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& Design

Carriage Hill

Amended Subdivision Application

Carriage Hill
Amended Subdivision Application
North Yarmouth, Cumberland County, Maine
Submitted October 11, 2022 for the November 8, 2022 meeting

Prepared for:

Daniel Train
15 Carriage Hill, North Yarmouth
And
Shawn Albert
14 Carriage Hill, North Yarmouth

Prepared by:

Tara Mullen
Maine Professional Land Surveyor
License No. 2575

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Project No 22004653A.

Table of contents

Cover Letter	3
Minor Subdivision Application	4
Minor Subdivision Application Check List	5-19
Request for Hearing	20-21
Client Authorization	22-23
Amended Subdivision Plan	24
Recorded Plat of Carriage Hill, Sept 2002, Plan Book 202, Page 752	25-27
Stormwater & Road Design Engineering Plan Set	28-32
Stormwater Report & HydroCAD model	33-69
Inspection & Housekeeping Plan	70-77
Test Pits & Wetland Memo; Soil Maps	78-91
Zoning, Aerial & Quad Sheet Maps	92-94
Evidence of Right, Title & Interest	95-124
Abutters List	125

Cover Letter

Dear planning office:

Please find enclosed the application submitted on behalf of Daniel Train and Shawn Albert for the first amendment of the previously approved Carriage Hill subdivision. The purpose of this proposed amendment is to further divide Lots 5 and 6 on the approved subdivision, each into three parcels, creating four new lots for the intended use as single family dwellings.

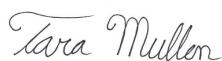
The subdivision was created by the approved subdivision plan "Recording Plat of Carriage Hill, Route 115, Gray Road, North Yarmouth, Maine made for Nina Sweet & Jan A. Parker" dated September 2002, signed by the Planning Board and recorded in Plan Book 202, Page 752, referred to here after as the "2002 Carriage Hill Plan".

"Lot 5" on the approved plan is shown as Lot 65 on Tax Map 10, owned by Daniel and Mary Train. Lot 6 is shown as Lot 64 on Tax Map 10, owned by Shawn and Martha Albert. Currently only one dwelling exists on Lots 5 and 6, and Lots 5 and 6 have a combined net residential area allowing for up to five additional house lots to be created.

The proposed subdivision amendment will utilize the existing defined "Carriage Hill Extension" as shown on the original subdivision. A proposed road plan and profile has been provided by Jayson Haskell, PE of DM Roma, as well as a Stormwater Narrative. Carriage Hill Extension was reserved as emergency access for the Wild Turkey and Forest Ridge Subdivisions, see "Amended Plan of Forest Ridge, made for Janina, LLC" dated Nov. 2004 and as described in the agreement recorded in Book 24508, Page 319 the agreement between Wild Turkey, LLC and the original creator of the Carriage Hill Subdivision regarding the extension road. Per aerial images dating back to 2006 it appears the original gravel road was constructed as part of the approval for that subdivision and has not been maintained. This application is seeking to improve the Carriage Hill extension to private way standards.

Further, an updated wetland delineation and reports were provided by Mainely Soils, LLC. The proposed lots will be served by on-site septic and artesian wells, and test pits are also provided by Alexander Finamore, of Mainley Soils, LLC for each proposed lot. Proposed well locations are not shown on the plan, as the final locations will be dependent upon the final home locations, though the lots provide sufficient area to maintain a 100ft buffer from any installed septic. Each of the proposed lots will meet the zoning requirements for the Village Residential District, and Net Area Calculations have been included, accounting for Natural Resources and Steep Slopes.

We hope you find this application complete and we look forward to discussing this project with you.

A handwritten signature in cursive script that reads "Tara Mullen".

Tara Mullen, PLS 2575



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**TOWN OF NORTH YARMOUTH
PLANNING BOARD
MINOR SUBDIVISION APPLICATION**

(See Section 5 pages 37 through 59 of the North Yarmouth Land Use Ordinance)

NAME OF APPLICANT: Daniel Train & Shawn Albert PHONE #: Train 207-232-1269
 EMAIL: dantrain9@gmail.com & thealberts6101@gmail.com ALT. PHONE#: Dan 207-436-0694
 FULL ADDRESS: Train 15 Carriage Hill, North Yarmouth, ME 04097 & Albert 14 Carriage Hill, North Yarmouth, ME 04097
 PROPERTY ADDRESS: 14 & 15 Carriage Hill, North Yarmouth
 MAP: 10 LOT: 64 & 65

AGENT/REPRESENTATIVE (if other): Tara Mullen PHONE #: 207-235-1914
 EMAIL: tara.mullen@collierseng.com
 FULL ADDRESS: 41 Church Road, Brunswick, ME 04011

1. Names and Addresses of ALL property owners within 500' of any and all property boundaries **(use a separate sheet). Please contact Code Office for Updated Abutters List)**

2. Plan preparer information if other than property owner:

Name: Tara Mullen
 Address: 41 Church Road, Brunswick, ME 04011
 Phone Number: 207-235-1914 Professional Lic. # Maine PLS #2575
 Email: tara.mullen@collierseng.com

3. Zoning Classification of the Property

Village Center Village Residential Farm and Forest
 Shoreland Residential Resource Protection Royal River Overlay
 Groundwater Protection Overlay

4. Provide a General Description of the proposed use or activity, including but not limited to the type of use, square footage involved, hours of operation, types and amount of traffic to be generated **(use separate sheet).**

5. Historic Structures: Are there any historic structures or areas of historical importance on the property? YES NO

6. Complete List of all chemicals, pesticides, fuels, nutrients and other potentially toxic or hazardous materials to be used or stored on the premises, and the quantities of these materials **(use a separate sheet).**

7. List of Equipment to be used, parked or stored **(use a separate sheet).**

8. To the best of my knowledge, all the above-stated information, and all prepared submissions in this application are correct.

Tara Mullen
 Signature of Applicant/Owner

10 / 11 / 22
 Date



**TOWN OF NORTH YARMOUTH
PLANNING BOARD
MINOR SUBDIVISION CHECKLIST**

NAME OF APPLICANT: Dan Train & Shawn Albert

DATE: 9/28/2022

This checklist has been prepared to assist applicants in developing their applications. It should be used as a guide in assembling the information necessary for a complete application. However, the checklist does not substitute for the statutory criteria or the requirements of Section V. Subdivision Review Procedures and Criteria or Section X. Performance and Design Standards for Site Plan Review & Subdivision Review of the Land Use Ordinance. The Planning Board will use the checklist to make sure that your application is complete. The application need not contain separate plans as implied below. The perimeter survey, subdivision plan and engineering plans may be contained on the same drawing. However, detailed engineering drawings such as road profiles, drainage swales and erosion/sedimentation plans may best be presented on a separate sheet or sheets.

SITE PLAN PERFORMANCE & DESIGN STANDARDS	Received by Planning Board	Applicant Requests to be Waived	Waiver Approved by Planning Board	Applicant Requests Not Applicable
GENERAL REQUIREMENTS				
1. <u>Request for Hearing Form</u>	X			
2. <u>Fee Calculation Sheet</u>	X			
3. <u>Waiver or N/A Request Form, if required</u>				n/a
4. <u>Abutter List & Notification Statement</u>	X			
5. <u>DEP Approval, if required (Section 3 - 3.9B)</u>	P Pending, submitted, under review			
6. <u>Subdivision Approval, if required (Section V)</u>				n/a
7. <u>Board of Zoning Appeal Approval, if required (Section VI - 6.2)</u>				n/a
8. <u>MDOT Approval, if required (Section VIII – 8.4.J.2)</u>				n/a
10-1 APPLICABILITY				
10-2 GENERAL LAYOUT OF DEVELOPMENT				
A. <u>Utilization of the Site</u>				
B. <u>Lots</u>				
B.1 Dimensional Requirements	X			
B.2 Right of Way not included in Lot Area	X			
B.3 Side Lot Lines perpendicular to Street				n/a
B.4 Lots Divided by Streams				n/a
B.5 Future Lot Planning (Subdivisions only)				n/a



**TOWN OF NORTH YARMOUTH
PLANNING BOARD
MINOR SUBDIVISION CHECKLIST**

SITE PLAN PERFORMANCE & DESIGN STANDARDS		Received by Planning Board	Applicant Requests to be Waived	Waiver Approved by Planning Board	Applicant Requests Not Applicable
B.6	Interconnected Development				n/a
C. Blocks - Utility/Pedestrian Easement		X			
D. Utilities - Underground					n/a
E. Monuments					
E.1	Stone Monuments Locations	X			
E.2	Stone Monuments or Capped Iron Pipe at boundaries	X			
E.3	Stone Monuments Requirements	X			
E.4	All Others Marked by Suitable Monumentation	X			
10-3 BROOK, POND, VERNAL POOL AND WETLAND BUFFERS					
A. <u>Purpose and Applicability</u>					
A.1	Protect Areas not covered in Section 9-1				n/a
A.2	Distinguish between High and Low Value Wetlands				n/a
A.3	Residential Shoreland & Resource Protection Apply				n/a
B. <u>Protected Resources</u>					
B.1	Stream	X			
B.2	Pond				n/a
B.3	Vernal Pool				n/a
B.4	High Value Wetlands				n/a
B.4.a	Contain Pond or Vernal Pool				n/a
B.4.b	Within Floodplain of Stream or Pond				n/a
B.4.c	Wetland Plant Species	X			
B.5	Low Value Wetland				n/a
C. <u>Standards</u>					
C.1	Vegetative Buffers				X



**TOWN OF NORTH YARMOUTH
PLANNING BOARD
MINOR SUBDIVISION CHECKLIST**

SITE PLAN PERFORMANCE & DESIGN STANDARDS		Received by Planning Board	Applicant Requests to be Waived	Waiver Approved by Planning Board	Applicant Requests Not Applicable
C.2	Location, Species, Height, Canopy				n/a
C.3	Buffer Width Related to Slope (SEE TABLE)				n/a
C.4	Natural State to Greatest Extent Practical				n/a
C.5	Buffer Strips Maintained in Natural State				n/a
C.5.a	Clearing of Dead and Diseased Trees				n/a
C.5.b	Underlying Vegetation (must not be removed)				n/a
C.6	Building and Structure Setback	X			
C.7	Permanent Markers (must be installed)	X			
D. <u>Plan Submittals</u>					
D.1	Site plan, Topo, Wetlands, Buffers	X			
D.2	Existing Vegetation Described	X			
D.3	Buffer (Any new buffers described)				n/a
D.4	Maintenance and Restrictions of Buffers				n/a
D.5	Deed restrictions and covenants				n/a
D.6	Plat	X			
E. <u>Exemptions</u>					
E.1	Buffer and setbacks are not required adjacent to the following area:				
E.1.a	Swales and ditches				n/a
E.1.b	Artificial impoundments				n/a
E.1.c	Low value wetlands				n/a
E.2	Buffers and setbacks do not apply to				
E.2.a	Storm water management facilities				n/a
E.2.b	Road crossings, bridges, culverts, utilities	X			
E.2.c	Docks, boat ramps, direct access				n/a



TOWN OF NORTH YARMOUTH
PLANNING BOARD
MINOR SUBDIVISION CHECKLIST

SITE PLAN PERFORMANCE & DESIGN STANDARDS	Received by Planning Board	Applicant Requests to be Waived	Waiver Approved by Planning Board	Applicant Requests Not Applicable
10-4 BUILDING DESIGN STANDARDS				
A. <u>Purpose</u>				n/a
B. <u>Applicability</u>				n/a
<u>CONTENTS</u>				
A. General Building Standards				n/a
B. Primary Building Types				n/a
C. Accessory Building Types				n/a
D. Components				n/a
E. Roof Types				n/a
F. Special Definitions				
10-5 COMMUNITY FACILITIES IMPACT ANALYSIS AND MITIGATION				
10-6 DRIVE THROUGH FACILITIES				
10-7 EROSION AND SEDIMENTATION CONTROL				
A. <u>Topography and Natural Surroundings</u>	X			
B. <u>Best Management Practices</u>				
B.1 Stripping, Removal, Re-Grading	X			
B.2 Exposure to a Minimum	X			
B.3 Temporary Measures	X			
B.4 Permanent Measures				n/a
B.5 Sediment Basins or Silt Traps				n/a
B.6 Adjoining property and slope	X			
B.7 Dust control				n/a
B.8 No grading or filling near water body	X			
B.9 Measures monitored periodically				n/a



TOWN OF NORTH YARMOUTH
PLANNING BOARD
MINOR SUBDIVISION CHECKLIST

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10-8 EMISSIONS					n/a
10-9 EXTERIOR LIGHTING					
A.	<u>Adequate for nighttime hours</u>				n/a
B.	<u>Street lighting</u>				n/a
C.	<u>Lighting does not produce deleterious effects</u>				n/a
D.	<u>Fixtures shielded or hooded</u>				n/a
E.	<u>Blinking lights prohibited</u>				n/a
F.	<u>Maximum height</u>				n/a
G.	<u>Spotlights prohibited</u>				n/a
10-10 FINANCIAL AND TECHNICAL CAPACITY					
A.	<u>Adequate financial resources</u>				n/a
B.	<u>Qualified contractors and consultants</u>				n/a
10-11 FLOODPLAIN MANAGEMENT					
A.	<u>Consistent with Floodplain Ordinance</u>	X			
B.	<u>Development/Subdivision Requirement</u>	X			
C. <u>Building Prohibited on Floodplains</u>					
C.1	Building prohibited in floodplain				n/a
C.2	Statement and restriction				n/a
C.3	Woodlands, grassland, pastureland, recreation				n/a
C.4	Piers, docks, wharves, bridges and boat ramps				n/a
10-12 HAZARDOUS, SPECIAL AND RADIOACTIVE MATERIALS					
A.	<u>Handling, storage and use per standards</u>				n/a
B.	<u>Reporting Requirement</u>				n/a
10-13 HISTORIC AND ARCHAEOLOGICAL SITES					
A.	<u>Protect resources</u>				n/a



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PLANNING BOARD
MINOR SUBDIVISION CHECKLIST**

SITE PLAN PERFORMANCE & DESIGN STANDARDS		Received by Planning Board	Applicant Requests to be Waived	Waiver Approved by Planning Board	Applicant Requests Not Applicable
B.	Maine Historic Preservation Commission review				n/a
10-14 LANDSCAPING, BUFFERS AND SCREENING					
A.	<u>Purpose</u>				n/a
B.	<u>Standards</u>				
B.1	Landscaping				n/a
B.1.a	Natural State Preserved				n/a
B.1.b	Public roads, areas, recreation sites, buildings				n/a
B.1.c	Newly Planted Deciduous Tree Requirements				n/a
B.1.d	Plan should include Landscapes				n/a
B.2	Buffers and Screening				n/a
B.2.a	Adjacent uses and screening				n/a
B.2.b	Year-round visual screen				n/a
B.2.c	Parking lots and areas				n/a
B.2.d	Garbage collection areas buffered				n/a
B.2.e	Sufficient buffering				n/a
B.2.f	Width of buffer				n/a
10-15 NATURAL BEAUTY AND AESTHETICS IN THE FARM AND FOREST DISTRICT, RESIDENTIAL SHORELAND DISTRICT AND RESOURCE PROTECTION DISTRICT					n/a
10-16 NOISE					
A.	Control Levels for Neighboring Properties				n/a
B.	Sound Pressure Level Limits (SEE TABLE)				n/a
C.	Measured by a Meter				n/a
10-17 SEWAGE DISPOSAL					
A.	<u>Subsurface Sewage Disposal</u>				



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PLANNING BOARD
MINOR SUBDIVISION CHECKLIST**

SITE PLAN PERFORMANCE & DESIGN STANDARDS		Received by Planning Board	Applicant Requests to be Waived	Waiver Approved by Planning Board	Applicant Requests Not Applicable
A.1	Follow State of Maine Rules	X			
A.2	Hydrogeologic Assessment	Pending			
A.2.a	Suitable soils	X			
A.2.b	Water supplies				n/a
A.2.c	Groundwater quality				n/a
A.2.d	Monitoring wells				n/a
A.2.e	Operation and maintenance manual				n/a
B. <u>Public Sewer System Disposal</u>					
B.1	Not allowed in Farm and Forest District, Residential Shoreland District or Resource Protection District				n/a
B.2	Sewer District statement of capacity				n/a
10-18 SIGNS					
A.	<u>General Requirements</u>				n/a
B.	<u>Village Center District</u>				n/a
C.	<u>Identify or Advertise Must be on Premises</u>				n/a
D.	<u>Sign Area</u>				n/a
E.	<u>Installation and Height</u>				n/a
F.	<u>Height and Location by Roads</u>				n/a
G.	<u>Attached to Structure</u>				n/a
H.	<u>Maintenance and Removal</u>				n/a
I.	<u>Illumination</u>				n/a
J.	<u>Nonconforming Signs</u>				n/a
K.	<u>Special Event Signs</u>				n/a
L.	<u>Home Occupation Signs</u>				n/a



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PLANNING BOARD
MINOR SUBDIVISION CHECKLIST**

SITE PLAN PERFORMANCE & DESIGN STANDARDS		Received by Planning Board	Applicant Requests to be Waived	Waiver Approved by Planning Board	Applicant Requests Not Applicable
M.	<u>Signs in the Resource Protection District and the Residential Shoreland District</u>				n/a
N.	<u>Municipal and Public Safety Signs</u>				n/a
10-19 SOIL SUITABILITY					n/a
10-20 SOLID WASTE DISPOSAL					
A.	<u>Disposal at Licensed Facility</u>				n/a
B.	<u>Alternative Arrangements</u>				n/a
10-21 STORAGE OF MATERIALS					
A.	<u>Sufficient Setbacks and Screening</u>				n/a
B.	<u>Dumpsters</u>				n/a
C.	<u>Physical Screening</u>				n/a
D.	<u>Buffers and Screening</u>				n/a
10-22 STORM WATER CONTROL					
A.	<u>Designed to Minimize Runoff</u>	X			
B. <u>Requirements</u>					
B.1	Design by Maine engineer	X			
B.2	Easement width	X			
B.3	Oil and grease traps				n/a
B.4	Designing engineer statement	X			
B.5	Designed to Town Roadway Criteria	X			
B.6	Maintenance Plan				n/a
10-23 RECREATION AND OPEN SPACE LAND IN DEVELOPMENTS					
A.	<u>Applicability and Purpose</u>				n/a
B. <u>Retention of Useable Open Space/Recreation Land</u>					
B.1	Planning Board may Require Reservation of Land				n/a
B.2	Percentage of Useable Open Space (SEE TABLE)				n/a



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PLANNING BOARD
MINOR SUBDIVISION CHECKLIST**

SITE PLAN PERFORMANCE & DESIGN STANDARDS		Received by Planning Board	Applicant Requests to be Waived	Waiver Approved by Planning Board	Applicant Requests Not Applicable
C. Waivers of Minor Subdivisions of Mandatory Open Space					n/a
D. Ownership and Maintenance of Common Open Space and/or Recreation Land					
D.1	Facilities & Property Ownership				n/a
D.1.a	Lot Owners' Association				n/a
D.1.b	Association Principal Purpose				n/a
D.1.c	The Town				n/a
D.2	Subdivision of the Common Open Space Prohibited				n/a
D.3	Monitoring Fee (Planning Board May Require)				n/a
E. Homeowners Association Requirements					n/a
10-24 WATER SUPPLY					
A. <u>Public Water Supply</u>					
A.1	Written statement from Yarmouth Water District				n/a
A.2	System approved by Yarmouth Water District and North Yarmouth Fire Chief				n/a
B. <u>Required Connection to Public Water Supply</u>					n/a
C. <u>Individual Wells Regulations</u>					
D. <u>Fire Protection</u>					
D.1	Hydrant locations				n/a
D.2	Storage capacity				n/a
D.3	Hydrant specifications				n/a
D.4	Easement				n/a
10-25 WATER QUALITY					
A. <u>Water Quality</u>					
A.1	No discharge in surface or groundwater	X			
A.2	Maine DEP and Fire Marshal's Office standards	X			
A.3	License from Maine DEP	Pending			



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PLANNING BOARD
MINOR SUBDIVISION CHECKLIST**

SITE PLAN PERFORMANCE & DESIGN STANDARDS		Received by Planning Board	Applicant Requests to be Waived	Waiver Approved by Planning Board	Applicant Requests Not Applicable
A.4	Discharge treated	X			
B. <u>Groundwater</u>					n/a
C. <u>Wellhead Protection</u>					n/a
D. <u>Requirements for Hydrogeologic Assessments</u>					
D.1	Class A (high intensity) Soil Survey				n/a
D.2	Water table				n/a
D.3	Drainage conditions				n/a
D.4	Existing groundwater quality				n/a
D.5	Analysis and evaluation				n/a
D.6	Map of wastewater systems and wells				n/a
E. <u>Projections of Groundwater Quality</u>					n/a
F. <u>Drinking Water Standards</u>					n/a
G. <u>Demonstrate Treatment</u>					n/a
H. <u>Contaminants</u>					n/a
I. <u>Construction Standards</u>					n/a
J. <u>System and Well Zones</u>		Pending			
10-26 PROTECTION OF SIGNIFICANT WILDLIFE HABITAT					
A. <u>Designed to Protect</u>					n/a
B. <u>Identify and Map Wildlife Habitats</u>		X			
C. <u>Consult and Obtain Written Report</u>					n/a
D. <u>Deer Wintering Areas</u>					n/a
E. <u>Deed Restrictions</u>					n/a
10-27 PUBLIC ACCESS TO THE SHORELINE					n/a
10-28 BACK LOTS AND ACCESS					
A. <u>Right-of-Way</u>					



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PLANNING BOARD
MINOR SUBDIVISION CHECKLIST**

SITE PLAN PERFORMANCE & DESIGN STANDARDS		Received by Planning Board	Applicant Requests to be Waived	Waiver Approved by Planning Board	Applicant Requests Not Applicable
A.1	Width and frontage	X			
A.2	Emergency vehicles	X			
A.3	Existing lot and right-of-way	X			
A.4	Backlots prohibited in subdivisions				n/a
A.5	Private Roads Serving Three or More Residential Units and/or Non-residential Uses	X			
A.6	In the Farm and Forest District, Residential Shoreland District and Resource Protection District – lot size and width				n/a
A.7	In the Village Center District and Village Residential District – dimensional requirements	X			
10-29 ACCESS MANAGEMENT STANDARDS					
A. <u>Applicability</u>		X			
B. <u>Adequacy of the Public Road System</u>					n/a
C. <u>Safe Sight Distances</u>					
C.1.	Designed				n/a
C.2	Measurements				n/a
C.2.a	Sight Distance Speed				n/a
C.2.b	Height				n/a
C.2.c	Truck traffic				n/a
C.2.d	Recreational vehicle traffic				n/a
C.3	Placement				n/a
C.4	Site triangle				n/a
D. <u>Access Management and Safety Standards</u>					
D.1	Hazardous conflicts				n/a
D.2	Residential Lots	X			



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PLANNING BOARD
MINOR SUBDIVISION CHECKLIST**

SITE PLAN PERFORMANCE & DESIGN STANDARDS		Received by Planning Board	Applicant Requests to be Waived	Waiver Approved by Planning Board	Applicant Requests Not Applicable
D.2.a	Farm and Forest District, Residential Shoreland District and Resource Protection District				n/a
D.2.b	Village Center District and Village Residential District	X			
D.3	Commercial and Other Non-Residential Lots				n/a
D.3.a	Farm and Forest District, Residential Shoreland District and Resource Protection District				n/a
D.3.b	Village Center District and Village Residential District	X			
D.4	Shared Driveways				n/a
D.5	Road, Pedestrian and Bicycle Connections Between Developments				n/a
D.6	Subdivisions	X			
D.7	Corner Lot Access				n/a
D.8	Access Ways to Non-Residential Developments or to Multiplex Developments				n/a
D.9	Driveway Turn-Around Area				n/a
D.10	Driveway Grades				n/a
D.11	Access Way Location and Spacing				n/a
D.11.a	Location from intersection				n/a
D.11.b	Existing private roads	X			
D.11.c	Demonstration of No Alternative	X			
10.30 SUBDIVISION STREET CONNECTIVITY REQUIRED IN THE VILLAGE CENTER AND VILLAGE RESIDENTIAL DISTRICTS					
A. Purpose					
B. Applicability					
C. Requirements					
C.1	Proposed Subdivision Streets				n/a



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PLANNING BOARD
MINOR SUBDIVISION CHECKLIST**

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C.2	Proposed Street System				n/a
C.3	Proposed Transportation System				n/a
C.4	Redevelopment and Road Improvements				n/a
C.5	Future Street Extension				n/a
C.6	Reserved Streets for Future Street Connections				n/a
C.7	Waivers				n/a
C.7.a	Dead End Streets	X			
C.7.b	Hammerhead Turn-around	X			
C.7.c	Turn-Around				n/a
C.7.d	Emergency Access	X			
10.31 SUBDIVISION STREET LENGTH AND CONNECTION REQUIREMENTS IN THE FARM AND FOREST DISTRICT AND RESIDENTIAL SHORELAND DISTRICT					
A. Purpose					n/a
B. Standards					n/a
B.1	12 Residential Units or Lots				n/a
B.2	Dead-End Street				n/a
B.3	Connectivity Requirements				n/a
10.32 PEDESTRIAN WAYS AND BICYCLE ACCESS, CIRCULATION AND FACILITIES					
A. Applicability and Purpose					n/a
B. Standards					
B.1	Village Center District and Village Residential District Sidewalk Requirements				n/a
B.2	Farm and Forest District and Residential Shoreland District, Resource Protection District Sidewalk Requirements				n/a
B.3	Sidewalk Design				n/a
B.4	Connect to existing				n/a



**TOWN OF NORTH YARMOUTH
PLANNING BOARD
MINOR SUBDIVISION CHECKLIST**

SITE PLAN PERFORMANCE & DESIGN STANDARDS		Received by Planning Board	Applicant Requests to be Waived	Waiver Approved by Planning Board	Applicant Requests Not Applicable
B.5	Site Plan				n/a
B.6	Parking Plans				n/a
B.6.a	Bicycle parking				n/a
B.6.b	Pedestrian Way Locations				n/a
B.6.c	Village Center District and Village Residential District sidewalks on frontage with 10 or more parking spaces				n/a
10-33 INTERNAL VEHICULAR CIRCULATION					
A. <u>Safe Movement</u>					
A.1	Clear route and Turning Area	X			
A.2	Emergency Vehicles, Routes and Signage				n/a
A.3	Layout and Design of Parking Area				n/a
A.4	Designed to harmonize with site	X			
10-34 OFF STREET PARKING					
A. <u>Applicability</u>					n/a
B. <u>General Requirements</u>					n/a
C. <u>Parking Layout and Design</u>					
C.1	On lot or adjacent lot				n/a
C.2	Arranged so not necessary to back out on road				n/a
C.3	Location of Parking				n/a
C.4	Landscaping Plan Providing Screening				n/a
C.5	Joint use of Parking Area Approval				n/a
C.6	Durable surface				n/a
C.7	Parking space size				n/a
C.8	Diagonal parking				n/a



**TOWN OF NORTH YARMOUTH
PLANNING BOARD
MINOR SUBDIVISION CHECKLIST**

SITE PLAN PERFORMANCE & DESIGN STANDARDS		Received by Planning Board	Applicant Requests to be Waived	Waiver Approved by Planning Board	Applicant Requests Not Applicable
D. <u>Parking Space Requirements</u>					
D.1	Sufficient to accommodate				n/a
D.2	Size of structure				n/a
D.3	Reduce structure for sufficient parking				n/a
D.4	On-street parking				n/a
D.5	Availability of parking				n/a
D.6	Pedestrian and bicycle safety				n/a
D.7	Other standards				n/a
E. <u>Waivers</u>					n/a
10-35 OFF STREET LOADING REQUIREMENTS					
A. <u>Specific Uses</u>					
A.1	Maximum number of trucks				n/a
A.2	Type of business				n/a
A.3	Location of loading facility				n/a
A.4	Screening				n/a
A.5	Desirability of service roads or alleys				n/a
A.6	Other characteristics				n/a
A.7	Traditional layout and historical character				n/a
A.8	Minimize noise impacts				n/a



TOWN OF NORTH YARMOUTH
PLANNING BOARD
REQUEST FOR HEARING

NAME OF APPLICANT: Dan Train & Shawn Albert PHONE #: Train 207-232-1269
EMAIL: dantrain9@gmail.com & thealberts6101@gmail.com ALT. PHONE#: _____
FULL ADDRESS: Train 15 Carriage Hill, North Yarmouth, ME 04097 & Albert 14 Carriage Hill, North Yarmouth, ME 04097
PROPERTY ADDRESS: 14 & 15 Carriage Hill, North Yarmouth
MAP: 10 LOT: 65 & 64 ZONE: VR

AGENT/REPRESENTATIVE (if other): Tara Mullen PHONE #: 207-235-1914
EMAIL: tara.mullen@collierseng.com
FULL ADDRESS: 41 Church Road, Brunswick, ME 04011

The undersigned requests the North Yarmouth Planning Board consider the following application for:

<input type="checkbox"/>	Pre-application Sketch Plan Review	<input type="checkbox"/>	Major Subdivision
<input checked="" type="checkbox"/>	Minor Subdivision (Amended plan)	<input type="checkbox"/>	Site Plan Review
<input type="checkbox"/>	Contract Zoning		
<input type="checkbox"/>	Other (Specify): _____		

NOTE TO APPLICANT:

1. This form and appropriate materials must be filed at the Code Enforcement Office no later than (fourteen) 14 days prior to the regular meeting of the Board (2nd Tuesday monthly). Applications shall be accompanied by all applications fee and materials required by the applicable ordinance(s), checklists and fee schedule.
2. All applications shall include all materials and copies as specified on the submittal requirements form.
3. All materials in color shall be copied in color.

Application Authorization

I hereby make application to the Town of North Yarmouth for the above-referenced property(ies) and the development as described. To the best of my knowledge, the information provided herein is accurate and is in accordance with the Zoning and Subdivision Ordinances of the Town, except where waivers are requested. The Town of North Yarmouth Planning Board and/or town employees are authorized to enter the property(ies) for purposes of reviewing this proposal and for inspecting improvements as a result of an approval of this proposal. I understand that I am responsible for appearing, or having someone appear on my behalf, at all meetings before the Planning Board.

Signature: Tara Mullen Date: 10/11/22
Printed Name: Tara Mullen

Please identify yourself (check one): Agent*: Property Owner:



**TOWN OF NORTH YARMOUTH
PLANNING BOARD
FEE CALCULATION SHEET**

NAME OF APPLICANT: Dan Train & Shawn Albert
 PROPERTY ADDRESS: 14 & 15 Carriage Hill, North Yarmouth
 MAP: 10 LOT: 65 & 64

SITE PLAN FEES

<u>Description</u>	<u>Fees</u>	<u>Total</u>
Preliminary Sketch Plan Review	\$0	_____
Site Plan Review Permit	\$250.00	_____
Amendment to Site Plan Review Permit	\$75.00	_____

SUBDIVISION APPROVAL FEES
MINOR SUBDIVISION (4 lots or less)

<u>Description</u>	<u>Fees</u>	<u>Total</u>
Non-refundable Application Fee	\$250.00	<u>250.00</u>
Each Lot/Dwelling Unit	\$100.00	<u>@4 = 400</u>
Technical Review	Cost + \$25.00	<u>n/a</u>

MAJOR SUBDIVISION (5 lots or more)

<u>Description</u>	<u>Fees</u>	<u>Total</u>
Non-refundable Application Fee	\$350.00	_____
Each lot/Dwelling Unit	\$100.00	_____
Technical Review	Cost + \$25.00	_____
	<u>TOTAL FEES REQUIRED</u>	<u>\$650.00</u>

NOTE: Certain Subdivisions will be required to complete a Site Plan Review Permit. Review fees are not typically refundable. If extenuating circumstances occur, the Board may consider a partial or full refund.

Tara Mullen

From: Daniel Train <dantrain9@gmail.com>
Sent: Thursday, September 15, 2022 4:08 PM
To: Tara Mullen
Cc: Shawn Albert
Subject: Re: Authorizing agent email, Carriage Hill amended subdivision application

This message originated from outside your organization

I authorize Tara Mullen to sign and submit subdivision application on my behalf.

Dan Train

15 Carriage Hill

On Thursday, September 15, 2022, Tara Mullen <tara.mullen@collierseng.com> wrote:

Hello,

Mind replying to this so I can sign the application on your behalf?

We, Dan Train and Shawn Albert, authorize, Tara Mullen, to sign and submit the subdivision application on our behalf's for the amended subdivision plan of Carriage Hill to the Town of North Yarmouth Planning Board?

Thank you

Tara Mullen

Senior Project Surveyor

tara.mullen@collierseng.com

Main: 877 627 3772 | Direct: 207 481 7071 | Mobile: 207 325 1914

[41 Church Road | Brunswick, Maine 04011](#)



colliersengineering.com



Engineering
& Design

Tara Mullen

From: Shawn Albert <thealberts6101@gmail.com>
Sent: Thursday, September 15, 2022 3:30 PM
To: Tara Mullen
Subject: Re: Authorizing agent email, Carriage Hill amended subdivision application

This message originated from outside your organization

I, Shawn Albert, authorize Tara Mullen to sign and submit the subdivision application on my behalf for the amended subdivision plan of Carriage Hill to the Town of North Yarmouth Planning Board.

On Thu, Sep 15, 2022 at 2:46 PM Tara Mullen <tara.mullen@collierseng.com> wrote:

Hello,

Mind replying to this so I can sign the application on your behalf?

We, Dan Train and Shawn Albert, authorize, Tara Mullen, to sign and submit the subdivision application on our behalf's for the amended subdivision plan of Carriage Hill to the Town of North Yarmouth Planning Board?

Thank you

Tara Mullen

Senior Project Surveyor

tara.mullen@collierseng.com

Main: 877 627 3772 | Direct: 207 481 7071 | Mobile: 207 325 1914

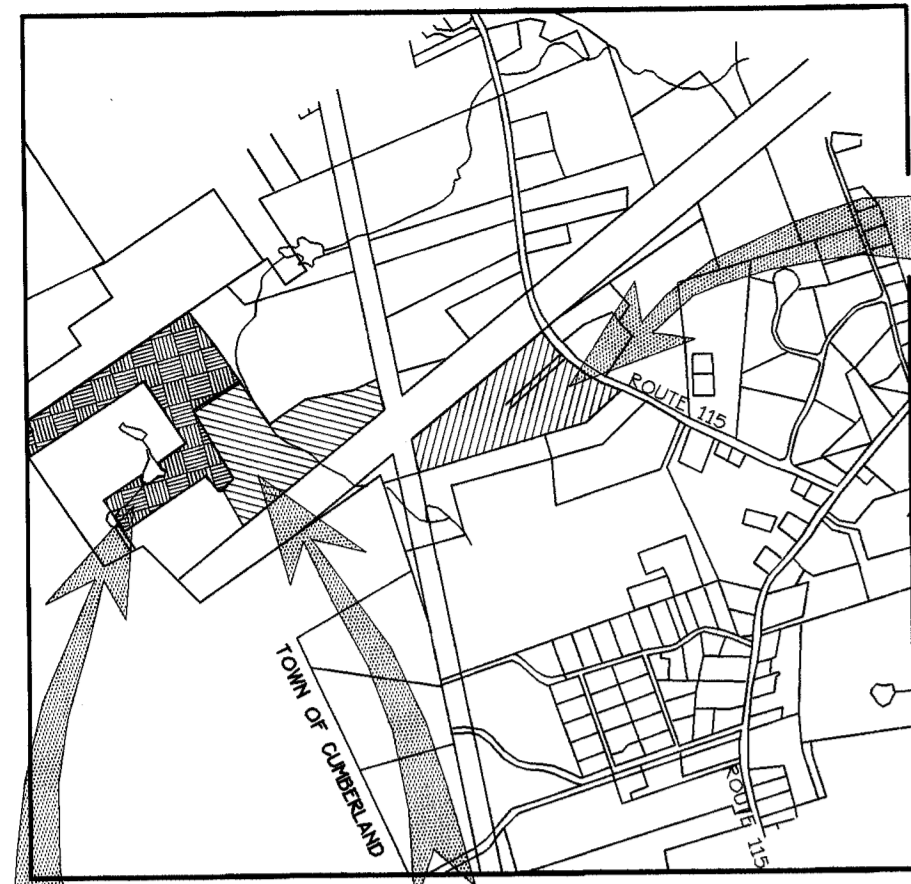
41 Church Road | Brunswick, Maine 04011



colliersengineering.com



LOCATION PLAN



PROJECT SITE

PROPOSED ANNEX TO TOWN PROPERTY

EXISTING TOWN LOT

WALKER'S PATH PROPOSED 25' WIDE CONSERVATION EASEMENT SEE SHEET 5

TOWN OF FORMERLY JANINA L.L.C. PARCEL BOOK 17421 PAGE 304

CENTRAL MAINE POWER COMPANY book 3176 page G27

now or formerly JANINA L.L.C. book 17421 page 304

FUTURE SHARED COMMON ACCESS EASEMENT USE AND OWNERSHIP BEYOND 7+50.5 TO BE CONTROLLED EXCLUSIVELY BY SWEET AND PARKER. SEE NOTE 16.

THE C.M.P. PROPERTY IS ENCUMBERED BY RIGHTS OF INGRESS AND EGRESS FROM THE PROPERTIES OF SWEET AND PARKER TO THE PROPERTIES OF JANINA L.L.C. SEE BK. 3176 PG. G27, BK 16499 PG. 476, BK. 22629 PG. 164, BK. 22629 PG. 172, AND BK. 13337 PG. 283.

THE RIGHT OF C.M.P. CO. TO ACCESS ITS PROPERTY THROUGH THE LAND OF SWEET AND PARKER WAS RELEASED BACK TO CHASE IN BK. 15508 PG. 220.

CENTRAL MAINE POWER COMPANY book 2269 page 1ed SECTION 102

now or formerly JANINA L.L.C. book 17421 page 304

CENTRAL MAINE POWER COMPANY book 1337 Page 283 SECTIONS 166 + 167

FUTURE EASEMENT FOR PARKING AREA PARCEL AREA: 0.12ac

now or formerly CHRISTOPHER + HEATHER DESIMONE book 17113 page 273

RURAL ZONE FARM + FOREST

ROUTE 115

LOT 1 PARCEL AREA: 2.86ac

LOT 3 PARCEL AREA: 3.01ac

LOT 5 PARCEL AREA: 9.58 Ac

LOT 4 PARCEL AREA: 3.00 ac

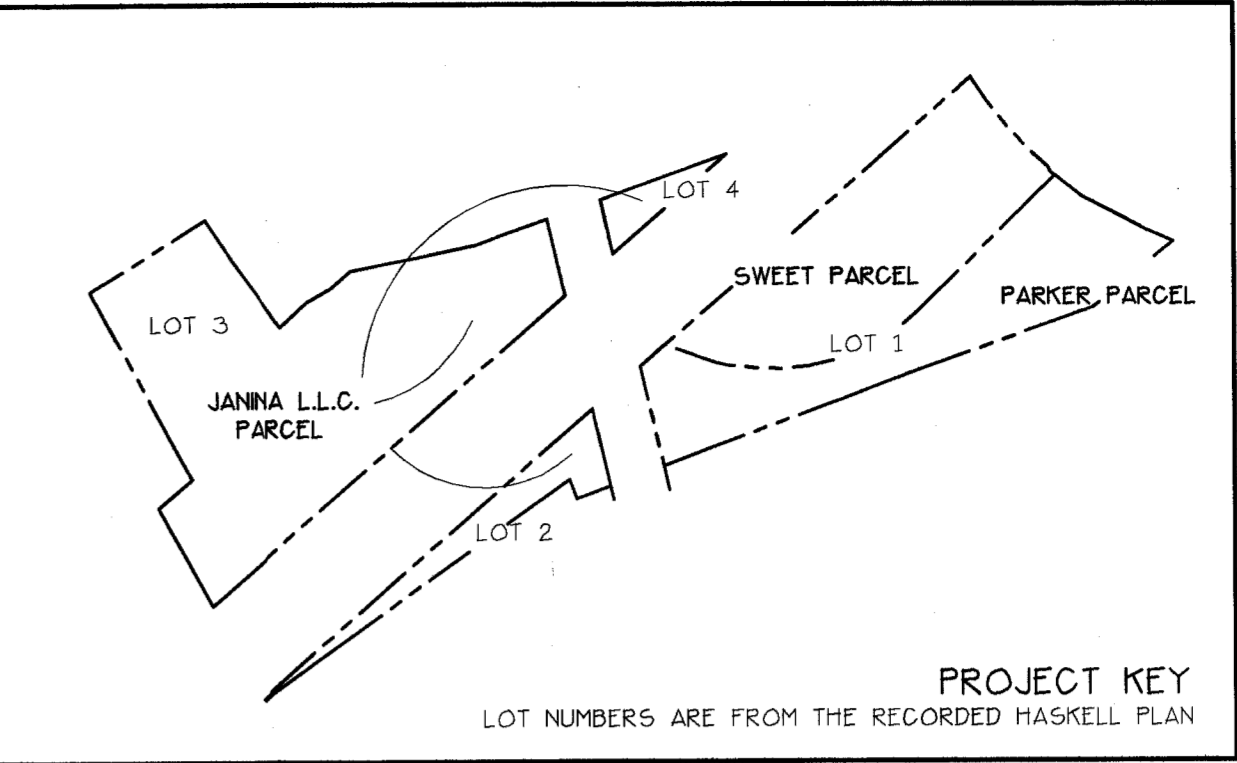
LOT 6 PARCEL AREA: 7.04 ac

now or formerly FRANCES B. TURNELLE book 3005 page 801

now or formerly GAIL F. STRATTARD book 11571 page 46

FUTURE EASEMENT FOR BACK PROPERTY SEE NOTE 16.

