

CITY OF DOVER

PLANNING TECHNICAL REVIEW COMMITTEE –AGENDA

Meeting Type: Regular Meeting
Meeting Location: Council Conference Room, City Hall, 288 Central Ave, Dover NH 03820
Meeting Date: **Thursday, March 12, 2026**
Meeting Time: **10:30 AM**

1. Site Plan for 25 Dover Point, LLC, Assessor's Map K, Lot 26, zoned R-12, located at 28 Dover Point Road. (Proposal is to construct a 3,048 s.f. mixed use building to include three (3) commercial units on the first floor and four (4) residential units on the second floor.) (SITE-2026-0002) *(There is one (1) Conditional Use Permit associated with this application.)*



PLAN SNAPSHOT REPORT SITE-2026-0002 FOR CITY OF DOVER, N.H.

Plan Type: Site Plan - Major
Work Class: New Construction
Status: Fees Due
Valuation: \$0.00

Project:
District: None
Square Feet: 0.00
Assigned To: Blonigen, Rachel

App Date: 02/10/2026
Exp Date: 04/16/2026
Completed: NOT COMPLETED
Approval Expire Date:

Description: Construct a 3,048 sf mixed use building to include three (3) commercial units on first floor and four (4) residential units on the second floor.

Parcel: K0026-000000	Main	Address: 28 Dover Point Rd Dover, NH	Main	Zone: R-12(Residential - Medium Density)
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Surveyor McEneaney Survey Associates P.O. Box 1166 DOVER, NH 03821 Business: (603) 742-0911	Owner Zachery Leavitt Mobile: (603) 501-9107	Applicant Civilworks New England Steve Haight 181 Watson Road PO Box 1166 Dover, NH 03820 Business: (603) 749-0443 Mobile: (603) 817-6651
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Plan Custom Fields

Total2	0	Total3	0	Total	0
Total5	3048	Total4	3	Total6	4
Total7	0	Total9	3048	Total8	3048
Street Classification Type	Municipal	Recording Number		Net Change in # Parking Spaces (+/-)	19
Water Service	Municipal	Sewer Service	Municipal	Deed Book	5219
Total Acres (GIS)	0.76	Deed Page	442	Total SQFT	33105.6
Deed Date		Proposed Property Use	Mixed-Use Development - Three (3) Commercial Units on First Floor, Four (4) Residential Units on Second Floor.	Area of Parcel to be Developed (SQFT)	24450
Number of Parking Spaces Existing	0	Number of Parking Spaces Proposed	19	Number of Employees Total	8
Number of Employees in Max Shift	1	Distance to City Water	133	Distance to City Sewer	69
Type of Building to be Built	Standard Wood Frame Construction	Estimated Construction Value	400000.00	Refuse Removal	Private
Existing Conservation Easement Details		Total of Impact Fees to be Assessed	0.00	TotalImpactFeeSDTOD	0.00
Sub Total Residential	0.00	TotalImpactFeeTHTOD	0.00	TotalImpactFee23FTOD	0.00
TotalImpactFeeA4TOD	0.00	TotalImpactFeeMHTOD	0.00	TotalImpactFeeADUTO	0.00
TotalImpactFeeAONRT	0.00	TotalImpactFeeAR55TOD	0.00	TotalImpactFeeAR62TOD	0.00
TotalImpactFeeRIRCTOD	0.00	Sub Total	0.00	TotalImpactFeeOCSTOD	0.00
TotalImpactFeeITWCTOD	0.00	Non-Residential		TotalImpactFeeOIUTOD	0.00
TotalImpactFeeAFAOT	0.00	TotalImpactFeeNHALTOD	0.00		
OD		D			

Attachment File Name	Added On	Added By	Attachment Group	Notes
Signature_Steve_Haight_2/10/2026.jpg	02/10/2026 16:58	Haight, Steve		Uploaded via CSS
2026.03.05_PlanningTechnicalReviewCommitteeAgenda.pdf	02/24/2026 11:09	Blonigen, Rachel		TRC Agenda

PLAN SNAPSHOT REPORT (SITE-2026-0002)

Invoice No.	Fee	Fee Amount	Amount Paid
INV-2026000529	Planning General Application Fee	\$200.00	\$0.00
Total for Invoice INV-2026000529		\$200.00	\$0.00
NOT INVOICED	Planning Non-Residential – Addition	\$304.80	\$0.00
	Planning Non-Residential - Lodging	\$105.00	\$0.00
	Planning Residential Fee	\$400.00	\$0.00
Total for Invoice NOT INVOICED		\$809.80	\$0.00
Grand Total for Plan		\$1,009.80	\$0.00

Meeting Type	Location	Scheduled Date	Subject
Technical Review Committee Meeting v.1	City Hall, Second Floor Conference Room	03/12/2026	Technical Review Committee Meeting

Submittal Name	Status	Received Date	Due Date	Complete Date	Resubmit	Completed
Land Use Plan Technical Review v.1	In Review	02/24/2026	03/04/2026		No	No

Item Review Name	Department	Assigned User	Status	Assigned Date	Due Date	Completed Date
Business Development	Business Development	Burdin, James	In Review	02/24/2026	03/24/2026	
City Engineer	Community Services - Engineering	Semprini, Jillian	In Review	02/24/2026	03/04/2026	
Planning	Planning	Bassegio, Erin	In Review	02/24/2026	03/24/2026	
Zoning Administrator	Planning	Crouser, Paul	In Review	02/24/2026	03/04/2026	
IS Building Official	Planning / Inspection Services	Maxfield, Jim	In Review	02/24/2026	03/04/2026	
Traffic	Police	Mitrushi, Alex	In Review	02/24/2026	03/04/2026	

Workflow Step / Action Name	Action Type	Start Date	End Date
Review v.1		02/11/2026 12:07	
Confirm application complete v.1	Generic Action		02/11/2026 12:07
Technical Review Committee Meeting Agenda v.1	Task	02/11/2026 12:07	02/24/2026 11:26
Land Use Plan Technical Review v.1	Receive Submittal	02/24/2026 0:00	
Technical Review Committee Meeting v.1	Hold Meeting	02/24/2026 11:25	
Planning Board v.1			
Planning Board Agenda v.1	Task		
Invoice for Notices v.1	Task		
Send Notices v.1	Task		
Planner Creates Staff Recommendations v.1	Plan Activity		
Distribute Planning Board Materials v.1	Task		
Planning Board Hearing v.1	Hold Hearing		
Planning Board Decision v.1	Plan Activity		
NOD Sent to Applicant v.1	Create Report		

Final Plan v.1

PLAN SNAPSHOT REPORT (SITE-2026-0002)

Land Use Plan Stamped and Signed v.1	Generic Action
Recording v.1	Task
Document Archival v.1	Generic Action
Internal Notification of Plan Completion v.1	Generic Action
Building Official Notifies Address v.1	Generic Action
Pre-Con Meeting v.1	Hold Meeting
Create/Link to Records v.1	
Create / Link to Permit - Building Major v.1	Create Sub Permit
Create / Link to Permit - Site Work, Construction v.1	Create Sub Permit

CIVILWORKS NEW ENGLAND

181 WATSON ROAD
P.O. BOX 1166
DOVER, NH 03821-1166
PHONE: 603.749.0443 FAX: 603.749.7348

February 9, 2026

City of Dover
288 Central Ave
Dover, NH 03820

Attn: Donna Benton, Director
Planning & Community Development

Subject: Site Plan Review & Conditional Use Permit Applications
28 Dover Point Road - Tax Map K, Lot 26
Civilworks New England Reference No. 25026

Dear Ms. Benton:

On behalf of our client, 25 Dover Point, LLC, we are pleased to submit the following application(s) and associated materials for review by the Technical Review Committee (TRC). Attached are four (4) copies of associated material items 1-13 listed below, and two (2) copies of the Drainage Report. All materials will be provided electronically (PDF) to the Planning Department:

- 1) Site Plan Review Application (includes notification list, fee schedule & checklist)
- 2) Site Plan Review Project Narrative
- 3) Conditional Use Permit Application
- 4) Conditional Use Criteria Narrative
- 5) Owner & Applicant Letters of Authorization
- 6) Zoning Variance Approval Letter
- 7) Letters to Serve (emails from City, Unitil, Eversource)
- 8) Traffic Assessment Memorandum
- 9) 2021 Wetland Report
- 10) Landscape Operation & Maintenance Plan
- 11) Stormwater Inspection & Maintenance Plan
- 12) Stormwater Management Narrative
- 13) Site Plan Set, including Landscape Plan & Architectural Plans
- 14) Drainage Report w/Supporting Documents & Plans

We look forward to representing these applications at the TRC meeting on March 5, 2026. Please do not hesitate to contact our office should you have any questions.

Sincerely,

CIVILWORKS NEW ENGLAND



Stephen J. Haight, PE



City of Dover, New Hampshire SITE REVIEW APPLICATION

[Revision Date: July 1, 2021]

Office Use Only	Project #:	_____	Date Received:	_____
	Amount Paid:	_____	Time Received:	_____

APPLICANT AND OWNER INFORMATION

Name of Applicant: 25 Dover Point, LLC Telephone # (603) 501-9107

Address of Applicant: 99 Columbus Avenue Dover, NH 03820

E-Mail Address: leavittzachery@gmail.com

Name of Property Owner (if different from applicant): _____ Telephone # _____

Address of Property Owner: _____

PROPERTY INFORMATION

Address of Property: 28 Dover Point Road

Assessor's Map # K Lot(s) # 26

Zoning District(s) R-12 Overlay District(s) _____

Size of Parcel: 32,964 sq. ft. .76 ac. Property Deed: Book 5219 Page: 442

Existing Use of Property: Vacant lot

SITE PLAN INFORMATION

Proposed 3,048 S.F. mixed-use building with three commercial units on the
Describe Proposed Use: first floor, and four residential units on the second floor.

Area of Parcel to be Developed: 24,450 sq. ft.

If Multi-family Residential: Number of Units 4 & Buildings Proposed 1

If lodging: Number of Units _____ & number of Buildings _____

Number of Parking Spaces: Existing 0 Proposed 19

Highway Access (check where applicable): ☐ City Street ☒ State Highway

Number of Employees Total: 8 In Maximum Shift: 1

Disposition of Parcel:

Building Setbacks:

Building Footprint 3,048 sq. ft.

Front Yard 15-25 ft.

Total Building Area 3,048 sq. ft.

Rear Yard 30 ft.

Paved Area 6,452 sq. ft.

Side Yard: Right 15 ft. Left 15 ft.

City Water? ☒ Yes ☐ No How far is city water from the property? 133 ft

City Sewer? ☒ Yes ☐ No How far is city sewer from the property? 69 ft

TRANSFER OF DEVELOPMENT RIGHTS INFORMATION

Type of TRANSFER OF DEVELOPMENT RIGHT REQUEST (Check All That Apply):

☐ Residential ☐ Residential (reduced size) ☐ Industrial | ☐ Purchase ☐ Land Preservation

Relief sought (Check All That Apply):

☐ Lot Size ☐ Frontage ☐ Setback ☐ 30' Buffer ☐ Increase by _____ units

Describe Proposed Use or Activity that requires TDR; describe any impacts and document mitigation:

BUILDING INFORMATION

Type of Building to be Built: Proposed 3,048 S.F. building with a standard wood frame construction.

Height of Building: 28' 3" Finished Floor Elevation: 70'

Number of Seats (where applicable) N/A

Estimated value of construction: \$ 400,000.00 Refuse removal: Public/Private (circle one)

WAIVER REQUESTS

Site Review Regulations section(s) to be waived: N/A

Justification for waiver request(s) (*attach additional sheets as needed*):

SURVEYOR INFORMATION

Name of Surveyor and Company (Licensed in N.H.) Kevin McEneaney, LLS- McEneaney Survey Associates

Address P.O. Box 1166 Dover, NH 03821 Telephone #: 603-742-0911

Professional License #: NH LLS # 661 E-mail address: kevin@surveynh.com

ENGINEER INFORMATION

Name of Engineer and Company (Licensed in N.H.) Stephen J. Haight, PE - Civilworks New England

Address P.O. Box 1166 Dover, NH 03821 Telephone #: 603-749-0443

Professional License #: NH PE # 7978 E-mail address: shaight@civilworksne.com

ARCHITECT INFORMATION

Name of Architect and Company (Licensed in N.H.) FSM Drawings

Address 855 Hanover Street, # 450 Manchester, NH 03104 Telephone #: 603-674-6447

Professional License #: _____ E-mail address: adam@fsmdrawings.com

LANDSCAPE ARCHITECT INFORMATION

Name of Landscape Architect and Company (Licensed in N.H.) Roberta N. Woodburn
Woodburn & Company Landscape Architecture, LLC

Address 103 Kent Place Newmarket, NH 03857 Telephone #: 603-659-5949

Professional License #: NH Licensed Architect # 00002 E-mail address: robby @woodburnandcompany.com

SOIL SCIENTIST INFORMATION

Name of Soil Scientist and Company (Licensed in N.H.) Damon E. Burt, CWS, CPESC
Fraggle Rock Environmental, LLC

Address 38 Garland Road Strafford, NH 03884 Telephone #: 603-969-5574

Professional License #: NH Certified Wetland Scientist # 163 E-mail address: FREnvironmental@gmail.com

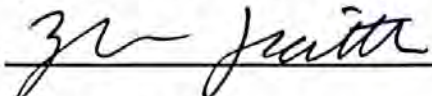
CONSERVATION EASEMENT HOLDER

Name of Easement Holder: _____ Telephone # _____

Address Easement Holder: _____

SIGNATURES

I/We hereby submit this application to the City of Dover Planning Board and attest that to the best of my knowledge all of the information on this application form and in the accompanying application materials and documentation is true and accurate. Furthermore, I/we submit that the existing conditions sheet of the plan represents the lot in question, and that no alteration of the site shall take place during Planning Board review up to and including the pre-construction meeting. As applicant or as agent, I attest that I am duly authorized to act in this capacity.

Signature of Property Owner:  Date: 2/9/26

Signature of Applicant (if different from owner): _____ Date: _____

Signature of Agent: _____ Date: _____

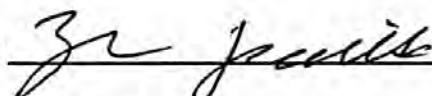
AUTHORIZATION TO ENTER SUBJECT PROPERTY

I, and my successors, hereby authorize members of the Dover Planning Board, Planning Department and other pertinent City Departments and boards to enter my property for the purpose of evaluating this application, including performing inspections during the application phase, post-approval phase, construction phase and occupancy phase. It is understood that these individuals must use all reasonable care, courtesy, and diligence when on the property.

Signature of Property Owner:  Date: 2/9/26

AUTHORIZATION TO COMPLETE THE PROJECT ON SUBJECT PROPERTY

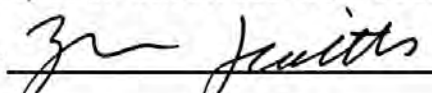
I, and my successors, hereby the City of Dover or its assigns to enter my property for the purpose of completing the site work as required by the approved plan should the letter or credit or other surety be called. It is understood that these individuals must use all reasonable care, courtesy, and diligence when on the property.

Signature of Property Owner:  Date: 2/9/26

Signature of Applicant (if different from owner): _____ Date: _____

CERTIFICATION OF FEES

I, and my successors, hereby certify that I understand that the City of Dover collects impact fees, utility investment fees and inspection fees for projects developed in Dover. Said fees must be paid before a Certificate of Occupancy can be obtained for a structure, unless a different payment schedule is agreed to by the applicant and the City prior to approvals being issued by the Dover Planning Board. Additionally, should the property be in "Current Use" it will be subject to the Land Use Change Tax.

Signature of Property Owner:  Date: 2/9/26

Signature of Applicant (if different from owner): _____ Date: _____

***CITY OF DOVER SITE REVIEW
LIST OF ABUTTERS***

Pursuant to RSA 676:4, the State Law of New Hampshire, the City of Dover is required to notify the applicant, abutters (including holders of conservation easements), and any professional whose seal is on the plan, of the public hearing by certified mail, return receipt requested. Staff will provide the abutter information, while the applicant must provide accurate contact information for the owner, applicant and professional agents representing the project.

Owner:

TAX MAP	LOT #	PROPERTY OWNER	MAILING ADDRESS
K	26	25 Dover Point, LLC	99 Columbus Avenue, Dover NH 03820

Applicant (if different from owner):

APPLICANT NAME	APPLICANT COMPANY	MAILING ADDRESS

Surveyor and/or Engineer/Professional Agent:

NAME	COMPANY	MAILING ADDRESS
Kevin McEneaney, LLS	McEneaney Survey Associates	P.O. Box 1166 Dover, NH 03821
Stephen J. Haight, PE	Civilworks New England	P.O. Box 1166 Dover, NH 03821

Conservation Easement Holder:

TAX MAP	LOT #	NAME OF EASEMENT HOLDER	MAILING ADDRESS

PLANNING BOARD FEE SCHEDULE/INVOICE

(Revised July 24, 2023)

Below are the fees associated with plan review and are subject to a nonrefundable application fee to cover administrative expenses. Please complete the information below and provide payment with your application submittal. **Plan review fees shall be paid prior to technical review committee (TRC) being scheduled.** For plans not requiring TRC review, **fees are due 21 days prior** to the Planning Board meeting. Staff will coordinate abutter/notice fees, which will be invoiced and must be paid 28 hours before the Planning Board meeting for an application to be heard. Fees shall be paid by cash or check made payable to "City of Dover".

