DURHAM PLANNING BOARD
REGULAR MEETING
AGENDA
June 1, 2022

1. Roll Call & Determination of a Quorum
2. Amendments to the Agenda
3. Acceptance of the Minutes of Prior Meetings (May 4, 2022)
4. Informational Exchange:
   a) Town Officials
   b) Residents
   c) Non-Residents
5. Continuing Business
   a) Summary of May 12 Site Walk Hallowell Rd Subdivision
6. New Business:
   a) Completeness Review Preliminary Plan Application for Proposed 13-Lot Cluster Subdivision Hallowell Road Map 7, Lot 32A
7. Other Business:

3. Acceptance of the Minutes of Prior Meetings (May 4, 2022)

DRAFT

Town Of Durham
Planning Board Meeting Minutes
5/04/2022

1. Roll Call & Determination of Quorum

   Planning Board Members present: John Talbot, Chair; Juliet Caplinger, Vice-Chair; Allan Purinton, Wesley Grover, Ron Williams and Tyler Hutchinson.

   Staff present: George Thebarge, Town Planner

2. Annual Election of Officers

   Anne Torregrossa is stepping down as Chair. John Talbot was voted in as new Chair and Juliet Caplinger was nominated to continue as Vice Chair ~ Approved

3. Amendments to the Agenda

4. Acceptance of the Minutes (January 5, 2022, February 2, 2022, April 6, 2022, Workshop)
   The only adjustment is to change the date from May 3, 2022 to May 4, 2022.

5. Informational Exchange:
   a) Town Officials ~ The Town Planner updated the Board on the passage of Land Use Ordinance amendments at Town Meeting and a memo addressing school impacts and growth rates.
   b) Residents ~ Heather Roy asked about the public input process for the Planning Board workshops on the subdivision regulations.
   c) Non-Residents ~ None

   The Planning Board would like to have feedback to the Select Board on a regular basis by the Chairman.

   Juliet Caplinger would like to have more active involvement in project reviews by the Conservation Commission.

6. Continuing Business

   The Planning Board would like to thank Anne Torregrossa for her work as Chair. They would also like to schedule another workshop to discuss changes to the codes.

7. New Business:
   a) Sketch Plan Review Proposed 13-Lot Cluster Subdivision Hallowell Road Map 7, Lot 32A ~ The board discussed flagging key issues, such as, access to site from Hallowell Road, wetlands on the perimeter, usability and quality of the open space,

and making sure that everyone has good access to the trail systems.

Next plan of action ~ Site Walk and Review of the updated Sketch Plan on Thursday, May 12, 2022 at 5pm. (Review plan at the Town Offices and then site walk to follow.)

b) Revision of the Bowie Hill Subdivision Plan to transfer 7.6 acres of the Retained Land to an Abutter Map 10, Lot 38 ~ The application was withdrawn by the applicant.

8. Other Business:

Upcoming Meeting(s)

Planning Board Regular Meeting at Town Office:
June 1, 2022 at 6:30pm

Planning Board Workshop at Town Office:
June 8, 2022 at 6:30 pm to 8:30 pm

9. Adjourn

6. **New Business:**
    a. **Summary of May 12 Site Walk**

TOWN PLANNER COMMENTS:

1. The Planning Board met briefly at the Town Offices to review the updated site plan.
2. The Board met on site with John Talbot, Allen Purinton, Wes Grover, and Ron Williams attending.
3. Town staff present were George Thebarge and Alan Plummer.
4. Applicant representatives present were Charlie Burnham, Jack Doughty, and Jonny Snell.
5. The Board explored the area to the east of the Dyer Brook tributary and observed that erosion control measures installed by the property owner had failed.
6. The Board crossed the stream on an old logging crossing to a large clearing on the west side of the brook. The crossing creates a dam in the brook and does not meet State stream crossing standards.
7. That cleared area contained a large amount of construction equipment and materials from the prior business use that remain in violation of an enforcement action and court order.
8. Town staff has been given direction by the Select Board not to process any development permit applications for properties that are in violation of the ordinances.
9. Town staff conducted two follow-up inspections on May 17 and May 19 to verify that the site has been brought into substantial compliance with the court order and reported that to the Select Board Chairman (see attached email & photos).
10. The Planning Board also walked along the southerly perimeter and west boundary of the proposed subdivision through the proposed open space.

RE: Dean Smith Compliance with Court Order Status

Kevin Nadeau <knadeau@durhammaine.gov>

Fri 5/20/2022 9:31 AM

To: George Thebarge <townplanner@durhammaine.gov>

Cc: Town Manager <townmanager@durhammaine.gov>;John Talbot <jtalbot@durhammaine.gov>;Alan Plummer <aplummer@durhammaine.gov>;Rich George <rgeorge@durhammaine.gov>;Todd Beaulieu <tbeaulieu@durhammaine.gov>;Joshua Klein-Golden <jklein-golden@durhammaine.gov>;Joseph Tomm <jtomm@durhammaine.gov>

3 attachments (27 MB)

Site Walk 5-12.pdf; Site Inspection 5-17.pdf; Site Inspection 5-19.pdf;

George,

Thank-you to you and Alan for your work and follow-up on this. I agree with your approach. Let's just make sure this is all well-documented in the property files in case issues arise in the future.

I've cc'd other Select Board members for visibility.

Thanks,
Kevin

From: George Thebarge <townplanner@durhammaine.gov>
Sent: Thursday, May 19, 2022 4:38 PM
To: Kevin Nadeau <knadeau@durhammaine.gov>
Cc: Town Manager <townmanager@durhammaine.gov>; John Talbot <jtalbot@durhammaine.gov>; Alan Plummer <aplummer@durhammaine.gov>
Subject: Dean Smith Compliance with Court Order Status

Kevin,

Alan Plummer went out to the Hollowell Road site this afternoon and took the attached pictures. I understand that two crews spent 14 hours yesterday cleaning the site and there is a dramatic difference between the conditions there from last week's site walk and even this Tuesday's site inspection. I am including three sets of photos for comparison.

The large clearing is part of the development area of the proposed subdivision and it is arguable that the remaining materials are associated with that project and not with the prior landscaping business or are personal items of the property owner. At this point, I consider that the property owner is in substantial compliance with the court order and I intend to proceed with posting the agenda for a completeness review of the preliminary subdivision application unless I hear otherwise from you. Mitch is away on bereavement leave or I would check with him.

George

George Thebarge AICP
Durham Town Planner
630 Hallowell Rd

PLANNING BOARD
SITE WALK
May 12, 2022

STAFF
SITE INSPECTION
May 17, 2022

STAFF
SITE INSPECTION
May 19, 2022

STAFF
SITE INSPECTION
May 19, 2022

STAFF
SITE INSPECTION
May 19, 2022

6. **New Business:**
    b. **Completeness Review Preliminary Plan Application for Proposed 13-Lot Cluster Subdivision Hallowell Road Map 7, Lot 32A.**

TOWN PLANNER COMMENTS:

1. The applicant submitted the preliminary plan application electronically on May 16th and the hard copies on May 17th when the Town Offices were opened.
2. The applicant submitted a revised application based on an initial completeness check by the Town Planner on May 20th.
3. The first step of the preliminary plan review process is a review of the application for completeness following Pages 1 through 3 of the application checklist and Land Use Ordinance requirements.
4. A determination of completeness indicates that the Planning Board has received the required information on which to base a decision on the application.
5. The Board can request additional information per the terms of the Land Use Ordinance.
6. The completeness review does not involve a substantive review of whether the submissions meet the subdivision review criteria and standards.
7. Once the Board determines that the application is complete, it has 60 calendar days to make a decision on the application to approve, approve with conditions, or deny unless the applicant agrees to a specific review time extension.
8. The Town Planner has provided a draft letter of incompleteness based on his review of the application and one of completeness. The Board can review and modify these drafts based on your review of the application and discussion by the Board.
9. If the Board determines that the application is complete, the Board should schedule a date to commence substantive review of the application and decide whether to hold a public hearing on the application with the date of that meeting.
10. If the Board determines that the application incomplete, the applicant will need to provide any missing information for a follow-up completeness review.

TOWN OF DURHAM
630 Hallowell Road
Durham, Maine 04222

Office of Code Enforcement and Planning
Tel. (207) 353-2561
Fax: (207) 353-5367

NOTICE OF INCOMPLETE APPLICATION

Date: June 1, 2022
Name: Jack Doughty
Address: 231 Flying Point Rd. Freeport, Maine

Dear Mr. Doughty;

The Planning Board of the Town of Durham has reviewed your application for preliminary subdivision review of a project on Hallowell Road (Map 7, Lot 32A). In accordance with Section 6.6.H., the Board has determined that your application is incomplete and the Board cannot begin a formal review of your application until all information stated in the application checklist is submitted and all review fees and review escrows are paid.

In order for your application to be considered complete and adequate for review by the Planning Board, the following materials must be submitted:

a. Sec. 6.7.B – The site location map (Attachment K) does not meet the requirements of the Ordinance. Sheet C-101 could be modified to add the missing information.

b. Sec. 6.7.C.6 – Sheet C-101 contains test boring (TB) locations with numbers and conceptual septic system layouts, but the required logs for the soil tests are not included to verify that all the proposed septic systems will pass Maine Plumbing Code requirements.

Respectfully,

George Thebarge, Town Planner

TOWN OF DURHAM
630 Hallowell Road
Durham, Maine 04222

Office of Code Enforcement and Planning
Tel. (207) 376-6558
Fax: (207) 353-5367

NOTICE OF COMPLETE APPLICATION

Date: June 1, 2022
Name: Jack Doughty
Address: 231 Flying Point Road, Freeport, Maine

Dear Mr. Doughty;

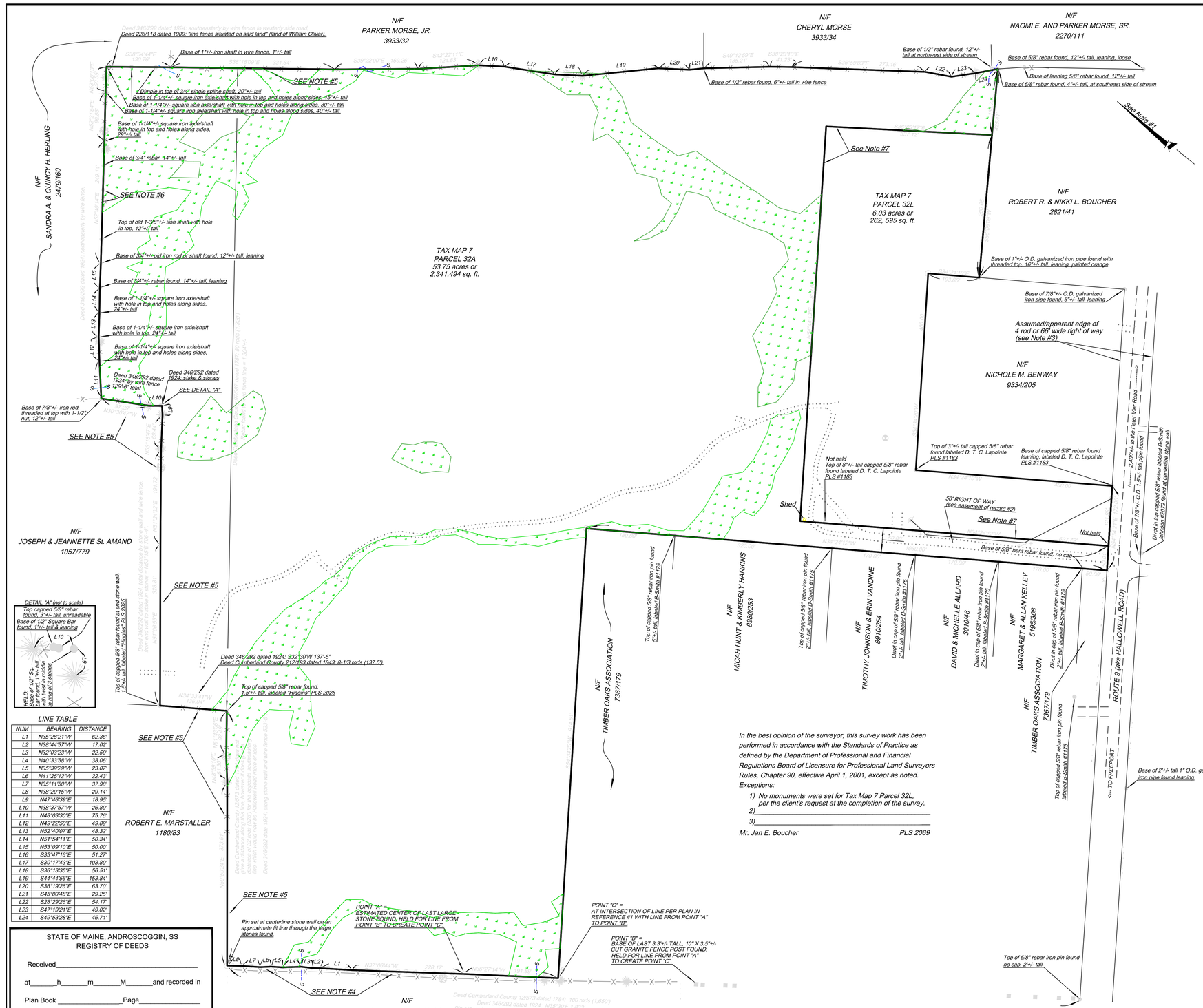
The Planning Board of the Town of Durham has reviewed your application for preliminary subdivision review of a project on Hallowell Road (Map 7. Lot 32A). In accordance with Section 6.6.H, the Board has determined that your application is complete and ready for formal review.

The Planning Board has scheduled a meeting for at 6:30 p.m. at which time your application will be reviewed for conformance with the criteria and performance standards of the Town of Durham site plan review regulations.

The Planning Board has determined to conduct a public hearing to provide opportunity for affected parties to provide testimony and input on whether the application meets the review criteria and site plan regulations. The public hearing will be conducted on at 6:30 p.m.

Sincerely,

George Thebarge, Town Planner



LINE TABLE

NUM	BEARING	DISTANCE
L1	N35°28'21"W	62.36'
L2	N38°44'57"W	17.02'
L3	N32°03'23"W	22.50'
L4	N40°33'58"W	38.06'
L5	N35°39'29"W	23.07'
L6	N41°25'12"W	22.43'
L7	N35°11'50"W	37.98'
L8	N38°20'15"W	29.14'
L9	N47°46'39"E	18.95'
L10	N38°37'57"W	26.80'
L11	N46°03'30"E	75.76'
L12	N49°22'50"E	49.89'
L13	N52°40'07"E	48.32'
L14	N51°54'11"E	50.34'
L15	N53°09'10"E	50.00'
L16	S35°47'16"E	51.27'
L17	S30°17'43"E	103.80'
L18	S36°13'35"E	56.51'
L19	S44°44'56"E	153.84'
L20	S36°19'26"E	63.70'
L21	S45°00'48"E	29.25'
L22	S28°29'26"E	54.17'
L23	S47°19'21"E	48.02'
L24	S49°53'28"E	46.71'

STATE OF MAINE, ANDROSCOGGIN, SS
REGISTRY OF DEEDS

Received_____

at_____h_____m_____M_____and recorded in

Plan Book _____Page_____

Attest:_____

_____
Register

In the best opinion of the surveyor, this survey work has been performed in accordance with the Standards of Practice as defined by the Department of Professional and Financial Regulations Board of Licensure for Professional Land Surveyors Rules, Chapter 90, effective April 1, 2001, except as noted.

Exceptions:

1) *No monuments were set for Tax Map 7 Parcel 32L, per the client's request at the completion of the survey.*
2) _____
3) _____

Mr. Jan E. Boucher *PLS 2069*

REFERENCES

1) *Final revised plan of Timber Oaks subidivison made for Dewitt Corp. by Brian Smith Surveying, Inc. dated 7/25/1988 and recorded in the Androscoggin County Registry of Deeds in Plan Book 34, Page 32.*
2) *Plan of property survey made for Russell A. Wing, Sr. et. al., by Wright & Pierce, dated 12/9/1963 and recorded in the Androscoggin County Registry of Deeds in Plan Book 16, Page 36.*
3) *Noyes plan of Royalsborough, dated 5/22/1766, an image of which was found at the United States Library of Congress Division of Maps, with a recording stamp date of 11/8/1935, and with several catalogue numbers including "74-694805," "480192," and "G3734-D8G46-1766-N6-Vault."*
4) *Layouts of Route 9 as recorded in the Cumberland County Commissioners records in Volume 3, Page 329 dated 1805 (no width given) and in the Androscoggin County Commissioners Records in Volume 4, Page 575 dated 1909 (varying widths).*
5) *Plan of Foxboro Woods subidivison made for Coastal Construction Services and Bowie Home Construction by Brian Smith Surveying, Inc. dated 6/12/2002 and recorded in the Androscoggin County Registry of Deeds in Plan Book 42, Page 85.*

EASEMENTS OF RECORD

1) *Utility easement as recorded in the Androscoggin County Registry of Deeds in Book 5919, Page 338.*
2) *Fifty foot wide common right of way over Parcel 32A for access to lot 32L, as recorded in the Androscoggin County Registry of Deeds in Book 9381, Page 313.*

NOTES

1) *Bearings are based upon those shown on the plan in Reference #1.*
2) *Equipment used: Nikon DTM 520 Total Station Theodolite and internal data collector.*
3) *The right of way limits of Route 9 shown hereon are based upon those shown on the plan in Reference #1, and the monuments found along said way as shown hereon. This surveyor was unable to re-locate the way as it is specifically described in the layouts in Reference #4, due in part to a lack of original monumentation and the poor quality of the descriptions in said layouts. The surveyor believes that the remains of the existing old stone walls located along portions of the way are the best existing evidence of the long standing occupied right of way limits in those locations (reference is made to to M.R.S.A. Title 23, Chapter 301, Subchapter 6, SS 2952). The plan in Reference #1 appears to use those walls to best fit a four rod wide right of way along the frontage of the locus parcel reasonably well, and those limits have been held as an assumed/apparent edge of right of way for the purposes of this survey.*
4) *The area lying between the remains of existing wire fence and the apparent southwesterly boundary line of the locus parcel (and of the Timber Oaks subdivision shown on the plan in Reference #1), along land now or formerly of Seth L. Pruzansky, shown hereon as being defined by large uncut stones and granite fence posts as they run, appears to be an area of questionable title. This surveyor believes that the uncut stones and granite fence posts represent the best evidence of the long standing possession/occupation line. However, the wire fence line running just southwesterly of the stones also appears to represent a potential line of long standing possession/occupation, as evidenced by its use as a boundary line on the plan in Reference #2. This surveyor recommends review by an attorney, and the establishment of this boundary (if possible) by quit-claim deed exchange between abutting property owners and any other relevant parties.*
5) *This surveyor believes that the remains of stone wall and/or wire fence lines as they run along lands now or formerly of Marstaller, St. Amand and Morse, represent physical evidence of long standing lines of possession/occupation, and the best evidence existing today of the location of these boundaries. Courses and distances shown hereon are for area and closure calculations, and to indicate major angle points in the wall and fence remains as located.*
6) *The area lying between the existing wire fence line remains, and the line defined by iron pipes, shafts and pins (of varying descriptions), along land now or formerly of Herling as shown hereon, appears to be an area of questionable title. The wire fence line (which is described in the locus deeds beginning in 1924 in Book 346, Page 292) appears to have been mostly removed, and the surveyor was only able to locate a few short segments of that fence (as shown hereon). It appears likely that the line of iron pipes, shafts and pins was established at some time after 1924, since the deed states that the description was taken from a survey made that day by William Plummer, C.E., and it seems likely that if the pins had existed at the time of this survey, Mr. Plummer would not have found them and noted them as being an evident line of occupation. The line of pipes, shafts and pins appear to be of significant age and to represent the current line of possession/occupation along this boundary. A deed in the Herling chain in Book 2479/160 dated 1989 calls for an "iron" to have been set at each of the corners of Herling that abut the locus parcel. Since some of the pins found on the common line are rebar, it is possible that the line of pins and corner pins were set at or near the time of this deed over 38 years ago. For these reasons, the surveyor recommends review by an attorney and the establishment of this boundary (if possible) by quit-claim deed exchange between abutting property owners, and any other relevant parties.*
7) *The deed creating Tax Map 7 Parcel 32L, from Dewitt Corp. to Dewitt Builders, Inc., contains a metes and bounds description that has a relatively large closure error. That parcel as shown hereon, is based in part upon a composite of the courses and distances stated in said deed, a call for a 50' right of way, and unrecorded documents found on file at the Durham Town Office, describing a similar but smaller 5.06 acre parcel surveyed by Daniel T. C. Lapointe. The lines as shown hereon for this parcel are therefore recommended for agreement.*

LEGEND

- IRON PIPE OR PIN FOUND, AS NOTED
- IRON PIN SET (capped 5/8" rebar labeled "Cornerstone PLS 2069")
- EXISTING UTILITY POLE FOUND
- \+ EXISTING GUY ANCHOR FOUND (not all located/shown)
- CONIFEROUS TREE WITH WIRE FENCE FOUND
- DECIDUOUS TREE WITH WIRE FENCE FOUND
- BASE OF TALL, OLD CUT GRANITE FENCE POST FOUND
- DRILLED WELL CASE FOUND
- EXISTING LARGE DIAMETER STONE FOUND
- X X X – REMAINS OF BARBED AND/OR BOX WIRE FENCE FOUND (see Notes #3, 4, 5, and 6)
- REMAINS OF STONE WALL FOUND
- APPROXIMATE EDGE OF EXISTING PAVEMENT
- APPROXIMATE EDGE OF EXISTING GRAVEL DRIVE OR WOODS ROAD/TRAIL
- APPROXIMATE EDGE OF TREELINE (not all located or shown)
- APPROXIMATE LOCATION OVERHEAD UTILITIES (not all located/shown)
- S ——— S APPROXIMATE LOCATION OVERHEAD UTILITIES (not all located/shown)
- N/F NOW OR FORMERLY OF
- 2008/229 (TYPICAL FORM) ANDROSCOGGIN COUNTY REGISTRY OF DEEDS BOOK AND PAGE NUMBER.

GRAPHIC SCALE: 1" = 100 feet.

100' 0' 50' 100' 200' 400'

BOUNDARY SURVEY

Prepared for

DEAN SMITH

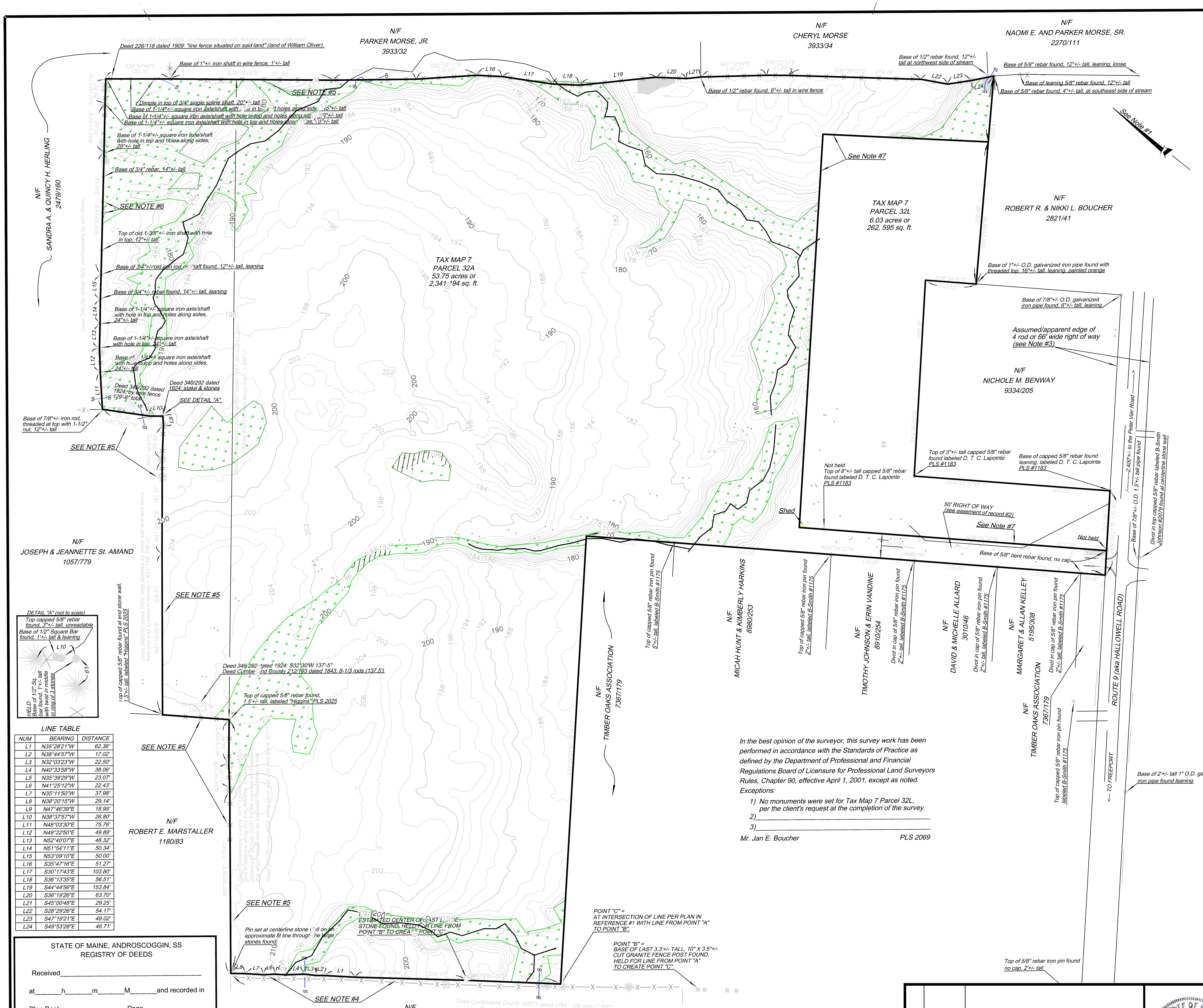
Owner of record of Parcel 32A = Dean Smith per deeds recorded in the Androscoggin County Registry of Deeds in Book 9388, Page 325.

Owner of record of Parcel 32L = Dean Smith, Inc. per deed recorded in the Androscoggin County Registry of Deeds in Book 9381, Page 313.

Project address: Route 9, Durham, Maine 04222.
Date: January 31, 2018, Job #201718, Field Book D-13

Prepared by

CORNERSTONE PROFESSIONAL LAND SURVEYING, INC.
28 CORNERSTONE DRIVE
BOWDOIN, MAINE 04287
www.cornerstoneprofessionallandsurveying.com
tel: 1-207-666-8015



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LEGEND

Symbol	Description
●	IRON PIPE OR PIN FOUND, AS NOTED
○	IRON PIN SET (capped 5/8" rebar labeled "Cornerstone PLS 2069")
-○-	EXISTING UTILITY POLE FOUND
+	EXISTING GUY ANCHOR FOUND (not all located/shown)
	CONIFEROUS TREE WITH WIRE FENCE FOUND
	DECIDUOUS TREE WITH WIRE FENCE FOUND
■	BASE OF TALL, OLD CUT GRANITE FENCE POST FOUND
	DRILLED WELL CASE FOUND
	EXISTING LARGE DIAMETER STONE FOUND
-X-X-X-	REMAINS OF BARBED AND/OR BOX WIRE FENCE FOUND (see Notes #3, 4, 5, and 6)
	REMAINS OF STONE WALL FOUND
	APPROXIMATE EDGE OF EXISTING PAVEMENT
	APPROXIMATE EDGE OF EXISTING GRAVEL DRIVE OR WOODS ROAD/TRAIL
	APPROXIMATE EDGE OF TREELINE (not all located or shown)
	APPROXIMATE LOCATION OVERHEAD UTILITIES (not all located/shown)
S —— S	APPROXIMATE LOCATION OVERHEAD UTILITIES (not all located/shown)
N/F	NOW OR FORMERLY OF
2008/229	(TYPICAL FORM) ANDROSCOGGIN COUNTY REGISTRY OF DEEDS BOOK AND PAGE NUMBER.

GENERAL NOTES:

1. WETLAND DELINEATION PERFORMED BY ALEX FILAMORE.
2. BOUNDARY SURVEY PROVIDED BY CORNERSTONE PROFESSIONAL SURVEYING.
3. TOPOGRAPHIC INFORMATION TAKEN FROM GIS.

SUBMITTED FOR PRELIMINARY PLAN REVIEW

SCALE
0 50 100 200
SCALE in FEET
1"=100'

REV	DATE	DESCRIPTION
2	5/16/2022	PRELIMINARY SUBMISSION
1	5/4/2022	SKETCH PLAN SUBMISSION

REVISIONS

STATE OF MAINE — CHARLES EDWIN BURNHAM — No. 15377 — LICENSED PROFESSIONAL ENGINEER

DEER CREEK CROSSING
DURHAM, MAINE

EXISTING CONDITIONS PLAN

Jack Doughty
231 Flying Point Road
Freeport, Maine 04032

Grange Engineering LLC
241 Rowe Station Road
New Gloucester, ME 04260
Tel: 207.712.6990

DRAWN:	CB	DATE:	MAY 18, 2022
DESIGNED:	CB	SCALE:	1" = 100'
CHECKED:	CB	JOB NO.	1
FILE NAME:			
SHEET:	C-100		

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NET DEVELOPMENT DENSITY CALCULATION:

TOTAL PARCEL AREA	1,552,102 S.F.
AREAS UNSUITABLE IN NATURAL STATE:	
-- WETLANDS/WATERCOURSES & FLOODPLAIN	115,161 S.F.
-- STEEP SLOPES OVER 20%	25,126 S.F.
AREAS REMOVED FOR:	
-- ACCESS ROAD/R.O.W.*	232,815 S.F.
-- EASEMENTS*	
REMAININGLAND	1,179,000 S.F.

MINIMUM DWELLING UNIT AREA IN RURAL, RESIDENTIAL, AND AGRICULTURAL ZONE = 90,000 S.F.

NET DEVELOPMENT DENSITY CALCULATION: 1,179,000/ 90,000 = 13.1 UNITS

PROPOSED LOTS = 13 UNITS

ZONING SUMMARY:

CURRENT USE: UNDEVELOPED
PROPOSED USE: 13 LOT-CLUSTERED SUBDIVISION

ZONE - RURAL, RESIDENTIAL, AND AGRICULTURAL, RESOURCE PROTECTION AND AQUIFER PROTECTION OVERLAY

APPLICABLE SPACE AND BULK REGULATIONS	MINIMUM	PROVIDED
LOT AREA	45,000 S.F.	> 45,000 S.F.
STREET FRONTAGE	150'	> 150'
CUL-DE-SAC FRONTAGE	N/A	N/A
LOT WIDTH	N/A	N/A
PRINCIPAL STRUCTURE:		
FRONT SETBACK	50 FT.	50 FT.
SIDE SETBACK	20 FT.	20 FT.
REAR SETBACK	20 FT.	20 FT.
OPEN SPACE	776,051 S.F. (50%)	816,337 S.F. (53%)
OPEN SPACE NOT WETLANDS	388,025 S.F. (50%)	721,184 S.F. (88%)

GENERAL NOTES:

1. WETLAND DELINEATION WAS PERFORMED BY ALEX FINAMORE.
2. CONTOURS ARE FROM GIS.
3. EACH LOT WILL BE LIMITED TO 20,000 SQUARE FEET OF DEVELOPED AREA (LAWN INCLUDED)
4. THE SIDE SETBACKS WILL REMAIN VEGETATED. IF THE SIDE SETBACKS ARE CLEARED DURING THE GRADING OF THE LOTS OR ROAD THE SAME NUMBER OF TREES THAT WERE REMOVED WILL BE REPLANTED.
5. TRAIL CONSTRUCTION WILL BE LIMITED TO THE REMOVAL OF TREES SMALLER THAN 3-INCHES IN DIAMETER. ANY STREAM CROSSING WILL SPAN THE WIDTH OF THE STREAM BED BY A MINIMUM OF 3' ON EITHER SIDE OF THE STREAM.
6. NO DUG WELLS ARE PERMITTED ON ANY PART OF THE PROPERTY.
7. THERE IS A 100' SETBACK FROM ALL STREAMS ON THE PROPERTY.
8. ALL RESIDENTIAL STRUCTURES SHALL HAVE SPRINKLERS IN ACCORDANCE WITH THE MOST RECENT STATE FIRE CODES.
9. ANY STONE WALLS MOVED DURING THE CONSTRUCTION OF THE ROAD OR RESIDENTIAL LOTS WILL NEED TO BE RELOCATED ON SITE.
10. OPEN SPACE SHALL REMAIN VEGETATED.
11. FURTHER SUBDIVISION OF THE OPEN SPACE AND ITS USE FOR THAN NONCOMMERCIAL RECREATION, AGRICULTURE, OR CONSERVATION PURPOSES, EXCEPT FOR EASEMENTS FOR UNDERGROUND UTILITIES, SHALL BE PROHIBITED. STRUCTURES AND BUILDINGS ACCESSORY TO NON-COMMERCIAL RECREATIONAL OR CONSERVATION USES MAY BE ERECTED ON COMMON LAND ONLY WITH PLANNING BOARD REVIEW AND APPROVAL.
12. ALL DEDICATED OPEN SPACE SHALL NOT BE USED FOR FUTURE BUILDING LOTS.
13. DURING STREET CONSTRUCTION, THE ENTIRE RIGHT OF WAY SHALL NOT BE CLEARED UNLESS CLEARING IS NECESSARY FOR UTILITIES, DRAINAGE OR OTHER INFRASTRUCTURE NECESSITIES BEYOND THE CLEAR ZONE. FOLLOWING STREET CONSTRUCTION, THE DEVELOPER OR CONTRACTOR SHALL CONDUCT A THOROUGH CLEAN-UP OF STUMPS AND OTHER DEBRIS FROM THE ENTIRE RIGHT OF WAY CREATED DURING THE STREET CONSTRUCTION PROCESS. IF ON-SITE DISPOSAL OF THE STUMPS AND DEBRIS IS PROPOSED, THE SITE SHALL BE INDICATED ON THE PLAN, AND BE SUITABLY COVERED WITH FILL AND TOPSOIL, LIMED, FERTILIZED, AND SEEDED.
14. FORESTED BUFFERS WILL BE MARKED IN THE CENTER OF EACH LIMIT AND PINNED AT THE CORNERS. THE BUFFER MARKINGS WILL COMPLY WITH THE CURRENT MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION STANDARDS SET FORTH IN THEIR STORMWATER BMP MANUAL.
15. ALL DRIVEWAYS WILL HAVE A 15" HDPE CULVERT CENTERED IN THE DRAINAGE SWALE.
16. TRAIL SYSYEM WILL BE COMPLETED PRIOR TO ANY CERTIFICATE OF OCCUPANCY PERMITS BEING ISSUES.