HAMMERHEAD TURNOUT EASEMENT TO REVERT TO LOTS 5 AND 6 UPON EXTENSION OF CARRIAGE HILL BEYOND 7+50.5

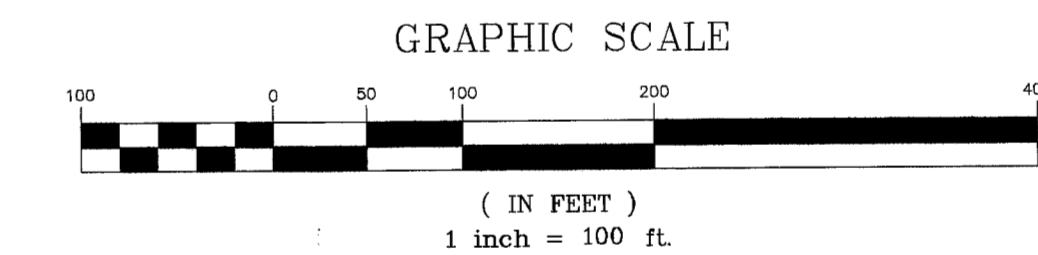


PROJECT KEY
LOT NUMBERS ARE FROM THE RECORDED HASKELL PLAN

now or formerly JAN A. PARKER book 16932 page 291 book 16932 page 311

now or formerly EDWARD H. + JOYCE ANN GERVAIS book 3838 page 304 book 16738 page 302

Dot shaded areas are 'No Cut' zones. See Deed Covenants for details



TOWN OF NORTH YARMOUTH ZONE: FARM + FOREST, AND RURAL ZONES
TOWN OF NORTH YARMOUTH ASSESSORS MAP 5 LOT 1

PLAN APPROVED TOWN OF NORTH YARMOUTH PLANNING BOARD

DATE:

Karen Hilton
Kathleen Klein
Bob Hill
W.T. Hayes

State of Maine, Cumberland SS.
Registry of Deeds
Received December 23, 2002
at 1:02 m. P. M and recorded in
Plan Book 202 Page 152

Attest
John B. O'Brien
Register

GENERAL NOTES

1. THIS SUBDIVISION PLAN IS BASED ON A PERIMETER SURVEY PERFORMED BY OWEN HASKELL, INC. DATED JULY 26, 1985 AND RECORDED IN THE C.G.R.D. IN PLAN BOOK 349 PAGE 44.
2. NO LOT SHALL BE FURTHER SUBDIVIDED NOR ANY ROAD FURTHER EXTENDED WITHOUT PLANNING BOARD APPROVAL.
3. ALL HOUSE LOCATIONS ARE TO BE WITHIN THE DEPICTED SETBACK LINES.
4. ALL HOUSES SHALL HAVE A NUMBER CLEARLY VISIBLE FROM THE ROAD.
5. LOTS ARE TO BE SERVICED FROM INDIVIDUAL SEPTIC SYSTEMS AND WELLS. SEPTIC SYSTEMS ARE TO BE LOCATED AS SHOWN ON THIS PLAN OR AN ALTERNATIVE LOCATION APPROVED BY TOWN STAFF.
6. POWER, TELEPHONE AND CABLE ARE TO BE UNDERGROUND.
7. THE DEVELOPER WILL BE RESPONSIBLE FOR MAINTAINING THE ROAD, INCLUDING PLOWING, UNTIL SUCH TIME AS THE ROAD IS TAKEN OVER BY THE HOMEOWNERS ASSOCIATION.
8. ALL CONSTRUCTION AND SITE ALTERATIONS SHALL BE DONE IN ACCORDANCE WITH THE MAINE EROSION AND SEDIMENT CONTROL HANDBOOK FOR CONSTRUCTION BEST MANAGEMENT PRACTICES' CUMBERLAND COUNTY SOIL AND WATER CONSERVATION DISTRICT, DEPT. OF ENVIRONMENTAL PROTECTION LATEST EDITION.

9. WETLAND BOUNDARIES HAVE BEEN MAPPED BY SUB-METER GPS. WETLAND SETBACKS MUST BE FIELD VERIFIED ON EACH LOT PRIOR TO THE COMMENCEMENT OF THE CONSTRUCTION OF IMPROVEMENTS.
10. TREE CUTTING WITHIN THE SIDE YARD SETBACKS IS NOT PERMITTED ON TREES GREATER THAN 10 INCHES DIAMETER (D.B.H.). TREE CUTTING WITHIN 100 FEET OF THE GRAY ROAD RIGHT OF WAY IS ALSO NOT PERMITTED. SEE COVENANTS FOR DETAILS.
11. ALL LOT CORNERS TO BE MARKED WITH 5/8" DIAMETER REBAR. GRANITE MONUMENTS WILL BE SET ON RIGHT OF WAY CORNERS WHERE SHOWN.
12. STREET NAME: CARRIAGE HILL
13. NO CONSTRUCTION OR FILLING OF WETLANDS OTHER THAN THAT SHOWN ON THE PLAN IS ALLOWED. A NRPA PERMIT IS REQUIRED BY THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION.
14. ALL DRIVEWAY ACCESS WILL BE FROM THE SUBDIVISION ROAD.
15. TOTAL AREA OF CONSERVATION EASEMENT IS 0.93 ACRES +/-

16. NO PUBLIC OR PRIVATE DEDICATION, IMPLICIT OR OTHERWISE, IS INTENDED IN THE SUBDIVISION ROAD AND NO SUCH RIGHTS ARE HEREBY CREATED, OTHER THAN THOSE RIGHTS OF WAY AND EASEMENTS EXPRESSLY STATED IN THE DEEDS FOR THE INDIVIDUAL SUBDIVISION LOTS, OR IN THE DECLARATION OF COVENANTS, CONDITIONS, RESTRICTIONS AND EASEMENTS.
17. DRIVEWAYS SERVING LOTS 5 AND 6 MUST NOT ENTER FROM THE HAMMERHEAD TURNAROUND.
18. 15 FEET OF THE 25 FOOT WIDE WALKER'S PATH THAT IS SHOWN WITHIN THE CARRIAGE HILL R.O.W. WILL REMAIN IN EFFECT UNTIL SUCH TIME AS ROADWAY IS CONSTRUCTED THROUGH THAT PORTION OF THE WALKER'S PATH.
19. PRIOR TO CONSTRUCTION OF THE PARKING AREA, A GRADING, DRAINAGE AND EROSION CONTROL PLAN SHALL BE SUBMITTED TO THE TOWN FOR REVIEW.
20. THE SIX PROPOSED SINGLE FAMILY HOMES WITHIN THIS SUBDIVISION ARE DEEDED NOT TO POSE AN UNLIE BURDEN ON THE FIRE, SCHOOL AND PUBLIC WORKS DEPARTMENTS. REGIONAL WASTE SYSTEMS HANDLES THE SOLID WASTE DISPOSAL FOR THE TOWN OF NORTH YARMOUTH VIA PRIVATE CONTRACTORS.
21. FINISH LANDSCAPING SHALL BE EXECUTED UTILIZING A MINIMUM OF 4" OF LOAM OR OTHER SUITABLE MATERIAL.
22. AS A CONDITION OF APPROVAL THERE SHALL BE A DEEDED EASEMENT FOR A LIMITED ACCESS WALKING PATH IN THE AREA SHOWN AS 'PROPOSED EASEMENT' ON SHEETS 1 AND 3 OF THE CARRIAGE HILL PLAN SET AND A DEEDED PARKING EASEMENT AS SHOWN ON SHEET 1. THE EASEMENTS SHALL BE CONVEYED TO THE TOWN OF NORTH YARMOUTH, A NON-PROFIT ORGANIZATION, OR A LAND TRUST PRIOR TO GRANTING BUILDING PERMITS IN THE CARRIAGE HILL SUBDIVISION.

NET RESIDENTIAL DENSITY CALCULATION

PARCEL AREA IN FARM & FOREST: 24.48 ACRES	PARCEL AREA IN RURAL ZONE: 6.04 ACRES
WETLAND AREA - (FF): 7.12 ACRES	WETLAND AREA - RURAL: 1.09 ACRES
ROAD ALLOWANCE 15% x 24.48 = 3.67 ACRES	ROAD ALLOWANCE: 0.80 ACRES
STEEP SLOPE ESTIMATE 1.5 ACRES	STEEP SLOPE ESTIMATE: 0.0 ACRES
24.48 - (7.12+3.67+1.6) = 12.17	6.04 - (1.09+0.90+0.0) = 4.05
12.17/3 = 4.06	4.17/2 = 2.02

4 lots permissible in FARM & FOREST per NRD calculation 2 lots permissible in RURAL per NRD calculation

OWNER OF RECORD

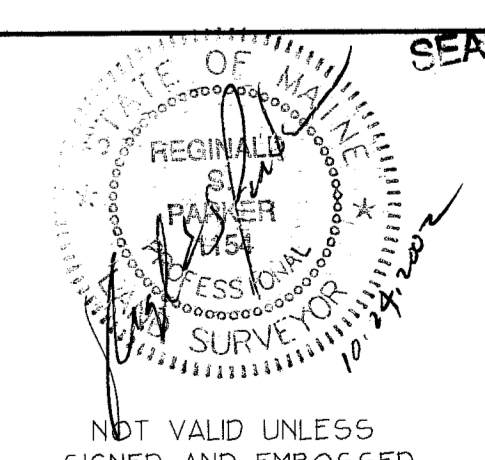
JAN A. PARKER book 17421 page 276 Parcel Area: 13.99 acres +/-
NINA SWEET book 17421 page 174 Parcel Area: 16.48 acres +/-

DATE	REVISION
7/12/2008	MISCELLANEOUS REVISIONS FROM ENGINEER'S RECOMMENDATIONS

RECORDING PLAT OF CARRIAGE HILL
ROUTE 115 GRAY ROAD, NO. YARMOUTH, MAINE
MADE FOR
NINA SWEET JAN ANA PARKER
P.O. BOX 85, CUMBERLAND CTR. 04021 107 GRAY RD. NO. YARMOUTH, ME. 04096

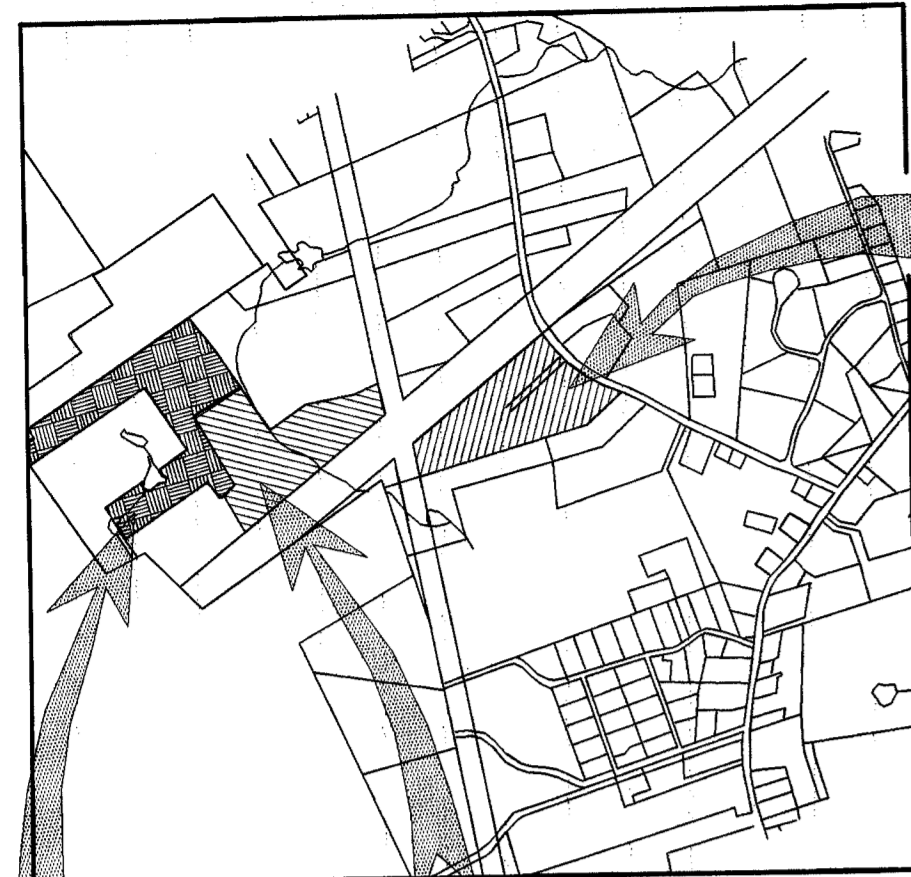
ROYAL RIVER SURVEY CO.
43 MARINA ROAD, YARMOUTH, MAINE 04096
TEL: 207-846-5477 FAX: 207-846-7716 EMAIL: royal.river@maine.com

SURVEY DATE	PLAN DATE	CADFILE	COLLECTION	JOB NO.
JULY 2002	SEPT. 2002	RECORDING	FB:49	2205G
ORIENTATION	HPATHUM	VDATUM	CONTOUR INT.	SCALE
MAGNETIC	ASSUMED	NGVD 1929	2'	1" = 100'



SHEET 1 of 3

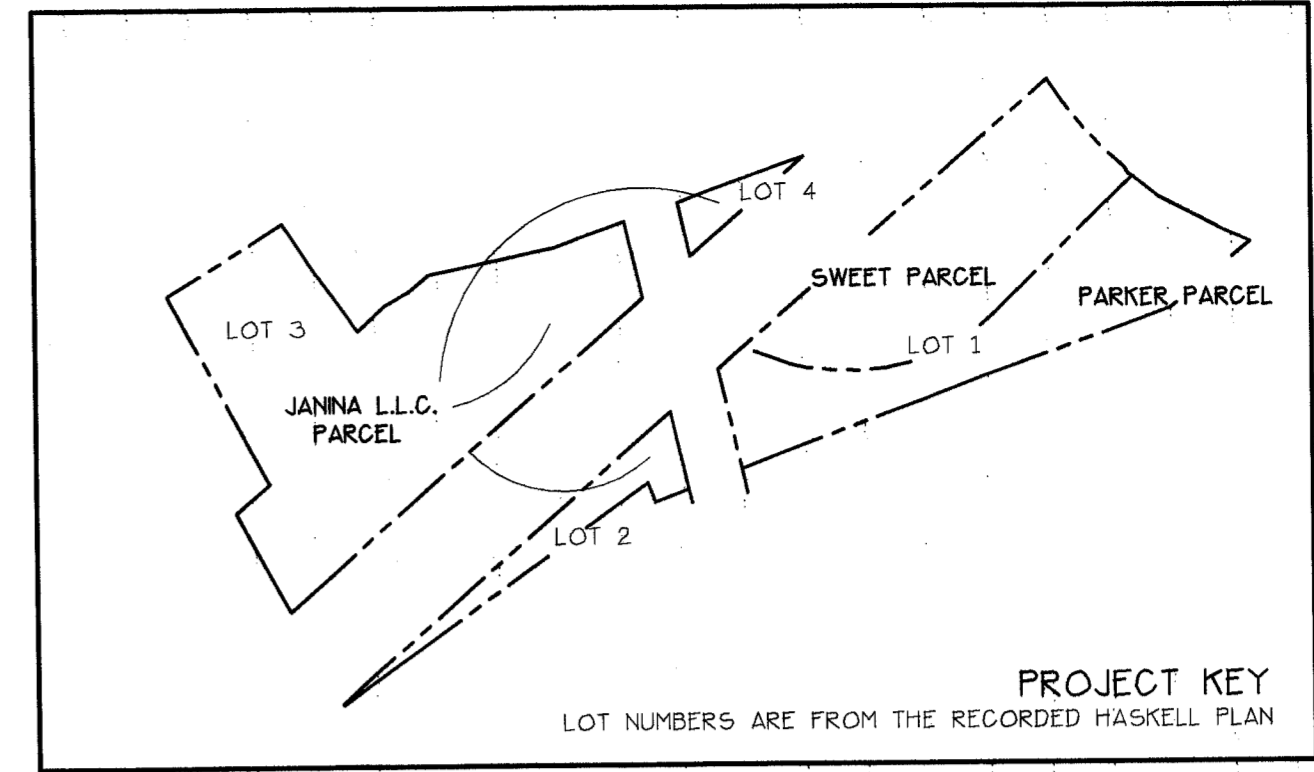
LOCATION PLAN



PROJECT SITE

BACK 30 ACRE LOT
PROPERTY OF JANINA L.L.C.

EXISTING
TOWN LOT



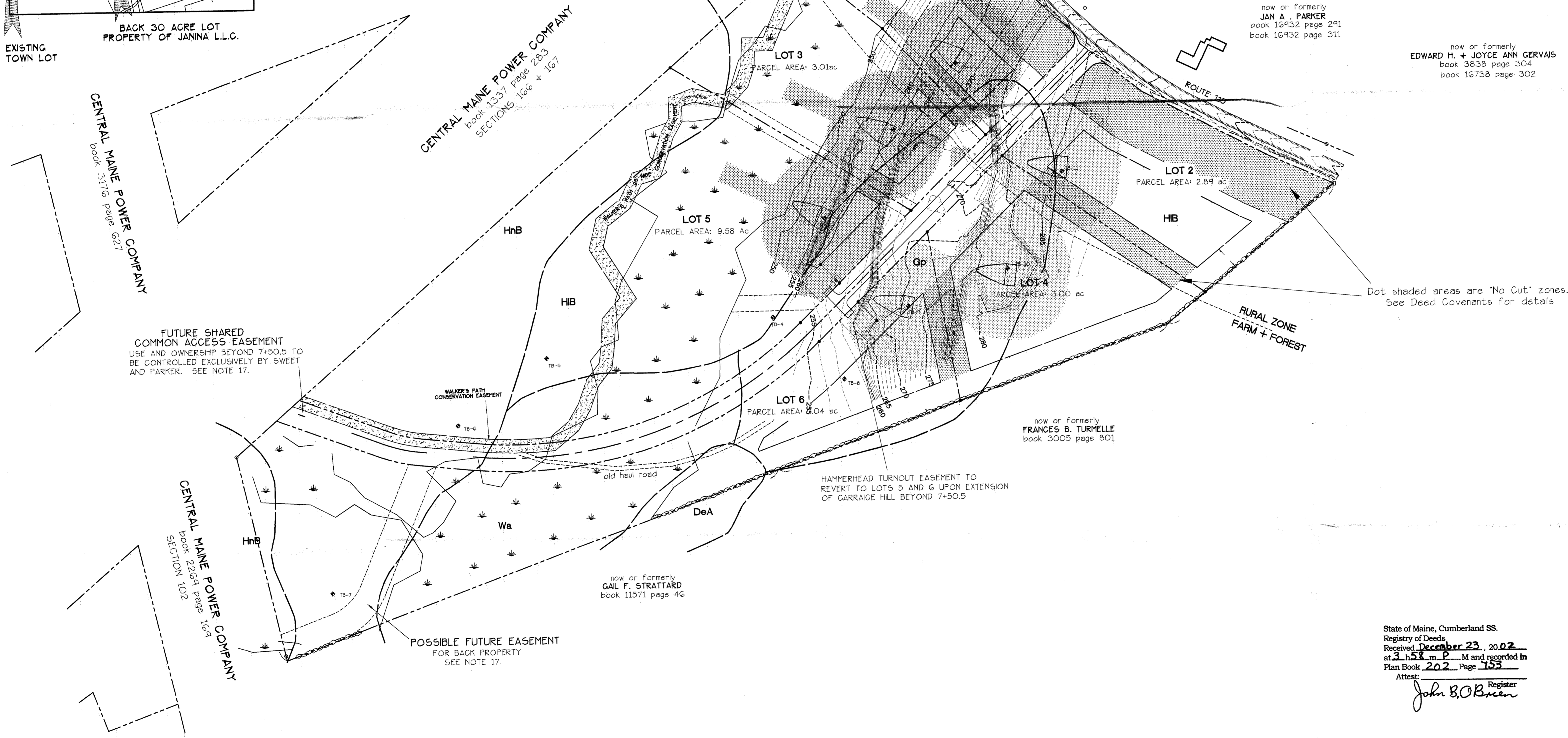
PROJECT KEY
LOT NUMBERS ARE FROM THE RECORDED HASKELL PLAN

FUTURE EASEMENT FOR
PARKING AREA
PARCEL AREA: 0.12ac

now or formerly
CHRISTOPHER + HEATHER DESIMONE
book 17113 page 273

now or formerly
JAN A. PARKER
book 16932 page 291
book 16932 page 311

now or formerly
EDWARD H. + JOYCE ANN GERVAIS
book 3838 page 304
book 16738 page 302



CENTRAL MAINE POWER COMPANY
book 3176 page 627

CENTRAL MAINE POWER COMPANY
book 1337 page 283
SECTIONS 166 + 167

FUTURE SHARED
COMMON ACCESS EASEMENT
USE AND OWNERSHIP BEYOND 7+50.5 TO
BE CONTROLLED EXCLUSIVELY BY SWEET
AND PARKER. SEE NOTE 17.

CENTRAL MAINE POWER COMPANY
book 2296 page 164
SECTION 102

now or formerly
GAIL F. STRATTARD
book 11571 page 46

now or formerly
FRANCES B. TURMELLE
book 3005 page 801

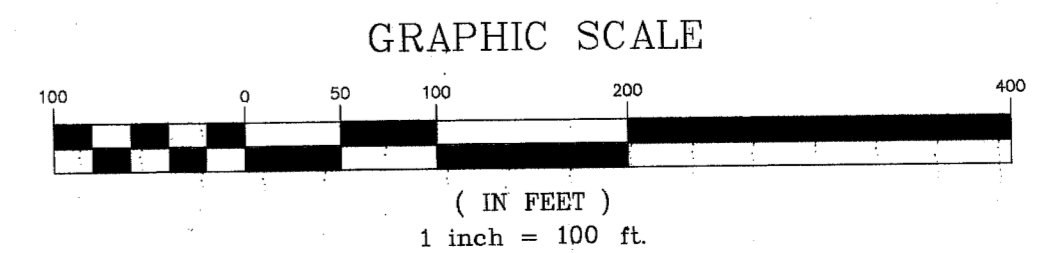
Dot shaded areas are 'No Cut' zones.
See Deed Covenants for details

- LEGEND**
- △ SURVEY CONTROL POINT
 - MONUMENT FOUND
 - UTILITY POLE
 - OWEN HASKELL REBAR
 - TB-10 SOILS BORING
 - WETLAND
 - DRAINAGE LINE
 - NO CUTTING >10'd.b.h.
 - 15 x 15 CMP transformer pad easement
 - SOILS BOUNDARY
 - INTERMEDIATE CONTOUR
 - INDEX CONTOUR 60'
 - DISPOSAL FIELD AND 10 MG/L NITRATE ISOCON
 - WELL EXCLUSION AREA

State of Maine, Cumberland SS.
Registry of Deeds
Received December 23, 2002
at 3:58 P.M. and recorded in
Plan Book 202 Page 153

Attest:
John B. O'Brien Register

OWNER OF RECORD
JAN A. PARKER book 17921 page 276 Parcel Area: 13.99 acres +/-
NINA SWEET book 17921 page 174 Parcel Area: 16.48 acres +/-



GENERAL NOTES

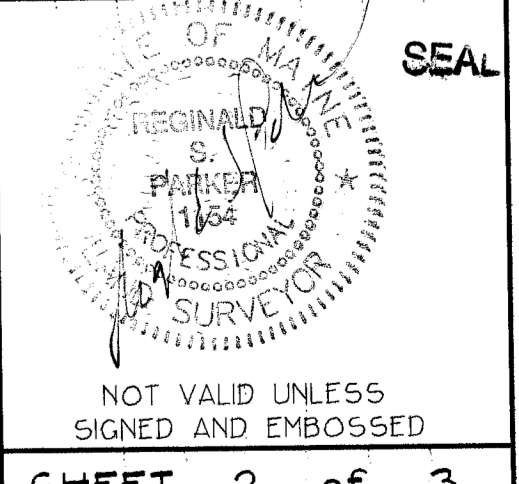
1. THIS SUBDIVISION PLAN IS BASED ON A PERMETER SURVEY PERFORMED BY OWEN HASKELL, INC. DATED JULY 26, 1985 AND RECORDED IN THE G.G.R.D. IN PLAN BOOK 349 PAGE 44.
2. NO LOT SHALL BE FURTHER SUBDIVIDED WITHOUT PLANNING BOARD APPROVAL.
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8. ALL CONSTRUCTION AND SITE ALTERATIONS SHALL BE DONE IN ACCORDANCE WITH THE MAINE EROSION AND SEDIMENT CONTROL HANDBOOK FOR CONSTRUCTION BEST MANAGEMENT PRACTICES' CUMBERLAND COUNTY SOIL AND WATER CONSERVATION DISTRICT, DEPT. OF ENVIRONMENTAL PROTECTION LATEST EDITION.
9. WETLAND BOUNDARIES HAVE BEEN MAPPED VIA SUB-METER GPS. WETLAND SETBACKS MUST BE FIELD VERIFIED ON EACH LOT PRIOR TO THE COMMENCEMENT OF THE CONSTRUCTION OF IMPROVEMENTS.
10. TREE CUTTING WITHIN THE SIDE YARD SETBACKS IS NOT PERMITTED ON TREES GREATER THAN 10 INCHES DIAMETER (D.B.H.). TREE CUTTING WITHIN 100 FEET OF THE GRAY ROAD RIGHT OF WAY IS ALSO NOT PERMITTED. SEE COVENANTS FOR DETAILS.
11. ALL LOT CORNERS TO BE MARKED WITH 5/8" DIAMETER REBAR. GRANITE MONUMENTS WILL BE SET ON RIGHT OF WAY CORNERS WHERE SHOWN.
12. STREET NAME: CARRAGE HILL.
13. NO CONSTRUCTION OR FILLING OF WETLANDS OTHER THAN THAT SHOWN ON THE PLAN IS ALLOWED. A NPRA PERMIT IS REQUIRED BY DEP.
14. ALL DRIVEWAY ACCESS WILL BE FROM THE SUBDIVISION ROAD.
15. TOTAL AREA OF CONSERVATION EASEMENT IS 0.93 ACRES +/-.
16. SOILS TYPE BOUNDARIES SCALED FROM CUMBERLAND COUNTY S.C.S. MAPPING.
17. NO PUBLIC OR PRIVATE DEDICATION, INCENT, IMPLIED OR OTHERWISE, IS INTENDED IN THE SUBDIVISION ROAD, AND NO SUCH RIGHTS ARE HEREBY CREATED, OTHER THAN THOSE RIGHTS OF WAY AND EASEMENTS EXPRESSLY STATED IN THE DEEDS FOR THE INDIVIDUAL SUBDIVISION LOTS, OR IN THE DECLARATION OF COVENANTS, CONDITIONS, RESTRICTIONS AND EASEMENTS.
18. ALL WELLS UTILIZED FOR DRINKING ARE TO BE PLACED OUTSIDE OF THE IDENTIFIED WELL EXCLUSION AREAS AS SHOWN HEREON BEFORE ANY LEACH BED LOCATION IS ADJUSTED. APPROVAL MUST BE SOUGHT BY A MAINE CERTIFIED GEOLOGIST.
19. FINISH LANDSCAPING SHALL BE EXECUTED UTILIZING A MINIMUM OF 4" OF LOAM OR OTHER SUITABLE MATERIAL.

DATE	REVISION

SITE PLAN OF CARRAGE HILL
ROUTE 115 GRAY ROAD, NO. YARMOUTH, MAINE
MADE FOR
NINA SWEET P.O. BOX 85, CUMBERLAND CTR. 04021
JAN A. PARKER 107 GRAY RD. NO. YARMOUTH, ME. 04096

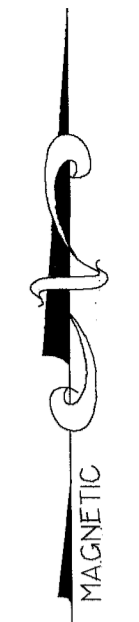
ROYAL RIVER SURVEY CO.
43 MARINA ROAD, YARMOUTH, MAINE 04096
Tel: 207-846-5477 Fax: 207-846-7716 email: royal_river@emn.com

SURVEY DATE:	PLAN DATE:	SADFILE:	COLLECTION:	JOB NO.:
JULY 2002	SEPT. 2002	SITE	FB:49	22056
ORIENTATION:	HEATUM:	VDATUM:	CONTOUR INT.:	SCALE:
MAGNETIC	ASSUMED	NGVD 1929	2'	1" = 100'



SHEET 2 of 3

S:\C\PROJ\2002\22056\DWG\SITE.dwg 12/23/2002 08:56:01 AM



LEGEND

- △ SURVEY CONTROL POINT
- MONUMENT FOUND
- UTILITY POLE
- OWEN HASKELL REBAR

PARCEL PURPORTEDLY OWNED BY THE TOWN OF NORTH YARMOUTH

now of formerly VERNON C. GOFF + MARION C. GOFF book 3204 page 680

PROPOSED WALKER'S PATH 25' WIDE CONSERVATION EASEMENT

DEEDED LOCATION OF PERMANENT 20' WIDE EASEMENT OF MARITIMES + NORTHEAST L.L.C. FOR ANODE BED See C.C.R.D. book 14452 page 295

PROPOSED WALKER'S PATH 25' WIDE CONSERVATION EASEMENT

30.31 ACRES

now of formerly JANINA L.L.C. book 17921 page 304

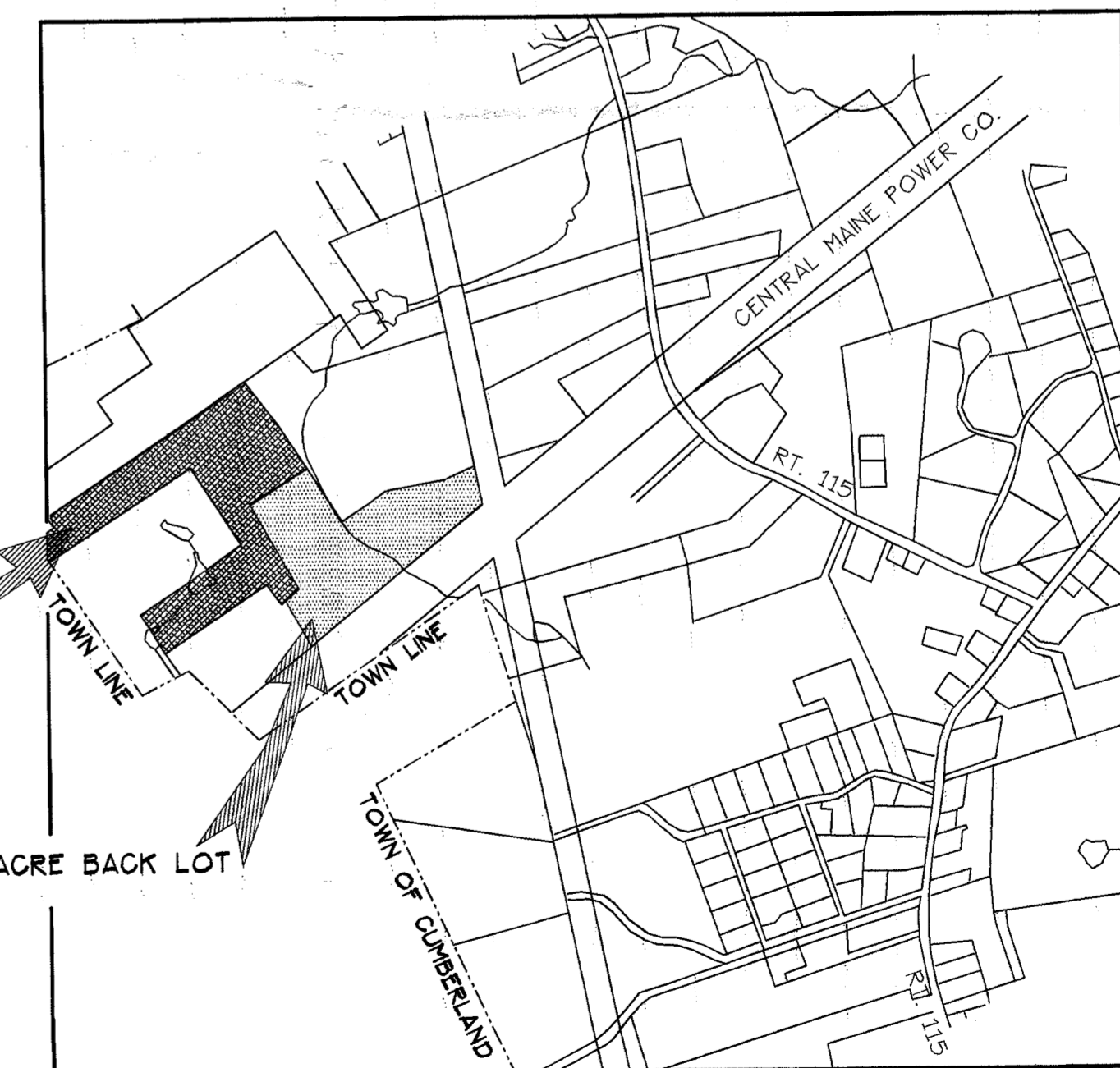
now of formerly RICHARD E. MADDOX + JUDITH M. MADDOX book 6511 page 60

CENTRAL MAINE POWER COMPANY book 1337 page 283

N/F JANINA L.L.C.

CENTRAL MAINE POWER COMPANY book 2264 page 164 SECTION 102

LOCATION PLAN

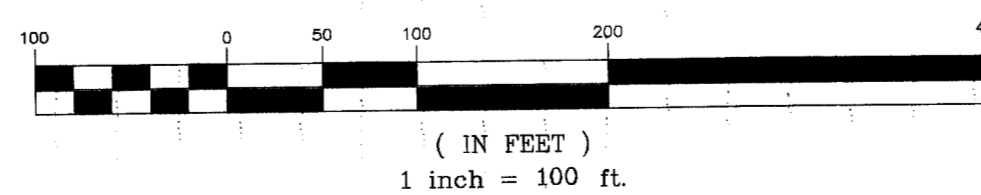


PARCEL PURPORTEDLY OWNED BY THE TOWN OF NORTH YARMOUTH

State of Maine, Cumberland SS. Registry of Deeds Received December 23, 2002 at 11:05 P.M. and recorded in Plan Book 202 Page 754

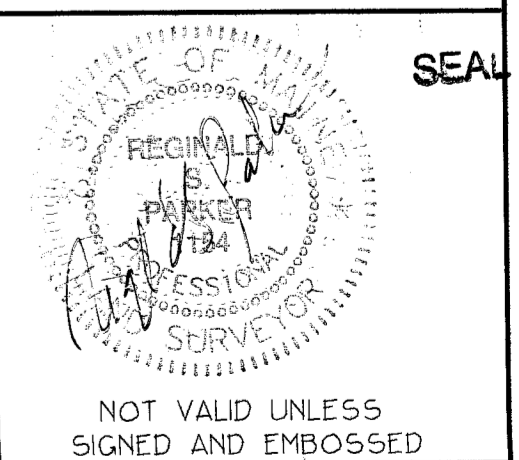
Attest: John B. O'Brien Register

GRAPHIC SCALE



GENERAL NOTES

1. PERIMETER BOUNDARY INFORMATION IS TAKEN FROM A PERIMETER SURVEY PERFORMED BY OWEN HASKELL, INC. FOR DOROTHY A. AND SARAH K. CHASE DATED JULY 26, 1985 AND RECORDED IN THE C.C.R.D. IN PLAN BOOK 149 PAGE 44
2. THE 30.31 ACRE PARCEL OWNED BY JANINA L.L.C. AND SHOWN ON SHEET 3 IS NOT PART OF THE CARRIAGE HILL SUBDIVISION AND IS DEPICTED SOLELY FOR THE PURPOSES OF SHOWING THE LOCATION OF THE PROPOSED WALKER'S PATH CONTEMPLATED BY GENERAL NOTE 22 ON SHEET 1.



NOT VALID UNLESS SIGNED AND EMBOSSED

SHEET 3 of 3

DATE	REVISION

PLAN OF PROPOSED EASEMENT on the BACK LOT of the former CHASE FARM
 WEST OF ROUTE 115 GRAY ROAD, NO. YARMOUTH, MAINE
 MADE FOR
 JANINA L.L.C. 107 GRAY RD. NO. YARMOUTH, ME. 04097

ROYAL RIVER SURVEY CO.
 43 MARINA ROAD, YARMOUTH, MAINE 04096
 Tel: 207-846-9477 Fax: 207-846-7716 email: royal_river@rrs.com

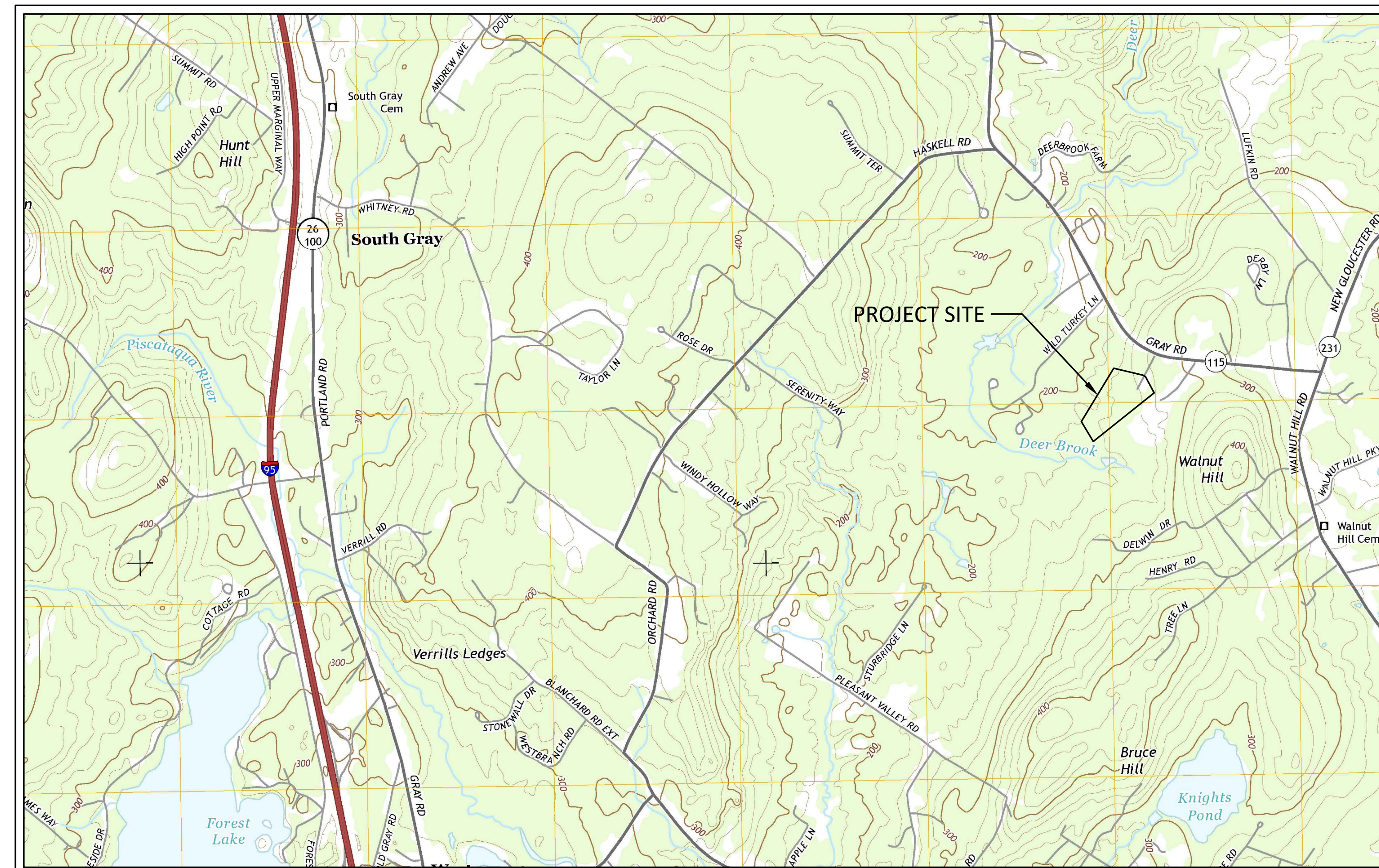
SURVEY DATE:	PLAN DATE:	CADFILE:	COLLECTION:	JOB NO.:
SEPT. 2002	OUTBACK			22056
ORIENTATION:	B DATUM:	V DATUM:	CONTOUR INT.:	SCALE:
MAGNETIC	ASSUMED	NA	NA	1" = 100'

I:\V\PROJECT\2002\22056\DWG\OUTBACK.DWG, 12/23/2002 08:49:16 AM

CARRIAGE HILL EXTENSION

GRAY ROAD
NORTH YARMOUTH, MAINE

CONSULTANTS	
CIVIL ENGINEER	DM ROMA CONSULTING ENGINEERS
LAND SURVEYOR	NORTHERN SURVEY ENGINEERING
SITE EVALUATOR & WETLAND SCIENTIST	MAINELY SOILS, LLC



PROJECT VICINITY MAP

ISSUED FOR PERMITTING - NOT FOR CONSTRUCTION
SEPTEMBER 27, 2022

CO-APPLICANTS:

SHAWN ALBERT
14 CARRIAGE HILL
NORTH YARMOUTH, MAINE 04097

DANIEL TRAIN
15 CARRIAGE HILL
NORTH YARMOUTH, MAINE 04097

CARRIAGE HILL EXTENSION

DRAWING SHEET INDEX

PAGE NO.	DESCRIPTION
1	TITLE SHEET
2	SUBDIVISION PLAN
3	AMENDED SUBDIVISION PLAN
4	PLAN & PROFILE: CARRIAGE HILL EXTENSION
5	PLAN & PROFILE: CARRIAGE HILL EXTENSION
6	DETAILS
7	DETAILS

PREPARED BY:

DM ROMA
CONSULTING ENGINEERS
P.O. BOX 1116
WINDHAM, ME 04062
(207) 591-5055

NORSE
NORTHERN SURVEY ENGINEERING
NORSE has joined Colliers Engineering & Design
41 CHURCH ROAD
BRUNSWICK, ME 04011
(207) 440-3487

EROSION AND SEDIMENTATION CONTROL NOTES:

EXCAVATION AND EARTHWORK SHALL BE COMPLETED SUCH THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME. LIMIT THE EXPOSED AREA TO THOSE AREAS IN WHICH WORK IS TO OCCUR DURING THE FOLLOWING 15 DAYS AND THAT CAN BE MULCHED IN ONE DAY.