A. Plan Review Fees

1. Application fee for the following (SELECT ALL THAT APPLY):

- ☐ SUBDIVISION Application fee \$200.00 + \$150.00 x # _____ new lots created = \$ _____
- ☐ LOT LINE ADJUSTMENT Application fee \$200.00 + \$100.00 X # _____ of lots involved = \$ _____
- ☐ TRANSFER OF DEVELOPMENT RIGHTS Application fee \$200.00 = \$ _____
- ☒ SITE REVIEW – RESIDENTIAL Application fee \$200.00+ \$100.00 x # 4 per dwelling unit = \$ 600.00
- ☒ SITE REVIEW – NON-RESIDENTIAL Application fee \$200.00 + (not to exceed \$10,000)
 - ☐ New construction \$.15 sq. ft. x # 3,048 sq. ft.= \$ 457.20
 - ☐ Additions (new floor space) \$.10 per sq. ft. x # _____ sq. ft.= \$ _____
- ☐ MOTEL/HOTEL \$35.00 x # _____ per lodging unit= \$ _____
- ☐ CHANGE OF USE Application fee \$200.00 + (not to exceed \$5,000)
 - ☐ Existing floor spaces \$.10 per sq. ft. x # _____ sq. ft. = \$ _____
- ☐ CONDITIONAL USE PERMIT Application fee \$200.00 x # _____ per Application = \$ _____
- ☐ GRAVEL PIT/ EXCAVATIONS
 - ☐ Application fee \$50.00= \$ _____
 - ☐ Permit fee \$75.00= \$ _____
- ☐ EXTENSIONS/AMENDMENTS/WAIVERS FOR AN APPROVED PLAN Application fee \$200.00 = \$ _____
- ☐ REQUEST FOR REZONING Application fee \$200.00 = \$ _____
- ☐ DRIVEWAY WAIVER Application fee \$200.00 = \$ _____
- ☒ **TOTAL IMPERVIOUS PAVED AREA** (for new development, roadways or additions to existing parking lots, (not to exceed \$10,000)) Application fee of \$200.00 is N/A if it is part of a Site Review or Subdivision Plan. \$200.00 + \$.07 per sq. ft. x # 6,452 sq. ft. = \$ 451.64

SUBTOTAL PLAN REVIEW FEE = \$ 1,508.84

AND

B. Abutter Notification/Mailing Labels - this office will create and print the abutter list and provide labels in triplicate for each abutter. The applicant/owner will review the list for accuracy and provide to us the engineer, architect, licensed land surveyor (LLS), licensed landscape architect (LLA) and/or soil scientist whose professional seal appears on the plan with names and addresses for notices.

- ☐ Applicant & Owner, engineer, architect, LLS, LLA and/or soil scientist
 - ☐ Certified letters fee # _____ of x \$10.00= \$ _____
- ☐ Certified letters fee: # of abutters _____ X \$10.00= \$ _____
- ☐ First Class Mail fee (for individual owner of units within a condominium or other collective form of ownership): # of abutters _____ X \$1.00= \$ _____
- ☐ Creating/Printing Abutter Labels in triplicate per sheet _____ x \$10.00= \$ _____

C. Foster's newspaper public notice fee \$120.00 x # _____ applications = \$ _____

SUBTOTAL = \$ _____

TOTAL INVOICE AMOUNT = \$ _____

PLAN REVIEW FEE COLLECTED/PAID = \$ _____

BALANCE DUE = \$ _____

The amount due must be paid 28 hours prior to the Planning Board Meeting, to be heard.



City of Dover, New Hampshire SITE PLAN REVIEW SUBMISSION CHECKLIST

[Revision Date: June 4, 2019]

This site plan review checklist, as required by Chapter 153-6-B(2), should be completed by the applicant. It is intended to assist the applicant in the planning process of preparing a Site Plan Review application for Planning Board action. The size of the project will determine the types of information required for review, therefore, a **pre-application conference** with the Planning Department to determine the list of items that must be completed is strongly encouraged.

The first step would be to appear before the Technical Review Committee, to apply, eight (8) folded copies of the site plan with scale of not less than 1"=50' or 1"=100' for larger site plans, need to be provided, along with payment of plan review fees.

Two weeks prior to Planning Board, three (3) full size and twelve (12) half size (11x17), folded, copies of the plan set and materials, including response to TRC comments, will be due. Abutter/Notice Fees will be invoiced and need to be paid 28 hours prior to the Planning Board meeting.

The applicant is cautioned that this checklist is only a guide and is not intended to be a complete list of all site plan review requirements. Please refer to the Site Plan Review Regulations for full details.

APPLICANT: 25 Dover Point, LLC File Number: _____

PROJECT TITLE: Dover Point Mixed Use

PROPERTY LOCATION: 28 Dover Point Road Tax Map: K Lot: 26

	Where/How Provided	Reviewed
1. Completed and signed Application form	☒	
2. Plan Review Fees are provided	☒	
3. Electronic copy of the engineered/surveyed plan layout	☒	
4. Electronic copy of supplementary materials and application	☒	
5. Traffic Impact Assessment and Analysis (Standard or Advanced)	☒	
6. Waiver requests to the Site Plan Review Regulations, with written justification	☐ N/A	
7. Conditional Use Permit applications	☒	
8. A colored rendering of the streetscape that will be created along the existing public right-of-way	☒	
9. A colored architectural plan showing all sides of buildings	☒	
10. Folded copies of site plan w/scale of not less than 1"=50' or 1"=100' for larger site plans, for TRC. Plans shall contain the following items as appropriate:	☒	
Location map at appropriate scale	☒	
Proposed Project name and title and Planning File #	☒	
Date, north arrow and scale	☒	
Names of all abutting property owners	☒	
Name and address of owners and/or applicants	☒	
Signature & stamp of NH licensed land surveyor and/or engineer	☒	
Zoning District boundaries, including any special or overlay districts	☐ N/A	
Location of Conservation District areas	☒	
Location, names and widths of existing and proposed streets, including pavement widths, grades, curbs and crosswalks	☒	
Location and widths of existing & proposed easements & right of ways	☒	
Location and width of existing and proposed access/egress ways	☒	

	Explain How Provided	Reviewed
Depict pedestrian walkways and accessible access	☒	
Existing and proposed property lines with dimensions and bearings tied into Dover's Geographic Information System coordinate system	☒	
Existing and proposed topographic information at two foot intervals	☒	
Existing and proposed buildings and structure locations	☒	
Minimum building setbacks or build to lines on all lots	☒	
Location and size of existing and proposed electric, telephone, gas cable and other underground utilities	☒	
Existing and proposed water lines and fire hydrants, including materials and capacity needed	☒	
Location and materials of sanitary sewage facilities within project site and projected additional peak hour sewer load	☒	
Existing and proposed stormwater lines and facilities	☒	
Lighting plan depicting all existing and proposed exterior light fixtures and a lighting level analysis for parking lots	☒	
Location of Flood Hazard Zone	☐ N/A	
Location of all bodies of water and watercourses	☒	
Location of wetlands and buffers	☒	
Neighborhood plan with aerial underlay showing how project relates to abutting uses within the plan set	☒	
Existing natural features and/or significant vegetation on property	☒	
Depict existing contours up to 100 ft. beyond project limits	☒	
Landscape plan depicting existing and proposed landscaping, prepared by a licensed Professional Landscape Architect	☒	
Location of parking layout delineating spaces and arrangement; note addressing maximum required spaces	☒	
Location, material and size of existing and proposed pavement area	☒	
Location of proposed fire lanes	☒	
Specify finished floor elevations of buildings	☒	
Location of solid waste disposal facilities (dumpster, pad and screening, etc.), including required screening	☒	
Depict all service, storage, loading bays and utility areas	☐ N/A	
All applicable Dover Common Site Plan notes	☒	
11. Additional Information if appropriate		
Stormwater Management Plan depicting the existing & proposed storm drainage system and engineered drainage analysis	☒	
Stormwater Management System Operation and Maintenance Plan	☒	
Letter to Serve from Public and Private Utilities	☒	
Erosion and Sedimentation Control Plan	☒	
Landscape Operation and Maintenance Plan	☒	
Proposed restrictive covenants or homeowners association documents	☐ N/A	
Dates and permit numbers of all required state and federal permits	☐ N/A	
If wetland buffer, indicate placards locations, as applicable	☒	
Depict test boring locations, groundwater elevations and soil profiles and/or soils types call-outs	☐ N/A	
Location of proposed drive-in facilities	☐ N/A	
Provide additional exhibits/technical data determined appropriate by the Planning Board or its staff as required	☐ TBD	

REVIEWED BY: _____ DATE _____ TRC DATE _____

PROJECT NARRATIVE

for
Dover Point Mixed-Use Development
28 Dover Point Road, Dover, NH
Tax Map K, Lots 26
February 2026

PROJECT OVERVIEW

The project applicant is proposing to construct a +/- 3,048 SF mixed use building with associated parking located within the R-12 Zoning District which will share a driveway entrance on Dover Point Road with the abutting commercial project (see attached Variance Zone-2025-0037 Notice of Decision). The proposed site will include public water and sewer connections, underground electric service, natural gas service and associated drainage improvements. A small portion of the work is proposed within the 50' conservation district buffer but does not disturb any wetland, consisting of +/- 901 SF within a wetland buffer and +/- 896 SF within a stream buffer.

The project site consists of the following general improvements:

- Remove an existing portion of asphalt currently present on site
- Construction of +/- 3,048 SF mixed use building and associated parking
- Construction of on-site stormwater detention and treatment system, grading, and other drainage requirements
- On site utility construction
- Construction of (1) new entrance shared with abutting commercial project
(See attached Variance Zone-2025-0037 Notice of Decision granted 12-18-25)
- Stabilize remaining areas with loam and seed

PROJECT LOCATION AND SITE CHARACTERISTICS

The project area consists of a parcel of land shown on Tax Map K as Lot 26 and is located within the R-12 Residential District, contains +/- 0.76 acres and is currently undeveloped. The project proposes to develop this existing lot with access from Dover Point.

DRIVEWAY AND PARKING LOT

A 35-foot-wide driveway entrance is proposed for this project, located on Dover Point Road, to be shared with the abutting commercial property as well as parking associated with the construction of a proposed mixed-use building, per a Variance ZONE-2025-0037. Lighting for the proposed parking lot and driveway will be per the Lighting Plan.

For the proposed development, the City of Dover parking maximums allow for the following:

Required Parking Spaces/Proposed Parking Spaces:

Residential: 1.4 space per unit (4 units) + 0.5 visitor spaces per unit (4 units) = 8 Surface Spaces

Commercial: 1 space per 300 s.f. (3,048 s.f.) = 11 Surface Spaces

Total proposed = **19 Surface Spaces (includes 1 accessible space & 1 electric vehicle ready space)**

WETLAND SETBACK IMPACT TYPE

The project requires a conditional use permit from the City of Dover. Approximately +/- 901 SF (and 896 SF within stream buffer) of non-tidal wetland buffer will be impacted. The total area of the 50' wetland buffer is 7,561 S.F. on the lot. The project does not impact bogs, marshes, sand dunes, tidal wetlands, cedar swamps, undisturbed tidal buffer zone, or involve any work within 50 feet of a salt marsh. The project is not located within 100 feet of prime wetlands.

DRAINAGE

The parcel is located at 28 Dover Point Road, Dover, NH. The site contains approximately 0.76 acres and is bounded to the west by Dover Point Road, the east by commercial development, and the north by residential and mixed-use properties. The watershed of the parcel includes the project site. On site soils are a mix of Suffield Silt Loam, and Buxton Silt Loam. Suffield and Buxton series soils classified as HSG C.

The proposed development of the site includes the demolition and removal of a pre-existing residential driveway and the construction of a mixed-use building with associated parking having site access from Dover Point Road which will be shared with the adjacent commercial development project. The project also includes the construction of utility upgrades, and drainage improvements including on-site stormwater detention and treatment system. The post development watershed is modeled utilizing the same point of analysis as the predevelopment watershed, allowing direct comparison of the peak runoff between the pre and post developed conditions (see drainage report).

The analysis indicates that the proposed development of the site will have negligible impact on the watershed leading to Varney Brook.

UTILITIES

The proposed project will connect to City of Dover water and sewer as well as Unitil for natural gas, and Eversource for electricity. Natural Gas lines are located within the Dover Point Road right-of-way which is the anticipated location for this connection. The existing site is undeveloped and will require new services. City of Dover water lines are located within Dover Point Road and Pointe Place. There is an existing service connection from the 8" line in Pointe Place that is anticipated to be used. A sewer easement and gravity sewer line runs through the property which is the intended point of connection for the project. Building connections are made per the City's Community Services Utility Division and Fire Department requirements and standards. Underground electric for the site is to be provided by the existing electric lines located along Dover Point Road.



City of Dover, New Hampshire CONDITIONAL USE PERMIT APPLICATION

[Revision Date: October 19, 2020]

Office Use Only	Project #:	_____	Date Received:	_____
	Amount Paid:	_____	Time Received:	_____

APPLICANT AND OWNER INFORMATION

Name of Applicant: 25 Dover Point, LLC Telephone # 603-501-9107

Address of Applicant: 99 Columbus Avenue Dover, NH 03820

E-Mail Address: leavittzachery@gmail.com

Name of Property Owner (if different from applicant): _____ Telephone # _____

Address of Property Owner: _____

PROPERTY INFORMATION

Assessor's Map # K Lot(s) # 26

Address of Property: 28 Dover Point Road Dover, NH 03820

Zoning District(s) R-12 Overlay District(s) _____

Existing Use of Property: Vacant lot

CONDITIONAL USE PERMIT INFORMATION

Type of Conditional Use Permit (Check All That Apply):

- | | | |
|---|---|--|
| ☒ Conservation District | ☐ RCM Use Overlay District | ☐ Gateway District |
| ☐ Groundwater Protection | ☐ Off-Street Parking and Loading | ☐ Alternative Treatment Center |
| ☐ Wetland Protection District | ☐ Central Business District | ☐ Heritage Residential District |

Describe Proposed Use or Activity That Requires Conditional Use Permit and Describe Any Impacts:

To allow construction activity related to drainage and grading impacting 901 s.f. within a wetland buffer, and

896 s.f. within a wetland buffer along a stream.

List Any Associated State or Federal Permits That Have Been or Will Be Applied For and Indicate Their Status: N/A

Name of Professional That Prepared Plans: Stephen J. Haight, P.E. - Civilworks New England

Address P.O. Box 1166 Dover, NH 03821

Telephone #: 603-749-0443

Professional License #: NH P.E. # 7978

E-mail address: shaight@civilworksne.com

SIGNATURES

I/We hereby submit this application to the City of Dover Planning Board and attest that to the best of my knowledge all of the information on this application form and in the accompanying application materials and documentation is true and accurate. As applicant or as agent, I attest that I am duly authorized to act in this capacity.

Signature of Property Owner:  Date: 2/9/26

Signature of Applicant (if different from owner): _____ Date: _____

Signature of Agent: _____ Date: _____

AUTHORIZATION TO ENTER SUBJECT PROPERTY

I, and my successors, hereby authorize members of the Dover Planning Board, Planning Department and other pertinent City Departments and boards to enter my property for the purpose of evaluating this application, including performing inspections during the application phase, post-approval phase, construction phase and occupancy phase. It is understood that these individuals must use all reasonable care, courtesy, and diligence when on the property.

Signature of Property Owner:  Date: 2/9/26

CITY OF DOVER CONDITIONAL USE LIST OF ABUTTERS

Pursuant to RSA 676:4, the State Law of New Hampshire, the City of Dover is required to notify the applicant, abutters (including holders of conservation easements), and any professional whose seal is on the plan, of the public hearing by certified mail, return receipt requested. Staff will provide the abutter information, while the applicant must provide accurate contact information for the owner, applicant and professional agents representing the project.

Owner:

TAX MAP	LOT #	PROPERTY OWNER	<u>MAILING ADDRESS</u>
K	26	25 Dover Point, LLC	99 Columbus Avenue Dover, NH 03820

Applicant (if different from owner):

APPLICANT NAME	APPLICANT COMPANY	<u>MAILING ADDRESS</u>

Surveyor and/or Engineer/Professional Agent:

NAME	COMPANY	<u>MAILING ADDRESS</u>
Kevin McEneaney, LLS	McEneaney Survey Associates	P.O. Box 1166 Dover, NH 03820
Stephen J. Haight, PS	Civilworks New England	P.O. Box 1166 Dover, NH 03820
Damon E. Burt, CWS	Fraggle Rock Environmental, LLC	38 Garland Road Strafford, NH 03884

Conservation Easement Holder:

TAX MAP	LOT #	NAME OF EASEMENT HOLDER	<u>MAILING ADDRESS</u>

PLANNING BOARD FEE SCHEDULE/INVOICE

(Revised July 24, 2023)

Below are the fees associated with plan review and are subject to a nonrefundable application fee to cover administrative expenses. Please complete the information below and provide payment with your application submittal. **Plan review fees shall be paid prior to technical review committee (TRC) being scheduled.** For plans not requiring TRC review, **fees are due 21 days prior** to the Planning Board meeting. Staff will coordinate abutter/notice fees, which will be invoiced and must be paid 28 hours before the Planning Board meeting for an application to be heard. Fees shall be paid by cash or check made payable to "City of Dover".