SUBMITTED FOR PRELIMINARY PLAN REVIEW

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0 50 100 200
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REVISIONS

STATE OF MAINE
CHARLES EDWIN BURNHAM
No. 15377
LICENSED PROFESSIONAL ENGINEER

DEER CREEK CROSSING
MAP 7 LOT 32A
OVERALL SITE LAYOUT PLAN

Jack Doughty
231 Flying Point Road
Freeport, Maine 04032

Grange Engineering LLC
241 Rowe Station Road
New Gloucester, ME 04260
Tel: 207.712.6990

DRAWN:	CB	DATE:	MAY 18, 2022
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SHEET:	C-101		

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DEER CREEK CROSSING SUBDIVISION

TOWN OF DURHAM, MAINE
PRELIMINARY APPLICATION

PREPARED FOR:
JACK DOUGHTY

PREPARED BY:
CHARLIE BURNHAM P.E.
241 ROWE STATION ROAD
NEW GLOUCESTER, MAINE
04260

May 2022

TABLE OF CONTENTS

TOWN OF DURHAM
630 Hallowell Road
Durham, Maine 04222

Office of Code Enforcement and Planning

Tel. (207) 376-6558
Fax: (207) 353-5367

PRELIMINARY SUBDIVISION PLAN APPLICATION

Subdivision Name: Deer Creek Crossing

Application Date: 5/18/2022

A. Owner & Developer

Is applicant owner of the property? ☑ YES ☐ NO (If no, letter of owner authorization is required)

Property owner: Dean Smith
Address 98 Patriot Way
Durham, Maine
Telephone number: 207 831-9872
Email address:

Property developer: Jack Doughty
Address: 231 Flying Point Road
Freeport, Maine
Telephone number: 207 713-4286
Email address:

What interest does the applicant have in the property to be developed (owner, option, purchase & sale agreement, etc.)? Purchase and Sale

What interest does the applicant have in any abutting property? None

B. Project Designers

Surveyor: Cornerstone Professional Land Surveying
Address: 28 Cornerstone Drive
Bowdoin, Maine
04287
Telephone number: 207 666 8015
Email address:

Engineer: Grange Engineering LLC
Address: 241 Rowe Station Road
Telephone number: 207 712 6990
Email address: grange.engineering.me@gmail.com

Person to whom all correspondence on project should go: Charlie Burnham (Grange Engineering)

C. General Property Information

Property location: Hallowell Road, Durham, Maine

Tax Map/Lot numbers: Map 7 Lot 32A

Current zoning: RRA, RP, AP

Is all of the property being considered for development? ☐ YES ☑ NO

Total acreage of parcel: 53.75 Acreage to be developed: 35.6

Is any part of the land subject to shoreland zoning regulations? ☑ YES ☐ NO

Is any part of the land shown on the FEMA flood maps? ☑ YES ☐ NO

Is any part of the land within the watershed of Runaround Pond? ☐ YES ☑ NO

Has this land been part of an approved subdivision? ☐ YES ☑ NO

Have any divisions of the land occurred in the past 5 years? ☐ YES ☑ NO

Has any liquidation harvesting of timber occurred in the past 5 years? ☑ YES ☐ NO

Have all water bodies and wetlands on the property been mapped? ☑ YES ☐ NO

Is there any active farmland or prime farmland soil of 5 acres or more? ☐ YES ☑ NO

What are the existing uses of the property, if any (e.g., farmland, woodlot, residence, business)?

Woodlot

List any existing easements or restrictive covenants that the property is subject to:

D. Required Public Notices

Have all abutting property owners received notice per Section 6.6.E.? ☐ YES ☑ NO

Does this project abut or cross over into another Town? ☐ YES ☑ NO

Is this project within 1000 feet of the water wells of the Elementary School? ☑ YES ☐ NO

E. Development Information

Name of proposed development: Deer Creek Crossing

Number of proposed lots: 13

What was the date of the sketch plan review with the Planning Board? 5/12/2022

Subdivision Name: Deer Creek Crossing

When is construction being considered to begin (year & season)? Fall 2022

What is the projected year of completion? Fall 2023

How will the project be financed? Bank

What type of performance guarantee will be provided (e.g., cash, letter of credit)? LOC

Does the applicant intend to request any waivers of the subdivision requirements? If yes, list them (Note: waivers from design standards will require technical analysis to demonstrate that the subdivision criteria will be met). **Provide a waiver request form for each waiver requested**:

F. Review Fees and Escrow

Non-refundable application fee of $500 for first 3 lots and $100 per lot for each lot over 3: $ 2500

Technical peer review escrow (unused portions are refundable) of $250 per lot: $ 3250

Date review fees & escrow paid: 5/19/2022

G. Checklist and Required Submissions

Are the completed preliminary plan checklist and all submissions attached? [✔] YES [ ] NO

To the best of my knowledge, all of the above stated information submitted in this application is true and correct.

H. Signature of Applicant

Charlie Burnham

Printed Name: Charlie Burnham

5/18/2022

Date

Fee Calculation

Item	Unit Price	Quantity	Total Cost
Preliminary Subdivision (First 3 Lots)	$500	3	$ 1,500
Preliminary Subdivision (Additional Lots)	$100	10	$ 1,000
Peer Review Escrow	$250	13	$ 3,250

Total Fee	**$ 5,750**

TOWN OF DURHAM
630 Hallowell Road
Durham, Maine 04222

Office of Code Enforcement and Planning
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SUBDIVISION PLAN REVIEW CHECKLIST
SECTION 6.7 PRELIMINARY PLAN SUBMISSIONS
SECTION 6.14 – PERFORMANCE STANDARDS

SUBDIVISION NAME Deer Creek Crossing **DATE** 5/18/2022

This checklist has been prepared to assist applicants in developing their applications. It should be used as a guide. The checklist does not substitute for the statutory criteria or the requirements of Article 6 of the Land Use Ordinance. The Planning Board also will be using the checklist to make sure that your application is complete and meets all standards. **Fill out all shaded columns in the checklist by initialing a box in each row**. Indicate if the information has been submitted or if a waiver is requested. The application need not contain separate plans as implied below. The perimeter survey, subdivision plan and general engineering plans may be contained on the same drawing for preliminary plan approval. However, detailed engineering drawings such as road profiles, drainage swales and erosion/sedimentation plans should be presented on separate sheets at the final plan stage.

SUBDIVISION REGULATIONS		Submitted by Applicant	Waiver Requested (with waiver request form)	Received by Planning Board	Waiver Granted
6.6 D.&E.	**Required public notice sent to:** 1) abutting property owners, 2) abutting town if project abuts or crosses boundary, and 3) Durham Elementary School if within well source water protection area (30-A MRSA §4403.3.A)				
6.7	**PRELIMINARY PLAN SUBMISSIONS REQUIRED FOR COMPLETENESS REVIEW (10 Copies of application form & all materials)**				
A.	Completed application form	X	**NOT WAIVABLE**		**NOT WAIVABLE**
B.	Location map w/ required information	X	**NOT WAIVABLE**		**NOT WAIVABLE**
C.	Preliminary plan at readable scale	X	**NOT WAIVABLE**		**NOT WAIVABLE**
C.1	Proposed subdivision name, Town, & Map & Lot #s	X	**NOT WAIVABLE**		**NOT WAIVABLE**
C.2	Documentation of legal rights to develop	X	**NOT WAIVABLE**		**NOT WAIVABLE**

Subdivision Name: Deer Creek Crossing

SUBDIVISION REGULATIONS		Submitted by Applicant	Waiver Requested (with waiver request form)	Received by Planning Board	Waiver Granted
C.3	Standard boundary survey	X	NOT WAIVABLE		NOT WAIVABLE
C.4	Copy of most recent deed w/ any encumbrances	X	NOT WAIVABLE		NOT WAIVABLE
C.5	List of proposed deed restrictions (actual draft legal documents at final plan)	X			
C. 6	All septic system test pit logs & map w/ lots	X	NOT WAIVABLE		NOT WAIVABLE
C.7	Proposed water supplies for domestic & firefighting purposes	X	NOT WAIVABLE		NOT WAIVABLE
C.8	Well exclusion zones (100 ft. from septic systems or per hydrogeological evaluation)	X			
C. 9	Names of owner, applicant, plan preparers, & abutters	X	NOT WAIVABLE		NOT WAIVABLE
C.10	All wetlands mapped	X	NOT WAIVABLE		NOT WAIVABLE
C.11	Topography at 5 ft. & 2 ft. contours (for areas where construction will occur)	X			
C.12	Farm lands and farm soils if 5 acres or more	NA			
C.13	Number of acres, location of existing & property lines & site features (e.g., stone walls, large rock outcrops)	X			
C.14	Location of any water features & indication of location in or out of Runaround Pond watershed	X			
C.15	Zoning district and any district boundaries	X	NOT WAIVABLE		NOT WAIVABLE
C.16	Location (w/ size) of existing & proposed culverts & drainage ways shown	X			
C.17	Existing streets, easements, buildings, parks, & deeded open spaces	X			

SUBDIVISION REGULATIONS		Submitted by Applicant	Waiver Requested (with waiver request form)	Received by Planning Board	Waiver Granted
C.18	Traffic entrance(s) sight distances external & internal roads	X			
C.19	Location & width of existing & proposed streets	X			
C.20	Proposed lot lines w/ dimensions & area	X	NOT WAIVABLE		NOT WAIVABLE
C.21 & 22	Proposed common open spaces (if any) & proposed uses	X			
C.23	Proposed building envelopes & cleared areas	X			
C.24	Any flood prone areas per FEMA maps	X	NOT WAIVABLE		NOT WAIVABLE
C.25	Any State-identified significant habitats or unique natural areas	X	NOT WAIVABLE		NOT WAIVABLE
C.26	Any identified historic resources (listed or eligible for listing)	X	NOT WAIVABLE		NOT WAIVABLE
D.	**ADDITIONAL STUDIES THAT MAY BE REQUIRED BY THE BOARD** (Based on project type & size, site issues, or issues that come up during review)				
D.1	High intensity soil survey	(At final plan stage)		(At final plan stage)	
D.2	Hydrogeological assessment of groundwater availability and potential impacts	(At final plan stage)		(At final plan stage)	
D.3	Traffic trip generation (required for larger projects)	(At final plan stage)		(At final plan stage)	
D.4	Traffic impact study (required for larger projects or if safety issues are identified)	(At final plan stage)		(At final plan stage)	
E.	Additional information required by Planning Board to verify compliance with standards (requires vote of the Board)	(At final plan stage)		(At final plan stage)	

Subdivision Name: Deer Creek Crossing

SUBDIVISION REGULATIONS		Submitted by Applicant	Waiver Requested (with waiver request form)	Approved by Planning Board	Waiver Granted
6.14	**REVIEW STANDARDS TO BE ADDRESSED BY THE APPLICANT'S SUBMISSIONS AFTER THE APPLICATION IS DEEMED COMPLETE BY THE PLANNING BOARD**				
6.15	**POLLUTION STANDARDS (addressed by compliance w/ 6.16, 6.17, 6.19, 6.24, 6.25 & 6.28)**				
6.16	**SUFFICIENT WATER**				
A.	Note on plan prohibiting dug wells	X	**NOT WAIVABLE**		**NOT WAIVABLE**
B.	Wells & septic in accordance with Maine rules	X	**NOT WAIVABLE**		**NOT WAIVABLE**
C.	Proposed fire protection water supply	X			
6.17	**EROSION & SEDIMENTATION IMPACTS**				
A. & B.	Erosion & sedimentation plan to be submitted w/ final plans	(At final plan stage)		(At final plan stage)	
C.	Areas intended for vegetation clearing shown on plans	X			
C.	Required buffers along water bodies shown on plans and referenced in notes	X			
D.	Statement of intent for topsoil removal or retention	X			
6.18	**TRAFFIC CONDITIONS & STREET STANDARDS**				
A.	Meets general standards for safety, congestion, level of traffic, and avoiding large cuts and/or fills	X			
B.	Meets or will meet any MDOT permit requirements & does not drop service level of access roads (larger projects will require a traffic study)	(At final plan stage)		(At final plan stage)	
C.1	Streets laid out for existing & future interconnections unless major cut-through traffic results	X			
C.2	Street names meet addressing requirements	(At final plan stage)		(At final plan stage)	

SUBDIVISION REGULATIONS		Submitted by Applicant	Waiver Requested (with waiver request form)	Approved by Planning Board	Waiver Granted
C.3	Clearing in road rights of way limited and stump disposal areas (if any) noted on plans	(At final plan stage)		(At final plan stage)	
D.	Final plans to contain engineered drawings of streets meeting all requirements of Appendix 1	(At final plan stage)		(At final plan stage)	
6.19	**SEWAGE DISPOSAL STANDARDS**				
A.	Test pit logs by site evaluator indicate suitable site for septic system on each lot with no variance or easement required	X	**NOT WAIVABLE**		**NOT WAIVABLE**
6.20	**SOLID WASTE STANDARDS**				
	Level of waste generation within Town's capacity or alternative arrangement	X			
6.21	**IMPACT ON NATURAL BEAUTY, AESTHETICS, HISTORIC SITES, WILDLIFE HABITAT, RARE NATURAL AREAS OR PUBLIC ACCESS TO THE SHORELINE STANDARDS**				
A.	Final plans to delineate & note limits of tree clearing & 50-ft buffer along existing roads	(At final plan stage)		(At final plan stage)	
B.1	If any portion is in a designated unique natural area, appropriate preservation measures included in plans	(At final plan stage)		(At final plan stage)	
B.2	If any portion in designated historic or archaeological area or site, appropriate preservation measures included in plans	(At final plan stage)		(At final plan stage)	
B.3	Proposed open space (if any) suitable for intended purposes	X			
B.4	Intent to transfer any open space to the Town stated if planned	X			

SUBDIVISION REGULATIONS		Submitted by Applicant	Waiver Requested (with waiver request form)	Approved by Planning Board	Waiver Granted
C.	If any portion within 250 ft of endangered or threatened species habitat, no adverse impacts documented per:	(At final plan stage)		(At final plan stage)	
C.1	75-ft buffer maintained along habitat (if along or within property)	(At final plan stage)		(At final plan stage)	
C.2	Consultation with IF&W with written comments	(At final plan stage)		(At final plan stage)	
C.3	If recommended by IF& W, wildlife biologist's report on potential impacts & recommended mitigation measures	(At final plan stage)		(At final plan stage)	
D.1	Any existing public access to water bodies maintained with legal protections	(At final plan stage)		(At final plan stage)	
D.2	Final plan notes and deeds to list restrictions on clearing within 100 ft of any resource protected under shoreland zoning	(At final plan stage)		(At final plan stage)	
6.22	**CONFORMITY WITH LOCAL ORDINANCES AND PLANS STANDARDS**				
	All lots meet zoning dimensional standards & other Land Use Ordinance requirements	X	**NOT WAIVERABLE**		**NOT WAIVERABLE**
6.23	**FINANCIAL AND TECHNICAL CAPACITY STANDARDS**				
A.	Bank letter of commitment or equivalent documentation to be provided with final plan (intent indicated)	(At final plan stage)		(At final plan stage)	
B.	Applicant and consultants have documented experience to properly carry out project & no prior violations	X			

Subdivision Name: Deer Creek Crossing

SUBDIVISION REGULATIONS		Submitted by Applicant	Waiver Requested (with waiver request form)	Approved by Planning Board	Waiver Granted
6.24	**IMPACT ON GROUND WATER QUALITY OR QUANTITY STANDARDS**				
A.	If required by vote of Planning Board, hydrogeological study to document project will meet safe drinking water standards	(At final plan stage)		(At final plan stage)	
B.	If required by vote of Planning Board, hydrogeological study to document project will have adequate water & not lower the water table	(At final plan stage)		(At final plan stage)	
6.25	**FLOODPLAIN MANAGEMENT STANDARDS** For projects with identified flood-prone areas:				
A.	Utilities located to avoid flood damage	X	**NOT WAIVABLE**		**NOT WAIVABLE**
B.	Drainage provided to avoid flooding	X	**NOT WAIVABLE**		**NOT WAIVABLE**
C.	Final plan to contain note prohibiting structures in floodplain	(At final plan stage)		(At final plan stage)	
D.	Road crossings & driveways evaluated for emergency access & will withstand 100-year flood	X			
E.	Project complies with Article 11 floodplain management regulations	X	**NOT WAIVABLE**		**NOT WAIVABLE**
6.26	**IDENTIFICATION OF FRESHWATER WETLANDS, RIVERS, STREAMS, OR BROOKS STANDARDS**				
	All wetlands delineated by qualified professional & all streams within or abutting project mapped	X	**NOT WAIVABLE**		**NOT WAIVABLE**
6.27	**IDENTIFICATION OF FARMLAND STANDARDS**				
	All active farmland or prime farmland soils of 5 or more acres mapped	X			

SUBDIVISION REGULATIONS		Submitted by Applicant	Waiver Requested (with waiver request form)	Approved by Planning Board	Waiver Granted
6.28	**STORMWATER MANAGEMENT STANDARDS**				
A.	If DEP Site Location Permit required, permits submitted with final plan	(At final plan stage)	**NOT WAIVABLE**	(At final plan stage)	**NOT WAIVABLE**
B.	If DEP Stormwater Permit required, permit & plans meeting Appendix 3 submitted with final plan	(At final plan stage)	**NOT WAIVABLE**	(At final plan stage)	**NOT WAIVABLE**
C.	Engineer's erosion & sedimentation control plan meeting Appendix 2 to be submitted with final plan	(At final plan stage)		(At final plan stage)	
D.	Projects within watershed of Runaround Pond to submit phosphorus management plan meeting Appendix 4	(At final plan stage)		(At final plan stage)	
E.	If potential for downstream flooding, Board to vote on hydrologic analysis	(At final plan stage)	**NOT WAIVABLE**	(At final plan stage)	**NOT WAIVABLE**
6.29	**SPAGHETTI-LOTS PROHIBITED STANDARDS**				
	No lots within shoreland zone have lot depth to shore frontage ratio in excess of 5 to 1	NA			
6.30	**IMPACT ON ADJOINING MUNICIPALITIES STANDARDS**				
	If project crosses town boundary, no unreasonable traffic or unsafe conditions in adjoining community	NA			
6.31	**COMPLIANCE WITH TIMBER HARVESTING RULES STANDARDS**				
A.	No liquidation harvesting on property in the past 5 years		**NOT WAIVABLE**		**NOT WAIVABLE**
B.	If question of violation, DACF to be consulted or applicant must submit a licensed forester's letter.	(At final plan stage)		(At final plan stage)	

SUBDIVISION REGULATIONS		Submitted by Applicant	Waiver Requested (with waiver request form)	Approved by Planning Board	Waiver Granted
6.32	**RESERVATION OR DEDICATION AND MAINTENANCE OF OPEN SPACE AND COMMON LAND, FACILITIES AND SERVICES**				
A.	Proposed ownership and maintenance of open space (if any)	X			
B.	Proposed use and restrictions on open space (if any) clearly stated	X			
C.	Terms of open space to be noted on final plans	(At final plan stage)		(At final plan stage)	
D.	Final plans to include draft covenants, articles of incorporation & bylaws for homeowners association using Town Attorney approved template (applicant may pay for review of proposed changes)	(At final plan stage)		(At final plan stage)	
E.	Legal documents to adequately address legal responsibility & authority of association	(At final plan stage)		(At final plan stage)	
6.33	**CLUSTER DEVELOPMENT ALTERNATIVE**				
A.	Planning Board reviewed and endorsed pursuing cluster development at sketch plan stage	X			
B.1	Site plan integrates home sites and open spaces for views and recreational opportunities of subdivision residents	X			
B.2	All cluster lots have at least 50% of required road frontage & lot size	X	**NOT WAIVABLE**		**NOT WAIVABLE**
B.3	Maximum number of lots established with net residential acreage calculations	X	**NOT WAIVABLE**		**NOT WAIVABLE**
B.4	Net residential acreage calculations deduct areas for roadways, flood areas, all non-buildable areas, and land in easements	X	**NOT WAIVABLE**		**NOT WAIVABLE**

SUBDIVISION REGULATIONS		Submitted by Applicant	Waiver Requested (with waiver request form)	Approved by Planning Board	Waiver Granted
B.5	Open space at least 50% of parcel & no more than 50% wetland	X			
B.6	No reduction of shore frontage for lots in shoreland zone	X			
B.7	Shore frontage & access included in open space in shoreland zone	NA			
B.8	Dry, suitable building sites provided that are relatively level and provide room to build outside required buffers	X	NOT WAIVABLE		NOT WAIVABLE
B.9	Common open space to be properly managed (see 6.32)	(At final plan stage)		(At final plan stage)	
6.34	**PERFORMANCE GUARANTEES**				
A.	Engineer's construction cost estimates for all improvements, stormwater & erosion controls to be submitted with final plan	(At final plan stage)		(At final plan stage)	
B.	Performance guarantee in form of cash or bank letter of credit approved by Town attorney for all costs in 6.34.A to be submitted with final plan application, issued prior to release of recording plan	(At final plan stage)		(At final plan stage)	
C.	Conditional agreement restricting lot sales & building permits prior to completion of improvements proposed & approved by Planning Board with notes on plan & performance guarantee for site stabilization	(At final plan stage)		(At final plan stage)	

SUBDIVISION REGULATIONS		Submitted by Applicant		Approved by Planning Board	Waiver Granted
6.35	**WAIVERS (Based on review of individual waiver requests)**				
A.	For submission waivers, applicant has demonstrated all performance standards have been met	(Attach waiver requests)			
B.	For procedural waivers, no streets proposed, no DEP permits required, no stormwater plan, & all preliminary & final plan submissions met	(Attach waiver requests)			
C.1	For waivers of performance standards, the applicant has provided sound engineering and/or environmental analysis to support the request	(Attach waiver requests)			
C.2	The waivers will not have the effect of nullifying any regulation				
C.3	All performance standards are substantially met without application of the regulation waived				
C.4	Any performance standard waivers are noted on the final plan		**NOT WAIVABLE**		**NOT WAIVABLE**

PROJECT NARRATIVE

Our vision for Deer Creek Crossing Subdivision is to create a safe, environmentally friendly neighborhood that allows its habitants to enjoy both the positives of living in a close community while still having the opportunity to enjoy the large area of open space surrounding the development.

The following application is for a thirteen-lot subdivision off Hallowell Road. There is an existing gravel road the runs across the site. The southern end of the property has a very defined stream running along it. The stream will need to be crossed to access the site (NRPA Permit has been submitted). The proposed subdivision is a clustered layout with each lot being at least 45,000 square feet. The open space wraps around the perimeter of the site and includes the areas along the stream. The intent is to protect the more vulnerable areas and develop on the higher central land. The trail looping around the open space will provide recreational opportunities (hiking, cross country skiing, the observation of wildlife etc.). The open space protects important natural features (streams, hills, forested wetlands, existing rock walls etc.) from the adverse impacts of development. It is for these reasons that we believe this project is a near perfect candidate for a cluster subdivision to be approved by the town.

The regulations of a cluster subdivision allow us to put over 50% of the property into “open space” that belongs to the Homeowner’s Association and can never be developed. In this scenario the “open space” consists of large dry wooded areas along with the stream around the perimeter of the site.

SECTION 6.2 SUBDIVISION REVIEW CRITERIA

1. **Pollution –** The proposed subdivision has been treated to meet the Maine DEP standards. There is an underdrained soil filter and level spreader with buffers that treat 80% of the proposed impervious area (75% is required by DEP). There are no other anticipated sources of pollution associated with the project.
2. **Sufficient Water** – A report from the Maine Geological Survey database shows the wells in the area. The wells shown yielded from 0.5 gpm to 100 gpm with an average of 19 gpm. It is our opinion that there is sufficient water in the area.
3. **Erosion and Sedimentation Control** – An Erosion Control Plan has been provided as Attachment C.
4. **Traffic** – There is an existing street entrance with over 700 feet of site distance in both directions. The traffic generated by a 13-lot subdivision does not trigger any Traffic Movement permits.
5. **Sewage Disposal** – Individual septic systems are proposed for each lot. Test pits have been dug and the soils were deemed acceptable for subsurface wastewater disposal systems (Attachment B).
6. **Municipal Solid Waste Disposal** – The residents of Deer Creek Crossing Subdivision will be required to enlist the services of a private waste hauler to dispose of any solid waste. This requirement has been included the HOA documents (See Attachment D).
7. **Aesthetic, Cultural, and Natural Values** – The open space for the subdivision is located in a way to protect all such areas. The open space along the perimeter creates a buffer around existing streams and wetlands that provide important habitats. Maine Fish and Wildlife has been contacted as part of the project and their response is included in Attachment E.
8. **Conformity with Local Ordinances and Plans** – The project has been designed with Local Ordinances in mind and has aimed to meet all requirements set forth by the Town. An effort has been made to go above and beyond some of the ordinances to accommodate some of the abutters' concerns/desires.
9. **Financial Capacity –** A letter stating the financial capacity of the applicant will be included as part of the Final Application.
10. **Surface Waters -** The proposed subdivision has been treated to meet the Maine DEP standards. There are two underdrained soil filters that treat 80% of the proposed impervious area (75% is required by DEP). Our vision for Deer Creek Crossing Subdivision is to create a safe, environmentally friendly neighborhood that allows its habitants to enjoy both the positives of living in a close community while still having the opportunity to enjoy the large area of open space surrounding the development.

11. **Groundwater –** A report on the wells in the area is included in Attachment B. The size of the lot in relation to the number of proposed lots is insignificant. There are no adverse effects to the groundwater anticipated.
12. **Flood Areas** – The FEMA Panel for the area has been included as Attachment F. The Stormwater Treatment for the sight reduces the peak runoff from the site during the 2-year, 10-year, and 25-year storm.
13. **Freshwater Wetlands** – The freshwater wetlands have been mapped and are included on the Attached Plan set. As part of the subdivision there will be no impacts to any wetlands and the areas of special significance have been placed into the "open space" to provide additional protection.
14. **Farmland** – There is no farmland associated with this project.
15. **River, Stream, or Brook** – The streams on the property have been identified and are shown on the attached Plan Set. The streams were avoided and included in the Open Space to the maximum extent practicable.
16. **Stormwater** – The stormwater treatment for the proposed subdivision has been designed to meet the Maine DEP standards. A Stormwater Report is included as Attachment G.
17. **Spaghetti-Lots Prohibited** – There are no spaghetti lots proposed.
18. **Great Pond Phosphorous Concentration** – The project is not associated with any Great Ponds.
19. **Impact on Adjoining Municipalities** – The project does not cross a municipal boundary.
20. **Land Subject to Liquidation Harvesting** – The timber has not been harvested in violation of the rules adopted pursuant to 12 MRSA 8869.14 to the best of the applicant's knowledge. The land was logged in 2019 by Cote's Forestry (a licensed forestry service).

ATTACHMENT A

TOWN OF DURHAM PLANNING DEPARTMENT

AGENT AUTHORIZATION

APPLICANT/ OWNER	**Name**	Jack Doughty			
PROPERTY DESCRIPTION	**Physical Address**	735 Hallowell Road		**Map**	007
				Lot	032 A
APPLICANT'S AGENT INFORMATION	**Name**	Charlie Burnham			
	Phone	207 712 6990	**Business Name & Mailing Address**	241 Rowe Station Road New Gloucester, ME 04260	
	Fax				
	Email	edwinburnham@gmail.com			

Said agent(s) may represent me/us before Durham Town officers and the Durham Planning Board to expedite and complete the approval of the proposed development for this parcel.

APPLICANT SIGNATURE — DATE: 3/23/2022

Jack Doughty
PLEASE TYPE OR PRINT NAME HERE

CO APPLICANT SIGNATURE (If applicable) — DATE

PLEASE TYPE OR PRINT NAME HERE

Charlie Burnham — APPLICANT'S AGENT SIGNATURE — DATE: 3/23/2022

Charlie Burnham
PLEASE TYPE OR PRINT NAME HERE

MAINE LAND PURCHASE AND SALE CONTRACT

I. The Parties. This Land Purchase and Sale Contract ("Agreement") made on December 7th, 2021 ("Effective Date") is between:

Buyer: Jack Doughty ("Buyer") with a mailing address of 231 Flying Point Rd, City of Freeport, State of Maine who agrees to buy,

AND

Seller: Dean Smith ("Seller") with a mailing address of 98 Patriot Way, City of Durham, State of Maine, who agrees to sell and convey the real property described in Section II. Buyer and Seller shall be collectively known as the "Parties."

II. Legal Description. The real property is described as vacant land with a total gross area of 35 +/- Acres (AC). The real property is further described as:

Street Address:

735 Hallowell Rd

Tax Parcel Information (i.e., "Parcel ID" or "Tax Map & Lot"):

007-032-A

Other Description: The back west lot with enough land to accomodate a 14 lot subdivision

III. Earnest Money. After acceptance by all Parties, the Buyer agrees to make a payment in the amount of $140,000.00 as consideration by December 17th, 2021 at 12:00 PM ("Earnest Money"). The Earnest Money shall be applied to the Purchase Price at Closing and subject to the Buyer's ability to perform under the terms of this Agreement. Any Earnest Money accepted is not required to be placed in a separate trust or escrow account in accordance with State law.

IV. Purchase Price and Terms. The Buyer agrees to purchase the Property by payment of $200,000.00 (Two Hundred Thousand Dollars) as follows: (check one)

X - **All Cash Offer**. No loan or financing of any kind is required in order to

purchase the Property. Buyer shall provide Seller written third (3rd) party documentation verifying sufficient funds to close no later than _____, 20___ at ____:____ AM PM. Seller shall have three (3) business days after the receipt of such documentation to notify Buyer, in writing, if the verification of funds is not acceptable. If Buyer fails to provide such documentation, or if Seller finds such verification of funds is not acceptable, Seller may terminate this Agreement. Failure of Seller to provide Buyer written notice of objection to such verification shall be considered acceptance of verification of funds

- **Bank Financing.** The Buyer's ability to purchase the Property is contingent upon the Buyer's ability to obtain financing under the following conditions: (check one)

- Conventional Loan
- FHA Loan (Attach Required Addendums)
- VA Loan (Attach Required Addendums)
- Other: _____

- In addition, Buyer agrees, within a reasonable time, to make a good faith loan application with a credible financial institution;
- If Buyer does not reveal a fact of contingency to the lender and this purchase does not record because of such nondisclosure after initial application, the Buyer shall be in default;
- On or before _____, 20___, the Buyer will provide the Seller a letter from a credible financial institution verifying a satisfactory credit report, acceptable income, source of down payment, availability of funds to close, and that the loan approval is/ is not contingent on the lease, sale, or recording of another property;
- In the event the Buyer fails to produce the aforementioned letter or other acceptable verification by the date above in Section IV(c), this Agreement may be terminated at the election of the Seller with written notice provided to the Buyer within ____ days from the date in Section IV(c);
- Buyer must obtain Seller's approval, in writing, to any change to the letter described in Section IV(c) regarding the financial institution, type of financing, or allocation of closing costs; and
- Buyer agrees to pay all fees and satisfy all conditions, in a timely manner, required by the financial institution for processing of the loan application. Buyer agrees the interest rate offered by lender or the availability of any financing program is not a contingency of this Agreement, so long as Buyer qualifies for the financing herein agreed. Availability of any financing program may change at any time. Any licensed real estate agent hired by either party

is not responsible for representations or guarantees as to the availability of any loans, project and/or property approvals or interest rates.

