Flow Length=620' Tc=21.8 min CN=77 Runoff=6.99 cfs 0.765 af

Reach 4R: WOODS Avg. Flow Depth=0.08' Max Vel=0.81 fps Inflow=1.45 cfs 0.430 af
n=0.050 L=120.0' S=0.0233 '/' Capacity=9.97 cfs Outflow=1.44 cfs 0.430 af

Reach 5R: Stream 2 Avg. Flow Depth=0.20' Max Vel=3.04 fps Inflow=1.44 cfs 0.430 af
n=0.035 L=350.0' S=0.0577 '/' Capacity=7.66 cfs Outflow=1.43 cfs 0.430 af

Pond B-7: BIO-7 Peak Elev=66.63' Storage=2,221 cf Inflow=1.43 cfs 0.104 af
Outflow=0.43 cfs 0.098 af

Pond B-8: BIO 8 Peak Elev=67.29' Storage=1,764 cf Inflow=0.80 cfs 0.059 af
Outflow=0.03 cfs 0.054 af

Pond DS6: DRIP STRIP Peak Elev=173.51' Storage=2,430 cf Inflow=2.75 cfs 0.230 af
Primary=0.74 cfs 0.230 af Secondary=0.00 cfs 0.000 af Outflow=0.74 cfs 0.230 af

Pond PP2: POROUS PAVEMENT Peak Elev=170.37' Storage=494 cf Inflow=0.60 cfs 0.050 af
Primary=0.26 cfs 0.048 af Secondary=0.00 cfs 0.000 af Outflow=0.26 cfs 0.048 af

Link DP-2: DP#2 Inflow=7.98 cfs 1.195 af
Primary=7.98 cfs 1.195 af

Total Runoff Area = 4.202 ac Runoff Volume = 1.208 af Average Runoff Depth = 3.45"
84.30% Pervious = 3.542 ac 15.70% Impervious = 0.660 ac

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 202A: TO DRIP EDGE 6 Runoff Area=22,810 sf 90.97% Impervious Runoff Depth=6.26"
Tc=6.0 min CN=98 Runoff=3.26 cfs 0.273 af

Subcatchment 202B: TO BIO 7 Runoff Area=15,470 sf 9.03% Impervious Runoff Depth=4.45"
Tc=6.0 min CN=82 Runoff=1.79 cfs 0.132 af

Subcatchment 202C: TO BIO 8 Runoff Area=8,462 sf 19.25% Impervious Runoff Depth=4.56"
Tc=6.0 min CN=83 Runoff=1.00 cfs 0.074 af

Subcatchment 202D: FIRE LANE TO POROUS Runoff Area=4,967 sf 100.00% Impervious Runoff Depth=6.26"
Tc=6.0 min CN=98 Runoff=0.71 cfs 0.059 af

Subcatchment 202E: UNCAPTURED Runoff Area=131,343 sf 0.00% Impervious Runoff Depth=3.92"
Flow Length=620' Tc=21.8 min CN=77 Runoff=8.98 cfs 0.985 af

Reach 4R: WOODS Avg. Flow Depth=0.10' Max Vel=0.92 fps Inflow=2.02 cfs 0.524 af
n=0.050 L=120.0' S=0.0233 '/' Capacity=9.97 cfs Outflow=2.01 cfs 0.524 af

Reach 5R: Stream 2 Avg. Flow Depth=0.24' Max Vel=3.39 fps Inflow=2.01 cfs 0.524 af
n=0.035 L=350.0' S=0.0577 '/' Capacity=7.66 cfs Outflow=1.97 cfs 0.523 af

Pond B-7: BIO-7 Peak Elev=66.72' Storage=2,350 cf Inflow=1.79 cfs 0.132 af
Outflow=0.92 cfs 0.125 af

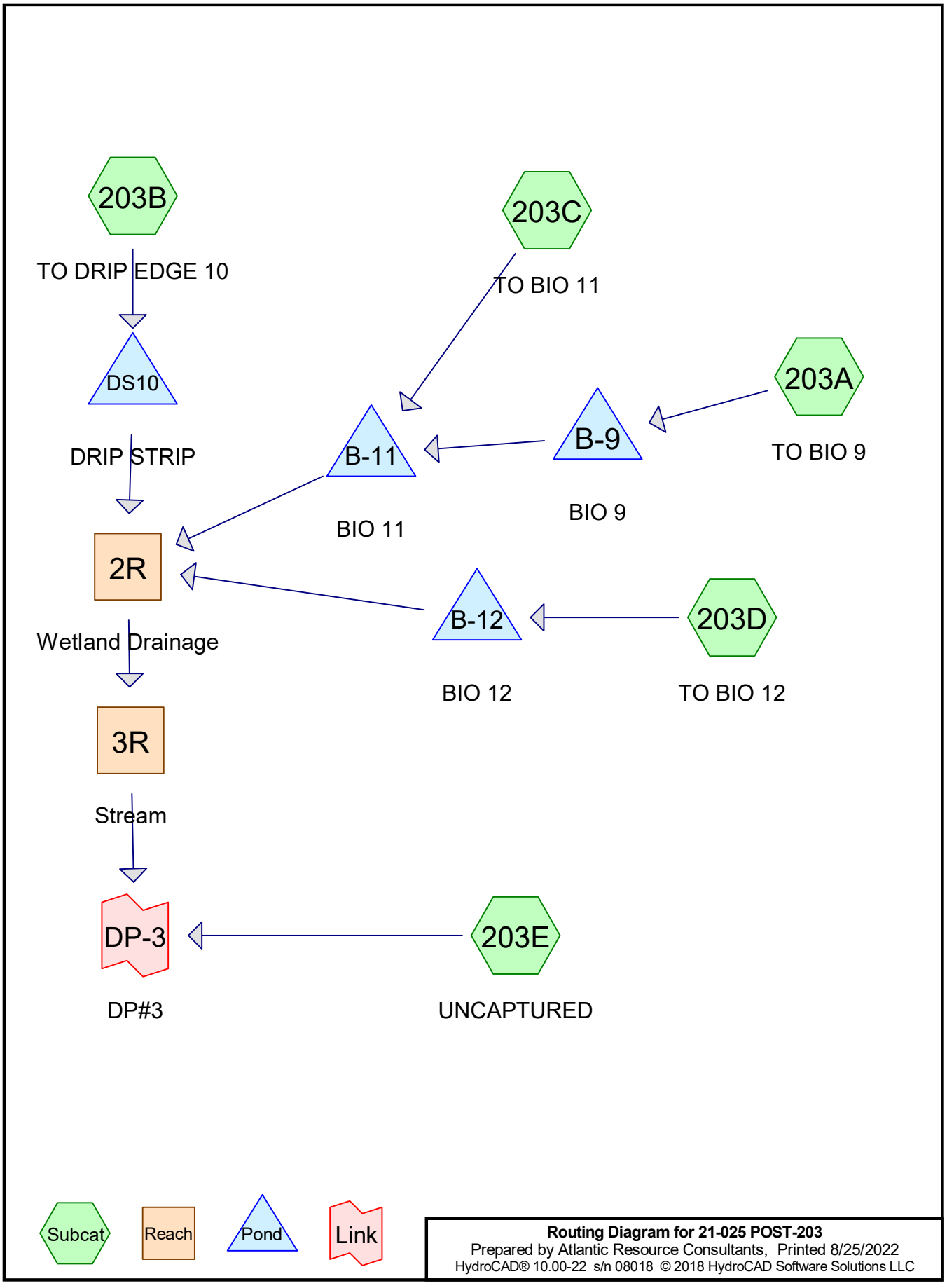
Pond B-8: BIO 8 Peak Elev=67.52' Storage=2,080 cf Inflow=1.00 cfs 0.074 af
Outflow=0.06 cfs 0.068 af

Pond DS6: DRIP STRIP Peak Elev=174.26' Storage=3,043 cf Inflow=3.26 cfs 0.273 af
Primary=0.81 cfs 0.273 af Secondary=0.00 cfs 0.000 af Outflow=0.81 cfs 0.273 af

Pond PP2: POROUS PAVEMENT Peak Elev=170.63' Storage=589 cf Inflow=0.71 cfs 0.059 af
Primary=0.29 cfs 0.057 af Secondary=0.00 cfs 0.000 af Outflow=0.29 cfs 0.057 af

Link DP-2: DP#2 Inflow=10.77 cfs 1.508 af
Primary=10.77 cfs 1.508 af

Total Runoff Area = 4.202 ac Runoff Volume = 1.523 af Average Runoff Depth = 4.35"
84.30% Pervious = 3.542 ac 15.70% Impervious = 0.660 ac



Routing Diagram for 21-025 POST-203
Prepared by Atlantic Resource Consultants, Printed 8/25/2022

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 203A: TO BIO 9 Runoff Area=10,948 sf 13.06% Impervious Runoff Depth=1.46"
Tc=6.0 min CN=82 Runoff=0.42 cfs 0.031 af

Subcatchment 203B: TO DRIP EDGE 10 Runoff Area=12,040 sf 84.73% Impervious Runoff Depth=2.87"
Tc=6.0 min CN=98 Runoff=0.81 cfs 0.066 af

Subcatchment 203C: TO BIO 11 Runoff Area=17,429 sf 35.06% Impervious Runoff Depth=1.75"
Tc=6.0 min CN=86 Runoff=0.80 cfs 0.058 af

Subcatchment 203D: TO BIO 12 Runoff Area=8,411 sf 22.82% Impervious Runoff Depth=1.60"
Tc=6.0 min CN=84 Runoff=0.35 cfs 0.026 af

Subcatchment 203E: UNCAPTURED Runoff Area=225,200 sf 0.74% Impervious Runoff Depth=1.08"
Flow Length=769' Tc=23.2 min CN=76 Runoff=3.96 cfs 0.467 af

Reach 2R: Wetland Drainage Avg. Flow Depth=0.06' Max Vel=0.38 fps Inflow=0.46 cfs 0.168 af
n=0.080 L=450.0' S=0.0200 '/' Capacity=5.20 cfs Outflow=0.42 cfs 0.167 af

Reach 3R: Stream Avg. Flow Depth=0.10' Max Vel=1.95 fps Inflow=0.42 cfs 0.167 af
n=0.035 L=304.0' S=0.0543 '/' Capacity=28.71 cfs Outflow=0.42 cfs 0.167 af

Pond B-11: BIO 11 Peak Elev=65.88' Storage=1,937 cf Inflow=0.81 cfs 0.087 af
Outflow=0.04 cfs 0.079 af

Pond B-12: BIO 12 Peak Elev=72.74' Storage=679 cf Inflow=0.35 cfs 0.026 af
Outflow=0.02 cfs 0.023 af

Pond B-9: BIO 9 Peak Elev=72.52' Storage=755 cf Inflow=0.42 cfs 0.031 af
Outflow=0.04 cfs 0.029 af

Pond DS10: DRIP STRIP Peak Elev=171.01' Storage=419 cf Inflow=0.81 cfs 0.066 af
Primary=0.42 cfs 0.066 af Secondary=0.00 cfs 0.000 af Outflow=0.42 cfs 0.066 af

Link DP-3: DP#3 Inflow=4.10 cfs 0.633 af
Primary=4.10 cfs 0.633 af

Total Runoff Area = 6.291 ac Runoff Volume = 0.647 af Average Runoff Depth = 1.23"
92.22% Pervious = 5.801 ac 7.78% Impervious = 0.490 ac

Summary for Subcatchment 203A: TO BIO 9

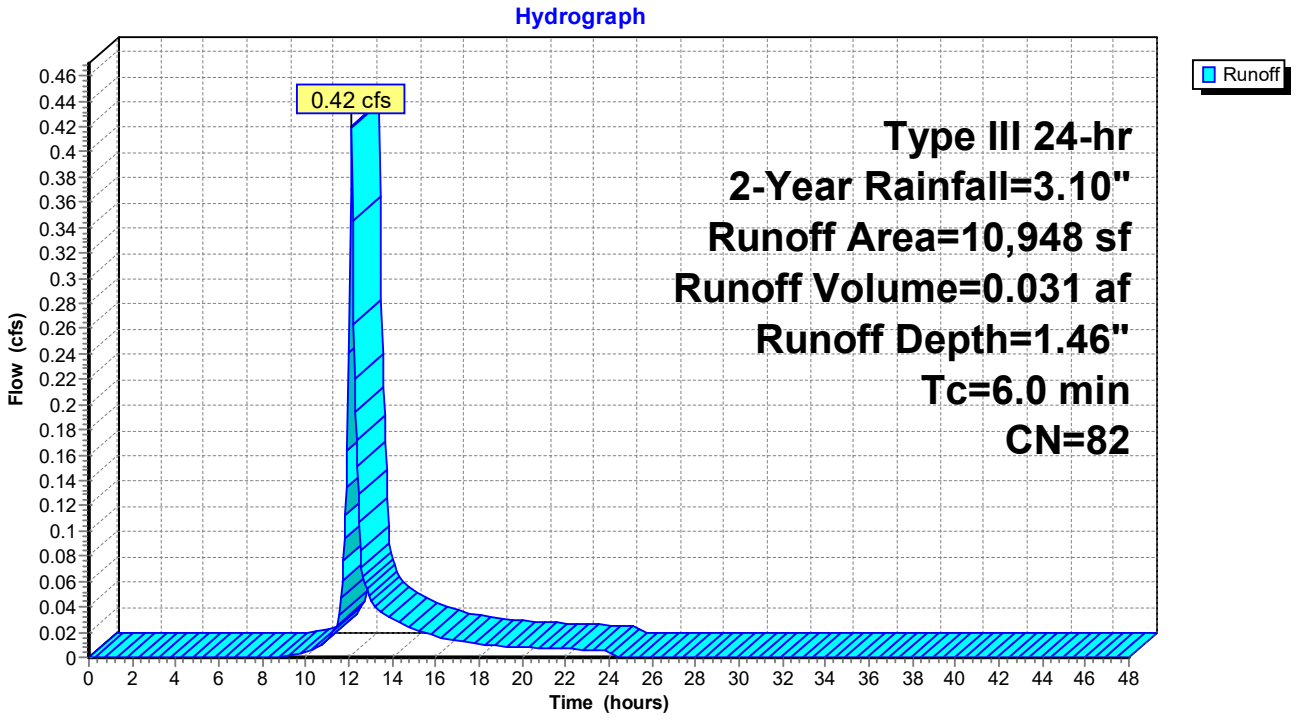
Runoff = 0.42 cfs @ 12.09 hrs, Volume= 0.031 af, Depth= 1.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
	9,518	80	>75% Grass cover, Good, HSG D
*	1,430	98	Paved
	10,948	82	Weighted Average
	9,518		86.94% Pervious Area
	1,430		13.06% Impervious Area

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

Subcatchment 203A: TO BIO 9



Summary for Subcatchment 203B: TO DRIP EDGE 10

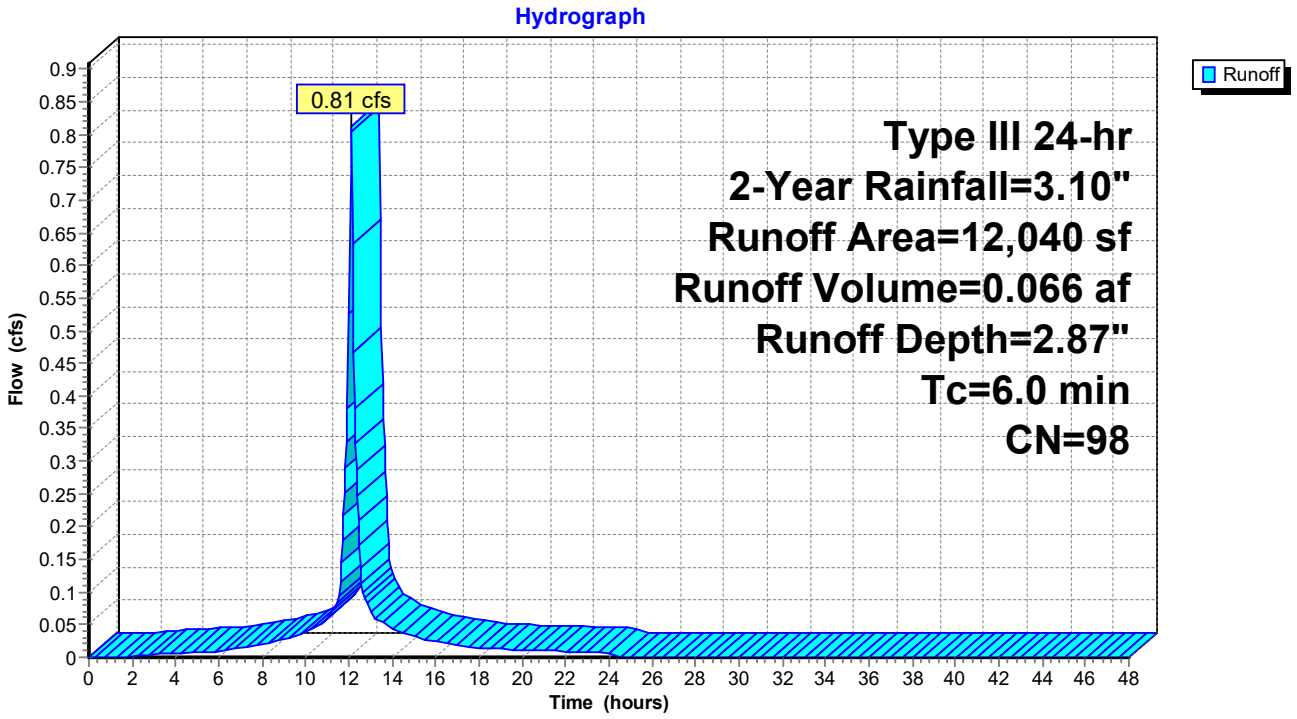
Runoff = 0.81 cfs @ 12.09 hrs, Volume= 0.066 af, Depth= 2.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
*	10,202	98	Roof
*	1,838	98	Drip Edge Surface, 0% imp, HSG C
	12,040	98	Weighted Average
	1,838		15.27% Pervious Area
	10,202		84.73% Impervious Area