IN ORDER TO EFFECTIVELY PREVENT AND CONTROL EROSION RELATED TO SOIL DISTURBANCE, THE FOLLOWING BEST MANAGEMENT PRACTICES (BMPs) SHALL BE EMPLOYED:

1. POLLUTION PREVENTION

MINIMIZE DISTURBED AREAS AND PROTECT NATURAL DOWNGRADED BUFFER AREAS TO THE EXTENT PRACTICABLE. CONTROL STORMWATER VOLUME AND VELOCITY WITHIN THE SITE TO MINIMIZE SOIL EROSION. MINIMIZE THE DISTURBANCE OF STEEP SLOPES. CONTROL STORMWATER DISCHARGES, INCLUDING BOTH PEAK FLOW RATES AND VOLUME, TO MINIMIZE EROSION AT OUTLETS. THE DISCHARGE MAY NOT RESULT IN EROSION OF ANY OPEN DRAINAGE CHANNELS, SWALES, STREAM CHANNELS OR STREAM BANKS, UPLAND, OR COASTAL OR FRESHWATER WETLANDS OF THE PROJECT SITE.

WHENEVER PRACTICABLE, NO DISTURBANCE ACTIVITIES SHOULD TAKE PLACE WITHIN 50 FEET OF ANY PROTECTED NATURAL RESOURCE. IF DISTURBANCE ACTIVITIES TAKE PLACE BETWEEN 30 FEET AND 50 FEET OF ANY PROTECTED NATURAL RESOURCE, AND STORMWATER DISCHARGES THROUGH THE DISTURBED AREAS TOWARD THE PROTECTED NATURAL RESOURCE, PERIMETER EROSION CONTROLS MUST BE DOUBLED. IF DISTURBANCE ACTIVITIES TAKE PLACE LESS THAN 30 FEET FROM ANY PROTECTED NATURAL RESOURCE, AND STORMWATER DISCHARGES THROUGH THE DISTURBED AREAS TOWARD THE PROTECTED NATURAL RESOURCE, PERIMETER EROSION CONTROLS MUST BE DOUBLED AND DISTURBED AREAS MUST BE TEMPORARILY OR PERMANENTLY STABILIZED WITHIN 7 DAYS.

2. TEMPORARY SOIL STABILIZATION BMPs

TEMPORARY MULCHING SHALL BE APPLIED IMMEDIATELY TO ANY AREAS THAT HAVE BEEN TEMPORARILY OR PERMANENTLY SEEDED. ANY DISTURBED SOIL WITHIN 75' OF A STREAM, WATER BODY OR WETLAND MUST RECEIVE TEMPORARY MULCH WITHIN 48 HOURS FOLLOWING DISTURBANCE AND BEFORE ANY STORM EVENT. OTHER AREAS SHALL RECEIVE TEMPORARY MULCH WITHIN 7 DAYS OF DISTURBANCE. AREAS WHICH CANNOT BE SEEDED DURING THE GROWING SEASON SHALL BE MULCHED FOR OVER-WINTER PROTECTION. THE FOLLOWING ARE ACCEPTABLE TEMPORARY MULCHING METHODS:

HAY OR STRAW MULCHES NEED TO BE AIR-DRIED, FREE OF UNDESIRABLE SEEDS AND COARSE MATERIALS. APPLICATION RATE MUST BE 2 BALES (70-90 POUNDS) PER 1000 SQ FT OR 1.5 TO 2 TONS (90-100 BALES) PER ACRE TO COVER 75-90% OF THE GROUND SURFACE. HAY OR STRAW CAN BE DRIVEN INTO THE GROUND WITH TRACKED EQUIPMENT IF SLOPES ARE LESS THAN 3%, OR CAN BE ANCHORED WITH JUTE, WOOD FIBER OR PLASTIC NETTING ON STEEPER SLOPES.

EROSION CONTROL MIX MUST CONSIST PRIMARILY OF ORGANIC MATERIAL AND WILL INCLUDE ANY OF THE FOLLOWING: SHREDDED BARK, STUMP GRINDINGS, COMPOSTED BARK OR OTHER ACCEPTABLE PRODUCTS BASED ON A SIMILAR RAW SOURCE. WOOD OR BARK CHIPS, GROUND CONSTRUCTION DEBRIS OR WOOD PRODUCTS ARE NOT ACCEPTABLE. EROSION CONTROL MIX CAN BE USED AS A STAND-ALONE REINFORCEMENT ON SLOPES OF 2 HORIZONTAL TO 1 VERTICAL OR LESS AND DRAINING IN SHEET FLOW. IT CAN BE PLACED WITH A HYDRAULIC BUCKET, WITH A PNEUMATIC BLOWER OR BY HAND, AND MUST PROVIDE 100% SOIL COVERAGE.

EROSION CONTROL MIX SHALL MEET THE FOLLOWING SPECIFICATIONS:
 -ORGANIC MATTER CONTENT SHALL BE BETWEEN 80-100%, DRY WEIGHT BASIS.
 -PARTICLE SIZE BY WEIGHT SHALL BE 100% PASSING A 6 IN. SCREEN AND BETWEEN 70-85% PASSING 0.75 IN. SCREEN
 -ORGANIC PORTION NEEDS TO BE FIBROUS AND ELONGATED
 -LARGE PORTIONS OF SILTS, CLAYS OR FINE SANDS ARE NOT ACCEPTABLE IN THE MIX

WHEN USED AS MULCH, THE THICKNESS OF THE EROSION CONTROL MIX IS BASED UPON THE FOLLOWING:

LENGTH OF SLOPE	3:1 SLOPE OR LESS	BETWEEN 2:1 AND 3:1 SLOPE
LESS THAN 20 FT	2.0 IN.	4.0 IN.
BETWEEN 20 - 60 FT	3.0 IN.	5.0 IN.
BETWEEN 60 - 100 FT	4.0 IN.	6.0 IN.

CHEMICAL MULCHES AND SOIL BINDERS MAY BE USED AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL CONSULT WITH THE MANUFACTURER TO DETERMINE ADEQUATE APPLICATION RATES AND METHODS.

TEMPORARY MULCH SHALL BE INSPECTED FOLLOWING ANY SIGNIFICANT RAINFALL EVENT. IF LESS THAN 90% OF THE SOIL SURFACE IS COVERED BY MULCH, ADDITIONAL MULCH SHALL BE IMMEDIATELY APPLIED. EROSION CONTROL MATS AND MULCH ANCHORING MUST BE INSPECTED AFTER RAINFALL EVENTS FOR DISLOCATION OR FAILURE, AND REPAIRED IMMEDIATELY. INSPECTIONS SHALL TAKE PLACE UNTIL 95% OF THE SOIL SURFACE IS COVERED WITH PERMANENT VEGETATION. WHERE MULCH IS USED WITH ORNAMENTAL PLANTINGS, INSPECT PERIODICALLY THROUGHOUT THE YEAR TO DETERMINE IF MULCH IS MAINTAINING COVERAGE OF THE SOIL SURFACE, AND REPAIR AS NEEDED.

TEMPORARY VEGETATION SHALL BE ESTABLISHED ON SOILS THAT WILL NOT BE BROUGHT TO FINAL GRADE FOR A PERIOD OF MORE THAN 30 DAYS. IF TEMPORARY VEGETATION CANNOT BE ESTABLISHED PRIOR TO OCTOBER 15, TEMPORARY MULCH SHALL BE APPLIED THROUGH THE WINTER AND TEMPORARY VEGETATION SHALL BE PLANTED AT THE BEGINNING OF THE GROWING SEASON THE FOLLOWING YEAR. TO PREPARE THE SEEDED, THE CONTRACTOR SHALL APPLY FERTILIZER AT A RATE OF 600 POUNDS PER ACRE OF 10-10-10 (N-P205-K20) OR EQUIVALENT AND LIMESTONE AT A RATE OF 3 TONS PER ACRE, IF NECESSARY. LOOSEN SOIL TO A DEPTH OF 2 INCHES IN AREAS THAT HAVE BEEN COMPACTED BY CONSTRUCTION ACTIVITIES. GRASS SEED SHALL BE SELECTED BASED UPON THE TIME OF YEAR THE PLANTING WILL TAKE PLACE AS SUMMARIZED IN THE FOLLOWING TABLE:

SEED	LB. PER ACRE	RECOMMENDED SEEDING DATES
WINTER RYE	112	8/15 - 10/1
OATS	80	4/1 - 7/1 8/15 - 9/15
ANNUAL RYEGRASS	40	4/1 - 7/1

TEMPORARY SEEDING SHALL BE PERIODICALLY INSPECTED TO MAINTAIN AT LEAST 95% VEGETATIVE COVER OF SOIL SURFACE. IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHALL BE MADE AND OTHER TEMPORARY MEASURES SHALL BE USED IN THE INTERIM SUCH AS TEMPORARY MULCH, FILTER BARRIERS, ETC.

3. SEDIMENT BARRIER BMPs

PRIOR TO CONSTRUCTION TEMPORARY SEDIMENT BARRIERS SHALL BE INSTALLED AT THE DOWNGRADED EDGE OF ANY AREA TO BE DISTURBED AND ADJACENT TO ANY DRAINAGE CHANNELS WITHIN THE DISTURBED AREA. SEDIMENT BARRIERS INCLUDE ANY OF THE FOLLOWING:

FILTER BARRIER FENCE, ALSO CALLED SILT FENCE, SHALL BE INSTALLED WHERE SHOWN ON THE PLANS AND IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. THE FILTER BARRIER SHALL BE A PERVIOUS SHEET OF PROPYLENE, NYLON, POLYESTER OR ETHYLENE YARN AND SHALL PROVIDE A MINIMUM OF 6 MONTHS USABLE CONSTRUCTION LIFE INCLUDING PROTECTION AGAINST ULTRA-VIOLET LIGHT. THE HEIGHT OF THE FENCE SHALL NOT EXCEED 36 INCHES INSTALLED AND NOT EXCEED 6 FEET. JOINTS IN THE FENCE SHALL BE AVOIDED TO THE EXTENT POSSIBLE, AND IF NECESSARY SHALL BE SPLICED TOGETHER AT A SUPPORT POST WITH A MINIMUM 6 INCH OVERLAP. A TRENCH SHALL BE EXCAVATED APPROXIMATELY 6 INCHES WIDE AND 6 INCHES DEEP, AND THE BOTTOM 6-8 INCHES OF FABRIC SHALL BE "TOED-IN" TO THE TRENCH AND COMPACTED. THE TRENCH SHOULD BE UPHILL OF THE FABRIC PRIOR TO BURLAP.

EROSION CONTROL MIX BERMS ARE LINEAR BARRIERS COMPOSED OF EROSION CONTROL MIX AS SPECIFIED ABOVE. THE BERM MUST BE A MINIMUM OF 12 INCHES TALL AND 24 INCHES WIDE AT THE BASE IF UPHILL SLOPES ARE LESS THAN 5%. STEEPER SLOPES OR SLOPES GREATER THAN 20 FEET LONG MAY REQUIRE A LARGER WIDTH BERM. EROSION CONTROL MIX BERMS SHALL BE PROHIBITED AT THE BASE OF A LONG OR STEEP SLOPE (8% OR GREATER) WITHOUT THE ADDITIONAL SUPPORT OF A FILTER FENCE INSTALLED ON THE DOWNHILL SIDE OF THE BERM.

SEDIMENT BARRIERS SHOULD BE INSTALLED DOWNGRADED OF SOIL OR SEDIMENT STOCKPILES AND STORMWATER PREVENTED RUNNING ONTO THE STOCKPILE. SEDIMENT BARRIERS SHALL BE INSPECTED AFTER ANY SIGNIFICANT RAINFALL EVENT AND REPAIRED IMMEDIATELY IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THE BARRIERS. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR EDGES OF THE BARRIER, OR IF LARGE VOLUMES OF WATER ARE IMPOUNDED BEHIND THE BARRIER, IT MAY BE NECESSARY TO INSTALL A SEDIMENT BASIN UPSTREAM OF THE BARRIER. SEDIMENT SHALL BE REMOVED ONCE IT REACHES THE BARRIER HEIGHT. AFTER THE BARRIER IS REMOVED, ANY REMAINING SILT SHALL BE EITHER REMOVED OR GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED.

TEMPORARY EROSION CONTROL MEASURES ARE REMOVED ONCE THE SITE IS PERMANENTLY STABILIZED AND CONSTRUCTION ACTIVITY HAS BEEN COMPLETED.

4. STORM DRAIN INLET PROTECTION

STORM DRAIN INLETS THAT ARE MADE OPERATIONAL BEFORE THEIR DRAINAGE AREA IS STABILIZED SHALL BE PROTECTED WITH A FILTER UNTIL THE DRAINAGE AREA IS EITHER PAVED OR STABILIZED WITH 95% VEGETATIVE GROWTH. THE FOLLOWING ARE ACCEPTABLE BMPs ASSOCIATED WITH STORM DRAIN INLET PROTECTION:

MANUFACTURED SEDIMENT FILTERS ARE THE PREFERRED METHOD FOR PROTECTING CATCH BASIN INLETS IN PAVED OR GRAVEL ROADWAYS. THE FILTERS TYPICALLY CONSIST OF A FABRIC OR OTHER PERVIOUS MATERIAL THAT IS PLACED ABOVE OR BELOW THE GRATE THAT TRAPS SEDIMENT ON THE SURFACE AND ALLOWS WATER TO FLOW THROUGH THE GRATE. CONSIDERATIONS SUCH AS WEATHER CONDITIONS, SLOPES, TRIBUTARY WATERSHED AREA AND EXPECTED SEDIMENT ACCUMULATION SHOULD BE FACTORED INTO MAKING A DECISION ON ANY PARTICULAR PRODUCT, AND THE MANUFACTURER'S RECOMMENDATIONS ON INSTALLATION AND MAINTENANCE SHALL BE STRICTLY ADHERED TO.

5. STABILIZED CONSTRUCTION ENTRANCE/EXIT

TO REDUCE THE TRACKING OF SEDIMENT ONTO ROADWAYS, A STABILIZED CONSTRUCTION EXIT SHALL BE INSTALLED AT ALL POINTS OF EGRESS WHERE VEHICLES MAY TRAVEL FROM THE PROJECT SITE TO A PUBLIC ROAD OR OTHER PAVED AREA. THE STONE PAD SHALL CONSIST OF A MINIMUM 6-INCH DEPTH OF 2-3 INCH CRUSHED STONE, AND SHALL BE PLACED ON A GEOTEXTILE FABRIC. THE PAD SHALL EXTEND AT LEAST 50 FEET INTO THE PROJECT SITE AND BE A MINIMUM OF 10 FEET WIDE. THE EXIT SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY, AND THE CONTRACTOR SHALL SWEEP PAVEMENT AT EXITS THAT HAVE EXPERIENCED ANY MUD-TRACKING PRIOR TO THE NEXT STORM EVENT. MAINTAIN THE PAD UNTIL ALL DISTURBED AREAS ARE STABILIZED.

INSPECTION & MAINTENANCE NOTES:

- THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE ALL CONSTRUCTION OPERATIONS COMPLY WITH THE INSPECTION AND MAINTENANCE PROCEDURES FOR THE PROJECT, INCLUDING, BUT NOT LIMITED TO THOSE INCLUDED IN THIS PLAN SET, THE "INSPECTION, MAINTENANCE, AND HOUSEKEEPING PLAN", AND THE "MAINE EROSION AND SEDIMENTATION CONTROL PRACTICES FIELD GUIDE FOR CONTRACTORS". INSPECTION SHALL OCCUR ON ALL DISTURBED AND IMPERVIOUS AREAS, EROSION CONTROL MEASURES, MATERIAL STORAGE AREAS THAT ARE SUBJECT TO PRECIPITATION, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE. THESE AREAS SHALL BE INSPECTED AT LEAST ONCE A WEEK AS WELL AS 24 HOURS BEFORE AND AFTER A STORM EVENT GENERATING MORE THAN 0.5 INCH OF RAINFALL OVER A 24-HOUR PERIOD AND PRIOR TO COMPLETING PERMANENT STABILIZATION MEASURES. A PERSON WITH KNOWLEDGE OF EROSION AND STORMWATER CONTROL, INCLUDING THE STANDARDS AND CONDITIONS IN THE PERMIT, SHALL CONDUCT THE INSPECTIONS.
- EROSION CONTROLS SHALL BE MAINTAINED IN EFFECTIVE OPERATING CONDITION UNTIL AREAS ARE PERMANENTLY STABILIZED. IF BEST MANAGEMENT PRACTICES (BMPs) NEED TO BE REPAIRED, THE REPAIR WORK SHOULD BE INITIATED UPON DISCOVERY OF THE PROBLEM BUT NO LATER THAN THE END OF THE NEXT WORKDAY. IF BMPs NEED TO BE MAINTAINED OR MODIFIED, ADDITIONAL BMPs ARE NECESSARY, OR OTHER CORRECTIVE ACTION IS REQUIRED, IMPLEMENTATION MUST BE COMPLETED WITHIN SEVEN CALENDAR DAYS AND PRIOR TO ANY RAINFALL EVENT.
- A REPORT SUMMARIZING THE INSPECTIONS AND ANY CORRECTIVE ACTION TAKEN MUST BE MAINTAINED ON SITE. THE LOG MUST INCLUDE THE NAME(S) AND QUALIFICATIONS OF THE PERSON MAKING THE INSPECTIONS, THE DATE(S) OF THE INSPECTIONS, AND THE MAJOR OBSERVATIONS ABOUT THE OPERATION AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROLS, MATERIALS STORAGE AREAS, AND VEHICLE ACCESS TO THE PARCEL. MAJOR OBSERVATIONS MUST INCLUDE BMPs THAT NEED MAINTENANCE, BMPs THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION, AND LOCATION(S) WHERE ADDITIONAL BMPs ARE NEEDED. FOR EACH BMP REQUIRING MAINTENANCE, BMP NEEDING REPLACEMENT, AND LOCATION NEEDING ADDITIONAL BMPs, NOTE IN THE LOG THE CORRECTIVE ACTION TAKEN AND WHEN IT WAS TAKEN. THE LOG MUST BE MADE ACCESSIBLE TO MDPF AND TOWN STAFF, AND A COPY MUST BE PROVIDED UPON REQUEST. THE OWNER SHALL RETAIN A COPY OF THE LOG FOR A PERIOD OF AT LEAST THREE YEARS FROM THE COMPLETION OF PERMANENT STABILIZATION.

6. DUST CONTROL

THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST ON THE PROJECT SITE AND ON ADJACENT ROADWAYS. EXPOSED SOIL SURFACES SHALL BE MOISTENED PERIODICALLY WITH ADEQUATE WATER TO CONTROL DUST. GRAVEL SURFACES SHALL EITHER BE TREATED WITH AN APPLICATION OF CALCIUM CHLORIDE OR COVERED WITH CRUSHED STONE IF DUST CONTROL BECOMES DIFFICULT WITH NORMAL WATER APPLICATIONS.

7. LAND GRADING AND SLOPE PREPARATION

GRADING SHALL BE PLANNED SO AS TO MINIMIZE THE LENGTH OF TIME BETWEEN INITIAL SOIL EXPOSURE AND FINAL GRADING. ON LARGE PROJECTS THIS SHOULD BE ACCOMPLISHED BY PHASING THE OPERATION AND COMPLETING THE FIRST PHASE UP TO FINAL GRADING AND SEEDING BEFORE STARTING THE NEXT PHASE. ANY EXPOSED AREA THAT WILL NOT BE FINISH GRADED WITHIN 7 DAYS SHALL BE TREATED WITH MULCH OR PLANTED WITH TEMPORARY VEGETATION. PROVISIONS SHALL BE MADE TO SAFELY CONVEY SURFACE RUNOFF TO STORM DRAINS, PROTECTED OUTLETS OR TO STABLE WATER COURSES TO ENSURE THAT SURFACE RUNOFF DOES NOT DAMAGE SLOPES OR OTHER GRADED AREAS. CUT AND FILL SLOPES THAT ARE TO BE STABILIZED WITH GRASS SHALL NOT BE STEEPER THAN 2:1. AREAS TO BE FILLED SHALL BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS OR OTHER OBJECTIONABLE MATERIALS. AREAS SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3 INCHES PRIOR TO PLACEMENT OF TOPSOIL. ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLUMPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES AND CONDUITS, ETC. SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES. ALL FILLS SHALL BE PLACED AND COMPACTED IN LAYERS NOT TO EXCEED 8 INCHES IN THICKNESS. FILL MATERIAL SHALL BE FREE OF STUMPS, BUILDING DEBRIS AND OTHER OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY LIFTS. FROZEN MATERIAL OR SOFT, MUCKY OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILL SLOPES OR STRUCTURAL FILLS. FILL SHALL NOT BE PLACED ON A FROZEN FOUNDATION. SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED APPROPRIATELY. ALL GRADED AREAS MUST BE PERMANENTLY STABILIZED IMMEDIATELY FOLLOWING FINISHED GRADING.

8. TOPSOIL

IF POSSIBLE, TOPSOIL SHALL BE STOCKPILED ON THE PROJECT SITE AND REUSED. HIGH QUALITY TOPSOIL SHALL BE FRIABLE AND LOAMY (LOAM, SANDY LOAM, SILT LOAM, SANDY CLAY LOAM, CLAY LOAM), AND SHALL BE FREE OF DEBRIS, TRASH, STUMPS, ROCKS, ROOTS AND NOXIOUS WEEDS. AFTER THE AREAS TO BE TOPSOILED HAVE BEEN BROUGHT TO GRADE, AND IMMEDIATELY PRIOR TO SPREADING THE TOPSOIL, THE SUBGRADE SHALL BE LOOSENEED BY SCARIFYING TO A DEPTH OF AT LEAST 2 INCHES TO ENSURE BONDING WITH SUBSOIL. THE TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED TO A MINIMUM COMPACTED DEPTH OF 4 INCHES. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS. IT IS NECESSARY TO COMPACT THE TOPSOIL ENOUGH TO ENSURE GOOD CONTACT WITH THE UNDERLYING SOIL, BUT UNDUE COMPACTION IS TO BE AVOIDED.

9. PERMANENT SOIL STABILIZATION

IF THE AREA WILL NOT BE WORKED FOR MORE THAN ONE YEAR OR HAS BEEN BROUGHT TO FINAL GRADE, THEN PERMANENTLY STABILIZE THE AREA WITHIN 7 DAYS BY PLANTING VEGETATION, SEEDING, SOD, OR THROUGH THE USE OF PERMANENT MULCH, OR RIPRAP, OR ROAD SUB-BASE. IF USING VEGETATION FOR STABILIZATION, SELECT THE PROPER VEGETATION FOR THE LIGHT, MOISTURE, AND SOIL CONDITIONS; AMEND AREAS OF DISTURBED SUBSOILS WITH TOPSOIL, COMPOST, OR FERTILIZERS; PROTECT SEEDED AREAS WITH MULCH OR, IF NECESSARY, EROSION CONTROL BLANKETS; AND SCHEDULE SODDING, PLANTING, AND SEEDING SO TO AVOID DIE-OFF FROM SUMMER DROUGHT AND FALL FROSTS. NEWLY SEEDED OR SODDED AREAS MUST BE PROTECTED FROM VEHICLE TRAFFIC, EXCESSIVE PEDESTRIAN TRAFFIC, AND CONCENTRATED RUNOFF UNTIL THE VEGETATION IS WELL-ESTABLISHED WITH 90% COVER BY HEALTHY VEGETATION. IF NECESSARY, AREAS MUST BE REWORKED AND REESTABLISHED IF GERMINATION IS SPARSE, PLANT COVERAGE IS SPOTTY, VEHICLE EROSION IS EVIDENT, ONE OR MORE OF THE FOLLOWING MAY APPLY TO A PARTICULAR SITE:

SEEDED AREAS: TO PREPARE THE SEEDED, APPLY 10-20-20 FERTILIZER AT A RATE OF 800 POUNDS PER ACRE AND GROUND LIMESTONE AT A RATE OF 3 TONS PER ACRE. WORK THE FERTILIZER AND LIMESTONE INTO THE TOPSOIL TO A DEPTH OF 4 INCHES AND REMOVE ANY STONES, ROOTS OR OTHER VISIBLE DEBRIS. SELECT A SEED MIXTURE THAT IS APPROPRIATE FOR THE SOIL TYPE AND MOISTURE CONTENT AS FOUND AT THE SITE, AND FOR THE AMOUNT OF SUN EXPOSURE AND FOR LEVEL OF USE. REFER TO THE USDA SOIL CONSERVATION SERVICE OR THE LOCAL SOIL AND WATER CONSERVATION DISTRICT FOR APPROPRIATE SEED MIXTURES. APPLY SEED UNIFORMLY IN ACCORDANCE WITH SUPPLIER RECOMMENDATIONS AND IMMEDIATELY COVER WITH MULCH AS DESCRIBED IN THE TEMPORARY MULCHING SECTION OF THIS PLAN.

HYDROSEEDING SHALL BE DONE IN ACCORDANCE WITH SUPPLIER'S RECOMMENDATIONS. FOR SEEDED AREAS TO BE PERMANENTLY STABILIZED, 90% OF THE DISTURBED SOIL SHALL BE COVERED WITH MATURE HEALTHY PLANTS WITH NO EVIDENCE OF WASHING OR RILLING OF THE TOPSOIL.

SOD STRIPS SHALL BE LAID AT RIGHT ANGLES TO DIRECTION OF SLOPE OR FLOW OF WATER STARTING AT LOWEST ELEVATION. JOINTS SHALL BE STAGGERED, AND ALL STRIPS SHALL BE ROLLED OR TAMPED INTO PLACE. ON SLOPES, SOD SHALL BE ANCHORED WITH STAPLES, WIRE OR PINS. IRRIGATE SODDED AREA IMMEDIATELY AFTER INSTALLATION. FOR SODDED AREAS TO BE PERMANENTLY STABILIZED, THE ROOTS OF THE SOD MUST BE COMPLETELY BOUND INTO THE UNDERLYING SOIL WITH NO SLUMPING OF THE SOD OR DIE-OFF.

PERMANENT MULCH IS A LONG TERM COVER THAT PROVIDES A GOOD BUFFER AGAINST DISTURBED AREAS. THE EROSION CONTROL MIX SHALL CONSIST PRIMARILY OF ORGANIC MATERIAL AND MAY INCLUDE SHREDDED BARK, STUMP GRINDINGS OR COMPOSTED BARK. WOOD CHIPS, GROUND CONSTRUCTION DEBRIS, REPROCESSED WOOD PRODUCTS OR BARK CHIPS ARE NOT ACCEPTABLE. THE EROSION CONTROL MIX SHALL CONTAIN A WELL-GRADED MIXTURE OF PARTICLE SIZES AND MAY CONTAIN ROCKS LESS THAN 4 INCHES IN DIAMETER. EROSION CONTROL MIX MUST BE FREE OF REFUSE, PHYSICAL CONTAMINANTS AND MATERIAL TOXIC TO PLANT GROWTH.

RIPRAP STONE SHALL CONSIST OF SUB-ANGULAR FIELD STONE OR ROUGH UNEVEN QUARRY STONE OF APPROXIMATELY RECTANGULAR SHAPE. THE DEPTH OF STONE SHALL BE A MINIMUM OF 2.2 TIMES THE MAXIMUM STONE DIAMETER. A GRAVEL OR GEOTEXTILE FILTER BLANKET SHALL BE PLACED BETWEEN THE RIPRAP AND UNDERLYING SOIL SURFACE. GRAVEL FILTER BLANKETS SHALL MEET MOTT TYPE "C" UNDERDRAIN MATERIAL SPECIFICATIONS AND BE AT LEAST 6 INCHES THICK. GEOTEXTILE FILTER BLANKETS SHALL BE SPECIFIED BASED ON SITE CONDITIONS. RIPRAP SLOPES SHALL BE TOED INTO TO THE BASE OF THE EMBANKMENT BY EXCAVATING A TRENCH AT THE BOTTOM OF THE SLOPE AND INSTALLING A STABLE BASE OF RIPRAP TO GRADE.

DITCHES, CHANNELS AND SWALES ARE CONSIDERED PERMANENTLY STABILIZED WHEN THE CHANNEL HAS 90% COVER OF HEALTHY VEGETATION WITH A WELL GRADED RIPRAP LINING, EROSION CONTROL BLANKET, OR WITH ANOTHER NON-EROSIVE LINING SUCH AS CONCRETE OR ASPHALT PAVEMENT. THERE MUST BE NO EVIDENCE OF SLUMPING OF THE CHANNEL LINING, UNDERCUTTING OF THE BANKS, OR DOWNCUTTING OF THE CHANNEL.

10. STORMWATER CHANNELS

EACH CHANNEL SHOULD BE CONSTRUCTED IN SECTIONS SO THAT THE SECTION'S GRADING, SHAPING, AND INSTALLATION OF THE PERMANENT LINING CAN BE COMPLETED THE SAME DAY. IF A CHANNEL'S FINAL GRADING OR LINING INSTALLATION MUST BE DELAYED, THEN DIVERSION BERMS MUST BE USED TO DIVERT STORMWATER AWAY FROM THE CHANNEL. PROPOSED DAMS MUST BE INSTALLED IN THE CHANNEL TO SLOW THE WATER VELOCITY, AND A TEMPORARY LINING INSTALLED ALONG THE CHANNEL TO PREVENT SCOURING.

WINTER EROSION AND SEDIMENTATION CONTROL NOTES:

THE WINTER CONSTRUCTION PERIOD TYPICALLY BEGINS IN EARLY NOVEMBER AND ENDS IN MID APRIL. IF A CONSTRUCTION SITE IS NOT STABILIZED WITH PAVEMENT, A ROAD GRAVEL BASE OR RIPRAP BY NOVEMBER 15 THEN THE SITE NEEDS TO BE PROTECTED WITH OVER-WINTER STABILIZATION. WINTER EXCAVATION AND EARTHWORK SHALL BE COMPLETED SUCH THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME. LIMIT THE EXPOSED AREA TO THOSE AREAS IN WHICH WORK IS TO OCCUR DURING THE FOLLOWING 15 DAYS AND THAT CAN BE MULCHED IN ONE DAY PRIOR TO ANY SNOW EVENT. AN AREA SHALL BE CONSIDERED DENUDED UNTIL THE SUBBASE GRAVEL IS INSTALLED IN THE ROADWAY AREAS OR THE AREAS OF FUTURE LOAM AND SEED HAVE BEEN LOAMED, SEEDED AND MULCHED. A COVER OR EROSION CONTROL MIX IS THE PREFERRED TEMPORARY MULCH DURING WINTER CONDITIONS.

1. NATURAL RESOURCE PROTECTION

ANY AREAS WITHIN 75 FEET FROM ANY REGULATED NATURAL RESOURCES SHALL BE MULCHED BY DECEMBER 1 AND ANCHORED WITH PLASTIC NETTING OR PROTECTED WITH AN EROSION CONTROL COVER. DURING WINTER CONSTRUCTION, A DOUBLE ROW OF SEDIMENT BARRIERS (FOR EXAMPLE, SILT FENCE BACKED WITH HAY BALES OR EROSION CONTROL MIX) WILL BE PLACED BETWEEN ANY REGULATED NATURAL RESOURCE AND THE DISTURBED AREA. PROJECTS CROSSING THE REGULATED NATURAL RESOURCE SHALL BE PROTECTED A MINIMUM DISTANCE OF 100 FEET ON EITHER SIDE FROM THE RESOURCE. EXISTING PROJECTS NOT STABILIZED BY DECEMBER 1 SHALL BE PROTECTED WITH THE SECOND LINE OF SEDIMENT BARRIER TO ENSURE FUNCTIONALITY DURING THE SPRING THAW AND RAINS.

2. SEDIMENT BARRIERS

DURING FROZEN CONDITIONS, SEDIMENT BARRIERS MAY CONSIST OF EROSION CONTROL MIX BERMS OR ANY OTHER RECOGNIZED SEDIMENT BARRIERS AS FROZEN SOIL PREVENTS THE PROPER INSTALLATION OF HAY BALES OR SILT FENCES.

3. MULCHING

ALL AREAS SHALL BE CONSIDERED TO BE DENUDED UNTIL SEEDED AND MULCHED. HAY AND STRAW MULCH SHALL BE APPLIED AT A RATE OF 3 TONS PER ACRE (TWICE THE NORMAL ACCEPTED RATE) AND SHALL BE PROPERLY ANCHORED. EROSION CONTROL MIX MUST BE APPLIED WITH A MINIMUM 4 INCHES THICKNESS. MULCH SHALL NOT BE SPREAD ON TOP OF SNOW. SNOW MUST BE REMOVED DOWN TO A ONE-INCH DEPTH PRIOR TO APPLICATION. AFTER EACH DAY OF FINAL GRADING, THE AREA WILL BE PROPERTY STABILIZED WITH ANCHORED HAY OR STRAW OR EROSION CONTROL MATTING. AN AREA SHALL BE CONSIDERED TO HAVE BEEN STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED OR ADEQUATELY ANCHORED SO THAT GROUND SURFACE IS NOT VISIBLE THROUGH THE MULCH. BETWEEN THE DATES OF NOVEMBER 1 AND APRIL 15, ALL MULCH SHALL BE ANCHORED BY EITHER MULCH NETTING, TRACKING OR WOOD CELLULOSE FIBER. THE COVER WILL BE CONSIDERED SUFFICIENT WITH THE GROUND SURFACE IS NOT VISIBLE THROUGH THE MULCH. AFTER NOVEMBER 15T, MULCH AND ANCHORING OF ALL EXPOSED SOIL SHALL OCCUR AT THE END OF EACH FINAL GRADING WORKDAY.

4. SOIL STOCKPILING

STOCKPILES OF SOIL OR SUBSOIL WILL BE MULCHED FOR OVER WINTER PROTECTION WITH HAY OR STRAW AT TWICE THE NORMAL RATE FOR WITH A FOUR-INCH LAYER OF EROSION CONTROL MIX. THIS WILL BE DONE WITHIN 24 HOURS OF STACKING AND RE-ESTABLISHED PRIOR TO ANY RAINFALL OR SNOWFALL. ANY SOIL STOCKPILE WILL NOT BE PLACED WITHIN 100 FEET FROM ANY REGULATED NATURAL RESOURCE.

5. SEEDING

BETWEEN THE DATES OF OCTOBER 15 AND APRIL 3, LOAM OR SEED WILL NOT BE REQUIRED. DURING PERIODS OF ABOVE FREEZING TEMPERATURES FINISHED PROJECTS NOT FINISH GRADED AND EITHER PROTECTED MULCH OR TEMPORARILY SEEDED AND MULCHED UNTIL SUCH TIME AS THE FINAL TREATMENT CAN BE APPLIED. IF THE DATE IS AFTER NOVEMBER 1 AND IF THE EXPOSED AREA HAS BEEN LOAMED, FINAL GRADED WITH A UNIFORM SURFACE, THEN THE AREA MAY BE DORMANT SEEDED AT A RATE OF 3 TIMES HIGHER THAN SPECIFIED FOR PERMANENT SEED AND THEN MULCHED. IF DORMANT SEEDING IS USED, ALL DISTURBED AREAS SHALL RECEIVE 4 INCHES OF LOAM AND SEED AT AN APPLICATION RATE OF 5 LBS PER 1,000 S.F. ALL AREAS INSUFFICIENTLY VEGETATED (LESS THAN 75%) IN THE SPRING SHALL BE REVEGETATED.

6. OVER-WINTER STABILIZATION OF DITCHES AND CHANNELS

ALL STONE-LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED BY NOVEMBER 1. ALL GRASS-LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED AND STABILIZED BY SEPTEMBER 1. IF A GRASS-LINED DITCH OR CHANNEL IS STABILIZED BY SEPTEMBER 1, THEN EITHER A SOIL LINING SHALL BE INSTALLED PRIOR TO OCTOBER 1 OR THE DITCH MUST BE LINED WITH STONE RIPRAP BACKED BY AN APPROPRIATE GRAVEL BED OR GEOTEXTILE PRIOR TO NOVEMBER 1.

7. OVER-WINTER STABILIZATION OF DISTURBED SLOPES

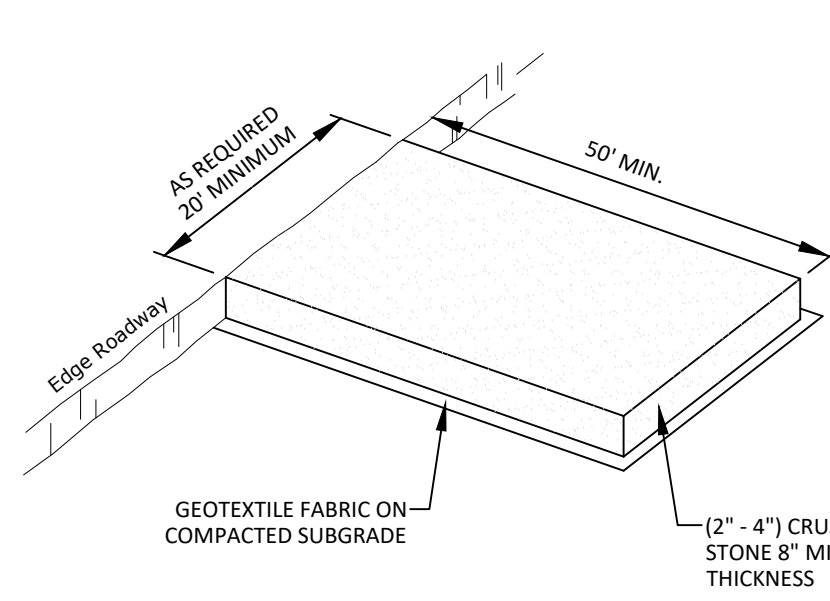
ALL STONE-COVERED SLOPES MUST BE CONSTRUCTED AND STABILIZED BY NOVEMBER 15. ALL SLOPES TO BE VEGETATED MUST BE SEEDED AND MULCHED BY SEPTEMBER 1. ALL AREAS HAVING A GRADE STEEPER THAN 8% SHALL BE CONSIDERED A SLOPE. IF A SLOPE TO BE VEGETATED IS NOT STABILIZED BY SEPTEMBER 1, THEN THE SLOPE SHALL EITHER BE STABILIZED WITH TEMPORARY VEGETATION AND EROSION CONTROL MATS BY OCTOBER 1, SOD BY OCTOBER 1, EROSION CONTROL MIX BY NOVEMBER 1 OR STONE RIPRAP BY NOVEMBER 15. SEE APPLICABLE SECTIONS UNDER EROSION AND SEDIMENTATION CONTROL NOTES FOR PROPER INSTALLATION METHODS.

8. OVER-WINTER STABILIZATION OF DISTURBED SOILS

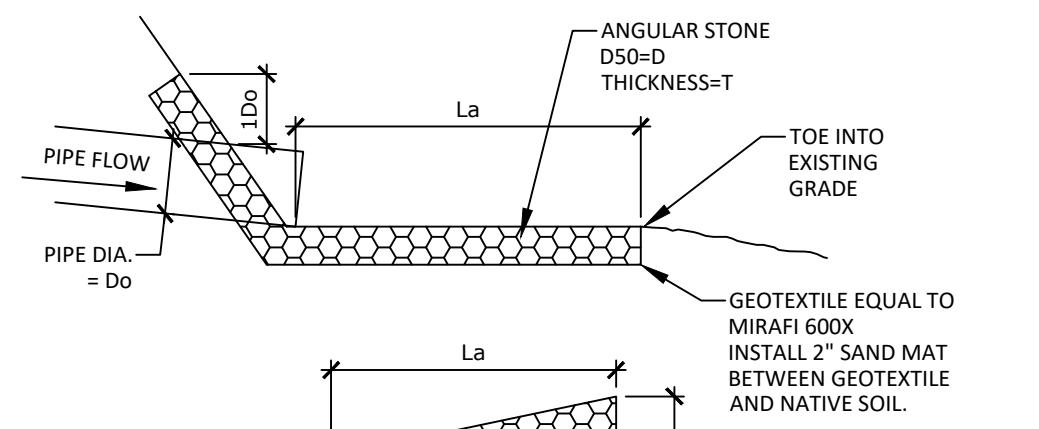
BY SEPTEMBER 15, ALL DISTURBED SOILS ON AREAS HAVING A SLOPE LESS THAN 15% MUST BE SEEDED AND MULCHED. IF THE DISTURBED AREAS ARE NOT STABILIZED BY THIS DATE, THEN THE AREA SHALL EITHER BE STABILIZED WITH TEMPORARY VEGETATION BY OCTOBER 1, SOD BY OCTOBER 1, OR MULCH BY NOVEMBER 15. SEE APPLICABLE SECTIONS UNDER EROSION AND SEDIMENTATION CONTROL NOTES FOR PROPER INSTALLATION METHODS.