- **Seller Financing**. Seller agrees to provide financing to the Buyer under the following terms and conditions.

- **Loan Amount**: $_____
- Down Payment: $_____
- **Interest Rate** (per annum): ____%
- **Term**: ____ Months Years
- Documents. The Buyer shall be required to produce documentation, as required by the Seller, verifying the Buyer's ability to purchase according to the Purchase Price and the terms of the Seller Financing. Therefore, such Seller Financing is contingent upon the Seller's approval of the requested documentation to be provided on or before _____, 20___. The Seller shall have until _____, 20___ to approve the Buyer's documentation. In the event Buyer fails to obtain Seller's approval, this Agreement shall be terminated with the Buyer's Earnest Money being returned within five (5) business days.

V. **Sale of Another Property**. Buyer's performance under this Agreement. (check one)

- **Shall not** be contingent upon selling another property.

- **Shall be** contingent upon selling another property with a mailing address of _____, City of _____, State of _____ within ____ days from the Effective Date.

VI. **Closing Costs**. The costs attributed to the Closing of the Property shall be the responsibility of **Both Parties**. The fees and costs related to the Closing shall include but not be limited to a title search (including the abstract and any owner's title policy), preparation of the deed, transfer taxes, recording fees, and any other costs by the title company that is in standard procedure with conducting the sale of a property.

VII. **Funds at Closing**. Buyer and Seller agree that before the recording can take place, funds provided shall be in one (1) of the following forms: cash, interbank electronic transfer, money order, certified check or cashier's check drawn on a financial institution located in the State, or any above combination that permits the Seller to convert the deposit to cash no later than the next business day.

VIII. **Closing**. This transaction shall be closed on ___December 31st, 2022___

at 12:00 PM or earlier at the office of a title company to be agreed upon by the Parties ("Closing"). Any extension of the Closing must be agreed upon, in writing, by Buyer and Seller. Real estate taxes, rents, dues, fees, and expenses relating to the Property for the year in which the sale is closed shall be prorated as of the Closing. Taxes due for prior years shall be paid by Seller.

IX. Survey. Buyer may obtain a survey of the Property before the Closing to assure that there are no defects, encroachments, overlaps, boundary line or acreage disputes, or other such matters, that would be disclosed by a survey ("Survey Problems"). The cost of the survey shall be paid by the Seller. Not later than ____ business days prior to the Closing, Seller shall notify Buyer of any Survey Problems which shall be deemed to be a defect in the title to the Property. Seller shall be required to remedy such defects within ____ business days and prior to the Closing.

If Seller does not or cannot remedy any such defect(s), Buyer shall have the option of canceling this Agreement, in which case the Earnest Money shall be returned to Buyer.

X. Mineral Rights. It is agreed and understood that all rights under the soil, including but not limited to water, gas, oil, and mineral rights shall be transferred by the Seller to the Buyer at Closing.

XI. Title. Seller shall convey title to the property by warranty deed or equivalent. The Property may be subject to restrictions contained on the plat, deed, covenants, conditions, and restrictions, or other documents noted in a Title Search Report. Upon execution of this Agreement by the Parties, Seller will, at the shared expense of both Buyer and Seller, order a Title Search Report and have delivered to the Buyer.

Upon receipt of the Title Search Report, the Buyer shall have 1 business days to notify the Seller, in writing, of any matters disclosed in the report which are unacceptable to Buyer. Buyer's failure to timely object to the report shall constitute acceptance of the Title Search Report.

If any objections are made by Buyer regarding the Title Search Report, mortgage loan inspection, or other information that discloses a material defect, the Seller shall have 1 business days from the date the objections were received to correct said matters. If Seller does not remedy any defect discovered by the Title Search Report, Buyer shall have the option of canceling this Agreement, in which case the Earnest Money shall be returned to Buyer.

After Closing, Buyer shall receive an owner's standard form policy of title insurance insuring marketable title in the Property to Buyer in the amount of the Purchase Price, free and clear of the objections and all other title exceptions agreed to be removed as part of this transaction.

XII. Property Condition. Seller agrees to maintain the Property in its current condition, subject to ordinary wear and tear, from the time this Agreement comes into effect until the Closing. Buyer recognizes that the Seller, along with any licensed real estate agent(s) involved in this transaction, make no claims as to the validity of any property disclosure information. Buyer is required to perform their own inspections, tests, and investigations to verify any information provided by the Seller. Afterward, the Buyer shall submit copies of all tests and reports to the Seller at no cost.

Therefore, Buyer shall hold the right to hire licensed contractors, or other qualified professionals, to further inspect and investigate the Property until _____, 20____ at ____:____ AM PM.

After all inspections are completed, Buyer shall have until _____, 20____ at ____:____ AM PM to present any new property disclosures to the Seller in writing. The Buyer and Seller shall have ____ business days to reach an agreement over any new property disclosures found by the Buyer. If the Parties cannot come to an agreement, this Agreement shall be terminated with the Earnest Money being returned to the Buyer.

If the Buyer fails to have the Property inspected or does not provide the Seller with written notice of the new disclosures on the Property, in accordance with this Agreement, Buyer hereby accepts the Property in its current condition and as described in any disclosure forms presented by the Seller.

In the event improvements on the Property are destroyed, compromised, or materially damaged prior to Closing, the Agreement may be terminated at Buyer's option.

XIII. Seller's Indemnification. Except as otherwise stated in this Agreement, after recording, the Buyer shall accept the Property AS IS, WHERE IS, with all defects, latent or otherwise. Neither Seller nor their licensed real estate agent(s) or any other agent(s) of the Seller, shall be bound to any representation or warranty of any kind relating in any way to the Property or its condition, quality or quantity, except as specifically set forth in this Agreement or any property disclosure, which contains representations of the Seller only, and which is based upon the best of the Seller's personal knowledge.

XIV. Appraisal. Buyer's performance under this Agreement: (check one)

X - **Shall not** be contingent upon the appraisal of the Property being equal to or greater than the agreed upon Purchase Price.

- **Shall** be contingent upon the appraisal of the Property being equal to or greater than the agreed upon Purchase Price. If the Property does not appraise to at least the amount of the Purchase Price, or if the

appraisal discovers lender-required repairs, the Parties shall have ____ business days to re-negotiate this Agreement ("Negotiation Period"). In such event the Parties cannot come to an agreement during the Negotiation Period, this Agreement shall terminate with the Earnest Money being returned to the Buyer.

XV. Required Documents. Prior to the Closing, the Parties agree to authorize all necessary documents, in good faith, in order to record the transaction under the conditions required by the recorder, title company, lender, or any other public or private entity.

XVI. Termination. In the event this Agreement is terminated, as provided in this Agreement, absent of default, any Earnest Money shall be returned to the Buyer, in-full, within ____ business days with all parties being relieved of their obligations as set forth herein.

XVII. Sex Offenders. Section 2250 of Title 18, United States Code, makes it a federal offense for sex offenders required to register pursuant to the Sex Offender Registration and Notification Act (SORNA), to knowingly fail to register or update a registration as required. State convicted sex offenders may also be prosecuted under this statute if the sex offender knowingly fails to register or update a registration as required, and engages in interstate travel, foreign travel, or enters, leaves, or resides on an Indian reservation.

A sex offender who fails to properly register may face fines and up to ten (10) years in prison. Furthermore, if a sex offender knowingly fails to update or register as required and commits a violent federal crime, he or she may face up to thirty (30) years in prison under this statute. The Buyer may seek more information online by visiting https://www.nsopw.gov/.

XVIII. Time. Time is of the essence. All understandings between the Parties are incorporated in this Agreement. Its terms are intended by the Parties as a final, complete and exclusive expression of their Agreement with respect to its subject matter and they may not be contradicted by evidence of any prior agreement or contemporaneous oral agreement.

XIX. Buyer's Default. Seller's remedies shall be limited to liquidated damages in the amount of the Earnest Money set forth in Section III. It is agreed that such payments and things of value are liquidated damages and are Seller's sole and only remedy for Buyer's failure to perform the obligations of this Agreement. The Parties agree that Seller's actual damages in the event of Buyer's default would be difficult to measure, and the amount of the liquidated damages herein provided for is a reasonable estimate of such damages.

XX. Seller's Default. Buyer may elect to treat this Agreement as cancelled, in which case all Earnest Money paid by Buyer hereunder shall be returned and Buyer may recover such damages as may be proper, or Buyer may elect to treat

this Agreement as being in full force and effect and Buyer shall have the right to specific performance or damages, or both.

XXI. Earnest Money Dispute. Notwithstanding any termination of this Agreement, the Parties agree that in the event of any controversy regarding the release of the Earnest Money that the matter shall be submitted to mediation as provided in Section XXII.

XXII. Dispute Resolution. Buyer and Seller agree to mediate any dispute or claim arising out of this Agreement, or in any resulting transaction, before resorting to arbitration or court action.

- **Mediation**. If a dispute arises, between or among the Parties, and it is not resolved prior to or after recording, the Parties shall first proceed in good faith to submit the matter to mediation. Costs related to mediation shall be mutually shared between or among the Parties. Unless otherwise agreed in mediation, the Parties retain their rights to proceed to arbitration or litigation.
- **Arbitration**. The Parties agree that any dispute or claim in law or equity arising between them out of this Agreement or any resulting transaction, which is not settled through mediation, shall be decided by neutral, binding arbitration. The arbitrator is required to be a retired judge or justice, or an attorney with at least five (5) years of residential real estate law experience unless the Parties mutually agree to a different arbitrator. Under arbitration, the Parties shall have the right to discovery in accordance with State law. Judgment upon the award of the arbitrator(s) may be entered into any court having jurisdiction. Enforcement of this Agreement to arbitrate shall be governed by the Federal Arbitration Act.
- **Exclusions**. The following matters shall be excluded from the mediation and arbitration: (i) a judicial or non-judicial foreclosure or other action or proceeding to enforce a deed, mortgage or installment land sale contract as defined in accordance with State law; (ii) an unlawful detainer action, forcible entry detainer, eviction action, or equivalent; (iii) the filing or enforcement of a mechanic's lien; and (iv) any matter that is within the jurisdiction of a probate, small claims or bankruptcy court. The filing of a court action to enable the recording of a notice of pending action, for order of attachment, receivership, injunction, or other provisional remedies, shall not constitute a waiver or violation of the mediation and arbitration provisions of this Section.

XXIII. Governing Law. This Agreement shall be interpreted in accordance with the laws in the State of Maine.

XXIV. Terms and Conditions of Offer. This is an offer to purchase the Property in accordance with the above stated terms and conditions of this Agreement. If at least one, but not all, of the Parties initial such pages, a counteroffer is required until an agreement is reached. Seller has the right to continue to offer the Property for sale and to accept any other offer at any time prior to notification of acceptance. If this offer is accepted and Buyer subsequently defaults, Buyer may be responsible for payment of licensed real estate agent(s) compensation. This Agreement and any supplement, addendum or modification, including any copy, may be signed in two or more counterparts, all of which shall constitute one and the same writing.

XXV. Binding Effect. This Agreement shall be for the benefit of, and be binding upon, the Parties, their heirs, successors, legal representatives, and assigns, which therefore, constitutes the entire agreement between the Parties. No modification of this Agreement shall be binding unless signed by both Buyer and Seller.

XXVI. Severability. In the event any provision or part of this Agreement is found to be invalid or unenforceable, only that particular provision or part so found, and not the entire Agreement, will be inoperative.

XXVII. Offer Expiration. This offer to purchase the Property as outlined in this Agreement shall be deemed revoked and the Earnest Money shall be returned unless this Agreement is signed by Seller and a copy of this Agreement is personally given to the Buyer by _____ 20____ at ____ ____ AM PM.

XXVIII. Acceptance. Seller warrants that Seller is the owner of the Property or has the authority to execute this Agreement. Therefore, by the Seller's authorization below, he/she/they accepts the above offer and agrees to sell the Property on the above terms and conditions and agrees to the agency relationships in accordance with any agreement(s) made with licensed real estate agent(s). Seller has read and acknowledges receipt of a copy of this Agreement and authorizes any licensed real estate agent(s) to deliver a signed copy to the Buyer.

Delivery may be in any of the following: (i) hand delivery; (ii) email under the condition that the party transmitting the email receives electronic confirmation that the email was received to the intended recipient; and (iii) by facsimile to the other party or the other party's licensee, but only if the transmitting fax machine prints a confirmation that the transmission was successful.

XXIX. Licensed Real Estate Agent(s). If Buyer or Seller have hired the services of licensed real estate agent(s) to perform representation on their behalf, he/she/they shall be entitled to payment for their services as outlined in their separate written agreement.

XXX. Disclosures. It is acknowledged by the Parties that: (check one)

- There are no attached addendums or disclosures to this Agreement.
- The following addendums or disclosures are attached to this Agreement:
  - Lead-Based Paint Disclosure Form
  -
  -
  -

XXXI. Additional Terms and Conditions

Dean Smith has the right of first refusal to general contract half of the houses in the proposed subdivision as well as concrete work for all the houses in a timely manner

XXXII. Entire Agreement. This Agreement together with any attached addendums or disclosures shall supersede any and all other prior understandings and agreements, either oral or in writing, between the parties with respect to the subject matter hereof and shall constitute the sole and only agreements between the parties with respect to the said Property. All prior negotiations and agreements between the parties with respect to the Property hereof are merged into this Agreement. Each party to this Agreement acknowledges that no representations, inducements, promises, or agreements, orally or otherwise, have been made by any party or by anyone acting on behalf of any party, which are not embodied in this Agreement and that any agreement, statement or promise that is not contained in this Agreement shall not be valid or binding or of any force or effect.

XXXIII. Signature

Date: 12/7/2021

Dean Smith

Seller's Signature

Dean Smith

Print Name

Date: [illegible]

[signature]

Buyer's Signature

Jack Doughty

Print Name

Date: _____

_____

Agent's Signature

_____

Print Name

Date: _____

_____

Agent's Signature

_____

Print Name

Bk 9388 Pg325 #10397
06-17-2016 @ 12:31p

WARRANTY DEED

Maine Statutory Short Form

Know all Persons by these Present,

That DEWITT CORPORATION, a Maine corporation with its principal place of business in Durham, County of Androscoggin and State of Maine, grants to:

DEAN SMITH

MAINE REAL ESTATE TRANSFER TAX PAID

whose mailing address is 34 Pleasant View Farm Road, Durham, ME 04222, with WARRANTY COVENANTS, a certain lot or parcel of land, together with any improvements thereon, situated in the Town of Durham, County of Androscoggin and State of Maine, more particularly described in the Exhibit A attached hereto and made a part hereof.

In Witness hereof DeWitt Corporation has caused this instrument to be singed in its corporate name by Roy DeWitt, its President, thereunto duly authorized on this 10th day of June, 2016.

Signed, Sealed and Delivered
in the presence of

DeWitt Corporation,

Karen L Rogers

Roy DeWitt

By: Roy DeWitt
Its: President

STATE OF MAINE
Cumberland, ss. June 10, 2016

Then personally appeared before me the above named Roy DeWitt, President of DeWitt Corporation, and acknowledged the foregoing instrument to be his free act and deed in his said capacity and to be the free act and deed of DeWitt Corporation.

Karen L Rogers

Notary Public
Printed Name: KAREN L. ROGERS

KAREN L. ROGERS
NOTARY PUBLIC
CUMBERLAND COUNTY
MAINE
MY COMMISSION EXPIRES MAY 28, 2020

EXHIBIT A

All and the same premises described in a deed from George A. Leger and Matilda F. Leger to DeWitt Corporation dated October 2, 1986 and recorded in the Androscoggin County Registry of Deeds in Book 2004, Page 35.

Excepting and reserving the following lots or parcels of land:

1. Lots 1-9 shown on a plan titled "Final Plan – Revised Timber Oaks", by Brian Smith Surveying, Inc. dated July 25, 1988 and recorded in the Androscoggin County Registry of Deeds in Plan Book 34, Page 32;

2. Timber Oak Drive and cul-de-sac as shown on the aforesaid Plan;

3. The lot shown on the aforesaid Plan labeled "George & Matilda Leger to DeWitt Corporation, Book 2004, Page 35, 10-2-1986, 344,926 Sq. Ft."; and

4. The premises described in a deed from of DeWitt Corporation to DeWitt Builders, Inc. dated August 24, 2001 and recorded in the Androscoggin County Registry of Deeds at Book 4759, Page 66, and by a Corrective Deed of even or near date which Corrective Deed also conveys an access easement.

The premises conveyed herein is more particular described as bounded on the north by land now or formerly of Sandra and Quincy Herling, land now or formerly of Joanne Simonelli, and land now or formerly of Robert Marstaller, on the east by land now or formerly of Parker Morse and Cheryl Morse, on the south by land now or formerly of Robert and Nikki Boucher, land now or formerly of DeWitt Builders and Hallowell Road, so-called, and on the west by land shown on a plan titled "Final Plan – Revised Timber Oaks", by Brian Smith Surveying, Inc. dated July 25, 1988 and recorded in the Androscoggin County Registry of Deeds in Plan Book 34, Page 32, the lot shown on the aforesaid Plan labeled "George & Matilda Leger to DeWitt Corporation, Book 2004, Page 35, 10-2-1986, 344,926 Sq. Ft.", and land now or formerly of Seth Pruzansky.

ATTACHMENT B

(Septic test pit results still pending)

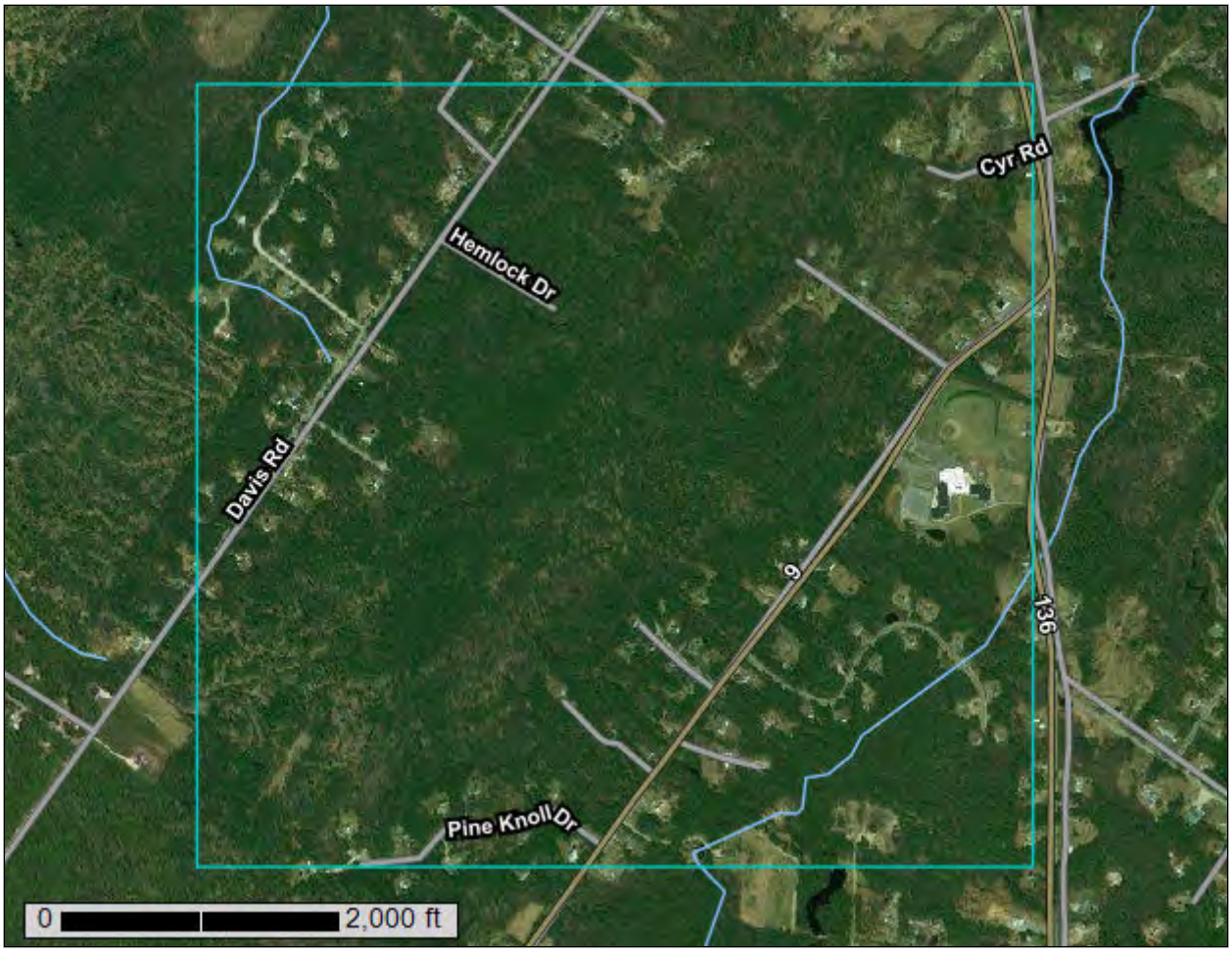
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

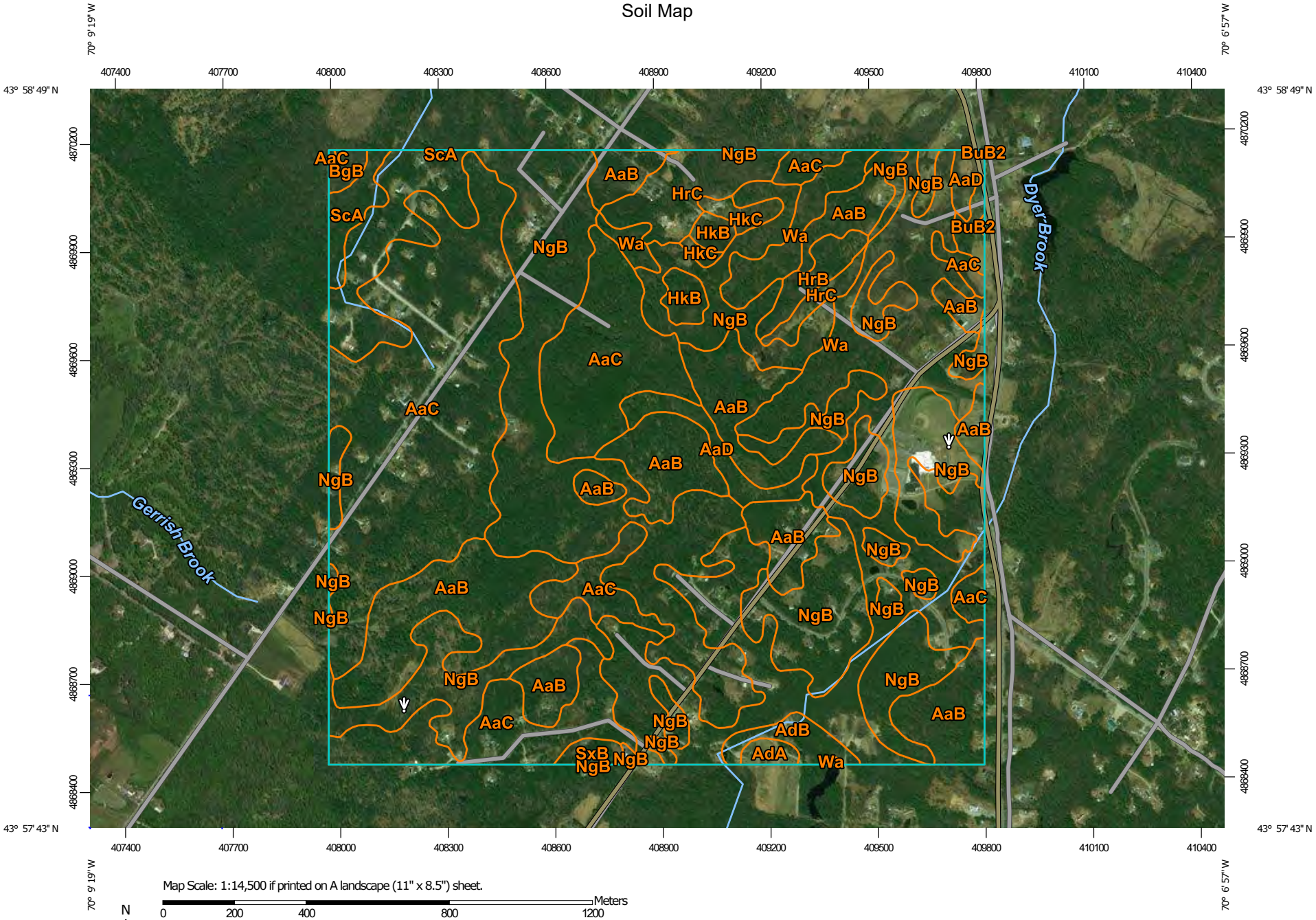
A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Androscoggin and Sagadahoc Counties, Maine



February 22, 2022

Custom Soil Resource Report
Soil Map



Map Scale: 1:14,500 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 200 400 800 1200

Feet: 0 500 1000 2000 3000

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 1:15,800.

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: Androscoggin and Sagadahoc Counties, Maine
Survey Area Data: Version 22, Aug 30, 2021

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

Date(s) aerial images were photographed: Dec 31, 2009—Oct 13, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AaB	Adams loamy sand, 0 to 8 percent slopes	121.4	15.7%
AaC	Adams loamy sand, 8 to 15 percent slopes	192.2	24.8%
AaD	Adams loamy sand, 15 to 30 percent slopes	11.9	1.5%
AdA	Agawam fine sandy loam, 0 to 2 percent slopes	2.5	0.3%
AdB	Agawam fine sandy loam, 2 to 8 percent slopes	6.3	0.8%
BgB	Nicholville very fine sandy loam, 0 to 8 percent slopes	2.3	0.3%
BuB2	Lamoine-Buxton complex, 0 to 8 percent slopes	3.2	0.4%
HkB	Hinckley gravelly sandy loam, 0 to 8 percent slopes	6.3	0.8%
HkC	Hinckley gravelly sandy loam, 8 to 15 percent slopes	4.4	0.6%
HrB	Lyman-Tunbridge complex, 0 to 8 percent slopes, rocky	6.8	0.9%
HrC	Lyman-Tunbridge complex, 8 to 15 percent slopes, rocky	20.7	2.7%
NgB	Ninigret fine sandy loam, 0 to 8 percent slopes	253.2	32.7%
ScA	Scantic silt loam, 0 to 3 percent slopes	6.9	0.9%
SxB	Sutton loam, 0 to 8 percent slopes	2.7	0.4%
Wa	Walpole fine sandy loam	134.0	17.3%
Totals for Area of Interest		**774.7**	**100.0%**

To: Stonex Landscaping & Excavation
768 Newell Brook Rd
Durham, ME 04222

Date: March 14, 2022

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

Re: Route 9 - Map 7, Lot 32A, Durham, ME – Wetland Delineation, Memorandum

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At the request of Stonex Landscaping & Excavation (the "Client"), Mainely Soils conducted on-site wetland and waterbody delineations, preliminary vernal pool surveys, and septic suitability test pits on a parcel, approximately 53.75 acres in size located on the north side of Route 9 in Durham, Maine. These field investigations were performed to provide baseline environmental data to inform the client of potential development/use of the site. The natural resources assessments described in this memorandum were completed in March of 2022. In addition to describing the identified resources this report describes the existing conditions within the study area, and the methodologies employed for the assessments.

PROJECT DESCRIPTION

The project site is located within the Rural, Residential & Agricultural District along the Route 9 corridor in the Town of Durham. The site is currently vacant forested land that has been logged in the past 10 years. Surrounding land use of the site is residential to the south, east and west, and vacant forested land to the north. Proposed use of the site is to develop residential houselots. Access to the site is currently from Route 9 to the south. In total, the wetland and waterbody delineation survey area encompassed approximately 53.75 acres, identified by the Town of Durham as Tax Map 7, Lot 32A.

SITE DESCRIPTION

The Study Area occurs in the Southern Coastal biophysical region of Maine (McMahon, 1990). The Southern Coastal biophysical region is characterized by relatively flat terrain, with elevations generally ranging up to 100 feet above sea level. Bedrock is frequently exposed and covered by thin glacial deposits. Along the immediate coast, soils are generally deep sands (where beaches occur) or shallow sandy loams that are well to excessively drained. Extensive coarse-grained glaciomarine deposits occur in the central portion of the South Coastal Region and along its western margin. The survey area is located within the Lower Androscoggin watershed (Hydrologic Unit Classification (HUC) 8 identification 01040002).

The Natural Resource Conservation Service soil survey mapping identifies native soils at the site as being formed in glacial-fluvial or glacio-lacustrine sand on outwash plains, deltas, lake plains, moraines, terraces, and eskers (Ninigret and Adams series) (Web Soil Survey, 2022). The Adams series is a somewhat excessively drained map unit while the Ninigret series is a moderately drained soil.

Study Methodology

Mainely Soils conducted wetland delineation field work within the survey area in March 2022. The boundary of wetlands were delineated in accordance with the Army Corps of Engineers 1987 Wetland Delineation Manual (1987 Manual) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version

2.0) (Regional Supplement, 2012). All wetland delineations were conducted using the Routine Determination Methods, which requires that a wetland contain a dominance of hydrophytic vegetation, hydric soils, and evidence of hydrology in order to be considered a wetland. Wetland boundaries were located and recorded in the field using a Trimble® GPS unit capable of sub meter accuracy, post processed, and transferred and incorporated onto project mapping.

Four distinct wetland areas were delineated throughout the study area. Additional field notes were also taken to record the classification of each wetland in accordance with the Classification of Wetlands and Deepwater Habitats of the United States, general site characteristics, unique qualities observed during the site assessment, and other considerations relevant to investigation findings and the future completion of a wetlands functions and values assessment in accordance with the Highway Methodology Workbook: Supplement. Representative photographs of each wetland were taken, field sketches were labeled of the wetland boundary on an aerial photograph-based map, and notes were recorded on the flagging sequence for each wetland.

Mainely Soils also surveyed the site for streams, in accordance with the State of Maine Natural Resources Protection Act stream criteria and definitions. Three streams were delineated within the study area.

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

Onsite investigations took place outside of the vernal pool indicator species peak breeding season. However, no depressions holding water with the potential to contain vernal pool species were identified anywhere within the Study Area.

Study Results

Using the methodologies described above, a wetland delineation was performed on March 9, 2022. A description of the identified resources follows. Supporting attachments include Representative Photographs (Attachment 1). Wetland Delineation Data Forms can be provided upon request.

Wetlands at the project site consisted of four distinct features. All four features were seasonally saturated palustrine forested wetlands found in depressional seeps in sandy outwash that drained into narrow drainages associated with perennial streams. Dominant wetland vegetation within the consisted of red maple (*Acer rubrum*), yellow birch (*Betula alleghaniensis*), balsam fir (*Abies balsamea*), white pine (*Pinus strobus*), cinnamon fern (*Osmunda cinnamomea*), royal fern (*Osmunda regalis*), jewelweed (*Impatiens capensis*), sensitive fern (*Onoclea sensibilis*), fringed sedge (*Carex crinita*), and goldthread (*Coptis trifolia*). The soils within the wetland generally had a thin, dark mucky surface overlaying a depleted sandy loam substratum meeting hydric soil criteria A1: Depleted Below Dark Surface. Evidence of wetland hydrology included saturation to the mineral soil surface, water stained leaves, drainage patterns, and buttressed tree roots at the time of field investigations.

Wetland A1 was a larger wetland complex associated with streams S1, S2, and S3. Overland drainage was generally in a northeasterly direction. Wetland A4 was associated with streams S1 and S4 and of similar nature of Wetland A1, but located in the southwestern extent of the Study Area. Wetland A2 was a wetland seep in the north central portion of the

site that drained northerly into Wetland A1 through an unjurdistional ephemeral drainage. Wetland A3 was a small isolated wetland seep located in the central portion of the study area.

Four perennial streams were delineated within the Study Area. Stream S1 was identified as a perennial tributary to Dyer Brook on the USGS Freeport Topoquad. It flowed in a northeasterly direction and was approximately 6 feet wide with approximately 8 inches of flowing water on a sandy substrate with 2 foot vertical banks.

Stream S2 was approximately 2 feet wide with approximately 2 inches of flowing water and a silt/sand substrate and 1 foot inch vertical banks. Stream S2 originated within Wetland A1 in the central portion of the site and flowed southerly into Stream S1.