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

Subcatchment 203B: TO DRIP EDGE 10



Summary for Subcatchment 203C: TO BIO 11

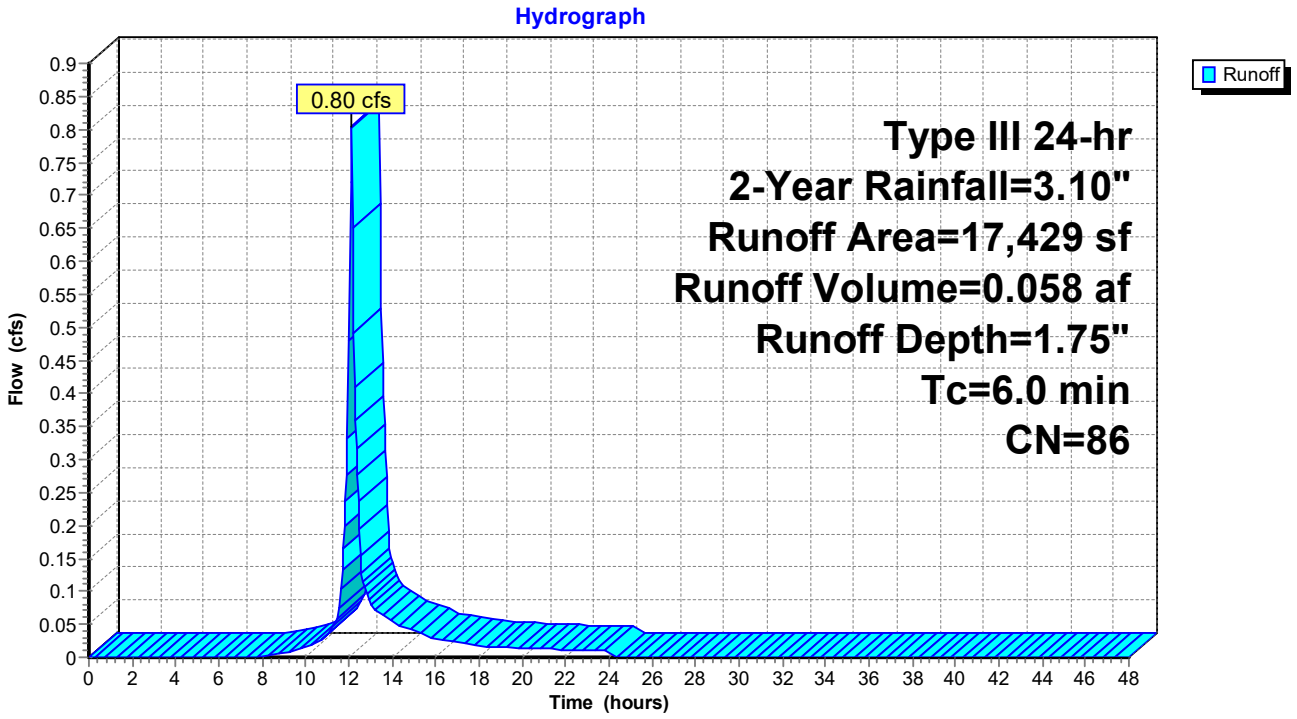
Runoff = 0.80 cfs @ 12.09 hrs, Volume= 0.058 af, Depth= 1.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
	11,319	80	>75% Grass cover, Good, HSG D
*	6,110	98	Paved parking
	17,429	86	Weighted Average
	11,319		64.94% Pervious Area
	6,110		35.06% Impervious Area

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

Subcatchment 203C: TO BIO 11



Summary for Subcatchment 203D: TO BIO 12

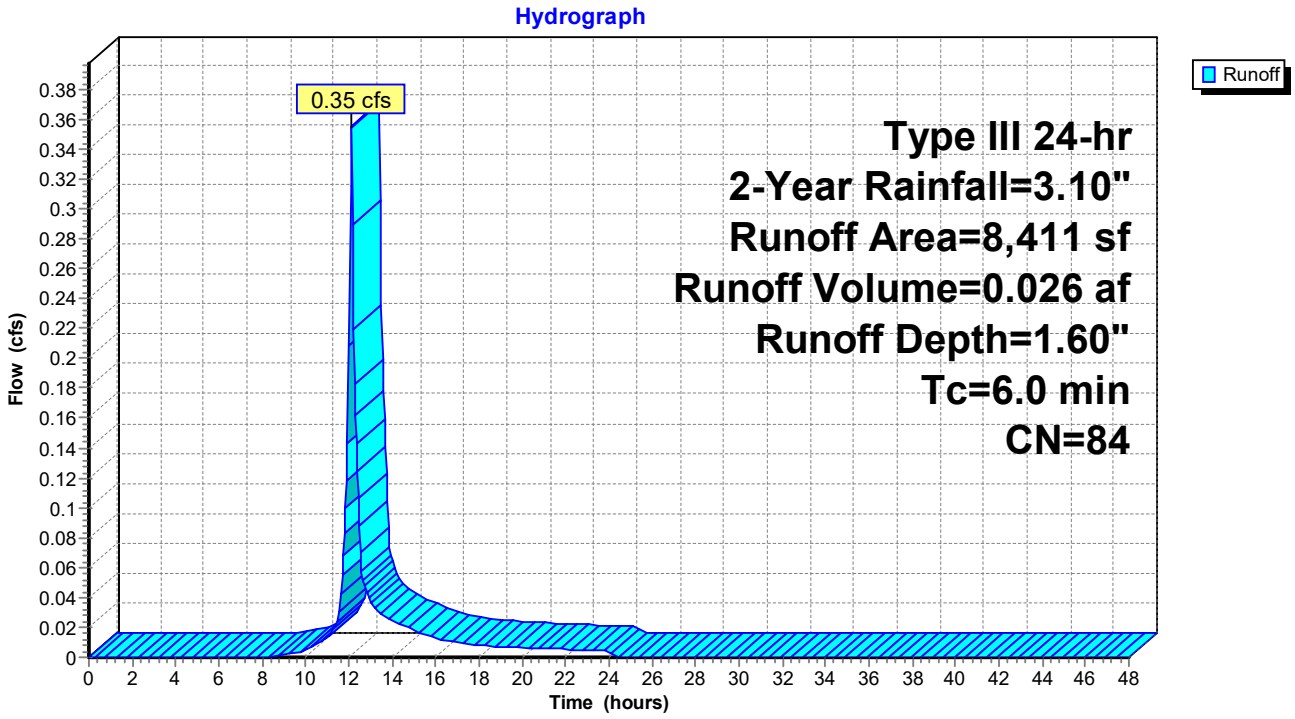
Runoff = 0.35 cfs @ 12.09 hrs, Volume= 0.026 af, Depth= 1.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
	6,492	80	>75% Grass cover, Good, HSG D
*	1,919	98	Paved parking
	8,411	84	Weighted Average
	6,492		77.18% Pervious Area
	1,919		22.82% Impervious Area

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

Subcatchment 203D: TO BIO 12



Summary for Subcatchment 203E: UNCAPTURED

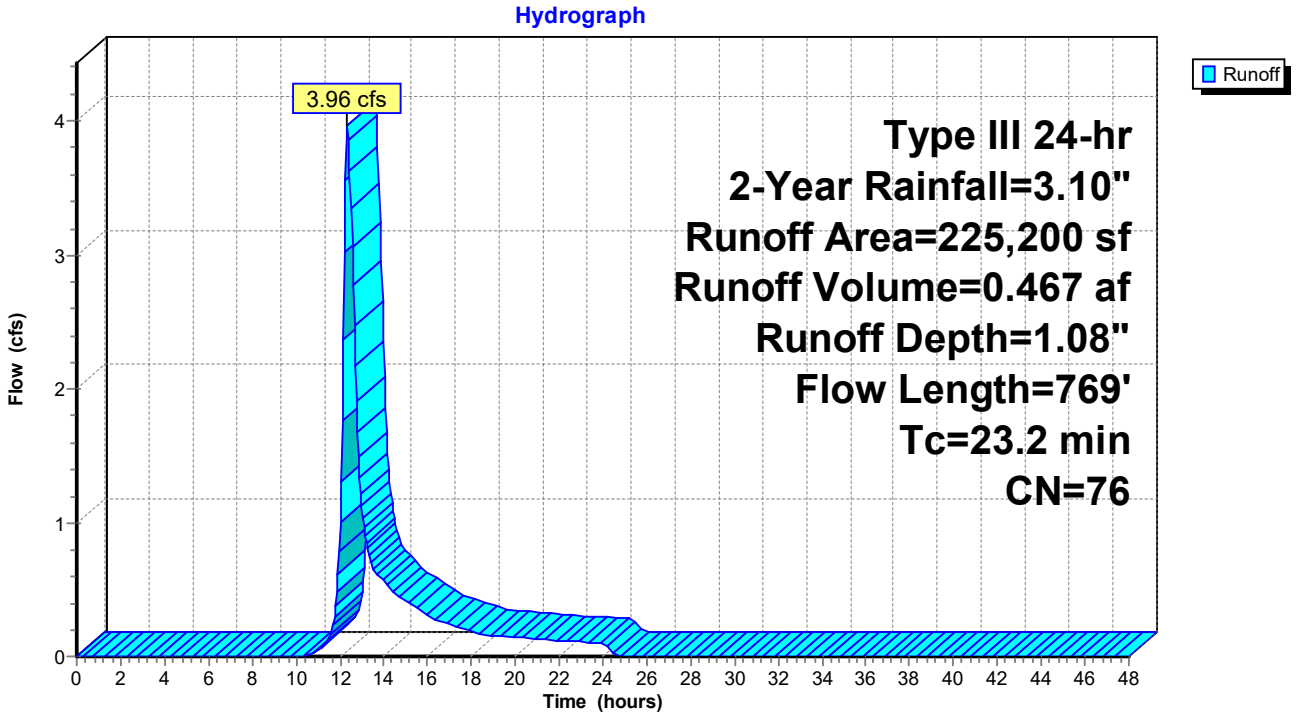
Runoff = 3.96 cfs @ 12.35 hrs, Volume= 0.467 af, Depth= 1.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
	201,964	77	Woods, Good, HSG D
	21,566	70	Woods, Good, HSG C
*	1,670	98	Paved fire lane, HSG D
	225,200	76	Weighted Average
	223,530		99.26% Pervious Area
	1,670		0.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.9	60	0.0270	0.08		**Sheet Flow, Woods** Woods: Light underbrush n= 0.400 P2= 3.10"
9.5	405	0.0200	0.71		**Shallow Concentrated Flow, Woods** Woodland Kv= 5.0 fps
0.8	304	0.0550	6.27	12.55	**Channel Flow, Stream** Area= 2.0 sf Perim= 4.0' r= 0.50' n= 0.035
23.2	769	Total			

Subcatchment 203E: UNCAPTURED



Summary for Reach 2R: Wetland Drainage

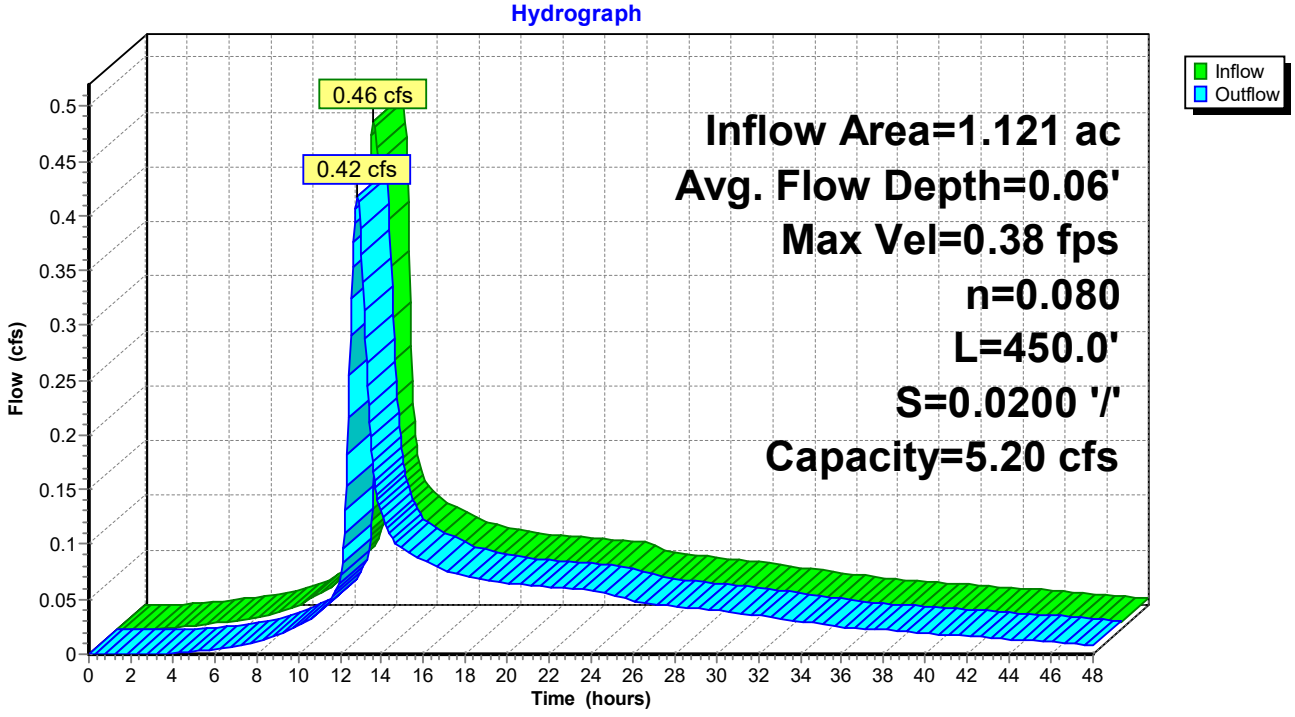
Inflow Area = 1.121 ac, 40.27% Impervious, Inflow Depth > 1.80" for 2-Year event
Inflow = 0.46 cfs @ 12.25 hrs, Volume= 0.168 af
Outflow = 0.42 cfs @ 12.86 hrs, Volume= 0.167 af, Atten= 10%, Lag= 36.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.38 fps, Min. Travel Time= 19.8 min
Avg. Velocity = 0.14 fps, Avg. Travel Time= 54.5 min

Peak Storage= 497 cf @ 12.53 hrs
Average Depth at Peak Storage= 0.06'
Bank-Full Depth= 0.25' Flow Area= 5.1 sf, Capacity= 5.20 cfs

20.00' x 0.25' deep channel, n= 0.080 Earth, long dense weeds
Side Slope Z-value= 1.0 '/' Top Width= 20.50'
Length= 450.0' Slope= 0.0200 '/'
Inlet Invert= 62.00', Outlet Invert= 53.00'