9. MAINTENANCE

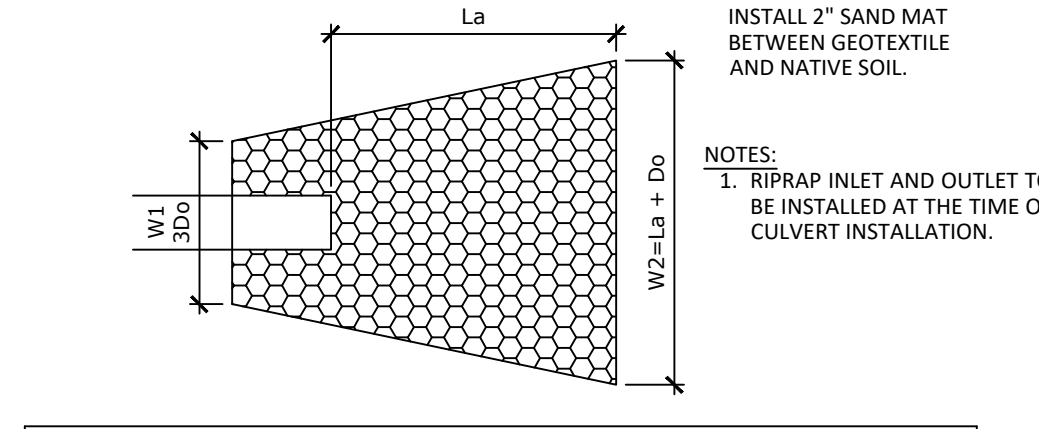
MAINTENANCE MEASURES SHALL BE APPLIED AS NEEDED DURING THE ENTIRE CONSTRUCTION SEASON. AFTER EACH RAINFALL, SNOW STORM, PERIOD OF THAWING AND RUNOFF AND AT LAST ONCE A WEEK, THE SITE CONTRACTOR SHALL PERFORM A VISUAL INSPECTION OF ALL INSTALLED EROSION CONTROL MEASURES AND PERFORM REPAIRS AS NEEDED TO INSURE THEIR CONTINUOUS FUNCTION. FOLLOWING THE TEMPORARY AND/OR FINAL SEEDING AND MULCHING, THE CONTRACTOR SHALL, IN THE SPRING, INSPECT AND REPAIR ANY DAMAGES AND/OR BARE SPOTS. AN ESTABLISHED VEGETATIVE COVER MEANS A MINIMUM OF 90% OF AREAS VEGETATED WITH VIGOROUS GROWTH.



STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE

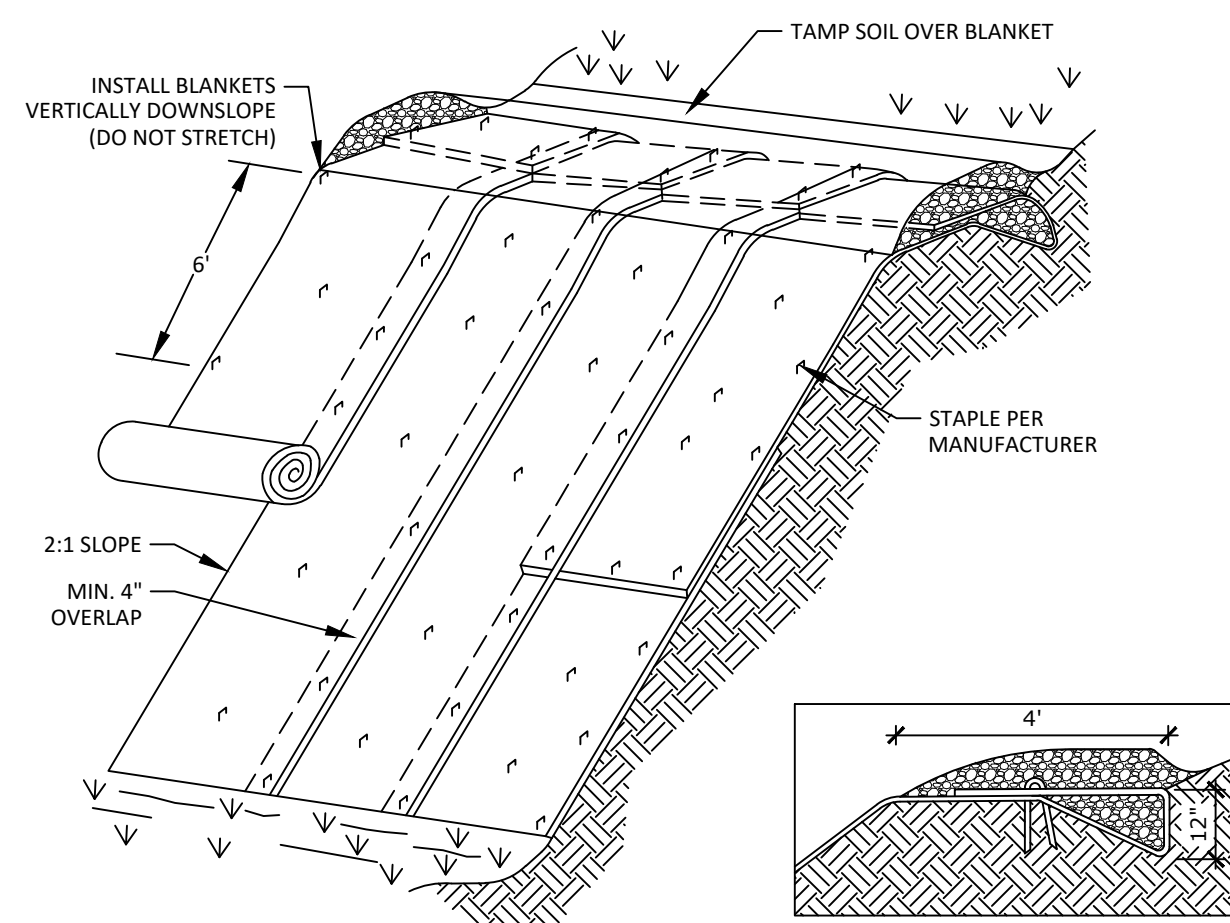


EROSION CONTROL BLANKET
NOT TO SCALE

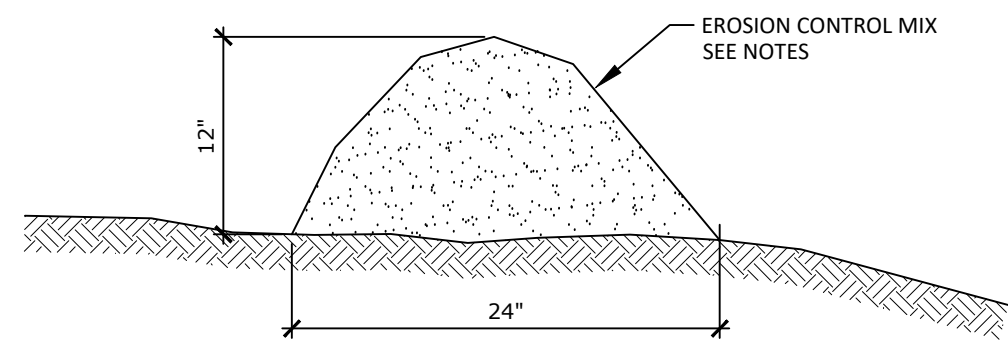


RIPRAP APRON DATA					
SD DIA.	W1	W2	La	D	T
6" & SMALLER	2'	5'	6'	6"	14"
15"	4'	9'	8'	6"	14"

RIPRAP APRON AT PIPE
NOT TO SCALE

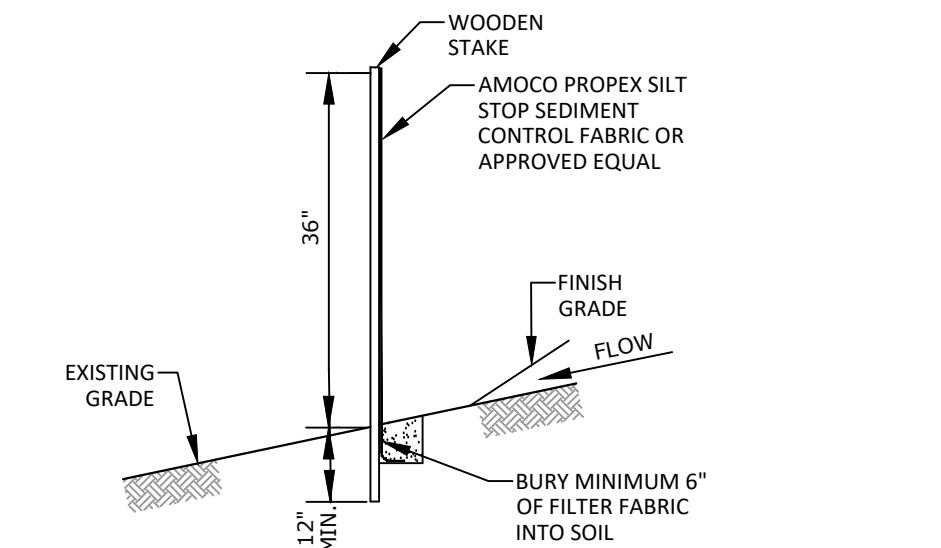


EROSION CONTROL BLANKET
NOT TO SCALE



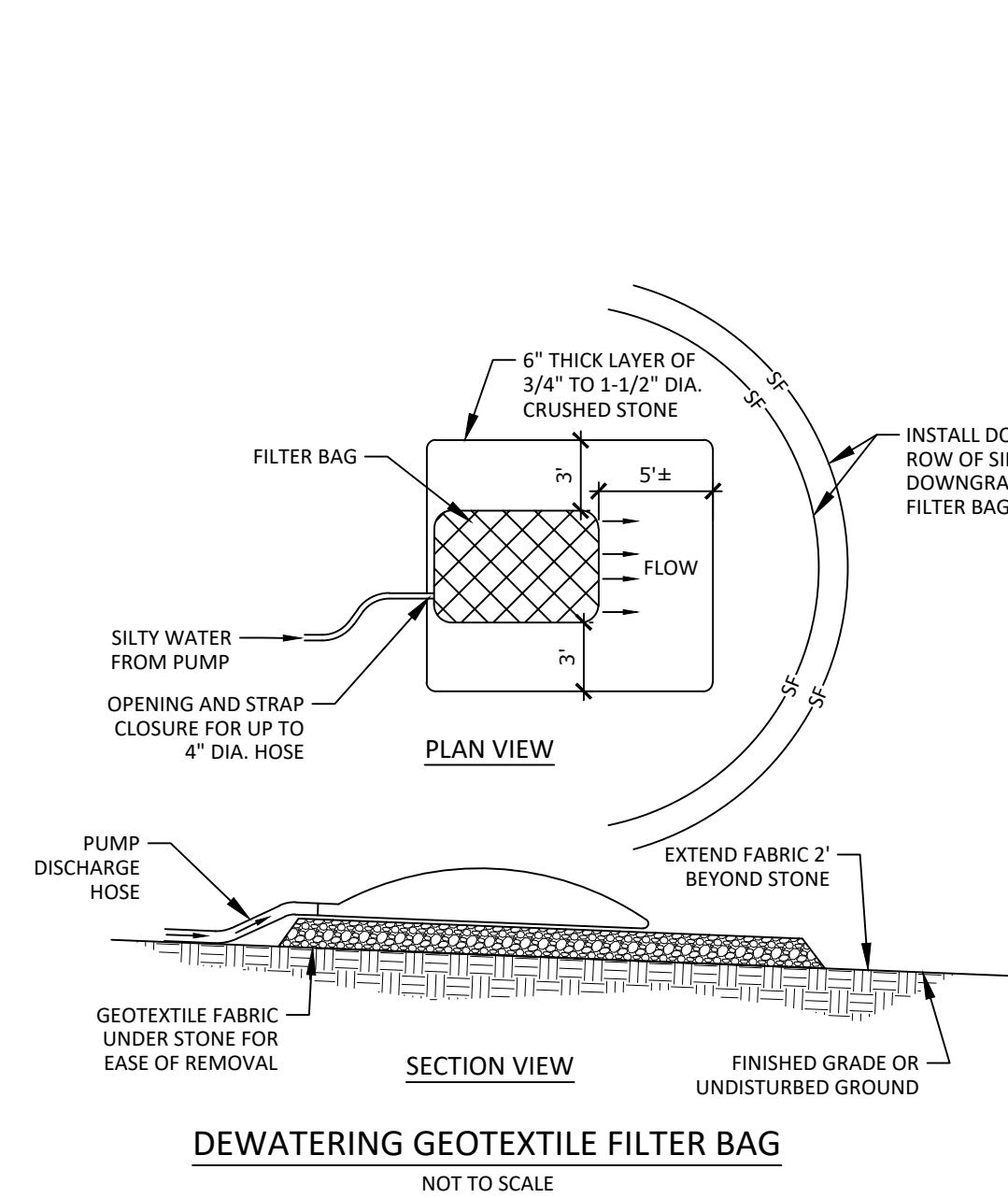
- NOTES:
- EROSION CONTROL MIX BERM INSTALLED 12" HIGH AND 24" WIDE CONSISTING OF STUMP GRINDINGS WITH NO ROCKS GREATER THAN 4" OR LARGE AMOUNTS OF FINES.
 - SEE SECTION 3 OF THE EROSION AND SEDIMENTATION CONTROL NOTES, THIS SHEET, FOR INSTALLATION LOCATION REQUIREMENTS AND ADDITIONAL DETAIL.

EROSION CONTROL MIX BERM
NOT TO SCALE

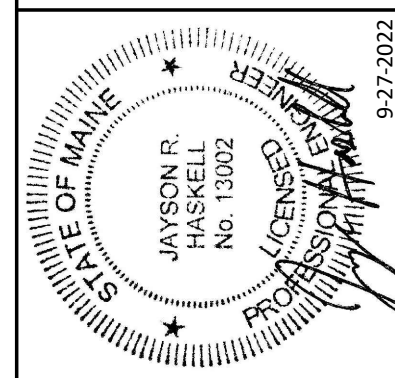


- NOTES:
- SEE SECTION 3 OF THE EROSION AND SEDIMENTATION CONTROL NOTES, THIS SHEET, FOR INSTALLATION LOCATION REQUIREMENTS AND ADDITIONAL DETAIL.

SEDIMENT FILTER FENCE
NOT TO SCALE



DEWATERING GEOTEXTILE FILTER BAG
NOT TO SCALE

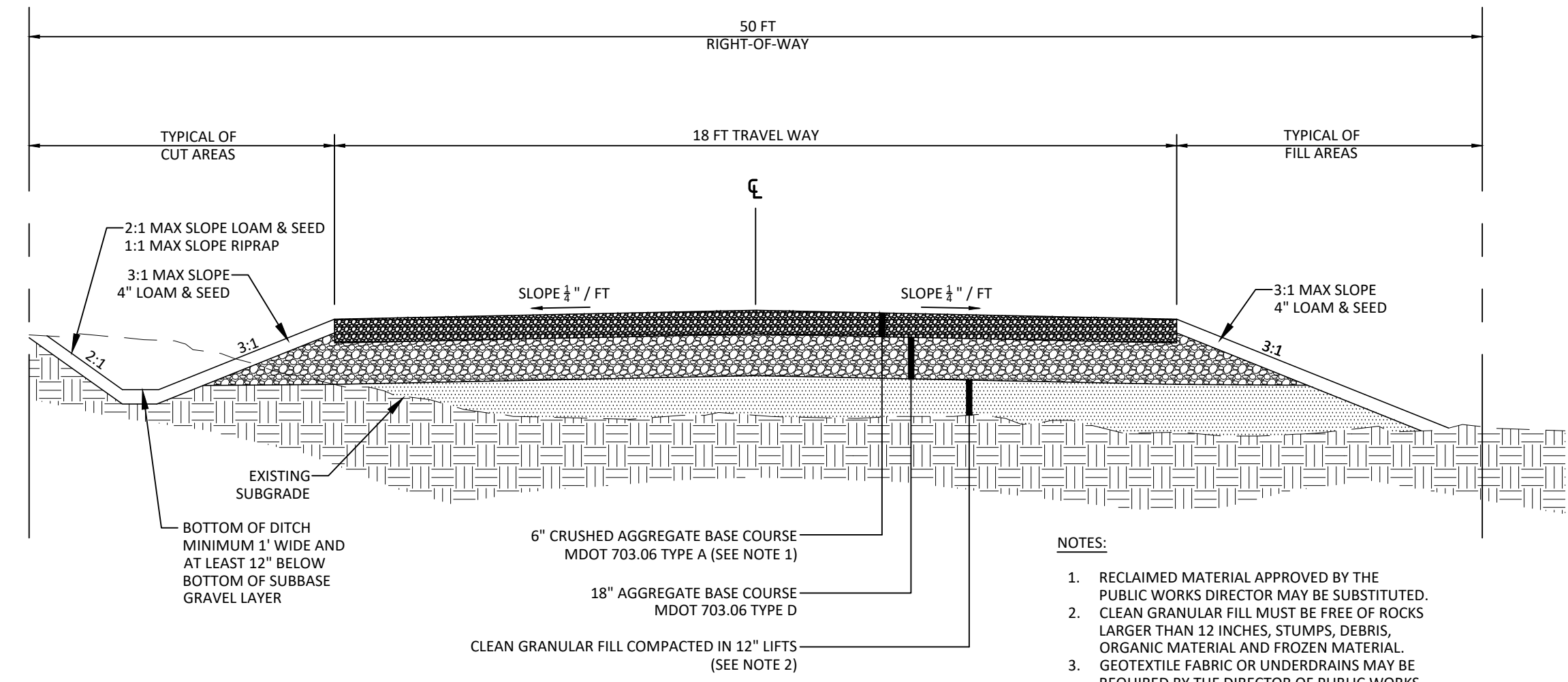


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REV.	DATE	BY	DESCRIPTION
A	9-27-22	JRH	ISSUED FOR PERMITTING

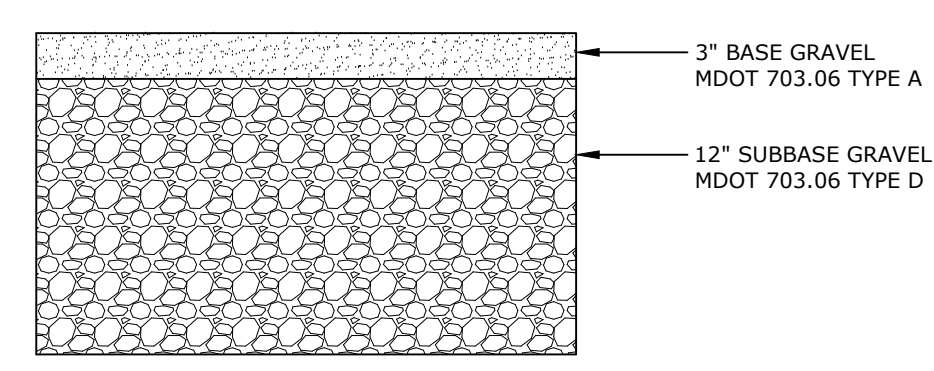
DETAILS
CARRIAGE HILL EXTENSION
CARRIAGE HILL
NORTH YARMOUTH, MAINE
FOR:
SHAWN ALBERT & DANIEL TRAIN
14 & 15 CARRIAGE HILL
NORTH YARMOUTH, MAINE 04097

22036
JOB NUMBER:

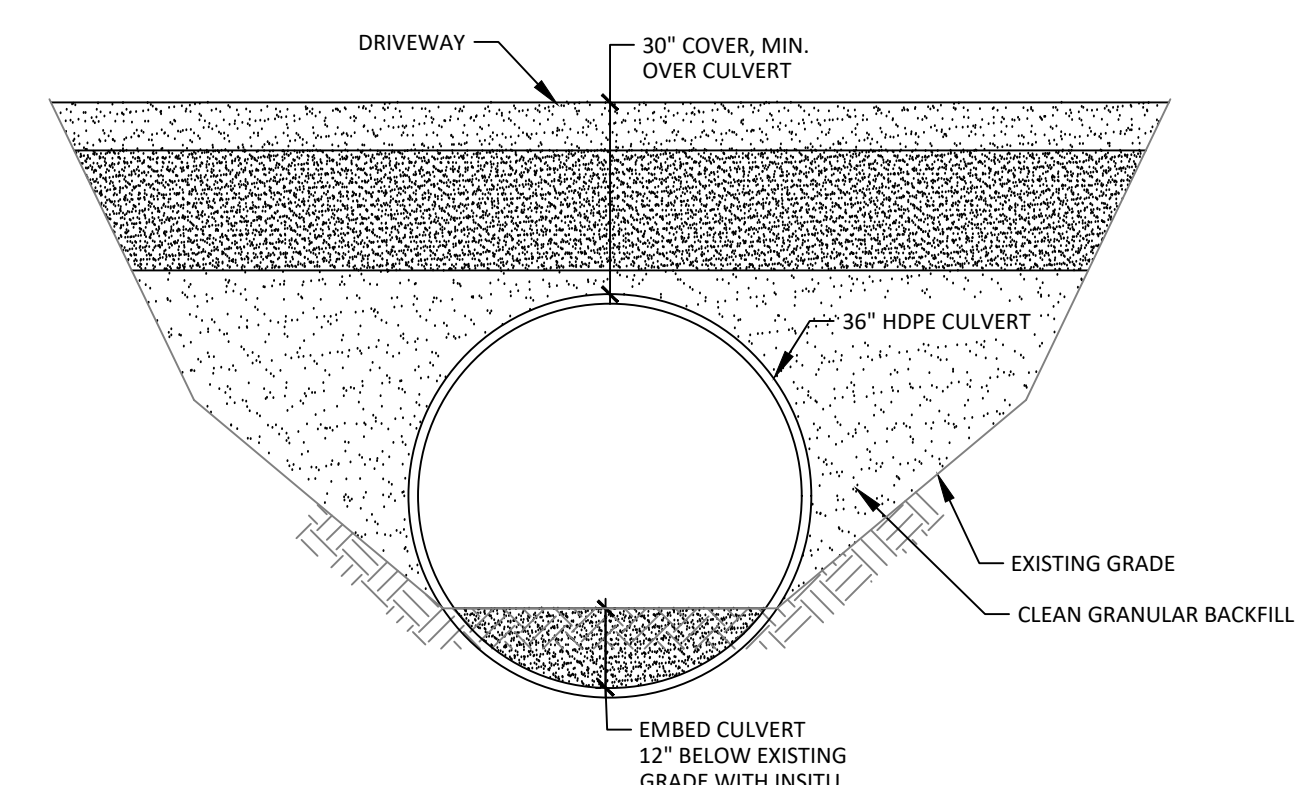


TYPICAL ROADWAY SECTION
NOT TO SCALE

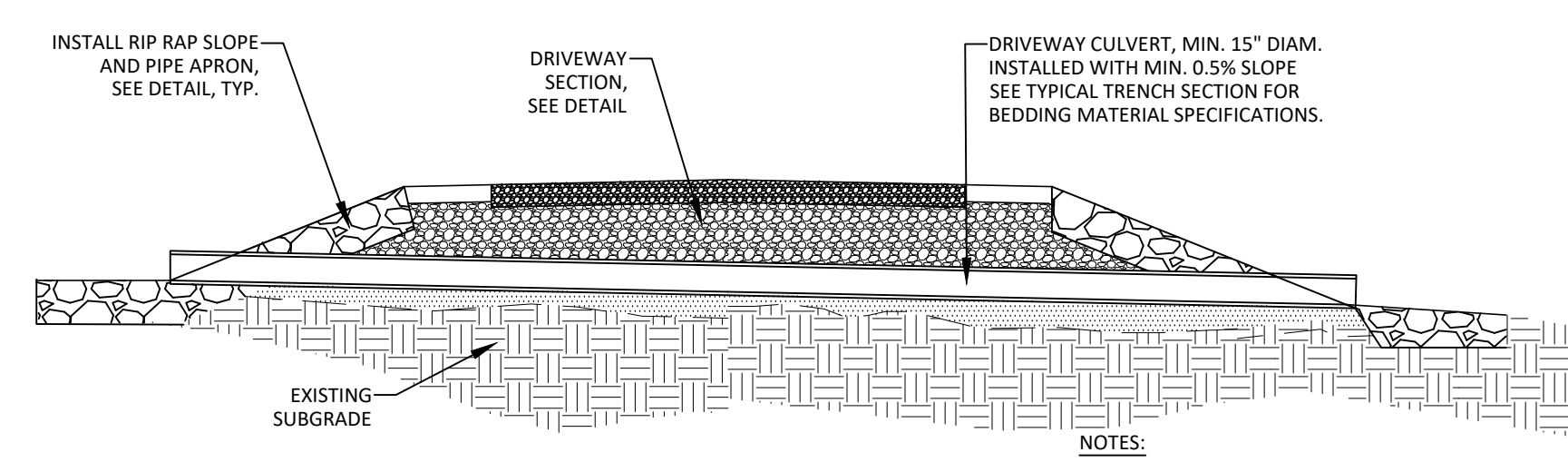
- NOTES:
1. RECLAIMED MATERIAL APPROVED BY THE PUBLIC WORKS DIRECTOR MAY BE SUBSTITUTED.
 2. CLEAN GRANULAR FILL MUST BE FREE OF ROCKS LARGER THAN 12 INCHES, STUMPS, DEBRIS, ORGANIC MATERIAL AND FROZEN MATERIAL.
 3. GEOTEXTILE FABRIC OR UNDERDRAINS MAY BE REQUIRED BY THE DIRECTOR OF PUBLIC WORKS OR DESIGNER IF POOR SOILS ARE ENCOUNTERED.



TYPICAL GRAVEL DRIVEWAY SECTION
NOT TO SCALE

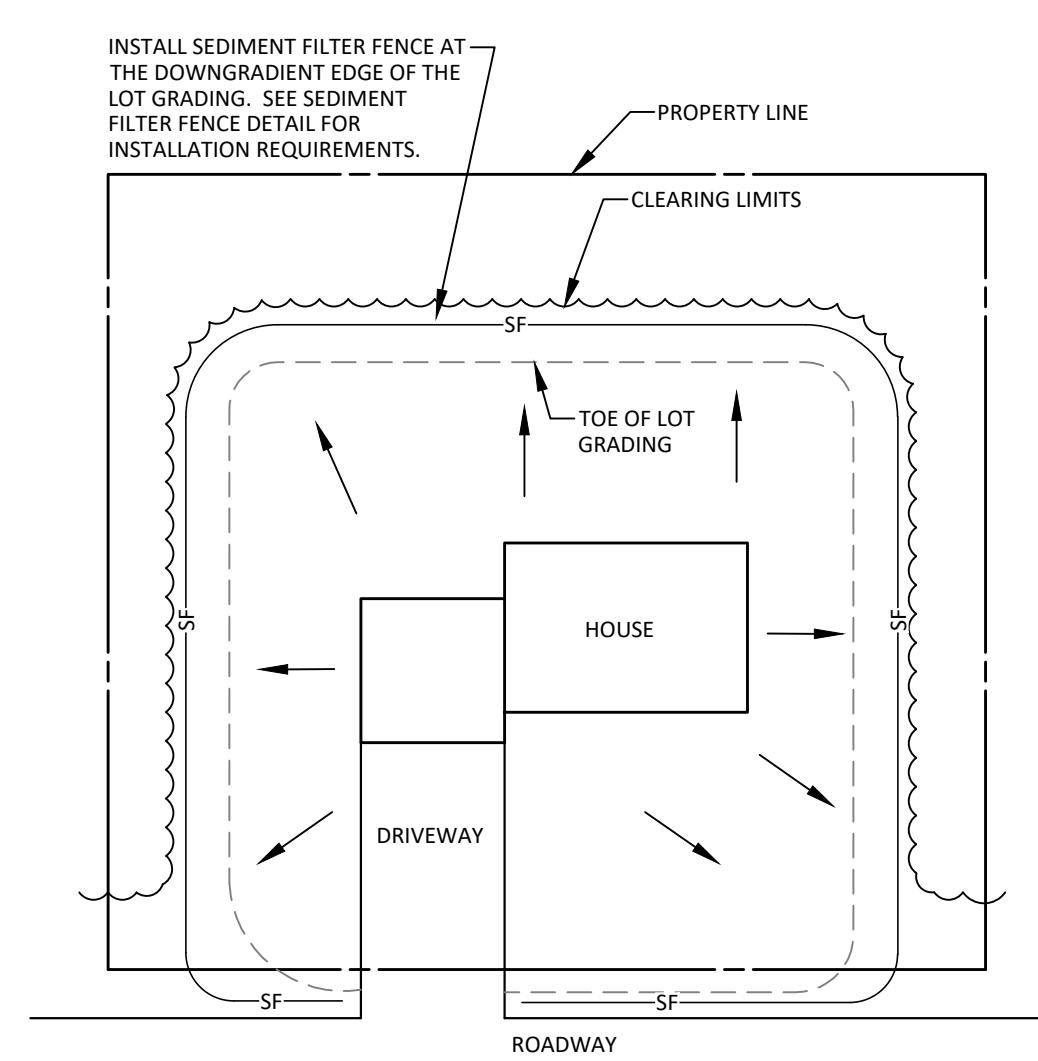


WETLAND CROSSING SECTION
NOT TO SCALE

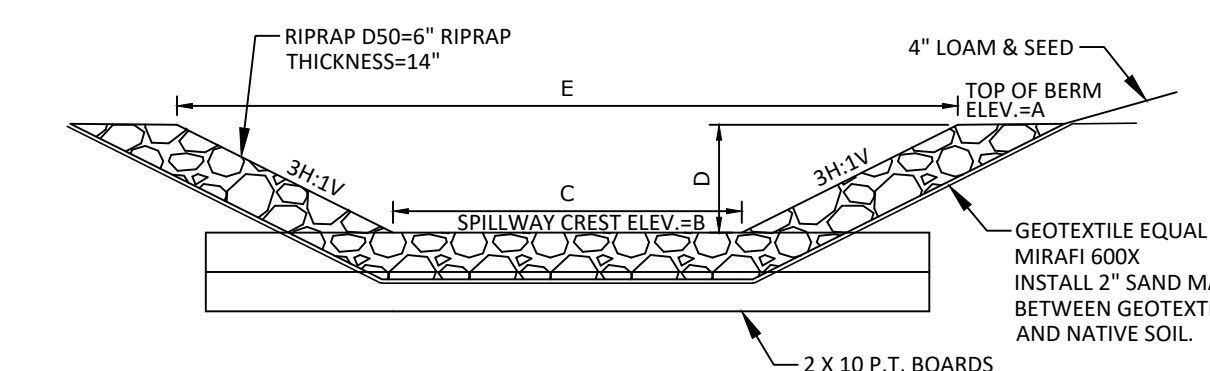


TYPICAL DRIVEWAY CULVERT
NOT TO SCALE

- NOTES:
1. CLEAN GRANULAR FILL MUST BE FREE OF ROCKS LARGER THAN 12 INCHES, STUMPS, DEBRIS, ORGANIC MATERIAL AND FROZEN MATERIAL.

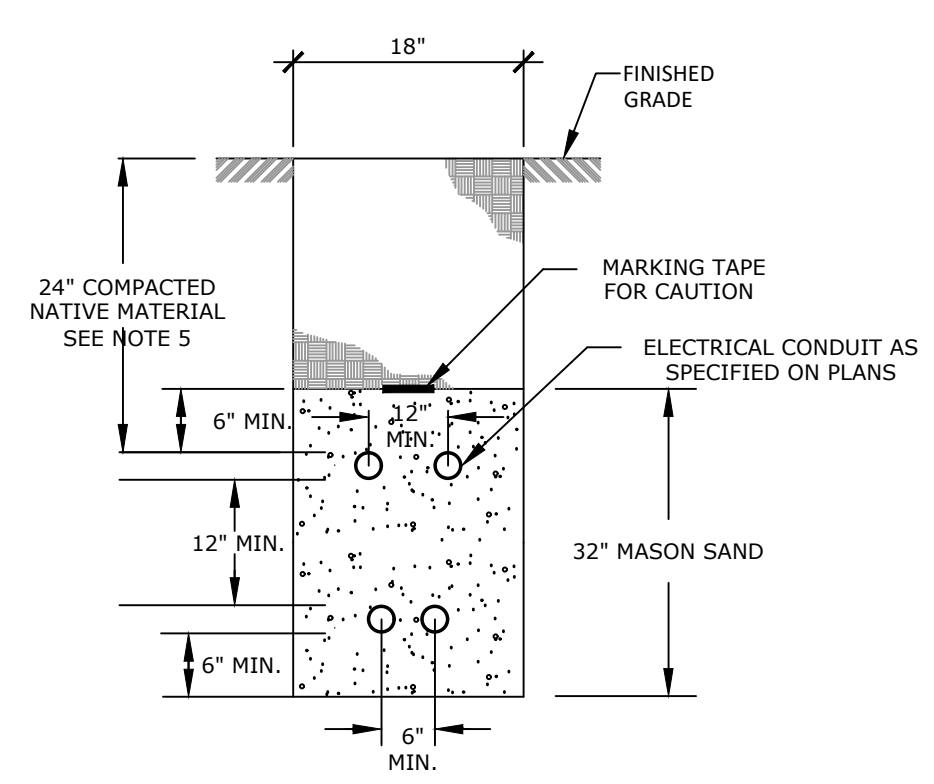


TYPICAL HOUSE LOT EROSION CONTROL DETAIL
NOT TO SCALE



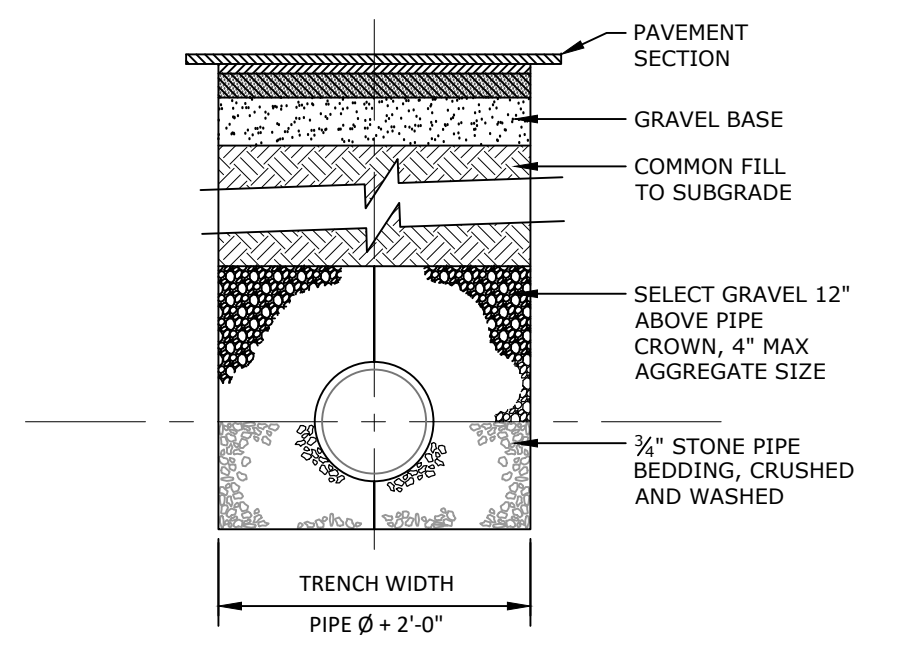
SPILLWAY DATA					
POND ID	A	B	C	D	E
DP1	245.30	244.15	10'	1.15'	16.9'
DP2	225.50	224.40	10'	1.10'	16.6'

RIPRAPPED SPILLWAY CROSS-SECTION
NOT TO SCALE

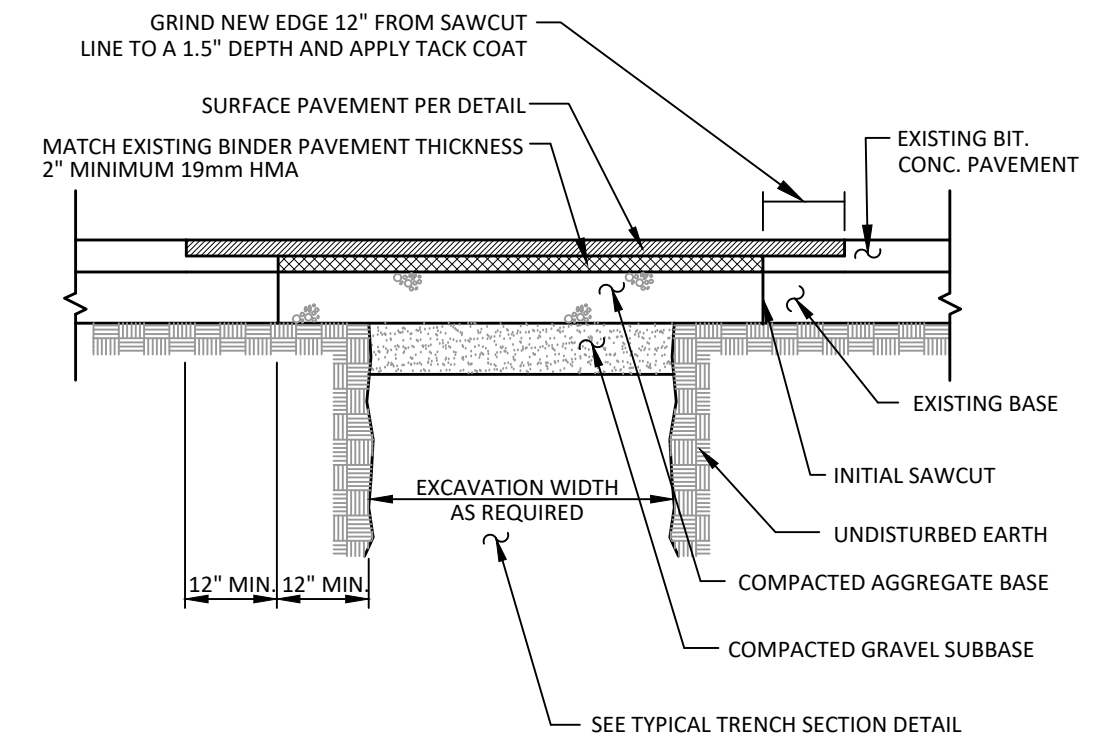


TRENCH DETAIL - ELECTRICAL CONDUIT
NOT TO SCALE

- NOTES:
1. ALL CONDUITS SHALL BE 2-1/4\"/>
 - 2. INSTALLATION SHOULD NOT ALLOW THE INTER-TWINKING OF CABLES.
 - 3. BEDDING AND BACKFILL SHALL BE FREE OF ROOTS, STUMPS AND OTHER DEBRIS.
 - 4. COMMUNICATION CABLE AND POWER CABLE SHALL HAVE NO LESS THAN 12 INCHES OF RADIAL SEPARATION.
 - 5. WHERE CONDUIT CROSSES DRAINAGE SWALES, DEPRESS CONDUIT 6\"/>
 - 6. INSTALL PULL ROPE WITHIN EACH CONDUIT.

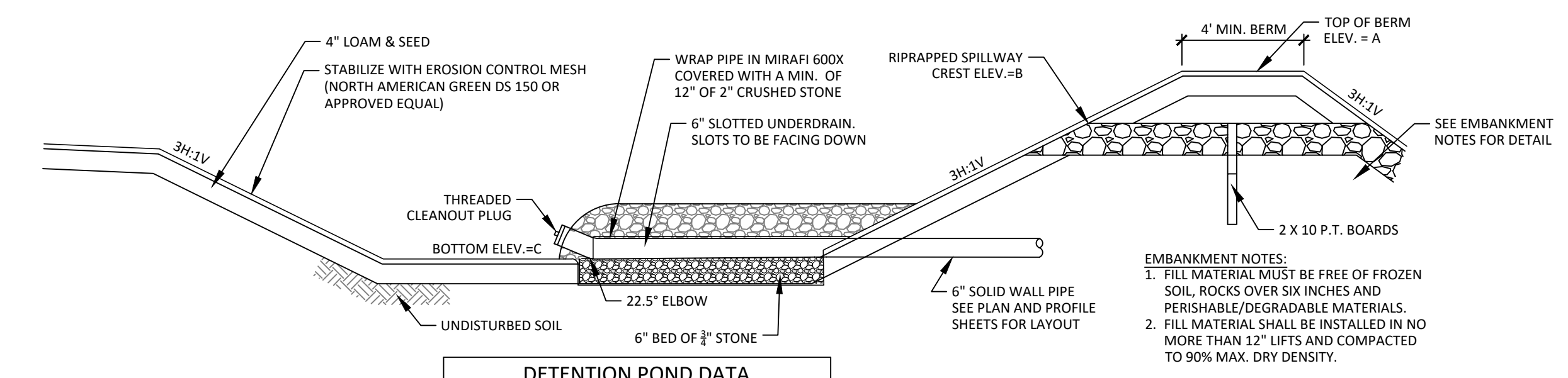


TYPICAL TRENCH SECTION
NOT TO SCALE



- NOTES:
1. SEE TYPICAL ROAD SECTION FOR REQUIRED DEPTHS OF AGGREGATE AND PAVEMENT COURSES

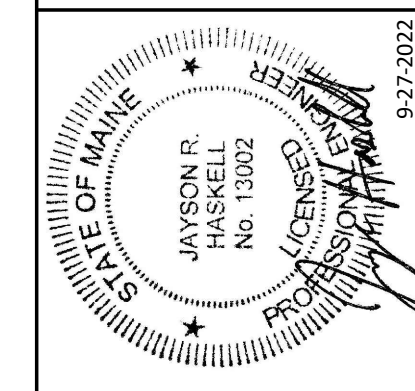
PAVEMENT REPAIR DETAIL
NOT TO SCALE



DETENTION POND DATA			
POND ID	A	B	C
DP1	245.30	244.15	243.00
DP2	225.50	224.40	223.50

DETENTION POND SECTION
NOT TO SCALE

- EMBANKMENT NOTES:
1. FILL MATERIAL MUST BE FREE OF FROZEN SOIL, ROCKS OVER SIX INCHES AND PERISHABLE/DEGRADABLE MATERIALS.
 2. FILL MATERIAL SHALL BE INSTALLED IN NO MORE THAN 12\"/>



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REV	DATE	BY	DESCRIPTION
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DETAILS
CARRIAGE HILL EXTENSION
CARRIAGE HILL
NORTH YARMOUTH, MAINE
FOR:
SHAWN ALBERT & DANIEL TRAIN
14 & 15 CARRIAGE HILL
NORTH YARMOUTH, MAINE 04097

22036
JOB NUMBER:
AS NOTED
SCALE:
9-27-2022
DATE:
SHEET 7 OF 7
D-2



STORMWATER MANAGEMENT REPORT

CARRIAGE HILL EXTENSION NORTH YARMOUTH, MAINE

A. Project Narrative

Daniel Train and Shawn Albert, the applicants, are proposing to further subdivide their two lots at the end of Carriage Hill, a private road located off of Gray Road in North Yarmouth. The two lots are identified as Lots 64 (Train) and Lot 65 (Albert) on the Town of North Yarmouth Assessor's Map 10. Each of the two lots contains the owner's single-family residence.