Stream S3 was approximately flowing in a southerly direction, approximately 4 feet wide with 4 inches of flowing water, a sandy substrate and 12 inch vertical banks. Stream S2 originated offsite to the north and flowed southerly into Stream S1.

Stream S4 was located in the southwest extent of the Study area, was approximately 2 feet wide with approximately 2 inches of flowing water and a silt/sand substrate and 1 foot inch vertical banks. Stream S2 originated within Wetland A4 flowed southerly into Stream S1.

No potential vernal pool locations were identified onsite during field investigations.

Summary

The information contained in this memorandum was collected in order to provide detailed, on-site information regarding wetland and waterbody resources. This information is intended to be used for project planning purposes and to support permitting needs. Four wetlands were delineated on the site and were identified as Wetlands A1 - A4. The wetland features were located within sandy loam soils in depressional swales. The wetlands generally exhibited seasonally saturated/flooded hydroperiods, and provided groundwater discharge, floodflow alteration, wildlife habitat, and stormwater/water quality maintenance functions. Four perennial streams were identified on the site. No potential vernal pool locations were observed.

Wetlands are regulated by the U.S. Army Corps of Engineers under the federal Clean Water Act, and by the Maine Department of Environmental Protection under the Maine Natural Resources Protection Act (NRPA). The State of Maine further differentiates wetlands under NRPA by regulating certain wetlands as "wetlands of special significance" (WOSS). Wetlands within 25 feet of the streams onsite may be considered WOSS's. Impacts to wetlands resulting from proposed project development require that permits first be obtained from the MDEP and the USACE before proceeding with construction, and where applicable, municipal governing bodies. Consultation with these agencies early in the project design process is encouraged.

Wetlands within the survey area may be further regulated under municipal ordinances, such as Shoreland Zone, Site Plan Review, or other local ordinances. Wetlands associated with Stream S1 and S3 were shown on the Town of Durham zoning map as being with the Resource Protection District.

References:

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Schlawin, J. Cutko, A. Maine Natural Areas Program. 2014. A Conservation Vision for Maine Using Ecological Systems.

Web Soil Survey. 2022. U.S. Department of Agriculture – Natural Resources Conservation Service. http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm

Attachments:

1. Representative Site Photographs

Attachment 1

Representative Site Photographs

Natural Resource Photographs
Route 9 – Map 7, Lot 32A, Durham, Maine

Photo 1: View looking southeasterly across Wetland A from Flag 10
Photo Taken 1/26/2022

Photo 2: View looking downstream along Stream S1 near the existing culvert crossing
Photo Taken 1/26/2022

Natural Resource Photographs
Route 9 – Map 7, Lot 32A, Durham, Maine

Photo 3: View looking westerly across Wetland A near Flag 1
Photo Taken 1/26/2022

Photo 4: View looking downstream along Stream S2 within Wetland A
Photo Taken 3/9/2022

Natural Resource Photographs
Route 9 – Map 7, Lot 32A, Durham, Maine

Photo 5: View of the commencement point of Stream S2
Photo Taken 3/9/2022

Photo 6: View looking northerly across Wetland A near flag 122
Photo Taken 3/9/2022

Natural Resource Photographs
Route 9 – Map 7, Lot 32A, Durham, Maine

Photo 7: View looking easterly across Wetland B near flag 1
Photo Taken 3/9/2022

Photo 8: View looking westerly across Wetland B near flag 8
Photo Taken 3/9/2022

Natural Resource Photographs
Route 9 – Map 7, Lot 32A, Durham, Maine

Photo 9: View looking northerly across Wetland C near flag 1
Photo Taken 3/9/2022

Photo 9: View looking southerly across Wetland C near flag 5
Photo Taken 3/9/2022

WELL LOCATION ADDRESS	TAX MAP NO	TAX LOT NO	WELL USE	WELL TYPE	CASING LENGTH FT	WELL DEPTH FT	WELL YIELD GPM
DAVIS RD	7	10	DOMESTIC	BEDROCK		183	12
			DOMESTIC	OVERBURDEN	90	95	40
RTE 136			DOMESTIC	BEDROCK		73	30
SOUTHWEST BEND	7	36	DOMESTIC	BEDROCK	137	300	0.5
	6	132	INSTITUTIONAL	BEDROCK	91	220	60
	7	4	DOMESTIC	GRAVEL PACKED		68	15
			DOMESTIC	OVERBURDEN		22	
DURHAM, PLUMMER'S MILL	6	115	DOMESTIC	BEDROCK	60	380	1.5
29 TIMBER OAKS DRIVE (LOT 6)	7	32 G	DOMESTIC	BEDROCK	80	320	10
16 TIMBER OAKS DRIVE (LOT 2)	7	32 C	DOMESTIC	BEDROCK	105	500	1
81 OLD BRUNSWICK ROAD	7	98A	DOMESTIC	BEDROCK	70	255	10
99 OLD BRUNSWICK RD.	7	97	DOMESTIC	BEDROCK	94	205	15
80 PINE KNOLL DRIVE	7	28I	DOMESTIC	BEDROCK	35	530	6
SAME	6	113-F	DOMESTIC	BEDROCK	60	400	1.5
103 OLD BRUNSWICK ROAD	6	114A	DOMESTIC	BEDROCK	160	540	30
DAVIS RD	11	01C	DOMESTIC	GRAVEL	100	110	100
621 HALLOWELL ROAD	6	13	DOMESTIC	BEDROCK	95	224	20
735 HALLOWELL ROAD	7	32A	DOMESTIC	BEDROCK	100	445	1
788 HALLOWELL ROAD	7	46	DOMESTIC	BEDROCK	75	400	3.5
706 HALLOWELL ROAD	7	35	DOMESTIC	BEDROCK	140	325	20
206 DAVIS ROAD	7	7	DOMESTIC	BEDROCK	30	555	10
SAND HILL DR			DOMESTIC	BEDROCK	20	275	2
730 HALLOWELL RD	7	37	DOMESTIC	BEDROCK	140	200	60
94 SAND HILL DR			DOMESTIC	BEDROCK	40	140	30
15 SAND HILL DR			DOMESTIC	BEDROCK	20	430	2
812 HALLOWELL ROAD	7	48	DOMESTIC	BEDROCK	121	180	8
12 HEMLOCK LN			DOMESTIC	BEDROCK	40	380	3

Average (GPM)	18.9

ATTACHMENT C

SOIL EROSION AND SEDIMENTATION CONTROL

Introduction

The project is a 13-lot open space residential subdivision . The site is located off Hallowell Road in Durham, Maine. The property is approximately 54 acres, with a few patches of forested wetlands and a stream that runs along the eastern side. The site work will occur on the western side, opposite the stream.

Site History and Existing Site Conditions

The existing site is predominantly wooded with on-site soils of primarily in Hydrologic Group A. Test pits were performed on-site by Alex Finamore.

The site is boarded by deep glacial ridges with small streams in the center. The majority of the site drains to large wetland in the southheast corner.

Existing Erosion Problems

There are no existing erosion problems evident at the site. Areas near the stream crossing have been loamed and seeded with a perimeter erosion control berm.

Critical Areas

The critical areas in the proximity of the site are the stream and the surrounding forested wetlands.

Protected Natural Resources

Forested wetlands on the Site have been identified and mapped by Alex Finamore and are shown on the drawings that accompany this submission.

Soil Erosion and Sedimentation Control Measures

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.

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 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, 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 road. The native sandy soil material is suitable for re-use as fill on the site. This will minimize import/export quantities. The topography is relatively flat, but some leveling and grade adjustment will be required.

Erosion/Sedimentation Control Devices

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.*

1. 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.
2. 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).
3. 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.
4. Silt fence will be installed along the upstream perimeter of the work area as shown on the plans, to divert run-on from upslope areas and prevent surface water from entering the construction area. If necessary, and at the direction of the Project Engineer, interception trenches shall be constructed to prevent shallow groundwater from flowing into construction areas
5. Temporary sediment sumps will provide sedimentation control for stormwater runoff from disturbed areas during construction until stabilization has been achieved.
6. A construction entrance will be constructed at all access points onto the site to prevent tracking of soil onto adjacent local roads and streets and the existing parking lot.
7. Stone sediment traps or a premanufactured SiltSack™ and a sediment bag will be installed at catch basin inlets to prevent silt from entering the storm drain system. Installation details are provided in the plan set on the erosion control detail sheets.
8. 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.
9. Silt logs are an option for stone check dams and may be substituted provided the devices are well anchored.

Temporary Erosion/Sedimentation Control Measures

The following are planned as temporary erosion/sedimentation control measures during construction:

The primary and most effective soil erosion and sediment control measure is proactive work scheduling to minimize exposure of erodible soils. The Contractor will make every effort to promptly stabilize and disturbed areas on the site, after removal of existing vegetation, by placing imported granular material

over disturbed areas. This will limit exposure of native soils and fill materials and provide a stable surface with minimal erosion potential.

1. It is anticipated that work on the site will begin in the Fall of 2021. This will allow for the 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.
2. Crushed stone-stabilized construction entrances will be placed at any construction access points from adjacent streets. 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.
3. Silt fence shall be installed along the downgradient side of the proposed improvement areas. The silt fence will remain in place and properly maintained until the site is acceptably stabilized. Silt fence needs to be checked to ensure the bottom is properly keyed in and inspected after significant rains. 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.
4. 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. Any silt fence identified by the owner or reviewing agencies as not being properly installed during construction shall be immediately repaired in accordance with the installation details.
5. Dirtbags™ shall be installed in accordance with the details in the plan set. The Dirtbags'™ function on the project is to receive any water pumped from excavations during construction. A Dirtbag™ shall be installed and prepared for operation prior to any trenching on site. When Dirtbags™ are observed to be at 50% capacity, they shall be cleaned or replaced. Stone under the Dirtbag™ shall be removed and replaced concurrently with the replacement of the Dirtbag™.
6. Stone check dams, silt logs, or hay bale barriers will be installed at any evident concentrated flow discharge points during construction and earthwork operations
7. Storm drain catch basin inlet protection shall be provided through the use of stone sediment barriers or a premanufactured SiltSack™ as distributed by A. H. Harris Company, Portland, Maine. Stone sediment barrier installation details are provided in the plan set. The barriers or SiltSacks™ shall be inspected after each rainfall and repairs made as necessary, including the removal of sediment. Sediment shall be removed and the barrier or SiltSack™ restored to its original dimensions when the sediment has accumulated to one-half the design depth of the barrier. Sediment shall be removed from SiltSacks™ as necessary. Inlet protection shall be removed when the tributary drainage area has been stabilized.
8. All slopes steeper than 4:1 shall receive erosion control blankets.
9. 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.

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.

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.

Topsoil Management

Any topsoil removed during the project must be stockpiled on the site and reused to the maximum extent possible. Topsoil piles should be located a minimum of 50' from the edge of wetlands. If a stockpile is intended to remain for more than 14 days, it should be stabilized. All stockpiles should have an erosion control berm placed around the toe of slope.

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 two 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 demolition activities including salvage of materials that can be used for site work aggregate.

5. Construct activities on the site to optimize the handling of materials and restrict the denuded areas to the time stipulated.
6. Construct stabilized pads for foundation and building construction.
7. Maintain stabilized site access and working areas during building construction.
8. Install binder pavement.
9. Landscape (loam and seed).
10. Install surface pavements.
11. Install striping, signage, and miscellaneous site improvements.
12. Review and punch the site.
13. Remove any temporary erosion control measures.

It is anticipated that site construction on the project will be completed by the end of winter in 2023, with some building finishing work extending into the spring.

Maine Construction General Permit Requirements

The project will be constructed by a General Contractor under contract to the Owner/Applicant. The Contractor will submit a detailed schedule for the completion of the work at the start of construction.

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 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.

Maintenance of the Erosion/Sedimentation Control Features

The project will be contracted by the Owner. The Contractor 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:

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). 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 area.
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 this 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.

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.

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.

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.

Preconstruction 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.

Construction Schedule

The following construction sequence is required:

1. Install construction entrances. (Beginning the Fall of 2022)
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 two 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 demolition activities including salvage of materials that can be used for site work aggregate.
5. Construct activities on the site to optimize the handling of materials and restrict the denuded areas to the time stipulated.
6. Construct stabilized pads for foundation and building construction.
7. Maintain stabilized site access and working areas during building construction.
8. Install binder pavement.
9. Landscape (loam and seed).
10. Install surface pavements.
11. Install striping, signage, and miscellaneous site improvements.
12. Review and punch the site.
13. Remove any temporary erosion control measures.

ATTACHMENT D

DECLARATION OF
EASEMENTS, RESTRICTIONS AND COVENANTS
FOR THE DEER CREEK CROSSING SUBDIVISION

WHEREAS , JACK DOUGHTY , hereinafter known as Declarant , owns certain real estate in the Town of Durham, County of Androscoggin , State of Maine, as shown on a Plan entitled , "Deer Creek Crossing Subdivision " by Grange Engineering , LLC., dated _____ and recorded in the Androscoggin County Registry of Deeds in Plan Book _____ (the " **Plan** "), and which property is more particularly shown in **Exhibit A** attached hereto (hereinafter "**Property**"); and

WHEREAS, it is desired that certain easements, restrictions and covenants be imposed upon a portion of said land for the protection of said Declarant and its subsequent Owners.

NOW, THEREFORE, Declarant hereby declares that all of the Property described in the attached Exhibit A shall be held, sold and conveyed subject to the following easements, restrictions, covenants and conditions, which are intended for the purpose of protecting the value and desirability of the said Property. Each of these easements, restrictions, covenants and conditions shall run with the real property. The easements, restrictions, covenants and conditions shall be binding upon all parties having any right, title or interest in the Property or any part thereof. These easements, restrictions, covenants and conditions shall bind their heirs, successors and assigns forever. These easements, restrictions, covenants and conditions shall inure to the mutual benefit of each owner hereafter.

ARTICLE I
DEFINITIONS

1.1 "Association" shall mean the **Deer Creek Crossing Homeowners Association,** its successors and assigns.

1.2 "Common Expenses" shall mean any expenses incurred by the Association for the care of the Common Property, if any, or for expenses common to the Association. These may include, but shall not be limited to, any landscaping, snow removal, garbage removal, detention pond maintenance, common utilities, general repairs, insurance, equipment and supply expenses, overhead and other expenses deemed necessary or appropriate by the Association. Without limitation, Common Expenses shall include road maintenance expenses, including such expenses owed by the Association in accordance with the Association Easement defined herein below. Insurance shall include casualty and liability insurance for any Common Property.

1.3 "Common Property" shall mean the real property, if any (including the improvements thereon), owned by the Association for the common use and enjoyment of the Owners as identified on the Plan. Without limitation and subject to the terms of Article V, the Common Property shall include _"Road Name"_ identified on the Plan and the Common Property shown on the Plan.

1.4 "Declarant" shall mean Jack Doughty, its successors and assigns.

1.5 "Future Common Property" shall mean any real property (including the improvements thereon), that the Declarant elects to quitclaim to the Association which the Association shall accept and own for the common use and enjoyment of the Owners as identified on the Plan or any amended Plan. Without limitation and subject to the terms of Article V, the Future Common Property shall include any extension of "Road Name" or such other Private Right of Way.

1.6 "Future Lots" shall refer to any plot of land set aside for future residential construction and is identified as "Land to be Retained by Owner", shown on the Plan. Said Future Lots shall not be considered under the jurisdiction of the Association until such time that there is a recording of an amendment to this Declaration and/or the filing of modified subdivision Plan by Declarant indicating the addition of the Future Lots into the Subdivision, if so required.

1.7 "Lot" shall refer to any plots of land set aside for residential construction.

1.8 "Owner" shall mean the record owner or owners of the fee simple title to any Lot that is part of the Property. It shall not include mortgages until such time as title is transferred by deed. Each Lot shall be deemed to have one owner for voting purposes, regardless of the number of actual owners.

1.9 "Property" shall mean all of that certain real property described in Exhibit A, which is attached hereto and made a part hereof, and such additional real property as may hereafter be brought under the jurisdiction of the Association including Future Lots either.

ARTICLE II
COVENANTS AND RESTRICTIONS FOR USE OF PROPERTY

2.1 All Lots or parcels of land conveyed shall be used for primarily residential purposes and the usual and natural uses in connection therewith, unless otherwise designated by Declarant, its successors and assigns. Home occupations allowed under the Durham Zoning Ordinance are permitted. Leasing the home on a Lot for residential use shall be considered a residential use. However, short term leasing of the home (including but not limited to Airbnb, VRBO, Homeaway or other similar short term leasing sites) on a Lot shall be considered a business use and in violation of this declaration.

2.2 No structure or building shall be erected, altered, placed or permitted to remain in any Lot other than one (1) single-family dwelling of not less than 1200 square feet nor more than 2800 square feet of living space, a garage and two (2) auxiliary structures without foundations. No prefabricated housing is allowed. The construction of the dwelling may be phased, but once construction thereon is commenced it must be completed within eighteen

(18) months. No temporary building or trailer may be maintained on the property except in conjunction with the legitimate construction of other permanent buildings.

2.3 Auxiliary structures shall be built in a manner consistent with the construction methods of the principal dwelling, having siding and roofing similar to the principal dwelling.

2.4 All structures on a Lot shall be located within the building envelope shown on the Plan for such Lot.

2.5 No building shall be erected on any Lot hereby conveyed in violation of municipal standards.

2.6 All sanitary plumbing and sewage disposal shall conform to the minimum requirements of the local governing authorities and the State of Maine.

2.7 Utilities shall be placed underground. No more than one antenna or satellite dish not greater than 3 feet long may be maintained on said property.

2.8 No Lot or parcel of land within this subdivision shall be subdivided in any manner without the written approval of the Declarant, its successors and assigns.

2.9 No livestock, poultry or other non-domestic animals shall be permitted on any Lot.

2.10 No house trailers, campers, motor homes, tents or other forms of temporary residence of any type or description shall be used on any Lot for habitation on a regular or extended basis.

2.11 No junk material, junk vehicles, stumps, trash, or similar waste items, or any hazardous or dangerous materials shall be stored on any Lot. Owners shall not conduct any hazardous, noxious, dangerous, offensive, or noisy activity that unreasonably interferes with any other Owner's quiet enjoyment of his or her Lot. Trash, garbage and other waste shall be kept in sanitary covered containers. Such containers shall not be visible from the street or any other Lot.

2.12 No nuisances, public or private may be permitted on said property. No unregistered vehicles or other personal property may be stored unless covered by outbuildings.

2.13 All dwellings shall have masonry or concrete foundations or slabs and be constructed of sound building material. Use of tarpaper, building wrap, Texture 1-11 plywood, or other inferior quality exterior siding material intended for use beyond the allowable time for completion of construction is prohibited. The use of vinyl siding is not allowed.

2.14 Visible roofing material must be of a permanent type, not tarpaper, ice and water shield or other temporary roofing materials. All roofing material must be either standing seam metal or asphalt shingles.

2.15 Any chimney or fireplace located on the exterior of the house shall meet the requirements of applicable codes.

2.16 All lots and building thereon shall be maintained in a neat, attractive manner and kept in good repair.

2.17 No lot owner may increase, decrease, or modify natural drainage such that it adversely impacts another lot.

2.18 No snowmobiles, motorcycles, motorbikes, dirt bike, nor All Terrain Vehicles may be operated on any Lot except to go to and from the lot.

2.19 One sign of less than four (4) square feet may be maintained on each Lot. No other signs shall be permitted on any Lot.

2.20 All trash and recycling must be picked up and disposed of by a private residential trash service, no trash or recycling bins can be put on Hallowell Road for public pick up by the town.

2.21 All homes in the subdivision must be built to the most recent energy codes (the 2015 IECC) and be designed in a way to optimize the overall performance of the home and it's energy efficiencies.

ARTICLE III
OWNERS' RIGHT TO USE COMMON PROPERTY

3.1 Every Lot Owner shall have a non-exclusive perpetual easement and right for the use and quiet enjoyment of the Common Property of the Association, as hereinafter described. Said right of use shall be appurtenant to the Owner's Lot and shall pass with title to every Lot, subject only to the following provisions:

(a) the right of the Association to impose annual maintenance and insurance charges to the Owners;

(b) the right of the Association to dedicate, sell or transfer all or any part of the Common Property to the Town of Durham for public use by residents of the Town. The Owners as herein provided shall approve such a transfer, sale or dedication; and

(c) any rights, easements, encumbrances, covenants, restrictions, or Declarant rights, easements, or reservations as described in this Declaration or otherwise shown on the Plan.

3.2 Owners shall forfeit their right of use in the event that any Owner fails to make any payments for Assessments as described herein. Rights of use shall be reinstated upon payment in full of any past due amount.

ARTICLE IV
HOMEOWNERS' ASSOCIATION

4.1 Prior to the date of execution and recording of this Declaration, there has been formed the **Deer Creek Crossing Homeowners Association**, a non-profit non-stock corporation organized under the laws of the State of Maine (the "**Association**"). Each owner of a Lot or Future Lot, shall automatically become and be a member of the Association as long as said Owner continues as owner of a Lot. Upon termination of interest of an Owner in a Lot, the Owner's membership and any interest in the Association shall automatically terminate and transfer and inure to the next successive owner of the Lot. Each owner of a Lot shall be bound by the By-Laws of the Association, as same may be amended from time to time, and each Owner of a Lot shall comply strictly with said By-Laws of the Association. No holder of a mortgage of a Lot shall be considered as a Lot owner until such holder shall acquire title to a Lot by foreclosure, by deed in lieu of foreclosure, or by maintaining possession of the Lot.

4.2 Each Owner shall be entitled to cast one (1) vote upon any matter taken up by the Association, as more particularly set forth in the Bylaws of the Association. This shall apply regardless of any difference in Lot size or value. Any Owner who owns more than one (1) Lot may cast one (1) vote for each such Lot.

4.3 Written notice of any meeting called for the purposes of taking any action authorized under this Declaration shall be sent to all members not less than ten (10) days nor more than sixty (60) days prior to the scheduled date. A quorum shall be necessary for the transaction of business and shall be deemed to exist if fifty percent (50%) of the Owners are present. No proxy voting shall be permitted, except as expressly set forth in the Bylaws. In the event that a quorum does not exist, the only action that may be taken is to adjourn the meeting to another date and direct the secretary to send notice of the new meeting date to all Members.

4.4 To take effect, any matter brought before the Association must be approved by a majority of those Owners who are present and voting. On any proposition to sell or acquire land by the Association, the approval of seventy-five percent (75%) of those Owners who are present and voting shall be required. A quorum must be present at the time any vote is taken. Loss of quorum requires immediate adjournment of the meeting.

ARTICLE V
COMMON PROPERTY

5.1 Declarant shall be responsible for construction, snow plowing and maintenance of the Common Property. After completion of construction of such Common Property or the sale by the Declarant of Seventy-Five Percent (75%) of the Lots to Owners other than the Declarant, whichever is later, the Declarant shall convey to the Association, and the Association

shall accept, the conveyance from the Declarant of such Common Property by Quit-Claim (Release) Deed, and upon such conveyance the obligations and responsibilities of Declarant with respect to the Common Property conveyed by said Deed shall terminate and cease.

5.2 The Declarant shall be responsible for the maintenance, repairs and improvements of any Common Property, until such time as such Common Property is conveyed to the Association as provided herein. Until such time the Common Property is conveyed to the Association, each lot owner shall pay to Declarant his or her pro rata share of the Common Expenses. As of and after the date on which Declarant shall convey any Common Property to the Association and with respect to any other Common Property that the Association may otherwise own or acquire;

a. The Association shall perform and be responsible for maintenance of the Common Property including the maintenance, resurfacing, improvement, clearing and repair of, and snow removal, for payment of any real estate taxes assessed thereon, and for the costs of labor, equipment, materials and management relating to the Common Property and supervision thereof. Assessments by the Association upon the Lots and the Owners thereof shall be used exclusively for the aforesaid purposes and for such other purposes as shall be permitted by the By Laws of the Association. Each of Lot shall be assessed an equal portion of the Common Expenses.

b. In the event that a public authority agrees to accept any road or any other part of or all of the Common Property as public and agrees to assume the responsibilities and costs for maintenance thereof, the Association shall convey the title and such easements as are appropriate to such public authority as may be reasonably required by such public authority.

ARTICLE VI
ASSESSMENTS

6.1 No later than thirty (30) days prior to each Annual Meeting of the members of the Association, the Executive Board shall estimate the Common Expenses for each calendar quarter of the following calendar year and shall present such estimate to the members at their Annual Meeting as the proposed budget for such calendar year. Unless otherwise provided in the Association's By-laws, the budget shall be approved by a majority of the members of the Association at their Annual Meeting to be held each year in the month of December prior to the commencement of the calendar year to which the estimated budget of Common Expenses applies. Each Lot shall be liable for a pro rata share of the Common Expenses, to be billed to each Lot Owner in accordance with this Article VI. However, Declarant shall not pay an assessment for any unsold or undeveloped lot and shall only be required to pay an assessment upon any lot owned by Declarant upon which building construction and landscaping is complete.

6.2 Unless otherwise approved by the Association, all assessments shall be billed quarterly no later than the first day of each calendar quarter and each calendar year by the Treasurer of the Association. All sums so assessed and billed shall become

due no later than thirty (30) days after the date of mailing or delivery of each such bill.

6.3 The members of the Association may from time to time at special meetings levy additional assessments, as allowed, by the same majority of votes as required for the annual assessments.

6.4 Assessments authorized and billed by the Association shall be a charge on the Lot and shall be a continuing lien upon the Lot upon which such assessment is made. If the assessment to a Lot Owner shall not be paid within thirty (30) days after the date when due, then said assessment shall be delinquent and shall, together with costs of collection and reasonable attorneys' fees, become a continuing lien on the Lot owned by the delinquent Lot Owner which lien shall bind the Lot with the buildings and improvements thereon as well as the delinquent Lot Owner, his heirs, devisees, successors, personal representatives, and assigns. Said lien may be enforced in the same manner as a lien for assessments against condominium units provided in the Maine Condominium Act, Chapter 31 of Title 33 of the Maine Revised Statutes, as amended. Said lien for unpaid assessments shall be prior to all liens and encumbrances on the Lot other than the first mortgage recorded prior to the date on which the assessment which is sought to be enforced becomes delinquent and liens for real estate taxes and other governmental/municipal assessments or charges against the Lot; provided, however, that any such lien shall not be subject to the provisions of 14 M.R.S.A. Section 4561 or 18-A M.R.S.A Section 2-201 et seq. as they or their equivalents may be amended or modified from time to time. All such charges, in addition to being a lien, shall also constitute the personal liability of the owner of the Lot so assessed at the time of assessment.

ARTICLE VII
ADDITIONAL EASEMENTS, COVENANTS, RESTRICTIONS

7.1 The Lots are subject to all drainage and other easements as depicted on the Plan.

7.2 The Owners of the Lots shall have a non-exclusive perpetual easement for ingress and egress over “Road Name” as shown on the plan.

ARTICLE VIII
CONSTRUCTION

8.1 These easements, restrictions, covenants are imposed as part of a general scheme for the protection and benefit of Declarant and each subsequent owner of Lots or parcels of said Declarant's land in addition to any and all provisions of any municipal, county or state ordinance, regulation or law. All present or future Owners of Lots or Future Lots are subject to the terms and provisions contained or referred to in this Declaration. The acceptance of a Deed or conveyance of a Lot other than as security, or the entering into of occupancy of any Lot shall signify that the provisions contained or referred to in this Declaration and the decisions of the

Association are accepted and ratified by such owner or occupant. All the provisions contained or referred to herein shall be deemed and taken to be covenants running with the land and shall bind any person having at any time any interest or estate in a Lot (except as mortgage security) as though such provision were recited and stipulated at length in each and every Deed or conveyance of a Lot.

8.2 If any one or more of these covenants, or any part thereof, shall be invalid or unenforceable, such invalidity or unenforceability shall not affect the remaining portions hereof, which shall remain in full force and effect.

ARTICLE IX
AMENDMENTS

Until such time as the Declarant has transferred seventy-five percent (75%) of the Lots to Owners of the Association, the Declarant may amend this Declaration from time to time by instrument recorded in the Cumberland County Registry of Deeds. Thereafter, this Declaration may be amended at any time and from time to time by written instrument duly executed by the Owners of record of seventy-five (75%) percent or more of the Lots and by all of the mortgagees of record of the Lots owned by such Owners. Any such amendment shall be recorded in the Cumberland County Registry of Deeds.

ARTICLE X
ENFORCEMENT, WAIVER

The Association shall have the right to enforce, by any proceeding at law or in equity, all restrictions, liens and charges now or hereafter imposed under the provisions of this Declaration. Failure by the Association to enforce any covenant or restriction herein contained shall in no event be deemed a waiver of right to do so hereafter.

ARTICLE XI
RIGHTS AND RESERVATIONS OF DECLARANT

11.1 Until the construction, marketing and sale of all Lots of Phase I and any Future Lots as reserved herein and Common Property is completed, the Declarant reserves the right to:

(a) Change the size, number and location of Lots, drainage easements, road right-of-way, and other improvements; and the size, layout, and location of any Lot for which a purchase and sale agreement has not been executed by the Declarant or with respect to which the purchaser is in default. The change or changes shall be effective upon the recording of an amendment to this Declaration and/or the filing of modified subdivision Plan by the Declarant indicating the changes made. Without limiting the foregoing, the Declarant specifically reserve the right to further subdivide the Land to be Retained by Owner (Future Lots and Future Common Property) and to include any said Future Lots and Future Common Property in this

Subdivision. The change or changes shall be effective upon recording of an amendment to this Declaration and/or filing of modified subdivision Plan by Declarant indicating the changes made.

(b) Locate on the premises, even though not depicted on the Plan, and grant and reserve easements and rights of way for the installation, maintenance, repair, replacement and inspection of utility lines, wires, pipes, conduits, and facilities, including, but not limited to, water, electric, telephone, fuel oil, natural gas, and sewer.

(c) Connect with and make use of utility lines, wires, pipes, and conduits, located on the property, for construction and sales purposes, provided that the Declarant shall be responsible for the cost of service so used.

(d) Place "For Sale" signs or other signs to aid in the marketing of the Lots and houses thereon.

(e) Appoint and remove the officers of the Association and members of the executive board and veto any action of the Association or the executive board, in accordance with the provisions of the ByLaws. The Declarant shall relinquish all special rights expressed or implied through which it may directly or indirectly control, direct, modify or veto any action of the Association, its Board of Directors or the majority of Lot Owners, and control of the Owner's Association shall pass to the Owners of Lots within the project not later than the earlier of the following: the date on which seventy-five percent (75%) of the Lots have been conveyed to purchasers, or five (5) years from the date of conveyance of the first Lot to a purchaser, or seven (7) years from the date of recording hereof. The requirements of this paragraph shall not affect the Declarant's rights, as a Lot Owner, to exercise the votes allocated to Lot(s) owned by the Declarant.

(f) With respect to its marketing of Lots, to use any Common Property for the ingress and egress of itself, its officers, employees, agents, contractors and subcontractors and for prospective purchasers, including the right of such prospective purchasers to park in parking spaces. The Declarant also reserves the right to use any Lots owned or leased by the Declarant as models, management offices, sales offices for this project or customer service offices. The Declarant reserves the right to relocate the same from time to time within the Property; upon relocation, the furnishing thereof may be removed. The Declarant further reserves the right to maintain on the Property such advertising signs as may comply with applicable governmental regulations, which may be placed in any location on the Property and may be relocated or removed, all at the sole discretion of the Declarant.

(g) To go upon any and all of the Property for purposes of construction, reconstruction, maintenance, repair, renovation, replacement or correction of the units or Common Property. This easement shall include without limitation, the right of vehicular and pedestrian ingress and egress, the right to park motor vehicles and to engage in construction activities of any nature whatsoever, including the movement and storage of building materials and equipment.

(h) Declarant shall have the right to assign or partially assign any of its obligations or its rights under this Declaration.

ARTICLE XII
GENERAL PROVISIONS

12.1. Headings. The headings used in this Declaration and the table of contents are inserted solely as a matter of convenience for the readers of this Declaration and shall not be relied upon or used in construing the effect or meaning of any of the provisions of this Declaration.

12.2. Severability. The provisions of this Declaration shall be deemed independent and severable, and the invalidity or unenforceability of any provision or portion thereof shall not affect the validity or enforceability of any other provision or portion hereof unless such deletions shall destroy the uniform plan of development and operation of the Association which this Declaration is intended to create.

12.3. Applicable Law. This Declaration shall be governed and construed according to the laws of the State of Maine.

12.4. Interpretation. The provisions of this Declaration shall be liberally construed in order to effect Declarant's desire to create a uniform plan for development and operation of the Association.