A. Plan Review Fees

1. Application fee for the following (SELECT ALL THAT APPLY):

- ☐ SUBDIVISION Application fee \$200.00 + \$150.00 x # _____ new lots created = \$ _____
- ☐ LOT LINE ADJUSTMENT Application fee \$200.00 + \$100.00 X # _____ of lots involved = \$ _____
- ☐ TRANSFER OF DEVELOPMENT RIGHTS Application fee \$200.00 = \$ _____
- ☐ SITE REVIEW – RESIDENTIAL Application fee \$200.00+ \$100.00 x # _____ per dwelling unit = \$ _____
- ☐ SITE REVIEW – NON-RESIDENTIAL Application fee \$200.00 + (not to exceed \$10,000)
 - ☐ New construction \$.15 sq. ft. x # _____ sq. ft. = \$ _____
 - ☐ Additions (new floor space) \$.10 per sq. ft. x # _____ sq. ft. = \$ _____
- ☐ MOTEL/HOTEL \$35.00 x # _____ per lodging unit = \$ _____
- ☐ CHANGE OF USE Application fee \$200.00 + (not to exceed \$5,000)
 - ☐ Existing floor spaces \$.10 per sq. ft. x # _____ sq. ft. = \$ _____
- ☒ CONDITIONAL USE PERMIT Application fee \$200.00 x # 1 per Application = \$ 200.00
- ☐ GRAVEL PIT/ EXCAVATIONS
 - ☐ Application fee \$50.00 = \$ _____
 - ☐ Permit fee \$75.00 = \$ _____
- ☐ EXTENSIONS/AMENDMENTS/WAIVERS FOR AN APPROVED PLAN Application fee \$200.00 = \$ _____
- ☐ REQUEST FOR REZONING Application fee \$200.00 = \$ _____
- ☐ DRIVEWAY WAIVER Application fee \$200.00 = \$ _____
- ☐ **TOTAL IMPERVIOUS PAVED AREA** (for new development, roadways or additions to existing parking lots, (not to exceed \$10,000)) Application fee of \$200.00 is N/A if it is part of a Site Review or Subdivision Plan. \$200.00 + \$.07 per sq. ft. x # _____ sq. ft. = \$ _____

SUBTOTAL PLAN REVIEW FEE = \$ 200.00

AND

B. Abutter Notification/Mailing Labels - this office will create and print the abutter list and provide labels in triplicate for each abutter. The applicant/owner will review the list for accuracy and provide to us the engineer, architect, licensed land surveyor (LLS), licensed landscape architect (LLA) and/or soil scientist whose professional seal appears on the plan with names and addresses for notices.

- ☐ Applicant & Owner, engineer, architect, LLS, LLA and/or soil scientist
 - ☐ Certified letters fee # _____ of x \$10.00 = \$ _____
- ☐ Certified letters fee: # of abutters _____ X \$10.00 = \$ _____
- ☐ First Class Mail fee (for individual owner of units within a condominium or other collective form of ownership): # of abutters _____ X \$1.00 = \$ _____
- ☐ Creating/Printing Abutter Labels in triplicate per sheet _____ x \$10.00 = \$ _____

C. Foster's newspaper public notice fee \$120.00 x # _____ applications = \$ _____

SUBTOTAL = \$ _____

TOTAL INVOICE AMOUNT = \$ _____

PLAN REVIEW FEE COLLECTED/PAID = \$ _____

BALANCE DUE = \$ _____

The amount due must be paid 28 hours prior to the Planning Board Meeting, to be heard.

CONDITIONAL USE NARRATIVE
§170-28
WETLAND PROTECTION DISTRICT
for
Dover Point Mixed Use
28 Dover Point Road
Tax Map K, Lot 26

The project site has obtained three (3) variances from the Zoning Board, ZONE-2025-0037, 37B, 37C, on 12/18/25 to; 1) allow a commercial building in a residential zoning district; 2) to allow for an increased building setback (78.1' where 25' max is required); and 3) to allow for a commercial component closer than 150' from a residential structure (in a residential zone).

It should be noted that the approved variances do not cause the need for application for the Conditional Use Permit. The CUP request is consistent with a previously granted CUP (Dover File No. P21-36, approved July 27, 2021).

Below is our response to the CUP criteria per Zoning 170-28:

F. Conditional use approval.

(1) Conditional use approval may be granted by the PLANNING BOARD (RSA 674:21II) after proper public notice and public hearing, for construction within the Wetland Protection District or buffer. Said construction may include but is not limited to a road or other accessway, utility right-of-way, communication lines, power lines and pipelines, STRUCTURES, and parking LOTs provided that the proposed construction complies with the following standards:

- (a) Practicable Alternative: There is no practicable alternative that would have a less adverse impact on the area. **The site design will not impact any wetlands or streams. The site design incorporates unique site characteristics including existing slope and soil type to minimize wetland and stream buffer impacts and maximize stormwater treatment and for pollutant removal. The site layout limits the wetland and stream buffer impacts to the construction of the stormwater management system and associated grading. Additionally, the area disturbed within the wetland buffer will be loamed and seeded with a conservation mix. There is no impervious surface proposed within wetland and stream buffers.**
- (b) Avoidance: The potential impacts have been avoided to the maximum extent practicable. The APPLICANT will demonstrate by plan and example that the proposed construction represents the least impacting alternative. **There are no wetland and stream impacts. There are 901 sf of wetland buffer impacts and 896 sf of stream buffer impacts associated with the grading and drainage for the project. Erosion control within the buffers will be a double row of siltsoxx. There is no impervious surface proposed within wetland and stream buffers.**
- (c) Minimization: Any unavoidable impacts have been minimized. No reasonable Alternative to the proposed construction exists which does not impact a wetland, or which has less detrimental impact on a wetland. Design, construction, and maintenance methods will be prepared by a registered engineer to minimize detrimental impacts to the wetlands and will include restoration of the site as nearly as possible to its original grade. **There are no wetland and stream impacts. There are 901 sf of wetland buffer impacts and 896 sf of stream buffer impacts associated with the grading and drainage for the project. All impacts have been minimized to the greatest extent practicable. Erosion control within the buffers will be a double row of siltsoxx.**

(d) Mitigation: If the APPLICANT is required by State rules to prepare a compensatory mitigation plan, the APPLICANT shall provide the Conservation Commission and PLANNING BOARD with one copy each of said plan for their review. **Mitigation is not required. There are no impacts to wetlands.**

(e) Approval for the wetlands impact has been received from the NHDES Wetlands Bureau pursuant to Section G (3), below. **No wetlands permit is required, as there are no direct wetland impacts proposed on site.**

G. Specific provisions.

(1) Wetland Buffers.

(a) Buffers Established. Buffers are hereby established around and encircling all wetlands other than those that were created as legally permitted sedimentation/detention basins or roadside drainage ditches. The minimum width of the wetland buffers shall be fifty (50) feet horizontal distance as measured outward from the perimeter edge of the wetland. Wherever a permit to fill a wetland has been issued by either the New Hampshire Department of Environmental Services (NHDES) or the U.S. Army Corps of Engineers (USACOE), the perimeter of the wetland shall be deemed to be the new edge between the fill as placed in accordance with the permit and the remaining wetland. If there is no remaining wetland, there is no buffer. All other wetland edges shall be determined in accordance with Section D (1) above. **There will be no disturbance within the wetlands. A 50-foot wetland buffer is shown on the site plan, a portion of which will be impacted by the construction of the stormwater mitigation rain garden, and the associated grading.**

(b) Natural Conditions to be Maintained within Buffers. Where wetland buffer disturbance is allowed pursuant to a state or federal permit, or a conditional use permit, restoration of the disturbed area is required. Restoration is defined as filling ruts or excavated areas with similar soils while maintaining original grade. Applications for a City of Dover BUILDING permit that includes a temporary disturbance of wetlands buffers, pursuant to Section G (1) (e) (iv) below, shall include a "Wetlands Buffer Encroachment and Restoration Plan." Said plan shall be submitted, reviewed, and approved by Building Inspector, in consultation with City staff, prior to the disturbance. Replanting to restore buffers shall be with native non-invasive species specified in the "Wetlands Buffer Encroachment and Restoration Plan". Implementation of the plan shall include the clear delineation of the boundaries of wetland buffers in the field using construction tape or other clear marking devise. Mowing to maintain an existing lawn or field within a wetland buffer area is allowed without a permit, as specified in Section G (1)(e), below, provided the roots of the vegetation are not disturbed and the ground is frozen or sufficiently dry to avoid making ruts. **The wetland buffer impacts will be primarily related to site grading as allowed by obtaining a Conditional Use Permit. The areas being impacted by grading will be restored and maintained as lawn area, and the stormwater area.**

(c) Certain Uses Prohibited in Buffers. The following uses and activities are prohibited within a wetland buffer: DOVER CODE P 170-107 (i) The establishment or expansion of salt storage, JUNKYARDS, resource recovery facilities, transfer stations, landfills, or solid or hazardous waste facilities; (ii) The BULK storage of chemicals, petroleum products, or toxic and hazardous materials; (iii) The dumping or disposal of snow and ice collected from roadways and parking LOTs. **Not applicable.**

(d) Uses Allowed Only with a Conditional Use Permit. The following uses and activities are allowed within a wetland buffer only if a conditional use permit is obtained in accordance with Section F above: (i) All uses not specifically prohibited in Section G (1) (c) above or specifically exempted in Section G (1) (e) below. (ii) The erection or construction of a BUILDING or STRUCTURE, excluding FENCES that meet the requirements of 170-33, or the construction of parking LOTS or loading areas. (iii) Timber harvesting, except as conducted in accordance with the terms and provisions of RSA 227-J, Timber Harvesting. (iv) The removal of stumps and roots (grubbing), the recontouring or grading of the land, or the placement of impervious surfaces or creation of storm water detention ponds. (v) The installation of water, sewer, or buried electrical or telecommunications cables. (vi) The installation of water supply wells. **A Conditional Use Permit is being requested to allow for a stormwater management system, and associated grading within the wetland and stream buffer for this project.**

(e) Uses Allowed Without a Conditional Use Permit. The following uses and activities are allowed within a wetland buffer with the noted conditions: (i) Activities within wetlands jurisdictional areas that are allowed without a State of New Hampshire Dredge and Fill Permit, in accordance with NHDES Rules Env-Wt 308.01(a) and 308.02 – repair of an existing legal STRUCTURE; or successor rules. (ii) The removal of vegetation in accordance with NHDES Rules Env-Wt 303.05(b), or successor rules, provided the roots of the vegetation are ZONING P 170-108 not disturbed, and the ground is frozen or sufficiently dry to avoid making ruts. (iii) The installation of monitoring or test wells or geotechnical borings completed in accordance with NHDES Rules Env-Wt 309.02(i) or successor rules. (iv) Temporary disturbance of the wetland buffer to facilitate construction activities completed under a valid City of Dover BUILDING permit, provided the temporary disturbance is restored in accordance with Section G (1) (b) above. **Not applicable.**

(2) No septic tank or leach field may be constructed or enlarged closer than seventy-five (75) feet to any Wetland Protection District. In new subdivisions approved subsequent to adoption of this section, there must be sufficient LOT size to place a house, a state-approved septic system, where applicable, and a state-approved well, where applicable, without locating them in a wetland. This provision can be waived if conditional use approval is obtained from the PLANNING BOARD. **Not applicable.**

(3) A state dredge and fill application shall be submitted for any proposed change to a wetland (RSA 482-A). **Not applicable.**

*25 Dover Point, LLC
99 Columbus Avenue
Dover, NH 03820*

February 9, 2026

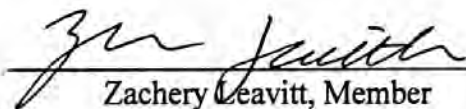
City of Dover
288 Central Avenue
Dover, NH 03820

Attn: Planning Board

Re: LETTER OF OWNER AUTHORIZATION
Site Plan Review Applications & Approvals
28 Dover Point Road – Tax Map K, Lot 26

I, Zachery Leavitt, authorize Civilworks New England and McEneaney Survey Associates to represent all applications made on behalf of me as Member of 25 Dover Point, LLC (OWNER) to the City of Dover Planning Board and any other Dover Board or Committee, as well as any State of NH departments, as necessary, relative to the pursuit of approvals and permits for the development of the subject parcel.

Sincerely,

A handwritten signature in cursive script, appearing to read 'Zachery Leavitt', is written over a horizontal line.

Zachery Leavitt, Member
25 Dover Point, LLC

DONNA P. BENTON, AICP
Director of Planning and
Community Development
d.benton@dover.nh.gov



288 Central Avenue
Dover, New Hampshire 03820-4169
(603) 516-6008
Fax: (603) 516-6049
www.dover.nh.gov

City of Dover, New Hampshire

DEPARTMENT OF PLANNING AND COMMUNITY DEVELOPMENT

Zoning Board of Adjustment NOTICE OF DECISION

December 23, 2025

25 Dover Point, LLC
99 Columbus Ave.
Dover, NH 03820

Re: **ZONE-2025-0037, 37B, 37C – 28 Dover Point Road, Tax Map K, Lot 26**

Dear Mr. Leavitt:

Please be advised that after a public hearing on Thursday, December 18, 2025, the Zoning Board of Adjustment ("ZBA") voted 5-0 to **APPROVE** each of your three (3) Variance requests pursuant to Section 170-11(D), to allow for the construction of a commercial building within a residential zoning district, Section 170-12(B), to permit a front setback of 78.1' where the front build-to line requires a max of 25', and Section 170-15(D), to allow for a commercial property closer than 150' from a residential structure within a residential zone.

Please be aware that each of the three (3) variances were granted with the conditions that:

1. The property shall be served by a single, shared driveway with Map K, Lot 19C;
2. The Owner shall relinquish any rights to the shared driveway over Map K, Lot 26-1;
3. The Site Plan submitted for this project shall include an 8' tall fence and landscaped buffer between the proposed structure and Map K, Lot 26-1, and landscaping along the frontage of Dover Point Road;
4. The commercial use at this property shall be limited to all uses permitted within the R-12 Zoning District or "Office" use, as defined in 170-6 of the zoning ordinance; and
5. These variance approvals in no way grant authorization of the four (4) sought residential dwelling units – any and all density in excess of what is permitted via underlying zoning shall be approved by the Planning Board.

Note: The City Council, any party to the action, or any person directly affected has a right to seek rehearing and thereafter appeal the ZBA's determination by timely following the procedural requirements outlined within New Hampshire statutes. *See generally* New Hampshire Revised Statutes Annotated, Chapter 677, *available at*: <https://www.gencourt.state.nh.us/rsa/html/NHTOC/NHTOC-LXIV-677.htm>

If you have any questions, please do not hesitate to contact us directly at: (603) 516-6008.

Sincerely,



Paul R. Crouser
Zoning Administrator, Assistant City Planner

Enclo.: Donna Benton, AICP	Director of Planning and Community Development
James Maxfield	Building Official
Michelle Dube	Inspection Services Office Manager
Donna Langley	City Assessor

Elijah Allen

From: Semprini, Jillian <J.Semprini@dover.nh.gov>
Sent: Monday, February 9, 2026 9:04 AM
To: Elijah Allen
Subject: RE: CNE#25026 - 28 Dover Point Road - Will serve Letter - Water and Sewer
Attachments: CNE#25026 - 28 Dover Point Road - Draft Utility Plan.pdf

Good morning, Eli,

Water and sewer are available at the subject property as depicted in the attached draft utility plan. The city as the ability to serve at the subject property at this time.

Thank you,

Jillian Semprini
City Engineer
City of Dover, NH

From: Elijah Allen <eallen@civilworksne.com>
Sent: Friday, February 6, 2026 5:31 PM
To: Semprini, Jillian <J.Semprini@dover.nh.gov>
Subject: RE: CNE#25026 - 28 Dover Point Road - Will serve Letter - Water and Sewer

Security Notice: External sender. Use caution with hyperlinks or attachments.

Hello Jillian,

Slight miscalculation on the residential need should be residential (1 bed) = 2 units x 225 GPD/unit = 450 GPD

For a total need of 1203 GPD.

Please advise on the availability of sewer and water service to the project.

Have a great weekend,
Eli

Elijah Allen
Staff Engineer II
Direct: (603) – 749 – 0443 x 117
Cell: (603) – 244 – 6252

Civilworks New England
P.O. Box 1166 Dover, NH 03821
181 Watson Road Dover, NH 03820
Office: (603) 749-0443
<https://civilworksne.com>

From: Elijah Allen
Sent: Friday, February 6, 2026 11:39 AM
To: j.semprini@doover.nh.gov
Subject: CNE#25026 - 28 Dover Point Road - Will serve Letter - Water and Sewer

Hello Jillian,

25 Dover Point LLC is proposing to construct a mixed use building located at 28 Dover Point Road. The proposed structure is a two story 3,048 SF building containing a mix of residential and commercial space as follows:

- Residential (2+ beds) = 4 bedrooms x 150 GPD/bedroom = 600 GPD
- Residential (1 bed) = 2 units x 225 GPD/unit = 550 GPD
- Office = 3,048 SF x 5 GPD/100 SF = 153 GPD
- Total = 1303 GPD

These design flow rates are based on NHDES Env-Wq 1008.03 Table 1008-1 Design Flow figures for residential structures with 2 or more bedrooms (150 GPD/bedroom), residential structures with 1 bedroom (225 GPD/unit), and unspecified office space (5 GPD/100 SF).

Attached is a draft utility plan to depict the site layout of the building and utility services.

Please advise on the availability of sewer and water service to the project.

If you have any questions or require more information do not hesitate to reach out.

Thank you again for your assistance on these projects.