The applicants are proposing to extend the existing Carriage Hill access road for the creation of 4 additional residential lots, two on Lot 64 and two on Lot 65. The project proposes improvements to extend Carriage Hill over the existing gravel access road with an 18-foot-wide gravel road section with drainage swales and underground electric/data services. The lots will be served by private onsite wells and subsurface wastewater disposal systems. The applicant intends to sell undeveloped lots.

B. Existing Conditions and Lot History

The two subject parcels are part of an existing 6 lot residential subdivision which was approved by the Town of North Yarmouth Planning Board in December 2002. The lot owned by Daniel Train is identified as Lot 5 and the lot owned by Shawn Albert is identified as Lot 6 of the original subdivision. All lots are accessed and receive road frontage from the existing Carriage Hill, an approximately 675 linear foot private road with hammerhead turnarounds.

Currently the two subject parcels consist existing residential homes, paved driveways, lawn and landscaping, and a significant undeveloped area consisting of natural woodland. In 2006, (prior to the current property owners' possession of the property) a substandard gravel access road was constructed through the originally approved Carriage Hill right of way, apparently constructed as an emergency access to an adjacent subdivision.

The site is generally flat sloped (0-8%) in the area where the development will occur, with steeper areas (8% to 50%) in the northwesterly portion of the site in the vicinity of an existing drainage channels. Runoff from the site drains relatively westerly and south westerly, leaving the property, eventually draining into Deer Brook. The brook then drains northerly, through several road crossings, discharging into the Royal River.

Soils on the property were determined utilizing the Medium Intensity Soil Maps for Cumberland County, Maine published by the Natural Resources Conservation Service. The soils boundaries and hydrologic soils group (HSG) designations are indicated on the Soils Map which has been included as Attachment 1. Soils test pits were also performed for consideration of septic system designs on-site. The resultant test pit logs have also been included in Attachment 1.

C. Alterations to Land Cover

As stated in Section A Project Narrative, the applicants intend to construct the required improvements to Carriage Hill, including the necessary stormwater infrastructure, and sell undeveloped lots. Based on the proposed design, the applicants will be responsible for creating approximately 21,880± square feet (0.50± acres) of impervious surface consisting of the proposed gravel road improvement, and approximately 39,550± square feet (0.91± acres) of landscaped area associated with lawn, landscaping and stormwater management, totaling approximately 61,430± square feet (1.41± acres) of developed area.

D. Methodology and Modeling Assumptions

The proposed stormwater management system has been designed utilizing Best Management Practices to maintain existing drainage patterns while providing attenuation of the peak rates of runoff leaving the site. The method utilized to predict the surface water runoff rates in this analysis is a computer program entitled HydroCAD, which is based on the same methods that were originally developed by the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service, and utilized in the TR-20 modeling program. Peak rates of runoff are forecasted based upon land use, hydrologic soil conditions, vegetative cover, contributing watershed area, time of concentration, rainfall data, storage volumes of detention basins and the hydraulic capacity of structures. The computer model predicts the amount of runoff as a function of time, with the ability to include the attenuation effect due to dams, lakes, large wetlands, floodplains and constructed stormwater management basins. The input data for rainfalls with statistical recurrence frequencies of 2-, 10- and 25 years was obtained from Appendix H of the Maine Department of Environmental Protection (MDEP) Chapter 500 Stormwater Management, last revised in 2015. The National Weather Service developed four synthetic storm types to simulate rainfall patterns around the country. For analysis in Cumberland County, Maine, the type III rainfall pattern with a 24-hour duration is appropriate.

E. Basic Standards

Since the project generates over one (1) acre of land disturbance, the project is required by the MDEP to provide permanent and temporary Erosion Control Best Management Practices. These methods are outlined in detail in the plan set.

F. Flooding Analysis

The Town of North Yarmouth Land Use Ordinance requires that projects requiring Subdivision and/or Site Plan Review shall comply section 10.22 “Storm Water Control” Land Use Ordinance. The Town of North Yarmouth Land Use Ordinance requires the project to detain, retain or result in the infiltration of stormwater from the 24-hour storms of the 2-year, 10-year and 25-year frequencies such that the peak flows of stormwater from the project site do not exceed the peak flows of stormwater prior to undertaking the project. The project will utilize two (2) stormwater detention ponds to detain the stormwater runoff generated by the site development.

Although the applicants will not be responsible for the lot development, the stormwater analysis of the proposed project has accounted for an assumed additional 17,864± square feet (0.50± acres) of impervious area and 73,006± square feet (1.68± acres) of potential lawn and landscaping generated by the development of the 4 lots. These assumptions are represented on plan sheet WS-2 the “Watershed Map Developed Condition”.

Three (3) study points shown on the Stormwater Map were analyzed to demonstrate the site design’s compliance with the Town’s standard.

The first study point (SP-1) in the northwest corner of the property and describes the tributary area contributing runoff discharged from the northerly portion project site which drains overland to either a drainage ditch in the southern portion of the watershed or to a stream along the northern-most portion of the property. Study Point Two (SP-2) is located to the south of the existing gravel access drive at the westerly property limits. Study Point Three (SP-3) is located at the southwesterly property corner. Stormwater discharged from the site at all three of the study points analyzed, continues to be conveyed in a westerly direction overland.

The following table summarizes the results of the analysis:

Table 1 – Peak Rates of Stormwater Runoff						
Study Point	2-Year (cfs)		10-Year (cfs)		25-Year (cfs)	
	Pre	Post	Pre	Post	Pre	Post
SP-1	2.60	2.60	4.82	4.58	6.74	6.67
SP-2	1.45	1.45	2.83	2.78	4.07	4.02
SP-3	0.43	0.46	0.85	0.90	1.32	1.38

As illustrated by the table above, the proposed project design effectively reduces the peak rates of runoff at study points SP-1 and SP-2. There are slight increases at Study Point 3 of 0.03 cfs (6.97%) in the 2-year event, 0.05 cfs (5.88%) in the 10-year event, and 0.06 cfs (4.35%) in the 25-year event. Since the drainage from this study point is conveyed across the electric powerline corridor and then into Deer Brook, the minimal increase in flow modeled at SP-3,

will ultimately enter Deer Brook at relatively similar locations as the stormwater discharged at SP-1 & SP-2. Given that there is a decrease in the flows at SP-1 and SP-2 during the 10- and 25-year storm events, there is little to no increase in the potential for flooding to occur in Deer Brook, and there is no significant infrastructure downstream of the project site discharges that will be at risk.

The watershed maps showing post-development drainage patterns are included in the plan set and the model output has been included as Attachment 2 of this report. Also, to ensure the riprapped spillways have sufficient freeboard to the top of berm during the 25-year storm event, sizing calculations were performed and the resultant outputs are included as Attachment 3 of this report.

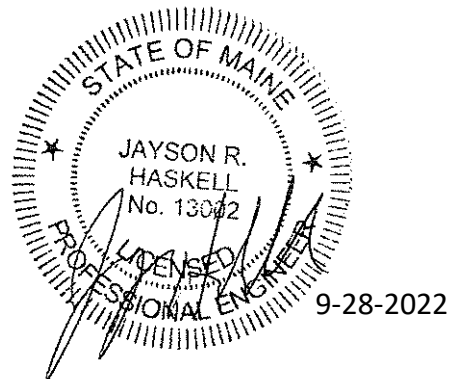
G. Maintenance of common facilities or property

A homeowner's association was already created as part of the first phase of the project. The maintenance of the road extension and new stormwater infrastructure will be the responsibility of the association. An Inspection, Maintenance and Housekeeping Plan for the project has been created and has been included in as Attachment 4 of this report.

Prepared by:

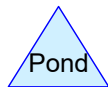
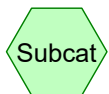
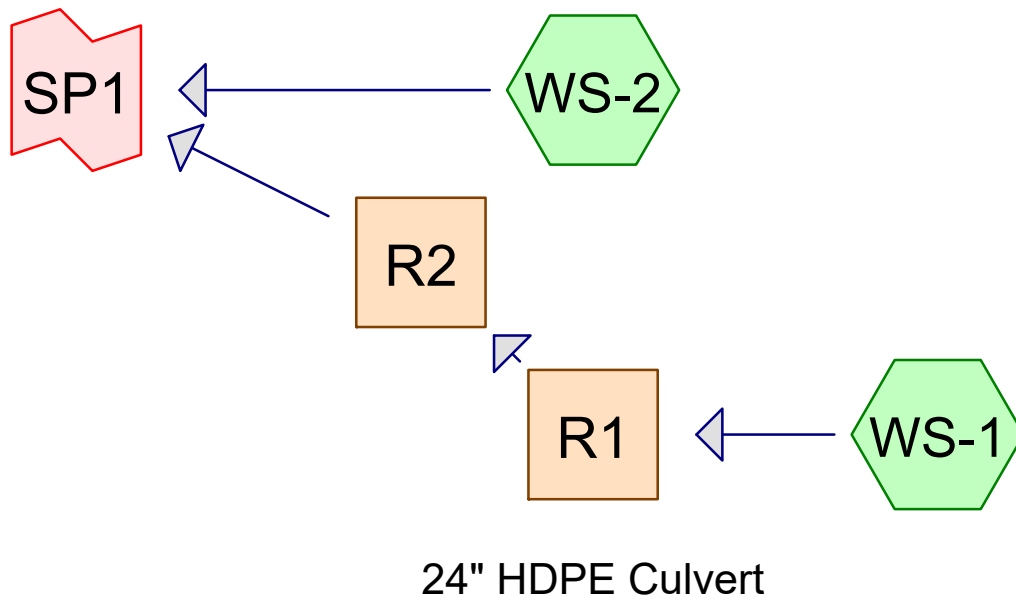
DM ROMA CONSULTING ENGINEERS


Jayson R. Haskell P.E.
Senior Project Manager



ATTACHMENT 2

HYDROCAD MODEL OUTPUT (PRE- AND POST-DEVELOPED CONDITION)



22036 - PRE

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

Prepared by {enter your company name here}

Printed 9/19/2022

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Page 2

Time span=0.00-48.00 hrs, dt=0.08 hrs, 601 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment WS-1: Runoff Area=415,627 sf 1.54% Impervious Runoff Depth=0.23"
 Flow Length=1,375' Tc=29.7 min CN=WQ Runoff=1.36 cfs 7,856 cf

Subcatchment WS-2: Runoff Area=183,631 sf 0.11% Impervious Runoff Depth=0.45"
 Flow Length=720' Tc=16.3 min CN=WQ Runoff=1.56 cfs 6,876 cf

Subcatchment WS-3: Runoff Area=263,078 sf 0.08% Impervious Runoff Depth=0.35"
 Flow Length=1,663' Tc=26.1 min CN=WQ Runoff=1.45 cfs 7,730 cf

Subcatchment WS-4: Runoff Area=153,242 sf 0.00% Impervious Runoff Depth=0.21"
 Flow Length=1,635' Tc=38.1 min CN=WQ Runoff=0.43 cfs 2,700 cf

Reach R1: 24" HDPE Culvert Avg. Flow Depth=0.22' Max Vel=7.28 fps Inflow=1.36 cfs 7,856 cf
 24.0" Round Pipe n=0.013 L=25.8' S=0.0566 '/' Capacity=53.82 cfs Outflow=1.36 cfs 7,856 cf

Reach R2: Avg. Flow Depth=0.31' Max Vel=2.87 fps Inflow=1.36 cfs 7,856 cf
 n=0.035 L=377.2' S=0.0551 '/' Capacity=2,959.60 cfs Outflow=1.36 cfs 7,856 cf

Link SP1: Inflow=2.60 cfs 14,732 cf
 Primary=2.60 cfs 14,732 cf

Link SP2: Inflow=1.45 cfs 7,730 cf
 Primary=1.45 cfs 7,730 cf

Link SP3: Inflow=0.43 cfs 2,700 cf
 Primary=0.43 cfs 2,700 cf

Summary for Subcatchment WS-1:

Runoff = 1.36 cfs @ 12.41 hrs, Volume= 7,856 cf, Depth= 0.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.08 hrs
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
* 5,175	98	Ex. roofs
* 986	98	Ex. paved parking
* 240	98	Ex. concrete areas
* 11,994	96	Ex. gravel surface
246,862	39	>75% Grass cover, Good, HSG A
4,367	80	>75% Grass cover, Good, HSG D
115,626	32	Woods/grass comb., Good, HSG A
30,377	79	Woods/grass comb., Good, HSG D
415,627		Weighted Average
409,226		98.46% Pervious Area
6,401		1.54% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.0	150	0.0263	0.14		Sheet Flow, Seg A to B Grass: Dense n= 0.240 P2= 3.10"
3.5	790	0.0560	3.81		Shallow Concentrated Flow, Seg B to C Unpaved Kv= 16.1 fps
8.2	435	0.0312	0.88		Shallow Concentrated Flow, Seg C to D Woodland Kv= 5.0 fps
29.7	1,375	Total			

Summary for Subcatchment WS-2:

Runoff = 1.56 cfs @ 12.24 hrs, Volume= 6,876 cf, Depth= 0.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.08 hrs
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
* 0	98	Ex. roofs
* 209	98	Ex. paved parking
* 0	98	Ex. concrete areas
* 3,547	96	Ex. gravel surface
1,784	39	>75% Grass cover, Good, HSG A
8,674	80	>75% Grass cover, Good, HSG D
121,075	32	Woods/grass comb., Good, HSG A
48,342	79	Woods/grass comb., Good, HSG D
183,631		Weighted Average
183,422		99.89% Pervious Area
209		0.11% Impervious Area

22036 - PRE

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

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Page 4

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	70	0.0567	0.11		Sheet Flow, Seg A to B Woods: Light underbrush n= 0.400 P2= 3.10"
4.7	304	0.0460	1.07		Shallow Concentrated Flow, Seg B to C Woodland Kv= 5.0 fps
0.8	346	0.0711	7.01	94.65	Channel Flow, Seg C to D Area= 13.5 sf Perim= 27.7' r= 0.49' n= 0.035 Earth, dense weeds
16.3	720	Total			

Summary for Subcatchment WS-3:

Runoff = 1.45 cfs @ 12.38 hrs, Volume= 7,730 cf, Depth= 0.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.08 hrs
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
*	0	98 Ex. roofs
*	209	98 Ex. paved parking
*	0	98 Ex. concrete areas
*	3,009	96 Ex. gravel surface
	77,382	39 >75% Grass cover, Good, HSG A
	1,915	80 >75% Grass cover, Good, HSG D
	115,829	32 Woods/grass comb., Good, HSG A
	131	72 Woods/grass comb., Good, HSG C
	64,603	79 Woods/grass comb., Good, HSG D
	263,078	Weighted Average
	262,869	99.92% Pervious Area
	209	0.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.3	150	0.0467	0.18		Sheet Flow, Seg A to B Grass: Dense n= 0.240 P2= 3.10"
3.6	789	0.0507	3.63		Shallow Concentrated Flow, Seg B to C Unpaved Kv= 16.1 fps
6.9	296	0.0203	0.71		Shallow Concentrated Flow, Seg C to D Woodland Kv= 5.0 fps
1.3	428	0.0420	5.47	234.24	Channel Flow, Seg D to E Area= 42.8 sf Perim= 85.8' r= 0.50' n= 0.035 Earth, dense weeds
26.1	1,663	Total			

Summary for Subcatchment WS-4:

Runoff = 0.43 cfs @ 12.55 hrs, Volume= 2,700 cf, Depth= 0.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.08 hrs
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
* 0	98	Ex. roofs
* 0	98	Ex. paved parking
* 0	98	Ex. concrete areas
* 0	96	Ex. gravel surface
89,847	39	>75% Grass cover, Good, HSG A
2,523	80	>75% Grass cover, Good, HSG D
37,846	32	Woods/grass comb., Good, HSG A
23,026	79	Woods/grass comb., Good, HSG D
153,242		Weighted Average
153,242		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.5	150	0.0283	0.14		Sheet Flow, Seg A to B Grass: Dense n= 0.240 P2= 3.10"
3.9	859	0.0520	3.67		Shallow Concentrated Flow, Seg B to C Unpaved Kv= 16.1 fps
14.6	473	0.0116	0.54		Shallow Concentrated Flow, Seg C to D Woodland Kv= 5.0 fps
2.1	153	0.0587	1.21		Shallow Concentrated Flow, Seg D to E Woodland Kv= 5.0 fps
38.1	1,635	Total			

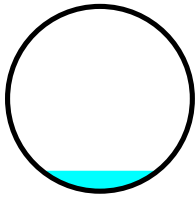
Summary for Reach R1: 24" HDPE Culvert

Inflow Area = 415,627 sf, 1.54% Impervious, Inflow Depth = 0.23" for 2-Year event
Inflow = 1.36 cfs @ 12.41 hrs, Volume= 7,856 cf
Outflow = 1.36 cfs @ 12.42 hrs, Volume= 7,856 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.08 hrs
Max. Velocity= 7.28 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.68 fps, Avg. Travel Time= 0.2 min

Peak Storage= 5 cf @ 12.42 hrs
Average Depth at Peak Storage= 0.22'
Defined Flood Depth= 239.70' Flow Area= 66.3 sf, Capacity= -26,784.56 cfs
Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 53.82 cfs

24.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 25.8' Slope= 0.0566 '/'
Inlet Invert= 235.44', Outlet Invert= 233.98'



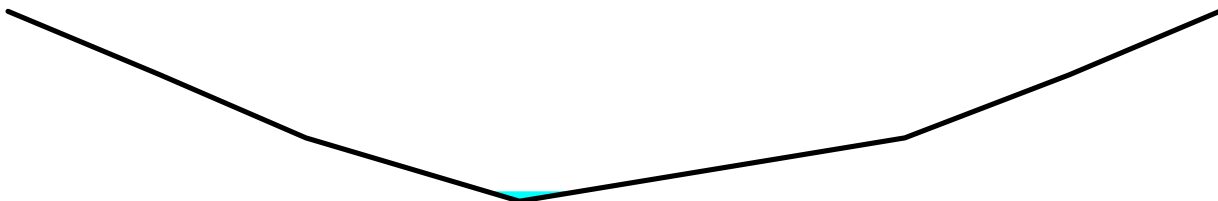
Summary for Reach R2:

Inflow Area = 415,627 sf, 1.54% Impervious, Inflow Depth = 0.23" for 2-Year event
 Inflow = 1.36 cfs @ 12.42 hrs, Volume= 7,856 cf
 Outflow = 1.36 cfs @ 12.44 hrs, Volume= 7,856 cf, Atten= 0%, Lag= 1.5 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.08 hrs
 Max. Velocity= 2.87 fps, Min. Travel Time= 2.2 min
 Avg. Velocity = 1.31 fps, Avg. Travel Time= 4.8 min

Peak Storage= 178 cf @ 12.44 hrs
 Average Depth at Peak Storage= 0.31'
 Bank-Full Depth= 6.00' Flow Area= 133.6 sf, Capacity= 2,959.60 cfs

Custom cross-section, Length= 377.2' Slope= 0.0551 ' / ' (102 Elevation Intervals)
 Constant n= 0.035 Earth, dense weeds
 Inlet Invert= 233.98', Outlet Invert= 213.20'



Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	224.00	0.00
4.79	222.00	2.00
9.41	220.00	4.00
16.16	218.00	6.00
28.33	220.00	4.00
33.54	222.00	2.00
38.28	224.00	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	0.0	0	0.00
2.00	18.9	19.4	7,137	185.59
4.00	66.6	30.0	25,118	1,129.45
6.00	133.6	40.3	50,401	2,959.60

Summary for Link SP1:

Inflow Area = 599,258 sf, 1.10% Impervious, Inflow Depth = 0.30" for 2-Year event
Inflow = 2.60 cfs @ 12.32 hrs, Volume= 14,732 cf
Primary = 2.60 cfs @ 12.32 hrs, Volume= 14,732 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.08 hrs

Summary for Link SP2:

Inflow Area = 263,078 sf, 0.08% Impervious, Inflow Depth = 0.35" for 2-Year event
Inflow = 1.45 cfs @ 12.38 hrs, Volume= 7,730 cf
Primary = 1.45 cfs @ 12.38 hrs, Volume= 7,730 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.08 hrs

Summary for Link SP3:

Inflow Area = 153,242 sf, 0.00% Impervious, Inflow Depth = 0.21" for 2-Year event
Inflow = 0.43 cfs @ 12.55 hrs, Volume= 2,700 cf
Primary = 0.43 cfs @ 12.55 hrs, Volume= 2,700 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.08 hrs

Time span=0.00-48.00 hrs, dt=0.08 hrs, 601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment WS-1: Runoff Area=415,627 sf 1.54% Impervious Runoff Depth=0.47"
Flow Length=1,375' Tc=29.7 min CN=WQ Runoff=2.38 cfs 16,275 cf

Subcatchment WS-2: Runoff Area=183,631 sf 0.11% Impervious Runoff Depth=0.86"
Flow Length=720' Tc=16.3 min CN=WQ Runoff=3.02 cfs 13,128 cf

Subcatchment WS-3: Runoff Area=263,078 sf 0.08% Impervious Runoff Depth=0.71"
Flow Length=1,663' Tc=26.1 min CN=WQ Runoff=2.83 cfs 15,658 cf

Subcatchment WS-4: Runoff Area=153,242 sf 0.00% Impervious Runoff Depth=0.49"
Flow Length=1,635' Tc=38.1 min CN=WQ Runoff=0.85 cfs 6,223 cf

Reach R1: 24" HDPE Culvert Avg. Flow Depth=0.29' Max Vel=8.61 fps Inflow=2.38 cfs 16,275 cf
24.0" Round Pipe n=0.013 L=25.8' S=0.0566 '/ Capacity=53.82 cfs Outflow=2.38 cfs 16,275 cf

Reach R2: Avg. Flow Depth=0.39' Max Vel=3.31 fps Inflow=2.38 cfs 16,275 cf
n=0.035 L=377.2' S=0.0551 '/ Capacity=2,959.60 cfs Outflow=2.37 cfs 16,275 cf

Link SP1: Inflow=4.82 cfs 29,403 cf
Primary=4.82 cfs 29,403 cf

Link SP2: Inflow=2.83 cfs 15,658 cf
Primary=2.83 cfs 15,658 cf

Link SP3: Inflow=0.85 cfs 6,223 cf
Primary=0.85 cfs 6,223 cf

22036 - PRE

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Page 14

Time span=0.00-48.00 hrs, dt=0.08 hrs, 601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment WS-1: Runoff Area=415,627 sf 1.54% Impervious Runoff Depth=0.79"
Flow Length=1,375' Tc=29.7 min CN=WQ Runoff=3.47 cfs 27,501 cf

Subcatchment WS-2: Runoff Area=183,631 sf 0.11% Impervious Runoff Depth=1.27"
Flow Length=720' Tc=16.3 min CN=WQ Runoff=4.25 cfs 19,502 cf

Subcatchment WS-3: Runoff Area=263,078 sf 0.08% Impervious Runoff Depth=1.11"
Flow Length=1,663' Tc=26.1 min CN=WQ Runoff=4.07 cfs 24,420 cf

Subcatchment WS-4: Runoff Area=153,242 sf 0.00% Impervious Runoff Depth=0.84"
Flow Length=1,635' Tc=38.1 min CN=WQ Runoff=1.32 cfs 10,727 cf

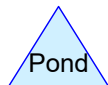
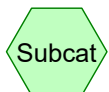
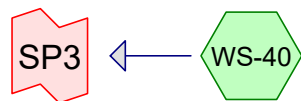
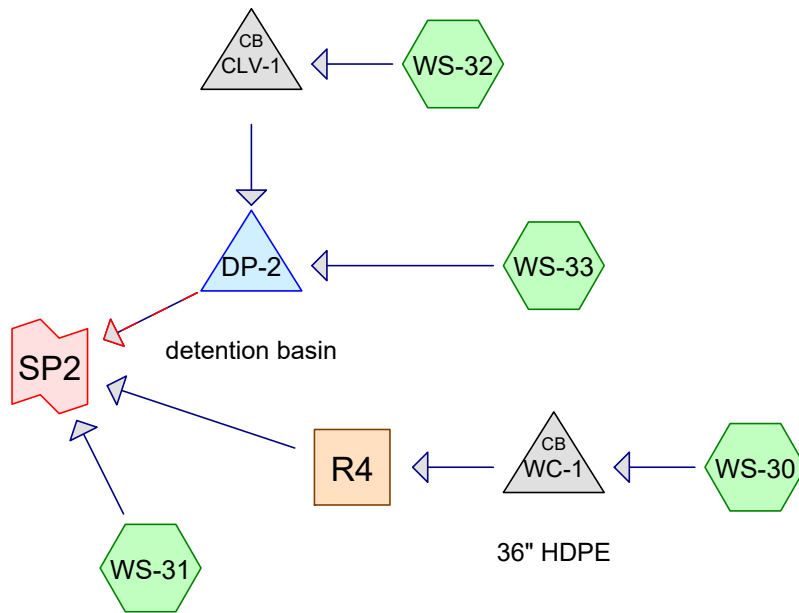
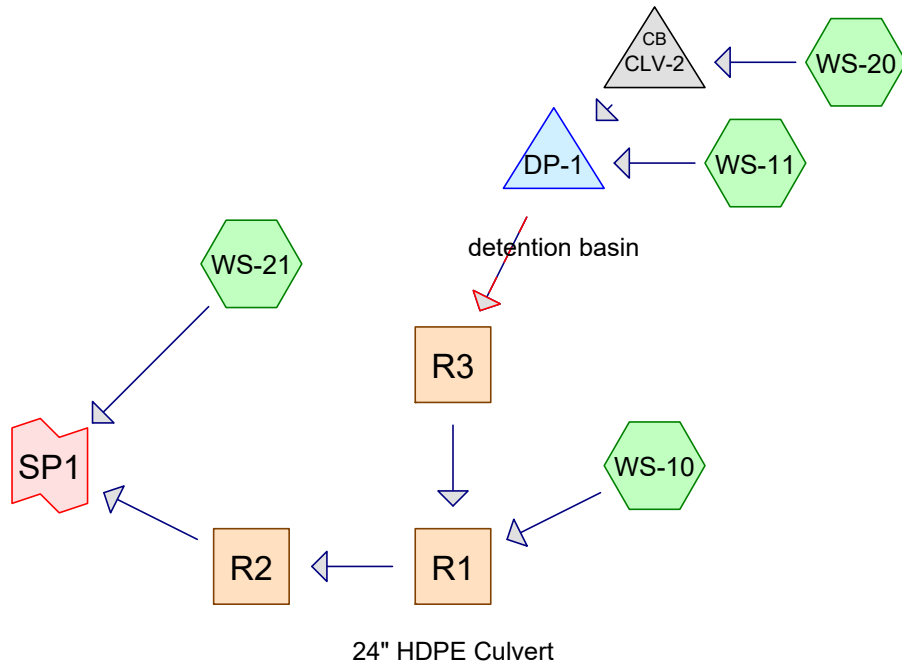
Reach R1: 24" HDPE Culvert Avg. Flow Depth=0.34' Max Vel=9.61 fps Inflow=3.47 cfs 27,501 cf
24.0" Round Pipe n=0.013 L=25.8' S=0.0566 '/ Capacity=53.82 cfs Outflow=3.47 cfs 27,501 cf

Reach R2: Avg. Flow Depth=0.45' Max Vel=3.64 fps Inflow=3.47 cfs 27,501 cf
n=0.035 L=377.2' S=0.0551 '/ Capacity=2,959.60 cfs Outflow=3.46 cfs 27,501 cf

Link SP1: Inflow=6.74 cfs 47,004 cf
Primary=6.74 cfs 47,004 cf

Link SP2: Inflow=4.07 cfs 24,420 cf
Primary=4.07 cfs 24,420 cf

Link SP3: Inflow=1.32 cfs 10,727 cf
Primary=1.32 cfs 10,727 cf



22036 - POST

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

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Page 2

Time span=0.00-48.00 hrs, dt=0.08 hrs, 601 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment WS-10: Runoff Area=344,502 sf 0.87% Impervious Runoff Depth=0.22"
 Flow Length=1,375' Tc=29.7 min CN=WQ Runoff=1.08 cfs 6,206 cf

Subcatchment WS-11: Runoff Area=72,453 sf 7.32% Impervious Runoff Depth=0.48"
 Flow Length=321' Tc=23.7 min CN=WQ Runoff=0.55 cfs 2,913 cf

Subcatchment WS-20: Runoff Area=8,497 sf 2.11% Impervious Runoff Depth=1.08"
 Flow Length=261' Tc=16.5 min CN=WQ Runoff=0.17 cfs 766 cf

Subcatchment WS-21: Runoff Area=165,894 sf 1.23% Impervious Runoff Depth=0.50"
 Flow Length=658' Tc=35.3 min CN=WQ Runoff=1.14 cfs 6,967 cf

Subcatchment WS-30: Runoff Area=144,961 sf 0.14% Impervious Runoff Depth=0.45"
 Flow Length=1,235' Tc=24.8 min CN=WQ Runoff=1.04 cfs 5,379 cf

Subcatchment WS-31: Runoff Area=65,253 sf 1.56% Impervious Runoff Depth=0.22"
 Flow Length=332' Tc=39.8 min CN=WQ Runoff=0.18 cfs 1,195 cf

Subcatchment WS-32: Runoff Area=35,159 sf 5.80% Impervious Runoff Depth=0.75"
 Flow Length=275' Tc=13.4 min CN=WQ Runoff=0.51 cfs 2,186 cf

Subcatchment WS-33: Runoff Area=29,508 sf 0.00% Impervious Runoff Depth=0.99"
 Flow Length=332' Tc=39.8 min CN=WQ Runoff=0.37 cfs 2,429 cf

Subcatchment WS-40: Runoff Area=149,351 sf 0.68% Impervious Runoff Depth=0.24"
 Flow Length=1,635' Tc=38.1 min CN=WQ Runoff=0.46 cfs 2,925 cf

Reach R1: 24" HDPE Culvert Avg. Flow Depth=0.23' Max Vel=7.50 fps Inflow=1.47 cfs 8,415 cf
 24.0" Round Pipe n=0.013 L=51.0' S=0.0578 '/ Capacity=54.41 cfs Outflow=1.47 cfs 8,415 cf

Reach R2: Avg. Flow Depth=0.32' Max Vel=2.94 fps Inflow=1.47 cfs 8,415 cf
 n=0.035 L=377.2' S=0.0551 '/ Capacity=2,959.60 cfs Outflow=1.47 cfs 8,415 cf

Reach R3: Avg. Flow Depth=0.13' Max Vel=1.37 fps Inflow=0.43 cfs 2,210 cf
 n=0.030 L=323.2' S=0.0139 '/ Capacity=182.65 cfs Outflow=0.42 cfs 2,210 cf

Reach R4: Avg. Flow Depth=0.18' Max Vel=2.09 fps Inflow=1.04 cfs 5,379 cf
 n=0.030 L=305.5' S=0.0420 '/ Capacity=3,660.56 cfs Outflow=1.03 cfs 5,379 cf

Pond CLV-1: Peak Elev=227.68' Inflow=0.51 cfs 2,186 cf
 15.0" Round Culvert n=0.013 L=35.5' S=0.0051 '/ Outflow=0.51 cfs 2,186 cf

Pond CLV-2: Peak Elev=246.21' Inflow=0.17 cfs 766 cf
 15.0" Round Culvert n=0.013 L=42.9' S=0.0583 '/ Outflow=0.17 cfs 766 cf

Pond DP-1: detention basin Peak Elev=243.61' Storage=707 cf Inflow=0.70 cfs 3,679 cf
 Discarded=0.04 cfs 1,470 cf Primary=0.43 cfs 2,210 cf Secondary=0.00 cfs 0 cf Outflow=0.46 cfs 3,679 cf

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Page 3

Pond DP-2: detention basin

Peak Elev=223.96' Storage=834 cf Inflow=0.69 cfs 4,615 cf

Discarded=0.12 cfs 3,095 cf Primary=0.32 cfs 1,525 cf Secondary=0.00 cfs 0 cf Outflow=0.44 cfs 4,620 cf

Pond WC-1: 36" HDPE

Peak Elev=236.60' Inflow=1.04 cfs 5,379 cf

36.0" Round Culvert w/ 12.0" inside fill n=0.013 L=32.7' S=0.0101 '/ Outflow=1.04 cfs 5,379 cf

Link SP1:

Inflow=2.60 cfs 15,382 cf
Primary=2.60 cfs 15,382 cf

Link SP2:

Inflow=1.45 cfs 8,099 cf
Primary=1.45 cfs 8,099 cf

Link SP3:

Inflow=0.46 cfs 2,925 cf
Primary=0.46 cfs 2,925 cf

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Page 4

Summary for Subcatchment WS-10:

Runoff = 1.08 cfs @ 12.42 hrs, Volume= 6,206 cf, Depth= 0.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.08 hrs
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
* 2,998	98	Ex. roofs
* 0	98	Prop. roofs
* 0	98	Ex. paved parking
* 0	98	Ex. concrete areas
* 8,266	96	Ex. gravel surface
* 2,943	96	Prop. gravel surface
* 0	96	Prop. gravel surface (pvt. drive.)
232,287	39	>75% Grass cover, Good, HSG A
4,990	80	>75% Grass cover, Good, HSG D
69,606	32	Woods/grass comb., Good, HSG A
23,412	79	Woods/grass comb., Good, HSG D
344,502		Weighted Average
341,504		99.13% Pervious Area
2,998		0.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.0	150	0.0263	0.14		Sheet Flow, Seg A to B Grass: Dense n= 0.240 P2= 3.10"
3.5	790	0.0560	3.81		Shallow Concentrated Flow, Seg B to C Unpaved Kv= 16.1 fps
8.2	435	0.0312	0.88		Shallow Concentrated Flow, Seg C to D Woodland Kv= 5.0 fps
29.7	1,375	Total			

Summary for Subcatchment WS-11:

Runoff = 0.55 cfs @ 12.32 hrs, Volume= 2,913 cf, Depth= 0.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.08 hrs
Type III 24-hr 2-Year Rainfall=3.10"

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

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Page 5

Area (sf)	CN	Description
*	2,177	98 Ex. roofs
*	2,040	98 Prop. roofs
*	1,083	98 Ex. paved parking
*	0	98 Ex. concrete areas
*	0	96 Ex. gravel surface
*	3,275	96 Prop. gravel surface
*	1,942	96 Prop. gravel surface (pvt. drive.)
	43,059	39 >75% Grass cover, Good, HSG A
	4,470	80 >75% Grass cover, Good, HSG D
	14,407	32 Woods/grass comb., Good, HSG A
	0	79 Woods/grass comb., Good, HSG D
72,453		Weighted Average
67,153		92.68% Pervious Area
5,300		7.32% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	85	0.2083	0.11		Sheet Flow, Seg A to B Woods: Dense underbrush n= 0.800 P2= 3.10"
9.6	65	0.0239	0.11		Sheet Flow, Seg B to C Grass: Dense n= 0.240 P2= 3.10"
1.0	171	0.0293	2.76		Shallow Concentrated Flow, Seg C to D Unpaved Kv= 16.1 fps
23.7	321	Total			

Summary for Subcatchment WS-20:

Runoff = 0.17 cfs @ 12.23 hrs, Volume= 766 cf, Depth= 1.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.08 hrs
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
*	0	98 Ex. roofs
*	0	98 Prop. roofs
*	179	98 Ex. pavement
*	0	98 Ex. concrete areas
*	0	96 Ex. gravel surface
*	2,666	96 Prop. gravel surface
	2,795	39 >75% Grass cover, Good, HSG A
	1,216	80 >75% Grass cover, Good, HSG D
	1,641	32 Woods/grass comb., Good, HSG A
	0	79 Woods/grass comb., Good, HSG D
8,497		Weighted Average
8,318		97.89% Pervious Area
179		2.11% Impervious Area

22036 - POST

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

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Page 6

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.2	47	0.0372	0.05		Sheet Flow, Seg A to B
					Woods: Dense underbrush n= 0.800 P2= 3.10"
0.3	214	0.0304	11.06	269.89	Trap/Vee/Rect Channel Flow, Seg B to C
					Bot.W=2.00' D=2.75' Z= 2.0 & 3.0 ' /' Top.W=15.75'
					n= 0.030 Earth, grassed & winding
16.5	261	Total			

Summary for Subcatchment WS-21:

Runoff = 1.14 cfs @ 12.51 hrs, Volume= 6,967 cf, Depth= 0.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.08 hrs
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
*	0	98 Ex. roofs
*	2,040	98 Prop. roofs
*	0	98 Ex. paved parking
*	0	98 Ex. concrete areas
*	0	96 Ex. gravel surface
*	4,340	96 Prop. gravel surface
	11,725	39 >75% Grass cover, Good, HSG A
	6,494	80 >75% Grass cover, Good, HSG D
	95,623	32 Woods/grass comb., Good, HSG A
	45,672	79 Woods/grass comb., Good, HSG D
165,894		Weighted Average
163,854		98.77% Pervious Area
2,040		1.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
31.3	150	0.0733	0.08		Sheet Flow, Seg A to B
					Woods: Dense underbrush n= 0.800 P2= 3.10"
3.2	162	0.0278	0.83		Shallow Concentrated Flow, Seg B to C
					Woodland Kv= 5.0 fps
0.8	346	0.0711	7.01	94.65	Channel Flow, Seg C to D
					Area= 13.5 sf Perim= 27.7' r= 0.49'
					n= 0.035 Earth, dense weeds
35.3	658	Total			

Summary for Subcatchment WS-30:

Runoff = 1.04 cfs @ 12.36 hrs, Volume= 5,379 cf, Depth= 0.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.08 hrs
Type III 24-hr 2-Year Rainfall=3.10"

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

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Page 7

Area (sf)	CN	Description
*	0	98 Ex. roofs
*	209	98 Ex. paved parking
*	0	98 Ex. concrete areas
*	0	96 Ex. gravel surface
*	0	96 Prop. gravel surface
66,826	39	>75% Grass cover, Good, HSG A
2,131	80	>75% Grass cover, Good, HSG D
27,365	32	Woods/grass comb., Good, HSG A
0	72	Woods/grass comb., Good, HSG C
48,430	79	Woods/grass comb., Good, HSG D
144,961		Weighted Average
144,752		99.86% Pervious Area
209		0.14% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.3	150	0.0467	0.18		Sheet Flow, Seg A to B Grass: Dense n= 0.240 P2= 3.10"
3.6	789	0.0507	3.63		Shallow Concentrated Flow, Seg B to C Unpaved Kv= 16.1 fps
6.9	296	0.0203	0.71		Shallow Concentrated Flow, Seg C to D Woodland Kv= 5.0 fps
24.8	1,235	Total			

Summary for Subcatchment WS-31:

Runoff = 0.18 cfs @ 12.55 hrs, Volume= 1,195 cf, Depth= 0.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.08 hrs
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
*	0	98 Ex. roofs
*	1,020	98 Prop. roofs
*	0	98 Ex. paved parking
*	0	98 Ex. concrete areas
*	0	96 Ex. gravel surface
*	1,992	96 Prop. gravel surface
9,057	39	>75% Grass cover, Good, HSG A
3,008	80	>75% Grass cover, Good, HSG D
48,436	32	Woods/grass comb., Good, HSG A
131	72	Woods/grass comb., Good, HSG C
1,609	79	Woods/grass comb., Good, HSG D
65,253		Weighted Average
64,233		98.44% Pervious Area
1,020		1.56% Impervious Area

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

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Page 8

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.3	46	0.0233	0.10		Sheet Flow, Seg A to B Grass: Dense n= 0.240 P2= 3.10"
30.1	105	0.0393	0.06		Sheet Flow, Seg B to C Woods: Dense underbrush n= 0.800 P2= 3.10"
2.4	181	0.0653	1.28		Shallow Concentrated Flow, Seg C to D Woodland Kv= 5.0 fps
39.8	332	Total			

Summary for Subcatchment WS-32:

Runoff = 0.51 cfs @ 12.18 hrs, Volume= 2,186 cf, Depth= 0.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.08 hrs
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
*	0	98 Ex. roofs
*	2,040	98 Prop. roofs
*	0	98 Ex. paved parking
*	0	98 Ex. concrete areas
*	0	96 Ex. gravel surface
*	7,465	96 Prop. gravel surface
	24,824	39 >75% Grass cover, Good, HSG A
	166	80 >75% Grass cover, Good, HSG D
	363	32 Woods/grass comb., Good, HSG A
	0	72 Woods/grass comb., Good, HSG C
	301	79 Woods/grass comb., Good, HSG D
	35,159	Weighted Average
	33,119	94.20% Pervious Area
	2,040	5.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.2	113	0.0324	0.14		Sheet Flow, Seg A to B Grass: Dense n= 0.240 P2= 3.10"
0.2	162	0.0364	12.10	295.32	Trap/Vee/Rect Channel Flow, Seg B to C Bot.W=2.00' D=2.75' Z= 2.0 & 3.0 ' Top.W=15.75' n= 0.030 Earth, grassed & winding
13.4	275	Total			

Summary for Subcatchment WS-33:

Runoff = 0.37 cfs @ 12.55 hrs, Volume= 2,429 cf, Depth= 0.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.08 hrs
Type III 24-hr 2-Year Rainfall=3.10"

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

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Page 9

Area (sf)	CN	Description
*	0	98 Ex. roofs
*	0	98 Prop. roofs
*	0	98 Ex. paved parking
*	0	98 Ex. concrete areas
*	0	96 Ex. gravel surface
*	6,961	96 Prop. gravel surface
	12,936	39 >75% Grass cover, Good, HSG A
	2,675	80 >75% Grass cover, Good, HSG D
	1,273	32 Woods/grass comb., Good, HSG A
	0	72 Woods/grass comb., Good, HSG C
	5,663	79 Woods/grass comb., Good, HSG D
<hr/>		
	29,508	Weighted Average
	29,508	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.3	46	0.0233	0.10		Sheet Flow, Seg A to B Grass: Dense n= 0.240 P2= 3.10"
30.1	105	0.0393	0.06		Sheet Flow, Seg B to C Woods: Dense underbrush n= 0.800 P2= 3.10"
2.4	181	0.0653	1.28		Shallow Concentrated Flow, Seg C to D Woodland Kv= 5.0 fps
<hr/>					
39.8	332	Total			