Reach 2R: Wetland Drainage



Summary for Reach 3R: Stream

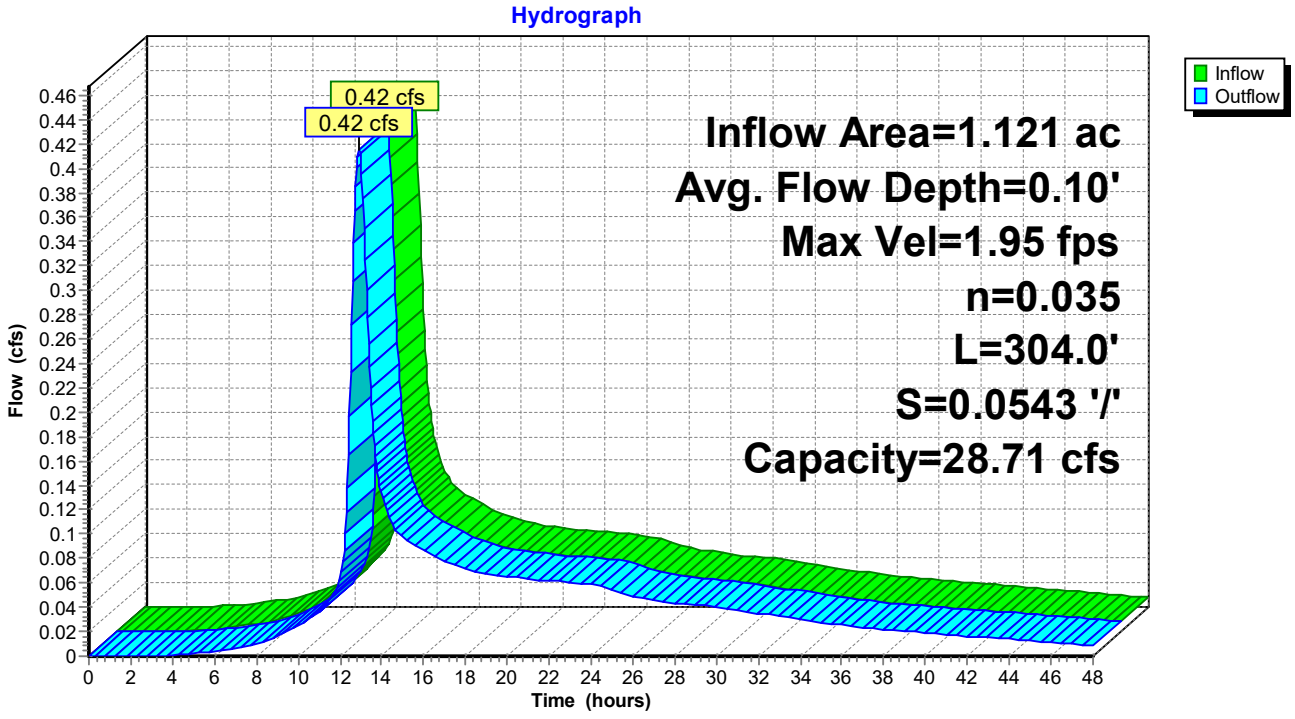
Inflow Area = 1.121 ac, 40.27% Impervious, Inflow Depth > 1.79" for 2-Year event
Inflow = 0.42 cfs @ 12.86 hrs, Volume= 0.167 af
Outflow = 0.42 cfs @ 12.93 hrs, Volume= 0.167 af, Atten= 0%, Lag= 4.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.95 fps, Min. Travel Time= 2.6 min
Avg. Velocity = 0.78 fps, Avg. Travel Time= 6.5 min

Peak Storage= 65 cf @ 12.88 hrs
Average Depth at Peak Storage= 0.10'
Bank-Full Depth= 1.00' Flow Area= 4.0 sf, Capacity= 28.71 cfs

2.00' x 1.00' deep channel, n= 0.035
Side Slope Z-value= 2.0 '/' Top Width= 6.00'
Length= 304.0' Slope= 0.0543 '/'
Inlet Invert= 54.00', Outlet Invert= 37.50'

Reach 3R: Stream



Summary for Pond B-11: BIO 11

Inflow Area = 0.651 ac, 26.57% Impervious, Inflow Depth > 1.60" for 2-Year event
Inflow = 0.81 cfs @ 12.09 hrs, Volume= 0.087 af
Outflow = 0.04 cfs @ 17.04 hrs, Volume= 0.079 af, Atten= 96%, Lag= 296.7 min
Primary = 0.04 cfs @ 17.04 hrs, Volume= 0.079 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 65.88' @ 17.04 hrs Surf.Area= 1,859 sf Storage= 1,937 cf

Plug-Flow detention time= 670.7 min calculated for 0.079 af (91% of inflow)
Center-of-Mass det. time= 548.5 min (1,594.7 - 1,046.2)

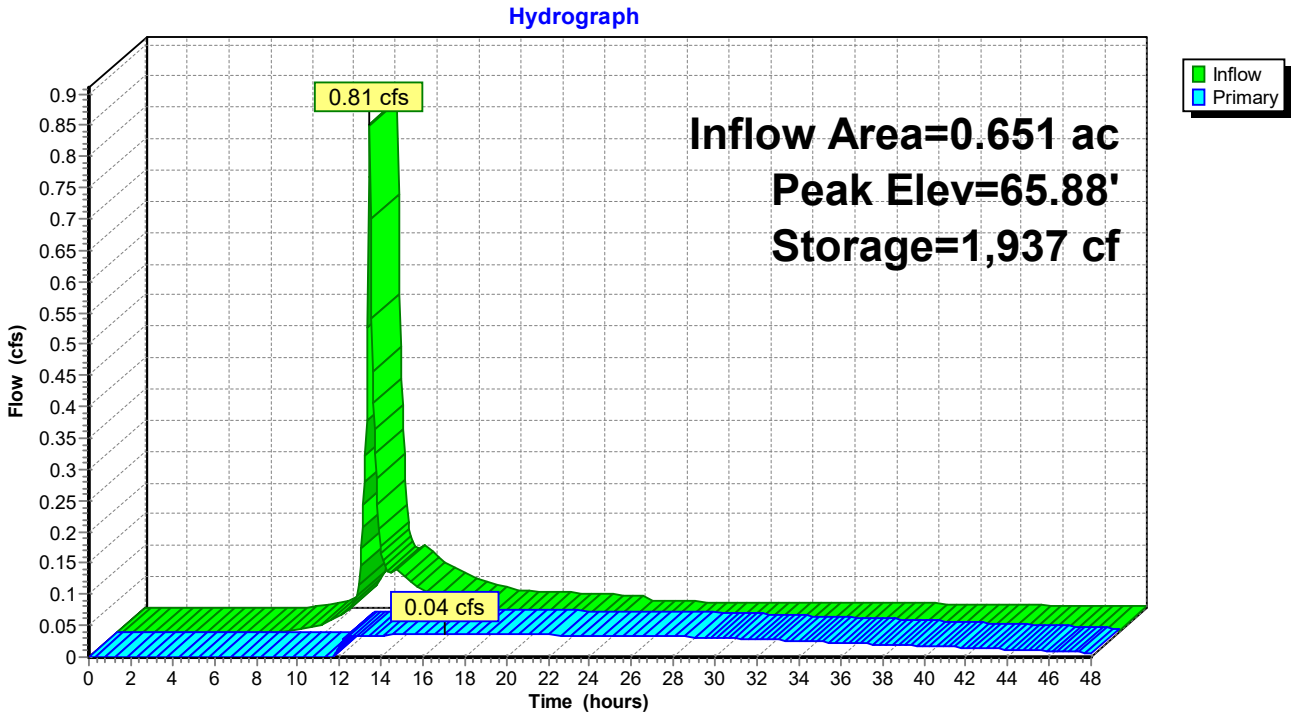
Volume	Invert	Avail.Storage	Storage Description
#1	63.50'	4,281 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
63.50	1,859	0.0	0	0
64.00	1,859	33.0	307	307
64.50	1,859	33.0	307	613
65.00	1,859	33.0	307	920
65.50	1,859	33.0	307	1,227
66.00	1,859	100.0	930	2,156
67.00	2,391	100.0	2,125	4,281

Device	Routing	Invert	Outlet Devices
#1	Primary	63.75'	**8.0" Round Culvert** L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 63.75' / 63.50' S= 0.0063 '/' Cc= 0.900 n= 0.012, Flow Area= 0.35 sf
#2	Device 1	63.96'	**1.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	66.50'	**10.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.04 cfs @ 17.04 hrs HW=65.88' (Free Discharge)
↑**1=Culvert** (Passes 0.04 cfs of 1.78 cfs potential flow)
↑**2=Orifice/Grate** (Orifice Controls 0.04 cfs @ 6.60 fps)
3=Orifice/Grate (Controls 0.00 cfs)

Pond B-11: BIO 11



Summary for Pond B-12: BIO 12

Inflow Area = 0.193 ac, 22.82% Impervious, Inflow Depth = 1.60" for 2-Year event
Inflow = 0.35 cfs @ 12.09 hrs, Volume= 0.026 af
Outflow = 0.02 cfs @ 15.27 hrs, Volume= 0.023 af, Atten= 95%, Lag= 190.7 min
Primary = 0.02 cfs @ 15.27 hrs, Volume= 0.023 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 72.74' @ 15.27 hrs Surf.Area= 755 sf Storage= 679 cf

Plug-Flow detention time= 478.0 min calculated for 0.023 af (90% of inflow)
Center-of-Mass det. time= 427.6 min (1,258.6 - 831.0)

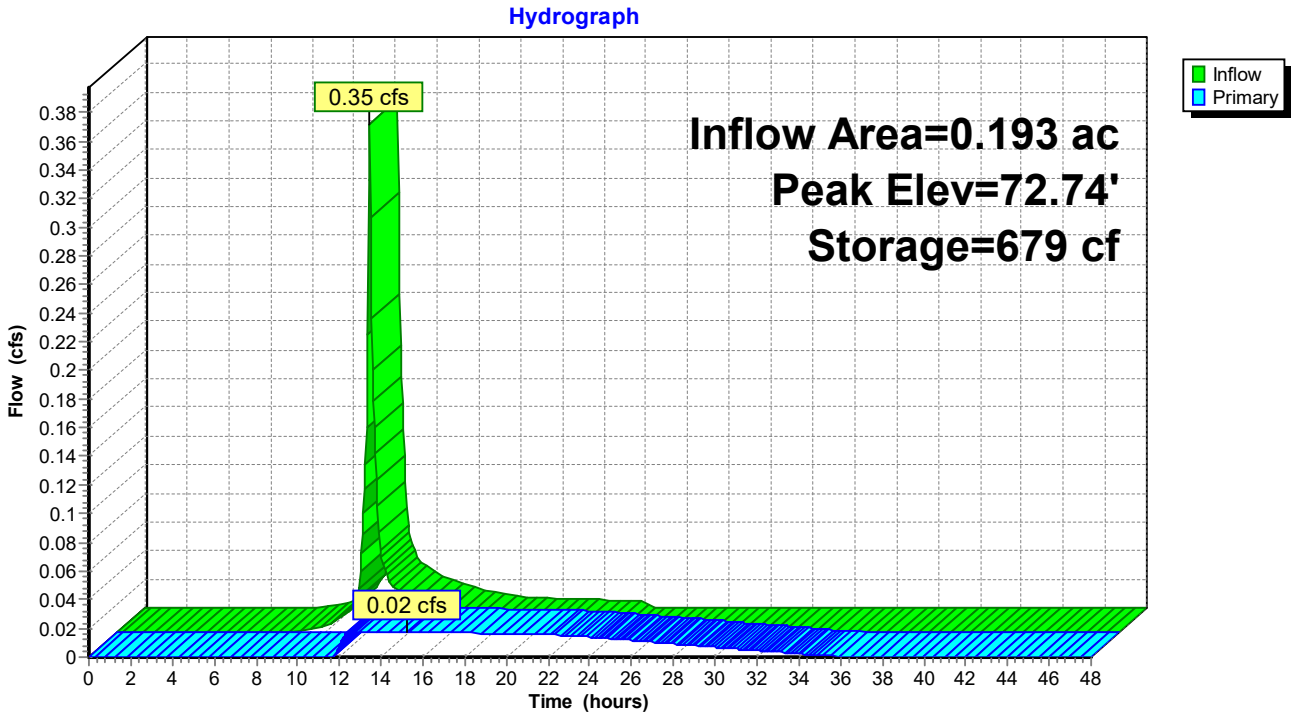
Volume	Invert	Avail.Storage	Storage Description
#1	70.50'	1,801 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
70.50	755	0.0	0	0
71.00	755	33.0	125	125
71.50	755	33.0	125	249
72.00	755	33.0	125	374
72.50	755	33.0	125	498
73.00	755	100.0	378	876
74.00	1,096	100.0	926	1,801

Device	Routing	Invert	Outlet Devices
#1	Primary	70.40'	**8.0" Round Culvert** L= 50.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 70.40' / 70.00' S= 0.0080 '/' Cc= 0.900 n= 0.012, Flow Area= 0.35 sf
#2	Device 1	70.97'	**0.7" Vert. Orifice/Grate** C= 0.600
#3	Device 1	73.50'	**8.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.02 cfs @ 15.27 hrs HW=72.74' (Free Discharge)
↑**1=Culvert** (Passes 0.02 cfs of 1.88 cfs potential flow)
↑**2=Orifice/Grate** (Orifice Controls 0.02 cfs @ 6.35 fps)
3=Orifice/Grate (Controls 0.00 cfs)

Pond B-12: BIO 12



Summary for Pond B-9: BIO 9

Inflow Area = 0.251 ac, 13.06% Impervious, Inflow Depth = 1.46" for 2-Year event
Inflow = 0.42 cfs @ 12.09 hrs, Volume= 0.031 af
Outflow = 0.04 cfs @ 13.38 hrs, Volume= 0.029 af, Atten= 91%, Lag= 77.1 min
Primary = 0.04 cfs @ 13.38 hrs, Volume= 0.029 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 72.52' @ 13.38 hrs Surf.Area= 601 sf Storage= 755 cf

Plug-Flow detention time= 688.3 min calculated for 0.029 af (94% of inflow)
Center-of-Mass det. time= 658.6 min (1,496.4 - 837.8)

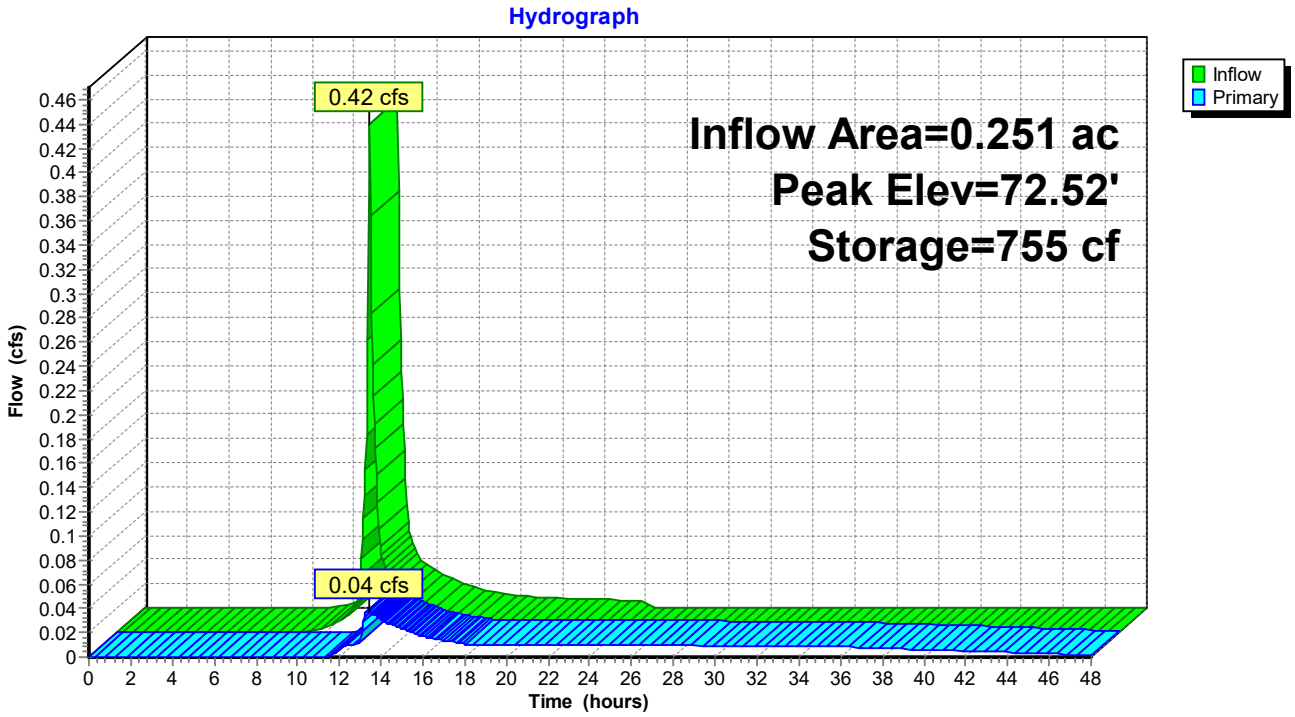
Volume	Invert	Avail.Storage	Storage Description
#1	69.50'	1,081 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.50	421	0.0	0	0
70.00	421	33.0	69	69
70.50	421	33.0	69	139
71.00	421	33.0	69	208
71.50	421	33.0	69	278
72.00	421	100.0	211	488
73.00	765	100.0	593	1,081

Device	Routing	Invert	Outlet Devices
#1	Primary	69.40'	**6.0" Round Culvert** L= 50.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.40' / 69.00' S= 0.0080 '/' Cc= 0.900 n= 0.012, Flow Area= 0.20 sf
#2	Device 1	69.98'	**0.5" Vert. Orifice/Grate** C= 0.600
#3	Device 1	72.50'	**8.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.03 cfs @ 13.38 hrs HW=72.52' (Free Discharge)
↑—**1=Culvert** (Passes 0.03 cfs of 1.19 cfs potential flow)
↑—**2=Orifice/Grate** (Orifice Controls 0.01 cfs @ 7.65 fps)
—**3=Orifice/Grate** (Weir Controls 0.02 cfs @ 0.49 fps)

Pond B-9: BIO 9


Hydrograph
Inflow
Primary
0.42 cfs
0.04 cfs
Inflow Area=0.251 ac
Peak Elev=72.52'
Storage=755 cf
Flow (cfs)
Time (hours)
0 0.02 0.04 0.06 0.08 0.1 0.12 0.14 0.16 0.18 0.2 0.22 0.24 0.26 0.28 0.3 0.32 0.34 0.36 0.38 0.4 0.42 0.44 0.46
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48