12.5. Effective Date. This Declaration shall become effective when it and the Plan have been recorded.

12.6. Notices. All notices and other communications required or permitted to be given under or in connection with this Declaration shall be in writing and shall be deemed given when delivered in person or on the third business day after the day on which mailed by regular U.S. mail, postage prepaid, addressed to the address maintained in the register of current addresses established by the Common Association.

12.7. Exhibits. All exhibits attached to this Declaration are hereby made a part of this Declaration.

12.8. Pronouns. Wherever used, the singular number shall include the plural, the plural the singular and the use of any gender shall include all genders.

WITNESS, Jack Doughty, Declarant, this ____ day of _____, 2022.

_____

Name: Jack Doughty

STATE OF MAINE
Androscoggin, SS

May , 2022

Then personally appeared the above-named Jack Doughty this _____ day of ____ _____, 2022, and acknowledged the foregoing to be his free act and deed.

Before me,

_____

Notary Public/Attorney at Law

ATTACHMENT E

(MDIFW and Historic Conservation Commission responses still pending)

Gmail **Charles Burnham <grange.engineering.me@gmail.com>**

Deer Creek Crossing Subdivision

2 messages

Charles Burnham <grange.engineering.me@gmail.com> Mon, May 16, 2022 at 11:44 AM
To: foleyb@rsu5.org

Good Morning,

I am assisting in the permitting of a small subdivision on Hallowell in Durham. A corner of the property is in the Aquifer Protection zone around the elementary school. The only disturbance proposed inside the protection zone is a stream crossing and associated road work.

The project is being designed to meet all DEP Stormwater requirements and all of the septics will be located outside the Aquifer Protection zone.

If you have any concerns or questions please do not hesitate to contact me. If not, a quick email confirming you have been notified and have no concerns would be greatly appreciated!

I have attached the sketch plan for the proposed project.

Thanks,

Charles Burnham P.E.

Grange Engineering LLC
New Gloucester, Maine

Hallowell Sketch Plan.pdf
1997K

Becky Foley <foleyb@rsu5.org> Thu, May 19, 2022 at 12:48 PM
To: Charles Burnham <grange.engineering.me@gmail.com>

Hi Charles,

I have no concerns about this subdivision being built.

Thanks,

Becky
[Quoted text hidden]
--
Dr. Becky J. Foley
Superintendent of Schools
RSU5
17 West Street
Freeport, ME 04032
207-865-0928

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

JANET T. MILLS
GOVERNOR

AMANDA E. BEAL
COMMISSIONER

May 12, 2022

Charlie Burnham
Grange Engineering
241 Rowe Station Road
New Gloucester, ME 04260

Via email: grange.engineering.me@gmail.com

Re: Rare and exemplary botanical features in proximity to: #1 Hallowell Road Subdivision, Durham, Maine

Dear Mr. Burnham:

I have searched the Maine Natural Areas Program's Biological and Conservation Data System files in response to your request received May 10, 2022 for information on the presence of rare or unique botanical features documented from the vicinity of the project in Durham, 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

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: #1, Hallowell Subdivision, Durham, ME

Common Name	State Status	State Rank	Global Rank	Date Last Observed	Occurrence Number	Habitat
Adder's Tongue Fern						
	SC	S1	G5	1905-08-10	7	Non-tidal rivershore (non-forested, seasonally wet),Open
Climbing Hempweed						
	PE	SH	G5	1916-08	1	Dry barrens (partly forested, upland),Open wetland, not
Clothed Sedge						
	E	S1	G5	1898-06-15	1	Dry barrens (partly forested, upland)
Dry Land Sedge						
	SC	S2	G5	1997-07-08	3	Old field/roadside (non-forested, wetland or upland)
Fern-leaved False Foxglove						
	SC	S3	G5	1938-08-18	11	Dry barrens (partly forested, upland),Hardwood to mixed
	SC	S3	G5	1893-08-28	14	Dry barrens (partly forested, upland),Hardwood to mixed
Mountain Honeysuckle						
	E	S2	G5	1933-09	4	Dry barrens (partly forested, upland),Hardwood to mixed
Ram's-head Lady's-slipper						
	E	S1	G3	1935	11	Forested wetland,Hardwood to mixed forest (forest,
Sassafras						
	SC	S2	G5	1906	10	Hardwood to mixed forest (forest, upland),Old field/
Showy Lady's-slipper						
	SC	S3	G4G5	1907-07-09	38	Forested wetland,Open wetland, not coastal nor
Smooth Winterberry Holly						
	SC	S3	G5	1989	22	Forested wetland
Unicorn Root						
	SC	S1	G5	1884	1	Dry barrens (partly forested, upland)

Date Exported: 2022-05-12 12:28

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

ATTACHMENT F

NOTES TO USERS

is for use in administering the National Flood Insurance Program. It does uarily identify all areas subject to flooding, particularly from local drainage f small size. The **community map repository** should be consulted for pdated or additional flood hazard information.

more detailed information in areas where **Base Flood Elevations** (BFEs) **odways** have been determined, users are encouraged to consult the Flood nd Floodway Data and/or Summary of Stillwater Elevations tables contained Flood Insurance Study (FIS) Report that accompanies this FIRM. Users e aware that BFEs shown on the FIRM represent rounded whole-foot . These BFEs are intended for flood insurance rating purposes only and t be used as the sole source of flood elevation information. Accordingly, ation data presented in the FIS Report should be utilized in conjunction with for purposes of construction and/or floodplain management.

Base Flood Elevations shown on this map apply only landward of 0.0' erican Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be t coastal flood elevations are also provided in the Summary of Stillwater table in the Flood Insurance Study Report for this jurisdiction. Elevations the Summary of Stillwater Elevations table should be used for construction odplain management purposes when they are higher than the elevations this FIRM.

s of the **floodways** were computed at cross sections and interpolated ross sections. The floodways were based on hydraulic considerations with requirements of the National Flood Insurance Program. Floodway widths pertinent floodway data are provided in the Flood Insurance Study Report isdiction.

eas not in Special Flood Hazard Areas may be protected by **flood control s**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance ort for information on flood control structures for this jurisdiction.

ction used in the preparation of this map was Universal Transverse (UTM) zone 19. The **horizontal datum** was NAD 83, GRS 1980 Differences in datum, spheroid, projection or UTM zones used in the of FIRMs for adjacent jurisdictions may result in slight positional s in map features across jurisdiction boundaries. These differences do not accuracy of this FIRM.

ations on this map are referenced to the North American Vertical Datum of ese flood elevations must be compared to structure and ground elevations d to the same **vertical datum**. For information regarding conversion the National Geodetic Vertical Datum of 1929 and the North American Datum of 1988, visit the National Geodetic Survey website at e.ngs.noaa.gov or contact the National Geodetic Survey at the following

mation Services
NGS12
Geodetic Survey
#9202
t-West Highway
ng, Maryland 20910-3282
-3242

current elevation, description, and/or location information for **bench marks** this map, please contact the Information Services Branch of the National Survey at **(301) 713- 3242**, or visit its website at http://www.ngs.noaa.gov.

p information shown on this FIRM was derived from the Maine Office of ic Information Systems (MEGIS) at a scale of 1:4,800 or better from ity dated 2001 or later.

e baselines depicted on this map represent the hydraulic modeling baselines the flood profiles in the FIS report. As a result of improved topographic data, **e baseline**, in some cases, may deviate significantly from the channel or appear outside the SFHA.

updated topographic information, this map reflects more detailed and **stream channel configurations and floodplain delineations** than own on the previous FIRM for this jurisdiction. As a result, the Flood and Floodway Data tables for multiple streams in the Flood Study Report (which contains authoritative hydraulic data) may reflect annel distances that differ from what is shown on the map. Also, the floodplain relationships for unrevised streams may differ from what is previous maps.

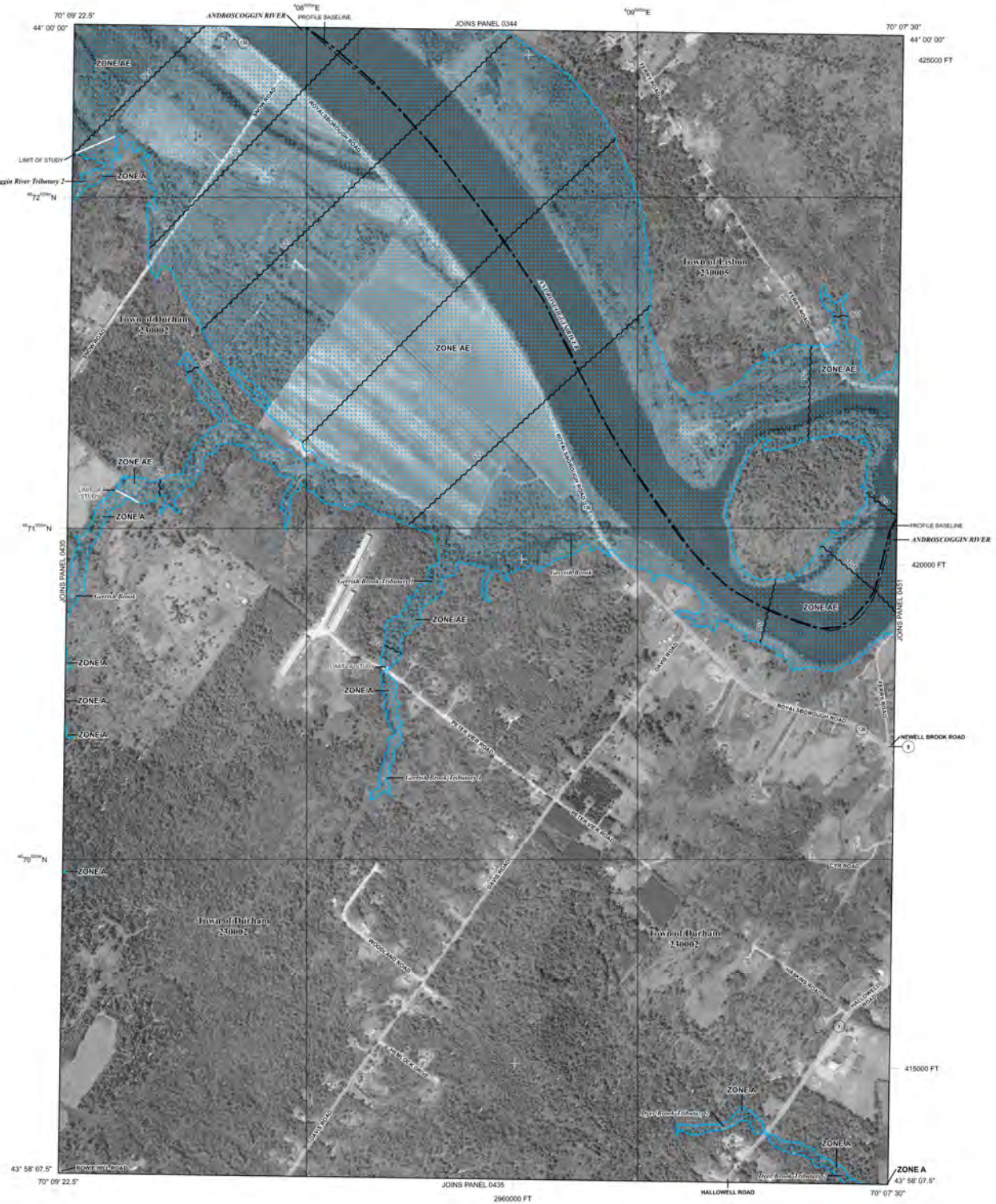
e limits shown on this map are based on the best data available at the time tion. Because changes due to annexations or de-annexations may have after this map was published, map users should contact appropriate y officials to verify current corporate limit locations.

fer to the separately printed **Map Index** for an overview map of the owing the layout of map panels; community map repository addresses: ting of Communities table containing National Flood Insurance Program each community as well as a listing of the panels on which each community

nation on available products associated with this FIRM visit the **Map Center (MSC)** website at http://msc.fema.gov. Available products may eviously issued Letters of Map Change, a Flood Insurance Study Report, gital versions of this map. Many of these products can be ordered or directly from the MSC website.

ve **questions about this map,** how to order products, or the National urance Program in general, please call the **FEMA Map Information e (FMIX)** at **1-877-FEMA-MAP** (1-877-336-2627) or visit the FEMA t http://www.fema.gov/business/nfip.

Maine Floodway Note: Under the Maine Revised Statutes Annotated) Title 38 § 439-A. 7C where the floodway is not designated on the urance Rate Map, the floodway is considered to be the channel of a ther water course and the adjacent land areas to a distance of one-half of the floodplain, as measured from the normal high water mark to the it of the floodplain, unless a technical evaluation certified by a registered al engineer is provided demonstrating the actual floodway based upon FEMA modeling methods.



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Haza include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water elevation of the 1% annual chance flood.

ZONE A No Base Flood Elevations determined.

ZONE AE Base Flood Elevations determined.

ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood El determined.

ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); av depths determined. For areas of alluvial fan flooding, velocities also d

ZONE AR Special Flood Hazard Areas formerly protected from the 1% annual c flood by a flood control system that was subsequently decertified. Zo AR indicates that the former flood control system is being restored to protection from the 1% annual chance or greater flood.

ZONE A99 Area to be protected from 1% annual chance flood by a Federal Flood protection system under construction; no Base Flood Elevations deter

ZONE V Coastal flood zone with velocity hazard (wave action); no Base Flood determined.

ZONE VE Coastal flood zone with velocity hazard (wave action); Base Flood El determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be encroachment so that the 1% annual chance flood can be carried without substantial inc flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood w average depths of less than 1 foot or with drainage areas less than 1 squ mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Are

- 1% Annual Chance Floodplain Boundary
- 0.2% Annual Chance Floodplain Boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area Zones and bo dividing Special Flood Hazard Areas of different Base Flood flood depths, or flood velocities.
- 513 Base Flood Elevation line and value; elevation in feet*
- (EL 987) Base Flood Elevation value where uniform within zone; ele feet*

*Referenced to the North American Vertical Datum of 1988

- A — A Cross section line
- 23 — 23 Transect line
- 97° 02' 08", 93° 02' 12" Geographic coordinates referenced to the North American 1983 (NAD 83) Western Hemisphere
- 3100000 FT 5000-foot ticks: Maine State Plane West Zone (FIPS Zone 1802), Transverse Mercator projection
- 1000-meter Universal Transverse Mercator grid values, zo
- DX55 10 Bench mark (see explanation in Notes to Users section of t panel)
- M1,000 River Station

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
July 8, 2013

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Commun Map History table located in the Flood Insurance Study report for this jurisdiction.

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

MAP SCALE 1" = 500'
250 0 500 1000 FEET
150 0 150 300 METERS

NFIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0432E

FIRM

FLOOD INSURANCE RATE M

ANDROSCOGGIN COUNTY, MAINE (ALL JURISDICTIONS)

PANEL 432 OF 470

(SEE MAP INDEX FOR FIRM PANEL LA

CONTAINS:

COMMUNITY	NUMBER	PANEL
DURHAM, TOWN OF	230002	0432
LISBON, TOWN OF	230005	0432

Notice to User: The **Map Number** sho should be used when placing map or **Community Number** shown above s used on insurance applications for th community.

MAP NU
23001C
EFFECTIVE
JULY 8,

Federal Emergency Management

ATTACHMENT G

STORMWATER MANAGEMENT PLAN
DEER CREEK CROSSING SUBDIVISION
DEER CREEK CROSSING, DURHAM

PROJECT NARRATIVE

This Report is prepared to address the General Standards submission requirements of the Maine Department of Environmental Protection (MEDEP) Stormwater Law. The Site was designed to meet the MEDEP Chapter 500 Stormwater Management Rules.

The site is located along the west side of Route 9 (Hallowell Road) in the Town of Durham. The property is in a rural area among single-family residences. Access to the proposed subdivision will be via an existing road that will be improved as part of the project. The name of the access road is Deer Creek Crossing.

CALCULATIONS

Modeling Methodology

The stormwater calculations for this Stormwater Management Report are based on the NRCS soils mapping and their respective Hydrologic Soil Group designation. The various Hydrologic Soil Groups were entered into the HydroCAD stormwater model developed for this report. The ground cover in the pre-development model was "Forest", while the post development model accounted for new impervious surfaces (road, driveways, and houses) and anticipated clearings for lawns. The HydroCAD output for the pre-developed and developed models are provided in Attachment B and C, respectively.

EXISTING SITE CONDITIONS

The site is in the upper reaches of the Dyer Creek watershed which is a tributary to the Androscoggin River Watershed. The runoff from the site was analyzed at a point located in the southeast corner of the site. The site is primarily wooded. The first 600 feet of the proposed road are existing as a gravel road. The entire site drains to the northeast corner where two branches of the stream converge. The existing site has been divided into three subcatchments. One for each of the branches and another for the existing road into the site.

PROPOSED SITE CONDITIONS

The site will continue to drain similarly to the existing conditions. The road will drain to one of two treatment systems, an underdrained soil filter and a forested buffer (via a level spreader). The treatment systems are contained entirely within one of the two large existing subcatchments.

TREATMENT SUMMARY

Runoff from and draining to the road will be captured by vegetated swales. Each swale will run to either a culvert, underdrained soil filter, or level spreader. A Treatment Summary Table and calculations are included at the end of this Section. The Forested buffer is in open space to ensure it is not accidently cleared.

Forested Buffer- A 20-foot-wide level spreader captures the western end of the road and feeds a 75 foot-deep forested buffer

Underdrained Soil Filter- An underdrained soil filter at the northeastern corner of the road captures and treats a large portion of the road and some of the lots.

DETAILS, DESIGNS, AND SPECIFICATIONS

The Forest Buffer and Underdrained Soil Filter were sized in accordance with Chapter 5 and 7 of Maine Department of Environmental Protection Stormwater Best Management Practices Manual.

MAINTENANCE PLAN, INSPECTIONS, AND REQUIREMENTS

Maintenance of the stormwater control measures will be performed by the Owners' designee in conjunction with the Owner.

During construction, the site work contractor (StoneX) will be responsible for all site maintenance.

CONCLUSION

The stormwater management for the Deer Creek Crossing Subdivision was designed in accordance with the MEDEP Chapter 500 requirements. The water quality treatment is provided mainly by a rain garden and series of forested buffers. There will be no adverse impact on adjacent properties as a result of this project.

STORMWATER TREATMENT SUMMARY

	Square Feet	Acres
Total Area	1,552,102	35.6

Predeveloped Site Summary

	Square Feet	Acres
Developed Area	14,594	0.00
Impervious Area	12,162	0.28
Forested Area	1,525,346	35.0

Proposed Site Summary

	Square Feet	Acres	Percentage of Total Area
Developed Area	48,263	1.1	3%
Impervious Area	40,219	0.9	3%
Forested Area	1,463,620	33.6	94%

Required Treatment

Linear Portion of a Project: For a linear portion of a project, treatment may be reduced to no less than 75% of the linear portion's impervious area and no less than 50% of the linear portion's developed area. This exception does not apply to a linear portion of a project subject to the urban impaired stream standard.

Proposed Treatment Summary

	Impervious Area Treated		Landscaped Area Treated	
	Square Feet	Percent of Total Impervious*	Square Feet	Percent of Total Landscaped**
Underdrained Soil Filter 1	14,455	52%	20,346	42%
Forested Buffer	9,866	35%	14,839	31%
TOTAL	**24,321**	**87%**	**14,839**	**73%**

* Treated area divided by the new impervious area (proposed impervious - existing impervious)
** Treated area divided by the new landscaped area (proposed landscaped - existing landscaped)

Stormwater Quantity Summary Table

	Peak Flow (cfs)		
	Existing	Proposed	Difference
2-Year	0.0	0.0	0
10-Year	0.18	0.18	0
25-Year	0.74	0.74	0

Grassed Underdrained Soil Filter #1 Sizing		
		Units
Impervious Area	14,455	Square Feet
Landscaped Area	5,891	Square Feet
Storage Volume Required	1,401	Cubic Feet
Surface Area Required	841	Square Feet
Ponding Depth for Water Quality Volume	~18	Inches
Filter Media Thickness	18	Inches
Filter Media Void Ratio	30%	
Bed Surface Area	1,158	Square Feet
Storage in Filter Media	521	Cubic Feet
Total Water Quality Storage Volume	2,258	Cubic Feet

Forested Buffer 1

Impervious Area Captured 0.23 acres

Flow Path Inside Buffer 75 feet

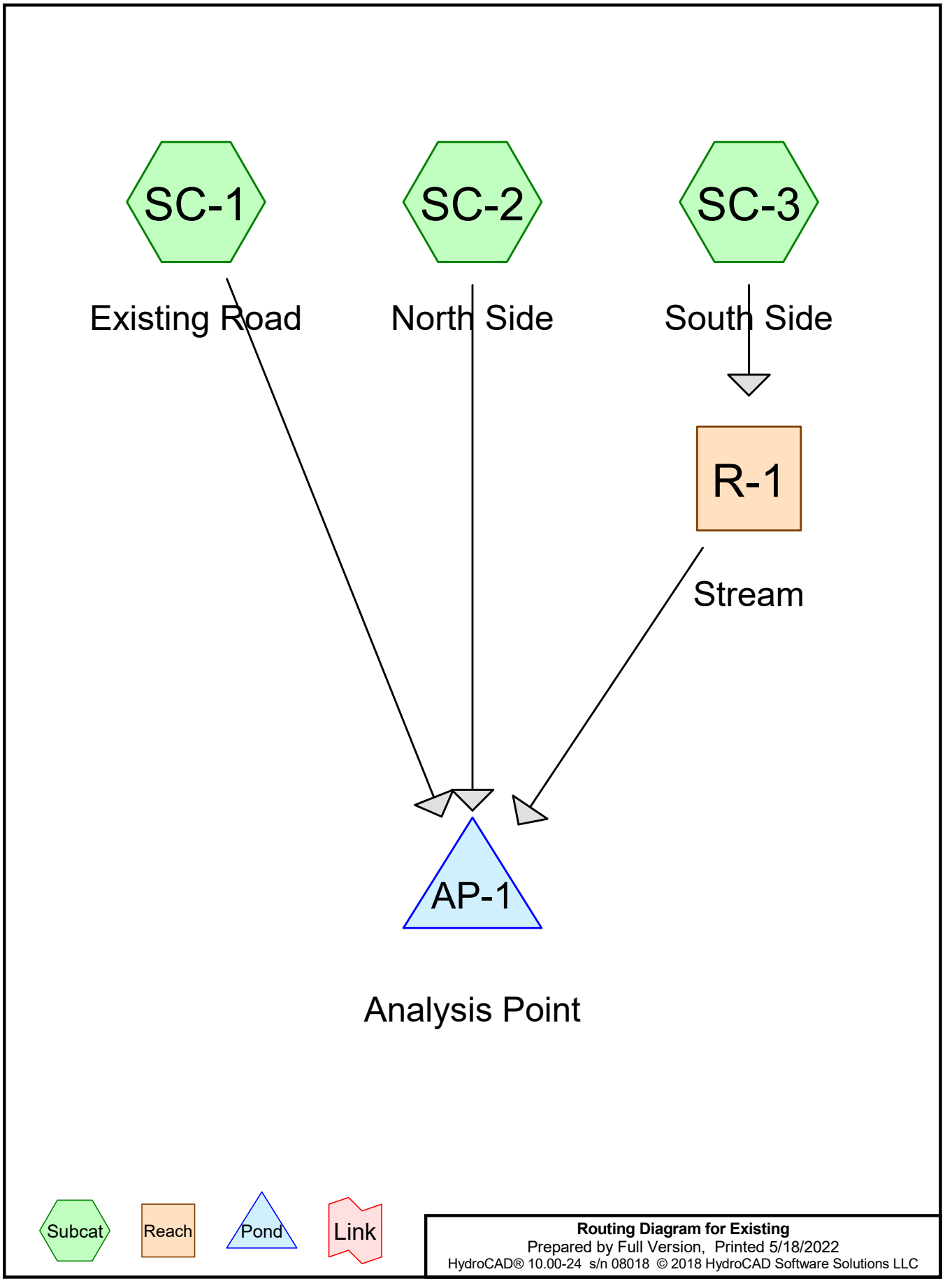
Table 5.5
Berm and Flow Path Length per Acre of Impervious area

Hydrologic Soil Group	Length of Flow Path in Buffer (feet)	Berm Length (feet)							
		0-8% Slope				9-15% Slope			
		Per Acre of Impervious Area		Per Acre of Lawn		Per Acre of Impervious Area		Per Acre of Lawn	
		FB	MB	FB	MB	FB	MB	FB	MB
A	75	75	125	25	35	90	150	30	42
	100	65	75	20	25	78	90	24	30
	150	50	60	15	20	60	72	18	24
B	75	100	150	30	45	120	180	36	54
	100	80	100	25	30	96	120	30	36
	150	65	75	20	25	78	90	24	30
C Loamy Sand or Sandy Loam	75	125	150	35	45	150	180	42	54
	100	100	125	30	35	120	150	36	42
	150	75	100	25	30	90	120	30	36
C Silty Loam, Clay Loam or Silty Clay Loam	100	150	200	45	60	180	240	54	72
	150	100	150	30	45	120	180	36	54
D Non-Wetland	150	150	200	45	60	180	240	54	72

FB = Forest Buffer **MB** = Meadow Buffer
NOTE: *These tables were developed using a 1.25 inch, 24 hour storm of type III distribution, giving a maximum unit flow rate of less than 0.009 cfs per foot.*

Berm Length 17.0 feet

A 20-foot level spreader will be built upgradient of Forested Buffer 1.



Routing Diagram for Existing
Prepared by Full Version, Printed 5/18/2022

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
3.712	51	1 acre lots, 20% imp, HSG A (SC-1)
0.279	98	Impervious (SC-1)
54.528	30	Woods, Good, HSG A (SC-1, SC-2, SC-3)
58.519	**32**	**TOTAL AREA**

Summary for Subcatchment SC-1: Existing Road

Runoff = 0.00 cfs @ 24.00 hrs, Volume= 0.000 af, Depth> 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 2-Year Rainfall=3.04"

	Area (sf)	CN	Description
	161,691	51	1 acre lots, 20% imp, HSG A
	270,129	30	Woods, Good, HSG A
*	12,162	98	Impervious
	443,982	40	Weighted Average
	399,482		89.98% Pervious Area
	44,500		10.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
38.4	100	0.0050	0.04		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.04"
16.9	508	0.0100	0.50		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
0.6	552	0.0360	15.66	563.79	**Channel Flow, C-D** Area= 36.0 sf Perim= 22.0' r= 1.64' n= 0.025 Earth, clean & winding
55.9	1,160	Total			

Summary for Subcatchment SC-2: North Side

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 2-Year Rainfall=3.04"

Area (sf)	CN	Description
1,073,376	30	Woods, Good, HSG A
1,073,376		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.2	100	0.0600	0.12		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.04"
15.7	761	0.0260	0.81		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
3.4	2,274	0.0180	11.07	398.66	**Channel Flow, C-D** Area= 36.0 sf Perim= 22.0' r= 1.64' n= 0.025 Earth, clean & winding
33.3	3,135	Total			

Summary for Subcatchment SC-3: South Side

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 2-Year Rainfall=3.04"

Area (sf)	CN	Description
1,031,734	30	Woods, Good, HSG A
1,031,734		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.7	100	0.0400	0.10		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.04"
21.8	1,012	0.0240	0.77		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
0.7	700	0.0400	16.51	594.29	**Channel Flow, C-D** Area= 36.0 sf Perim= 22.0' r= 1.64' n= 0.025 Earth, clean & winding
39.2	1,812	Total			

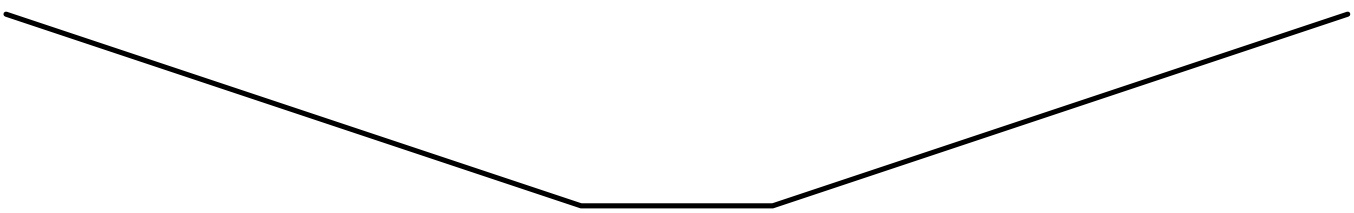
Summary for Reach R-1: Stream

Inflow Area = 23.685 ac, 0.00% Impervious, Inflow Depth = 0.00" for 2-Year event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 3.00' Flow Area= 36.0 sf, Capacity= 321.38 cfs

3.00' x 3.00' deep channel, n= 0.025 Earth, clean & winding
Side Slope Z-value= 3.0 '/' Top Width= 21.00'
Length= 685.0' Slope= 0.0117 '/'
Inlet Invert= 162.00', Outlet Invert= 154.00'



Summary for Pond AP-1: Analysis Point

Inflow Area = 58.519 ac, 1.75% Impervious, Inflow Depth > 0.00" for 2-Year event
Inflow = 0.00 cfs @ 24.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 24.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs

Summary for Subcatchment SC-1: Existing Road

Runoff = 0.18 cfs @ 13.91 hrs, Volume= 0.117 af, Depth> 0.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 10-Year Rainfall=4.55"

	Area (sf)	CN	Description
	161,691	51	1 acre lots, 20% imp, HSG A
	270,129	30	Woods, Good, HSG A
*	12,162	98	Impervious
	443,982	40	Weighted Average
	399,482		89.98% Pervious Area
	44,500		10.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
38.4	100	0.0050	0.04		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.04"
16.9	508	0.0100	0.50		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
0.6	552	0.0360	15.66	563.79	**Channel Flow, C-D** Area= 36.0 sf Perim= 22.0' r= 1.64' n= 0.025 Earth, clean & winding
55.9	1,160	Total			

Summary for Subcatchment SC-2: North Side

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 10-Year Rainfall=4.55"

Area (sf)	CN	Description
1,073,376	30	Woods, Good, HSG A
1,073,376		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.2	100	0.0600	0.12		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.04"
15.7	761	0.0260	0.81		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
3.4	2,274	0.0180	11.07	398.66	**Channel Flow, C-D** Area= 36.0 sf Perim= 22.0' r= 1.64' n= 0.025 Earth, clean & winding
33.3	3,135	Total			

Summary for Subcatchment SC-3: South Side

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 10-Year Rainfall=4.55"

Area (sf)	CN	Description
1,031,734	30	Woods, Good, HSG A
1,031,734		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.7	100	0.0400	0.10		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.04"
21.8	1,012	0.0240	0.77		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
0.7	700	0.0400	16.51	594.29	**Channel Flow, C-D** Area= 36.0 sf Perim= 22.0' r= 1.64' n= 0.025 Earth, clean & winding
39.2	1,812	Total			

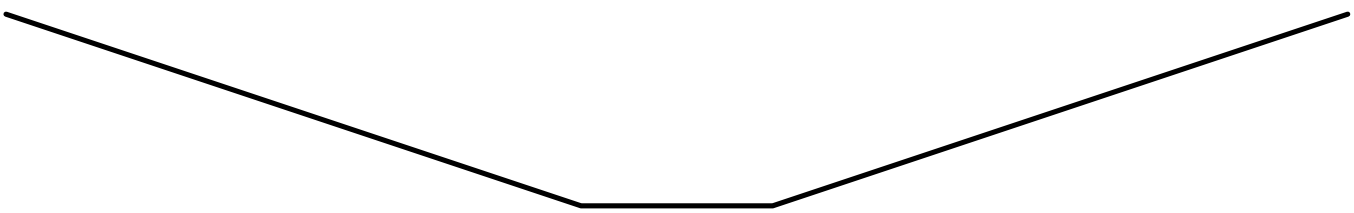
Summary for Reach R-1: Stream

Inflow Area = 23.685 ac, 0.00% Impervious, Inflow Depth = 0.00" for 10-Year event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 3.00' Flow Area= 36.0 sf, Capacity= 321.38 cfs

3.00' x 3.00' deep channel, n= 0.025 Earth, clean & winding
Side Slope Z-value= 3.0 '/' Top Width= 21.00'
Length= 685.0' Slope= 0.0117 '/'
Inlet Invert= 162.00', Outlet Invert= 154.00'



Summary for Pond AP-1: Analysis Point

Inflow Area = 58.519 ac, 1.75% Impervious, Inflow Depth > 0.02" for 10-Year event
Inflow = 0.18 cfs @ 13.91 hrs, Volume= 0.117 af
Primary = 0.18 cfs @ 13.91 hrs, Volume= 0.117 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs

Summary for Subcatchment SC-1: Existing Road

Runoff = 0.74 cfs @ 12.93 hrs, Volume= 0.290 af, Depth> 0.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 25-Year Rainfall=5.49"