Summary for Subcatchment WS-40:

Runoff = 0.46 cfs @ 12.55 hrs, Volume= 2,925 cf, Depth= 0.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.08 hrs
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
*	0	98 Ex. roofs
*	1,020	98 Prop. roofs, HSG A
*	0	98 Ex. paved parking
*	0	98 Ex. concrete areas
*	0	96 Ex. gravel surface
	93,885	39 >75% Grass cover, Good, HSG A
	2,862	80 >75% Grass cover, Good, HSG D
	29,093	32 Woods/grass comb., Good, HSG A
	22,491	79 Woods/grass comb., Good, HSG D
<hr/>		
	149,351	Weighted Average
	148,331	99.32% Pervious Area
	1,020	0.68% Impervious Area

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Page 10

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.5	150	0.0283	0.14		Sheet Flow, Seg A to B Grass: Dense n= 0.240 P2= 3.10"
3.9	859	0.0520	3.67		Shallow Concentrated Flow, Seg B to C Unpaved Kv= 16.1 fps
14.6	473	0.0116	0.54		Shallow Concentrated Flow, Seg C to D Woodland Kv= 5.0 fps
2.1	153	0.0587	1.21		Shallow Concentrated Flow, Seg D to E Woodland Kv= 5.0 fps
38.1	1,635	Total			

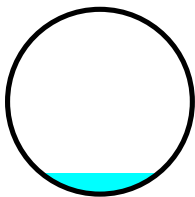
Summary for Reach R1: 24" HDPE Culvert

Inflow Area = 425,452 sf, 1.99% Impervious, Inflow Depth = 0.24" for 2-Year event
 Inflow = 1.47 cfs @ 12.44 hrs, Volume= 8,415 cf
 Outflow = 1.47 cfs @ 12.45 hrs, Volume= 8,415 cf, Atten= 0%, Lag= 0.1 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.08 hrs
 Max. Velocity= 7.50 fps, Min. Travel Time= 0.1 min
 Avg. Velocity = 2.67 fps, Avg. Travel Time= 0.3 min

Peak Storage= 10 cf @ 12.45 hrs
 Average Depth at Peak Storage= 0.23'
 Defined Flood Depth= 239.70' Flow Area= 66.3 sf, Capacity= -27,079.70 cfs
 Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 54.41 cfs

24.0" Round Pipe
 n= 0.013 Corrugated PE, smooth interior
 Length= 51.0' Slope= 0.0578 '/'
 Inlet Invert= 235.95', Outlet Invert= 233.00'



Summary for Reach R2:

Inflow Area = 425,452 sf, 1.99% Impervious, Inflow Depth = 0.24" for 2-Year event
 Inflow = 1.47 cfs @ 12.45 hrs, Volume= 8,415 cf
 Outflow = 1.47 cfs @ 12.48 hrs, Volume= 8,415 cf, Atten= 0%, Lag= 1.8 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.08 hrs
 Max. Velocity= 2.94 fps, Min. Travel Time= 2.1 min
 Avg. Velocity = 1.30 fps, Avg. Travel Time= 4.8 min

Peak Storage= 188 cf @ 12.48 hrs
 Average Depth at Peak Storage= 0.32'
 Bank-Full Depth= 6.00' Flow Area= 133.6 sf, Capacity= 2,959.60 cfs

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

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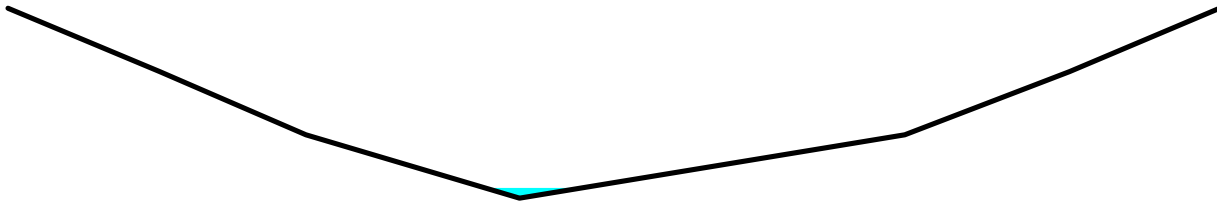
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Page 11

Custom cross-section, Length= 377.2' Slope= 0.0551 '/' (102 Elevation Intervals)

Constant n= 0.035 Earth, dense weeds

Inlet Invert= 233.98', Outlet Invert= 213.20'



Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	224.00	0.00
4.79	222.00	2.00
9.41	220.00	4.00
16.16	218.00	6.00
28.33	220.00	4.00
33.54	222.00	2.00
38.28	224.00	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	0.0	0	0.00
2.00	18.9	19.4	7,137	185.59
4.00	66.6	30.0	25,118	1,129.45
6.00	133.6	40.3	50,401	2,959.60

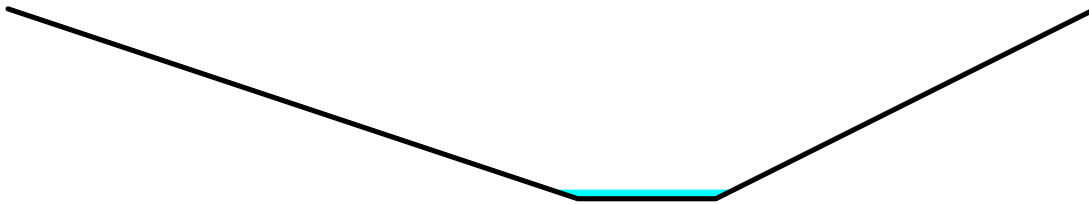
Summary for Reach R3:

Inflow Area = 80,950 sf, 6.77% Impervious, Inflow Depth = 0.33" for 2-Year event
 Inflow = 0.43 cfs @ 12.55 hrs, Volume= 2,210 cf
 Outflow = 0.42 cfs @ 12.60 hrs, Volume= 2,210 cf, Atten= 0%, Lag= 2.8 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.08 hrs
 Max. Velocity= 1.37 fps, Min. Travel Time= 3.9 min
 Avg. Velocity = 0.65 fps, Avg. Travel Time= 8.3 min

Peak Storage= 100 cf @ 12.60 hrs
 Average Depth at Peak Storage= 0.13'
 Bank-Full Depth= 2.75' Flow Area= 24.4 sf, Capacity= 182.65 cfs

2.00' x 2.75' deep channel, n= 0.030 Earth, grassed & winding
 Side Slope Z-value= 3.0 2.0 '/' Top Width= 15.75'
 Length= 323.2' Slope= 0.0139 '/'
 Inlet Invert= 240.00', Outlet Invert= 235.50'



Summary for Reach R4:

Inflow Area = 144,961 sf, 0.14% Impervious, Inflow Depth = 0.45" for 2-Year event
 Inflow = 1.04 cfs @ 12.36 hrs, Volume= 5,379 cf
 Outflow = 1.03 cfs @ 12.40 hrs, Volume= 5,379 cf, Atten= 1%, Lag= 2.2 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.08 hrs
 Max. Velocity= 2.09 fps, Min. Travel Time= 2.4 min
 Avg. Velocity = 0.97 fps, Avg. Travel Time= 5.2 min

Peak Storage= 151 cf @ 12.40 hrs
 Average Depth at Peak Storage= 0.18'
 Bank-Full Depth= 4.00' Flow Area= 218.4 sf, Capacity= 3,660.56 cfs

Custom cross-section, Length= 305.5' Slope= 0.0420 '/'
 Constant n= 0.030 Earth, grassed & winding
 Inlet Invert= 236.00', Outlet Invert= 223.17'



‡

Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	228.00	0.00
23.08	226.00	2.00
61.30	224.00	4.00
80.98	226.00	2.00
102.58	228.00	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	0.0	0	0.00
2.00	57.9	58.1	17,688	586.70
4.00	218.4	102.9	66,715	3,660.56

Summary for Pond CLV-1:

Inflow Area = 35,159 sf, 5.80% Impervious, Inflow Depth = 0.75" for 2-Year event
 Inflow = 0.51 cfs @ 12.18 hrs, Volume= 2,186 cf
 Outflow = 0.51 cfs @ 12.18 hrs, Volume= 2,186 cf, Atten= 0%, Lag= 0.0 min
 Primary = 0.51 cfs @ 12.18 hrs, Volume= 2,186 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.08 hrs
 Peak Elev= 227.68' @ 12.18 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	227.28'	15.0" Round 12" HDPE ROAD CULVERT L= 35.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 227.28' / 227.10' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.50 cfs @ 12.18 hrs HW=227.68' TW=223.73' (Dynamic Tailwater)
 ↳1=12" HDPE ROAD CULVERT (Barrel Controls 0.50 cfs @ 2.21 fps)

Summary for Pond CLV-2:

Inflow Area = 8,497 sf, 2.11% Impervious, Inflow Depth = 1.08" for 2-Year event
 Inflow = 0.17 cfs @ 12.23 hrs, Volume= 766 cf
 Outflow = 0.17 cfs @ 12.23 hrs, Volume= 766 cf, Atten= 0%, Lag= 0.0 min
 Primary = 0.17 cfs @ 12.23 hrs, Volume= 766 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.08 hrs
 Peak Elev= 246.21' @ 12.23 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	246.00'	15.0" Round 15" HDPE ROAD CULVERT L= 42.9' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 246.00' / 243.50' S= 0.0583 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.17 cfs @ 12.23 hrs HW=246.21' TW=243.43' (Dynamic Tailwater)
 ↳1=15" HDPE ROAD CULVERT (Inlet Controls 0.17 cfs @ 1.23 fps)

Summary for Pond DP-1: detention basin

Inflow Area = 80,950 sf, 6.77% Impervious, Inflow Depth = 0.55" for 2-Year event
 Inflow = 0.70 cfs @ 12.29 hrs, Volume= 3,679 cf
 Outflow = 0.46 cfs @ 12.55 hrs, Volume= 3,679 cf, Atten= 34%, Lag= 15.4 min
 Discarded = 0.04 cfs @ 12.55 hrs, Volume= 1,470 cf
 Primary = 0.43 cfs @ 12.55 hrs, Volume= 2,210 cf
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.08 hrs
 Peak Elev= 243.61' @ 12.55 hrs Surf.Area= 1,307 sf Storage= 707 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)

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Page 14

Center-of-Mass det. time= 25.7 min (821.2 - 795.5)

Volume	Invert	Avail.Storage	Storage Description			
#1	243.00'	7,189 cf	Custom Stage Data (Irregular) Listed below (Recalc)			
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)	
243.00	1,009	144.7	0	0	1,009	
244.00	1,515	174.6	1,253	1,253	1,785	
246.00	2,902	282.6	4,343	5,596	5,741	
246.50	3,480	295.1	1,593	7,189	6,334	

Device	Routing	Invert	Outlet Devices
#1	Discarded	243.00'	1.020 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 240.00'
#2	Primary	243.00'	6.0" Round Culvert L= 26.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 243.00' / 242.87' S= 0.0049 ' S= 0.0049 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#3	Secondary	244.15'	10.0' long x 16.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Discarded OutFlow Max=0.04 cfs @ 12.55 hrs HW=243.61' (Free Discharge)
 ↳1=Exfiltration (Controls 0.04 cfs)

Primary OutFlow Max=0.43 cfs @ 12.55 hrs HW=243.61' TW=240.13' (Dynamic Tailwater)
 ↳2=Culvert (Barrel Controls 0.43 cfs @ 2.26 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=243.00' TW=240.00' (Dynamic Tailwater)
 ↳3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond DP-2: detention basin

Inflow Area = 64,667 sf, 3.15% Impervious, Inflow Depth = 0.86" for 2-Year event
 Inflow = 0.69 cfs @ 12.22 hrs, Volume= 4,615 cf
 Outflow = 0.44 cfs @ 12.71 hrs, Volume= 4,620 cf, Atten= 36%, Lag= 29.0 min
 Discarded = 0.12 cfs @ 12.71 hrs, Volume= 3,095 cf
 Primary = 0.32 cfs @ 12.71 hrs, Volume= 1,525 cf
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.08 hrs
 Peak Elev= 223.96' @ 12.71 hrs Surf.Area= 1,927 sf Storage= 834 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 19.6 min (827.0 - 807.4)

Volume	Invert	Avail.Storage	Storage Description
#1	223.50'	6,018 cf	Custom Stage Data (Irregular) Listed below (Recalc)

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Page 15

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
223.50	1,669	181.3	0	0	1,669
223.75	1,807	186.0	434	434	1,814
224.00	1,948	190.7	469	904	1,962
225.00	2,549	209.6	2,242	3,145	2,597
225.50	2,870	219.0	1,354	4,499	2,935
226.00	3,206	228.4	1,518	6,018	3,288

Device	Routing	Invert	Outlet Devices
#1	Discarded	223.50'	2.410 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 220.00'
#2	Primary	223.50'	6.0" Round Culvert L= 16.2' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 223.50' / 223.40' S= 0.0062 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#3	Secondary	224.40'	10.0' long x 16.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Discarded OutFlow Max=0.12 cfs @ 12.71 hrs HW=223.96' (Free Discharge)

↑1=Exfiltration (Controls 0.12 cfs)

Primary OutFlow Max=0.32 cfs @ 12.71 hrs HW=223.96' TW=0.00' (Dynamic Tailwater)

↑2=Culvert (Barrel Controls 0.32 cfs @ 2.18 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=223.50' TW=0.00' (Dynamic Tailwater)

↑3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond WC-1: 36" HDPE

Inflow Area = 144,961 sf, 0.14% Impervious, Inflow Depth = 0.45" for 2-Year event
 Inflow = 1.04 cfs @ 12.36 hrs, Volume= 5,379 cf
 Outflow = 1.04 cfs @ 12.36 hrs, Volume= 5,379 cf, Atten= 0%, Lag= 0.0 min
 Primary = 1.04 cfs @ 12.36 hrs, Volume= 5,379 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.08 hrs

Peak Elev= 236.60' @ 12.36 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	236.33'	36.0" Round 36" HDPE WETLAND CROSSING w/ 12.0" inside fill L= 32.7' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 235.33' / 235.00' S= 0.0101 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 5.01 sf

Primary OutFlow Max=1.03 cfs @ 12.36 hrs HW=236.60' TW=236.18' (Dynamic Tailwater)

↑1=36" HDPE WETLAND CROSSING (Inlet Controls 1.03 cfs @ 1.31 fps)

Summary for Link SP1:

Inflow Area = 591,346 sf, 1.78% Impervious, Inflow Depth = 0.31" for 2-Year event
Inflow = 2.60 cfs @ 12.49 hrs, Volume= 15,382 cf
Primary = 2.60 cfs @ 12.49 hrs, Volume= 15,382 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.08 hrs

Summary for Link SP2:

Inflow Area = 274,881 sf, 1.19% Impervious, Inflow Depth = 0.35" for 2-Year event
Inflow = 1.45 cfs @ 12.44 hrs, Volume= 8,099 cf
Primary = 1.45 cfs @ 12.44 hrs, Volume= 8,099 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.08 hrs

Summary for Link SP3:

Inflow Area = 149,351 sf, 0.68% Impervious, Inflow Depth = 0.24" for 2-Year event
Inflow = 0.46 cfs @ 12.55 hrs, Volume= 2,925 cf
Primary = 0.46 cfs @ 12.55 hrs, Volume= 2,925 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.08 hrs

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

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Page 17

Time span=0.00-48.00 hrs, dt=0.08 hrs, 601 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment WS-10: Runoff Area=344,502 sf 0.87% Impervious Runoff Depth=0.46"
 Flow Length=1,375' Tc=29.7 min CN=WQ Runoff=1.90 cfs 13,296 cf

Subcatchment WS-11: Runoff Area=72,453 sf 7.32% Impervious Runoff Depth=0.85"
 Flow Length=321' Tc=23.7 min CN=WQ Runoff=0.87 cfs 5,135 cf

Subcatchment WS-20: Runoff Area=8,497 sf 2.11% Impervious Runoff Depth=1.80"
 Flow Length=261' Tc=16.5 min CN=WQ Runoff=0.27 cfs 1,272 cf

Subcatchment WS-21: Runoff Area=165,894 sf 1.23% Impervious Runoff Depth=0.95"
 Flow Length=658' Tc=35.3 min CN=WQ Runoff=2.15 cfs 13,150 cf

Subcatchment WS-30: Runoff Area=144,961 sf 0.14% Impervious Runoff Depth=0.93"
 Flow Length=1,235' Tc=24.8 min CN=WQ Runoff=2.07 cfs 11,177 cf

Subcatchment WS-31: Runoff Area=65,253 sf 1.56% Impervious Runoff Depth=0.40"
 Flow Length=332' Tc=39.8 min CN=WQ Runoff=0.31 cfs 2,165 cf

Subcatchment WS-32: Runoff Area=35,159 sf 5.80% Impervious Runoff Depth=1.25"
 Flow Length=275' Tc=13.4 min CN=WQ Runoff=0.78 cfs 3,673 cf

Subcatchment WS-33: Runoff Area=29,508 sf 0.00% Impervious Runoff Depth=1.73"
 Flow Length=332' Tc=39.8 min CN=WQ Runoff=0.63 cfs 4,265 cf

Subcatchment WS-40: Runoff Area=149,351 sf 0.68% Impervious Runoff Depth=0.53"
 Flow Length=1,635' Tc=38.1 min CN=WQ Runoff=0.90 cfs 6,594 cf

Reach R1: 24" HDPE Culvert Avg. Flow Depth=0.29' Max Vel=8.73 fps Inflow=2.44 cfs 17,791 cf
 24.0" Round Pipe n=0.013 L=51.0' S=0.0578 '/ Capacity=54.41 cfs Outflow=2.44 cfs 17,791 cf

Reach R2: Avg. Flow Depth=0.39' Max Vel=3.33 fps Inflow=2.44 cfs 17,791 cf
 n=0.035 L=377.2' S=0.0551 '/ Capacity=2,959.60 cfs Outflow=2.43 cfs 17,791 cf

Reach R3: Avg. Flow Depth=0.16' Max Vel=1.55 fps Inflow=0.61 cfs 4,495 cf
 n=0.030 L=323.2' S=0.0139 '/ Capacity=182.65 cfs Outflow=0.61 cfs 4,495 cf

Reach R4: Avg. Flow Depth=0.24' Max Vel=2.46 fps Inflow=2.07 cfs 11,177 cf
 n=0.030 L=305.5' S=0.0420 '/ Capacity=3,660.56 cfs Outflow=2.05 cfs 11,177 cf

Pond CLV-1: Peak Elev=227.79' Inflow=0.78 cfs 3,673 cf
 15.0" Round Culvert n=0.013 L=35.5' S=0.0051 '/ Outflow=0.78 cfs 3,673 cf

Pond CLV-2: Peak Elev=246.27' Inflow=0.27 cfs 1,272 cf
 15.0" Round Culvert n=0.013 L=42.9' S=0.0583 '/ Outflow=0.27 cfs 1,272 cf

Pond DP-1: detention basin Peak Elev=243.96' Storage=1,199 cf Inflow=1.11 cfs 6,407 cf
 Discarded=0.04 cfs 1,915 cf Primary=0.61 cfs 4,495 cf Secondary=0.00 cfs 0 cf Outflow=0.65 cfs 6,410 cf

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

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Page 18

Pond DP-2: detention basin

Peak Elev=224.27' Storage=1,459 cf Inflow=1.10 cfs 7,938 cf

Discarded=0.14 cfs 4,517 cf Primary=0.54 cfs 3,422 cf Secondary=0.00 cfs 0 cf Outflow=0.68 cfs 7,938 cf

Pond WC-1: 36" HDPE

Peak Elev=236.76' Inflow=2.07 cfs 11,177 cf

36.0" Round Culvert w/ 12.0" inside fill n=0.013 L=32.7' S=0.0101 '/ Outflow=2.07 cfs 11,177 cf

Link SP1:

Inflow=4.58 cfs 30,940 cf
Primary=4.58 cfs 30,940 cf

Link SP2:

Inflow=2.78 cfs 16,763 cf
Primary=2.78 cfs 16,763 cf

Link SP3:

Inflow=0.90 cfs 6,594 cf
Primary=0.90 cfs 6,594 cf

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

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Page 32

Time span=0.00-48.00 hrs, dt=0.08 hrs, 601 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment WS-10: Runoff Area=344,502 sf 0.87% Impervious Runoff Depth=0.80"
 Flow Length=1,375' Tc=29.7 min CN=WQ Runoff=2.81 cfs 22,853 cf

Subcatchment WS-11: Runoff Area=72,453 sf 7.32% Impervious Runoff Depth=1.27"
 Flow Length=321' Tc=23.7 min CN=WQ Runoff=1.17 cfs 7,640 cf

Subcatchment WS-20: Runoff Area=8,497 sf 2.11% Impervious Runoff Depth=2.45"
 Flow Length=261' Tc=16.5 min CN=WQ Runoff=0.35 cfs 1,737 cf

Subcatchment WS-21: Runoff Area=165,894 sf 1.23% Impervious Runoff Depth=1.40"
 Flow Length=658' Tc=35.3 min CN=WQ Runoff=3.02 cfs 19,369 cf

Subcatchment WS-30: Runoff Area=144,961 sf 0.14% Impervious Runoff Depth=1.43"
 Flow Length=1,235' Tc=24.8 min CN=WQ Runoff=3.00 cfs 17,279 cf

Subcatchment WS-31: Runoff Area=65,253 sf 1.56% Impervious Runoff Depth=0.64"
 Flow Length=332' Tc=39.8 min CN=WQ Runoff=0.43 cfs 3,480 cf

Subcatchment WS-32: Runoff Area=35,159 sf 5.80% Impervious Runoff Depth=1.78"
 Flow Length=275' Tc=13.4 min CN=WQ Runoff=1.01 cfs 5,207 cf

Subcatchment WS-33: Runoff Area=29,508 sf 0.00% Impervious Runoff Depth=2.43"
 Flow Length=332' Tc=39.8 min CN=WQ Runoff=0.85 cfs 5,977 cf

Subcatchment WS-40: Runoff Area=149,351 sf 0.68% Impervious Runoff Depth=0.90"
 Flow Length=1,635' Tc=38.1 min CN=WQ Runoff=1.38 cfs 11,200 cf

Reach R1: 24" HDPE Culvert Avg. Flow Depth=0.35' Max Vel=9.88 fps Inflow=3.71 cfs 30,096 cf
 24.0" Round Pipe n=0.013 L=51.0' S=0.0578 '/ Capacity=54.41 cfs Outflow=3.71 cfs 30,096 cf

Reach R2: Avg. Flow Depth=0.46' Max Vel=3.69 fps Inflow=3.71 cfs 30,096 cf
 n=0.035 L=377.2' S=0.0551 '/ Capacity=2,959.60 cfs Outflow=3.69 cfs 30,096 cf

Reach R3: Avg. Flow Depth=0.22' Max Vel=1.83 fps Inflow=1.06 cfs 7,243 cf
 n=0.030 L=323.2' S=0.0139 '/ Capacity=182.65 cfs Outflow=1.04 cfs 7,243 cf

Reach R4: Avg. Flow Depth=0.28' Max Vel=2.71 fps Inflow=3.00 cfs 17,279 cf
 n=0.030 L=305.5' S=0.0420 '/ Capacity=3,660.56 cfs Outflow=2.98 cfs 17,279 cf

Pond CLV-1: Peak Elev=227.87' Inflow=1.01 cfs 5,207 cf
 15.0" Round Culvert n=0.013 L=35.5' S=0.0051 '/ Outflow=1.01 cfs 5,207 cf

Pond CLV-2: Peak Elev=246.31' Inflow=0.35 cfs 1,737 cf
 15.0" Round Culvert n=0.013 L=42.9' S=0.0583 '/ Outflow=0.35 cfs 1,737 cf

Pond DP-1: detention basin Peak Elev=244.20' Storage=1,575 cf Inflow=1.47 cfs 9,377 cf
 Discarded=0.05 cfs 2,136 cf Primary=0.72 cfs 6,998 cf Secondary=0.34 cfs 246 cf Outflow=1.11 cfs 9,379 cf

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

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Page 33

Pond DP-2: detention basin

Peak Elev=224.47' Storage=1,877 cf Inflow=1.46 cfs 11,185 cf

Discarded=0.15 cfs 5,544 cf Primary=0.63 cfs 5,147 cf Secondary=0.47 cfs 496 cf Outflow=1.25 cfs 11,187 cf

Pond WC-1: 36" HDPE

Peak Elev=236.88' Inflow=3.00 cfs 17,279 cf

36.0" Round Culvert w/ 12.0" inside fill n=0.013 L=32.7' S=0.0101 '/ Outflow=3.00 cfs 17,279 cf

Link SP1:

Inflow=6.67 cfs 49,465 cf
Primary=6.67 cfs 49,465 cf

Link SP2:

Inflow=4.02 cfs 26,402 cf
Primary=4.02 cfs 26,402 cf

Link SP3:

Inflow=1.38 cfs 11,200 cf
Primary=1.38 cfs 11,200 cf

ATTACHMENT 3

DETENTION BASIN SIZING (HYDROCAD DATA)

SPILLWAY RUN - DETENTION POND DP-1

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

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Summary for Pond DP-1: detention basin

Inflow Area = 80,950 sf, 6.77% Impervious, Inflow Depth = 1.39" for 25-Year event
 Inflow = 1.47 cfs @ 12.30 hrs, Volume= 9,377 cf
 Outflow = 1.46 cfs @ 12.34 hrs, Volume= 9,378 cf, Atten= 1%, Lag= 2.0 min
 Discarded = 0.05 cfs @ 12.34 hrs, Volume= 4,435 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Secondary = 1.41 cfs @ 12.34 hrs, Volume= 4,944 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.08 hrs
Peak Elev= 244.29' @ 12.34 hrs Surf.Area= 1,689 sf Storage= 1,719 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 175.8 min (994.5 - 818.8)

Volume	Invert	Avail.Storage	Storage Description			
#1	243.00'	7,189 cf	Custom Stage Data (Irregular) Listed below (Recalc)			
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)	
243.00	1,009	144.7	0	0	1,009	
244.00	1,515	174.6	1,253	1,253	1,785	
246.00	2,902	282.6	4,343	5,596	5,741	
246.50	3,480	295.1	1,593	7,189	6,334	

Device	Routing	Invert	Outlet Devices
#1	Discarded	243.00'	1.020 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 240.00'
#2	Primary	243.00'	6.0" Round Culvert X 0.00 L= 26.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 243.00' / 242.87' S= 0.0049 1/ S Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#3	Secondary	244.15'	10.0' long x 16.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Discarded OutFlow Max=0.05 cfs @ 12.34 hrs HW=244.29' (Free Discharge)
 ↖1=Exfiltration (Controls 0.05 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=243.00' TW=240.00' (Dynamic Tailwater)
 ↖2=Culvert (Controls 0.00 cfs)

Secondary OutFlow Max=1.40 cfs @ 12.34 hrs HW=244.29' TW=240.26' (Dynamic Tailwater)
 ↖3=Broad-Crested Rectangular Weir (Weir Controls 1.40 cfs @ 1.00 fps)

PEAK ELEVATION DURING SPILLWAY RUN = 244.29'
TOP OF BERM ELEV.=245.3 = 1.01' FREEBOARD >1'

SPILLWAY RUN - DETENTION POND DP-2

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

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Summary for Pond DP-2: detention basin

Inflow Area = 64,667 sf, 3.15% Impervious, Inflow Depth = 2.08" for 25-Year event
 Inflow = 1.46 cfs @ 12.25 hrs, Volume= 11,185 cf
 Outflow = 1.42 cfs @ 12.44 hrs, Volume= 11,194 cf, Atten= 3%, Lag= 11.3 min
 Discarded = 0.16 cfs @ 12.40 hrs, Volume= 7,580 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Secondary = 1.26 cfs @ 12.44 hrs, Volume= 3,614 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.08 hrs

Peak Elev= 224.53' @ 12.40 hrs Surf.Area= 2,255 sf Storage= 2,013 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)

Center-of-Mass det. time= 82.2 min (896.7 - 814.6)

Volume	Invert	Avail.Storage	Storage Description		
#1	223.50'	6,018 cf	Custom Stage Data (Irregular) Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
223.50	1,669	181.3	0	0	1,669
223.75	1,807	186.0	434	434	1,814
224.00	1,948	190.7	469	904	1,962
225.00	2,549	209.6	2,242	3,145	2,597
225.50	2,870	219.0	1,354	4,499	2,935
226.00	3,206	228.4	1,518	6,018	3,288

Device	Routing	Invert	Outlet Devices
#1	Discarded	223.50'	2.410 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 220.00'
#2	Primary	223.50'	6.0" Round Culvert X 0.00 L= 16.2' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 223.50' / 223.40' S= 0.0062 ' S= 0.0062 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#3	Secondary	224.40'	10.0' long x 16.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Discarded OutFlow Max=0.16 cfs @ 12.40 hrs HW=224.53' (Free Discharge)

↑1=Exfiltration (Controls 0.16 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=223.50' TW=0.00' (Dynamic Tailwater)

↑2=Culvert (Controls 0.00 cfs)

Secondary OutFlow Max=1.22 cfs @ 12.44 hrs HW=224.53' TW=0.00' (Dynamic Tailwater)

↑3=Broad-Crested Rectangular Weir (Weir Controls 1.22 cfs @ 0.96 fps)

PEAK ELEVATION DURING SPILLWAY RUN = 224.53'
TOP OF BERM ELEV.=225.5 = 0.97' FREEBOARD EQUIVALENT TO 1'

ATTACHMENT 4

INSPECTION, MAINTENANCE AND HOUSEKEEPING PLAN



INSPECTION, MAINTENANCE, AND HOUSEKEEPING PLAN
(Prepared by Jayson Haskell, PE #13002)

CARRIAGE HILL EXTENSION
NORTH YARMOUTH, MAINE

Responsible Party

Owners: Carriage Hill Homeowners Association
Carriage Hill
North Yarmouth, Maine

The Carriage Hill Homeowners Association is responsible for the maintenance of all stormwater management structures and related site components and the keeping of a maintenance log book with service records. Records of all inspections and maintenance work performed must be kept on file with the homeowner's association and retained for a minimum of five years. The maintenance log will be made available to the Town and Maine Department of Environmental Protection (MDEP) upon request. At a minimum, the maintenance of stormwater management systems will be performed on the prescribed schedule.

The procedures outlined in this plan are provided as a general overview of the anticipated practices to be utilized on this site. In some instances, additional measures may be required due to unexpected conditions. *The Maine Erosion and Sedimentation Control BMP and Stormwater Management for Maine: Best Management Practices* Manuals published by the MDEP should be referenced for additional information.

During Construction

- 1. Inspection and Corrective Action:** It is the contractor's responsibility to comply with the inspection and maintenance procedures outlined in this section. Inspection shall occur on all disturbed and impervious areas, erosion control measures, material storage areas that are exposed to precipitation, and locations where vehicles enter or exit the site. These areas shall be inspected at least once a week as well as 24 hours before and after a storm event generating more than 0.5 inch of rainfall over a 24-hour period and prior to completing permanent stabilization measures. A person with knowledge of erosion and stormwater control, including the standards and conditions in the permit, shall conduct the inspections.
- 2. Maintenance:** Erosion controls shall be maintained in effective operating condition until areas are permanently stabilized. If best management practices (BMPs) need to be repaired, the repair work should be initiated upon discovery of the problem but no later than the end of the next workday. If BMPs need to be maintained or modified, additional BMPs are necessary, or other

corrective action is needed, implementation must be completed within seven calendar days and prior to any rainfall event.

- 3. Documentation:** A report summarizing the inspections and any corrective action taken must be maintained on site. The log must include the name(s) and qualifications of the person making the inspections; the date(s) of the inspections; and the major observations about the operation and maintenance of erosion and sedimentation controls, materials storage areas, and vehicle access points to the parcel. Major observations must include BMPs that need maintenance, BMPs that failed to operate as designed or proved inadequate for a particular location, and location(s) where additional BMPs are needed. For each BMP requiring maintenance, BMP needing replacement, and location needing additional BMPs, note in the log the corrective action taken and when it was taken. The log must be made accessible to MDEP and Town staff, and a copy must be provided upon request. The association shall retain a copy of the log for a period of at least three years from the completion of permanent stabilization.

Housekeeping

- 1. Spill prevention:** Controls must be used to prevent pollutants from construction and waste materials on site to enter stormwater, which includes storage practices to minimize exposure of the materials to stormwater. The site contractor or operator must develop, and implement as necessary, appropriate spill prevention, containment, and response planning measures.
- 2. Groundwater protection:** During construction, liquid petroleum products and other hazardous materials with the potential to contaminate groundwater may not be stored or handled in areas of the site draining to an infiltration area. An "infiltration area" is any area of the site that by design or as a result of soils, topography and other relevant factors accumulates runoff that infiltrates into the soil. Dikes, berms, sumps, and other forms of secondary containment that prevent discharge to groundwater may be used to isolate portions of the site for the purposes of storage and handling of these materials. Any project proposing infiltration of stormwater must provide adequate pre-treatment of stormwater prior to discharge of stormwater to the infiltration area, or provide for treatment within the infiltration area, in order to prevent the accumulation of fines, reduction in infiltration rate, and consequent flooding and destabilization.
- 3. Fugitive sediment and dust:** Actions must be taken to ensure that activities do not result in noticeable erosion of soils or fugitive dust emissions during or after construction. Oil may not be used for dust control, but other water additives may be considered as needed. A stabilized construction entrance (SCE) should be included to minimize tracking of mud and sediment. If off-site tracking occurs, public roads should be swept immediately and no less than once a week and prior to significant storm events. Operations during dry months, that experience fugitive dust problems, should wet down unpaved access roads once a week or more frequently as needed with a water additive to suppress fugitive sediment and dust.
- 4. Debris and other materials:** Minimize the exposure of construction debris, building and landscaping materials, trash, fertilizers, pesticides, herbicides, detergents, sanitary waste and

other materials to precipitation and stormwater runoff. These materials must be prevented from becoming a pollutant source.

- 5. Excavation de-watering:** Excavation de-watering is the removal of water from trenches, foundations, coffer dams, ponds, and other areas within the construction area that retain water after excavation. In most cases the collected water is heavily silted and hinders correct and safe construction practices. The collected water removed from the ponded area, either through gravity or pumping, must be spread through natural wooded buffers or removed to areas that are specifically designed to collect the maximum amount of sediment possible, like a cofferdam sedimentation basin. Avoid allowing the water to flow over disturbed areas of the site. Equivalent measures may be taken if approved by the Department.
- 6. Authorized Non-stormwater discharges:** Identify and prevent contamination by non-stormwater discharges. Where allowed non-stormwater discharges exist, they must be identified and steps should be taken to ensure the implementation of appropriate pollution prevention measures for the non-stormwater component(s) of the discharge. Authorized non-stormwater discharges are:

 - (a) Discharges from firefighting activity;
 - (b) Fire hydrant flushings;
 - (c) Vehicle washwater if detergents are not used and washing is limited to the exterior of vehicles (engine, undercarriage and transmission washing is prohibited);
 - (d) Dust control runoff in accordance with permit conditions and Appendix (C)(3);
 - (e) Routine external building washdown, not including surface paint removal, that does not involve detergents;
 - (f) Pavement washwater (where spills/leaks of toxic or hazardous materials have not occurred, unless all spilled material had been removed) if detergents are not used;
 - (g) Uncontaminated air conditioning or compressor condensate;
 - (h) Uncontaminated groundwater or spring water;
 - (i) Foundation or footer drain-water where flows are not contaminated;
 - (j) Uncontaminated excavation dewatering (see requirements in Appendix C(5));
 - (k) Potable water sources including waterline flushings; and
 - (l) Landscape irrigation.
- 7. Unauthorized non-stormwater discharges:** Approval from the Town does not authorize a discharge that is mixed with a source of non-stormwater, other than those discharges in compliance with Section 6 above. Specifically, the Town's approval does not authorize discharges of the following:

 - (a) Wastewater from the washout or cleanout of concrete, stucco, paint, form release oils, curing compounds or other construction materials;
 - (b) Fuels, oils or other pollutants used in vehicle and equipment operation and maintenance;
 - (c) Soaps, solvents, or detergents used in vehicle and equipment washing; and
 - (d) Toxic or hazardous substances from a spill or other release.

Post Construction

- 1. Inspection and Corrective Action:** All stormwater measures must be maintained by the association in effective operating condition. A qualified third-party inspector hired by the association shall at least annually inspect the stormwater management facilities. This person should have knowledge of erosion and stormwater control including the standards and conditions of the site's approvals. The following areas, facilities, and measures must be inspected, and identified deficiencies must be corrected. Areas, facilities, and measures other than those listed below may also require inspection on a specific site.
 - A. Vegetated Areas:** Inspect vegetated areas, particularly slopes and embankments, early in the growing season or after heavy rains to identify active or potential erosion problems. Replant bare areas or areas with sparse growth. Where rill is evident, armor the area with an appropriate lining or divert the erosive flows to on-site areas able to withstand the concentrated flows.
 - B. Ditches, Swales, and Open Channels:** Inspect ditches, swales, and other open channels in the spring, late fall, and after heavy rains to remove any obstructions to flow, remove accumulated sediments and debris, control vegetative growth that could obstruct flow, and repair any erosion of the ditch lining. Vegetated ditches must be mowed at least annually or otherwise maintained to control the growth of woody vegetation and maintain flow capacity. Repair any slumping side slopes as soon as practicable. The channel must receive adequate routine maintenance to maintain capacity and prevent or correct any erosion of the channel's bottom or side slopes.
 - C. Storm Drains:** Inspect storm drains in the spring, late fall, and after heavy rains to remove any obstructions to flow; remove accumulated sediments and debris at the inlet, at the outlet, and within the conduit; and to repair any erosion damage at the storm drain's outlet.
 - D. Detention Basin:** The detention basin should be inspected annually for erosion, destabilization of side slopes, embankment settling and other signs of structural failure, and loss of storage volume due to sediment accumulation. Corrective action should be taken immediately upon identification of problems. The inlet and outlet of the basin should be checked periodically to ensure that flow structures are not blocked by debris. Inspections should be conducted monthly during wet weather conditions (March to November). Flow structures should be easily accessible for inspection and the removal of debris blockage during storm conditions.

Embankments should be maintained to preserve their integrity as impoundment structures, including: mowing, control of woody vegetation, rodent, and outlet maintenance and repair. Basins should be mowed at least twice a year during the growing season to maintain maximum grass heights less than 12 inches. All accumulated trash and debris should be removed.

- E. Spillway:** Spillways should be inspected semi-annually and following major storm events for the first year and every six months thereafter to remove any obstructions to flow. Any woody vegetation growing within the spillway must be removed.

- F. Regular Maintenance:** Clear accumulations of winter sand along roadway and parking areas once a year, preferably in the spring. Accumulations on pavement may be removed by pavement sweeping. Accumulations of sand along pavement shoulders may be removed by grading excess sand to the pavement edge and removing it manually or by a front-end loader.

- G. Documentation:** Keep a log (report) summarizing inspections, maintenance, and any corrective actions taken. The log must include the date on which each inspection or maintenance task was performed, a description of the inspection findings or maintenance completed, and the name of the inspector or maintenance personnel performing the task. If a maintenance task requires the clean-out of any sediments or debris, indicate where the sediment and debris was disposed after removal. The log must be made accessible to Town staff upon request. The permittee shall retain a copy of the log for a period of at least five years from the completion of permanent stabilization. Attached is a sample log.

Duration of Maintenance

Perform maintenance as described.

INSPECTION AND MAINTENANCE LOG – GENERAL INSPECTION

CARRIAGE HILL NORTH YARMOUTH, MAINE

The following stormwater management and erosion control items shall be inspected and maintained as prescribed in the Maintenance Plan with recommended frequencies as identified below. The homeowner’s association is responsible for keeping this maintenance log on file for a minimum of five years and shall provide a copy to the Town upon request. Inspections are to be performed by a qualified third-party inspector and all corrective actions shall be performed by personnel familiar with stormwater management systems and erosion controls.

Maintenance Item	Maintenance Event	Date Performed	Responsible Personnel	Comments
Vegetated Areas	Inspect slopes and embankments early in Spring.			
Ditches, swales and other open channels	Inspect after major rainfall event.			
	Inspect for erosion or slumping and repair			
	Mowed at least annually			
Storm Drains	Inspect semiannually and after major rainfall.			
	Repair erosion at inlet or outlet of pipe.			
	Repair displaced riprap.			
	Clean accumulated sediment in culverts when >20% full.			
Regular Maintenance	Clear accumulation of winter sand in paved areas annually.			

INSPECTION AND MAINTENANCE LOG – DETENTION BASINS
DETENTION BASIN # _____

CARRIAGE HILL
NORTH YARMOUTH, MAINE

The following stormwater management and erosion control items shall be inspected and maintained as prescribed in the Maintenance Plan with recommended frequencies as identified below. The homeowner’s association is responsible for keeping this maintenance log on file for a minimum of five years and shall provide a copy to the Town upon request. Inspections are to be performed by a qualified third-party inspector and all corrective actions shall be performed by personnel familiar with stormwater management systems and erosion controls.

Maintenance Item	Maintenance Event	Date Performed	Responsible Personnel	Comments
Detention Basin	Inspect semi-annually for erosion or sediment accumulation and repair as necessary.			
	Inspect side slopes and embankments for signs of settling or structural failure annually			
	Mow grass at least twice a year to no more than 12 inches.			
	Inspect and remove trash and debris as annually.			
Spillway	Inspect and remove obstructions as necessary.			
	Remove woody vegetation.			
	Replace riprap as necessary.			
Outlet Pipe	Inspect semiannually and after major rainfall.			
	Repair erosion at outlet of pipe.			
	Repair displaced riprap.			
	Clean accumulated sediment in culverts when >20% full.			