Best,
Eli

Elijah Allen
Staff Engineer II
Direct: (603) – 749 – 0443 x 117
Cell: (603) – 244 – 6252

Civilworks New England
P.O. Box 1166 Dover, NH 03821
181 Watson Road Dover, NH 03820
Office: (603) 749-0443
<https://civilworksne.com>

Please consider conserving our natural resources before printing this e-mail and/or any attachments.

Elijah Allen

From: Elijah Allen
Sent: Thursday, February 5, 2026 4:16 PM
To: 'oliver@unitil.com'; 'macleand@unitil.com'; 'wilkj@unitil.com'
Cc: Steve Haight
Subject: CNE#25026 - 28 Dover Point Road - Will Serve Letter - Unitil
Attachments: CNE#25026 - 28 Dover Point Road - Draft Utility Plan.pdf

Good afternoon,

True North Development LLC is in the process of obtaining Site Plan Approval for a 3,048-sf mixed use building at 28 Dover Point Road, Dover NH. The project was previously approved as a 3,600-sf medical office building but the proposed building and use have since been updated.

Site plan approval requires a “Will Serve Letter” from each utility.

Please affirm that gas service is available for this facility. We anticipate gas use for heating. There will be 4 residential units and 3 commercial units.

Attached is a draft utility plan to depict location and the intent of the project.

Thank you in advance for providing a “Will Serve” letter.

Best,
Eli

Elijah Allen

Staff Engineer II

Direct: (603) – 749 – 0443 x 117

Cell: (603) – 244 – 6252

Civilworks New England

P.O. Box 1166 Dover, NH 03821

181 Watson Road Dover, NH 03820

Office: (603) 749-0443

<https://civilworksne.com>

Elijah Allen

From: Elijah Allen
Sent: Thursday, February 5, 2026 3:55 PM
To: 'trevor.emmons@eversource.com'
Cc: Steve Haight; 'michael.busby@eversource.com'
Subject: RE: CNE#25026 - 28 Dover Point Road - Will Serve Letter - Eversource

Hello Trevor,

Please note that this project was previously approved as a 3,600-sf medical office building.

Best,

Elijah Allen

Staff Engineer II

Direct: (603) – 749 – 0443 x 117

Cell: (603) – 244 – 6252

Civilworks New England

P.O. Box 1166 Dover, NH 03821

181 Watson Road Dover, NH 03820

Office: (603) 749-0443

<https://civilworksne.com>

From: Elijah Allen
Sent: Thursday, February 5, 2026 3:47 PM
To: 'trevor.emmons@eversource.com' <trevor.emmons@eversource.com>
Cc: Steve Haight <shaight@civilworksne.com>; 'michael.busby@eversource.com' <michael.busby@eversource.com>
Subject: CNE#25026 - 28 Dover Point Road - Will Serve Letter - Eversource

Hey Trevor,

Per the City of Dover, as part of the permit process we are required to provide a will serve letter stating that power is available.

The project is located at 28 Dover Point Road, Dover NH 03820, Tax Map K, Lot 26. There is currently an electric stub on site and underground utilities running through the property to the adjacent lot.

Attached is a draft utility plan to depict location and the intent of the project.

The proposed building will be a 3,048-sf two-story mixed use building. There will be 4 residential units and 3 commercial units.

If you have any questions or require more information do not hesitate to reach out.

Thank you for your time

Elijah Allen

Staff Engineer II

Direct: (603) – 749 – 0443 x 117

Cell: (603) – 244 – 6252

Civilworks New England

P.O. Box 1166 Dover, NH 03821

181 Watson Road Dover, NH 03820

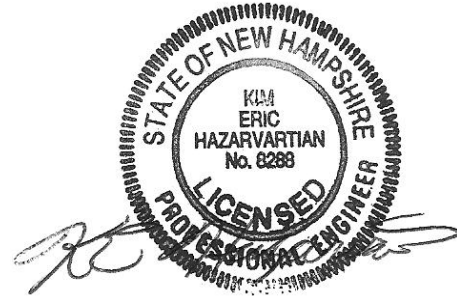
Office: (603) 749-0443

<https://civilworksne.com>

MEMORANDUM

93 Stiles Road, Suite 201, Salem, New Hampshire 03079 USA
800 Turnpike Street, Suite 300, North Andover, Massachusetts 01845 USA
Phone (603) 212-9133 and Fax (603) 226-4108
Email tepp@teppllc.com and Web www.teppllc.com

Ref: 1466
Subject: Traffic Assessment
28 Dover Point Road
Dover, New Hampshire
From: Kim Eric Hazarvartian, Ph.D., P.E., PTOE
Principal
keh@teppllc.com
Date: February 5, 2026

**INTRODUCTION**

TEPP LLC has prepared this traffic-assessment memorandum (TAM) regarding a proposed building at 28 Dover Point Road in the City of Dover, New Hampshire. The City approved a medical-office building with a floor area of about 3,600 square feet (sf).

The current proposal is a building with:

- commercial floor area of about 3,048 sf
- residential, four dwelling units

TEPP LLC concludes that the current proposal compared to the approved building does not add significant new traffic to the area.

TRIP GENERATION

The Institute of Transportation Engineers (ITE) publishes trip-generation information in the authoritative *Trip Generation Manual*.¹ This information is based on empirical data for a variety of land uses including:

- land use 720, medical-dental office building, based on floor area²
- land use 822, strip-retail plaza (less than 40,000-sf floor area), based on floor area³
- land use 215, single-family attached housing, based on dwelling units⁴

¹ ITE, *Trip Generation Manual*, 12th edition (Washington DC, August 2025).

² ITE, *Trip Generation Manual*, volume 5, pages 130 to 139.

³ ITE, *Trip Generation Manual*, volume 3, pages 53 to 63.

⁴ ITE, *Trip Generation Manual*, volume 3, pages 249 to 260.

Table 1 shows the following calculated vehicle-trips, proposed compared to approved:

- weekday daily, 69 (total of in and out)
- weekday AM-street-peak hour, 2 (-2 in and 4 out)
- weekday PM-street-peak hour, 28 (16 in and 12 out)
- Saturday daily, 173 (total of in and out)
- Saturday site-peak hour, 18 (9 in and 9 out)

POTENTIAL TRAFFIC IMPACTS

ITE suggests that land developments generating at least 100 peak-hour vehicle trips, in the busier direction, are candidates for consideration of traffic impact analysis.⁵ Tabulated peak-hour trip generation of the current proposal compared to the approved building is well below this national ITE threshold.

CONCLUSION

TEPP LLC concludes that the current proposal compared to the approved building does not add significant new traffic to the area.

⁵ ITE, *Manual of Transportation Engineering Studies* (Prentice Hall: Englewood Cliffs, New Jersey, 2000), page 144.

Table 1. Calculated trip generation.

Time Period	Vehicle-Trips										
	Weekday							Saturday			
	Daily	AM-Street-Peak Hour			PM-Street-Peak Hour			Daily	Site-Peak Hour		
		Total	In	Out	Total	In	Out		Total	In	Out
Approved Medical ^a	123	12	9	3	8	2	6	19	4	2	2
Proposed Commercial ^b	166	12	7	5	34	17	17	166	20	10	10
Proposed Residential ^c	26	2	0	2	2	1	1	26	2	1	1
Differences ^d	69	2	-2	4	28	16	12	173	18	9	9

^a Based on ITE, *Trip Generation Manual*, land use 720, medical-dental office building, 3,600-sf floor area.

^b Based on ITE, *Trip Generation Manual*, land use 822, strip-retail plaza (less than 40,000-sf floor area), 3,048-sf floor area. Weekday daily used for Saturday daily.

^c Based on ITE, *Trip Generation Manual*, land use 215, single-family attached housing, four dwelling units. Weekday daily used for Saturday daily.

^d Proposed compared to approved.



Fraggle Rock Environmental
Damon E. Burt, CWS, CPESC
38 Garland Road, Strafford NH 03884
603-969-5574
FRenvironmental@gmail.com

Wetland Report

March 1, 2021

Circle K and Seabring Lots
Dover Point Road/Point Place
Dover NH

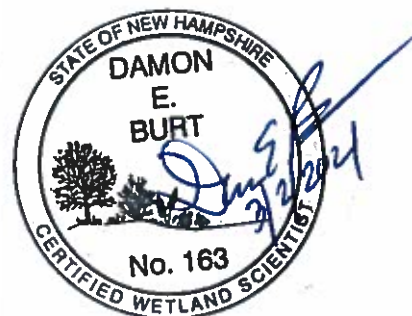
Fraggle Rock Environmental performed wetlands delineation on January 14, 2021. Wetland Flags A1 – A26; B1 – B32: Wetlands were delineated according to the following standards:

Wetland Delineation Standards

- Corps of Engineers Wetland Delineation Manual, Technical Report 4-87-1, (January, 1987)
- U.S. Army Corps of Engineers, Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, Version 2.0, U.S. Army Engineer Research and Development Center, 3909 Halls Ferry Road, Vicksburg, MS 39180-6199, January 2012, ERDC/EL TR-12-1
- Cowardin, Lewis M., Golet, Francis C. and LaRoe, Edward T, Classification of Wetlands and Deepwater Habitats of the United States, USFWS, Dept. of the Interior, Wash. D.C., 1979.
- Field Indicators of Hydric Soils in the United States A Guide for Identifying and Delineating Hydric Soils, Version 8.1, 2017 (Including corrections to version 8.0, 2016, on pages 21, 25, and 34)
- New England Hydric Soils Technical Committee. 2017 Version 4, Field Indicators for Identifying Hydric Soils in New England. New England Interstate Water Pollution Control Commission, Lowell, MA
- U.S. Army Corps of Engineers 2016. National Wetland Plant List/State List, Version 3.3

Sincerely,

Damon E. Burt, CWS, CPESC
Fraggle Rock Environmental Services
NH Certified Wetland Scientist
Certified Professional in Erosion and Sediment Control



Landscape Operation & Maintenance Plan For Dover Point LLC Mixed Use Building – Dover Point Road

Weekly Tasks

1. Mow and edge lawns if needed. Lawns to be cut to 3.5" height.
2. Prune back any shrubs overhanging curbs or sidewalks.
3. Prune back any groundcover overhanging curbs or sidewalks.
4. Remove litter and leaves from plants, planters, and parking lots.
5. Remove any broken or fallen branches from trees. Remove sucker growth from tree trunks.
6. Remove any weeds larger than 2 inches (5 cm) high or wide from planters. Weeds 2 inches (5 cm) and larger must be removed, not just killed.
7. Replace bark mulch which has been knocked or washed out of planters. Smooth mulch layer if it has been disturbed.
8. Replace decorative rock which has been knocked or washed out of drip strips. Smooth decorative rock surface if it has been disturbed.
9. Check plants for signs of stress, pests or disease. Request authorization to replace other dead or missing plants. Note: Maintenance contractor must request authorization to make replacements within one week of the damage becoming evident.
10. Sweep or blow clean all walkways, curbs, and gutters.
11. Treat for any signs of disease or pest infestation.
12. Complete any items required on the Monthly Checklist.
13. Hand water any plants that are dry and stressed.
14. Check the irrigation system (if there is a system). Make emergency repairs as needed or request authorization to make major repairs. Note: Maintenance contractor must request authorization for repairs within one week of the damage becoming evident.
15. Adjust the irrigation controllers for current water needs of plants.
16. **Gently prune shrubs at appropriate time of year based on species, for shape and form. DO NOT shear.**

Yearly Tasks

Early Spring

1. Prune any tree branches that interfere with public safety. Prune all parking lot and street trees yearly to encourage strong growth.
2. Apply granular fertilizer to shrubs beds and lawns. Be sure to make application prior to a moderate rainfall in drip-irrigated planters so the rain will wash the fertilizer in.
3. Submit receipts to owner's authorized representative as proof of fertilizer purchase.
4. Trim any perennial foliage left in the fall for winter interest to within six inches of the ground.
5. Add new mulch to planters where the mulch depth has been reduced to less than 2 inches (5 cm) thick. Mulch depth shall not exceed 2". Additional mulch not required where shrubs or groundcover completely hide the soil surface from view.

6. Where there is irrigation and after threat of frost is gone, flush out irrigation systems as needed and check for proper operation of each valve zone.
7. Clean or replace plugged sprinkler nozzles. Replace plugged drip emitters.
8. Replace irrigation controller program back-up batteries.

June:

No additional items

July:

No additional items

August:

No additional items

September:

1. Inventory all plant materials. Inventory shall include an exact count of all shrubs and trees, itemized by planter. Replace any dead or missing plants.

October:

1. Prepare irrigation system for winter. Make sure backflow preventer is well insulated or drained prior to first freeze. Blow out pipes using compressed air in areas where freezing could result in breakage.
2. Mow field areas.

November:

1. "WILT-PRUF" broadleaf evergreens when temperature permits.

December:

1. Prune any tree branches that interfere with public safety. Prune all parking lot and street trees yearly to encourage strong growth.

Stormwater Management System Inspection & Maintenance Plan

Prepared for

**DOVER POINT MIXED USE
MAP K, LOT 26**

**28 Dover Point Road
Dover, New Hampshire
Strafford County**

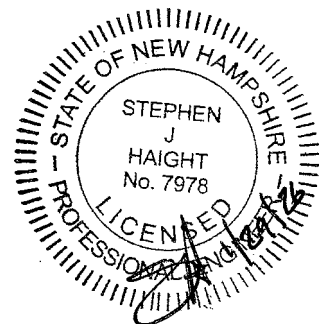
January 2026

Owner of Record:

25 DOVER POINT, LLC
99 Columbus Avenue
Dover, New Hampshire 03820

Prepared By:

CIVILWORKS NEW ENGLAND
P.O. Box 1166
181 Watson Road
Dover, New Hampshire 03820



Introduction

Civilworks NE, has prepared the following Stormwater Management System Inspection & Maintenance Plan for **25 Dover Point, LLC**. The intent of this plan is to provide a list of procedures that document the inspection and maintenance requirements of the Stormwater Management System for this site.

The inspection and maintenance requirements outlined in this document are required to be performed in perpetuity. In the event the property is sold, future owners will be responsible for implementing the responsibilities outlined in this document.

The inspection and maintenance program is necessary in order to keep the Stormwater Management System functioning properly. These measures will also help to minimize potential environmental impacts to the areas surrounding the developed site. By following the enclosed procedures, the property owners, and maintenance personnel will be able to maintain the functional design of the Stormwater Management System and maximize its ability to remove sediment and other contaminants from site generated stormwater runoff.

This plan also requires the Owner/Operator to prepare and implement a salt minimization plan to reduce salt usage on-site and ultimately within the watershed. This plan will allow the owner/operator to monitor and modify how much salt is needed, when it should be applied, and where it needs to be applied, with the ultimate goal of reducing salt-use without compromising safety. It is expected that salt-use reduction will lead to long-term cost-savings as a result of purchasing less salt and reduced impacts on vegetation (e.g., landscaping) and corrosion of infrastructure.

The salt minimization plan should include the retention of a contractor who has completed the Green SnowPro Training course and obtained NHDES Salt Application Certification.

It is anticipated that this be a living document that will be updated at regular intervals (recommend updating annually in advance of the winter season in order to facilitate adjustments).

Owner

**25 Dover Point, LLC
99 Columbus Avenue
Dover, NH 03820**

In the event of a change in ownership, this Inspection and Maintenance Plan shall be transferred to the new party; transfer shall be documented to NH DES in writing.

Contact / Responsible Party:

**True North Development, LLC
99 Columbus Avenue
Dover, NH 03820**

The contact information for the Contact / Responsible Party shall be kept current.

Management Company:

**True North Development, LLC
99 Columbus Avenue
Dover, NH 03820**

The contact information for the Management Party shall be kept current.

Inspection Schedule / Record Retention

Inspection frequency should, at a minimum, be in accordance with New Hampshire Stormwater Manual, Volume 2, latest edition, as updated by NHDES. See the Inspection and Maintenance Plan for frequency requirements. A copy of the completed Stormwater Management System's Inspection & Maintenance Log and Deicing Salt Quantity Use Log shall be maintained, kept on-site, and be made available to local, state, or federal regulators as applicable by law. All Inspection and Maintenance records must be provided to the City of Dover Community Services Department annually before Dec 15th.

Stormwater Management System Components

The Stormwater Management System associated with the project is designed to mitigate both the quantity and quality of site-generated stormwater runoff. As a result, its design includes the following elements:

- Rain Garden
- Pre-treatment Structures
 - Sediment Forebay
- Pipes/Culverts
- Outlet Structures
- Energy Dissipation Structures (Rip Rap)
- Catch Basins
- Pavement
- Litter / Trash Removal

Design elements are identified in the design plans and are depicted on a Stormwater I&M Plan attached to this document. A copy of which shall be maintained with this Inspection and Maintenance Plan.

Control of Invasive Species

During maintenance activities, check for the presence of invasive plants and remove in a safe manner. Invasive plants shall be controlled to prevent them from reproducing, spreading, or re-growing. See the University of New Hampshire – Cooperative Extension's "Method for Disposing Non-Native Invasive Plants", included at the end of this manual, for guidance on the removal and disposal of invasive species.

Inspection and Maintenance Plan

By implementing the following procedures, the owners will be able to maintain the functional design of the Stormwater Management System and maximize the system's ability to remove sediment and other contaminants from site generated stormwater runoff and to effectively recharge the underlying groundwater resources.