Summary for Pond DS10: DRIP STRIP

Inflow Area = 0.276 ac, 84.73% Impervious, Inflow Depth = 2.87" for 2-Year event
Inflow = 0.81 cfs @ 12.09 hrs, Volume= 0.066 af
Outflow = 0.42 cfs @ 12.23 hrs, Volume= 0.066 af, Atten= 48%, Lag= 8.4 min
Primary = 0.42 cfs @ 12.23 hrs, Volume= 0.066 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 171.01' @ 12.23 hrs Surf.Area= 1,838 sf Storage= 419 cf

Plug-Flow detention time= 21.7 min calculated for 0.066 af (100% of inflow)
Center-of-Mass det. time= 21.8 min (778.9 - 757.1)

Volume	Invert	Avail.Storage	Storage Description
#1	170.25'	3,630 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

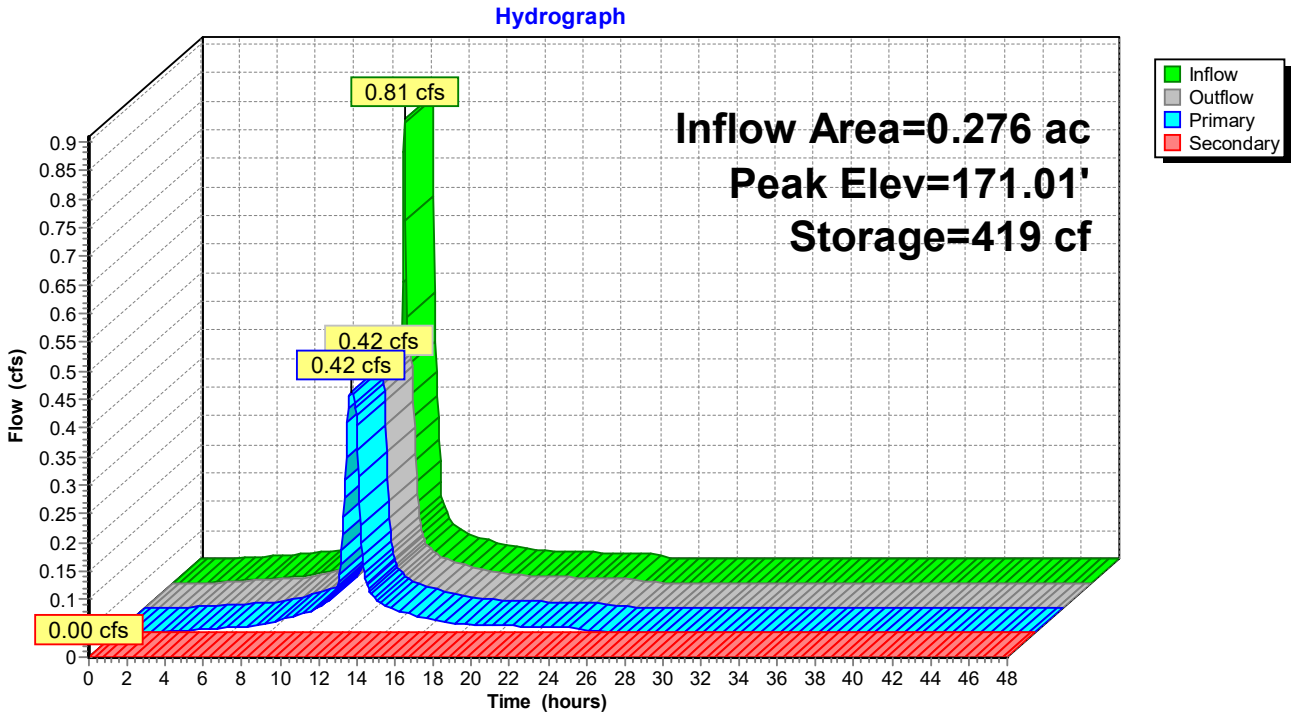
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
170.25	1,838	0.0	0	0
171.50	1,838	30.0	689	689
172.50	1,838	40.0	735	1,424
175.50	1,838	40.0	2,206	3,630

Device	Routing	Invert	Outlet Devices
#1	Primary	170.25'	**4.0" Round Culvert X 2.00** L= 96.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 170.25' / 169.50' S= 0.0078 '/' Cc= 0.900 n= 0.012, Flow Area= 0.09 sf
#2	Secondary	175.40'	**220.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.42 cfs @ 12.23 hrs HW=171.01' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 0.42 cfs @ 2.41 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=170.25' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond DS10: DRIP STRIP

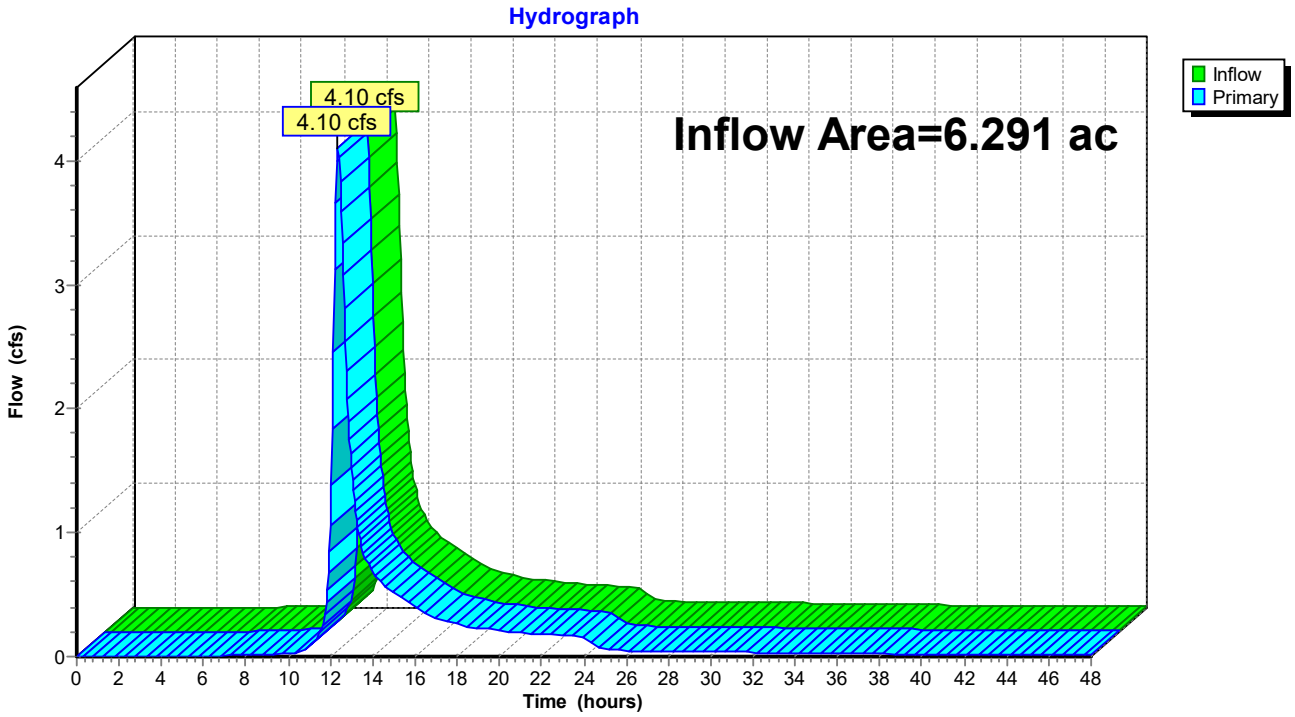


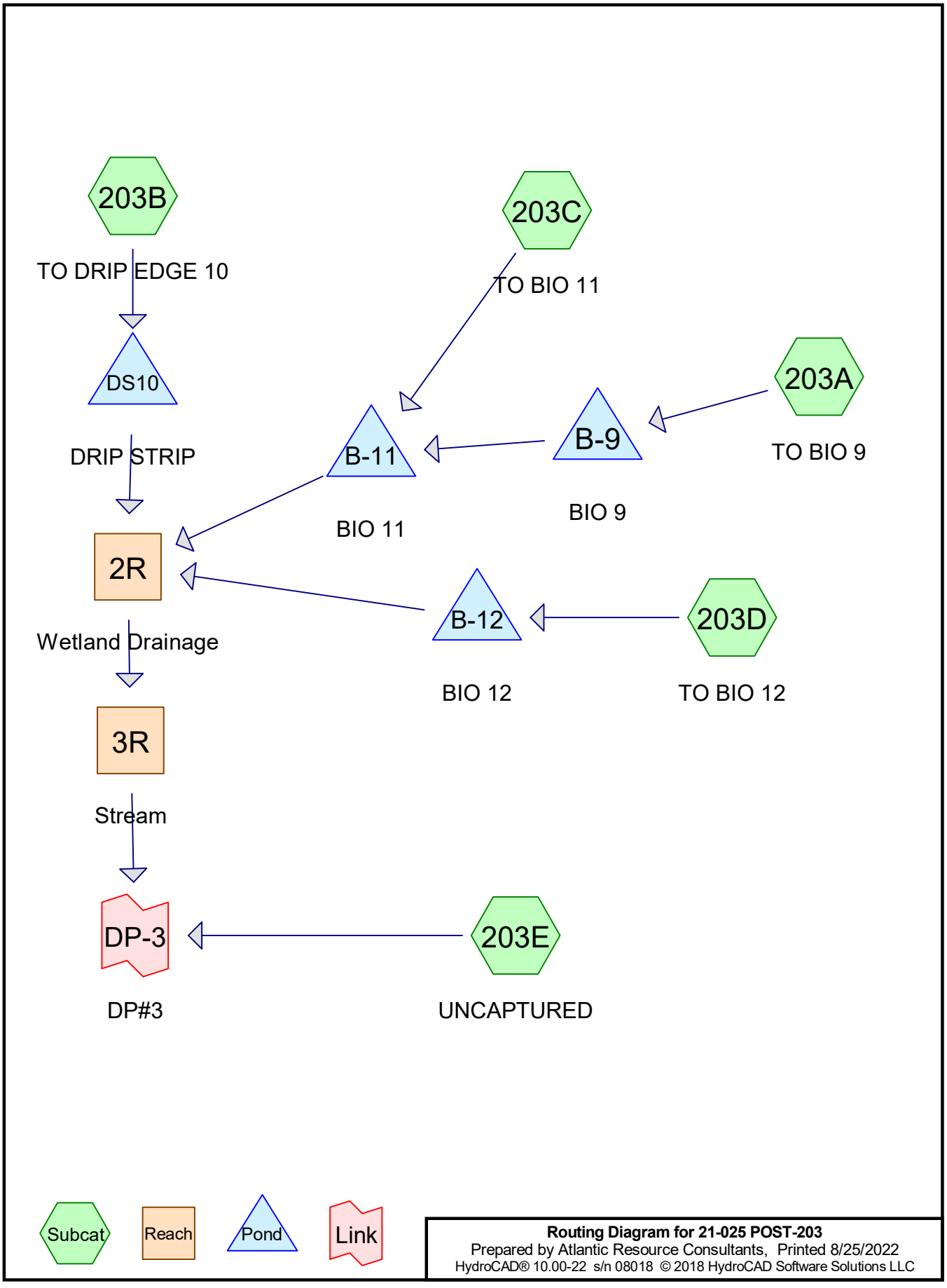
Summary for Link DP-3: DP#3

Inflow Area = 6.291 ac, 7.78% Impervious, Inflow Depth > 1.21" for 2-Year event
Inflow = 4.10 cfs @ 12.35 hrs, Volume= 0.633 af
Primary = 4.10 cfs @ 12.35 hrs, Volume= 0.633 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link DP-3: DP#3





Routing Diagram for 21-025 POST-203
Prepared by Atlantic Resource Consultants, Printed 8/25/2022

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 203A: TO BIO 9 Runoff Area=10,948 sf 13.06% Impervious Runoff Depth=2.64"
Tc=6.0 min CN=82 Runoff=0.76 cfs 0.055 af

Subcatchment 203B: TO DRIP EDGE 10 Runoff Area=12,040 sf 84.73% Impervious Runoff Depth=4.26"
Tc=6.0 min CN=98 Runoff=1.19 cfs 0.098 af

Subcatchment 203C: TO BIO 11 Runoff Area=17,429 sf 35.06% Impervious Runoff Depth=3.00"
Tc=6.0 min CN=86 Runoff=1.37 cfs 0.100 af

Subcatchment 203D: TO BIO 12 Runoff Area=8,411 sf 22.82% Impervious Runoff Depth=2.82"
Tc=6.0 min CN=84 Runoff=0.62 cfs 0.045 af

Subcatchment 203E: UNCAPTURED Runoff Area=225,200 sf 0.74% Impervious Runoff Depth=2.13"
Flow Length=769' Tc=23.2 min CN=76 Runoff=8.09 cfs 0.918 af

Reach 2R: Wetland Drainage Avg. Flow Depth=0.06' Max Vel=0.42 fps Inflow=0.56 cfs 0.278 af
n=0.080 L=450.0' S=0.0200 '/' Capacity=5.20 cfs Outflow=0.53 cfs 0.276 af

Reach 3R: Stream Avg. Flow Depth=0.11' Max Vel=2.12 fps Inflow=0.53 cfs 0.276 af
n=0.035 L=304.0' S=0.0543 '/' Capacity=28.71 cfs Outflow=0.53 cfs 0.275 af

Pond B-11: BIO 11 Peak Elev=66.57' Storage=3,294 cf Inflow=1.46 cfs 0.153 af
Outflow=0.19 cfs 0.137 af

Pond B-12: BIO 12 Peak Elev=73.51' Storage=1,306 cf Inflow=0.62 cfs 0.045 af
Outflow=0.03 cfs 0.043 af

Pond B-9: BIO 9 Peak Elev=72.67' Storage=848 cf Inflow=0.76 cfs 0.055 af
Outflow=0.49 cfs 0.053 af

Pond DS10: DRIP STRIP Peak Elev=171.53' Storage=714 cf Inflow=1.19 cfs 0.098 af
Primary=0.51 cfs 0.098 af Secondary=0.00 cfs 0.000 af Outflow=0.51 cfs 0.098 af

Link DP-3: DP#3 Inflow=8.34 cfs 1.193 af
Primary=8.34 cfs 1.193 af

Total Runoff Area = 6.291 ac Runoff Volume = 1.216 af Average Runoff Depth = 2.32"
92.22% Pervious = 5.801 ac 7.78% Impervious = 0.490 ac

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 203A: TO BIO 9 Runoff Area=10,948 sf 13.06% Impervious Runoff Depth=3.53"
Tc=6.0 min CN=82 Runoff=1.01 cfs 0.074 af

Subcatchment 203B: TO DRIP EDGE 10 Runoff Area=12,040 sf 84.73% Impervious Runoff Depth=5.26"
Tc=6.0 min CN=98 Runoff=1.45 cfs 0.121 af

Subcatchment 203C: TO BIO 11 Runoff Area=17,429 sf 35.06% Impervious Runoff Depth=3.94"
Tc=6.0 min CN=86 Runoff=1.77 cfs 0.131 af

Subcatchment 203D: TO BIO 12 Runoff Area=8,411 sf 22.82% Impervious Runoff Depth=3.73"
Tc=6.0 min CN=84 Runoff=0.82 cfs 0.060 af

Subcatchment 203E: UNCAPTURED Runoff Area=225,200 sf 0.74% Impervious Runoff Depth=2.95"
Flow Length=769' Tc=23.2 min CN=76 Runoff=11.31 cfs 1.272 af

Reach 2R: Wetland Drainage Avg. Flow Depth=0.11' Max Vel=0.61 fps Inflow=1.59 cfs 0.364 af
n=0.080 L=450.0' S=0.0200 '/' Capacity=5.20 cfs Outflow=1.38 cfs 0.362 af

Reach 3R: Stream Avg. Flow Depth=0.20' Max Vel=2.94 fps Inflow=1.38 cfs 0.362 af
n=0.035 L=304.0' S=0.0543 '/' Capacity=28.71 cfs Outflow=1.37 cfs 0.362 af

Pond B-11: BIO 11 Peak Elev=66.71' Storage=3,616 cf Inflow=2.60 cfs 0.203 af
Outflow=0.88 cfs 0.186 af

Pond B-12: BIO 12 Peak Elev=73.58' Storage=1,373 cf Inflow=0.82 cfs 0.060 af
Outflow=0.18 cfs 0.057 af

Pond B-9: BIO 9 Peak Elev=72.76' Storage=911 cf Inflow=1.01 cfs 0.074 af
Outflow=0.88 cfs 0.072 af

Pond DS10: DRIP STRIP Peak Elev=171.87' Storage=959 cf Inflow=1.45 cfs 0.121 af
Primary=0.55 cfs 0.121 af Secondary=0.00 cfs 0.000 af Outflow=0.55 cfs 0.121 af

Link DP-3: DP#3 Inflow=11.66 cfs 1.634 af
Primary=11.66 cfs 1.634 af

Total Runoff Area = 6.291 ac Runoff Volume = 1.659 af Average Runoff Depth = 3.16"
92.22% Pervious = 5.801 ac 7.78% Impervious = 0.490 ac

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 203A: TO BIO 9 Runoff Area=10,948 sf 13.06% Impervious Runoff Depth=4.45"
Tc=6.0 min CN=82 Runoff=1.27 cfs 0.093 af

Subcatchment 203B: TO DRIP EDGE 10 Runoff Area=12,040 sf 84.73% Impervious Runoff Depth=6.26"
Tc=6.0 min CN=98 Runoff=1.72 cfs 0.144 af