	Area (sf)	CN	Description
	161,691	51	1 acre lots, 20% imp, HSG A
	270,129	30	Woods, Good, HSG A
*	12,162	98	Impervious
	443,982	40	Weighted Average
	399,482		89.98% Pervious Area
	44,500		10.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
38.4	100	0.0050	0.04		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.04"
16.9	508	0.0100	0.50		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
0.6	552	0.0360	15.66	563.79	**Channel Flow, C-D** Area= 36.0 sf Perim= 22.0' r= 1.64' n= 0.025 Earth, clean & winding
55.9	1,160	Total			

Summary for Subcatchment SC-2: North Side

Runoff = 0.10 cfs @ 24.00 hrs, Volume= 0.054 af, Depth> 0.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 25-Year Rainfall=5.49"

Area (sf)	CN	Description
1,073,376	30	Woods, Good, HSG A
1,073,376		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.2	100	0.0600	0.12		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.04"
15.7	761	0.0260	0.81		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
3.4	2,274	0.0180	11.07	398.66	**Channel Flow, C-D** Area= 36.0 sf Perim= 22.0' r= 1.64' n= 0.025 Earth, clean & winding
33.3	3,135	Total			

Summary for Subcatchment SC-3: South Side

Runoff = 0.09 cfs @ 24.00 hrs, Volume= 0.051 af, Depth> 0.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 25-Year Rainfall=5.49"

Area (sf)	CN	Description
1,031,734	30	Woods, Good, HSG A
1,031,734		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.7	100	0.0400	0.10		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.04"
21.8	1,012	0.0240	0.77		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
0.7	700	0.0400	16.51	594.29	**Channel Flow, C-D** Area= 36.0 sf Perim= 22.0' r= 1.64' n= 0.025 Earth, clean & winding
39.2	1,812	Total			

Summary for Reach R-1: Stream

Inflow Area = 23.685 ac, 0.00% Impervious, Inflow Depth > 0.03" for 25-Year event
Inflow = 0.09 cfs @ 24.00 hrs, Volume= 0.051 af
Outflow = 0.09 cfs @ 24.00 hrs, Volume= 0.049 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Max. Velocity= 0.77 fps, Min. Travel Time= 14.8 min
Avg. Velocity = 0.69 fps, Avg. Travel Time= 16.5 min

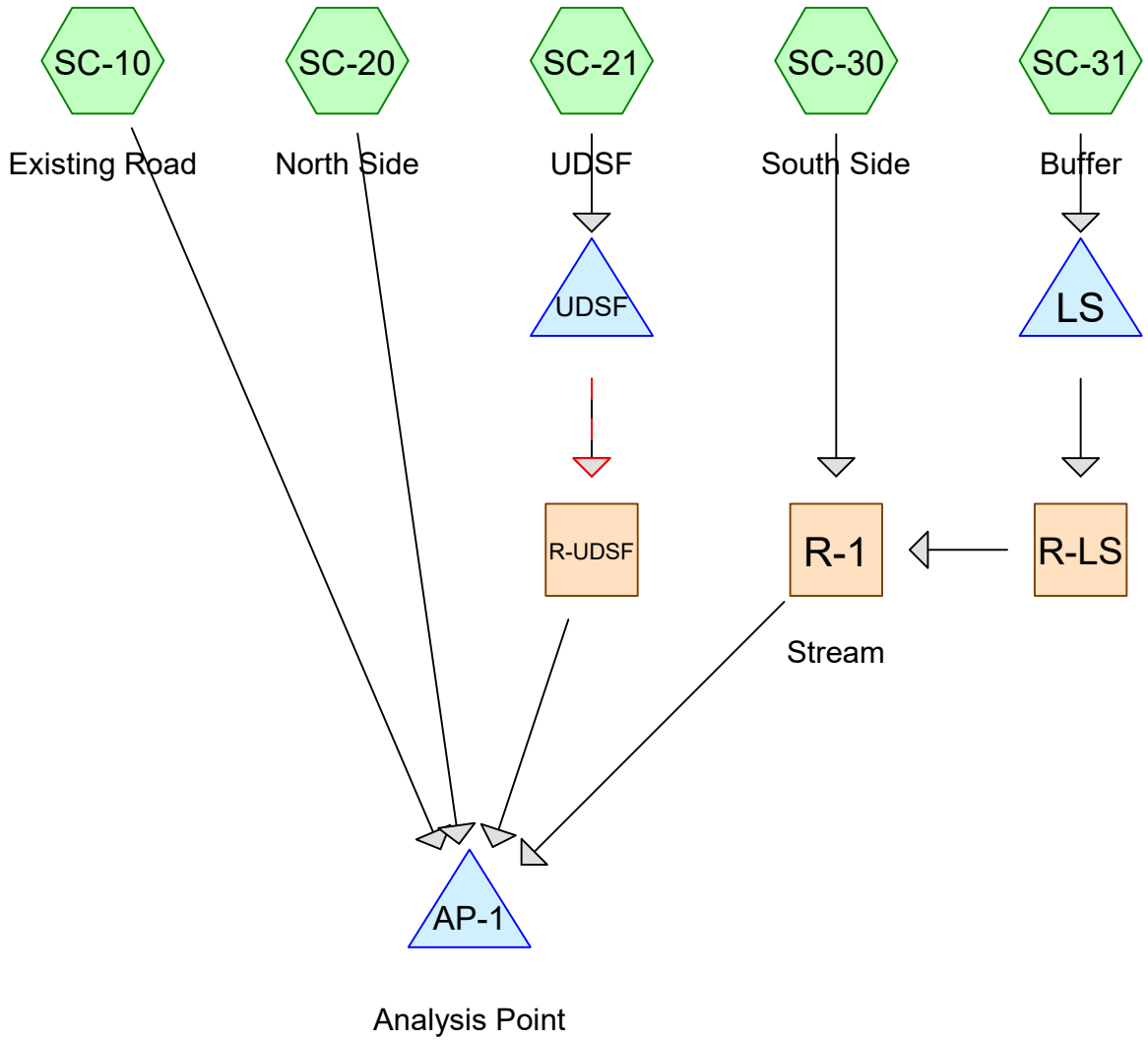
Peak Storage= 84 cf @ 24.00 hrs
Average Depth at Peak Storage= 0.04'
Bank-Full Depth= 3.00' Flow Area= 36.0 sf, Capacity= 321.38 cfs

3.00' x 3.00' deep channel, n= 0.025 Earth, clean & winding
Side Slope Z-value= 3.0 '/' Top Width= 21.00'
Length= 685.0' Slope= 0.0117 '/'
Inlet Invert= 162.00', Outlet Invert= 154.00'

Summary for Pond AP-1: Analysis Point

Inflow Area = 58.519 ac, 1.75% Impervious, Inflow Depth > 0.08" for 25-Year event
Inflow = 0.74 cfs @ 12.93 hrs, Volume= 0.393 af
Primary = 0.74 cfs @ 12.93 hrs, Volume= 0.393 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs



Subcat Reach Pond Link

Routing Diagram for Proposed
Prepared by Full Version, Printed 5/18/2022

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
3.712	51	1 acre lots, 20% imp, HSG A (SC-10)
0.878	98	Impervious (SC-10, SC-21, SC-30, SC-31)
47.401	30	Woods, Good, HSG A (SC-10, SC-20, SC-30)
6.528	32	Woods/grass comb., Good, HSG A (SC-21, SC-31)
58.519	**33**	**TOTAL AREA**

Summary for Subcatchment SC-10: Existing Road

Runoff = 0.00 cfs @ 24.00 hrs, Volume= 0.000 af, Depth> 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 2-Year Rainfall=3.04"

	Area (sf)	CN	Description
	161,691	51	1 acre lots, 20% imp, HSG A
	270,129	30	Woods, Good, HSG A
*	12,162	98	Impervious
	443,982	40	Weighted Average
	399,482		89.98% Pervious Area
	44,500		10.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
38.4	100	0.0050	0.04		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.04"
16.9	508	0.0100	0.50		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
0.6	552	0.0360	15.66	563.79	**Channel Flow, C-D** Area= 36.0 sf Perim= 22.0' r= 1.64' n= 0.025 Earth, clean & winding
55.9	1,160	Total			

Summary for Subcatchment SC-20: North Side

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 2-Year Rainfall=3.04"

Area (sf)	CN	Description
966,622	30	Woods, Good, HSG A
966,622		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.2	100	0.0600	0.12		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.04"
15.7	761	0.0260	0.81		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
3.4	2,274	0.0180	11.07	398.66	**Channel Flow, C-D** Area= 36.0 sf Perim= 22.0' r= 1.64' n= 0.025 Earth, clean & winding
33.3	3,135	Total			

Summary for Subcatchment SC-21: UDSF

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 2-Year Rainfall=3.04"

	Area (sf)	CN	Description
	194,450	32	Woods/grass comb., Good, HSG A
*	14,455	98	Impervious
	208,905	37	Weighted Average
	194,450		93.08% Pervious Area
	14,455		6.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.0	100	0.0200	0.08		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.04"
2.8	129	0.0240	0.77		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
0.6	827	0.0700	24.82	893.38	**Channel Flow, C-D** Area= 36.0 sf Perim= 22.0' r= 1.64' n= 0.022 Earth, clean & straight
25.4	1,056	Total			

Summary for Subcatchment SC-30: South Side

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 2-Year Rainfall=3.04"

	Area (sf)	CN	Description
	828,038	30	Woods, Good, HSG A
*	1,776	98	Impervious
	829,814	30	Weighted Average
	828,038		99.79% Pervious Area
	1,776		0.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.7	100	0.0400	0.10		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.04"
21.8	1,012	0.0240	0.77		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
0.7	700	0.0400	16.51	594.29	**Channel Flow, C-D** Area= 36.0 sf Perim= 22.0' r= 1.64' n= 0.025 Earth, clean & winding
39.2	1,812	Total			

Summary for Subcatchment SC-31: Buffer

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 2-Year Rainfall=3.04"

	Area (sf)	CN	Description
	89,906	32	Woods/grass comb., Good, HSG A
*	9,866	98	Impervious
	99,772	39	Weighted Average
	89,906		90.11% Pervious Area
	9,866		9.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.0	100	0.0200	0.08		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.04"
1.3	232	0.0400	3.00		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
0.4	203	0.0100	8.25	297.14	**Channel Flow, C-D** Area= 36.0 sf Perim= 22.0' r= 1.64' n= 0.025 Earth, clean & winding
23.7	535	Total			

Summary for Reach R-1: Stream

Inflow Area = 21.340 ac, 1.25% Impervious, Inflow Depth = 0.00" for 2-Year event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 3.00' Flow Area= 36.0 sf, Capacity= 321.38 cfs

3.00' x 3.00' deep channel, n= 0.025 Earth, clean & winding
Side Slope Z-value= 3.0 '/' Top Width= 21.00'
Length= 685.0' Slope= 0.0117 '/'
Inlet Invert= 162.00', Outlet Invert= 154.00'

Summary for Reach R-LS:

Inflow Area = 2.290 ac, 9.89% Impervious, Inflow Depth = 0.00" for 2-Year event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 3.00' Flow Area= 36.0 sf, Capacity= 399.02 cfs

3.00' x 3.00' deep channel, n= 0.025 Earth, clean & winding
Side Slope Z-value= 3.0 '/' Top Width= 21.00'
Length= 1,042.0' Slope= 0.0180 '/'
Inlet Invert= 186.00', Outlet Invert= 167.24'

Summary for Reach R-UDSF:

Inflow Area = 4.796 ac, 6.92% Impervious, Inflow Depth = 0.00" for 2-Year event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 3.00' Flow Area= 36.0 sf, Capacity= 142.58 cfs

3.00' x 3.00' deep channel, n= 0.025 Earth, clean & winding
Side Slope Z-value= 3.0 '/' Top Width= 21.00'
Length= 435.0' Slope= 0.0023 '/'
Inlet Invert= 165.00', Outlet Invert= 164.00'

Summary for Pond AP-1: Analysis Point

Inflow Area = 58.519 ac, 2.77% Impervious, Inflow Depth > 0.00" for 2-Year event
Inflow = 0.00 cfs @ 24.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 24.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs

Summary for Pond LS:

Inflow Area = 2.290 ac, 9.89% Impervious, Inflow Depth = 0.00" for 2-Year event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 192.00' @ 0.00 hrs Surf.Area= 2,174 sf Storage= 0 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no inflow)

Volume	Invert	Avail.Storage	Storage Description
#1	192.00'	7,231 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
192.00	2,174	0	0
194.00	5,057	7,231	7,231

Device	Routing	Invert	Outlet Devices
#1	Primary	193.00'	**20.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=192.00' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond UDSF:

Inflow Area = 4.796 ac, 6.92% Impervious, Inflow Depth = 0.00" for 2-Year event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 165.00' @ 0.00 hrs Surf.Area= 1,159 sf Storage= 0 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)

Center-of-Mass det. time= (not calculated: no inflow)

Volume	Invert	Avail.Storage	Storage Description
#1	165.00'	8,485 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
165.00	1,159	0	0
167.00	1,159	2,318	2,318
170.00	2,952	6,167	8,485

Device	Routing	Invert	Outlet Devices
#1	Primary	165.50'	**0.7" Round Culvert** L= 82.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 165.50' / 164.00' S= 0.0183 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.00 sf
#2	Secondary	168.50'	**10.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=165.00' (Free Discharge)
↑—**1=Culvert** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=165.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Subcatchment SC-10: Existing Road

Runoff = 0.05 cfs @ 18.48 hrs, Volume= 0.037 af, Depth> 0.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 5-Year Rainfall=3.86"

	Area (sf)	CN	Description
	161,691	51	1 acre lots, 20% imp, HSG A
	270,129	30	Woods, Good, HSG A
*	12,162	98	Impervious
	443,982	40	Weighted Average
	399,482		89.98% Pervious Area
	44,500		10.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
38.4	100	0.0050	0.04		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.04"
16.9	508	0.0100	0.50		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
0.6	552	0.0360	15.66	563.79	**Channel Flow, C-D** Area= 36.0 sf Perim= 22.0' r= 1.64' n= 0.025 Earth, clean & winding
55.9	1,160	Total			

Summary for Subcatchment SC-20: North Side

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 5-Year Rainfall=3.86"

Area (sf)	CN	Description
966,622	30	Woods, Good, HSG A
966,622		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.2	100	0.0600	0.12		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.04"
15.7	761	0.0260	0.81		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
3.4	2,274	0.0180	11.07	398.66	**Channel Flow, C-D** Area= 36.0 sf Perim= 22.0' r= 1.64' n= 0.025 Earth, clean & winding
33.3	3,135	Total			

Summary for Subcatchment SC-21: UDSF

Runoff = 0.01 cfs @ 24.00 hrs, Volume= 0.004 af, Depth> 0.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 5-Year Rainfall=3.86"

	Area (sf)	CN	Description
	194,450	32	Woods/grass comb., Good, HSG A
*	14,455	98	Impervious
	208,905	37	Weighted Average
	194,450		93.08% Pervious Area
	14,455		6.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.0	100	0.0200	0.08		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.04"
2.8	129	0.0240	0.77		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
0.6	827	0.0700	24.82	893.38	**Channel Flow, C-D** Area= 36.0 sf Perim= 22.0' r= 1.64' n= 0.022 Earth, clean & straight
25.4	1,056	Total			

Summary for Subcatchment SC-30: South Side

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 5-Year Rainfall=3.86"

	Area (sf)	CN	Description
	828,038	30	Woods, Good, HSG A
*	1,776	98	Impervious
	829,814	30	Weighted Average
	828,038		99.79% Pervious Area
	1,776		0.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.7	100	0.0400	0.10		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.04"
21.8	1,012	0.0240	0.77		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
0.7	700	0.0400	16.51	594.29	**Channel Flow, C-D** Area= 36.0 sf Perim= 22.0' r= 1.64' n= 0.025 Earth, clean & winding
39.2	1,812	Total			

Summary for Subcatchment SC-31: Buffer

Runoff = 0.01 cfs @ 24.00 hrs, Volume= 0.006 af, Depth> 0.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 5-Year Rainfall=3.86"

	Area (sf)	CN	Description
	89,906	32	Woods/grass comb., Good, HSG A
*	9,866	98	Impervious
	99,772	39	Weighted Average
	89,906		90.11% Pervious Area
	9,866		9.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.0	100	0.0200	0.08		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.04"
1.3	232	0.0400	3.00		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
0.4	203	0.0100	8.25	297.14	**Channel Flow, C-D** Area= 36.0 sf Perim= 22.0' r= 1.64' n= 0.025 Earth, clean & winding
23.7	535	Total			

Summary for Reach R-1: Stream

Inflow Area = 21.340 ac, 1.25% Impervious, Inflow Depth = 0.00" for 5-Year event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 3.00' Flow Area= 36.0 sf, Capacity= 321.38 cfs

3.00' x 3.00' deep channel, n= 0.025 Earth, clean & winding
Side Slope Z-value= 3.0 '/' Top Width= 21.00'
Length= 685.0' Slope= 0.0117 '/'
Inlet Invert= 162.00', Outlet Invert= 154.00'

Summary for Reach R-LS:

Inflow Area = 2.290 ac, 9.89% Impervious, Inflow Depth = 0.00" for 5-Year event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 3.00' Flow Area= 36.0 sf, Capacity= 399.02 cfs

3.00' x 3.00' deep channel, n= 0.025 Earth, clean & winding
Side Slope Z-value= 3.0 '/' Top Width= 21.00'
Length= 1,042.0' Slope= 0.0180 '/'
Inlet Invert= 186.00', Outlet Invert= 167.24'

Summary for Reach R-UDSF:

Inflow Area = 4.796 ac, 6.92% Impervious, Inflow Depth = 0.00" for 5-Year event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 3.00' Flow Area= 36.0 sf, Capacity= 142.58 cfs

3.00' x 3.00' deep channel, n= 0.025 Earth, clean & winding
Side Slope Z-value= 3.0 '/' Top Width= 21.00'
Length= 435.0' Slope= 0.0023 '/'
Inlet Invert= 165.00', Outlet Invert= 164.00'

Summary for Pond AP-1: Analysis Point

Inflow Area = 58.519 ac, 2.77% Impervious, Inflow Depth > 0.01" for 5-Year event
Inflow = 0.05 cfs @ 18.48 hrs, Volume= 0.037 af
Primary = 0.05 cfs @ 18.48 hrs, Volume= 0.037 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs

Summary for Pond LS:

Inflow Area = 2.290 ac, 9.89% Impervious, Inflow Depth > 0.03" for 5-Year event
Inflow = 0.01 cfs @ 24.00 hrs, Volume= 0.006 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 192.12' @ 24.00 hrs Surf.Area= 2,340 sf Storage= 261 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	192.00'	7,231 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
192.00	2,174	0	0
194.00	5,057	7,231	7,231

Device	Routing	Invert	Outlet Devices
#1	Primary	193.00'	**20.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=192.00' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond UDSF:

Inflow Area = 4.796 ac, 6.92% Impervious, Inflow Depth > 0.01" for 5-Year event
Inflow = 0.01 cfs @ 24.00 hrs, Volume= 0.004 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 165.16' @ 24.00 hrs Surf.Area= 1,159 sf Storage= 191 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)

Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	165.00'	8,485 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
165.00	1,159	0	0
167.00	1,159	2,318	2,318
170.00	2,952	6,167	8,485

Device	Routing	Invert	Outlet Devices
#1	Primary	165.50'	**0.7" Round Culvert** L= 82.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 165.50' / 164.00' S= 0.0183 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.00 sf
#2	Secondary	168.50'	**10.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=165.00' (Free Discharge)
↑—**1=Culvert** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=165.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Subcatchment SC-10: Existing Road

Runoff = 0.74 cfs @ 12.93 hrs, Volume= 0.290 af, Depth> 0.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 25-Year Rainfall=5.49"

	Area (sf)	CN	Description
	161,691	51	1 acre lots, 20% imp, HSG A
	270,129	30	Woods, Good, HSG A
*	12,162	98	Impervious
	443,982	40	Weighted Average
	399,482		89.98% Pervious Area
	44,500		10.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
38.4	100	0.0050	0.04		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.04"
16.9	508	0.0100	0.50		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
0.6	552	0.0360	15.66	563.79	**Channel Flow, C-D** Area= 36.0 sf Perim= 22.0' r= 1.64' n= 0.025 Earth, clean & winding
55.9	1,160	Total			

Summary for Subcatchment SC-20: North Side

Runoff = 0.09 cfs @ 24.00 hrs, Volume= 0.048 af, Depth> 0.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 25-Year Rainfall=5.49"

Area (sf)	CN	Description
966,622	30	Woods, Good, HSG A
966,622		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.2	100	0.0600	0.12		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.04"
15.7	761	0.0260	0.81		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
3.4	2,274	0.0180	11.07	398.66	**Channel Flow, C-D** Area= 36.0 sf Perim= 22.0' r= 1.64' n= 0.025 Earth, clean & winding
33.3	3,135	Total			

Summary for Subcatchment SC-21: UDSF

Runoff = 0.18 cfs @ 12.68 hrs, Volume= 0.089 af, Depth> 0.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 25-Year Rainfall=5.49"

	Area (sf)	CN	Description
	194,450	32	Woods/grass comb., Good, HSG A
*	14,455	98	Impervious
	208,905	37	Weighted Average
	194,450		93.08% Pervious Area
	14,455		6.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.0	100	0.0200	0.08		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.04"
2.8	129	0.0240	0.77		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
0.6	827	0.0700	24.82	893.38	**Channel Flow, C-D** Area= 36.0 sf Perim= 22.0' r= 1.64' n= 0.022 Earth, clean & straight
25.4	1,056	Total			

Summary for Subcatchment SC-30: South Side

Runoff = 0.08 cfs @ 24.00 hrs, Volume= 0.041 af, Depth> 0.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 25-Year Rainfall=5.49"

	Area (sf)	CN	Description
	828,038	30	Woods, Good, HSG A
*	1,776	98	Impervious
	829,814	30	Weighted Average
	828,038		99.79% Pervious Area
	1,776		0.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.7	100	0.0400	0.10		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.04"
21.8	1,012	0.0240	0.77		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
0.7	700	0.0400	16.51	594.29	**Channel Flow, C-D** Area= 36.0 sf Perim= 22.0' r= 1.64' n= 0.025 Earth, clean & winding
39.2	1,812	Total			

Summary for Subcatchment SC-31: Buffer

Runoff = 0.17 cfs @ 12.41 hrs, Volume= 0.058 af, Depth> 0.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 25-Year Rainfall=5.49"

	Area (sf)	CN	Description
	89,906	32	Woods/grass comb., Good, HSG A
*	9,866	98	Impervious
	99,772	39	Weighted Average
	89,906		90.11% Pervious Area
	9,866		9.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.0	100	0.0200	0.08		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.04"
1.3	232	0.0400	3.00		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
0.4	203	0.0100	8.25	297.14	**Channel Flow, C-D** Area= 36.0 sf Perim= 22.0' r= 1.64' n= 0.025 Earth, clean & winding
23.7	535	Total			

Summary for Reach R-1: Stream

Inflow Area = 21.340 ac, 1.25% Impervious, Inflow Depth > 0.02" for 25-Year event
Inflow = 0.08 cfs @ 24.00 hrs, Volume= 0.041 af
Outflow = 0.08 cfs @ 24.00 hrs, Volume= 0.039 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Max. Velocity= 0.70 fps, Min. Travel Time= 16.3 min
Avg. Velocity = 0.64 fps, Avg. Travel Time= 17.7 min

Peak Storage= 74 cf @ 24.00 hrs
Average Depth at Peak Storage= 0.03'
Bank-Full Depth= 3.00' Flow Area= 36.0 sf, Capacity= 321.38 cfs

3.00' x 3.00' deep channel, n= 0.025 Earth, clean & winding
Side Slope Z-value= 3.0 '/' Top Width= 21.00'
Length= 685.0' Slope= 0.0117 '/'
Inlet Invert= 162.00', Outlet Invert= 154.00'

Summary for Reach R-LS:

Inflow Area = 2.290 ac, 9.89% Impervious, Inflow Depth = 0.00" for 25-Year event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 3.00' Flow Area= 36.0 sf, Capacity= 399.02 cfs

3.00' x 3.00' deep channel, n= 0.025 Earth, clean & winding
Side Slope Z-value= 3.0 '/' Top Width= 21.00'
Length= 1,042.0' Slope= 0.0180 '/'
Inlet Invert= 186.00', Outlet Invert= 167.24'

Summary for Reach R-UDSF:

Inflow Area = 4.796 ac, 6.92% Impervious, Inflow Depth > 0.01" for 25-Year event
Inflow = 0.01 cfs @ 24.00 hrs, Volume= 0.004 af
Outflow = 0.01 cfs @ 24.00 hrs, Volume= 0.004 af, Atten= 1%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Max. Velocity= 0.27 fps, Min. Travel Time= 26.9 min
Avg. Velocity = 0.27 fps, Avg. Travel Time= 26.9 min

Peak Storage= 8 cf @ 24.00 hrs
Average Depth at Peak Storage= 0.01'
Bank-Full Depth= 3.00' Flow Area= 36.0 sf, Capacity= 142.58 cfs

3.00' x 3.00' deep channel, n= 0.025 Earth, clean & winding
Side Slope Z-value= 3.0 '/' Top Width= 21.00'
Length= 435.0' Slope= 0.0023 '/'
Inlet Invert= 165.00', Outlet Invert= 164.00'

Summary for Pond AP-1: Analysis Point

Inflow Area = 58.519 ac, 2.77% Impervious, Inflow Depth > 0.08" for 25-Year event
Inflow = 0.74 cfs @ 12.93 hrs, Volume= 0.381 af
Primary = 0.74 cfs @ 12.93 hrs, Volume= 0.381 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs

Summary for Pond LS:

Inflow Area = 2.290 ac, 9.89% Impervious, Inflow Depth > 0.31" for 25-Year event
Inflow = 0.17 cfs @ 12.41 hrs, Volume= 0.058 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 192.90' @ 24.00 hrs Surf.Area= 3,467 sf Storage= 2,531 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	192.00'	7,231 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
192.00	2,174	0	0
194.00	5,057	7,231	7,231

Device	Routing	Invert	Outlet Devices
#1	Primary	193.00'	**20.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=192.00' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond UDSF:

Inflow Area = 4.796 ac, 6.92% Impervious, Inflow Depth > 0.22" for 25-Year event
Inflow = 0.18 cfs @ 12.68 hrs, Volume= 0.089 af
Outflow = 0.01 cfs @ 24.00 hrs, Volume= 0.004 af, Atten= 97%, Lag= 679.5 min
Primary = 0.01 cfs @ 24.00 hrs, Volume= 0.004 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 167.96' @ 24.00 hrs Surf.Area= 1,732 sf Storage= 3,703 cf

Plug-Flow detention time= 400.4 min calculated for 0.004 af (4% of inflow)

Center-of-Mass det. time= 121.0 min (1,143.5 - 1,022.5)

Volume	Invert	Avail.Storage	Storage Description
#1	165.00'	8,485 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
165.00	1,159	0	0
167.00	1,159	2,318	2,318
170.00	2,952	6,167	8,485

Device	Routing	Invert	Outlet Devices
#1	Primary	165.50'	**0.7" Round Culvert** L= 82.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 165.50' / 164.00' S= 0.0183 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.00 sf
#2	Secondary	168.50'	**10.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.01 cfs @ 24.00 hrs HW=167.96' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 0.01 cfs @ 1.91 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=165.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

ATTACHMENT H

TECHNICAL ABILITY

Project Team

Grange Engineering 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 the Applicant or as sub-consultants for the project:

Firm	Services	Contact
Grange Engineering LLC 241 Rowe Station New Gloucester, Maine	Site/Civil Engineering & Site Permitting	Charlie Burnham, PE grange. engineering.me@gmail.com (207)-712-6990
Alex Finemore	Wetlands Consultant/Soil Scientist	Alex Finemore

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. Many of these have required a Site Location of Development Act, or equivalent permitting.

Ability of the Applicant

Jack Doughty is part of a team that has built developments in the area, see Bowie Hill Subdivision.

ATTACHMENT I

(Still Pending)

ATTACHMENT J

TOWN OF DURHAM
630 Hallowell Road
Durham, Maine 04222

Office of Code Enforcement and Planning

Tel. (207) 376-6558
Fax: (207) 353-5367

NOTICE OF RECEIPT OF SUBDIVISION APPLICATION

Date: 5/18/2022

The Planning Board of the Town of Durham has received an application for a 13 lot subdivision at Hallowell Road Road.

Town records indicate that you own property abutting the parcel proposed to be subdivided. In accordance with Title 30-A M.R.S.A., §4403.3, the Planning Board is required to notify you it has received this application. The Planning Board has not yet determined that the application is complete and has not reviewed the application.

The application is available for your review at the Town Offices at 630 Hallowell Road. The next scheduled meeting to discuss the application is 06/01/2022 at 6:30 p.m. At that meeting, the Planning Board will review the application to determine if it is complete and ready for formal review. When the Board determines that it has received a complete application, it will decide whether to conduct a site walk and/or a public hearing before reviewing the application for consistency with the subdivision review criteria and performance standards.

The Planning Board welcomes public comment submitted in writing or by email. The Board is required by law to approve a subdivision application if it meets all of the adopted review criteria and standards. It must deny any application that fails to meet any of the criteria and standards. Please focus any public comments on whether the application, in your view, meets or fails to meet requirements of the subdivision regulations. If you have questions about those requirements, you can contact Bob Forrest, the Code Enforcement Officer at (207) 376-6558 or by email to codes@durhamme.com.

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☐ Adult Signature Required	$0.00
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Postage	$0.58
$	
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Sent To JANET SNELL

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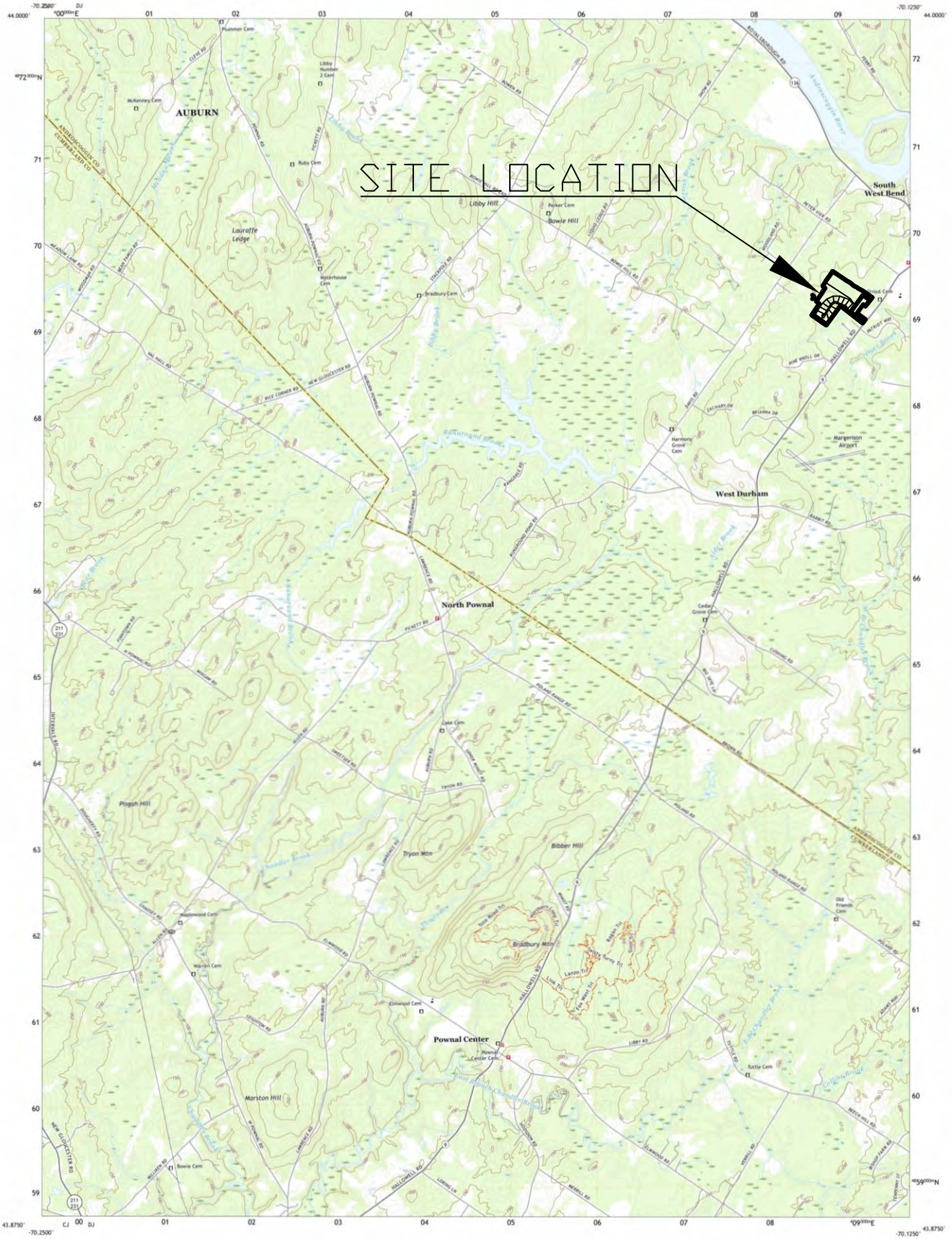
ATTACHMENT K

USGS science for a changing world
U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map US Topo

NORTH POWNAL QUADRANGLE
MAINE
7.5-MINUTE SERIES



Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and 1 000-meter grid: Universal Transverse Mercator, Zone 19T

This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands.