Rain Garden:

- Inspection of the Rain Garden at least twice annually, and following any rainfall event exceeding 2.5 inches in a 24-hour period, with maintenance or rehabilitation conducted as warranted by such inspection. If the Rain Garden systems do not drain within 72-hours following a rainfall event, a qualified professional should assess the condition and determine measures required to restore filtration practice (as applicable).
- Embankments and spillways should be inspected for settlement, erosion, seepage, animal burrows, woody vegetation, and other conditions that could degrade the embankment and reduce its stability for impounding water. Immediate corrective action should be implemented if any such conditions are found.
- Inlet and outlet pipes, inlet and outlet structures, energy dissipation structures or practices, and other structural appurtenances should be inspected, and corrective action implemented (e.g., maintenance, repairs, or replacement) as indicated by such inspection.
- The bottoms, interior and exterior side slopes, and crest of earthen detention ponds should be mowed, and the vegetation maintained in healthy condition, as appropriate to the function of the facility and type of vegetation.
- Vegetated embankments that serve as "berms" or "dams" that impound water should be mowed at least once annually to prevent the establishment of woody vegetation.
- Trash and debris should be removed from the pond and any inlet or outlet structures whenever observed.
- Accumulated sediment should be removed when it significantly affects pond capacity.

PRE-TREATMENT STRUCTURES:

SEDIMENT FOREBAYS:

- Inspect at least once per year.
- Inspect for sediment accumulation.
- Remove all debris immediately.

PIPES/CULVERTS:

- Inspect once per year.
- Inspect for clogging and sediment accumulation.
- Remove all debris immediately and sediment accumulations ≥ 2 inches.

OUTLET STRUCTURE(S):

- Inspect once per year.
- Inspect for clogging and sediment accumulation.
- Remove all debris immediately and sediment accumulations ≥ 2 inches.

ENERGY DISSIPATION STRUCTURES (RIP RAP):

- Inspect at least once a year.
- Inspect for sediment accumulation.
- Remove all debris immediately.
- Inspect the outlet protection annually for damage or deterioration. Repair damages immediately.
- If stones become displaced from riprap areas, they should be replaced immediately and chinked in to ensure stability. Add additional riprap as needed.

CATCH BASIN(S):

- Inspect once per year.
- Inspect for floatables, sediment accumulation, and hydrocarbons (oils and grease).
- Remove all floatables immediately and sediment accumulations ≥ 1 foot.
- Hydrocarbons shall be removed immediately by skimming, absorbent materials, or other methods and should be disposed of in accordance with applicable State and Federal regulations.

PAVEMENT:

- Minimize sanding.
- Minimize application of salt for ice control.
- Clean periodically (1-2 times per year) using a sweeper or vacuum sweeper. Vacuum sweeping is the preferred method.

LITTER / TRASH REMOVAL:

- Routinely patrol site for litter pick up.

DE-ICING AGENTS

- To address the concerns associated with the application of chlorides and other deicing materials, NHDES recommends that the Owner/Operator develop a Road Salt and Deicing Minimization Plan for the parking lots and roadways. The plan should develop the policies that the development will keep in place to minimize salt and other deicer use after the project has been completed. The plan should include tracking the use of salt and other deicers for each storm event and compiling salt use data annually. (See Anti-icing Data Form in the appendix).
- Use sand as primary agent for driveway and access way safety during ice and snow conditions
- Minimize the use of salt during the winter
- Use de-icing or anti-caking agents, added to enhance performance and application characteristics of sand mixtures, only as necessary and at minimum application rates.
- Recommend using a certified Winter Operator (Green SnowPro Trained) for applying de-icing agents.
- Monitor weather and apply de-icing agents based on weather conditions and temperatures.

ANTI-ICING AND SALT MINIMIZATION

- Owner to develop a Road Salt and Deicing Minimization Plan
- Provide a written policy that the “Development” will keep in place to minimize salt and other deicer use after the project has been completed.
- Use the attached form to track the use of salt and other deicers for each storm event and compiling salt use data annually.

Inspection & Maintenance Table

System Component / BMP	Minimum Inspection Frequency	Minimum Inspection Requirements	Maintenance / Cleanout Threshold
Rain Garden - Inlet/Outlet Piping - Embankments - Pond Sediment - Trash/Debris - Vegetation (Veg.)	Periodically	- Check for erosion, settlement, seepage, etc. - Check for sediment accumulation in pond - Check for trash (in pond and structures) - Maintain 95% veg. (pond & slopes) - Maintain healthy stand of veg.	Repair immediately ≥ 2 in. sediment Remove all trash/debris Restore veg. in-kind Mow when ≥ 6 in
Pre-Treatment Structure: Sediment Forebay	Annually	- Check for sediment accumulation - Check for erosion - Check for stone displacement	≥ 1 in. sediment Repair immediately Replace/Reset dislodged stones
Pipes/Culverts	Annually	- Check for clogging - Check for sediment accumulation	Remove when noticed Clean when necessary
Outlet Structure	Annually	- Check for clogging - Check for sediment accumulation	Remove when noticed Clean when necessary
Energy Dissipation Structures (Rip Rap)	Annually	- Check for damage/deterioration - Check for displaced stones - Check for woody vegetation	Repair immediately Replace immediately Remove annually
Catch Basins	Annually	- Check for sediment accumulation - Check for floatable contaminants - Check for hydrocarbons (oils and grease)	≥ 1 ft. sediment depth Remove all floatables Remove immediately
Pavement: - Sanding - Salt Applications - Sweep/Vacuum - Trash/Debris	Limit use As required 1 - 2 x's Year Periodically	- Minimize use to prevent tracking issues - RECORD APPLICATION RATES - Sweep or vacuum to prevent tracking issues - Check for trash/debris	Sweep to prevent issues Minimize (as required) Sweep/Vac as needed Remove when noticed
Litter / Trash Removal	Periodically	Check for litter and trash	Remove when noticed

Inspection & Maintenance Checklist/Log

The following page contains a blank copy of the Stormwater Management System's Inspection & Maintenance Log and a Deicing Salt Quantity Use Log. These forms are provided to assist the owners with the inspection and maintenance of the aforementioned Stormwater Management System.

Date of Inspection/Maintenance: _____ Inspector: _____

Date of Inspection/Maintenance: _____ Inspector: _____

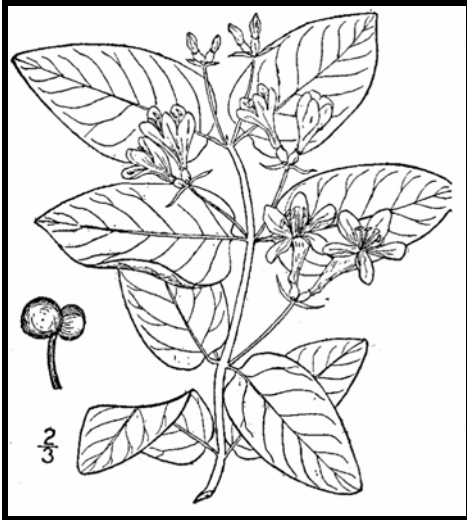
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Deicing Salt Quantity Use Log

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Methods for Disposing Non-Native Invasive Plants

Prepared by the Invasives Species Outreach Group, volunteers interested in helping people control invasive plants. Assistance provided by the Piscataquog Land Conservancy and the NH Invasives Species Committee. Edited by Karen Bennett, Extension Forestry Professor and Specialist.



Tatarian honeysuckle

Lonicera tatarica

USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada and the British Possessions*. Vol. 3: 282.

Non-native invasive plants crowd out natives in natural and managed landscapes. They cost taxpayers billions of dollars each year from lost agricultural and forest crops, decreased biodiversity, impacts to natural resources and the environment, and the cost to control and eradicate them.

Invasive plants grow well even in less than desirable conditions such as sandy soils along roadsides, shaded wooded areas, and in wetlands. In ideal conditions, they grow and spread even faster. There are many ways to remove these non-native invasives, but once removed, care is needed to dispose the removed plant material so the plants don't grow where disposed.

Knowing how a particular plant reproduces indicates its method of spread and helps determine the appropriate disposal method. Most are spread by seed and are dispersed by wind, water, animals, or people. Some reproduce by vegetative means from pieces of stems or roots forming new plants. Others spread through both seed and vegetative means.

Because movement and disposal of viable plant parts is restricted (see NH Regulations), viable invasive parts can't be brought to most transfer stations in the state. Check with your transfer station to see if there is an approved, designated area for invasives disposal. This fact sheet gives recommendations for rendering plant parts non-viable.

Control of invasives is beyond the scope of this fact sheet. For information about control visit www.nhinvasives.org or contact your UNH Cooperative Extension office.

New Hampshire Regulations

Prohibited invasive species shall only be disposed of in a manner that renders them nonliving and nonviable. (Agr. 3802.04)

No person shall collect, transport, import, export, move, buy, sell, distribute, propagate or transplant any living and viable portion of any plant species, which includes all of their cultivars and varieties, listed in Table 3800.1 of the New Hampshire prohibited invasive species list. (Agr. 3802.01)

How and When to Dispose of Invasives?

To prevent seed from spreading remove invasive plants before seeds are set (produced). Some plants continue to grow, flower and set seed even after pulling or cutting. Seeds can remain viable in the ground for many years. If the plant has flowers or seeds, place the flowers and seeds in a heavy plastic bag “head first” at the weeding site and transport to the disposal site. The following are general descriptions of disposal methods. See the chart for recommendations by species.

Burning: Large woody branches and trunks can be used as firewood or burned in piles. For outside burning, a written fire permit from the local forest fire warden is required unless the ground is covered in snow. Brush larger than 5 inches in diameter can’t be burned. Invasive plants with easily airborne seeds like black swallow-wort with mature seed pods (indicated by their brown color) shouldn’t be burned as the seeds may disperse by the hot air created by the fire.

Bagging (solarization): Use this technique with softer-tissue plants. Use heavy black or clear plastic bags (contractor grade), making sure that no parts of the plants poke through. Allow the bags to sit in the sun for several weeks and on dark pavement for the best effect.

Tarping and Drying: Pile material on a sheet of plastic and cover with a tarp, fastening the tarp to the ground and monitoring it for escapes. Let the material dry for several weeks, or until it is clearly nonviable.

Chipping: Use this method for woody plants that don’t reproduce vegetatively.

Burying: This is risky, but can be done with watchful diligence. Lay thick plastic in a deep pit before placing the cut up plant material in the hole. Place the material away from the edge of the plastic before covering it with more heavy plastic. Eliminate as much air as possible and toss in soil to weight down the material in the pit. Note that the top of the buried material should be at least three feet underground. Japanese knotweed should be at least 5 feet underground!

Drowning: Fill a large barrel with water and place soft-tissue plants in the water. Check after a few weeks and look for rotted plant material (roots, stems, leaves, flowers). Well-rotted plant material may be composted. A word of caution- seeds may still be viable after using this method. Do this before seeds are set. This method isn’t used often. Be prepared for an awful stink!

Composting: Invasive plants can take root in compost. Don’t compost any invasives unless you know there is no viable (living) plant material left. Use one of the above techniques (bagging, tarping, drying, chipping, or drowning) to render the plants nonviable before composting. Closely examine the plant before composting and avoid composting seeds.



Japanese knotweed
Polygonum cuspidatum
USDA-NRCS PLANTS Database /
Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada and the British Possessions*. Vol. 1: 676.

Be diligent looking for seedlings for years in areas where removal and disposal took place.

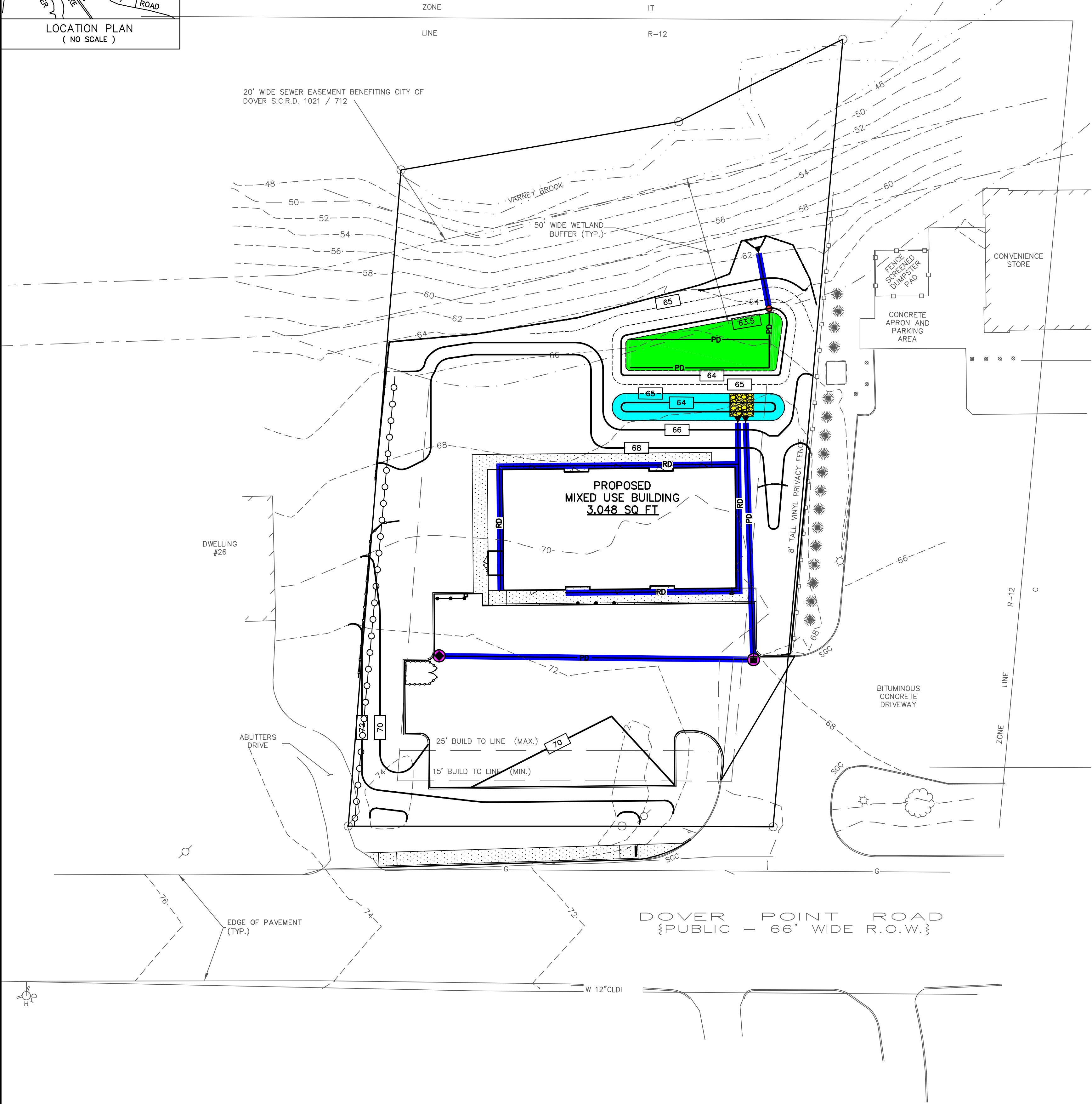
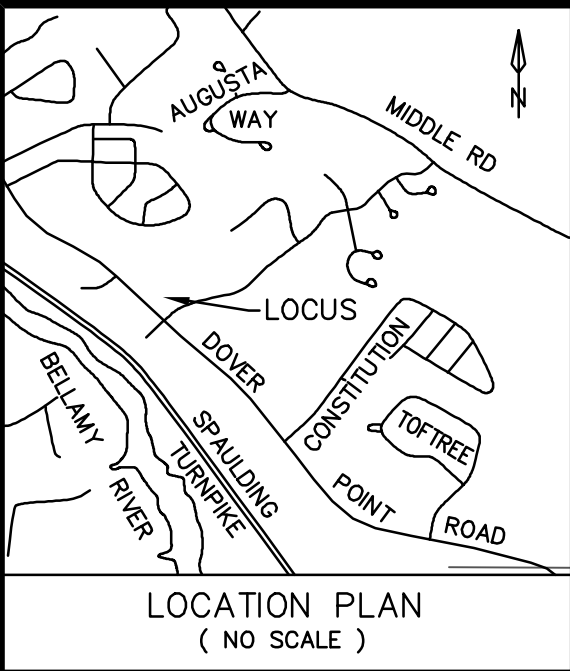
Suggested Disposal Methods for Non-Native Invasive Plants

This table provides information concerning the disposal of removed invasive plant material. If the infestation is treated with herbicide and left in place, these guidelines don't apply. Don't bring invasives to a local transfer station, unless there is a designated area for their disposal, or they have been rendered non-viable. This listing includes wetland and upland plants from the New Hampshire Prohibited Invasive Species List. The disposal of aquatic plants isn't addressed.