Subcatchment 203C: TO BIO 11 Runoff Area=17,429 sf 35.06% Impervious Runoff Depth=4.89"
Tc=6.0 min CN=86 Runoff=2.18 cfs 0.163 af

Subcatchment 203D: TO BIO 12 Runoff Area=8,411 sf 22.82% Impervious Runoff Depth=4.67"
Tc=6.0 min CN=84 Runoff=1.01 cfs 0.075 af

Subcatchment 203E: UNCAPTURED Runoff Area=225,200 sf 0.74% Impervious Runoff Depth=3.82"
Flow Length=769' Tc=23.2 min CN=76 Runoff=14.62 cfs 1.644 af

Reach 2R: Wetland Drainage Avg. Flow Depth=0.16' Max Vel=0.75 fps Inflow=2.67 cfs 0.453 af
n=0.080 L=450.0' S=0.0200 '/' Capacity=5.20 cfs Outflow=2.36 cfs 0.450 af

Reach 3R: Stream Avg. Flow Depth=0.27' Max Vel=3.50 fps Inflow=2.36 cfs 0.450 af
n=0.035 L=304.0' S=0.0543 '/' Capacity=28.71 cfs Outflow=2.34 cfs 0.450 af

Pond B-11: BIO 11 Peak Elev=66.86' Storage=3,961 cf Inflow=3.14 cfs 0.254 af
Outflow=1.63 cfs 0.236 af

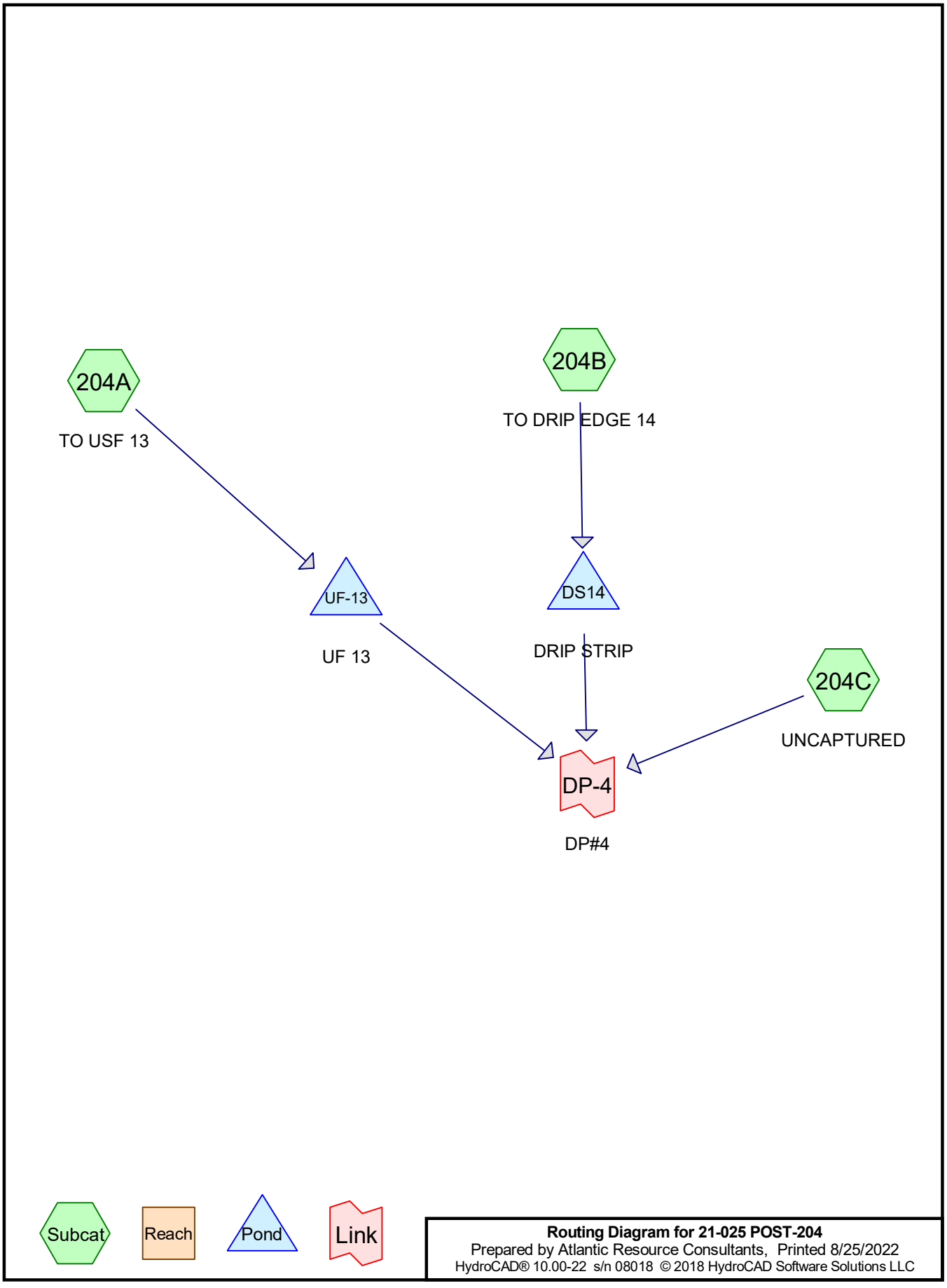
Pond B-12: BIO 12 Peak Elev=73.66' Storage=1,445 cf Inflow=1.01 cfs 0.075 af
Outflow=0.44 cfs 0.072 af

Pond B-9: BIO 9 Peak Elev=72.87' Storage=981 cf Inflow=1.27 cfs 0.093 af
Outflow=1.03 cfs 0.091 af

Pond DS10: DRIP STRIP Peak Elev=172.23' Storage=1,225 cf Inflow=1.72 cfs 0.144 af
Primary=0.60 cfs 0.144 af Secondary=0.00 cfs 0.000 af Outflow=0.60 cfs 0.144 af

Link DP-3: DP#3 Inflow=15.09 cfs 2.094 af
Primary=15.09 cfs 2.094 af

Total Runoff Area = 6.291 ac Runoff Volume = 2.119 af Average Runoff Depth = 4.04"
92.22% Pervious = 5.801 ac 7.78% Impervious = 0.490 ac



Routing Diagram for 21-025 POST-204
Prepared by Atlantic Resource Consultants, Printed 8/25/2022

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 204A: TO USF 13 Runoff Area=47,444 sf 61.25% Impervious Runoff Depth=2.16"
Tc=6.0 min CN=91 Runoff=2.66 cfs 0.196 af

Subcatchment 204B: TO DRIP EDGE 14 Runoff Area=14,227 sf 88.59% Impervious Runoff Depth=2.87"
Tc=6.0 min CN=98 Runoff=0.96 cfs 0.078 af

Subcatchment 204C: UNCAPTURED Runoff Area=50,107 sf 1.83% Impervious Runoff Depth=1.14"
Flow Length=390' Tc=19.8 min CN=77 Runoff=1.00 cfs 0.109 af

Pond DS14: DRIP STRIP Peak Elev=171.28' Storage=500 cf Inflow=0.96 cfs 0.078 af
Primary=0.47 cfs 0.078 af Secondary=0.00 cfs 0.000 af Outflow=0.47 cfs 0.078 af

Pond UF-13: UF 13 Peak Elev=69.77' Storage=5,624 cf Inflow=2.66 cfs 0.196 af
Outflow=0.10 cfs 0.187 af

Link DP-4: DP#4 Inflow=1.55 cfs 0.374 af
Primary=1.55 cfs 0.374 af

Total Runoff Area = 2.566 ac Runoff Volume = 0.384 af Average Runoff Depth = 1.80"
61.91% Pervious = 1.589 ac 38.09% Impervious = 0.978 ac

Summary for Subcatchment 204A: TO USF 13

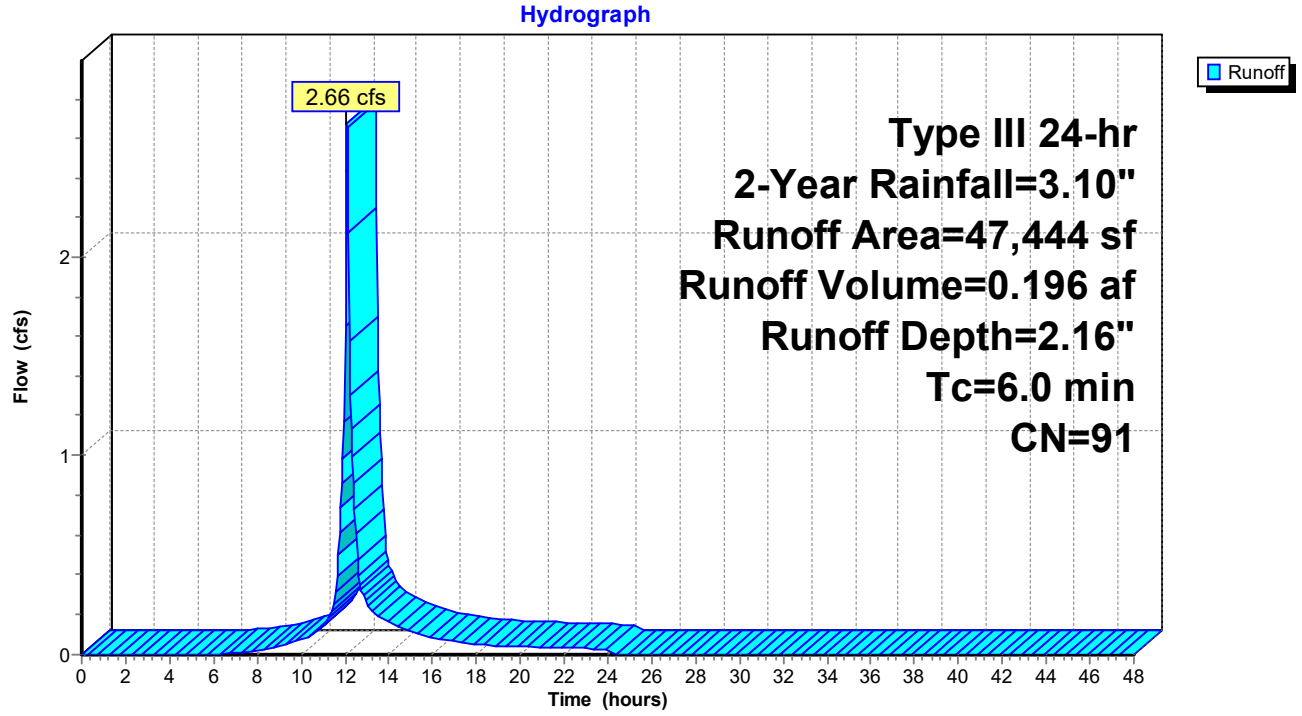
Runoff = 2.66 cfs @ 12.09 hrs, Volume= 0.196 af, Depth= 2.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
	18,384	80	>75% Grass cover, Good, HSG D
*	19,920	98	Paved
*	9,140	98	Roofs
	47,444	91	Weighted Average
	18,384		38.75% Pervious Area
	29,060		61.25% Impervious Area

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

Subcatchment 204A: TO USF 13



Summary for Subcatchment 204B: TO DRIP EDGE 14

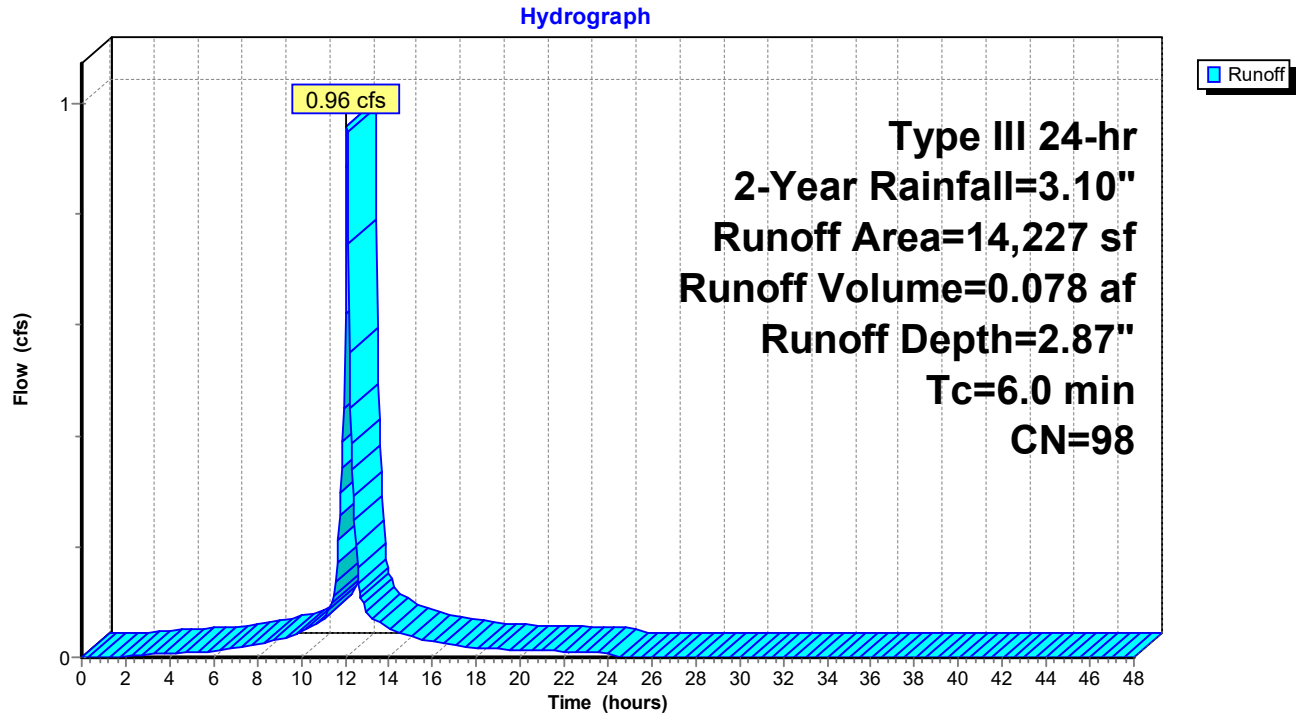
Runoff = 0.96 cfs @ 12.09 hrs, Volume= 0.078 af, Depth= 2.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
*	12,603	98	Roof
*	1,624	98	Drip Edge Surface, 0% imp, HSG C
	14,227	98	Weighted Average
	1,624		11.41% Pervious Area
	12,603		88.59% Impervious Area

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

Subcatchment 204B: TO DRIP EDGE 14



Summary for Subcatchment 204C: UNCAPTURED

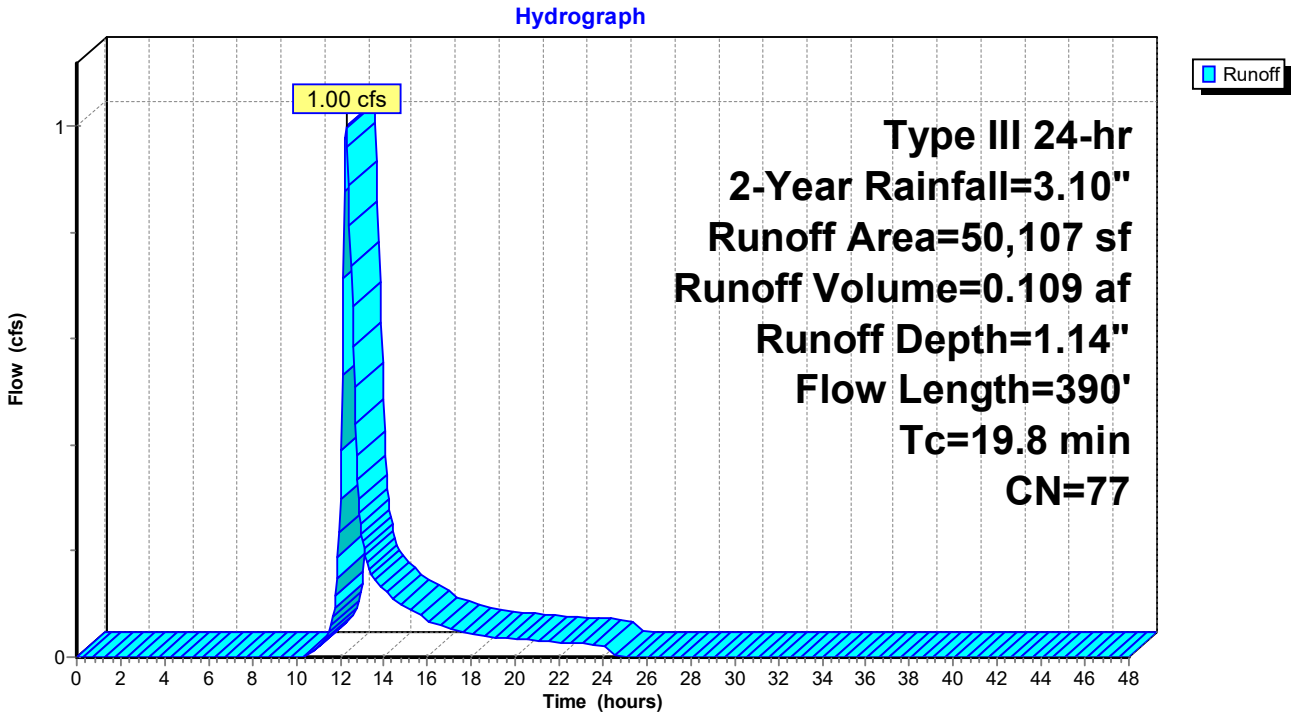
Runoff = 1.00 cfs @ 12.29 hrs, Volume= 0.109 af, Depth= 1.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
	46,415	77	Woods, Good, HSG D
	2,775	70	Woods, Good, HSG C
*	917	98	Paved drive, HSG D
	50,107	77	Weighted Average
	49,190		98.17% Pervious Area
	917		1.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.3	60	0.0250	0.08		**Sheet Flow, Woods** Woods: Light underbrush n= 0.400 P2= 3.10"
2.4	90	0.0150	0.61		**Shallow Concentrated Flow, Woods** Woodland Kv= 5.0 fps
0.1	30	0.0050	3.47	2.73	**Pipe Channel, Culvert** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.012
4.0	210	0.0300	0.87		**Shallow Concentrated Flow, Woods/Wetland** Woodland Kv= 5.0 fps
19.8	390	Total			