Imagery.....NAIP, September 2018 - October 2018
Roads.....U.S. Census Bureau, 2017
Names.....GNIS, 1980 - 2020
Hydrography.....National Hydrography Dataset, 2003 - 2019
Contours.....National Elevation Dataset, 2012 - 2015
Boundaries.....Multiple sources; see metadata file 2018 - 2019
Wetlands.....FWS National Wetlands Inventory 2001 - 2004

UTM GRID AND 2019 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24 000
KILOMETERS 0 0.5 1 2
METERS 0 1000 2000
MILES 0 0.5 1
FEET 1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000

CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard.

QUADRANGLE LOCATION

ADJOINING QUADRANGLES
1 Minot
2 Lewiston
3 Lisbon Falls North
4 Gray
5 Lisbon Falls South
6 Cumberland Center
7 Yarmouth
8 Freeport

ROAD CLASSIFICATION
Expressway
Secondary Hwy
Ramp
Local Connector
Local Road
4WD
Interstate Route
US Route
State Route

NORTH POWNAL, ME
2021

NORTH

LOT 1
LOT 2
LOT 3
LOT 4
LOT 5
LOT 6
LOT 7
LOT 8
LOT 9
LOT 10
LOT 11
LOT 12

OPEN SPACE

DRAINAGE SWALE

UNDERDRAINED SOIL FILTER

CULVERT 2
15" HDPE
INV IN - 170.4
INV OUT - 170.0
LENGTH - 40'

UDSF OUTLET
4" PVC
INV OUT - 166.0

UDSF OUTLET 2
10' STONE SPILLWAY
INV - 168.5

STREAM CROSSING
60" CORRUGATED STEAL ARCH
INV IN - 162.0
INV OUT - 161.5
LENGTH - 70'

WETLAND IMPACTS
3,776 SQFT

INSTALL
SILT
BARRIER

CULVERT 3
36" HDPE (BURIED 18")
INV IN (TOP OF FILL) - 194.0
INV OUT (TOP OF FILL) - 192.0
LENGTH - 70'

CULVERT 1
15" HDPE
INV IN - 170.0
INV OUT - 170.0
LENGTH - 40'

CLEARING LIMITS

INSTALL EROSION CONTROL BERM
ON THE DOWN HILL SIDE OF ALL DISTURBED AREAS

FORESTED BUFFER

CULVERT 4
15" HDPE
INV IN - 192.0
INV OUT - 191.6
LENGTH - 40'

20' STONE LEVEL SPREADER
ELEV- 193.0

N/F
NICHOLE M. BENWAY
9334/205

N/F
MICAH HUNT & KIMBERLY HARKINS
8980/253

N/F
TIMOTHY JOHNSON & ERIN VANDINE
8910/254

N/F
DAVID & MICHELLE ALLARD
3010/46

N/F
MARGARET & ALLAN KELLEY
5195/308

N/F
KS ASSOCIATION
367/179

N/F
TIMBER OAKS ASSOCIATION
7367/179

N/F
TIMBL

SUBMITTED FOR
PRELIMINARY PLAN
REVIEW

0 25 50 100
SCALE in FEET
1"=50'

REV	DATE	DESCRIPTION
2	5/16/2022	PRELIMINARY SUBMISSION
1	5/4/2022	SKETCH PLAN SUBMISSION

REVISIONS

STATE OF MAINE
CHARLES EDWIN DURHAM
No. 15377
LICENSED PROFESSIONAL ENGINEER

DEER CREEK CROSSING
DURHAM, MAINE
GRADING AND EROSION CONTROL PLAN

Jack Doughty
231 Flying Point Road
Freeport, Maine 04032

Grange Engineering LLC
241 Rowe Station Road
New Gloucester, ME 04260
Tel: 207.712.6990

DRAWN:	CB	DATE:	MAY 18, 2022
DESIGNED:	CB	SCALE:	1" = 50'
CHECKED:	CB	JOB NO.	1
FILE NAME:			
SHEET:	C-102		

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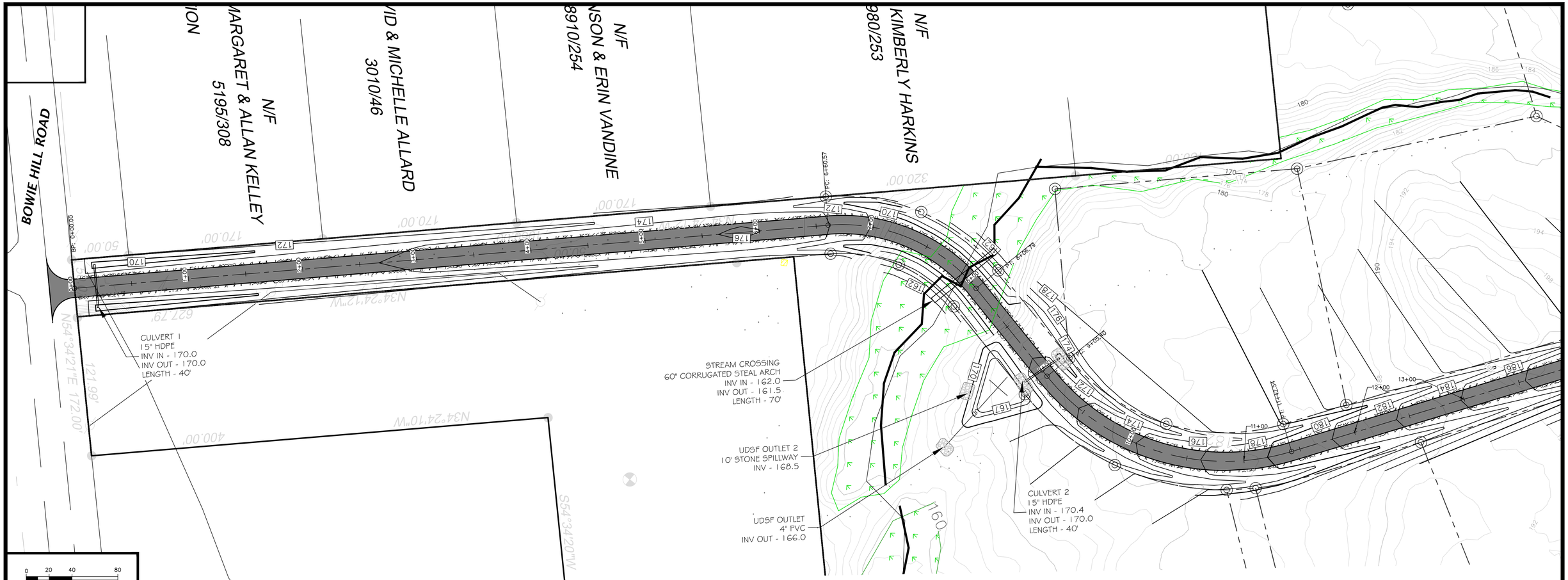
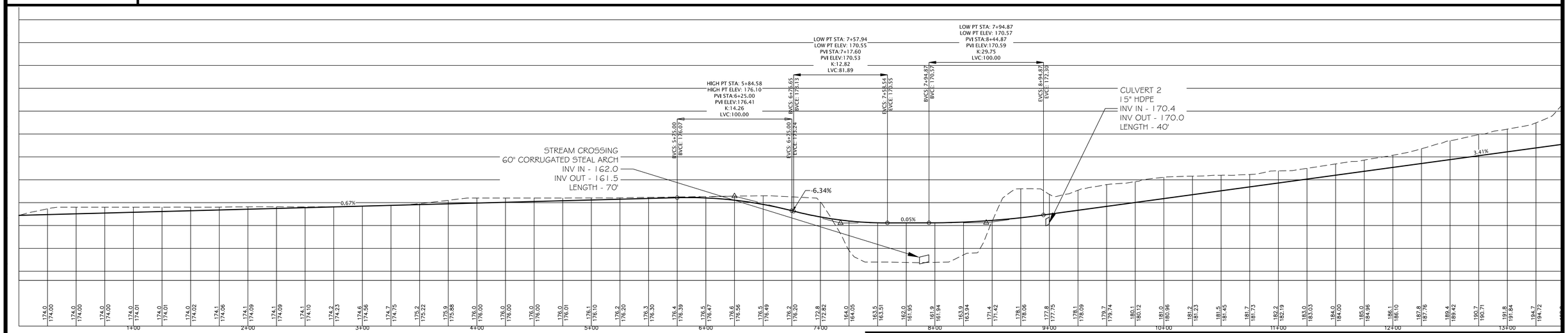


ROADWAY PLAN VIEW: STA. 0+00 ~ 13+00



ROADWAY PROFILE VIEW: STA. 0+00 ~ 13+00

SUBMITTED FOR PRELIMINARY PLAN REVIEW

SCALE

VERTICAL - 1" = 5'
HORIZONTAL - 1" = 40'

REV	DATE	DESCRIPTION
2	5/16/2022	PRELIMINARY SUBMISSION
1	5/4/2022	SKETCH PLAN SUBMISSION

REVISIONS

STATE OF MAINE
CHARLES EDWIN BURNHAM
No. 15377
LICENSED PROFESSIONAL ENGINEER

DEER CREEK CROSSING
DURHAM, MAINE

PLAN AND PROFILE

Jack Doughty
231 Flying Point Road
Freeport, Maine 04032

Grange Engineering LLC
241 Rowe Station Road
New Gloucester, ME 04260
Tel: 207.712.6990

DRAWN:	CB	DATE: MAY 18, 2022	
DESIGNED:	CB	SCALE:	
CHECKED:	CB	JOB NO. 1	
FILE NAME:			
SHEET: C-200			

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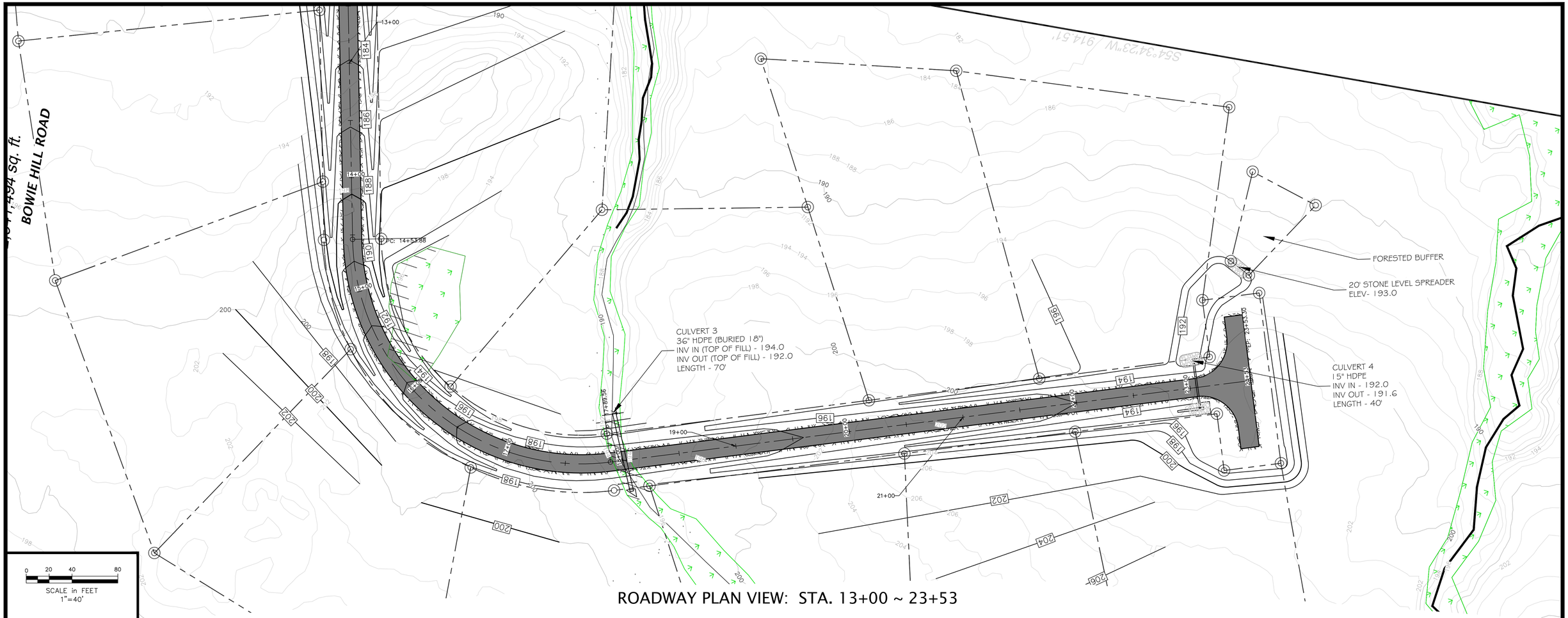
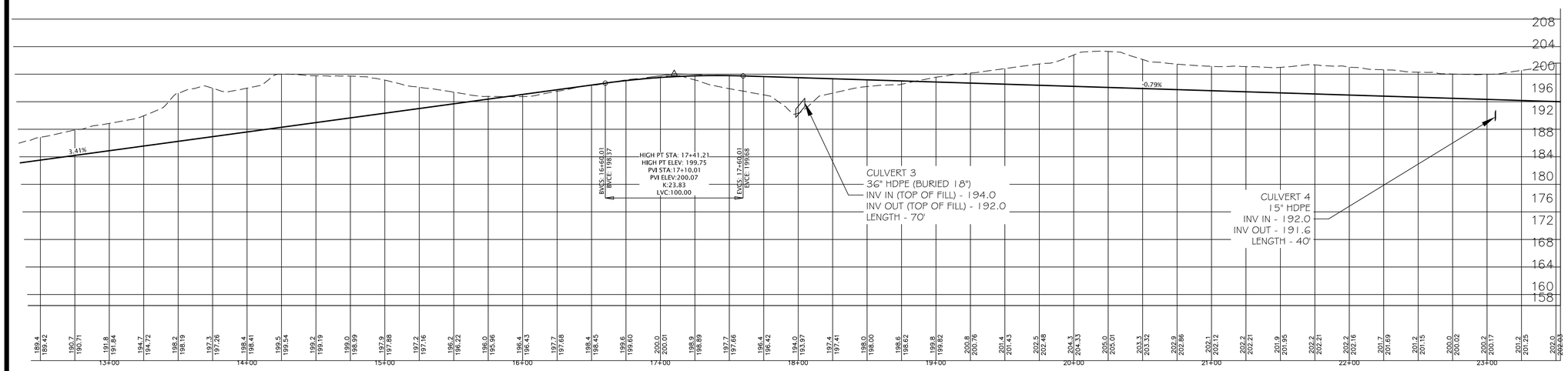


ROADWAY PLAN VIEW: STA. 13+00 ~ 23+53



ROADWAY PROFILE VIEW: STA. 13+00 ~ 23+53

SCALE

VERTICAL - 1" = 5'
HORIZONTAL - 1" = 40'

SUBMITTED FOR PRELIMINARY PLAN REVIEW

REV	DATE	DESCRIPTION
2	5/16/2022	PRELIMINARY SUBMISSION
1	5/4/2022	SKETCH PLAN SUBMISSION

REVISIONS

STATE OF MAINE
CHARLES EDWIN DURHAM
No. 15377
LICENSED PROFESSIONAL ENGINEER

DEER CREEK CROSSING
DURHAM, MAINE

PLAN AND PROFILE

Jack Doughty
231 Flying Point Road
Freeport, Maine 04032

Grange Engineering LLC
241 Rowe Station Road
New Gloucester, ME 04260
Tel: 207.712.6990

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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.

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 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. 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.
   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.
   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.
   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.
   e. PAVED AREAS: FOR PAVED AREAS, PERMANENT STABILIZATION MEANS THE PLACEMENT OF THE COMPACTED GRAVEL SUBBASE IS COMPLETED.
   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. IN AREAS WHERE THE GRADE IS STEEPER THAN 8% SILT FENCE AND EROSION CONTROL MIX SHOULD BE USED.
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. TEMPORARY SEDIMENT SUMPS WILL PROVIDE SEDIMENTATION CONTROL FOR STORMWATER RUNOFF FROM DISTURBED AREAS DURING CONSTRUCTION UNTIL STABILIZATION HAS BEEN ACHIEVED.
4. A CONSTRUCTION ENTRANCE WILL BE CONSTRUCTED AT ALL ACCESS POINTS ONTO THE SITE TO PREVENT TRACKING OF SOIL ONTO ADJACENT LOCAL ROADS AND STREETS.
5. SILT LOGS MAY BE INSTALLED IN LIEU OF STONE CHECK DAMS PROVIDED THE DEVICES ARE WELL ANCHORED, AND IF PRIOR APPROVAL IS RECEIVED FROM THE PROJECT ENGINEER.
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.
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

14. 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.
15. MULCH ALL AREAS SEEDED SO THAT SOIL IS NOT VISIBLE THROUGH THE MULCH REGARDLESS OF THE APPLICATION RATE.

1. 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.
2. 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.
3. EROSION CONTROL BLANKET SHALL BE INSTALLED ON ALL PERMANENT SLOPES STEEPER THAN 15%, 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.
4. 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 4" X 4" 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.
4. DEBRIS AND OTHER MATERIAL. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORM WATER, MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE.
5. COMPLY WITH ALL LOCAL AND STATE REGULATIONS FOR THE REMOVAL AND DISPOSAL OF CONSTRUCTION DEBRIS AND WASTE.
6. TRENCH OR FOUNDATION DE-WATERING. THE COLLECTED WATER REMOVED FROM THE PONDED AREA, EITHER THROUGH GRAVITY OR PUMPING, MUST BE SPREAD THROUGH NATURAL WOODED BUFFERS OR REMOVED AREAS THAT ARE SPECIFICALLY DESIGNATED TO COLLECT THE MAXIMUM AMOUNT OF SEDIMENT POSSIBLE, LIKE A COFFER DAM SEDIMENTATION BASIN. AVOID ALLOWING THE WATER TO FLOW OVER DISTURBED AREAS OF THE SITE.
7. NON-STORMWATER DISCHARGES. IDENTIFY AND PREVENT CONTAMINATION BY NON-STORWATER DISCHARGES. WHERE ALLOWED NON-STORWATER 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.

F. INSPECTION AND MAINTENANCE

1. 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 (RAINFALL). ALL MEASURES MUST BE MAINTAINED IN EFFECTIVE OPERATING CONDITION UNTIL AREAS ARE PERMANENTLY STABILIZED.
2. 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.
3. 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.
6. THE PERMITTEE SHALL RETAIN COPIES OF THE ESC PLAN AND ANY FORMS, SUBMISSIONS, REPORTS, OR OTHER MATERIALS REQUIRED BY THE GENERAL PERMIT FOR A PERIOD OF AT LEAST THREE YEARS FROM THE COMPLETION OF PERMANENT STABILIZATION.
7. 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.

C. 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 DEMOLITION.
   b. INSTALL ALL PERIMETER SILTATION FENCE AND EROSION CONTROL BARRIERS. PARTICULAR ATTENTION SHALL BE PAID TO AREAS UPSTREAM OF PROTECTED NATURAL RESOURCES. SIGNS SHALL BE ERECTED PERIODICALLY ALONG THESE PERIMETER BARRIERS INDICATING THAT THE DOWNSTREAM AREAS ARE OFF LIMITS TO ALL CONSTRUCTION ACTIVITIES.
   c. INSTALL CONSTRUCTION ENTRANCES.
   d. MAINTAIN EXISTING PAVED AREAS FOR LAYDOWN AND ACCESS DURING INITIAL CONSTRUCTION ACTIVITIES.
   e. CONSTRUCT ACTIVITIES ON THE SITE TO OPTIMIZE THE HANDLING OF MATERIALS AND RESTRICT THE DENUDED AREAS TO THE TIME STIPULATED.
   f. CONSTRUCT STABILIZED PADS FOR FOUNDATION AND BUILDING CONSTRUCTION.
   g. MAINTAIN STABILIZED SITE ACCESS AND WORKING AREAS DURING BUILDING CONSTRUCTION.
   h. INSTALL STORWATER BMP'S
   i. REMOVE EXISTING PAVEMENT AND INSTALL NEW PAVEMENT BASE GRAVEL MATERIALS TO RAISE THE SITE TO THE DESIGN SUBGRADE ELEVATION.
   j. INSTALL BINDER PAVEMENT.
   k. LANDSCAPE (LOAM AND SEED).
   l. INSTALL SURFACE PAVEMENTS.
   m. INSTALL STRIPING, SIGNAGE, AND MISCELLANEOUS SITE IMPROVEMENTS.
   n. REVIEW AND PUNCH THE SITE.
   o. 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.

SUBMITTED FOR PRELIMINARY PLAN REVIEW

REV	DATE	DESCRIPTION
2	5/16/2022	PRELIMINARY SUBMISSION
1	5/4/2022	SKETCH PLAN SUBMISSION

REVISIONS

STATE OF MAINE — CHARLES EDWIN GRANGE — No. 15377 — LICENSED PROFESSIONAL ENGINEER

DEER CREEK CROSSING
DURHAM, MAINE
EROSION CONTROL NOTES

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DRAWN:	CB	DATE:	MAY 18, 2022
DESIGNED:	CB	SCALE:	
CHECKED:	CB	JOB NO.	1
FILE NAME:			
SHEET:	C-300		

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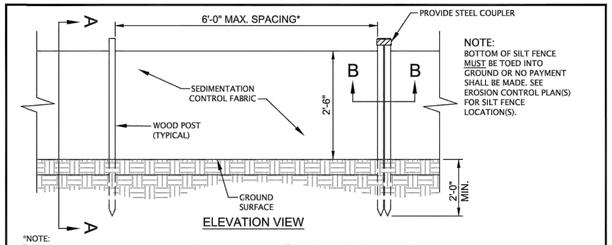

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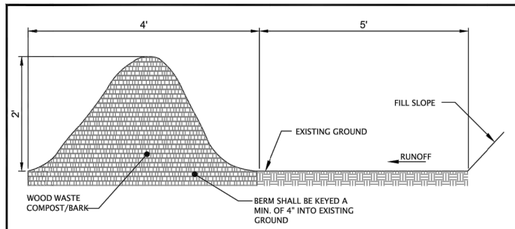


NOTES:
1. THE WOOD WASTE COMPOST/BARK MIX SHALL CONFORM TO THE FOLLOWING STANDARDS:

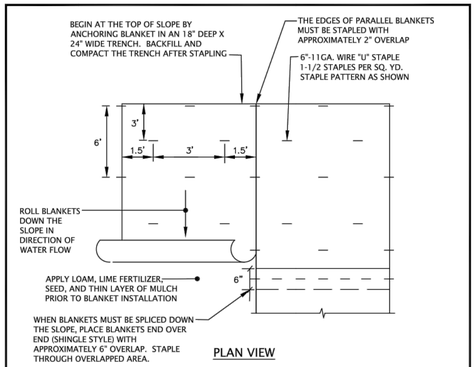
A. MOISTURE CONTENT - 30-60%
B. pH - 5.0-8.0
C. SCREEN SIZE - 100% LESS THAN 3", MAX. 70% LESS THAN 1"
D. NO LESS THAN 40% ORGANIC MATERIAL (DRY WEIGHT) BY LOSS OF IGNITION
F. NO STONES LARGER THAN 2" IN DIAMETER

2. THE COMPOST BERM SHALL BE PLACED, UNCOMPACTED, ALONG A RELATIVELY LEVEL CONTOUR.

3. THE WOOD WASTE COMPOST/BARK FILTER BERM MAY BE USED IN LIEU OF SILTATION FENCE, AT THE TOE OF SHALLOW SLOPES, ON FROZEN GROUND, LEDGE OUT CROPS, VERY ROOTED FORESTED AREA OR AT THE EDGE OF GRAVEL PARKING AREAS.

4. BERMS SHALL REMAIN IN PLACE UNTIL UPSTREAM AREA IS COMPLETED OR 70% CATCH OF VEGETATION IS ATTAINED. BERMS SHALL BE REMOVED BY SPREADING SUCH THAT THE NATIVE EARTH CAN BE SEEN BELOW.

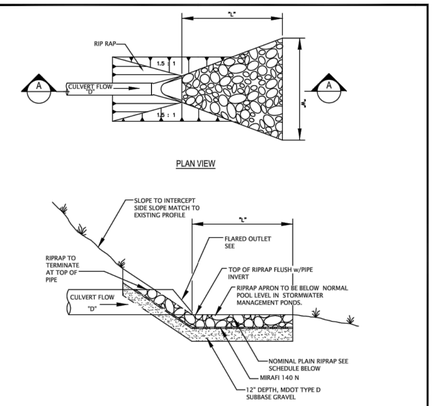
D EROSION CONTROL MIX BERM SEDIMENT BARRIER
N.T.S.



NOTES:
1. IF GRASS CATCH IS NOT 75% 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.

G EROSION CONTROL BLANKET DETAIL
N.T.S.

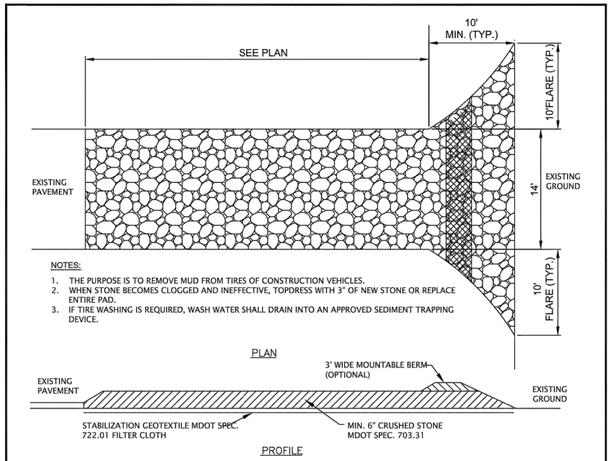


SECTION VIEW A

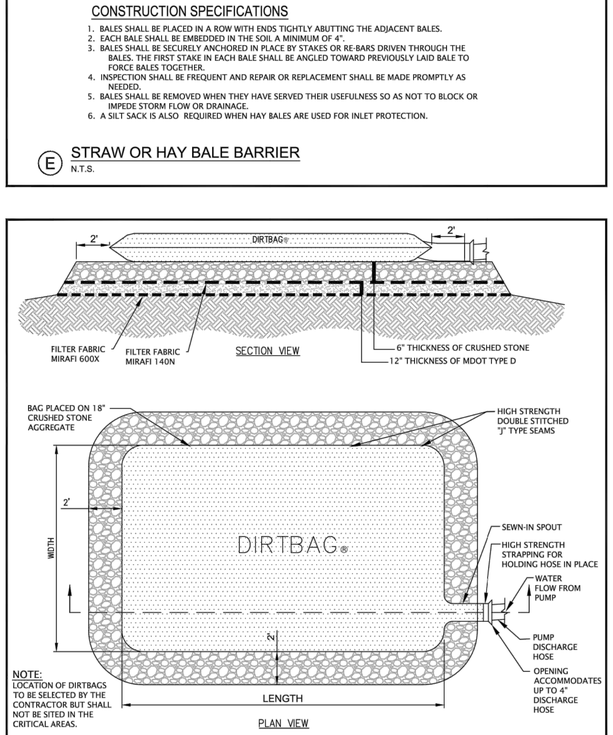
SCHEDULE FOR STORM DRAIN				
CULVERT DIAMETER (D)	LENGTH (L)	WIDTH (W)	STONE d_{50}	RIPRAP THICKNESS
12"	8'	12'	6"	14"
15"	8'	12'	6"	14"
18"	10'	12'	6"	14"
24"	12'	14'	6"	14"
30"	20'	23'	12"	27"
36"	20'	23'	12"	27"
42"	24'	28'	12"	27"
48"	28'	32'	12"	27"

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.

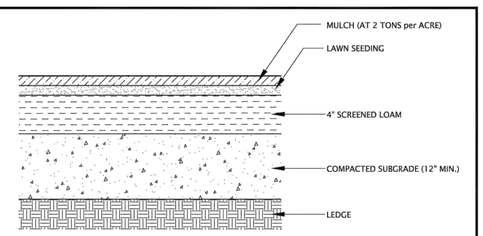


B STABILIZED CONSTRUCTION ENTRANCE DETAIL
N.T.S.



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.

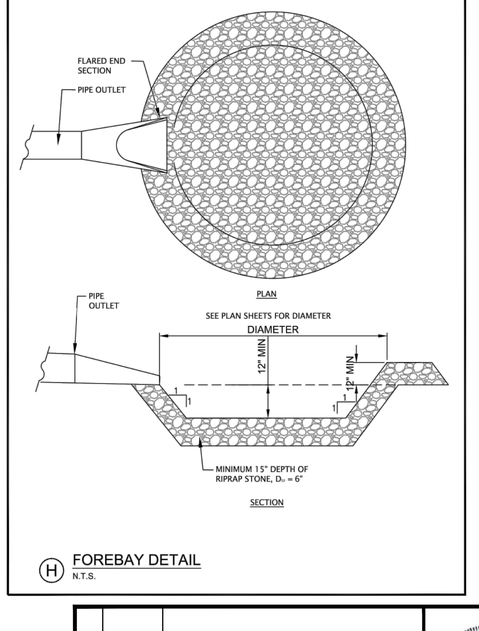
E STRAW OR HAY BALE BARRIER
N.T.S.



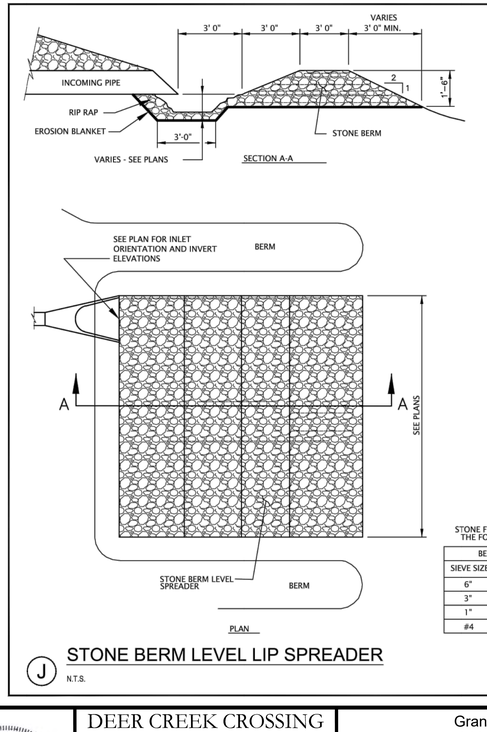
C LOAM AND SEED DETAIL
N.T.S.

NOTE:
LOCATION OF DIRTBAGS TO BE SELECTED BY THE CONTRACTOR BUT SHALL NOT BE SITED IN THE CRITICAL AREAS.

F DIRTBAG / SPECIFICATIONS FOR DEWATERING DETAIL
N.T.S.



H FOREBAY DETAIL
N.T.S.



STONE FOR BERM SHALL MEET THE FOLLOWING GRADATION:

BERM STONE SIZE	
SIEVE SIZE	% BY WEIGHT
6"	84-100
3"	68-83
1"	42-55
#4	8-12

J STONE BERM LEVEL LIP SPREADER
N.T.S.