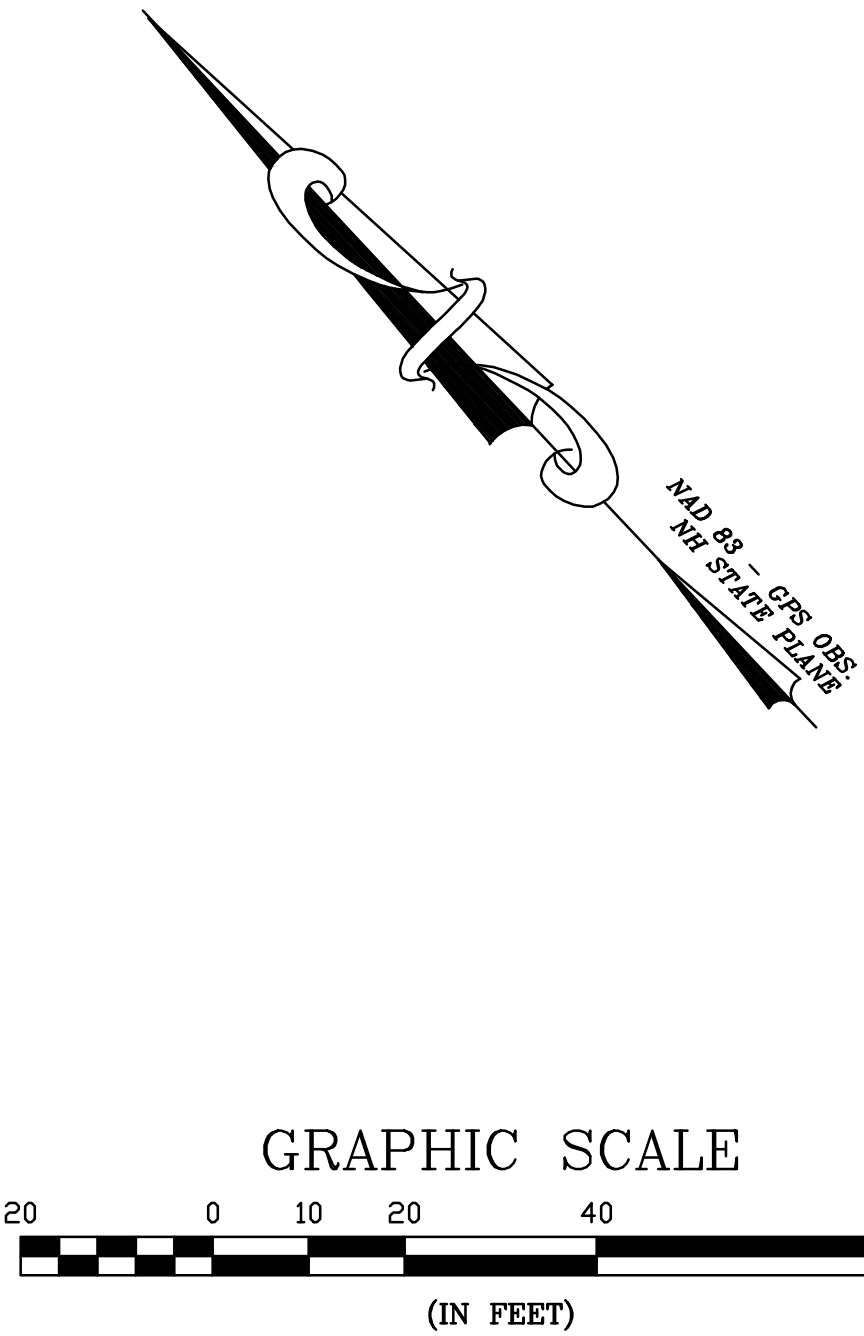
Woody Plants	Method of Reproducing	Methods of Disposal
Norway maple <i>(Acer platanoides)</i> European barberry <i>(Berberis vulgaris)</i> Japanese barberry <i>(Berberis thunbergii)</i> autumn olive <i>(Elaeagnus umbellata)</i> burning bush <i>(Euonymus alatus)</i> Morrow's honeysuckle <i>(Lonicera morrowii)</i> Tatarian honeysuckle <i>(Lonicera tatarica)</i> showy bush honeysuckle <i>(Lonicera x bella)</i> common buckthorn <i>(Rhamnus cathartica)</i> glossy buckthorn <i>(Frangula alnus)</i>	Fruit and Seeds 	Prior to fruit/seed ripening Seedlings and small plants ▪ Pull or cut and leave on site with roots exposed. No special care needed. Larger plants ▪ Use as firewood. ▪ Make a brush pile. ▪ Chip. ▪ Burn.
		After fruit/seed is ripe Don't remove from site. ▪ Burn. ▪ Make a covered brush pile. ▪ Chip once all fruit has dropped from branches. ▪ Leave resulting chips on site and monitor.
oriental bittersweet <i>(Celastrus orbiculatus)</i> multiflora rose <i>(Rosa multiflora)</i>	Fruits, Seeds, Plant Fragments 	Prior to fruit/seed ripening Seedlings and small plants ▪ Pull or cut and leave on site with roots exposed. No special care needed. Larger plants ▪ Make a brush pile. ▪ Burn.
		After fruit/seed is ripe Don't remove from site. ▪ Burn. ▪ Make a covered brush pile. ▪ Chip – only after material has fully dried (1 year) and all fruit has dropped from branches. Leave resulting chips on site and monitor.

Non-Woody Plants	Method of Reproducing	Methods of Disposal
garlic mustard (<i>Alliaria petiolata</i>) spotted knapweed (<i>Centaurea maculosa</i>) ▪ Sap of related knapweed can cause skin irritation and tumors. Wear gloves when handling. black swallow-wort (<i>Cynanchum nigrum</i>) ▪ May cause skin rash. Wear gloves and long sleeves when handling. pale swallow-wort (<i>Cynanchum rossicum</i>) giant hogweed (<i>Heracleum mantegazzianum</i>) ▪ Can cause major skin rash. Wear gloves and long sleeves when handling. dame's rocket (<i>Hesperis matronalis</i>) perennial pepperweed (<i>Lepidium latifolium</i>) purple loosestrife (<i>Lythrum salicaria</i>) Japanese stilt grass (<i>Microstegium vimineum</i>) mile-a-minute weed (<i>Polygonum perfoliatum</i>)	Fruits and Seeds 	Prior to flowering Depends on scale of infestation Small infestation ▪ Pull or cut plant and leave on site with roots exposed. Large infestation ▪ Pull or cut plant and pile. (You can pile onto or cover with plastic sheeting). ▪ Monitor. Remove any re-sprouting material. During and following flowering Do nothing until the following year or remove flowering heads and bag and let rot. Small infestation ▪ Pull or cut plant and leave on site with roots exposed. Large infestation ▪ Pull or cut plant and pile remaining material. (You can pile onto plastic or cover with plastic sheeting). ▪ Monitor. Remove any re-sprouting material.
common reed (<i>Phragmites australis</i>) Japanese knotweed (<i>Polygonum cuspidatum</i>) Bohemian knotweed (<i>Polygonum x bohemicum</i>)	Fruits, Seeds, Plant Fragments Primary means of spread in these species is by plant parts. Although all care should be given to preventing the dispersal of seed during control activities, the presence of seed doesn't materially influence disposal activities.	Small infestation ▪ Bag all plant material and let rot. ▪ Never pile and use resulting material as compost. ▪ Burn. Large infestation ▪ Remove material to unsuitable habitat (dry, hot and sunny or dry and shaded location) and scatter or pile. ▪ Monitor and remove any sprouting material. ▪ Pile, let dry, and burn.

January 2010



- LEGEND**
- RAIN GARDEN
 - ENERGY DISSIPATION STRUCTURES (RIP RAP)
 - CATCH BASINS
 - SEDIMENT FOREBAY
 - OUTLET STRUCTURE
 - PIPES/CULVERTS



INSPECTION & MAINTENANCE PLAN		25 DOVER POINT LLC 99 COLUMBUS AVENUE DOVER, NH 03820		I&M	
NOT FOR CONSTRUCTION FOR PERMIT USE ONLY		GNE CIVILWORKS NEW ENGLAND 181 Watson Road, PO Box 1166 Dover, NH 03821 603.749.0443			
DATE: 1-29-2026	SCALE: 1"=20'	DESIGN BY: JFG	PROJECT NO: 25026	NO.	DATE
DRAWN BY: ETA	DESIGN BY: JFG	APPROVED BY: JH	FILE: DRWING	REVISION	APP'D

SITE DEVELOPMENT DESIGN CRITERIA NARRATIVE

§153-14

STORMWATER MANAGEMENT

for
25 Dover Point, LLC
28 Dover Point Road
Tax Map K, Lot 26

A. Stormwater management, erosion control and flood hazards.

(1) Purpose and objective. These regulations establish standards to manage the discharge of runoff to the City of Dover's municipal storm sewer system and water bodies, in a manner compliant with the requirements of state and federal law, including provisions of the federal stormwater management legislation for municipal separate storm sewer systems (MS4), as amended. These provisions and standards are implemented for the purpose of:

(a) Managing stormwater runoff to protect water quality and quantity. **The proposed mixed use building has been designed in accordance with NH DES AoT permitting requirements to include the treatment and mitigation of stormwater runoff from the site. This is being managed by a rain garden, a sediment forebay, and catch basins for conveyance.**

(b) Minimizing the contribution of a pollutant for which a water body is impaired to the maximum extent practicable (MEP). **The proposed development has been designed in accordance with NH DES AoT permitting requirements to include the treatment of stormwater runoff from 98% of impervious areas on the site to minimize pollutant runoff.**

(c) Causing no discharge of runoff to an adjacent property in excess of runoff discharge in the existing developed or undeveloped condition. **The proposed development does not propose an increase in the peak rate of runoff from the project site.**

(d) Encouraging the use of low-impact development (LID) strategies. **The project proposes the use of a rain garden for stormwater treatment.**

(2) Applicability of the stormwater standards.

(a) All projects requiring site plan or major subdivision approval shall be subject to the following set of stormwater standards according to the amount and type of disturbance. Applicability is as follows: **The project does not qualify for the redevelopment standards, as such, the stormwater standards apply.**

[1] The minimum protections and management standards shall apply to all projects. **The design incorporates these standards.**

[2] The stormwater management for new development standards shall apply to any project that results in a contiguous land disturbance of more than 20,000 square feet or creates more than 4,000 square feet of new impervious area. **The design incorporates these standards.**

[3] The stormwater management for redevelopment standards shall apply to any project that results in a contiguous land disturbance of more than 20,000 square feet or creates more than 4,000 square feet of new impervious area where the existing land use has been previously developed as commercial, industrial, institutional, governmental, recreational, or multifamily. **The redevelopment standards are not applicable to this project.**

(b) All projects of such magnitude as to require a permit from the National Pollutant Discharge Elimination System (NPDES) Program or the New Hampshire Department of Environmental Services (NHDES) Alteration of Terrain (AoT) Program shall also comply with the standards of the Environmental Protection Agency (EPA) and/or NHDES permits and this section, whereas the stricter standards shall apply. **The project does not require NH DES AoT permitting. The design of the project has incorporated the associated standards of these agencies.**

(3) Design standards.

(a) Minimum protections and management standards.

[1] Where applicable, all development must comply with the EPA Phase II Stormwater Rules and the City's MS4 permit, as amended. **The project complies with the City's design and stormwater requirements.**

[2] Existing surface waters, including ponds, rivers, perennial and intermittent streams (natural or channelized), and wetlands (including vernal pools), shall be protected by the minimum buffer setback as specified in Chapter 170, Zoning, § 170-27.1. Stormwater and erosion and sediment control best management practices (BMPs) shall be located outside the specified buffer zone unless otherwise approved by the Planning Board. **The proposed project has been designed to limit the wetland buffer impacts to the greatest extent possible. The disturbance has been limited for the stormwater pond construction and associated grading. There is no proposed work within a wetland. Erosion control will be implemented on site at time of construction.**

[3] Low-impact development (LID) site planning and design strategies shall be used to the MEP in order to reduce the generation of the stormwater runoff Volume for both new and redevelopment projects. An owner/applicant must document why LID strategies are not appropriate if not used to manage stormwater. **The proposed stormwater management is designed per City of Dover's requirements and the NHDES Stormwater Manual. LID strategies were implemented to the maximum extent practicable, however the on-site soils are not conducive for infiltration practices.**

[4] All proposed stormwater practices and measures shall be installed and maintained in accordance with manufacturers' specifications and performance specifications outlined in the New Hampshire Stormwater Management Manual Volume 2 (December 2008 or current revision) a copy of which can be found on The NHDES website. **The project incorporates stormwater BMP designed in accordance with NH DES AoT permitting requirements. Details provided for construction are aligned with the NH Stormwater Manual and the engineer of design will be required to review material submittals and witness the installation of the practices. A Stormwater Inspection and Maintenance Manual will be provided for the site that will outline BMP maintenance; the owner will be responsible for this in perpetuity.**

[5] All storage facilities for fuel, chemicals, chemical or industrial wastes, and biodegradable raw materials shall meet the regulations of the NHDES, including but not limited to those involving underground storage tanks, aboveground storage tanks, hazardous waste, and best management practices for groundwater protection (Part Env Wq 401). **The project does not propose the storage of the referenced materials onsite.**

[6] Salt and other deicing materials shall be stored under cover or located such that no direct discharges to receiving waters are possible. Snow storage areas shall be located such that no direct discharges to receiving waters are possible. See the NHDES guidance fact sheet on road salt and snow disposal. **The project does not propose the storage of deicing materials onsite.**

[7] The use of sodium-chloride-based materials for winter maintenance shall be the minimum necessary for safety. The use of sodium-chloride-based materials is discouraged within the groundwater protection districts. **The project I&M manual directs the owner/operator to produce a salt minimization plan as part of the winter maintenance of the site.**

[8] Impervious surfaces for parking areas and roads shall be minimized to the extent possible. **The project design incorporated the minimization of impervious areas to the maximum extent possible. All aspects of the design including the required number of parking spaces, drive aisle width, and turning areas were evaluated.**

[9] Stormwater runoff from new impervious surfaces shall be directed to a best management practice for flow mitigation, treatment and/or infiltration. **The proposed development has been designed in accordance with City of Dover's Stormwater management regulations to include the treatment of stormwater runoff utilizing catch basins, sediment forebays, a rain garden, and outlet protection.**

(b) Stormwater management for new development.

[1] Runoff of impervious surfaces shall be treated to provide 80% removal of total suspended solids (TSS) and 50% removal of both total nitrogen and phosphorus. Removal rates shall be determined using approved manufacturer's pollutant removal efficiency analysis or the pollutant removal efficiencies outlined in the New Hampshire Stormwater Management Manual Volume 1, Appendix E (December 2008 or current revision), a copy of which is available from the NHDES website. **The project utilizes a rain garden for treatment of 98% of impervious areas. This system provides 88% removal of TSS, 63% removal of total nitrogen, 63% removal of phosphorous per the NH Stormwater Manual.**

[2] Rainfall amount shall be based on current extreme precipitation estimates obtained from the Northeast Regional Climate Center. **The design incorporates NRCC precipitation amounts and the associated storm distribution data.**

[3] Measures shall be taken to control the post-development peak rate runoff so that it does not exceed predevelopment runoff for the two-, ten-, twenty-five- and fifty-year, twenty-four-hour storm events. **The proposed design mitigates post-development peak rate runoff to the pre-developed conditions except for the peak runoff rate in the two-year storm event. There is a slight increase for sub catchment A runoff in this event as grading now directs 96% of the property to this sub catchment discharge point. The on-site soils are not conducive for infiltration practices.**

[4] Measures shall be taken to control the post-development surface water runoff volume so that it does not exceed predevelopment runoff for the two-, ten-, twenty-five- and fifty-year, twenty-four-hour storm events. For sites where infiltration/recharge is limited or not practicable, the owner/applicant must demonstrate that the project will not cause or contribute to flooding or functional impairments to streets, adjacent properties, and downstream properties. **Stormwater runoff will be directed to predevelopment runoff locations. Runoff volume will increase for sub catchment A in the two-year storm event as grading now directs 96% of the property to this sub catchment discharge point. The on-site soils are not conducive for infiltration practices.**

[5] Infiltration rates for designing groundwater recharge practices shall be determined in accordance with Section Env-Wq 1504.14. **The on-site soils are not conducive for infiltration practices, groundwater recharge practices are not proposed.**

[6] Stormwater conveyance practices shall be sized appropriately to convey the ten-year, twenty-four-hour storm event without overtopping or causing flooding on the property. **Stormwater conveyance practices are designed to ensure they pass the 50-yr, 24-hour storm events without overtopping.**

[7] For large projects adding greater than or equal to 10 acres of impervious cover, or projects located in known areas of flooding concern, or specifically within areas with a 1% chance of being inundated by water in any given year, the owner/applicant shall submit a supplementary report that describes how the project will not increase the future flooding potential and complies with the AoT requirements pertaining to floodplain impacts as described in Section Env-Wq 1503.09, regardless of whether an AoT permit is required. **The project is located outside of the 0.2 percent annual chance floodplain. The project does not propose permanent or temporary disturbance or alteration of terrain within the flood plain.**

[8] The design of the stormwater management systems shall consider upstream and upgradient runoff that flows onto, over, or through the site to be developed or redeveloped and provide for this contribution of runoff. **The project has been designed to accommodate on-site and off-site drainage.**

[9] Seasonal high-water table elevations must be accounted for in all BMP design criteria. **A rain garden has been designed for stormwater water mitigation, it is anticipated that the seasonal high-water table is high due to the on-site soils. Test pits were not conducted to verify season high water table. Infiltration rates have not been used during calculation for the rain garden stormwater mitigation. If test pits are conducted for pavement or building design, a copy of the logs will be provided to Community Services.**

[10] Access for maintenance of stormwater facilities must be included as part of the design, where necessary. Access easements may be required. **A Stormwater Inspection and Maintenance Manual will be provided for the site that will outline BMP maintenance; the owner will be responsible for this in perpetuity.**

[11] Plantings in treatment areas shall be native grasses, shrubs and/or other native plants in sufficient numbers and density to prevent soil erosion and to achieve water-quality treatment. **Acknowledged, a landscape plan has been prepared.**

(c) Stormwater management for redevelopment. In order to determine the stormwater requirements for redevelopment projects, the percentage of the site covered by existing impervious areas must be calculated. Stormwater requirements for redevelopment will vary based upon the amount of site surface area that is covered by existing impervious surfaces. **The project does not meet redevelopment requirements and this section is Not Applicable (N/A).**

[1] For sites meeting the definition of a redevelopment project and having less than 40% existing impervious surface coverage, the stormwater management requirements will be the same as new development projects, with the important distinction that the applicant can meet those requirements either on site or at an approved off-site location (i.e., off-site mitigation). The applicant must satisfactorily demonstrate that impervious area reduction, LID strategies and BMPs have been implemented on site to the MEP. **N/A**

[2] For sites meeting the definition of a redevelopment project and having more than 40% existing impervious surface coverage, stormwater shall be managed in accordance with one or more of the following techniques, listed in order of preference: **N/A**

[a] Implement measures on site that result in mitigation and treatment of at least 30% of the existing impervious cover as well as 50% of the additional proposed impervious surfaces and pavement areas through the application of LID; or

[b] Implement other LID techniques on site to the MEP to provide mitigation and treatment for at least 50% of the entire site area.