Subcatchment 204C: UNCAPTURED



Summary for Pond DS14: DRIP STRIP

Inflow Area = 0.327 ac, 88.59% Impervious, Inflow Depth = 2.87" for 2-Year event
Inflow = 0.96 cfs @ 12.09 hrs, Volume= 0.078 af
Outflow = 0.47 cfs @ 12.25 hrs, Volume= 0.078 af, Atten= 51%, Lag= 9.6 min
Primary = 0.47 cfs @ 12.25 hrs, Volume= 0.078 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 171.28' @ 12.25 hrs Surf.Area= 1,624 sf Storage= 500 cf

Plug-Flow detention time= 19.6 min calculated for 0.078 af (100% of inflow)
Center-of-Mass det. time= 19.1 min (776.2 - 757.1)

Volume	Invert	Avail.Storage	Storage Description
#1	170.25'	3,207 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

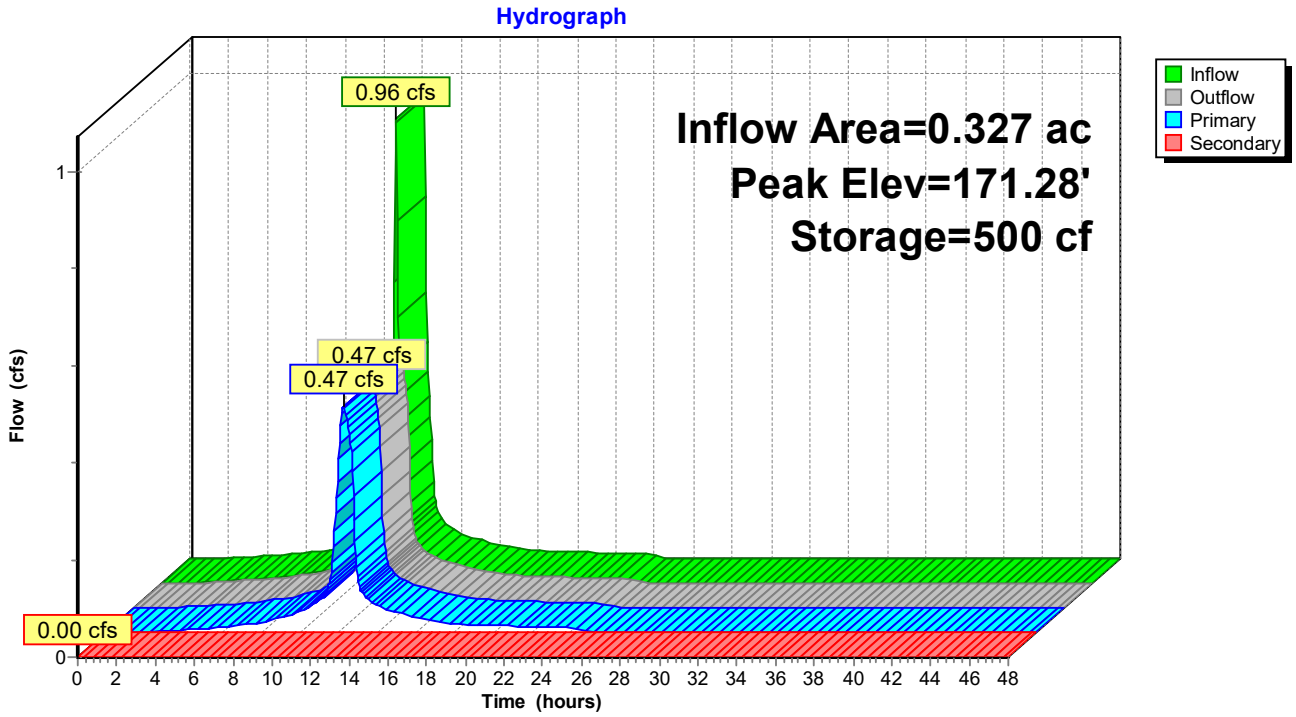
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
170.25	1,624	0.0	0	0
171.50	1,624	30.0	609	609
172.50	1,624	40.0	650	1,259
175.50	1,624	40.0	1,949	3,207

Device	Routing	Invert	Outlet Devices
#1	Primary	170.25'	**4.0" Round Culvert X 2.00** L= 96.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 170.25' / 169.50' S= 0.0078 '/' Cc= 0.900 n= 0.012, Flow Area= 0.09 sf
#2	Secondary	175.40'	**220.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.47 cfs @ 12.25 hrs HW=171.28' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 0.47 cfs @ 2.67 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=170.25' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond DS14: DRIP STRIP



Summary for Pond UF-13: UF 13

Inflow Area = 1.089 ac, 61.25% Impervious, Inflow Depth = 2.16" for 2-Year event
Inflow = 2.66 cfs @ 12.09 hrs, Volume= 0.196 af
Outflow = 0.10 cfs @ 15.62 hrs, Volume= 0.187 af, Atten= 96%, Lag= 212.0 min
Primary = 0.10 cfs @ 15.62 hrs, Volume= 0.187 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 69.77' @ 15.62 hrs Surf.Area= 3,471 sf Storage= 5,624 cf

Plug-Flow detention time= 649.8 min calculated for 0.187 af (95% of inflow)
Center-of-Mass det. time= 622.6 min (1,426.3 - 803.7)

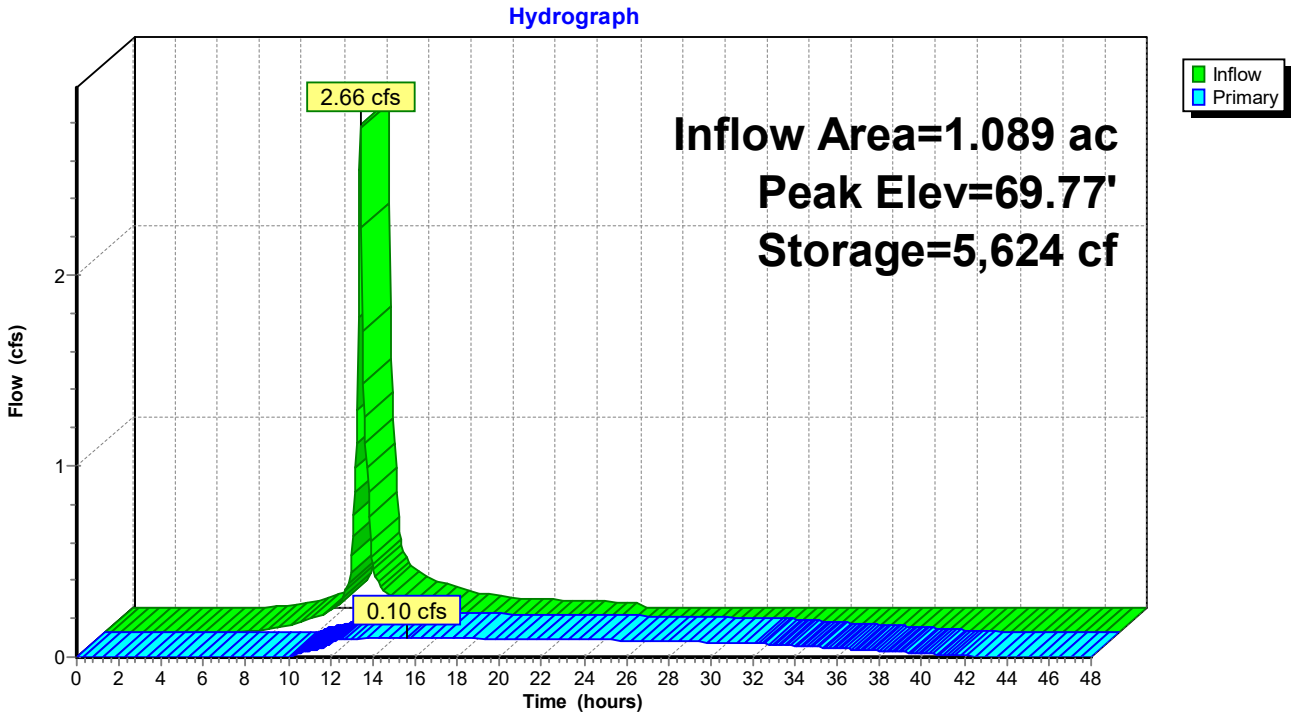
Volume	Invert	Avail.Storage	Storage Description
#1	66.50'	13,528 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
66.50	2,768	0.0	0	0
67.00	2,768	33.0	457	457
67.50	2,768	33.0	457	913
68.00	2,768	33.0	457	1,370
68.50	2,768	33.0	457	1,827
69.00	2,768	100.0	1,384	3,211
70.00	3,677	100.0	3,223	6,433
71.00	4,621	100.0	4,149	10,582
71.50	5,102	100.0	2,431	13,013
71.60	5,200	100.0	515	13,528

Device	Routing	Invert	Outlet Devices
#1	Primary	66.50'	**8.0" Round Culvert** L= 30.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.50' / 66.30' S= 0.0067 '/' Cc= 0.900 n= 0.012, Flow Area= 0.35 sf
#2	Device 1	66.94'	**1.5" Vert. Orifice/Grate** C= 0.600
#3	Device 1	70.00'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	70.35'	**120.0 deg x 6.0' long x 1.25' rise Sharp-Crested Vee/Trap Weir** Cv= 2.48 (C= 3.10)

Primary OutFlow Max=0.10 cfs @ 15.62 hrs HW=69.77' (Free Discharge)
- **1=Culvert** (Passes 0.10 cfs of 2.28 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 0.10 cfs @ 8.02 fps)
  - **3=Orifice/Grate** (Controls 0.00 cfs)
- **4=Sharp-Crested Vee/Trap Weir** (Controls 0.00 cfs)

Pond UF-13: UF 13

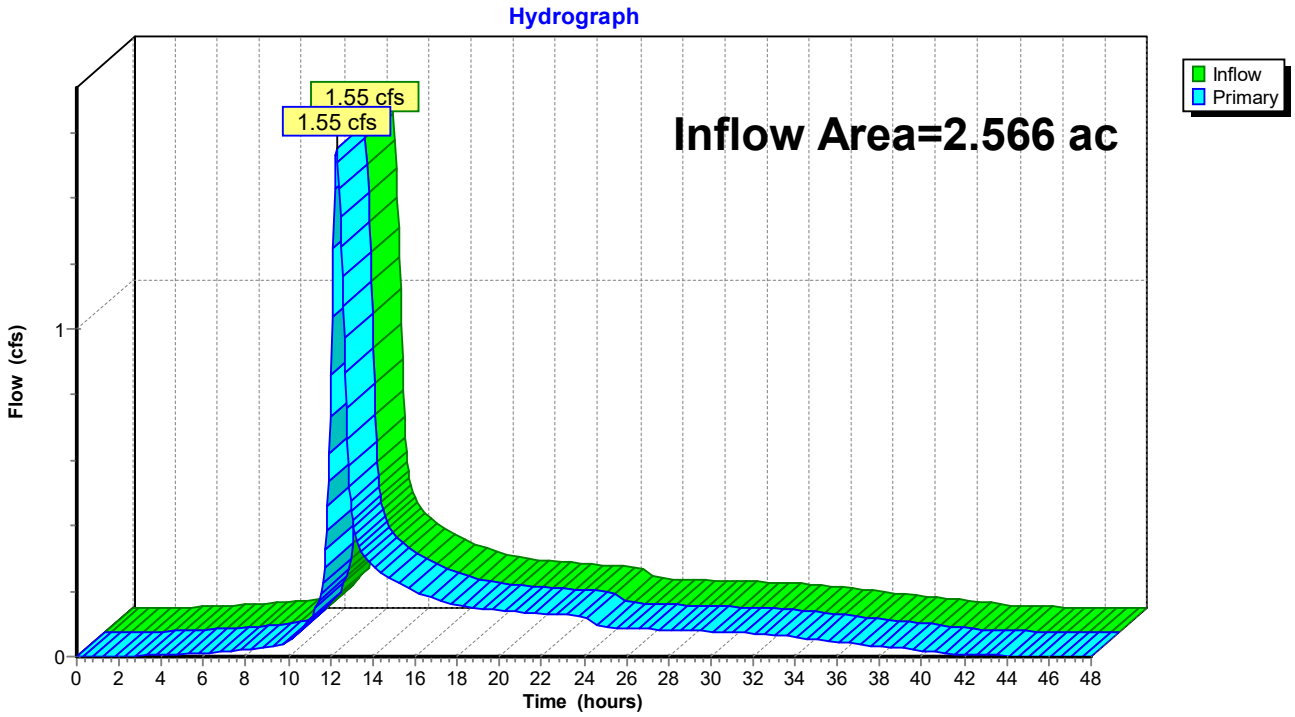


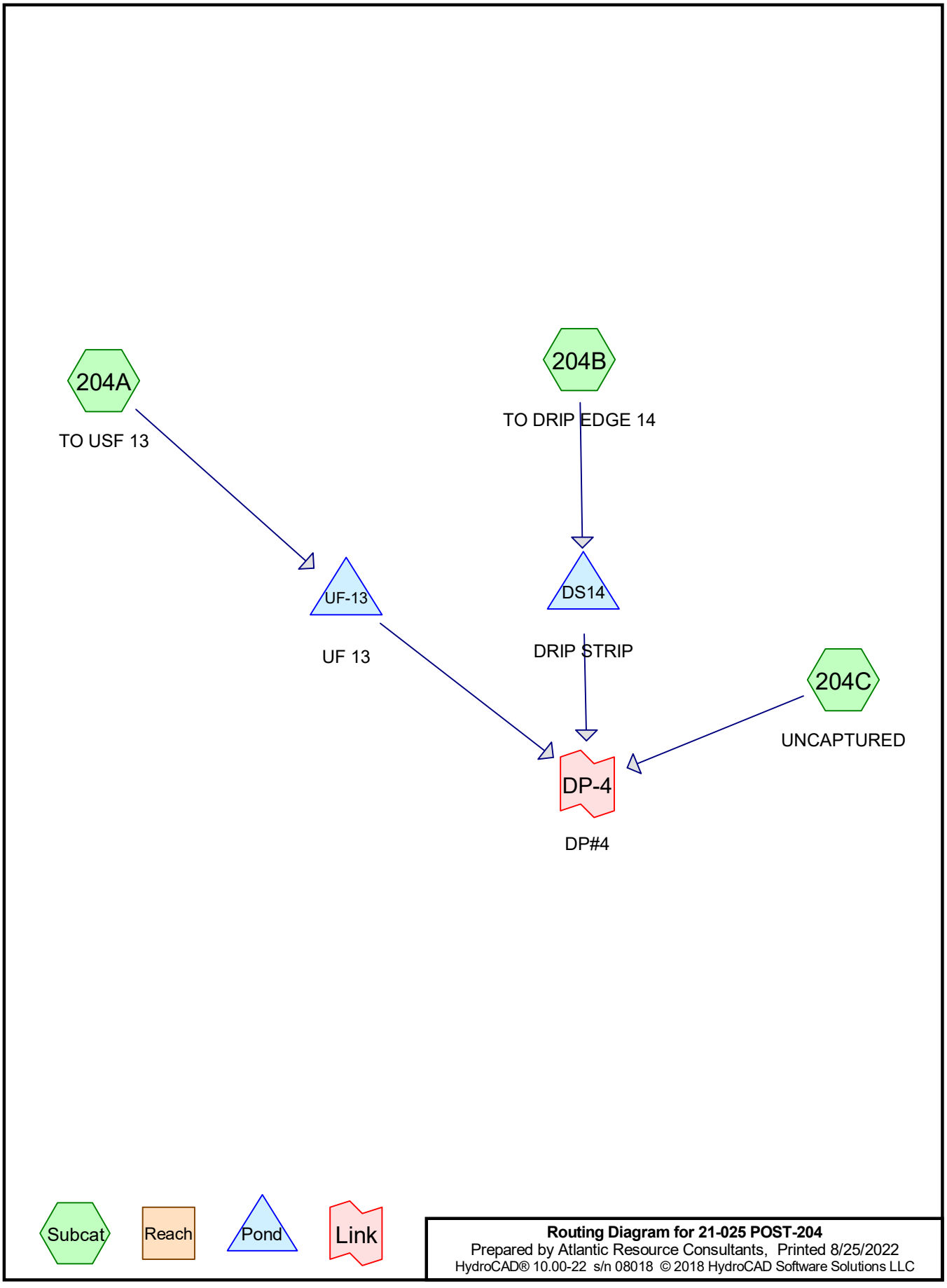
Summary for Link DP-4: DP#4

Inflow Area = 2.566 ac, 38.09% Impervious, Inflow Depth > 1.75" for 2-Year event
Inflow = 1.55 cfs @ 12.29 hrs, Volume= 0.374 af
Primary = 1.55 cfs @ 12.29 hrs, Volume= 0.374 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link DP-4: DP#4