SUBMITTED FOR PRELIMINARY PLAN REVIEW

REV	DATE	DESCRIPTION
2	5/16/2022	PRELIMINARY SUBMISSION
1	5/4/2022	SKETCH PLAN SUBMISSION

REVISIONS

STATE OF MAINE
CHARLES EDWIN DURNHAM
No. 15377
LICENSED PROFESSIONAL ENGINEER

DEER CREEK CROSSING
DURHAM, MAINE
CIVIL DETAILS
1

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DRAWN:	CB	DATE:	MAY 18, 2022
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SHEET:	C-301		

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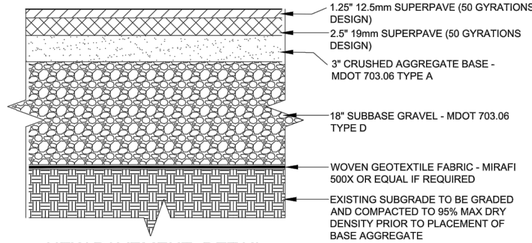
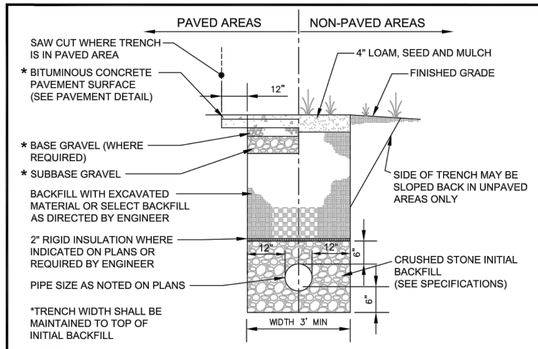


(A) NEW PAVEMENT DETAIL

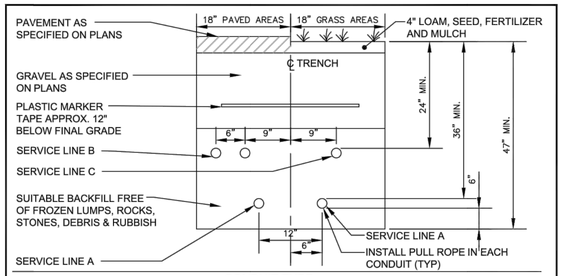
N.T.S.



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.

(B) TYPICAL SEWER AND STORM DRAIN TRENCH DETAIL

N.T.S.



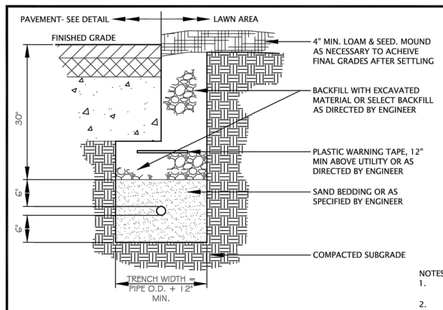
CONDUIT TYPE

SERVICE	CONDUIT SIZE	GRASS AREAS	PAVED AREAS	UTILITY	REMARKS
A	5"	SCHEDULE 40 PVC ELECTRICAL GRADE	RIGID GALVANIZED STEEL, ASTM A120	POWER	SEE NOTE 1
B	4"	SCHEDULE 40 PVC	RIGID GALVANIZED STEEL, ASTM A120	TELEPHONE	SEE NOTE 1
C	2"	SCHEDULE 40 PVC	RIGID GALVANIZED STEEL, ASTM A120	COMMUNICATION	

NOTES:
1. ONE CONDUIT CAPPED FOR SPARE, PROVIDE GALVANIZED STEEL LONG SWEEP AT RISER POLE AND EXTEND GALVANIZED CONDUIT TO 10' ABOVE GRADE AT POLE WITH STAND-OFF BRACKETS.
2. SEE SITE ELECTRICAL PLAN FOR LOCATION AND NUMBER OF CONDUITS.

(C) COMBINED UTILTIY TRENCH DETAIL

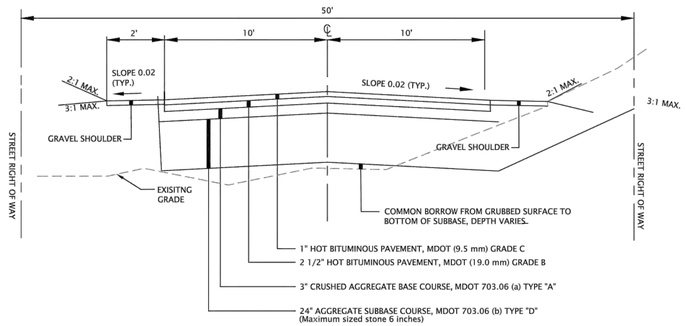
N.T.S.



NOTES:
1. ALL WORK TO COMPLY WITH UTILTY COMPANY STANDARDS.
2. CONTRACTOR TO PROVIDE ½" POLYPROPYLENE PULL ROPES IN ALL CONDUITS.

(D) ELECTRIC UTILITY TRENCH DETAIL

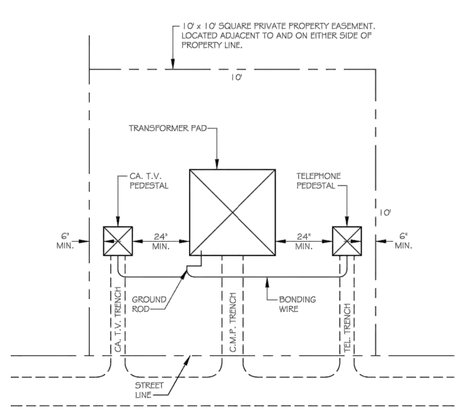
N.T.S.



1. THIS DETAIL REFLECTS MINMUM REQUIREMENTS, INSITU SOIL CONDITIONS MAY REQUIRE ADDITIONAL MATERIALS AS DIRECYED BY PUBLIC WORKS DIRECTOR OR ENGINEER.
2. CLEARING AND GRUBBING SHALL BE 6"-12" DEEP DEPENDING ON SOIL CONDITIONS AND EXTEND A MINIMUM OF THE ENTIRE WIDTH OF THE RIGHT OF WAY.
3. ALL CONSTRUCTION SHALL MEET THE REQUIREMENTS RELATIVE TO THE APPLICABLE MDOT STANDARD SPECIFICATION FOR MATERIALS, PLACEMENT AND TESTING.
4. BASE COURSE ASPHALT SHALL EXTEND UNDER SLIPFORM CURB. SEE CURB DETAIL THIS SHEET.

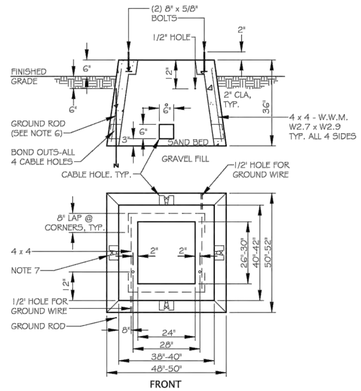
(E) TYPICAL ROADWAY SECTION

N.T.S.

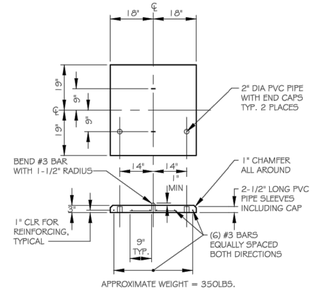


RECOMMENDED TRANSFORMER EASEMENT

NOTES:
1. THIS ILLUSTRATION IS THE RECOMMENDED LAYOUT OF A PAD-MOUNTED TRANSFORMER EASEMENT. IT IS EVIDENT THAT THIS EASEMENT IS NOT ALWAYS POSSIBLE, BUT IN CASES WHERE SUCH AN EASEMENT CAN BE OBTAINED IT WOULD BE BENEFICIAL TO SET THE EASEMENT UP AS SHOWN.
2. CONCRETE FOUNDATION IS SUITABLE FOR BOTH 7200/12470 VOLT AND 20/34.5kv SINGLE PHASE TRANSFORMER AND PRIMARY JUNCTION BOX INSTALLATIONS.
3. SET FOUNDATION ON SUITABLE GRAVEL FILL AND PROVIDE ADEQUATE DRAINAGE. LOCATION TO BE ACCESSIBLE BY TRUCK AND SUITABLY PROTECTED FROM FLOW AND TRAFFIC DAMAGE.
4. FRONT DENOTES THE SIDE ON WHICH THE ACCESS DOORS ARE LOCATED. THE FOUNDATION MUST BE INSTALLED SO THAT THE "FRONT" IS READILY ACCESSIBLE.
5. OTHER C.M.P. APPROVED PADMOUNT TRANSFORMER FOUNDATIONS MAY BE USED.
6. PROVIDE 6" SQUARE CABLE HOLES (BOND OUT) 3" UP THE WALL FROM THE BASE. ONE PER WALL, LINE UP WITH TRENCHES.
7. CMPCo. TO FURNISH 3/4" x 8' GALVANIZED ROD TO BE INSTALLED 6" IN FRONT OF THE LEFT CORNER OF TRANSFORMER FOUNDATION. THE TOP OF THE GROUND ROD IS TO BE 6" BELOW FINAL GRADE.
8. PULLING EYE INSERT, FOR USE WITH 3/4" NATIONAL THREAD EYE-BOLT (RICHMOND LCB-1 OR EQUIVALENT). LOCATED OPPOSITE EACH CABLE HOLE AND APPROXIMATELY 16" FROM THE BOTTOM.
9. CAN BE USED AS A FOUNDATION FOR 3 PHASE JUNCTION CABINET CU UDCUT3 (SVC 62-1490) WITH CU UDCUT35 (SVC 67-3921) SKIRT.



CONCRETE TRANSFORMER FOUNDATION



CONCRETE TRANSFORMER COVER

(F) CENTRAL MAINE POWER TRANSFORMER PAD

NOT TO SCALE

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REVISIONS

STATE OF MAINE — CHARLES EDWIN DURNHAM — No. 15377 — LICENSED PROFESSIONAL ENGINEER

DEER CREEK CROSSING
DURHAM, MAINE
CIVIL DETAILS
2

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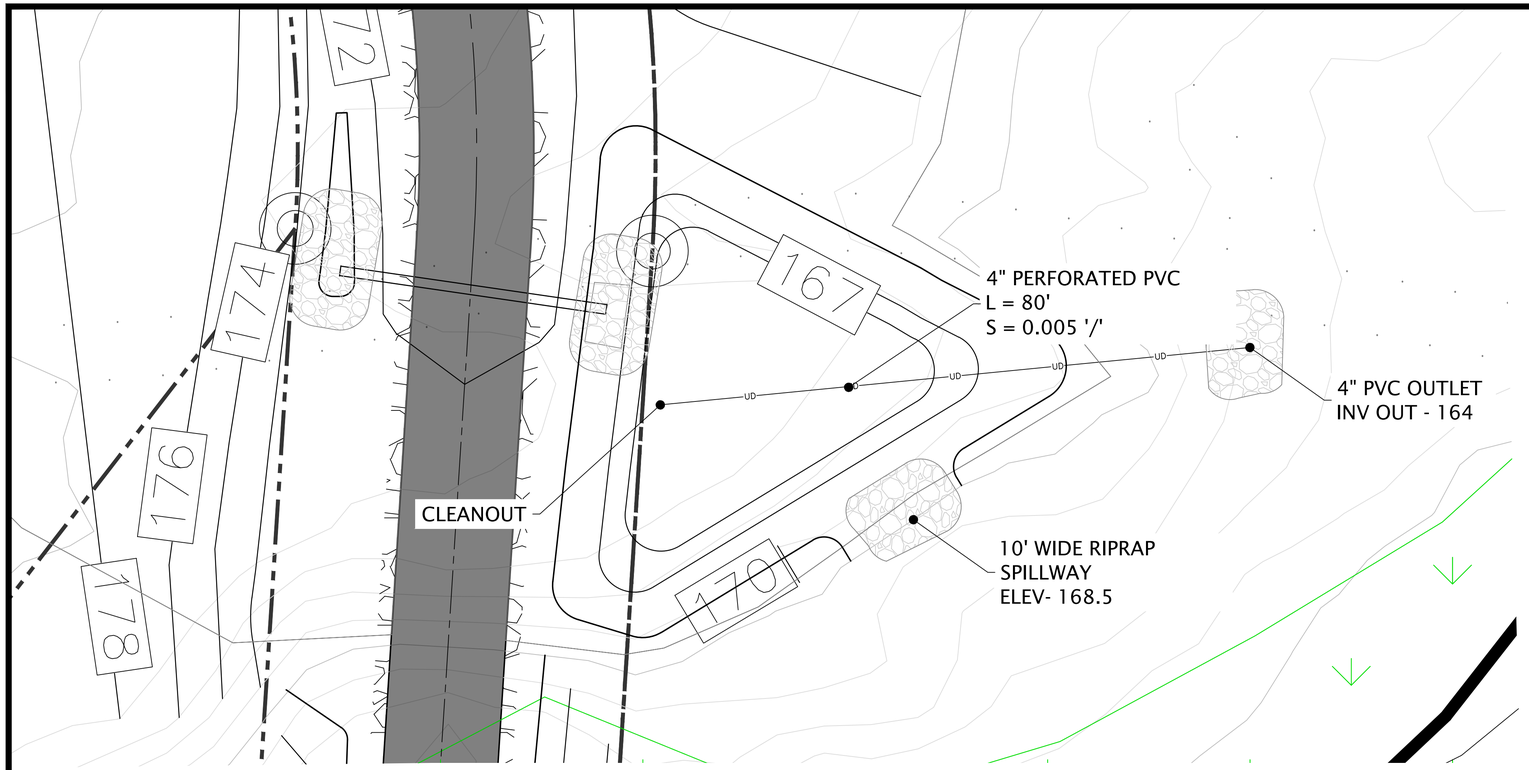
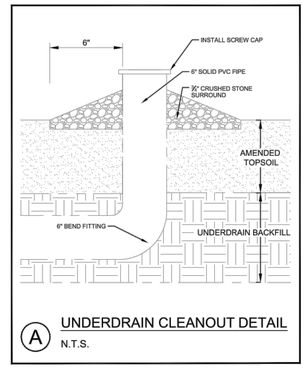
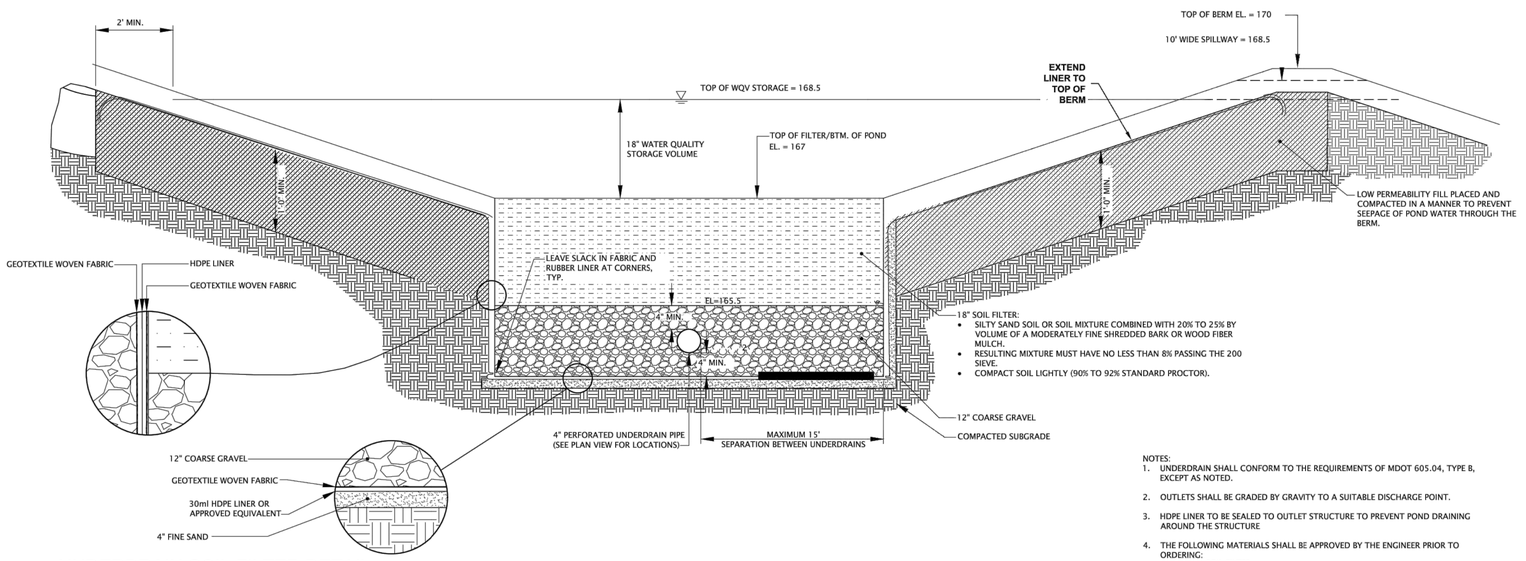




A UNDERDRAIN CLEANOUT DETAIL
N.T.S.



A UNDERDRAIN SOIL FILTER DETAIL
N.T.S.

NOTES:
1. UNDERDRAIN SHALL CONFORM TO THE REQUIREMENTS OF MDOT 605.04, TYPE B, EXCEPT AS NOTED.
2. OUTLETS SHALL BE GRADED BY GRAVITY TO A SUITABLE DISCHARGE POINT.
3. HDPE LINER TO BE SEALED TO OUTLET STRUCTURE TO PREVENT POND DRAINING AROUND THE STRUCTURE
4. THE FOLLOWING MATERIALS SHALL BE APPROVED BY THE ENGINEER PRIOR TO ORDERING:
   - SOIL FILTER
   - COARSE GRAVEL
   - LINER

UNDERDRAINED SOIL FILTER NOTES:

1. UNDERDRAINED FILTER BASINS CONSTRUCTION SEQUENCE: THE SOIL FILTER MEDIA AND VEGETATION MUST NOT BE INSTALLED UNTIL THE AREA THAT DRAINS TO THE FILTER HAS BEEN PERMANENTLY STABILIZED WITH PAVEMENT OR OTHER STRUCTURE, 90% VEGETATION COVER, OR OTHER PERMANENT STABILIZATION UNLESS THE RUNOFF FROM THE CONTRIBUTING DRAINAGE AREA IS DIVERTED AROUND THE FILTER UNTIL STABILIZATION IS COMPLETED.COMPACTION OF SOIL FILTER: FILTER SOIL MEDIA AND UNDERDRAIN BEDDING MATERIAL MUST BE COMPACTED TO BETWEEN 90% AND 92% STANDARD PROCTOR. THE BED SHOULD BE INSTALLED IN AT LEAST 2 LIFTS OF 9 INCHES TO PREVENT POCKETS OF LOOSE MEDIA.
   CONSTRUCTION OVERSIGHT: INSPECTION BY A PROFESSIONAL ENGINEER WILL OCCUR AT A MINIMUM:
   - AFTER THE PRELIMINARY CONSTRUCTION OF THE FILTER GRADES AND ONCE THE UNDERDRAIN PIPES ARE INSTALLED BUT NOT BACKFILLED,
   - AFTER THE DRAINAGE LAYER IS CONSTRUCTED AND PRIOR TO THE INSTALLATION OF THE FILTER MEDIA,
   - AFTER THE FILTER MEDIA HAS BEEN INSTALLED AND SEEDED. BIO-RETENTION CELLS MUST BE STABILIZED PER THE PROVIDED PLANTING SCHEME AND DENSITY FOR THE CANOPY COVERAGE OF 30 AND 50%.
   - AFTER ONE YEAR TO INSPECT HEALTH OF THE VEGETATION AND MAKE CORRECTIONS, AND
   - ALL THE MATERIAL USED FOR THE CONSTRUCTION OF THE FILTER BASIN MUST BE CONFIRMED AS SUITABLE BY THE DESIGN ENGINEER. TESTING MUST BE DONE BY A CERTIFIED LABORATORY TO SHOW THAT THEY ARE PASSING DEP SPECIFICATIONS.

   TESTING AND SUBMITTALS: THE CONTRACTOR SHALL IDENTIFY THE LOCATION OF THE SOURCE OF EACH COMPONENT OF THE FILTER MEDIA. ALL RESULTS OF FIELD AND LABORATORY TESTING SHALL BE SUBMITTED TO THE PROJECT ENGINEER FOR CONFIRMATION. THE CONTRACTOR SHALL:
   - SELECT SAMPLES FOR SAMPLING OF EACH TYPE OF MATERIAL TO BE BLENDED FOR THE MIXED FILTER MEDIA AND SAMPLES OF THE UNDERDRAIN BEDDING MATERIAL. SAMPLES MUST BE A COMPOSITE OF THREE DIFFERENT LOCATIONS (GRABS) FROM THE STOCKPILE OR PIT FACE. SAMPLE SIZE REQUIRED WILL BE DETERMINED BY THE TESTING LABORATORY.
   - PERFORM A SIEVE ANALYSIS CONFORMING TO STM C136 (STANDARD TEST METHOD FOR SIEVE ANALYSIS OF FINE AND COURSE AGGREGATES 1998A) ON EACH TYPE OF THE SAMPLE MATERIAL. THE RESULTING SOIL FILTER MEDIA MIXTURE MUST HAVE 8% TO 12% BY WEIGHT PASSING THE #200 SIEVE, A CLAY CONTENT OF LESS THAN 2% (DETERMINED HYDROMETER GRAIN SIZE ANALYSIS) AND HAVE 10% DRY WEIGHT OF ORGANIC MATTER.
   - PERFORM A PERMEABILITY TEST ON THE SOIL FILTER MEDIA MIXTURE CONFORMING TO ASTM D2434 WITH THE MIXTURE COMPACTED TO 90-92% OF MAXIMUM DRY DENSITY BASED ON ASTM D698.

2. DEWATERING: A DEWATERING PLAN IS NEEDED TO ADDRESS EXCAVATION DE-WATERING FOLLOWING HEAVY RAINFALL EVENTS OR WHERE THE EXCAVATION MAY INTERCEPT THE GROUNDWATER TABLE DURING CONSTRUCTION. THE COLLECTED WATER NEEDS TREATMENT AND A DISCHARGE POINT THAT WILL NOT CAUSE DOWNGRADIENT EROSION AND OFFSITE SEDIMENTATION OR WITHIN A RESOURCE. PLEASE FOLLOW THE DETAILS OF SUCH A PLAN.

3. 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. THE MAINE EROSION AND SEDIMENT CONTROL HANDBOOK FOR CONSTRUCTION: BEST MANAGEMENT PRACTICES AS PUBLISHED IN 1991 BY THE CUMBERLAND COUNTY SOIL AND WATER CONSERVATION DISTRICT AND THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION HAS BEEN CHANGED TO THE "MAINE EROSION AND SEDIMENT CONTROL BMPS" PUBLISHED BY THE MAINE DEP IN 2003. ALL REFERENCES SHOULD BE CHANGED TO THE NEW MANUAL. HTTP://WWW.MAINE.GOV/DEP/BLWQ/DOCSTAND/ESCBMPS/INDEX.HTM

CONSTRUCTION OVERSIGHT REQUIRED:

THE APPLICANT WILL RETAIN THE SERVICES OF A PROFESSIONAL ENGINEER OR THIRD PARTY INSPECTOR TO INSPECT THE CONSTRUCTION AND STABILIZATION OF ALL STORMWATER MANAGEMENT STRUCTURES. IF NECESSARY, THE INSPECTING ENGINEER WILL INTERPRET THE POND'S CONSTRUCTION PLAN FOR THE CONTRACTOR. ONCE ALL STORMWATER MANAGEMENT STRUCTURES ARE CONSTRUCTED AND STABILIZED, THE INSPECTING ENGINEER WILL NOTIFY BOTH THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION AS WELL AS THE TOWN OF ARUNDEL IN WRITING WITHIN 30 DAYS TO STATE THAT THE POND HAS BEEN COMPLETED. ACCOMPANYING THE ENGINEER'S NOTIFICATION MUST BE A LOG OF THE ENGINEER'S INSPECTIONS GIVING THE DATE OF EACH INSPECTION, THE TIME OF EACH INSPECTION, AND THE ITEMS INSPECTED ON EACH VISIT, AND INCLUDE ANY TESTING DATA OR SIEVE ANALYSIS DATA OF EVERY MINERAL SOIL AND SOIL MEDIA SPECIFIED IN THE PLANS AND USED ON SITE.

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REVISIONS

STATE OF MAINE — CHARLES EDWIN BURNHAM — No. 15377 — LICENSED PROFESSIONAL ENGINEER

DEER CREEK CROSSING
DURHAM, MAINE
CIVIL DETAILS
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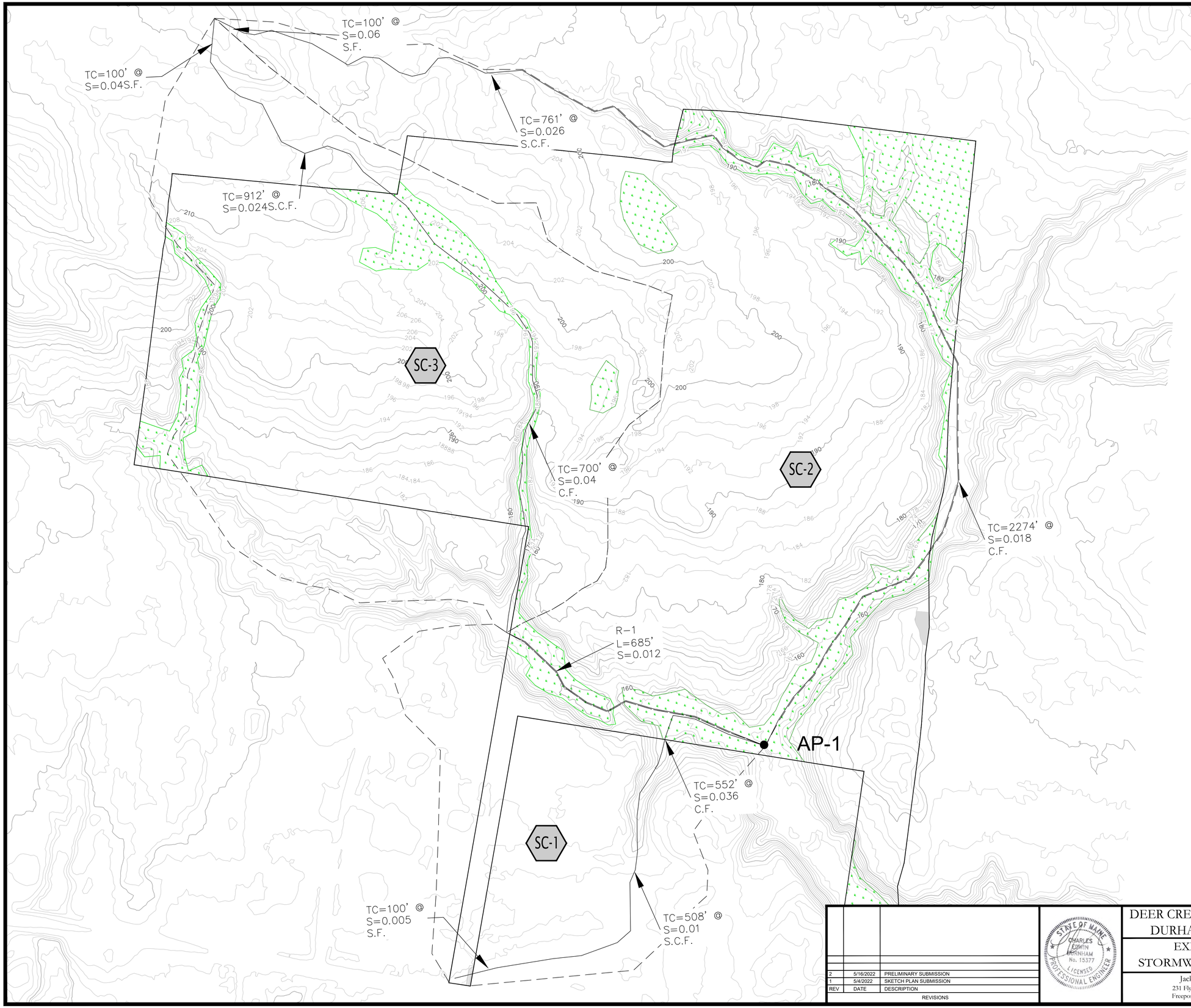

NORTH

GENERAL NOTES:

1. WETLAND DELINEATION PERFORMED BY ALEX FINAMORE.
2. TOPOGRAPHIC INFORMATION TAKEN FROM GIS.
3. SITE IS COMPLETELY WOODED.

SUBMITTED FOR PRELIMINARY PLAN REVIEW

SCALE

0 50 100 200

SCALE in FEET
1"=100'

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REVISIONS

STATE OF MAINE — CHARLES EDWIN DURNHAM — No. 15377 — LICENSED PROFESSIONAL ENGINEER

DEER CREEK CROSSING
DURHAM, MAINE

EXISTING
STORMWATER PLAN

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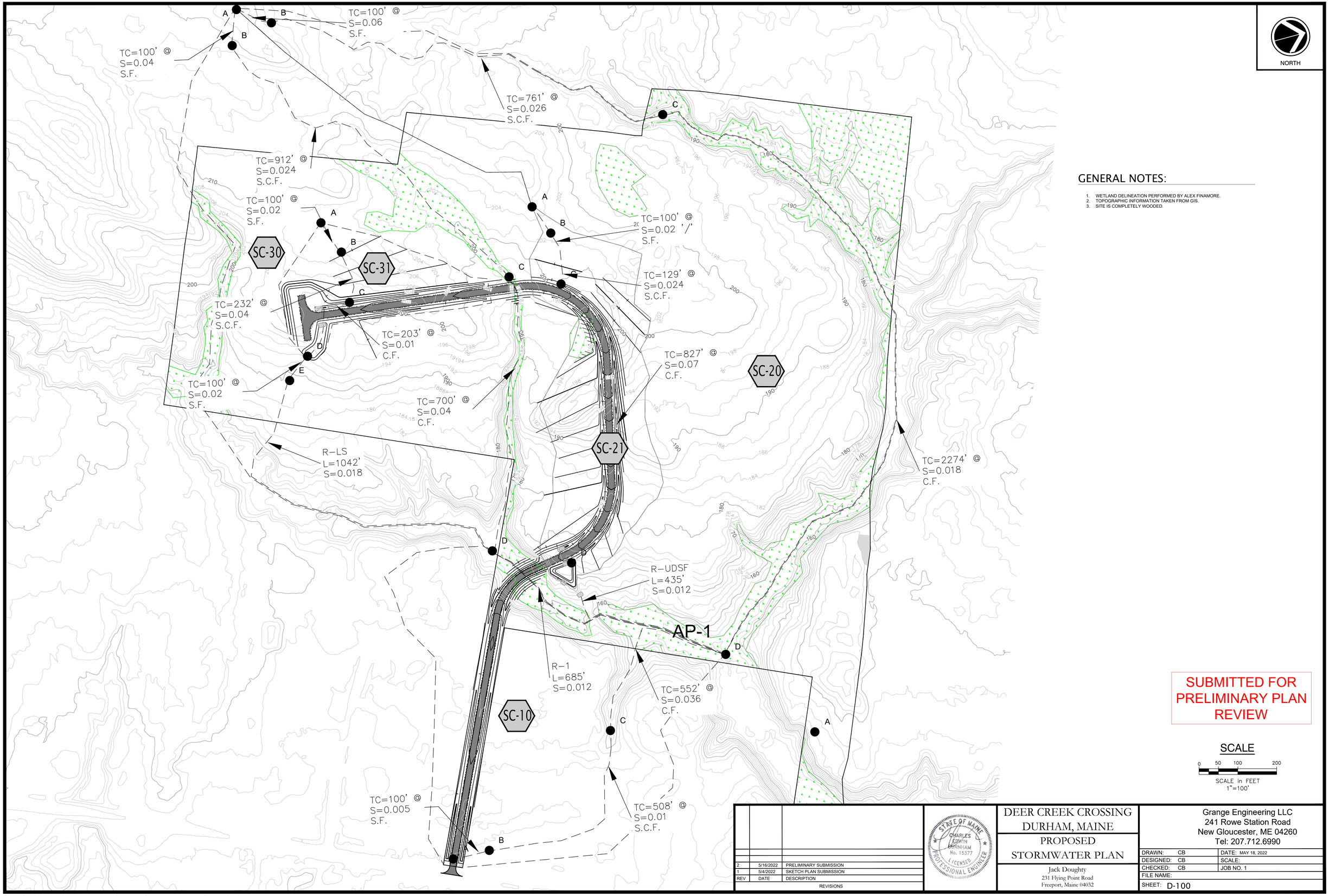

GENERAL NOTES:

1. WETLAND DELINEATION PERFORMED BY ALEX FINAMORE.
2. TOPOGRAPHIC INFORMATION TAKEN FROM GIS.
3. SITE IS COMPLETELY WOODED.

SUBMITTED FOR PRELIMINARY PLAN REVIEW

SCALE

0 50 100 200

SCALE in FEET
1"=100'

REV	DATE	DESCRIPTION
2	5/16/2022	PRELIMINARY SUBMISSION
1	5/4/2022	SKETCH PLAN SUBMISSION

REVISIONS

STATE OF MAINE · CHARLES EDWIN BURNHAM · No. 15377 · LICENSED PROFESSIONAL ENGINEER

DEER CREEK CROSSING
DURHAM, MAINE
PROPOSED
STORMWATER PLAN

Jack Doughty
231 Flying Point Road
Freeport, Maine 04032

Grange Engineering LLC
241 Rowe Station Road
New Gloucester, ME 04260
Tel: 207.712.6990

DRAWN: CB	DATE: MAY 18, 2022
DESIGNED: CB	SCALE:
CHECKED: CB	JOB NO. 1
FILE NAME:	
SHEET: D-100	

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