[3] The owner/applicant may utilize off-site mitigation to meet the redevelopment requirements when the following standards have been met. **N/A**

[a] The owner/applicant shall demonstrate, to the satisfaction of the Planning Board, that on-site treatment has been implemented to the MEP.

[b] The owner/applicant shall find an approved, off-site location within the same watershed as the project site or within the drainage area of the same receiving water body.

[c] Off-site mitigation shall be equivalent to no less than the total area of pervious cover not treated on site.

[d] The owner/applicant shall submit a full design of the proposed off-site measures for review and approval.

[e] The owner/applicant must also demonstrate that there is no downstream drainage or flooding impact as a result of not providing on-site management.

(d) Erosion control standards during construction. The following standards shall be applied in project planning and shall be implemented prior to and during construction activity: **The plan set includes temporary and permanent sediment and erosion control practice notes and details in support of meeting the erosion control standards.**

[1] All proposed measures shall meet, at a minimum, the design standards for best management practices set forth in the New Hampshire Stormwater Management Manual Volume 3 (December 2008 or current revision), a copy of which is available from the NHDES website. **The sediment and erosion control details provided in the plan set are all designed in accordance with the NH Stormwater Manual.**

[2] When a project requires a stormwater permit from the EPA Construction General Permit (CGP) Program, copies of the stormwater pollution prevention plan (SWPPP) inspections shall be provided to the Community Services Department. **If required, a SWPPP will be provided prior to construction.**

[3] Stripping of vegetation shall be done in a manner that minimizes soil erosion. Whenever practical, natural vegetation shall be retained, protected, or supplemented. **The Erosion Control Notes in the provided plan set indicate that the smallest practical area shall be disturbed during construction.**

[4] The area of land disturbance shall be kept to a minimum and be limited to an area only large enough to accommodate construction activities for a particular construction phase. **The Erosion Control Notes in the provided plan set indicate that the smallest practical area shall be disturbed during construction and that in no case shall greater than 5 acres be disturbed at any time.**

[5] Off-site surface water and runoff from undisturbed areas shall be diverted away from disturbed areas where feasible, or measures to convey stormwater through the project area without causing erosion of sediment must be included. The integrity of downstream drainage systems shall be maintained. **Direction to ensure that stormwater conveyance practices shall be stabilized prior to receiving stormwater runoff is included on the Erosion Control Notes sheet provided as part of this submittal.**

[6] Appropriate erosion and sediment control measures shall be installed prior to any soil land disturbance and must be reviewed and approved by the Community Services Department. **Construction scheduling and inspections will be discussed with Community Services at the required pre-construction meeting.**

[7] Perimeter site controls shall not be placed within wetland areas, stream channels or wetland buffers. **Erosion control measures are proposed along the down slope side of all construction and will be doubled up within wetland buffer to ensure protection to the onsite wetlands and abutting properties.**

[8] Disturbed soil areas shall be either temporarily or permanently stabilized. In areas where final grading has not occurred, temporary stabilization measures should be in place within seven calendar days for exposed soil areas that are within 100 feet of a surface water body or a wetland and no more than 14 calendar days for all other areas. Permanent stabilization should be in place within three calendar days following completion of final grading of exposed soil areas. **The definitions of, and direction for, stabilization of the site is provided on the Erosion Control Notes sheet provided as part of this submittal.**

[9] All temporary erosion and sediment control measures shall be maintained in functioning condition until final site stabilization is accomplished. A proposed BMP inspection schedule shall be included in the submittal. **The erosion control inspection scheduling requirements are identified on the Erosion Control Notes sheet provided as part of this submittal.**

[10] Additional temporary stabilization for the winter season consistent with NHDES guidelines shall be in place for disturbed areas that are not permanently stabilized by October 1, or at the discretion of the Community Services Department. **The NH DES AoT winter construction notes are identified on the Erosion Control Notes sheet provided as part of this submittal.**

[11] Special stabilization details shall be provided with the submission for any land disturbance on slopes equal to or steeper than 3:1. **Slopes greater than 3:1 require erosion control matting and a detail is provided in the plan set.**

[12] All temporary erosion and sediment control measures shall be removed after final site stabilization. Trapped sediment and other disturbed soil areas resulting from the removal of temporary measures shall be permanently stabilized within 30 calendar days unless conditions dictate otherwise. **Temporary practice details identify the need to remove sediment and/or stabilize the area once the practices have been removed.**

[13] For projects proposing to disturb and expose soils in areas of 10 acres or more at one time, a temporary (or permanent) sediment basin must be provided with storage for a calculated volume of runoff from a drainage area from a two-year, twenty-four-hour storm, or equivalent control measures, where attainable, until final stabilization of the site. Alternatively, the sediment of storage per acre of drainage area until final stabilization of the site. In determining appropriate locations and number of sediment basins needed, the operators may consider such factors as erodibility of site soils, slope lengths, available area on site, construction period and other unique site considerations. **The project does not propose the disturbance of greater than 10 acres of area.**

[14] Use of temporary sediment basins should avoid any additional vegetation clearing or site land disturbance not otherwise needed for post-construction. Sediment basin locations must be reviewed by the Community Services Department prior to construction and must consider the potential for off-site impacts, including public safety, especially as it relates to sediment movement and/or sediment basin failure, and alternative sediment controls must be used where site limitations preclude a safe design. **Temporary sediment basin locations, if constructed, will be discussed with Community Services prior to the construction of the practices. These discussions will occur upon submission/review of the SWPPP, if required.**

(e) Installation and construction inspections. The owner/applicant shall be responsible for inspection requirements as follow:

[1] The Community Services Department or its designated agent shall have access to the site to complete routine inspections. **Community Services access and inspection requirements will be discussed at the pre-construction meeting.**

[2] The Community Services Department shall be notified 24 hours prior to installation of a stormwater BMP in order to schedule an inspection. These inspections shall be completed during normal working hours. **The project notes provide direction for the contractor to notify the design engineer and the Community Services Department as required.**

[3] The Planning Board or Community Services Department may require the design engineer and/or an independent third party to provide inspection and oversight of the construction of the stormwater management facilities and erosion and sediment control measures at its discretion. Such oversight may be especially important for implementing techniques such as porous pavement or subsurface stormwater infiltration systems. The owner/applicant shall be responsible for all fees associated with third-party inspections. **A letter can be provided if requested. This letter, if required, will be discussed at the pre-construction meeting.**

[4] All SWPPP inspections must be conducted by a qualified professional such as a professional engineer (PE), a certified professional in erosion and sediment control (CPESC), a certified erosion sediment and stormwater inspector (CESSWI), or a certified professional in stormwater quality (CPSWQ). Inspection reports shall be submitted to the Community Services Department. **The project notes provide direction for the inspector to be qualified and for all reports to be submitted to the Community Services Department.**

[5] The owner is ultimately responsible for the installation, construction, inspection, and disposition of all stormwater management and erosion control measures required by the provisions of these regulations. **The project notes identify the owner as having the responsibility for ensuring the stormwater management and erosion control measures are installed as approved.**

(f) Stormwater management plan (SWMP) submittal requirements. At the discretion of the Planning Board or Community Services Department, a technical review by an independent third party may be required of any SWMP prepared under these regulations. Such a review shall be performed by a qualified professional consultant and the expense of which shall be the full responsibility of the owner/applicant. **The SWMP is a comprehensive set of documents that include, at a minimum, a drainage report, plan set, and Stormwater I&M Manual. These documents each serve a role in presenting the necessary information to the appropriate audience. The information required in this section is provided within the SWMP documents.**

[1] For projects requiring minimum protection standards, a plan including the following information shall be submitted:

[a] Description of erosion and sediment control measures as well as sequence for final stabilization of the project site. **This information is provided within the Erosion Control Notes within the plan set.**

[b] Proposed changes in impervious cover areas and any changes in pre- and post-development drainage patterns. **This information is provided within the drainage report and the Pre/Post Development Watershed Plans.**

[c] Description of LID proposed measures. **This information is provided in the drainage report and throughout the plan set and details.**

[2] For projects requiring new development or redevelopment standards, a drainage report that contains the following items shall be submitted: **The SWMP documents include the proposed information when applicable.**

[a] Description of construction period and earth movement schedule, including anticipated project start and completion dates, sequence and duration of grading and construction activities, sequence, and timing of installation and/or application of soil erosion and sediment control measures as well as sequence for final stabilization of the project site. **The SWMP documents include the proposed information when applicable, more specifically in the erosion control note sheet.**

[b] Description of the on-site and adjacent wetlands, streams and other water resources, including methods used to identify these resources, and a description of any buffer setbacks that may apply, steep slopes, critical habitat, existing vegetation, areas with a 1% chance of being inundated by water in any given year, and whether any downstream water bodies are listed as impaired according to NHDES's most recent 303(d) list. **The SWMP documents include the proposed information when applicable, more specifically in the existing conditions plan.**

[c] Soils information for proposed disturbed areas shall be delineated by a certified soil scientist. For all other areas that contribute runoff to the project site, soil types may be identified in accordance with Natural Resources Conservation Service (NRCS) countywide soil survey. **The SWMP documents utilize NRCS countywide soil survey.**

[d] Description of existing drainage patterns, receiving water bodies or drainage infrastructure and soil types for recharge potential. **The SWMP documents include the proposed information when applicable, more specifically in the drainage report.**

[e] Watershed area limits, including any off-site and upstream areas contributing flow to shared drainage channels and/or infrastructure. **The SWMP documents include the proposed information when applicable, more specifically in the drainage report.**

[f] Description of proposed changes in impervious cover areas and any changes in pre- and post-development drainage patterns. **The SWMP documents include the proposed information when applicable, more specifically in the drainage report, and Grading, Drainage, & Erosion Plan.**

[g] Methods and assumptions used to calculate pre- and post-development runoff volume, peak discharge, and discharge velocity for the specified design storm events. **The SWMP documents include the proposed information when applicable, more specifically in the drainage report.**

[h] Methods and assumptions used to calculate the pollutant load removal. **The SWMP documents include the proposed information when applicable, more specifically in the drainage report.**

[i] Description of LID measures that are proposed to limit the development footprint, preserve existing vegetation and mimic existing hydrology to the extent feasible. **The SWMP documents include the proposed information when applicable.**

[j] If not used, provide rationale why LID measures are not practical for the site. **The SWMP documents include the proposed information when applicable.**

[k] Describe measures and calculations for proposed practices used to achieve no net increase in runoff volumes leaving the site. **The SWMP documents include the proposed information when applicable, more specifically in the drainage report.**

[l] Provide calculations for the infiltration or exfiltration system. **The SWMP documents include the proposed information when applicable.**

[m] If an increase in post-development runoff volume is anticipated due to limited applicability for LID measures and site constraints, provide an assessment and supporting calculations to demonstrate no adverse impacts to downstream infrastructure, adjacent properties, or aquatic habitat. **The SWMP documents include the proposed information when applicable, more specifically in the drainage report.**

[n] Descriptions, details, and design criteria and calculations for all structural, nonstructural, permanent, and temporary erosion and sedimentation control measures and BMPs. This information should include seeding mixtures and rates, types of sod, methods of seedbed preparation, expected seeding dates (or limitations on seeding time frames), type and rate of lime and fertilizer application, and type and quantity of mulching for temporary and permanent control facilities. **The SWMP documents include the proposed information when applicable, more specifically in the erosion control note sheet and landscape O&M.**

[o] Where proposed changes are anticipated within mapped limits of the areas with a 1% chance of being inundated by water in any given year, provide hydrologic and hydraulic analysis to show no net increase in flood elevations. **The SWMP documents include the proposed information when applicable.**

[p] Proposed schedule for the inspection and maintenance of all erosion control measures on site prior to achieving final site stabilization. **The SWMP documents include the proposed information when applicable, more specifically in the erosion control note sheet.**

[q] Describe procedures for removing temporary erosion control measures and removal of accumulated sediment captured by such measures. **The SWMP documents include the proposed information when applicable, more specifically in the erosion control note sheet.**

[r] Any other specific study, calculation, or investigation as requested by the City. **Additional information is provided as requested and may include traffic studies, structural designs, septic/sewer designs, geotechnical reports, etc. These documents are provided on a case-by-case basis and as requested by the City.**

[s] Describe procedures to limit and/or optimize the use of deicing materials and minimize off-site increases in chloride levels in adjacent surface water and groundwater. **The Stormwater I&M Manual includes the implementation of a salt minimization plan.**

[t] Provide a maintenance and inspection plan for post-construction monitoring of stormwater BMPs to ensure long-term performance and functionality, including details of who will be responsible for inspections and maintenance, proposed schedule, documentation, submittal procedures and contingency plans if future maintenance is required. **A Stormwater I&M Manual is provided as part of the submission.**

[u] Provide copies of pertinent state and federal permits. **Copies of permits will be provided to the City.**

(g) Long-term operation and maintenance. The owner shall be responsible for continued inspection and maintenance requirements. **An I&M Manual that identifies the owner's responsibilities has been provided as a part of the submission.**

[1] An operation and maintenance manual shall be created with the following information:

[a] The names of the responsible qualified professionals who will implement the required reporting, inspections, and maintenance activities. **The Owner, Responsible Party, and the Management Company are identified in the I&M Manual.**

[b] An inspection checklist, identifying item or BMP, inspection frequency, and components to be inspected. The list shall clearly outline performance thresholds and triggers for maintenance. **Inspection requirements and maintenance thresholds are identified in the I&M Manual.**

[c] Snow and ice removal shall be performed by a contractor certified by the "Green SnoPro" Program, or approved equivalent, following best management practices for the application of deicing materials. **The I&M Manual requires the use of a Green SnowPro contractor.**

[d] Deicing log to track amount and type of deicing material applied. **The I&M Manual requires the implementation of a salt minimization plan that also requires the owner or operator to track salt usage onsite through a quantity usage log.**

[e] A site plan clearly identifying the locations of all stormwater practices to be inspected and maintained. **The approved Grading and Drainage Plan, where BMPs are highlighted in a BMP Location Plan, accompanies the I&M Manual.**

[f] Inspection and maintenance log to be submitted to the City of Dover Community Services Department on an annual basis. Documents shall be submitted no later than December 15 of each year. **The I&M Manual identifies this requirement.**

[2] The owner of record shall record at the Registry of Deeds documentation sufficient to provide notice to all persons that may acquire any property subject to the requirements and responsibilities described in the approved stormwater management plan. The notice shall comply with the applicable requirements for recording contained in RSA 477 and 478. The notice need not set forth the requirements at length, so long as it is sufficient to provide notice to prospective purchasers of the requirements for maintenance and reporting. **Not Applicable.**

DRAINAGE ANALYSIS

**Dover Point Mixed Use
28 Dover Point Road
Map K - Lot 26
Dover, NH 03820**

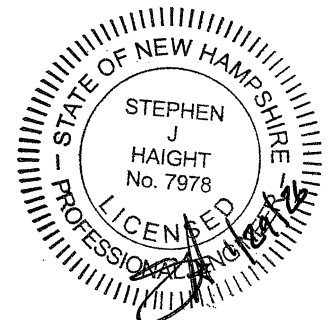
January 2026

Prepared For:

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1.0 INTRODUCTION

This is a hydrologic analysis of the subject parcel, Tax Map K – Lot 26. The parcel is located on Dover Point Road, Dover, NH. The site contains approximately 0.76 acres and is bounded northwest by a residential parcel, the southwest by Dover Point Road, the southeast by a developed commercial lot, and with Varney Brook separating the site from residential and mixed use properties to the northeast. The parcel had been developed; however, the former structure was previously demolished. There is a paved area for site access that has been constructed on the southern corner of the property which is currently used by the abutter to be shared after development. On site soils are a mix of Suffield Silt Loam, and Buxton Silt Loam. Suffield and Buxton series soils classified as HSG C.

To compare the pre-development runoff to post-development the site was divided into 4 watersheds to model the pre-development condition. The site predominantly slopes from southwest to northeast and into a wetland which includes Varney Brook. Watershed A, the largest, consists of the majority of the parcel and drains overland, directly into Varney Brook. Watershed's B, C, and D consist of the areas that drain offsite to the commercial lot, Dover Point Road, and the residential lot respectively.

The proposed development of the site includes the construction of a proposed 3,048 sf mixed use building, parking areas, utility connections, drainage improvements including a rain garden to act as a stormwater quality treatment structure, and associated landscaping enhancements.