To: Tara Mullen
Colliers Engineering
41 Church Road
Brunswick, ME 04011

Date: July 28, 2022

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

Re: Carriage Hill Lots, North Yarmouth, ME – Wetland Delineation
and Subsurface Wastewater Disposal Test Pit Memorandum

At the request of Colliers Engineering (the “Client”), Mainely Soils conducted on-site wetland and waterbody delineations on two parcels totalling approximately 16.62 acres in size located at the end of Carriage Hill Road in North Yarmouth, 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 July 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 Village Residential Zone along the Route 115 Road corridor in the Town of North Yarmouth. The site is currently occupied by two single family homes in the northeastern portions of each lot and vacant forested land. Surrounding land use of the site is residential to the north, east and south and a CMP corridor to the west. Access to the site is currently from Carriage Hill Road to the northeast. In total, the wetland and waterbody delineation survey area encompassed approximately 16.62 acres, identified by the Town of North Yarmouth as Tax Map 10, Lots 64 and 65.

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 Presumpscot River watershed (Hydrologic Unit Classification (HUC) 8 identification 01060001).

The Natural Resource Conservation Service soil survey mapping identifies native soils at the site as being formed primarily in outwash and stratified drift on low-lying positions on terraces and plains (Walpole series). The western portion of the site was shown to be formed within glaciofluvial materials on outwash terraces, outwash plains, outwash deltas, kames, kame terraces, and eskers (Hinckley series) The Walpole series is a poorly drained map unit respectively and contains areas of wetlands (Web Soil Survey, 2022). The Hinckley series is an excessively drained soil.

Study Methodology

Mainely Soils conducted wetland delineation field work within the survey area in July 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.

Three 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.

Mainly Soils also surveyed the site for streams, in accordance with the State of Maine Natural Resources Protection Act stream criteria and definitions. Two intermittent 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 within 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.

Test pits were dug and assessed on the subject site in accordance the Maine Subsurface Wastewater Disposal Rules by a Licensed Site Evaluator. One pit was dug per proposed houselot.

Study Results

Using the methodologies described above, a wetland delineation was performed on July 28th, 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 three distinct features. Wetlands A and B were located on sideslope seeps in sandy soils. Wetland A was located north of an existing woods road and drained in a northerly direction. Wetland B was an isolated feature located just south of the woods road. Overland flow was in a northerly direction and with some small ravines forming along the western side of the wetland that drained westerly. Both wetlands would be classified as seasonally saturated palustrine forested wetlands (PFO1B) (Cowardin et al 1979). Dominant wetland vegetation within these wetlands consisted of red maple (*Acer rubrum*), yellow birch (*Betula alleghaniensis*), green ash (*Fraxinus pennsylvanica*), white pine (*Pinus strobus*), highbush blueberry (*Vaccinium corymbosum*), cinnamon fern (*Osmunda cinnamomea*), interrupted fern (*Osmunda claytoniana*), 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 sand substratum meeting hydric soil criteria A1: Depleted Below Dark Surface. Evidence of wetland hydrology included small pockets of standing water, water stained leaves, drainage patterns, and saturation to the soil surface at the time of field investigations.

Wetland C was located along the southwestern portion of the site within pit and mound microtopography and extended offsite to the west into a CMP corridor. It was classified as a PFO1B wetland dominated by red maple, balsam fir, white pine, eastern hemlock (*Tsuga canadensis*), glossy buckthorn (*Frangula alnus*), cinnamon fern, and goldthread. The soils

within the wetland generally had a thin, dark mucky surface overlaying a depleted silt loam substratum meeting hydric soil criteria A1: Depleted Below Dark Surface. Evidence of wetland hydrology included small pockets of standing water, water stained leaves, drainage patterns, and saturation to the soil surface at the time of field investigations.

Two intermittent streams were delineated within the Study Area. Stream S1 was an intermittent stream flowing in a north westerly direction within a ravine from a culvert draining Wetland C. The stream was approximately 1 to 2 feet wide with no flowing water and a silt/sand substrate and 6 inch gradual banks.

Stream S2 was an intermittent stream flowing in a narrow ravine in a westerly direction from Wetland A, was approximately 1-2 feet wide with no flowing water, a silt/mud substrate and 6 inch vertical banks.

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

Four test pits were dug and assessed on the subject site by Alexander Finamore, LSE #391. Each test pit was located by GPS. Three of the test pits were within glacial outwash and one was within lacustrine sediments (Test Pit 4). All four test pits have suitable soils to support a 'First Time System' according to the Maine Subsurface Waste Water Disposal Rules.

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. Three wetlands were delineated on the site and were identified as Wetlands A, B, and C. The wetland features were located within sandy soils in sideslope seeps. The wetlands generally exhibited seasonally saturated/flooded hydroperiods, and provided groundwater discharge, floodflow alteration, wildlife habitat, and stormwater/water quality maintenance functions. Two intermittent 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 both streams 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.

References:

- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitat in the United States. U.S. Fish and Wildlife Service. FWS/OBD-79/31 103pp.
- Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.
- U.S. Army Corps of Engineers (USACE). 2012. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region. ERDC/EL TR-12-01. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

Carriage Hill Road Lots, North Yarmouth, ME – Wetland Delineation
Memorandum
Page 4 of 6
July 28, 2022

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
2. Soil Logs

Natural Resource Photographs – 7/28/2022
Carriage Hill Lots, North Yarmouth, Maine



Photo 1: View looking southeast across Wetland A from flag 1



Photo 2: View looking easterly across Wetland A from flag 15

Natural Resource Photographs – 7/28/2022
Carriage Hill Lots, North Yarmouth, Maine



Photo 3: Looking northwest through Wetland A from flag 39



Photo 4: View looking southeast across Wetland B from flag 1

Natural Resource Photographs – 7/28/2022
Carriage Hill Lots, North Yarmouth, Maine



Photo 5: View looking northeast along the edge of the tidal coastal wetland



Photo 6: View looking northerly at the forested interior of Wetland C from flag 1

Natural Resource Photographs – 7/28/2022
Carriage Hill Lots, North Yarmouth, Maine



Photo 7: View looking westerly with Wetland C on the left along the existing woods road



Photo 8: View of typical upland onsite

Natural Resource Photographs – 7/28/2022
Carriage Hill Lots, North Yarmouth, Maine



Photo 9: View of Intermittent Stream 1



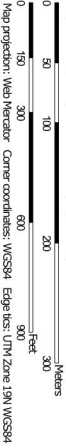
Photo 9: View of Intermittent Stream 2

Soil Map—Cumberland County and Part of Oxford County, Maine
(Carriage Hill)

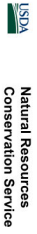


Soil Map may not be walked at this scale.

Map Scale: 1:4,070 if printed on B landscape (17" x 11") sheet.





































Map projection: Web Mercator Corner coordinates: WGS84 Edge: NAD 83 UTM Zone 18N WGS84



Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

MAP LEGEND

	Area of Interest (AOI)		Spoil Area
	Area of Interest (AOI)		Stony Spot
	Soils		Very Stony Spot
	Soil Map Unit Polygons		Wet Spot
	Soil Map Unit Lines		Other
	Soil Map Unit Points		Special Line Features
Special Point Features			
	Blowout	Water Features	
	Borrow Pit		Streams and Canals
	Clay Spot	Transportation	
	Closed Depression		Rails
	Gravel Pit		Interstate Highways
	Gravelly Spot		US Routes
	Landfill		Major Roads
	Lava Flow		Local Roads
	Marsh or swamp	Background	
	Mine or Quarry	 Aerial Photography	
	Miscellaneous Water		
	Perennial Water		
	Rock Outcrop		
	Saline Spot		
	Sandy Spot		
	Severely Eroded Spot		
	Sinkhole		
	Slide or Slip		
	Sodic Spot		

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Cumberland County and Part of Oxford County, Maine

Survey Area Data: Version 18, Aug 31, 2021

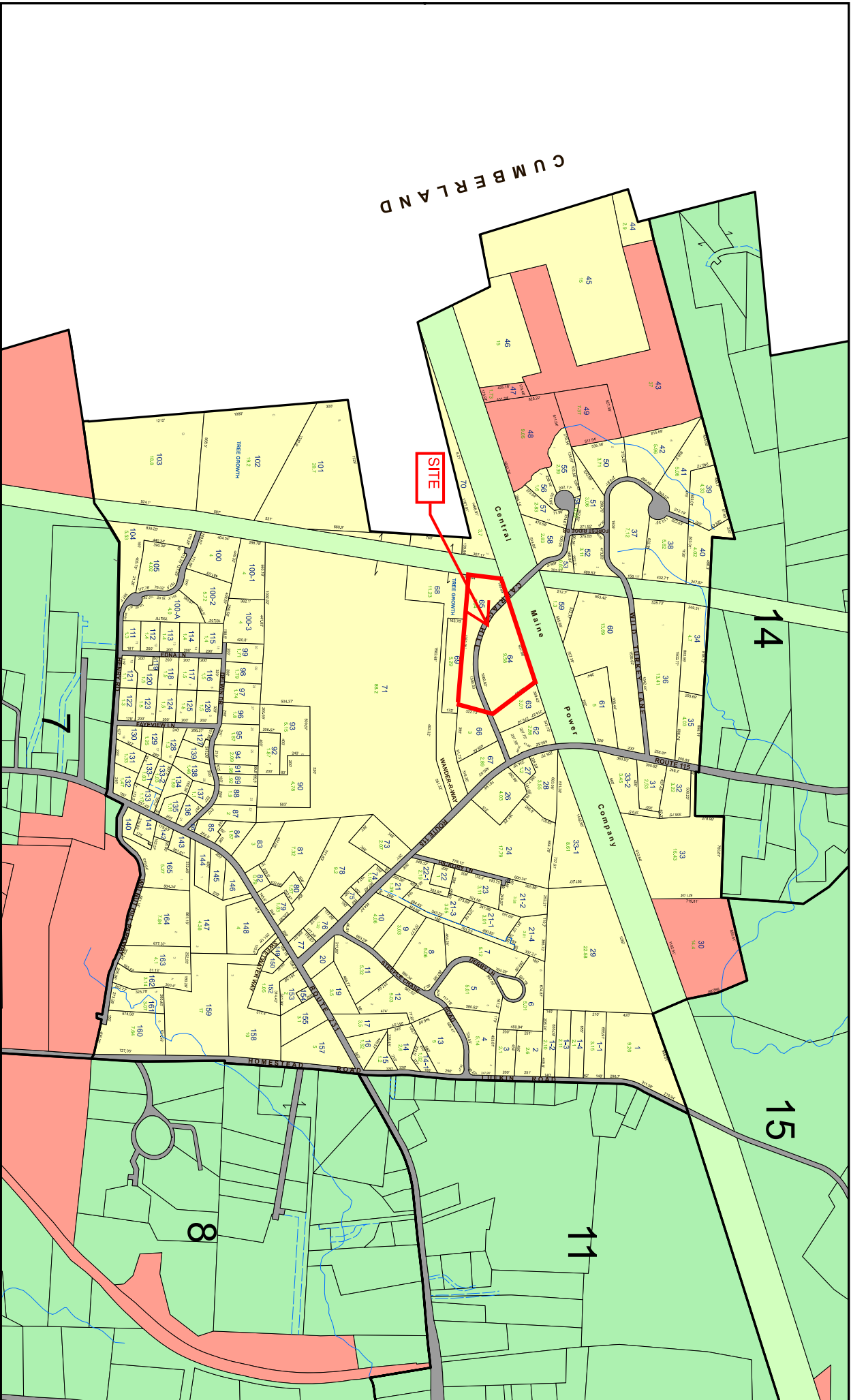
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

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

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BuB	Lamoine silt loam, 3 to 8 percent slopes	17.0	11.1%
DeA	Deerfield loamy fine sand, 0 to 3 percent slopes	4.1	2.7%
Gp	Gravel pits	13.6	8.9%
HIB	Hinckley loamy sand, 3 to 8 percent slopes	58.3	38.1%
HID	Hinckley loamy sand, 15 to 25 percent slopes	2.0	1.3%
HnB	Hinckley-Suffield complex, 3 to 8 percent slopes	10.7	7.0%
PfC	Paxton very stony fine sandy loam, 8 to 15 percent slopes	14.7	9.6%
Sn	Scantic silt loam, 0 to 3 percent slopes	13.7	9.0%
Sp	Sebago mucky peat	0.1	0.1%
SuC2	Suffield silt loam, 8 to 15 percent slopes, eroded	11.4	7.5%
SuD2	Suffield silt loam, 15 to 25 percent slopes, eroded	0.2	0.1%
Wa	Walpole fine sandy loam	7.1	4.7%
Totals for Area of Interest		152.8	100.0%



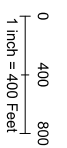
Tax Sheets are intended for assessing purposes only. Boundary locations are approximate and should not be used for conveyance of property.
 Maps updated - 01/28/2021



North Yarmouth, Maine



Maps Prepared by:
 Cumberland County
 Regional Assessing





SITE

Deer Brook

WILD TURKEY LN

115

DELWIN DR

Walnut Hill

STEEPLE CHASE RD

211
231

LUSKIN RD

HENRY RD

WALNUT HILL RD

Walnut Hill Cem

DEER BROOK FARM

200

200

200

200

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200

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200

200

400

400

300

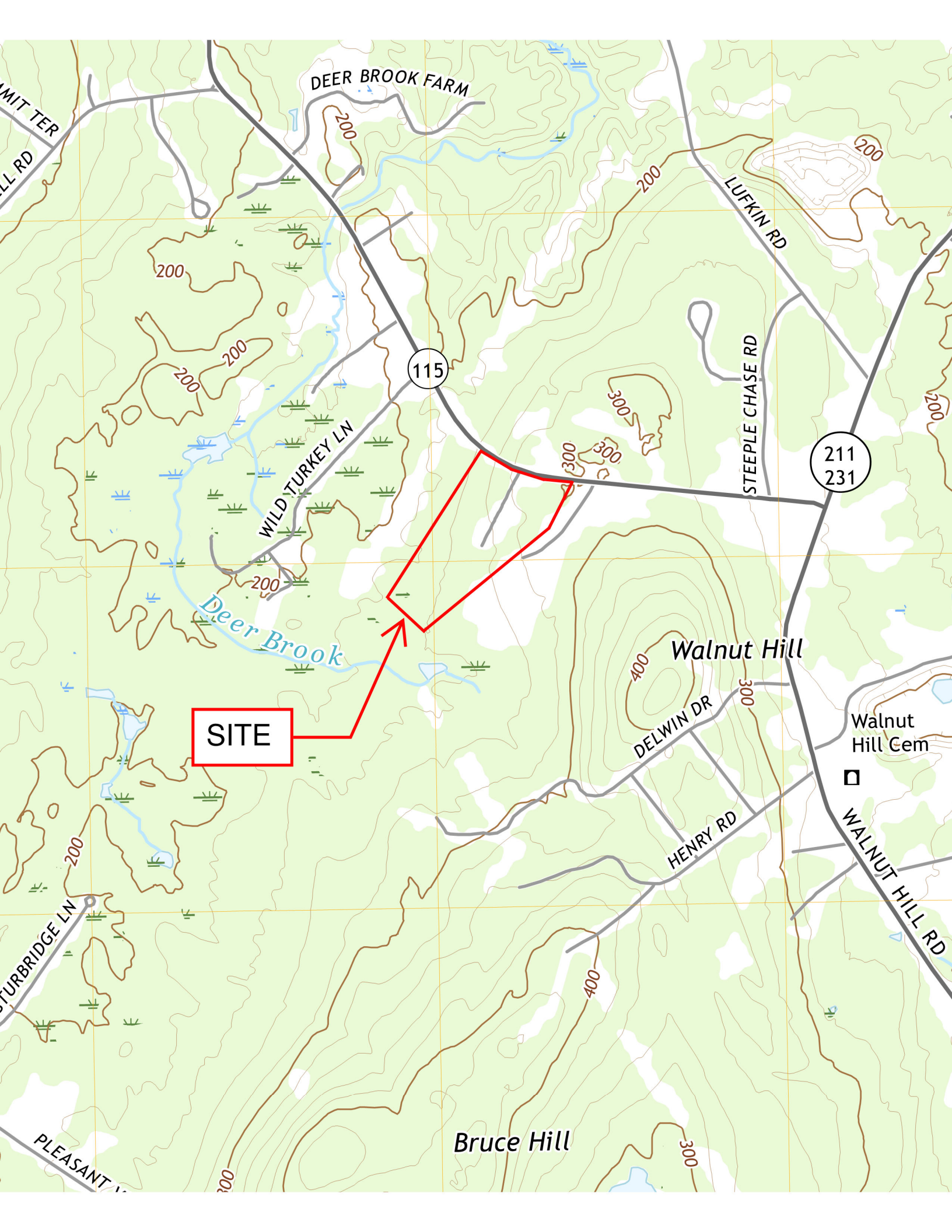
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DEER BROOK FARM

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WILD TURKEY LN

LUFKIN RD

STEEPLE CHASE RD

SITE

Walnut Hill

DELWIN DR

Walnut Hill Cem

HENRY RD

WALNUT HILL RD

STURBRIDGE LN

Bruce Hill

PLEASANT LN

MAINE REAL ESTATE TAX-Paid

**WARRANTY DEED
MAINE STATUTORY SHORT FORM
DLN: 1001840043887**

KNOW ALL PERSONS BY THESE PRESENTS, that I, **Nina L. Sweet**, of 15 Carriage Hill, North Yarmouth, ME 04097, for consideration paid, grant to **Daniel E. Train and Mary R. Train**, of 5 Broadmoor Drive, Cumberland, ME 04021, as joint tenants, with **WARRANTY COVENANTS**, the following described real property:

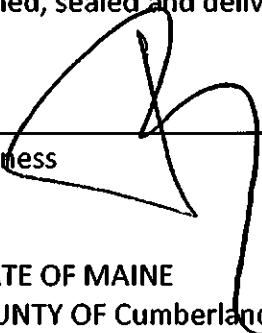
See attached Exhibit A

For title of Grantor, reference is hereby made to a Warranty Deed from Nina L. Sweet to Nina L. Sweet and Richard A. Sweet dated February 3, 2004 and recorded in the Cumberland County Registry of Deeds in Book 20832, Page 181. Richard A. Sweet died May 25, 2017 leaving Nina L. Sweet as surviving joint tenant. Reference is also made to a Warranty Deed from Dorothy A. Chase to Nina L. Sweet dated August 2, 2002 and recorded in said Registry of Deeds in Book 17921, Page 174.

This conveyance is subject to all restrictions, easements and encumbrances of record.

Witness my hand and seal this 14 day of November, 2018.

Signed, sealed and delivered in the presence of:

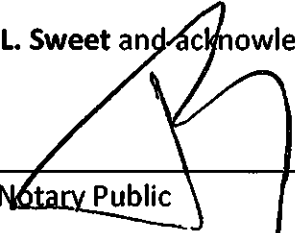
Witness 


Nina L. Sweet

STATE OF MAINE
COUNTY OF Cumberland, ss

Date: November 14, 2018

Personally appeared the above-named **Nina L. Sweet** and acknowledged the foregoing to be their free act and deed.

Before me, 
Notary Public

Print name: _____
My commission expires: _____

Jeffrey R. Vigue
Attorney at Law

EXHIBIT A

A certain lot or parcel of land, with any buildings thereon, situated in the Town of North Yarmouth, County of Cumberland and State of Maine, being more particularly described as follows:

Lot 5 as shown on that certain plan entitled "Recording Plat of Carriage Hill, Route 115, Gray Road, North Yarmouth, Maine, made for Nina Sweet and Jan A. Parker" prepared by Royal River Survey Co., 43 Marina Road, Yarmouth, Maine 04096, dated September 2002, revised through September 12, 2002, Job No. 22056, and recorded in the Cumberland County Registry of Deeds in Plan Book 202, Page 752 (the "Plan").

Excepting and reserving to Nina Sweet, however, the fee interest in and to the road depicted on the Plan as "Carriage Hill" and bounded and described as follows:

Beginning at a certain granite marker set in the southwesterly sideline of Gray Road (also known as Route 115), said marker being situated 450.82 feet southeasterly of the intersection of the southerly side of Section 167 of the Central Maine Power Company Transmission corridor with the aforesaid southwesterly sideline of Gray Road, said distance being measured along the curve of the right of way line whose radius is 1,355.53 feet, and proceeding around the perimeter of the hereby described strip of land in a clockwise fashion;

Thence proceeding along the aforesaid southwesterly sideline of the Gray Road along a curve to the left with a radius of 1,355.53 feet for a distance of 11.49 feet to a point, and terminus of said curve;

Thence continuing along the Gray Road sideline S 25° 40' E for a distance of 22.83 feet to a point;

Thence continuing along the Gray Road sideline S 51° 56' 40" E for a distance of 66.80 feet to a certain granite marker;

Thence turning in a northwesterly, westerly and southwesterly direction along a curve to the left with a radius of 25 feet for a distance as measured along the arc of said curve 35.96 feet to a granite marker in the southeasterly sideline of the hereby described strip;

Thence S 45° 38' 48" W along the southeasterly sideline of said Carriage Hill right of way for a distance of 622.22 feet to a granite marker and corner of the southeasterly temporary turnaround;

Thence continuing on same course S 45° 38' 48" W for a distance of 50 feet to another corner of the southerly temporary turnaround and the terminus of that portion of Carriage Hill right of way designated as 7+50.5 on the recorded subdivision plan above mentioned;

Thence N 44° 21' 12" W for a distance of 50 feet to a point and a corner of the northwesterly temporary turnaround;

Thence N 45° 38' 48" E for a distance of 50 feet to a granite marker and another corner of the northwesterly temporary turnaround;

Thence continuing on same course N 45° 38' 48" E along the northwesterly sideline of said Carriage Hill right of way for a distance of 619.39 feet to a granite marker and point of curvature;

Thence along a curve to the left having a radius of 25 feet for a distance as measured along the arc of said curve of 43.84 feet to the granite marker and point of beginning. The purpose of this exception and reservation is to preserve title to the said Nina Sweet's fee interest pursuant to 23 M.R.S.A. Section 3031(4) and 33 M.R.S.A. Section 460, et seq;

No public or private dedication, incipient, implied, or otherwise is intended in the road depicted on the Plan as Carriage Hill and described above or in the extension thereof westerly of the dashed line shown on the Plan as "7+50.5" and no easement rights are created therein in favor of the Grantee(s) other than as expressly set forth in the Declaration, to which reference is hereby made. Reference is also made to Note 16 on the Plan. This paragraph is included in this deed pursuant to 23 M.R.S.A. Section 3031(3).

This conveyance is also made subject to the covenants, conditions, restrictions, and easements set forth in that certain Declaration of Covenants, Conditions, Restrictions, and Easements dated March 20, 2003 and recorded in the Cumberland County Registry of Deeds in Book 19055, Page 338, as amended by that certain First Amendment to Declaration of Covenants, Conditions, Restrictions and Easements dated April 3, 2003 and recorded in said Registry of Deeds in Book 19146, Page 239, as the same may be further amended and/or supplemented from time to time (the "Declaration").

This conveyance is also made subject to the terms and conditions of the By-Laws of the Carriage Hill Homeowners Association, so long as they shall be in effect, as the same may be amended from time to time.

This conveyance is also made subject to such state of facts, notes and conditions as are shown on that certain plan entitled "Recording Plat of Carriage Hill, Route 115, Gray Road, North Yarmouth, Maine, made for Nina Sweet and Jan A. Parker", prepared by Royal River Survey Co., 43 Marina Road, Yarmouth, Maine 04096, dated September 2002, revised through September 12, 2002, Job No. 22056 and recorded in the Cumberland County Registry of Deeds in Plan Book 202, Page 752, as the same may be amended from time to time.

This conveyance is also made subject to the terms and conditions of that certain Easement for Pedestrian Walker's Path and Parking Area from Nina L. Sweet to the Town of North Yarmouth dated February 14, 2003, accepted by the Town of North Yarmouth on March 12, 2003 and recorded in said Registry of Deeds in Book 19033, Page 160.

This conveyance is also made subject to any and all easements and rights of way of record, including that certain Easement for Roadway from Jan A. Parker and Nina Sweet to Janina, LLC dated March 20, 2003 and recorded in said Registry of Deeds in Book 19055, Page 325.

Return to:

Martha M. Albert and Shawn M. Albert
14 Carriage Hill
North Yarmouth, ME 04097

WARRANTY DEED

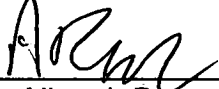
KNOW ALL MEN BY THESE PRESENTS: That **Bauer & Gilman Construction, LLC**, organized and existing under the laws of the State of Maine with a mailing address of 361 US Route 1, Falmouth, ME 04105, for consideration paid, grants to **Martha M. Albert and Shawn M. Albert**, of 221 22nd Avenue, Madawaska, ME 04756, as joint tenants with rights of survivorship, with WARRANTY COVENANTS:

SEE ATTACHED EXHIBIT A.

MEANING and INTENDING to describe and convey the same premises conveyed to Bauer and Gilman Construction, LLC by deed of TD Bank, N.A. dated 5/30/2013 recorded at Book 30702, Page 43 in the Cumberland County Registry of Deeds.

Executed this 19 day of Nov, 2013

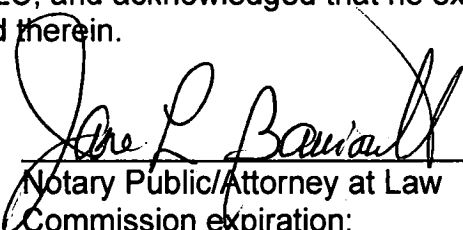
BAUER & GILMAN CONSTRUCTION, LLC


By: Allen J. Bauer
Its: Member
Duly Authorized

State of Maine
County of Cumberland

11 / 18 / 2013

Then personally appeared, Allen J. Bauer, Member, duly authorized on behalf of Bauer & Gilman Construction, LLC, and acknowledged that he executed the same for the purposes contained therein.


Notary Public/Attorney at Law
Commission expiration: Jane L. Barriault
Attorney-at-Law

SA ~~MA~~

MAINE REAL ESTATE TAX PAID

EXHIBIT A

A certain lot or parcel of land, together with any improvements thereon, situated in North Yarmouth, County of Cumberland and State of Maine and being **Lot numbered six (6)** as depicted upon Plan entitled "Recording Plat of Carriage Hill Estates" dated September 2002 and recorded in the Cumberland County Registry of Deeds on December 23, 2002 at **Plan Book 202, Page 752**, to which Plan, and the recording thereof, reference is made for or a more particular description of the premises conveyed hereby.

The above described premises are *subject to and together with the benefit of* an appurtenant easement or right of way for purposes of ingress and egress and the installation, maintenance and replacement of all customary utilities over and within a certain fifty foot (50') wide private way shown as "Shared Common Access Easement" on the aforesaid Recording Flat made for Nina Sweet and Jan A. Parker by Royal River Survey Company and recorded in said Registry of Deeds on December 23, 2002 at Plan Book 202, Page 752.

Said easement or right of way shall be exercised in common with the owners of land described in warranty deed from Dorothy A. Chase to Nina L. Sweet dated August 2, 2002 and recorded in said Registry of Deeds on August 5, 2002 at Book 17921, Page 174, and shall be *subject to* the following terms and conditions:

1. The owners of the lots benefitted by said easement or right of way shall each contribute equally to the maintenance thereof. The term "maintenance" as herein shall be deemed to include:
 - a. Maintaining the width and surface of the driveway as constructed;
 - b. Maintaining existing or constructing new drainage ditches or systems in order to control surface water run-off;
 - c. Snowplowing the driveway to remove accumulation when necessary;
 - d. Grading the surface of said driveway when necessary so as to maintain a reasonably smooth and level surface.
2. Each owner shall maintain premises liability insurance which covers loss, damage or injury arising out of acts occurring within the easement premises.
3. Each owner shall promptly repair any damage caused to the easement premises by them individually or by their guests or invitees.

Received
Recorded Register of Deeds
Nov 20, 2013 02:19:50P
Cumberland County
Pamela E. Lovley

SA
MB
AUS

EASEMENT
for
PEDESTRIAN WALKER'S PATH AND PARKING AREA

KNOW ALL PERSONS BY THESE PRESENTS, that NINA SWEET, an individual with a mailing address of P.O. Box 85, Cumberland Center, Maine 04021 ("Grantor"), for good and sufficient consideration, the receipt of which is hereby acknowledged, does hereby GRANT to the TOWN OF NORTH YARMOUTH, a body corporate and politic with a mailing address of 10 Village Square Road, North Yarmouth, ME 04097 ("Grantee"), an appurtenant pedestrian easement and parking easement as follows:

A. Servient Property.

The land burdened by the Pedestrian Easement herein granted (the "Pedestrian Easement Servient Property") are those certain lots or parcels of land now owned by Grantor and depicted as "Lot 1", "Lot 3", and "Lot 5" on a certain plan entitled "Recording Plat of Carriage Hill, Route 115, Gray Road, North Yarmouth, Maine, Made for Nina Sweet and Jan A. Parker," prepared by Royal River Survey Co., 43 Marina Road, Yarmouth, Maine 04096, dated September 2002, revised through September 12, 2002, Job No. 22056, and recorded in the Cumberland County Registry of Deeds in Plan Book 202, Page 752 (the "Subdivision Plan").

The land burdened by the Parking Easement herein granted (the "Parking Easement Servient Property") shall be that certain lot or parcel of land now owned by Grantor and depicted as "Lot 1" on the Subdivision Plan.

B. Dominant Property.

The land benefited by the Pedestrian Easement and Parking Easement herein granted (the "Dominant Property") is a certain lot or parcel of land now owned by Grantee and located northwesterly of and adjacent to certain land now owned by Janina, LLC (the "Back Lot"), which Back Lot is depicted as "30.31 Acres now or formerly of Janina L.L.C. [sic]" on a plan entitled "Plan of Proposed Easement on the Back Lot of the former Chase Farm, West of Route 115 Gray Road, No. Yarmouth, Maine, Made For Janina L.L.C. [sic]," prepared by Royal River Survey Co., 43 Marina Road, Yarmouth, Maine 04096, dated September 2002, Job No. 22056, and recorded in the Cumberland County Registry of Deeds in Plan Book 202, Page 754 (the "Back Lot Plan"), and said Dominant Property being depicted on the Back Lot Plan as "Parcel Purportedly Owned by the Town of North Yarmouth."

C. Pedestrian Easement and Pedestrian Easement Area.

The pedestrian easement herein granted (the "Pedestrian Easement") shall be over a strip of land located on the Servient Property, which strip of land is twenty-five (25) feet wide (subject, however, to diminution of a portion of said strip of land to ten (10) feet in width as provided herein and in General Note 18 of the Subdivision Plan) and is depicted on the Subdivision Plan as "Walker's Path, 25' Wide Proposed Conservation Easement" (the "Pedestrian Easement Area"). The Pedestrian Easement Area may be narrowed to ten (10) feet in width in

the area where the Pedestrian Easement Area overlaps the strip of land that is depicted on the Subdivision Plan as "Future Shared Common Access Easement" if a roadway is constructed in said "Future Shared Common Access Easement". In the event of such narrowing of said portion of the Pedestrian Easement Area, the resulting ten (10) foot strip shall be adjacent to the northerly boundary of said strip depicted on the Subdivision Plan as "Future Shared Common Access Easement". The Pedestrian Easement shall be for purposes of (i) pedestrian ingress and egress over the Pedestrian Easement Area between Route 115 in North Yarmouth at the northerly corner of Lot 1 on the Subdivision Plan and the westerly terminus of the Pedestrian Easement Area at the northwesterly boundary of Lot 5 as shown on the Subdivision Plan; and (ii) the following passive recreational activities in the Pedestrian Easement Area: hiking, jogging, cross country skiing, and snowshoeing.

It is the intention of the parties that the Pedestrian Easement may be used in connection with pedestrian ingress and egress that will continue beyond said westerly terminus of the Pedestrian Easement Area, over land now or formerly of Central Maine Power Company located adjacent to and northwesterly of the Pedestrian Easement Servient Property, as shown on the Subdivision Plan (the "CMP Parcel"), and continue to and over said Back Lot to the Dominant Property. The parties acknowledge that Janina LLC is granting to Grantee a separate easement over the Back Lot by instrument of even or near date to be recorded in said Registry of Deeds (the "Back Lot Pedestrian Easement"). Grantee, by its acceptance hereof, acknowledges and agrees that it is Grantee's responsibility to obtain rights of ingress and egress across said CMP Parcel.

D. Parking Easement and Parking Easement Area.

The parking easement herein granted (the "Parking Easement") shall be over a parcel of land located at the northerly corner of Lot 1 on the Subdivision Plan, said parcel of land being depicted on the Subdivision Plan as, "Future Easement for Parking Area, Parcel Area: 0.12 ac" (the "Parking Easement Area"), and such Parking Easement shall be for purposes of constructing and maintaining a paved parking lot for parking up to six (6) vehicles in the Parking Easement Area in connection with the use of the Pedestrian Easement.

E. Miscellaneous.

The easements herein granted are non-exclusive, are granted without covenants, and are subject to use in common with the owners of the Servient Property and others, and to rights, easements, and restrictions of record. The Grantor, her heirs and assigns, retain all rights to use the Servient Property and the Pedestrian Easement Area and the Parking Easement Area for all purposes that do not unreasonably interfere with the use of the said easement areas for the purposes herein described. By acceptance of this instrument, it is acknowledged and agreed by Grantee that a portion of the Pedestrian Easement Area is located with an area depicted on the Subdivision Plan as "Future Shared Common Access Easement" and that it is possible that such area may, in the future be used for pedestrian and or vehicular passage, installation of utilities, and/or a paved road by Grantor and/or Janina LLC, their heirs, successors or assigns, and that such use shall not be deemed to be an interference with the easement rights herein granted. Grantor, her heirs and assigns, shall have the right, but not the obligation, to relocate, at their

expense, such portions of the Pedestrian Easement Area as may, in their reasonable judgment, interfere with any future use of such area designated on the Plan as "Future Shared Common Access Easement."

The parties acknowledge and agree that the Pedestrian Easement and the Parking Easement created hereby, together with the Back Lot Pedestrian Easement, are contemplated by and given pursuant to and in satisfaction of the condition set forth in General Note 22 on the Subdivision Plan.

IN WITNESS WHEREOF, the said Nina Sweet has executed this instrument on this 14th day of February, 2003.

Richard Sweet
Witness

Nina Sweet
Nina Sweet

STATE OF MAINE
COUNTY OF CUMBERLAND, ss.

February 14, 2003

Personally appeared the above-named Nina Sweet and acknowledged the foregoing instrument to be her free act and deed.

Before me,

Shari M. Huff
Notary Public/Maine Attorney at Law
Printed Name: Shari M. Huff
Commission Expires: June 1, 2008

ACCEPTED BY:

Town of North Yarmouth

By: [Signature]
Printed Name: David J. Perkins
Its: Board of Selectmen, Chair

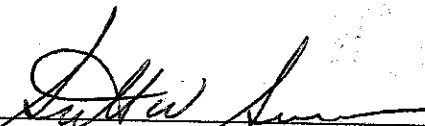
STATE OF MAINE
COUNTY OF CUMBERLAND, ss.

March 12, 2003

Personally appeared the above-named David Perkins in his/her capacity as Selectman of the Town of North Yarmouth and acknowledged the

foregoing instrument to be his/her free act and deed in said capacity and the free act and deed of said Town of North Yarmouth.

Before me,



Notary Public/Maine Attorney at Law
Printed Name: Scott W. SEAVER
Commission Expires: Aug 10, 2007

SEAL

Received
Recorded Register of Deeds
Mar 18, 2003 09:46:35A
Cumberland County
John D. O'Brien

EASEMENT
for
PEDESTRIAN WALKER'S PATH

KNOW ALL PERSONS BY THESE PRESENTS, that JANINA LLC, a Maine limited liability company with a mailing address of 107 Gray Road, North Yarmouth, Maine 04021 ("Grantor"), for good and sufficient consideration, the receipt of which is hereby acknowledged, does hereby GRANT to the TOWN OF NORTH YARMOUTH, a body corporate and politic with a mailing address of 10 Village Square Road, North Yarmouth, ME 04097 ("Grantee"), an appurtenant pedestrian easement as follows:

A. Servient Property.

The land burdened by the Pedestrian Easement herein granted (the "Servient Property") is that certain lot or parcel of land now owned by Grantor and depicted as "30.31 Acres now or formerly of Janina L.L.C." [sic] on a plan entitled "Plan of Proposed Easement on the Back Lot of the former Chase Farm, West of Route 115 Gray Road, No. Yarmouth, Maine, Made For Janina L.L.C. [sic]," prepared by Royal River Survey Co., 43 Marina Road, Yarmouth, Maine 04096, dated September 2002, Job No. 22056, and recorded in the Cumberland County Registry of Deeds in Plan Book202, Page 754 (the "Back Lot Plan").

B. Dominant Property.

The land benefited by the Pedestrian Easement herein granted (the "Dominant Property") is a certain lot or parcel of land now owned by Grantee, located northwesterly of and adjacent to the Servient Property, and which is depicted on the Back Lot Plan as "Parcel Purportedly Owned by the Town of North Yarmouth."

C. Pedestrian Easement and Pedestrian Easement Area.

The pedestrian easement herein granted (the "Pedestrian Easement") shall be over a strip of land located on the Servient Property, which strip of land is twenty-five (25) feet wide and is depicted on the Back Lot Plan as "Proposed Walker's Path, 25' Wide Conservation Easement" (the "Pedestrian Easement Area"). The Pedestrian Easement shall be for purposes of (i) pedestrian ingress and egress over the Pedestrian Easement Area to and from the Back Lot and the southeasterly terminus of the Pedestrian Easement Area at the southeasterly corner of the Servient Property as shown on the Back Lot Plan; and (ii) the following passive recreational activities in the Pedestrian Easement Area: hiking, jogging, cross country skiing, and snowshoeing.

It is the intention of the parties that the Pedestrian Easement may be used in connection with pedestrian ingress and egress that will continue beyond said southeasterly terminus of the Pedestrian Easement Area, over land now or formerly of Central Maine Power Company located adjacent to and southwesterly of the Servient Property, as shown on the Back Lot Plan (the "CMP Parcel"), and continue to and over a portion of land now or formerly of Nina Sweet as shown on a subdivision plan entitled "Recording Plat of Carriage Hill, Route 115, Gray Road,

North Yarmouth, Maine, Made for Nina Sweet and Jan A. Parker," prepared by Royal River Survey Co., 43 Marina Road, Yarmouth, Maine 04096, dated September 2002, revised through September 12, 2002, Job No. 22056, and recorded in the Cumberland County Registry of Deeds in Plan Book 202, Page 752 (the "Subdivision Plan") to Route 115. The parties acknowledge that Nina Sweet is granting to Grantee a separate easement by instrument of even or near date to be recorded in said Registry of Deeds. Grantee, by its acceptance hereof, acknowledges and agrees that it is Grantee's responsibility to obtain rights of ingress and egress across said CMP Parcel.

D. Miscellaneous.

The easements herein granted are non-exclusive, are granted without covenants, and are subject to use in common with the owners of the Servient Property and others, and to all rights, easements, and restrictions of record, including the rights of Maritimes and Northeast L.L.C. pursuant to an instrument recorded in said Registry of Deeds in Book 14452, Page 295. The Grantor, her heirs and assigns, retain all rights to use the Servient Property and the Pedestrian Easement Area for all purposes that do not unreasonably interfere with the use of the said Pedestrian Easement Area for the purposes herein described.

The parties acknowledge and agree that the Pedestrian Easement and the easements created in favor of Grantee by said instrument from Nina Sweet of even or near date, are contemplated by and given pursuant to and in satisfaction of the condition set forth in General Note 22 on the Subdivision Plan.

IN WITNESS WHEREOF, the said Janina LLC has caused this instrument to be executed on this 15 day of January, 2003.

Sheri M. Huff
Witness

JANINA LLC
By: Jan Parker
Jan Parker
Its Manager and Member

Sheri M. Huff
Witness

By: Nina Sweet
Nina Sweet
Its Manager and Member

Doc#: 27413 Bk:19033 Pg: 166

STATE OF MAINE
COUNTY OF CUMBERLAND, ss.

JANUARY 15, 2003

Personally appeared the above-named Jan Parker in her capacity as Manager and Member of Janina LLC and acknowledged the foregoing instrument to be her free act and deed in said capacity and the free act and deed of said Janina LLC.

Before me,

Sheri M. Huff
Notary Public/Maine Attorney at Law
Printed Name: Sheri M. HUFF
Commission Expires: June 1, 2008

STATE OF MAINE
COUNTY OF CUMBERLAND, ss.

JANUARY 15, 2003

Personally appeared the above-named Nina Sweet in her capacity as Manager and Member of Janina LLC and acknowledged the foregoing instrument to be her free act and deed in said capacity and the free act and deed of said Janina LLC.

Before me,

Sheri M. Huff
Notary Public/Maine Attorney at Law
Printed Name: Sheri M. HUFF
Commission Expires: June 1, 2008

ACCEPTED BY:

Town of North Yarmouth

By: [Signature]
Printed Name: David J. Perkins
Its: Chair / B.M. of Selectmen

STATE OF MAINE
COUNTY OF CUMBERLAND, ss.

MARCH 12, 2003

Personally appeared the above-named DAVID PERKINS in his/her capacity as Selectman of the Town of North Yarmouth and acknowledged the foregoing instrument to be his/her free act and deed in said capacity and the free act and deed of said Town of North Yarmouth.

Before me:

[Signature]

Notary Public/Maine Attorney at Law

SCOTT W. SEAVER
Notary Public, Maine
My Commission Expires August 10, 2007

Printed Name: _____
Commission Expires: _____

[Signature]
ROSE E. DIAMANO
Notary Public, Maine
My Commission Expires May 24, 2005

Received
Recorded Register of Deeds
Mar 18, 2003 09:47:28A
Cumberland County
John E. D Brien

**DECLARATION OF COVENANTS, CONDITIONS,
RESTRICTIONS AND EASEMENTS**

FOR

CARRIAGE HILL

THIS DECLARATION OF COVENANTS, CONDITIONS, RESTRICTIONS AND EASEMENTS is made this 20th day of March 2003, by **JAN A. PARKER** of North Yarmouth, Cumberland County, Maine and **NINA L. SWEET**, of Cumberland, Cumberland County, Maine (collectively, "Declarant").