Routing Diagram for 21-025 POST-204
Prepared by Atlantic Resource Consultants, Printed 8/25/2022

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 204A: TO USF 13 Runoff Area=47,444 sf 61.25% Impervious Runoff Depth=3.50"
Tc=6.0 min CN=91 Runoff=4.21 cfs 0.317 af

Subcatchment 204B: TO DRIP EDGE 14 Runoff Area=14,227 sf 88.59% Impervious Runoff Depth=4.26"
Tc=6.0 min CN=98 Runoff=1.40 cfs 0.116 af

Subcatchment 204C: UNCAPTURED Runoff Area=50,107 sf 1.83% Impervious Runoff Depth=2.21"
Flow Length=390' Tc=19.8 min CN=77 Runoff=2.00 cfs 0.212 af

Pond DS14: DRIP STRIP Peak Elev=171.91' Storage=872 cf Inflow=1.40 cfs 0.116 af
Primary=0.56 cfs 0.116 af Secondary=0.00 cfs 0.000 af Outflow=0.56 cfs 0.116 af

Pond UF-13: UF 13 Peak Elev=70.20' Storage=7,184 cf Inflow=4.21 cfs 0.317 af
Outflow=1.02 cfs 0.308 af

Link DP-4: DP#4 Inflow=3.22 cfs 0.635 af
Primary=3.22 cfs 0.635 af

Total Runoff Area = 2.566 ac Runoff Volume = 0.645 af Average Runoff Depth = 3.02"
61.91% Pervious = 1.589 ac 38.09% Impervious = 0.978 ac

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 204A: TO USF 13 Runoff Area=47,444 sf 61.25% Impervious Runoff Depth=4.47"
Tc=6.0 min CN=91 Runoff=5.30 cfs 0.406 af

Subcatchment 204B: TO DRIP EDGE 14 Runoff Area=14,227 sf 88.59% Impervious Runoff Depth=5.26"
Tc=6.0 min CN=98 Runoff=1.72 cfs 0.143 af

Subcatchment 204C: UNCAPTURED Runoff Area=50,107 sf 1.83% Impervious Runoff Depth=3.05"
Flow Length=390' Tc=19.8 min CN=77 Runoff=2.78 cfs 0.292 af

Pond DS14: DRIP STRIP Peak Elev=172.37' Storage=1,176 cf Inflow=1.72 cfs 0.143 af
Primary=0.62 cfs 0.143 af Secondary=0.00 cfs 0.000 af Outflow=0.62 cfs 0.143 af

Pond UF-13: UF 13 Peak Elev=70.36' Storage=7,816 cf Inflow=5.30 cfs 0.406 af
Outflow=2.33 cfs 0.395 af

Link DP-4: DP#4 Inflow=5.71 cfs 0.831 af
Primary=5.71 cfs 0.831 af

Total Runoff Area = 2.566 ac Runoff Volume = 0.841 af Average Runoff Depth = 3.93"
61.91% Pervious = 1.589 ac 38.09% Impervious = 0.978 ac

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 204A: TO USF 13 Runoff Area=47,444 sf 61.25% Impervious Runoff Depth=5.45"
Tc=6.0 min CN=91 Runoff=6.39 cfs 0.494 af

Subcatchment 204B: TO DRIP EDGE 14 Runoff Area=14,227 sf 88.59% Impervious Runoff Depth=6.26"
Tc=6.0 min CN=98 Runoff=2.03 cfs 0.170 af

Subcatchment 204C: UNCAPTURED Runoff Area=50,107 sf 1.83% Impervious Runoff Depth=3.92"
Flow Length=390' Tc=19.8 min CN=77 Runoff=3.57 cfs 0.376 af

Pond DS14: DRIP STRIP Peak Elev=172.87' Storage=1,499 cf Inflow=2.03 cfs 0.170 af
Primary=0.68 cfs 0.170 af Secondary=0.00 cfs 0.000 af Outflow=0.68 cfs 0.170 af

Pond UF-13: UF 13 Peak Elev=70.52' Storage=8,489 cf Inflow=6.39 cfs 0.494 af
Outflow=3.96 cfs 0.484 af

Link DP-4: DP#4 Inflow=7.96 cfs 1.030 af
Primary=7.96 cfs 1.030 af

Total Runoff Area = 2.566 ac Runoff Volume = 1.041 af Average Runoff Depth = 4.87"
61.91% Pervious = 1.589 ac 38.09% Impervious = 0.978 ac

ATTACHMENT D - STORMWATER MAINTENANCE MANUAL

CLIPPERSHIP LANDING
STORMWATER MAINTENANCE PLAN

Maintenance Responsibilities

During construction activities, the maintenance of all stormwater measures will be the direct responsibility of the Contractor. After acceptance by the Owner, the maintenance of all stormwater management facilities, the establishment of any contract services required to implement the program, and the keeping of records and maintenance log book will be the responsibility of Clippership Development, LLC. The current contact for facilities maintenance at Clippership Development, LLC is:

Douglas Gardner, SVP of Development and Operations,
North Country Associates, Inc
PO Box 1408
Lewiston, Maine 04243-1408
Phone: 207-786-3554
Email: dgardner@ncaltc.com

Regular inspection and maintenance of stormwater management BMPs shall be undertaken as follows:

Ditches, Swales, and Riprap Aprons

Open swales and ditches shall be inspected on a monthly basis or after a major rainfall event to assure that debris and/or sediments do not reduce the effectiveness of the system. Debris shall be removed at that time. Any sign of erosion or blockage shall be immediately repaired to assure a vigorous growth of vegetation for the stability of the structure and proper function. Maintenance shall include, but not be limited to, mowing, trimming and removal vegetation in the ditches as required to prevent vegetation from blocking or diverting storm flows, replacement of riprap channel lining to prevent scour of the channel invert, removing vegetation and debris from the culverts.

Vegetated ditches should be mowed at least three times during the growing season. Larger brush or trees must not be allowed to become established in the channel. Any areas where the vegetation fails will be subject to erosion and should be reseeded and mulched immediately.

Riprap ditches and aprons where stone is displaced should be replaced and chinked to assure stability. With time, additional riprap may be added. Vegetation growing through riprap and accumulated sediments and debris should be removed on a bi-annual basis.

Catch Basins

Catch basins should be inspected at a minimum on a bi-annual basis. One inspection should be undertaken as soon as possible after the last snow event of the winter/spring season. Sediment accumulation should be assessed by inspection, or measured using a rod to determine the elevation below the outlet pipe. When sediment has accumulated to within one foot of the pipe invert, catch basin cleaning should be schedule with a licensed contractor.

Drainage Pipes and Culverts

Culverts and piped drainage systems shall be inspected on an annual basis to remove any obstructions to flow; remove accumulated sediments and debris at the inlet, at the outlet, and within the conduit; and to repair any erosion damage at the pipe inlet and outlet. Sediment should be removed when its level exceeds 20% of the pipe diameter. This may be accomplished by hydraulic flushing or any mechanical means; however, care should be taken to contain the sediment at the pipe outlet, and not flush the sediments into the detention/infiltration pond areas as this will reduce the ponds capacity and ability to infiltrate runoff, and will hasten the time when the pond must be cleaned/rehabilitated.

Driveways, Walkways and Parking Lots

Accumulations of winter sand along paved surfaces shall be cleared at least once a year, preferably in the spring, to minimize transportation of sediment during rainfall events. Accumulations on pavement may be removed by pavement sweeping. Accumulations of sand along road shoulders may be removed by grading excess sand to the pavement edge and removing it manually or by a front-end loader. Grading of gravel roads, or grading of the gravel shoulders of gravel or paved roads, must be routinely performed to ensure that stormwater drains immediately off the road surface to adjacent buffer areas or stable ditches, and is not impeded by accumulations of graded material on the road shoulder or by excavation of false ditches in the shoulder.

Grassed Soil Filters

Inspections of the infiltrating soil filters shall be conducted on a semi-annual basis and following significant rainfall events. Delayed or poor maintenance practices can result in loss of treatment capacity. Records should be kept of all maintenance operations to help plan future work and identify problem areas.

The basin embankments should be maintained to preserve their integrity including, but not limited to, vegetation maintenance (mowing, control of woody vegetation), rodent control, erosion control and repair, and outlet control structure maintenance and repair. The embankment should be inspected annually for erosion or destabilization of side slopes, embankment settling and other signs of overtop structural failure.

Basin plantings, and vegetation should be maintained on a quarterly basis. Regular maintenance activities should include cutting back shrub plantings where necessary to prevent excessive woody growth, removal of dead vegetation and re-planting to maintain good cover and root spread. Shrub or grass clippings should be removed to minimize the amount of organic material accumulation in the basin.

Sediment and debris should be removed from the sediment forebay at least annually, where applicable.

Bioretention cells and soil filters shall not be used for snow storage areas. Snow storage should be sited so that snow melt flows to a pretreatment BMP before reaching the infiltration area.

Vehicular equipment used to maintain or rehabilitate the basins should work from the cell perimeter and not enter the basin floor area, as this would compact the soil surface and reduce infiltration.

The surface of the basins may clog with fine sediments over time. Maintenance of good plant or grass cover should minimize this; however, if ponded runoff does not infiltrate within 48 hours, rototilling the top of the soil bed may be required to re-establish the soils infiltration capacity.

Filtering Drip Strips

Inspections of the filtering drip strips shall be undertaken on a quarterly basis and following significant rainfall events.

The surface stone should be inspected for evidence of displacement, or erosion. Any accumulated debris, leaves, or loose vegetative matter should be removed from the surface to prevent clogging of the void space. The areas adjacent to the filtering drip strips should be inspected for erosion or bare soil that could migrate into the stone or filter media.

Evidence of standing water, or poorly draining media should be noted as this may indicate the need for replacement of the materials.

Bioretention Cells

Inspections of the bioretention cells and underdrained filter shall be conducted on a semi-annual basis and following significant rainfall events. Delayed or poor maintenance practices can result in loss of treatment capacity. Records should be kept of all maintenance operations to help plan future work and identify problem areas.

The basin embankments should be maintained to preserve their integrity including, but not limited to, vegetation maintenance (mowing, control of woody vegetation), rodent control, erosion control and

repair, and outlet control structure maintenance and repair. The embankment should be inspected annually for erosion or destabilization of side slopes, embankment settling and other signs of overtop structural failure.

Basin plantings, and vegetation should be maintained on a quarterly basis. Regular maintenance activities should include cutting back shrub plantings where necessary to prevent excessive woody growth, removal of dead vegetation and re-planting to maintain good cover and root spread. Shrub or grass clippings should be removed to minimize the amount of organic material accumulation in the basin.

Sediment and debris should be removed from the sediment forebay at least annually, where applicable.

Bioretention cells and underdrained filters shall not be used for snow storage area. Snow storage should be sited so that snow melt flows to a pretreatment BMP before reaching the infiltration area.

Vehicular equipment used to maintain or rehabilitate the basins should work from the cell perimeter and not enter the basin floor area, as this would compact the soil surface and reduce infiltration.

The surface of the basins may clog with fine sediments over time. Maintenance of good plant or grass cover should minimize this; however, if ponded runoff does not infiltrate within 48 hours, rototilling the top of the soil bed may be required to reestablish the soils infiltration capacity.

Pervious Pavers

During construction, vehicles with muddy wheels should be prevented from accessing onto areas intended for pervious pavement. Frequent inspections should be undertaken during the first few months following construction of the pervious pavers to ensure that they are functioning correctly. Inspections shall be made after significant storm events to check for surface ponding that could indicate failure due to clogging. After the initial period, the system shall be inspected routinely on an annual basis. Measure should be taken to prevent sedimentation of the surface due to the erosion of areas upgradient the pervious pavement structures. The pervious paver area should be swept, vacuumed and/or pressure washed twice annually at a minimum. Limit salt use for deicing, and do not use sand. Leaves and organic debris shall be removed from the surface in the spring and fall. Measures should be taken to ensure that an area designed to be porous does not receive a future overlay of conventional non-porous paving. Non-routine maintenance may require reconstruction of the surface treatment, and possibly the filter and reservoir layers, to relieve major clogging.

Maine DEP Five-Year Recertification

The Maine DEP Chapter 500 Recertification requirement will apply to this project. This requires all inspection, and maintenance tasks to be completed and the five-year recertification form to be completed, certified and submitted to Maine DEP. For full details of the requirements see: https://www.maine.gov/dep/land/stormwater/stormwaterbmps/five-year-recertification.html.

Stormwater Inspection and Maintenance Log

Site Name **Clippership Landing** **Location** **Damariscotta** **Date of Inspection**

BMP	Inspection tasks	Completed	Notes	Maintenance Required	Maintenance Complete
Ditches, swales and open channels	Inspect for debris and channel blockages Check vegetation for overgrowth Inspect for evidence of erosion				
Catch Basins	Check sediment level in sumps Inspect grates, frames and structures				
Pipe Inlet and Outlet	Inspect riprap aprons Look for evidence of erosion				
Bioretention Cells & Underdrained Filters	Check plantings/grass cover Inspect soil bed Inspect underdrain outlets Evidence of high water level Verify structure is draining Inspect inlet grate and outlet structure Look for evidence of sedimentation Check stability of side slopes				
Filtering Drip Strips	Inspect surface for displacement/erosion Check for poor drainage Check for debris/ soil ingress				
Paved areas, walkways	Check for sand and salt accumulation Check integrity of surfaces and edges				
Culverts	Inspect structural integrity Look for joint displacement Inspect inlet and outlet structures Check for sediment accumulation				
Pervious Pavers	Check for ponding after storm events Check gaps for sediment ingress Remove organics/debris from surface				

ATTACHMENT E – SOIL DOCUMENTATION FOR STORMWATER SYSTEMS REPORT

WATERSHED RESOURCE CONSULTANTS, LLC

NATURAL RESOURCE AND SOIL SCIENCE CONSULTING

22555
August 19, 2022

Atlantic Resource Consultants
Attention: Andrew D. Johnston, PE, LEED AP
541 US Route 1, Suite 21
Freeport, ME 04032

Subject: Soil Documentation in Stormwater Systems Report
Proposed Clippership Landing
Piper Mill Road
Damariscotta, Maine

Dear Andy,

Watershed Resource Consultants, LLC is pleased to present this Soil Documentation in Stormwater Systems Report for the proposed Clippership Landing nursing home on Piper Mill Road in Damariscotta, Maine. The purpose of the services was to document and classify soils in and near proposed stormwater system areas in support of Atlantic Resource Consultants (ARC's) design. The proposed project, including proposed stormwater system areas, was shown on the ARC Concept Site Plan dated June 2022.

Appendix A of this Report contains a Test Pit Documentation Plan and Test Pit Logs.

Exploration and Methodology

Watershed Resource Consultants, LLC (WRC) visited the site in August of 2022 to document and classify soils in nine locations near or in proposed stormwater system areas, the locations as determined by ARC. The soil test pits, labeled TP SW-1 through TP SW-9 were dug to approximately 6.5 feet in depth or to refusal by an excavator and operator from Hagar Construction. A plan showing the test pit locations as GPS located in the field is included with this Report.

At each test pit, WRC documented soil horizon depths, soil texture, color, consistence, structure, depth of observed fill, depth to seasonal water table, depth to restrictive layer, depth to observed seeping, and depth to bedrock (if observed) to the depth of the test pit. Using the collected soil data, WRC then classified the observed soils to the closest Maine soil series based on data published by the Natural Resources Conservation Service (NRCS). WRC used published NRCS data on the soil series and Maine

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(207) 385-6056

Department of Environmental Protection (MDEP) E&SC BMP's[1] to report the soil's hydrologic soil group. Soil classification and hydrologic soil group for each test pit are included below in Table 1. The hydrologic soil group presented is based on NRCS published soils data/MAPSS method and does not represent laboratory or in-situ testing results.

Findings

Table 1 – Test Pit Documentation Summary

Test Pit	Depth to Seasonal Water Table	Depth to Restrictive Layer	Depth to Bedrock	Soil Series	Hydrologic Soil Group (NRCS)
TP SW-1	12"	12"	N/O	Lamoine silt loam	D
TP SW-2	12"	12"	N/O	Lamoine silt loam	D
TP SW-3	16"	16"	N/O	Peru loam	C/D
TP SW-4	10"	10"	N/O	Lamoine silt loam	D
TP SW-5	28"	28"	32"	Tunbridge loam, MWD phase	C
TP SW-6	9"	9"	N/O	Lamoine silt loam	D
TP SW-7	6"	6"	N/O	Lamoine silt loam, eroded phase	D
TP SW-8	27"	27"	64"-75"	Peru loam	C
TP SW-9	24"	24"	N/O	Peru loam	C/D

N/O = Not Observed

Lamoine soils are somewhat poorly drained soils formed in glacio-lacustrine/marine sediments. Peru soils are moderately well drained soils formed in glacial till. Tunbridge soils are moderately deep to bedrock soils formed in bedrock controlled glacial till. The Tunbridge named soil at TP SW-5 is a moderately well drained due to evidence of seasonal water table and restrictive layer above the bedrock at 28" in depth.

[1] Maine Department of Environmental Protection. MAINE EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMPs) Manual for Designers and Engineers, October 2016.

Closing

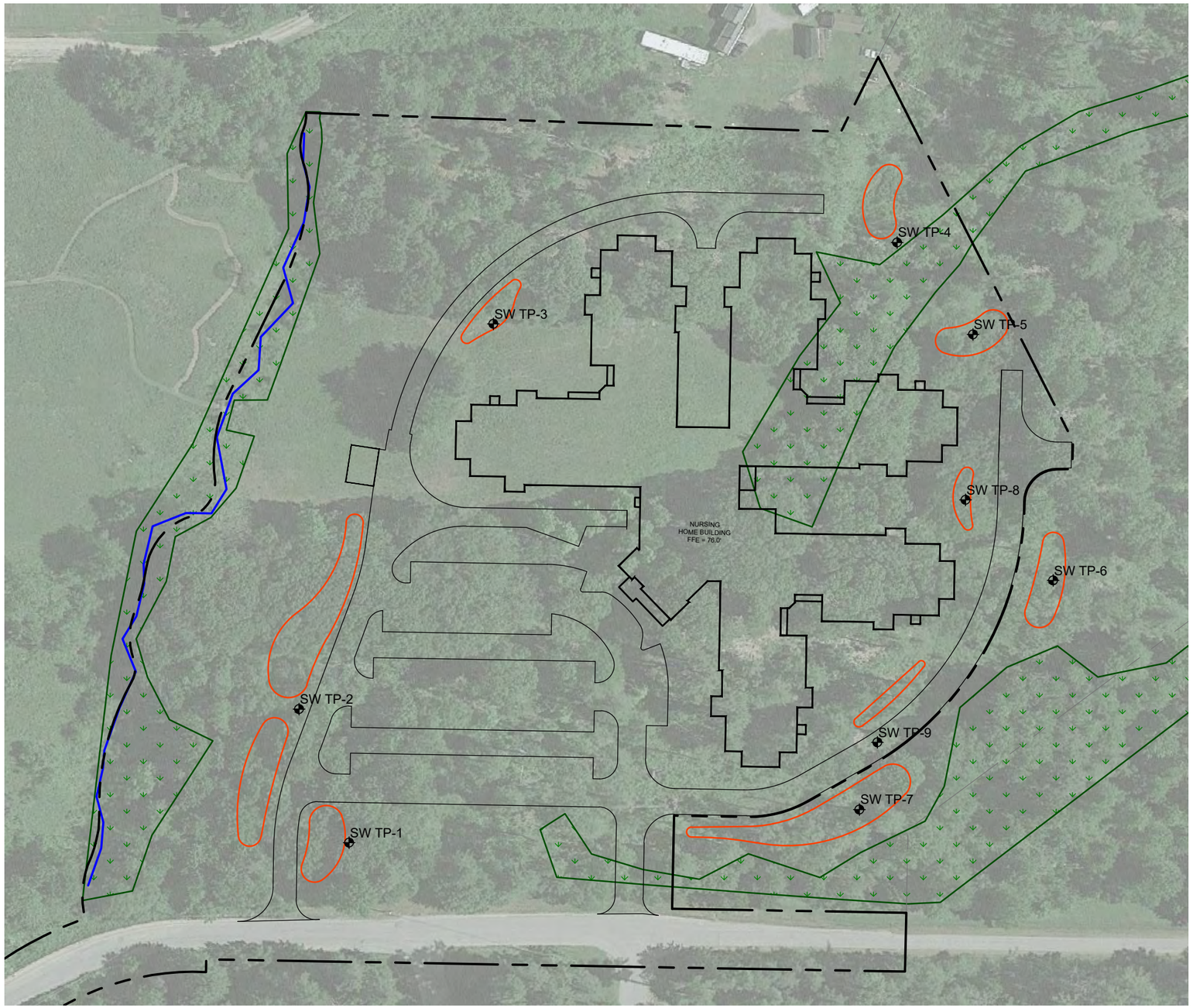
WRC appreciates the opportunity to assist you during this phase of the project. If you have any questions, please contact us.

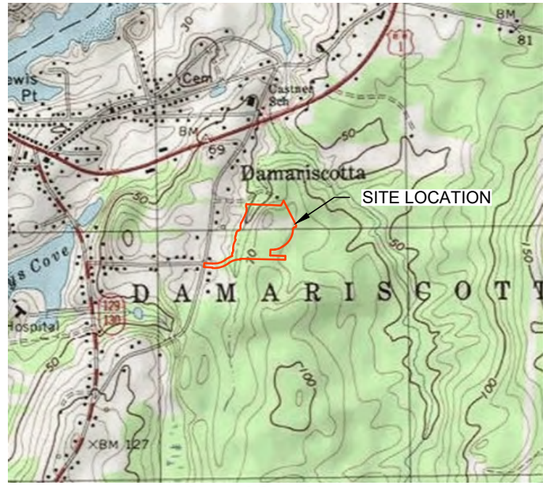
Sincerely,

Watershed Resource Consultants, LLC

Aleita M. Burman, Certified Soil Scientist #SS430
lburman@wrcmaine.com
Principal, Member| *Watershed Resource Consultants, LLC*

APPENDIX A
Soil Documentation Plan
Test Pit Logs





SITE LOCATION MAP
Scale: 1" = 2000'

N

LEGEND

- PROJECT PARCEL
- SW TP-1 - TEST PIT (TYPICAL)

NOTES:
THIS PLAN IS TO ACCOMPANY WATERSHED RESOURCE CONSULTANTS LLC'S SOIL DOCUMENTATION REPORT.

Watershed Resource Consultants, LLC.
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#6 Bar Harbor, ME 04609
(207) 944-7288
rstamand@wrcmaine.com
PO Box 145
Orrington, ME 825-4050
(207) 825-4050
lburman@wrcmaine.com

Do Not Use for Construction
For Regulatory Review Only

0 100 200 300

Soil Documentation Plan
Proposed Clippership Landing Nursing Home

Atlantic Resource Consultants
Piper Mill Road
Damariscotta, Maine

Job No.: 22555	Scale: 1" = 100'
Date: 8/18/2022	Sheet: 1

FORM F (SS2) Rev. 7/21

SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name: Clippership Landing

Applicant Name: Atlantic Resource Consultants

Project Location (municipality): Damariscotta, ME

Exploration Symbol # TPSW-1 ■ Test Pit ☐ Boring ☐ Probe

<1 " Organic horizon thickness Ground surface elev. _____

80 " Depth: ■ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
AP	10YR 4/3	SILT LOAM	GRANULAR	FRIABLE	NONE
B			WEAK BLOCKY		
Bw	2.5Y 5/3		BLOCKY	FIRM	CF 2.5Y 5/6 CM 5Y 6/2
BC	5Y 4/3	SILTY CLAY LOAM			MA 2.5Y 5/6 MM 5Y 6/2
C			MASSIVE	VERY FIRM	MA 2.5Y 5/6 MM 5Y 5/2 MN STAIN

Depth below mineral soil horizon (inches)

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

//////LIMIT OF EXPLORATION//////

Soil Details

Soil Series/Phase Name: Lamoine silt loam

Limiting Factor: 12 " Depth ■ Groundwater ■ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☑ SPD ☐ PD ☐ VPD

Slope: 6 Percent

Hydric Soil: ☑ No ☐ Yes

Hydrologic Soil Group: D

Exploration Symbol # TPSW-2 ■ Test Pit ☐ Boring ☐ Probe

<1 " Organic horizon thickness Ground surface elev. _____

80 " Depth: ■ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
AP	10YR 4/3	SILT LOAM	GRANULAR	FRIABLE	NONE
BW	2.5Y 4/4		WEAK BLOCKY		
BC	2.5Y 5/3		BLOCKY	FIRM	CF 2.5Y 5/6 CM 5Y 6/2
C_1	5Y 5/3	SILTY CLAY LOAM	MASSIVE		MF 2.5Y 5/6 GM 5Y 6/3
C_2				VERY FIRM	MA 2.5Y 5/6 MM 5Y 5/2 MN STAIN

Depth below mineral soil horizon (inches)

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

//////LIMIT OF EXPLORATION//////

Soil Details

Soil Series/Phase Name: Lamoine silt loam

Limiting Factor: 12 " Depth ■ Groundwater ■ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☑ SPD ☐ PD ☐ VPD

Slope: 5 Percent

Hydric Soil: ☑ No ☐ Yes

Hydrologic Soil Group: D

SOIL SCIENTIST INFORMATION AND SIGNATURE

Aleita M. Burman
Signature

Aleita M. Burman
Name Printed

2022-08-09
Date

SS 430
SS License No.

STATE OF MAINE
ALEITA M. BURMAN
NO. SS430
Soil Professional Geologist
CERTIFIED SOIL SCIENTIST

FORM F (SS2) Rev. 7/21

SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name:	Applicant Name:	Project Location (municipality):
Clippership Landing	Atlantic Resource Consultants	Damariscotta, ME

Exploration Symbol # TPSW-3 ■ Test Pit ☐ Boring ☐ Probe

< 1 " Organic horizon thickness Ground surface elev. _____

78 " Depth: ■ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	10YR 4/3	LOAM	GRANULAR	FRIABLE	NONE
Bs	10 YR 5/4	FINE SANDY LOAM	WEAK BLOCKY		
BC	2.5Y 5/3	COBBLY SANDY LOAM	BLOCKY	FIRM	FM 10YR 4/6
C	5Y 5/3			very firm	CM 10YR 5/6 CM 5Y 6/2
					LIMIT OF EXPLORATION

Soil Details

Soil Series/Phase Name: Peru loam

Limiting Factor: 16 " Depth — ■ Groundwater ■ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☑ MWD ☐ SPD ☐ PD ☐ VPD

Slope: 14 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group: C/D

Exploration Symbol # TPSW-4 ■ Test Pit ☐ Boring ☐ Probe

2 " Organic horizon thickness Ground surface elev. _____

80 " Depth: ■ of exploration, or ☐ to refusal

Depth below mineral soil horizon (inches)

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	10YR 3/3	SILT LOAM	GRANULAR	FRIABLE	NONE
Bw	10YR 4/2		WEAK BLOCKY		
BC	2.5Y 5/3		BLOCKY	FIRM	MF 10YR 4/6 FM 5Y 6/2
C	5Y 4/3	SILTY CLAY LOAM	MASSIVE	VERY FIRM	MM 2.5Y 5/6 MM 5Y 5/2 MN STAIN
					LIMIT OF EXPLORATION

Soil Details

Soil Series/Phase Name: Lamoine silt loam

Limiting Factor: 10 " Depth — ■ Groundwater ■ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☑ SPD ☐ PD ☐ VPD

Slope: 3 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group: D

SOIL SCIENTIST INFORMATION AND SIGNATURE

Signature

Aleita M. Burman

Name Printed

2022-08-09

Date

SS430

SS License No.

STATE OF MAINE — ALEITA M. BURMAN NO. SS430 — CERTIFIED SOIL SCIENTIST — official professional seal

FORM F (SS2) Rev. 7/21

SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name:	Applicant Name:	Project Location (municipality):
Clippership Landing	Atlantic Resource Consultants	Damariscotta, ME

Exploration Symbol # TPSW-5 ■ Test Pit ☐ Boring ☐ Probe

2 " Organic horizon thickness Ground surface elev. _____

32 " Depth: ☐ of exploration, or ■ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
A_p	10YR 3/3	LOAM	GRANULAR	FRIABLE	NONE
B_w	10YR 4/6	FINE SANDY LOAM			
BC	2.5Y 5/6	FINE SANDY LOAM	WEAK BLOCKY		
C	2.5Y 5/3		BLOCKY	FIRM	CM 2.5Y 5/6
R	REFUSAL - PROBABLE BEDROCK				

Depth below mineral soil horizon (inches)

Soil Details

Soil Series/Phase Name: Tunbridge loam, MWD phase

Limiting Factor: 32" Depth; ☒ Bedrock; Groundwater 28"; Restrictive Layer 28"

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: 4 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group: C

Exploration Symbol # TPSW-6 ■ Test Pit ☐ Boring ☐ Probe

1 " Organic horizon thickness Ground surface elev. _____

80 " Depth: ■ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	10YR 5/3	SILT LOAM	GRANULAR	FRIABLE	NONE
BW	2.5Y 4/3		BLOCKY		
B_{we}	2.5Y 5/3			FIRM	4.2.5Y 5/6 CM 5Y 6/2 MM 2.5Y 6/6 MM 5Y 6/2
BL	5Y 4/3	SILTY CLAY LOAM			
C			MASSIVE	VERY FIRM	MM 2.5Y 5/6 MM 5Y 5/2 MW STAIN
	LIMIT OF EXPLORATION				

Depth below mineral soil horizon (inches)

Soil Details

Soil Series/Phase Name: Lamoine silt loam

Limiting Factor: 9" Depth; ■ Groundwater; ■ Restrictive Layer; ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☒ SPD ☐ PD ☐ VPD

Slope: 5 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group: D

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Signature

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SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name:	Applicant Name:	Project Location (municipality):
Clippership Landing	Atlantic Resource Consultants	Damariscotta, ME

Exploration Symbol # TPSW-7 ■ Test Pit ☐ Boring ☐ Probe

21 " Organic horizon thickness Ground surface elev. _____

84 " Depth: ■ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	2.5Y 4/3	SILT LOAM	GRANULAR	FRIABLE	NONE
Bw	2.5Y 5/3	↓	BLOCKY	FIRM	CF 2.5Y 5/6 CM 5Y 6/3
BC	5Y 4/3	SILTY CLAY LOAM	↓	↓	MM 2.5Y 5/6 MM 5Y 6/2
C		↓	MASSIVE	VERY FIRM	MM 2.5Y 5/6 MM 5Y 5/2 MN STAIN
2C	5Y 5/3	STONY SANDY LOAM	BLOCKY	FIRM	MC 10YR 5/6 MC 5Y 5/2

LIMIT OF EXPLORATION

Soil Series/Phase Name: Lamoine silt loam, eroded phase

Limiting Factor: 6 " Depth ■ Groundwater ■ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ■ SPD ☐ PD ☐ VPD

Slope: 3 Percent

Hydric Soil: ■ No ☐ Yes

Hydrologic Soil Group: D

Exploration Symbol # TPSW-8 ■ Test Pit ☐ Boring ☐ Probe

2 " Organic horizon thickness Ground surface elev. _____

64 " Depth: ☐ of exploration, or ■ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	10YR 4/3	LOAM	GRANULAR	FRIABLE	NONE
Bs1	10YR 4/6	FINE SANDY LOAM	↓	↓	↓
Bs2	10YR 5/6	SANDY LOAM	WEAK BLOCKY	↓	↓
BC	2.5Y 5/4	↓	BLOCKY	FIRM	CF 10YR 4/6
C	5Y 6/3	COBBLY SANDY LOAM	↓	VERY FIRM	CM 2.5Y 5/6

REFUSAL - BEDROCK PROBABLE, VARIABLE DEPTH 64-75"

Soil Series/Phase Name: Peru loam

Limiting Factor: 27 " Depth ■ Groundwater ■ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ■ MWD ☐ SPD ☐ PD ☐ VPD

Slope: 8 Percent

Hydric Soil: ■ No ☐ Yes

Hydrologic Soil Group: C

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SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name:	Applicant Name:	Project Location (municipality):
Clippership Landing	Atlantic Resource Consultants	

Exploration Symbol # TPSW-9 ■ Test Pit ☐ Boring ☐ Probe

<1 " Organic horizon thickness Ground surface elev. _____

80 " Depth: ■ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
A_p	10YR4/3	LOAM	GRANULAR	FRIABLE	NONE
B	10YR4/4	FINE SANDY LOAM	WEAK BLOCKY		
B_2	10YR5/4		BLOCKY		
BC	2.5Y5/6			FIRM	7.5YR4/6
					10YR5/2
Cd	2.5Y5/3				7.5YR4/6
					10YR6/3
		COBBLY FINE SANDY LOAM			

Depth below mineral soil horizon (inches)

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

//////LIMIT OF EXPLORATION//////

Soil Details

Soil Series/Phase Name: Peru loam

Limiting Factor: 24 " Depth ■ Groundwater ■ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☑ MWD ☐ SPD ☐ PD ☐ VPD

Slope: 6 Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group: C/D

Exploration Symbol # _____ ☐ Test Pit ☐ Boring ☐ Probe

_____ " Organic horizon thickness Ground surface elev. _____

_____ " Depth: ☐ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox

Depth below mineral soil horizon (inches)

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

Soil Details

Soil Series/Phase Name:

Limiting Factor: _____ " Depth ☐ Groundwater ☐ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☐ PD ☐ VPD

Slope: _____ Percent

Hydric Soil: ☐ No ☐ Yes

Hydrologic Soil Group: _____

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