WHEREAS, Declarant owns certain real property located in North Yarmouth, Cumberland County, Maine, shown as Lots 1 through 6, and associated roadways and easements (collectively, the "Property"), upon a certain plan entitled "Recording Plat of Carriage Hill, Route 115, Gray Road, No. Yarmouth, Maine, made for Nina Sweet and Jan A. Parker" prepared by Royal River Survey Co. dated September 2002, revised through September 12, 2002, Job No. 22056, and recorded in the Cumberland County Registry of Deeds in Plan Book 202, Page 752 (the "Plan"); and

WHEREAS, Declarant desires to ensure quality standards for the wholesome development of the Property and to promote the interest and welfare of each owner of a part of the Property and therefore desires to subject the Property to protective covenants and common easements, conditions, and restrictions as set forth hereinafter.

NOW, THEREFORE, Declarant hereby declares that the Property is and shall be held, occupied, improved, transferred, leased and otherwise used and disposed of subject to the protective covenants and common easements, conditions, and restrictions set forth herein, all of which are declared to be in furtherance of a uniform scheme of development upon each and every portion of the Property, in favor of each and every other portion thereof, and to create reciprocal rights and privity of contract and estate between all persons acquiring or owning an interest in any portion thereof, which protective covenants and common easements shall be determined to run with the land and be a burden and benefit upon and to, and be enforceable by, all persons having any interest in any portion of the Property.

ARTICLE I

DEFINITIONS

1. **Building.** "Building" shall mean and refer to any residential structure or other similar improvement.
2. **Common Expenses.** "Common Expenses" shall mean and refer to expenditures made by, or financial liabilities of, the Corporation, together with any allocations to reserves.
3. **Corporation.** "Corporation" shall mean and refer to Carriage Hill Homeowners Association, its successors and assigns.
4. **Home.** "Home" shall mean and refer to the individual single-family residential dwelling constructed on each Lot.
5. **Lot.** "Lot" shall mean and refer to the individual lots numbered 1 through 6 on

the Plan, as well as all lots, if any, added to the scheme of this Declaration in accordance with the provisions hereof. The boundary of each Lot shall not extend into any portion of the Road depicted on the Plan as Carriage Hill, including the portion thereof that extends westerly of the dashed line depicted on the Plan as "7 + 50.5." The purpose of the preceding sentence is to preserve title to the Declarant's fee interest in and to such area pursuant to 23 M.R.S.A. Section 3031(4) and 33 M.R.S.A. Sections 460 et seq.

6. **Member.** "Member" shall mean and refer to those persons entitled to membership in the Corporation as determined by the Bylaws of the Corporation.

7. **Owners.** "Owners" shall mean and refer to the record owner or owners of a fee simple title to any Lot and shall include the Declarant so long as it owns any Lot or any other portion of the Property, but shall not include any person or legal entity owning an interest merely as security for an obligation.

8. **Road.** "Road" shall mean and refer to the subdivision road, and related easement area, designated on the Plan as "Carriage Hill", but only such portion thereof as extends from Route 115, Gray Road, to the dashed line shown on the Plan as "7 + 50.5." In the event additional Lots are added to the scheme of this Declaration (either by further division of existing Lots pursuant to Article IX, Section 1(a), below, or annexation of additional land pursuant to Article IX, Section 3, below) and/or the Lots are reconfigured (pursuant to Article IX, Section 1(a), below), the term "Road" shall mean and refer to the subdivision road and related easements just described, as well as any extension(s) thereof necessary to access any new or reconfigured Lot(s) resulting from such addition, annexation or reconfiguration.

ARTICLE II

PROTECTIVE COVENANTS AND RESTRICTIONS

Each Lot is hereby made subject to the following protective covenants and restrictions (subject to Declarant's Rights as set forth in Article IX, below):

1. **Residential Uses.** Each Lot shall be used only for one (1) single family residence, and no commercial enterprise of any nature or description may be conducted or maintained on any Lot; provided, however, that one (1) "Home Occupation" (as that term is defined from time to time in the Town of North Yarmouth, Maine, Zoning Ordinance) shall be permitted on each Lot. No Building other than a Home and related out-buildings (not to exceed one (1) garage or barn, and a reasonable number of other garden structures ordinarily appurtenant to a single family residence) may be constructed, maintained or occupied on any Lot. Each single family-residence constructed on each Lot shall have a minimum above-ground living area of 2,000 square feet, exclusive of any porches, garages and basements. All Homes shall be erected with a continuous foundation and shall include a heating system for year-round occupancy. All utility lines serving a Lot shall be installed underground at the expense of the Owner.

2. **Exterior of Buildings.** Buildings erected on any Lot may not be covered with tar paper or corrugated metal siding. No Homes constructed wholly or partially of logs or materials made to resemble logs may be erected on any Lot. All roofs of Buildings constructed on any Lot shall be covered with (i) cedar shingles or shakes or (ii) fiberglass or asphalt shingles that are architectural grade and/or have a minimum weight of 280 pounds per square.

3. **Approval of Plans.** Prior to commencement of construction of a Home on any

Lot, the Owner shall obtain the prior written approval of the Board of Directors of the Corporation for the style and plans of the Home. No Home shall be constructed on any Lot other than in accordance with the plans approved by the Board of Directors of the Corporation. The construction of all Buildings on a Lot shall be within the building envelope for such Lot shown on the Plan, or otherwise in accordance with all applicable laws, codes, and regulations.

4. **Construction.** The exterior construction (including roofing and exterior finish work) of a Home on any Lot, all grading of the Lot, the construction of a paved or crushed gravel driveway, and the installation of a lawn shall be completed, within one (1) year from the date that construction, as evidenced by excavation of the foundation, commences; provided, however, that if such completion is delayed as a result of labor strikes, fire, natural disaster, or other force beyond the control of the Owner, the period for completion of construction shall be extended for a time equal to the length of any such delay. Crushed gravel driveways are permitted only if connected to the Road by a twenty-five (52) foot, paved apron.

5. **Temporary Structures.** No Building of a temporary character, whether trailer, tent, shack, garage, barn or other outbuilding, and no trailer homes or motor homes, may be maintained or used on any Lot at any time as a residence, either temporarily or permanently, provided, however, that: an Owner may erect, place and maintain such facilities upon such Owner's Lot as are reasonably necessary in connection with the constructing of a Home on such Owner's Lot, provided that such facilities are permanently removed within one (1) year of the date they are first placed on such Lot.

6. **Campers, Motor Homes and Boats.** Trucks with a gross vehicle weight in excess of 8,000 pounds, campers, utility trailers, boats, snowmobiles, tractors, and other such vehicles (whether or not operable) may not be parked, kept or stored on any Lot (unless parked, kept or stored in an enclosed barn or garage) without the express, written consent of the Board of Directors; provided, however, that any such vehicles may be located on a Lot outside of an enclosed garage for brief periods, not to exceed forty-eight (48) hours during any seventy-two (72) hour period and not to exceed seven (7) days in any calendar year. No junk vehicles or other vehicles which do not display a current state motor vehicle registration may be kept or maintained on the Property at any time. The Board of Directors of the Corporation shall have the power to adopt such reasonable rules and regulations as it deems appropriate to regulate the use of motor vehicles on the Property. All-terrain vehicles, trail bikes, snowmobiles and similar vehicles shall not be operated on the Property, except of ingress and egress to and from the Property and provided that the same are parked in a garage or enclosed barn. Except in the development and sale of the Lots by the Declarant, no house trailer may be brought upon, maintained, or permitted to remain on the Property.

7. **Animals.** No poultry, swine, livestock or other animals may be kept on the Property, except household pets of the kind and number normally housed in a residence, without the written consent of the Board of Directors. All pets shall be restrained so as not to become noisome or offensive to other Owners and shall not be allowed off of their Owner's Lot, except on a leash or other restraining device controlled by the owner of such pet; provided, however, that cats are not required to be leashed or otherwise restrained, and are permitted off of their Owner's Lot so long as such cat(s) do not become noisome or offensive to other Owner's. The Board of Directors of the Corporation shall have the power to adopt reasonable rules and regulations further regulating the keeping of pets on the Property. All fencing and shelters for animals must be approved as to size, style, and location in advance of the construction or installation thereof by the Board of Directors of the Corporation.

8. **Rubbish and Debris.** Disposal of rubbish and debris shall be the responsibility

of each individual Lot Owner. Rubbish and debris temporarily stored on an Lot shall be stored in sanitary receptacles constructed of metal, plastic or masonry materials with sanitary covers or lids or as otherwise required by the Town of North Yarmouth. All such receptacles shall be kept in clean and sanitary condition. No rubbish or debris may accumulate on any Lot beyond a reasonable accumulation between pickups or other disposal thereof in accordance with applicable laws, codes, and regulations. The Declarant, for itself and its successors and assigns, including, but not limited to the Corporation, reserves the right to remove said rubbish and/or debris at the expense of the offending Owner(s) after having given such Owner(s) at least ten (10) days' written notice of such intended removal.

9. **Trees on Lots.** No living trees or shrubs larger than ten (10) inches in diameter at the base may be cut, trimmed or altered within twenty-five (25) feet of the rear line or sidelines of any Lot and no living trees or shrubs within one hundred (100) feet of the right of way for Route 115 (the Gray Road) may be cut, trimmed or altered; provided, however, that trees identified as diseased by a forester licensed in the State of Maine may be removed, regardless of size or location.

10. **Television Antennae.** No radio or television aerial wires, satellite dish or antennae may be maintained on any portion of any Lot, unless affixed to the roof (or, in the case of a satellite dish, the second-floor exterior wall or the roof) of the Home. No Owner may install or maintain radio or television aerial wires or antennae in airspace over any Lot adjoining such Owner's Lot.

11. **Maintenance of Home.** Each Owner shall maintain his/her Lot and the exterior of his/her Home and Buildings in an attractive manner and shall not permit the paint, roof, rain gutters, downspouts, exterior walls, windows, screens, doors, walks, driveways, parking areas and other portions of his/her Home and Buildings to deteriorate. Each Owner shall at all times keep all weeds and grass located within thirty (30) feet of his/her Home cut in a sanitary, healthful and attractive manner.

12. **Drying of Clothes.** Clothes may not be hung to dry on any line, or otherwise, forward of the front line of the Home on any Lot.

13. **Signs.** No signs, billboards, posters, or advertising of any character may be erected, permitted or maintained on any Lot except (i) one sign of not more than two (2) square feet showing the name of the Owner or occupant and the name or number of the Lot and (ii) one sign advertising the particular Owner's Lot on which the sign is situated for sale or rent. Such signs shall be compatible with the environment of the Property, and under no circumstances are any projecting, neon, brightly lit or internally lit signs permitted on any Lot.

14. **Damage or Destruction.** Any Home or other structure on a Lot which is destroyed or damaged in whole or in part by fire, windstorm or other casualty must be rebuilt or all debris removed and the affected portion of the Property restored to its natural condition without delay.

15. **Compliance with Laws.** All Buildings erected on the Lots shall be constructed in compliance with all applicable federal, state and local building ordinances and codes, including but not limited to, any building setbacks. Further, Owners shall occupy and maintain their Lots in accordance with all applicable federal, state, and local statutes, rules, regulations and ordinances.

16. **Chimneys.** All Chimneys shall be of brick or stone exterior construction.

ARTICLE III

SUBDIVISION ROAD

Declarant shall construct the Road, and the related stormwater and erosion control facilities, all in compliance with applicable laws and regulations. Each and every Lot shall have as an appurtenance to such Lot a right and easement to use the Road for vehicular and pedestrian travel. Ownership of the Road may be transferred to the Corporation by Declarant. However, the Corporation shall be responsible for the maintenance, upkeep, repair and replacement of the Road until such time, if any, as the Road is accepted by the Town of North Yarmouth as a public way, regardless of whether ownership of the Road is transferred to the Corporation. Upon completion of construction of the Road and related stormwater and erosion control facilities, Declarant shall have no further liability for the maintenance, upkeep, repair and replacement of the Road. The Corporation shall accept ownership of the Road if requested to do so by Declarant, and recording of the deed conveying the Road shall be deemed conclusive evidence of acceptance by the Corporation. By acceptance of a deed to a Lot, each Owner agrees to pay its share of the costs of such maintenance, upkeep, repair and replacement of the Road, as further set forth herein and in the Bylaws.

ARTICLE IV

INSURANCE

The Corporation shall maintain as a Common Expense and to the extent reasonably available, any amounts of insurance it deems appropriate.

ARTICLE V

EASEMENTS

1. Creation of Easements. The following easements are hereby created:

(a) The Declarant reserves the right to use any Lot(s) owned or leased by the Declarant as models, management offices, sales offices for this and other projects or customer service offices (including the right to locate mobile homes or trailers on any Lot for such purposes), and the Declarant reserves the right to relocate the same from time to time within the Property; upon relocation, the furnishings 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. This easement shall continue until the Declarant has conveyed all Lots to Owners other than the Declarant.

(b) The Property is hereby made subject to easements in favor of, and assignable by, the Declarant for such utility and service lines and equipment as may be necessary or desirable to serve any portion of the Property. The easements created by this Section (b) shall include, without limitation, rights of the Declarant, or its assignee(s), to install, lay, maintain, repair, relocate and replace gas lines, pipes and conduits, water mains and pipes, sewer and drain lines, drainage ditches and pump stations, telephone wires and equipment, television equipment and facilities (cable or otherwise), electrical wires, conduits, and equipment and ducts and vents over, under, through, along and on the Property. Notwithstanding the foregoing provisions of this Article, any such easement through a Lot shall be located either in substantially the same

location as such facilities or similar facilities existed at the time of first conveyance of the Lot by the Declarant or so as not to materially interfere with the use or occupancy of the Lot by its occupants. With respect to any utility lines or equipment serving only the Property and located upon, over, under or through the Road, the Board of Directors of the Corporation shall have the right and power to dedicate or convey title to the same to any private or public utility company. The Board of Directors of the Corporation shall also have the right and power to convey permits, licenses and easements upon, over, under and through the Road for the installation, maintenance, repair and replacement of utility poles, lines, wires and other equipment to any private or public utility company. In addition, the Board of Directors of the Corporation shall have the right to grant permits, licenses and easements over the Road for its maintenance and for other purposes necessary for the proper operation of the Property.

(c) The Declarant reserves for itself as long as it owns any Lot, an easement on, over and under those portions of the Property not located within a Building for the purpose of maintaining and/or correcting drainage of surface water in order to maintain reasonable standards of health, safety and appearance. The easement created by this Section (c) expressly includes the right to cut any trees, bushes, or shrubbery, to grade the soil, or to take any other action reasonably determined to be necessary; provided, however, that the Declarant shall restore the affected property as closely to its original condition as is practicable after exercising its rights under this easement.

(d) The Lots are hereby made subject to an easement in favor of the Declarant, the Corporation and the agents, employees and independent contractors thereof for the purpose of the inspection, upkeep, maintenance, repair and replacement, if applicable, of the Lots and any improvements and fixtures located thereon, pursuant to its rights to enforce the provisions of this Declaration.

(e) Declarant hereby establishes, for the benefit of all Lots and the Corporation, a drainage easement over Lot 5 in the location, and having the dimensions, shown on the Plan, for the purposes of allowing the continued, unrestricted movement of surface and stormwater runoff from the Lots and the Road. The Corporation shall be responsible for all maintenance, upkeep, repair and replacement of said drainage easement.

(f) Declarant hereby establishes, for the benefit of itself, the Corporation and all Lots, a temporary easement over Lots 5 and 6 for the construction, maintenance, repair and replacement of a hammerhead (and all related purposes, including the installation of utilities) turnaround in the location, and having the dimensions, shown on the Plan. This easement shall expire and be extinguished in the event the Road is extended southwesterly beyond the dashed line designated on the Plan as "7 + 50.5."

(g) All easements, rights and restrictions described, reserved and/or established in this Article V are easements appurtenant to and running with the land and the Property, and shall continue in full force and effect until the termination of this Declaration, unless otherwise provided herein or in any other document creating or evidencing any such easements, rights and/or restrictions.

(h) As set forth in Note 16 of the Plan, no public or private dedication, incipient, implied or otherwise, is intended in the subdivision road. The easement in favor of the Lot Owner's in the Road shall extend only from Route 115, Gray Road, to the dashed line shown on the Plan as "7 + 50.5." No easement shall exist in favor of the Lot Owner's in such portion of the extension of Carriage Hill road as extends westerly of the dashed line shown on the Plan as "7 + 50.5."

(i) A fifty (50) foot wide easement, for the benefit of Declarant and the Corporation, over those portions of Lots 1 and 2 running along the right of way for Route 115 (also known as the Gray Road), for the placement and maintenance of a granite sign or monument depicting the name "Carriage Hill" and including such other information relevant to this Subdivision as Declarant deems necessary or desirable. The Corporation shall bear sole responsibility for the maintenance, upkeep, repair and replacement of such granite sign or monument.

(j) Two (2) fifteen (15) by fifteen (15) foot easements, for the benefit of Declarant and Central Maine Power Company, their successors and assigns, for the placement, construction, maintenance, repair and replacement, of transformer pads and related equipment, over those portions of Lots 4 and 6 depicted on the Plan as "15' x 15' proposed C.M.P. transformer pad easement (typ.)".

2. Existing Easements. The Property is also subject to all existing easements, rights and restrictions now of record in the Cumberland County Registry of Deeds, including all easements, rights and restrictions shown on the Plan.

3. Reservation of Easement Rights. So long as the Declarant has title to any other portion of the Property, the Declarant reserves the right to grant to any third party any license or easement in, on, over or through the Property, in addition to and not in limitation of those set forth above, which license or easement is determined by the Declarant, in its reasonable judgment, to be necessary or desirable for the development or improvement of the Property. Any such license or easement granted hereunder may be recorded by the Declarant at its sole cost and expense. The Corporation, at the request of the Declarant, shall execute and deliver in recordable form any instrument or documents necessary or appropriate to confirm the grant of such license or easement.

4. Easements Superseded. The easement rights set forth herein with respect to the Road are intended to supersede the easements created by the deed from Dorothy A. Chase to Nina L. Sweet dated August 2, 2002, and recorded in the Cumberland County Registry of Deeds in Book 17921, Page 174 and by the deed from Dorothy A. Chase to Jan A. Parker dated August 2, 2002, and recorded in said Registry of Deeds in Book 17921, Page 276 (including the provisions contained therein related to maintenance). Nina L. Sweet does hereby RELEASE to Jan A. Parker, all rights acquired under said deed to Nina L. Sweet from Dorothy A. Chase. Jan A. Parker does hereby RELEASE to Nina L. Sweet all rights acquired under said deed to Jan Parker from Dorothy Chase.

ARTICLE VI

CARRIAGE HILL HOMEOWNERS ASSOCIATION

1. Membership; Purpose. Each Owner shall automatically become and shall remain a Member of the Corporation during the period of and by virtue of ownership of the fee simple title to a Lot, as more specifically provided in the Bylaws of the Corporation. The purposes and governance of the Corporation shall be as set forth in the Bylaws of the Corporation, and shall include the acquisition and ownership of certain portions of the Property and/or interests therein, and the construction, maintenance, preservation, management, and care and protection of the Property. Each and every Owner, by acceptance of a deed to a Lot, consents to be bound by the Bylaws and any rules and regulations of the Corporation, and to pay

any and all assessments assessed against his/her Lot by the Corporation, as may be more specifically set forth in the Bylaws of the Corporation and/or any such rules and regulations.

2. Assessments.

(a) The Corporation, acting through the Board of Directors in accordance with the Bylaws, shall have the power to fix and determine, from time to time, the sums necessary and adequate to provide for the Common Expenses, including, but not limited to, such amounts as are necessary for uncollectible assessments, budget deficits, such reserves as the Board of Directors shall deem necessary or prudent, and such other expenses as are specifically provided for in this Declaration or the Bylaws.

(b) No Owner may exempt him/herself from liability for the Common Expenses by waiver of the enjoyment of the right to use the Road, by the abandonment of his/her Lot, or otherwise.

(c) All sums assessed by the Corporation as a regular or special assessment shall constitute the personal liability of the Owner so assessed, and also, until fully paid, shall constitute a lien against such Owner's Lot with the same status as liens established on condominium units under the Maine Condominium Act, Title 33, Chapter 31 of the Maine Revised Statutes and shall be foreclosed in the same manner provided by law for the foreclosure of mortgages. The delinquent Owner shall be obligated to pay (a) all expenses of the Board of Directors of the Corporation, including reasonable attorneys' fees, incurred in the collection of the delinquent assessment by legal proceedings or otherwise, and (b) any amounts paid by the Board of Directors of the Corporation for taxes or on account of superior liens or otherwise to protect its lien, which expenses and amounts, together with accrued interest, shall be deemed to constitute part of the delinquent assessment and shall be collectible as such.

(d) Upon the voluntary sale, conveyance or transfer of a Lot or any interest therein, the grantee thereof shall not be personally liable with the grantor thereof for all unpaid assessments for Common Expenses which are a charge against the Lot as of the date of consummation of the sale, conveyance or transfer, unless such grantee agrees to assume the obligation therefor.

(e) Any regular or special assessments or any late charges and interest that may be levied by the Corporation shall be subordinate to any first mortgage lien, recorded before or after such regular or special assessment, late charge, or interest was due.

(f) Each Lot shall be assessed an equal share of the Common Expenses.

ARTICLE VII

DURATION

The protective covenants and common easements, the provisions for the Corporation and the other provisions of this Declaration as set forth herein and as may be amended from time to time, shall run with and burden the Property and shall inure to the benefit of and be enforceable by the Declarant, by the Corporation and any other Owners of any portion of the Property, their respective legal representatives, heirs, successors or assigns, in perpetuity, or until released by unanimous vote of all of the Owners.

ARTICLE VIII

AMENDMENTS AND SUPPLEMENTAL DECLARATIONS

This Declaration may be amended from time to time by a Supplemental Declaration duly executed by the Declarant or the Corporation pursuant to an affirmative vote of eighty-three percent (83%) of the voting power of the Corporation, provided, however, that Declarant may execute and record Supplemental Declarations for the purposes set forth in Article IX, Sections 3 and 4, below, without consent of the Corporation, and further provided that, so long as the Declarant is the Owner of sixteen percent (16%) or more of the Lots, it may in its sole discretion and without joinder of any Owner amend, revise or abolish any one or more of the provisions of this Declaration by instrument duly executed and recorded in the Cumberland County Registry of Deeds. No such amendment shall render invalid any use or subdivision of and within the Property existing in accordance with this Declaration at the time of recording such Supplemental Declaration, and any such amendment shall be reasonably consistent with the uniform scheme of development established by this Declaration.

ARTICLE IX

DECLARANT'S RIGHTS

In addition to the easements and other rights in favor of Declarant set forth in Article V, above, the conveyance of the Lots to Owners shall be subject to the following reserved rights of the Declarant:

1. Additional Easements. The Declarant reserves the right until the construction, marketing and sale of all Lots is completed to:
 - (a) change the size, number and location of Lots 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 under a purchase and sale agreement. The change or changes shall be effective upon the recording by the Declarant of an amendment to this Declaration and/or the recording by the Declarant of a modified site plan indicating the changes made;
 - (b) locate on the Property, 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 and sewer;
 - (c) connect with and make use of utility lines, wires, pipes and conduits located on the Property for construction and sale purposes, provided that the Declarant shall be responsible for the cost of service so used;
 - (d) use the Property for ingress and egress and for the storage of construction materials and equipment used in the completion of the project;
 - (e) install and maintain signs and lighting for sales purposes; and
 - (f) with respect to any Lots remaining unsold by Declarant, Declarant may let or lease such Lots to any person or persons as Declarant sees fit.

2. Control of Board of Directors. The Declarant reserves the right until sixty-six percent (66%) of the Lots have been sold to Owners other than the Declarant to appoint and remove the officers of the Corporation and members of the Board of Directors of the Corporation and to veto any action of the Corporation or the Board of Directors. Nothing contained in this Article IX shall be deemed to affect the Declarant's exercise of its rights as an Owner of Lots and Member of the Corporation.

3. Annexation of Additional Property. The Declarant reserves the right to annex additional land to the scheme of this Declaration, without the consent of the Corporation or its Members or of any mortgagees or other lien holders (other than mortgagees or other lien holders of the land being annexed).

(a) Method of Annexation. Annexation of additional land to the scheme of this Declaration shall be accomplished by the recording of a Supplemental Declaration executed by Declarant, its successors or assigns. Such Supplemental Declaration shall describe the real property being annexed to the scheme of this Declaration and shall state that such real property is being made subject to the terms and conditions of this Declaration. The Supplemental Declaration may contain such additional modifications to this Declaration as may be necessary or desirable to reflect the different character, if any, of the property being annexed, or the various housing or community style characteristics and design standards to which the annexed property or portions thereof may be subjected, all of which may be significantly at variance with that of the Property as it exists at the date hereof.

(b) Additional Roadway. In connection with any annexation pursuant to this Section 3 of Article IX, or with the addition or reconfiguration of Lots pursuant to Section 1(a) of this Article IX, Declarant may designate, create, construct, and/or convey such additional roadways and related easements as are necessary and/or desirable to effectuate such annexation, addition or reconfiguration, and the Corporation shall be under the same obligations with respect to the maintenance, upkeep, repair, replacement and acceptance of ownership of such roadways and related easements as the obligations pertaining to the Road set forth in Article III, above.

This Article IX may not be amended without the consent of the Declarant so long as the Declarant owns any part of the Property.

ARTICLE X

GENERAL PROVISIONS

1. Enforcement. By the acceptance of a deed to a Lot, each Owner covenants and agrees to comply with the covenants and restrictions set forth in this Declaration, with the Bylaws of the Corporation and with any rules and regulations promulgated by the Corporation, as may be in effect from time to time. Any failure to so comply shall be grounds for an action against the offending Owner to recover damages or for injunctive relief or both. Such action may be maintained by the Corporation or by any aggrieved Owner or by the Declarant so long as it owns any part of the Property. Any Owner shall have a right of action against the Corporation for failure to comply with the covenants and restrictions set forth in this Declaration, with the Bylaws or with any rules and regulations promulgated by it.

2. Waiver. No delay or omission on the part of Declarant, the Corporation or any Owner in enforcing the covenants set forth herein shall be construed as a waiver of any right to enforce or to seek such remedy or acquiescence in such breach.

3. Severability. In the event any one or more of the provisions of this Declaration are found for any reason by a Court of competent jurisdiction to be unenforceable or null and void, such judgment or decree shall not in any manner whatsoever affect, modify, change, abrogate or nullify any other provision of this Declaration.

4. Perpetuities. If any of the covenants, restrictions or other provisions of this Declaration shall be unlawful, void or voidable because of the Rule against Perpetuities, then such provision or provisions shall continue only until twenty-one (21) years after the death of the last survivor of the now living descendants of Elizabeth II, Queen of England.

5. Pronouns. Wherever used, the singular number shall include the plural, the plural the singular, and the use of any gender shall be applicable to all genders.

IN WITNESS WHEREOF, the said Jan A. Parker and Nina L. Sweet have executed this Declaration of Protective Covenants and Common Easements on the date and year first above written.

Jan A. Parker
Jan A. Parker
Nina L. Sweet
Nina L. Sweet

STATE OF MAINE
CUMBERLAND, ss

March 20, 2003

Then personally appeared the above-named Jan A. Parker and acknowledged the foregoing instrument to be her free act and deed.

Before me,
[Signature]
~~Notary Public~~ Maine Attorney-at-Law
Printed Name JERRY T. SELSIE
BAR NO. 9116

STATE OF MAINE
CUMBERLAND, ss

March 20, 2003

Then personally appeared the above-named Nina L. Sweet and acknowledged the foregoing instrument to be her free act and deed.

Before me,
[Signature]
~~Notary Public~~ Maine Attorney-at-Law
Printed Name JERRY T. SELSIE
BAR NO. 9116

Received
Recorded Register of Deeds
Mar 21, 2003 09:28:24A
Cumberland County
John B. O'Brien

FIRST AMENDMENT

to
EASEMENT
for
ROADWAY

This First Amendment to Easement for Roadway is made by Jan A. Parker of North Yarmouth, Cumberland County, Maine and Nina L. Sweet of said North Yarmouth (collectively, "Grantors") and Janina LLC, a Maine limited liability company with a place of business in North Yarmouth, Maine ("Grantee") as of the 6th day of April, 2007.

Recitals

1. By Easement for Roadway dated March 20, 2003, and recorded in the Cumberland County Registry of Deeds in Book 19055, Page 325 (the "Roadway Easement Agreement"), Grantors granted an appurtenant easement (the "Easement") to Grantee over a certain proposed roadway described in the Roadway Easement Agreement.
2. Grantors have constructed an improved roadway over that portion of the Easement described in Exhibit A attached hereto and made a part hereof, which also is described in Exhibit E to the Roadway Easement Agreement ("Carriage Hill Road"), and which provides primary access to that subdivision developed by Grantors known as "Carriage Hill" and shown on a certain plan entitled "Recording Plat of Carriage Hill, Route 115, Gray Road, North Yarmouth, Maine, Made for Nina Sweet and Jan A. Parker," prepared by Royal River Survey Co., 43 Marina Road, Yarmouth, Maine 04096, dated September 2002, revised through September 12, 2002, Job No. 22056, and recorded in the Cumberland County Registry of Deeds in Plan Book 202, Page 752.
3. At the time of the granting of the Easement, it was contemplated that it would be used by Grantee to provide primary access also to one or more subdivisions to be developed by Grantee on the Dominant Property described in the Roadway Easement Agreement, and therefore, that it would be appropriate for Grantee and the purchasers of any lots from Grantee to contribute to the maintenance of Carriage Hill Road, as provided in Paragraph D(ii) of the Roadway Easement Agreement.
4. Grantee has developed a 4-lot residential subdivision on a portion of the Dominant Property described in the Roadway Easement Agreement, which is known as "Forest Ridge" and shown on a certain plan entitled "Plan of Forest Ridge, West of Route 115, Gray Road, No. Yarmouth, Maine, made for Janina, LLC" prepared by Royal River Survey Co. dated June, 2004, and recorded in the Cumberland County Registry of Deeds in Plan Book 205, Page 287 (the "Forest Ridge Plan"), primary access to which is provided by means other than the Easement, but secondary, emergency access to which is provided by the Easement.
5. The parties agree that, given the limited use of Carriage Hill Road by the owners of lots in Forest Ridge, it is no longer appropriate for them to contribute to its ongoing maintenance as contemplated by Paragraph D(ii) of the Roadway Easement Agreement.

Amendment

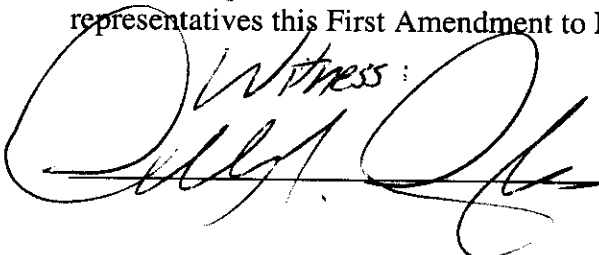
Therefore, for consideration given, the parties hereby agree as follows:

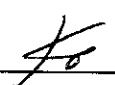
1. Grantors hereby release Grantee, its successors and assigns, including but not limited to, the owners of lots shown on the Forest Ridge Plan from time to time, from the obligations for the costs and expenses of maintenance, repair and replacement of Carriage Hill Road and the utilities located on, in or under Carriage Hill Road, imposed by Paragraph D(ii) of the Roadway Easement Agreement, so long as Carriage Hill Road is not used by them as primary access to those lots.

2. Notwithstanding the foregoing, if Carriage Hill Road at any time is used by Grantee, its successors and assigns, for primary access, or for the provision of utility service, to any portion of the Dominant Property, the then owner or owners of that portion of the Dominant Property shall be responsible for a share of the costs and expenses of the maintenance, repair and replacement of Carriage Hill Road and/or the utilities located on, under and/or over Carriage Hill Road, as provided in Paragraph D(ii) of the Roadway Easement Agreement.

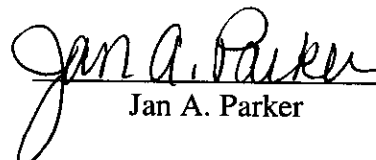
3. Except as expressly amended by this First Amendment to Easement for Roadway, the Roadway Easement Agreement is hereby ratified and shall remain in full force and effect.

The parties have executed or have caused to be executed by their duly authorized representatives this First Amendment to Easement for Roadway as of the date given above.

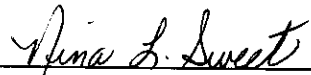
Witness:






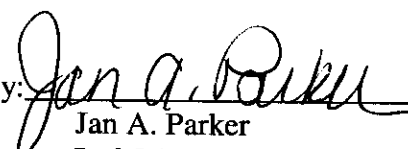


Jan A. Parker



Nina L. Sweet

JANINA LLC

By: 

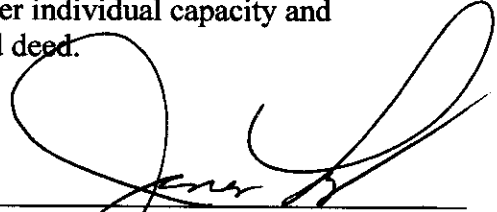
Jan A. Parker
Its Manager and President

STATE OF MAINE
COUNTY OF CUMBERLAND, ss.

4-6, 2007

Personally appeared the above-named Jan Parker in her individual capacity and acknowledged the foregoing instrument to be her free act and deed.

Before me,



JANET THOMPSON
NOTARY PUBLIC - MAINE
MY COMMISSION EXPIRES
JULY 23, 2008

Notary Public/Maine Attorney at Law

Printed Name: _____

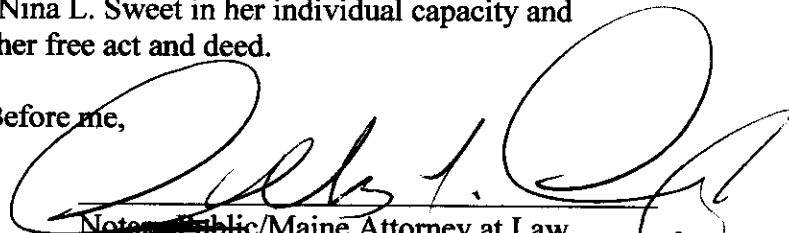
Commission Expires: _____

STATE OF MAINE
COUNTY OF CUMBERLAND, ss.

4-6, 2007

Personally appeared the above-named Nina L. Sweet in her individual capacity and acknowledged the foregoing instrument to be her free act and deed.

Before me,



Notary Public/Maine Attorney at Law

Printed Name: Donnelly S. Douglas

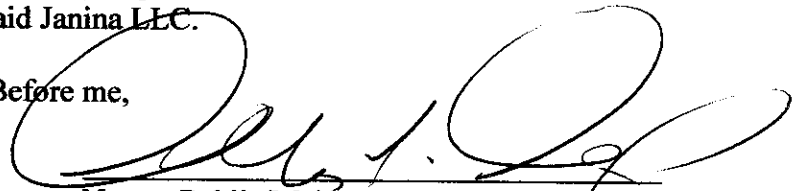
Commission Expires: _____

STATE OF MAINE
COUNTY OF CUMBERLAND, ss.

4-6, 2007

Personally appeared the above-named Jan Parker in her capacity as Manager and President of Janina LLC and acknowledged the foregoing instrument to be her free act and deed in said capacity and the free act and deed of said Janina LLC.

Before me,



Notary Public/Maine Attorney at Law

Printed Name: Donnelly S. Douglas

Commission Expires: _____

Exhibit A

Improved Portion of Carriage Hill Road

A certain private right of way situated on the southwest side of the Gray Road, so called in the Town of North Yarmouth, County of Cumberland and State of Maine, said road also known as State Route 115, said right of way being depicted on a certain plan entitled, "Recording Plat of Carriage Hill made for Nina Sweet and Jan Parker" dated September 2002 and recorded in the Cumberland County Registry of Deeds in plan book 202 page 752, being more particularly bounded and described as follows, to wit:

Beginning at a certain granite monument set in the southwesterly sideline of said Gray Road and the northerly corner of Lot 2 as shown on said plan, and proceeding around the hereby described road right of way in a clockwise fashion as follows;

Thence in a general southwest direction along a curve to the left with a radius of 25 feet for a distance as measured along the arc of said curve of 35.96 feet to a certain granite monument set at the point of tangency of said curve, said curve being subtended by a chord bearing S 86°-51'-04" W and 32.94 feet in length;

Thence S 45°-38'-48" W along the northwest sideline of Lot 2, Lot 4 and Lot 6 for a distance of 622.22 feet to a certain granite monument, and continuing on same course S 45°-38'-48" W for an additional distance of 50 feet to a point;

Thence N 44°-21'-12" W across the Carriage Hill right of way for a distance of 50 feet to a point on the southeast sideline of Lot 5 as shown on said plan;

Thence N 45°-38'-48" E along the southeast sideline of Lot 5 for a distance of 50 feet to a certain granite monument, and continuing on same course N 45°-38'-48" E along the southeast sidelines of Lot 5, Lot 3 and Lot 1 for an additional distance of 619.39 feet to a certain granite monument;

Thence in a northeasterly, northerly and northwesterly direction along a curve to the left with a radius of 25 feet for a distance as measured along the arc of said curve of 41.84 feet to a certain granite monument set at the point of tangency of said curve and in the southwesterly sideline of said Gray Road as re-defined by the Maine Department of Transportation and depicted on their right of way plan recorded in said registry in plan book 23 page 12 , said curve being subtended by a chord bearing N 02°-18'-03" W and 37.13 feet in length;

Thence turning to the southeast along the southwest sideline of said Gray Road along a curve to the left with a radius of 1355.53 feet for a distance as measured along the arc of said curve of 11.49 feet to a point on the apparent original southwest sideline of said Gray Road;

Thence S 25°-40' E along said apparent original southwest sideline of said Gray Road for a distance of 22.83 feet to a point;

Thence S 51°-56'-40" E along said apparent original southwest sideline of said Gray Road for a distance of 66.80 feet to Lot 1 and the granite monument and point of beginning herein.

Received
Recorded Register of Deeds
Apr 10, 2007 11:49:28A
Cumberland County
Pamela E. Lovley

7/11/2022

To the Residents of Carriage HL,

As you are all aware, The Train and Albert Families are looking to further subdivide the land we own that is down the "dirt road". We are currently working with an engineering team and they have met with the Town Planner to ensure what is being looked at is acceptable and follows all Town Ordinances. At this point, we are looking to subdivide into no more than 4 total new lots (2 on the Train's side of the road, and 2 on the Albert's side of the road). The cost to do this work isn't insignificant, so before we fully commit to spend the money, we would like to formally ask you for your approval to expand the subdivision. We would suggest that the houses in "Phase 2" pay a higher HOA fee to cover the increase in cost to maintain the road further down as well.

If you have any questions or concerns, please contact either Dan Train at 207-232-1269 or Shawn Albert at 207-436-0694.

Thank you,

Shawn, Martha, Dan, and Mary

3 Carriage HL – Name:

Andy Santerre

Signature:



4 Carriage HL – Name:

Signature:



9 Carriage HL – Name:

Signature:



10 Carriage HL – Name:

Russell MacLEARN

Signature:



14 Carriage HL – Name:

Shawn Albert

Signature:



15 Carriage HL – Name:

Daniel Train

Signature:



Re: Carriage Hill

2 messages

Nina Sweet <nrs9a41@gmail.com>

Tue, Oct 4, 2022 at 9:16 AM

To: Shawn Albert <thealberts6101@gmail.com>

Hi Shawn,

So nice to hear from you!

As to Carriage Hill Rd. Extension:

- a) Both Jan and I seem to recall that we deeded that Extension to the HOA sometime after all the lots were sold.
- b) I have found what I believe is that Quitclaim deed. It refers to the map, which I don't have (I think we gave you all the maps).

So I can send you what I have, but if that is not sufficient, neither Jan or I have any problem giving you what you need.

I'd love to talk with you about it if you want to call at your convenience.

Regards,

Nina

Names and addresses of all property owners within 500 ft (provided by Town Office)

Owner Name	Owner Address	Owner City	Owner State	Owner Zip
CHANDLER, JULIE A. & DAVIS, BRYCE	55 FOREST RIDGE DR	NORTH YARMOUTH	ME	04097
HABITAT FOR HUMANITY OF GREATER PORTLAND	P. O. BOX 10505	PORTLAND	ME	04104
RALEY, LESLEY S.	168 GRAY RD	NORTH YARMOUTH	ME	04097
CENTRAL MAINE POWER, C/O AVANGRID MGT CO-LOCAL TAX	ONE CITY CENTER, 5TH FLR	PORTLAND	ME	04101
SANTERRE, ANTHONY L. & SUSAN E.	3 CARRIAGE HILL	NORTH YARMOUTH	ME	04097
GOOD, MEGAN & GUERIN, RYAN	9 CARRIAGE HILL	NORTH YARMOUTH	ME	04097
ALBERT, MARTHA M & SHAWN M	14 CARRIAGE HILL	NORTH YARMOUTH	ME	04097
MACLEARN, RUSSELL G & HUNT-MACLEAN, JENNIFER	10 CARRIAGE HILL RD	NORTH YARMOUTH	ME	04097
GRECO, MICAELA D & STERRIS, MICHAEL	4 CARRIAGE HILL	NORTH YARMOUTH	ME	04097
SATELL WOODLANDS, LLC	25 WANDER R WAY	NORTH YARMOUTH	ME	04097
STRATTARD, GAIL F.	38 WANDER-R-WAY	NORTH YARMOUTH	ME	04097
SAME AS 010-059				
CONSTRUCTION AGGREGATE, INC.	PO BOX 307	CUMBERLAND	ME	04021