The post development conditions include grading the site to support the development of the parcel. This grading results in stormwater runoff predominantly being directed to Varney Brook through watershed A with a small portion of the entrance drive being directed to the abutting parcel, Tax Map K, Lot 19C, through watershed B. In the post development condition runoff no longer flows to watershed C and D. Watershed A has been divided into 5 sub-catchments to accurately model the proposed development and the closed drainage system that directs runoff to the rain garden. Impacts to watershed B have been incorporated into the design of the abutting parcel, Tax Map K, Lot 19C, and include both water quality and rate of flow. Watershed B is not a direct comparison between Pre and Post conditions due to alternative points of analysis; however, the information has been included for reference.

The closed drainage system and associated roof drains capture runoff from the development and direct it to the raingarden for treatment and mitigation prior to discharge. The analysis indicates that the proposed development of the site will have minimal impact on the watershed.

2.0 DRAINAGE ANALYSIS

A comprehensive hydrologic study of this site has been performed utilizing nationally recognized runoff estimating techniques developed by the USDA, Soil Conservation Services (SCS). The technique and runoff models are described in various SCS publications and references as follows:

“Stormwater Management and Erosion Sediment Control Handbook for Urban and Developing Areas in New Hampshire”

“New Hampshire Stormwater Manual Volume 2 - Post-Construction Best Management Practices Selection & Design”

“Civil Engineering Reference Manual, Fifth Edition”

“Open-Channel Hydraulics” Chow.

“Stormwater Modeling System” HydroCAD Ver. 10.10-5a

2.1 DRAINAGE DESIGN PARAMETERS

A brief review of the procedures and parameters used in the drainage study follows:

2.1.1 Watersheds

The watershed and subcatchment areas were delineated using topographic and boundary data provided by McEneaney Survey Associates of New England.

2.1.2 Soils

Onsite soil information used to estimate the runoff curve numbers was provided: by the USDA Natural Resources Conservation Service (NRCS) Web Soil Survey tool.

Hydrologic Drainage Class C: Suffield Silt Loam
Buxton Silt Loam

2.1.3 Rainfall Data

Extreme precipitation estimate values from the Northeast Regional Climate Center (NRCC) were utilized in this analysis. As such, the analysis has been performed for the 2-year, 10-year, 25-year, and 50-year storm events with 3.16”, 4.77”, 6.03”, and 7.21” rainfall depths respectively. The rain garden has been sized to accommodate the 50-yr storm event.

2.1.4 Runoff Curve Numbers

The SCS runoff curve numbers were used and are summarized within each subcatchment drainage summary in Appendix A.

2.2 EXISTING CONDITIONS

For purposes of this analysis the subject parcel was analyzed as 4 watershed areas that are all analyzed with the summing points as described above.

2.2.1 Table A – Existing Conditions (2, 10, 25, and 50-year storm events)

Watershed	Pre-Development Volume (af)	Pre Development Peak Flows (cfs)			
Discharge Point	<u>2-yr</u>	<u>2-yr</u>	<u>10-yr</u>	<u>25-yr</u>	<u>50-yr</u>
A	0.043	0.41	0.82	1.15	1.46
B	0.013	0.18	0.31	0.41	0.51
C	0.006	0.06	0.13	0.18	0.23
D	0.005	0.05	0.11	0.15	0.19

2.3 DEVELOPED CONDITIONS

The post development parcel was analyzed as 2 watersheds with Watershed A further broken into 5 sub-catchments. Watershed A has the same summing point as the pre development analysis while watershed B is not a direct comparison as the watersheds have separate summing points. Runoff from watershed B has been incorporated into the development of the abutting parcel, Tax Map K, Lot 19C. Watersheds C and D have been incorporated into Watershed A through grading improvements of the proposed site.

2.3.1 Table B – Developed Conditions (2, 10, 25, and 50-year storm events)

Watershed	Post-Development Volume (af)	Post Development Peak Flows (cfs)			
Discharge Point	<u>2-yr</u>	<u>2-yr</u>	<u>10-yr</u>	<u>25-yr</u>	<u>50-yr</u>
A	0.096	0.45	0.74	0.97	1.19
B	0.006	0.09	0.12	0.14	0.17
C	-	-	-	-	-
D	-	-	-	-	-

2.4 COMPARISON CHART

2.4.1 Table C – Existing vs. Developed Conditions Hydrology

Watershed	Pre/Post-Development Volume (af)	Pre/Post Development Peak Flows (cfs)			
Discharge Point	<u>2-yr</u>	<u>2-yr</u>	<u>10-yr</u>	<u>25-yr</u>	<u>50-yr</u>
A	0.043/ 0.096	0.41/ 0.45	0.82/ 0.74	1.15/ 0.97	1.46/ 1.19
B	0.013/ 0.006	0.18/ 0.09	0.31/ 0.12	0.41/ 0.14	0.51/ 0.17
C	0.006/ -	0.06/ -	0.13/ -	0.18/ -	0.23/ -
D	0.005/ -	0.05/ -	0.11/ -	0.15/ -	0.19/ -

2.5 STORMWATER DESIGN

The project incorporates best management practices to mitigate runoff as well as treat and convey stormwater.

2.5.1 Stormwater Best Management Practices

This project incorporates a Rain Garden for stormwater treatment. See Appendix B-1 for Best Management Practice Design form.

2.5.2 Pollutant Removal

The development proposes 0.260 acres of impervious including 0.071 acres of residential roof and 0.190 acres of commercial/residential parking. The project proposes the treatment of impervious runoff through a rain garden located at the rear of the site. 98% of the impervious runoff on site will be captured and treated. Impervious runoff from the site access will continue to be treated by the abutting property and most of the impervious on site will be treated by the proposed rain garden. The proposed stormwater mitigation system provides the required pollutant removal per City of Dover standards.

The stormwater management system utilizes a Rain Garden to achieve 88% TSS, 63% TN, & 63% TP pollutant removal. Below are the NHDES published pollutant removal efficiencies. See Appendix B-3 for additional information.

	TSS	TN	TP
Rain Garden:	90%	65%	65%

APPENDIX A

HYDROLOGIC CALCULATIONS

Extreme Precipitation Tables

Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

Smoothing	Yes
State	New Hampshire
Location	
Longitude	70.862 degrees West
Latitude	43.174 degrees North
Elevation	0 feet
Date/Time	Wed, 20 Jan 2021 20:07:46 -0500

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.26	0.40	0.50	0.65	0.81	1.03	1yr	0.70	0.98	1.20	1.55	2.00	2.61	2.87	1yr	2.31	2.76	3.16	3.88	4.46	1yr
2yr	0.32	0.49	0.61	0.81	1.02	1.29	2yr	0.88	1.17	1.50	1.92	2.45	3.16	3.51	2yr	2.79	3.37	3.87	4.60	5.24	2yr
5yr	0.37	0.57	0.72	0.96	1.23	1.58	5yr	1.06	1.45	1.85	2.39	3.08	3.99	4.50	5yr	3.53	4.32	4.94	5.82	6.58	5yr
10yr	0.40	0.63	0.80	1.09	1.42	1.85	10yr	1.23	1.70	2.18	2.83	3.67	4.77	5.43	10yr	4.22	5.22	5.96	6.95	7.82	10yr
25yr	0.46	0.74	0.94	1.30	1.72	2.27	25yr	1.49	2.10	2.70	3.54	4.62	6.03	6.96	25yr	5.34	6.70	7.62	8.80	9.83	25yr
50yr	0.52	0.83	1.06	1.49	2.00	2.67	50yr	1.73	2.46	3.19	4.20	5.51	7.21	8.41	50yr	6.38	8.09	9.19	10.52	11.70	50yr
100yr	0.58	0.94	1.21	1.71	2.32	3.13	100yr	2.01	2.90	3.75	4.97	6.56	8.62	10.17	100yr	7.63	9.78	11.08	12.58	13.92	100yr
200yr	0.64	1.05	1.36	1.96	2.70	3.68	200yr	2.33	3.41	4.44	5.91	7.82	10.32	12.29	200yr	9.13	11.82	13.36	15.05	16.58	200yr
500yr	0.76	1.24	1.62	2.36	3.31	4.55	500yr	2.85	4.23	5.51	7.40	9.86	13.08	15.80	500yr	11.58	15.20	17.12	19.09	20.89	500yr

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.24	0.37	0.45	0.60	0.74	0.89	1yr	0.64	0.87	0.92	1.27	1.60	2.16	2.46	1yr	1.91	2.37	2.86	3.31	3.99	1yr
2yr	0.31	0.49	0.60	0.81	1.00	1.18	2yr	0.86	1.16	1.36	1.83	2.36	3.04	3.40	2yr	2.69	3.27	3.75	4.47	5.04	2yr
5yr	0.35	0.54	0.67	0.91	1.16	1.40	5yr	1.00	1.37	1.61	2.15	2.77	3.72	4.13	5yr	3.29	3.97	4.62	5.42	6.12	5yr
10yr	0.38	0.59	0.73	1.02	1.31	1.60	10yr	1.13	1.56	1.81	2.44	3.12	4.28	4.79	10yr	3.79	4.60	5.33	6.26	7.04	10yr
25yr	0.43	0.66	0.82	1.18	1.55	1.90	25yr	1.33	1.86	2.11	2.83	3.64	4.87	5.80	25yr	4.31	5.58	6.49	7.58	8.46	25yr
50yr	0.48	0.73	0.91	1.30	1.75	2.18	50yr	1.51	2.13	2.35	3.18	4.08	5.54	6.69	50yr	4.90	6.43	7.53	8.75	9.71	50yr
100yr	0.53	0.81	1.01	1.46	2.00	2.49	100yr	1.73	2.44	2.63	3.56	4.55	6.29	7.71	100yr	5.57	7.41	8.74	10.11	11.14	100yr
200yr	0.59	0.89	1.13	1.63	2.27	2.85	200yr	1.96	2.79	2.93	3.98	5.06	7.13	8.89	200yr	6.31	8.55	10.14	11.69	12.81	200yr
500yr	0.69	1.02	1.31	1.91	2.72	3.42	500yr	2.34	3.35	3.40	4.60	5.86	8.40	10.72	500yr	7.43	10.30	12.33	14.18	15.35	500yr

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.28	0.43	0.53	0.71	0.87	1.08	1yr	0.75	1.06	1.24	1.74	2.22	2.90	3.09	1yr	2.57	2.97	3.46	4.25	4.85	1yr
2yr	0.33	0.51	0.63	0.85	1.05	1.25	2yr	0.90	1.22	1.48	1.96	2.51	3.31	3.63	2yr	2.93	3.49	4.01	4.76	5.48	2yr
5yr	0.39	0.61	0.75	1.03	1.31	1.59	5yr	1.13	1.55	1.86	2.51	3.21	4.25	4.86	5yr	3.77	4.68	5.28	6.24	7.01	5yr
10yr	0.46	0.70	0.87	1.22	1.57	1.93	10yr	1.36	1.88	2.24	3.06	3.88	5.23	6.07	10yr	4.63	5.84	6.67	7.67	8.56	10yr
25yr	0.56	0.85	1.05	1.50	1.98	2.49	25yr	1.71	2.43	2.89	3.99	4.99	7.21	8.16	25yr	6.38	7.85	8.92	10.10	11.16	25yr
50yr	0.64	0.98	1.22	1.75	2.36	3.01	50yr	2.04	2.94	3.51	4.87	6.07	8.93	10.23	50yr	7.90	9.83	11.15	12.42	13.65	50yr
100yr	0.75	1.13	1.42	2.05	2.82	3.64	100yr	2.43	3.56	4.26	5.96	7.40	11.06	12.82	100yr	9.79	12.32	13.91	15.31	16.70	100yr
200yr	0.87	1.31	1.66	2.41	3.36	4.42	200yr	2.90	4.32	5.18	7.30	9.00	13.74	16.08	200yr	12.16	15.46	17.39	18.85	20.47	200yr
500yr	1.07	1.59	2.04	2.97	4.22	5.68	500yr	3.65	5.56	6.70	9.57	11.69	18.32	21.71	500yr	16.22	20.87	23.37	24.85	26.79	500yr

About this Project**Data & Products****Daily Monitoring****Documentation**

Select Product ? Extreme Precipitation Tables - HTML ? Extreme Precipitation Tables - Text/CSV ? Partial Duration Series - by Point ? Partial Duration Series - by Station ? Distribution Curves - Graphical ? Distribution Curves - Text/TBL ? Intensity Frequency Duration Graphs ? Precipitation Frequency Duration Graphs ? GIS Data Files ? Regional/State Maps ?	Select Location ? Double-click the map to place a marker, or enter address or latitude/longitude.
	Locate by Address ? Locate by Lat/Lon ? °N °W Locate by State/County ?
	Select Options ?
	Smoothing ? Yes Delivery ? Popup
	Submit

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Northeast Regional Climate Center (NRCC)



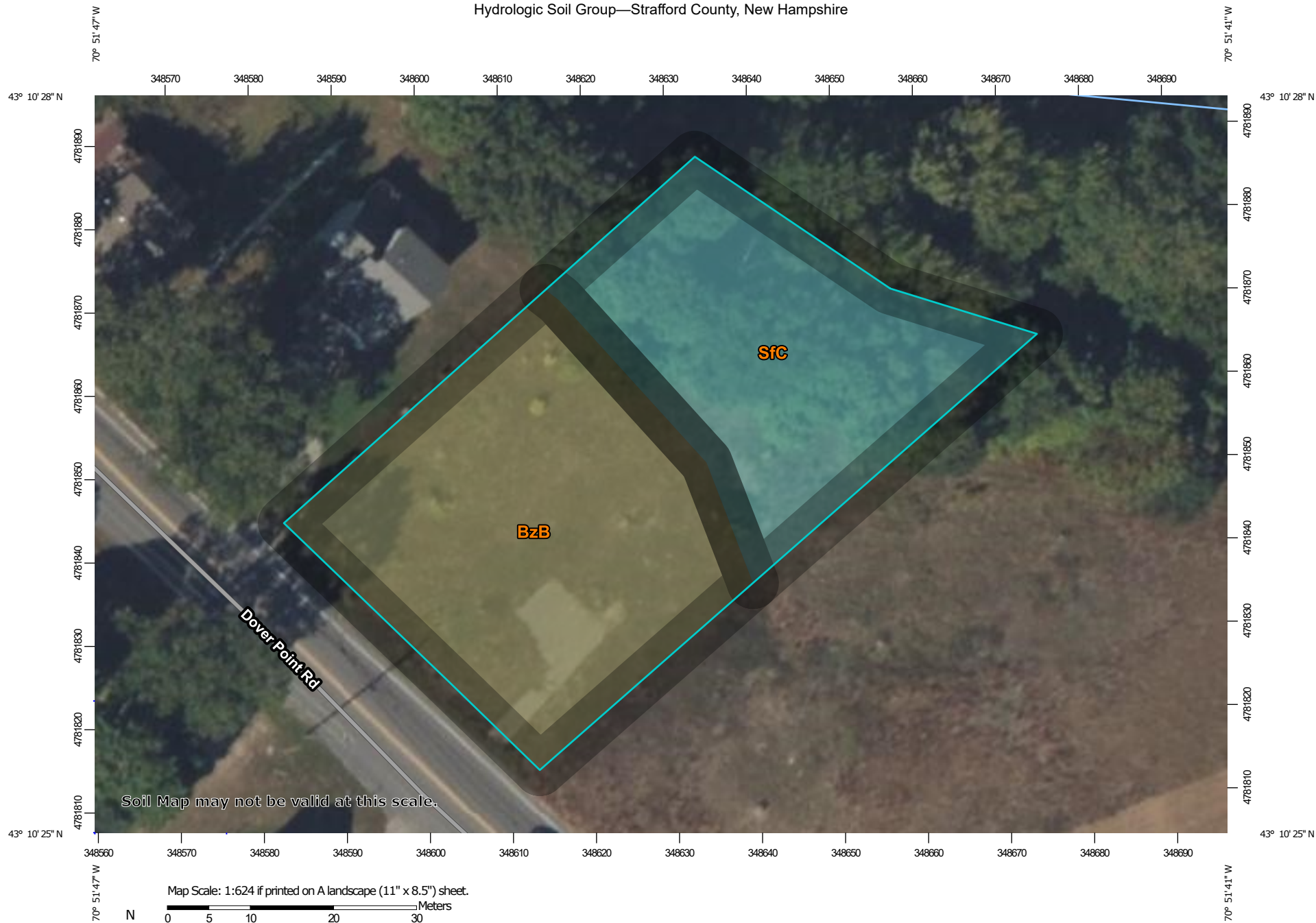
Cornell University

Natural Resources Conservation Service (NRCS)



Contact: precip@cornell.edu

Hydrologic Soil Group—Strafford County, New Hampshire



Map Scale: 1:624 if printed on A landscape (11" x 8.5") sheet.

0 5 10 20 30 Meters

0 30 60 120 180 Feet

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



**Natural Resources
Conservation Service**

Web Soil Survey
National Cooperative Soil Survey

1/29/2026
Page 1 of 4

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

Soil Rating Polygons

 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Lines

 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Points

 A
 A/D
 B
 B/D

 C
 C/D
 D
 Not rated or not available

Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background

 Aerial Photography

MAP INFORMATION

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

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: Strafford County, New Hampshire
 Survey Area Data: Version 26, Sep 9, 2025

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.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BzB	Buxton silt loam, 3 to 8 percent slopes	C/D	0.4	56.3%
SfC	Suffield silt loam, 8 to 15 percent slopes	C	0.3	43.7%
Totals for Area of Interest			0.8	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

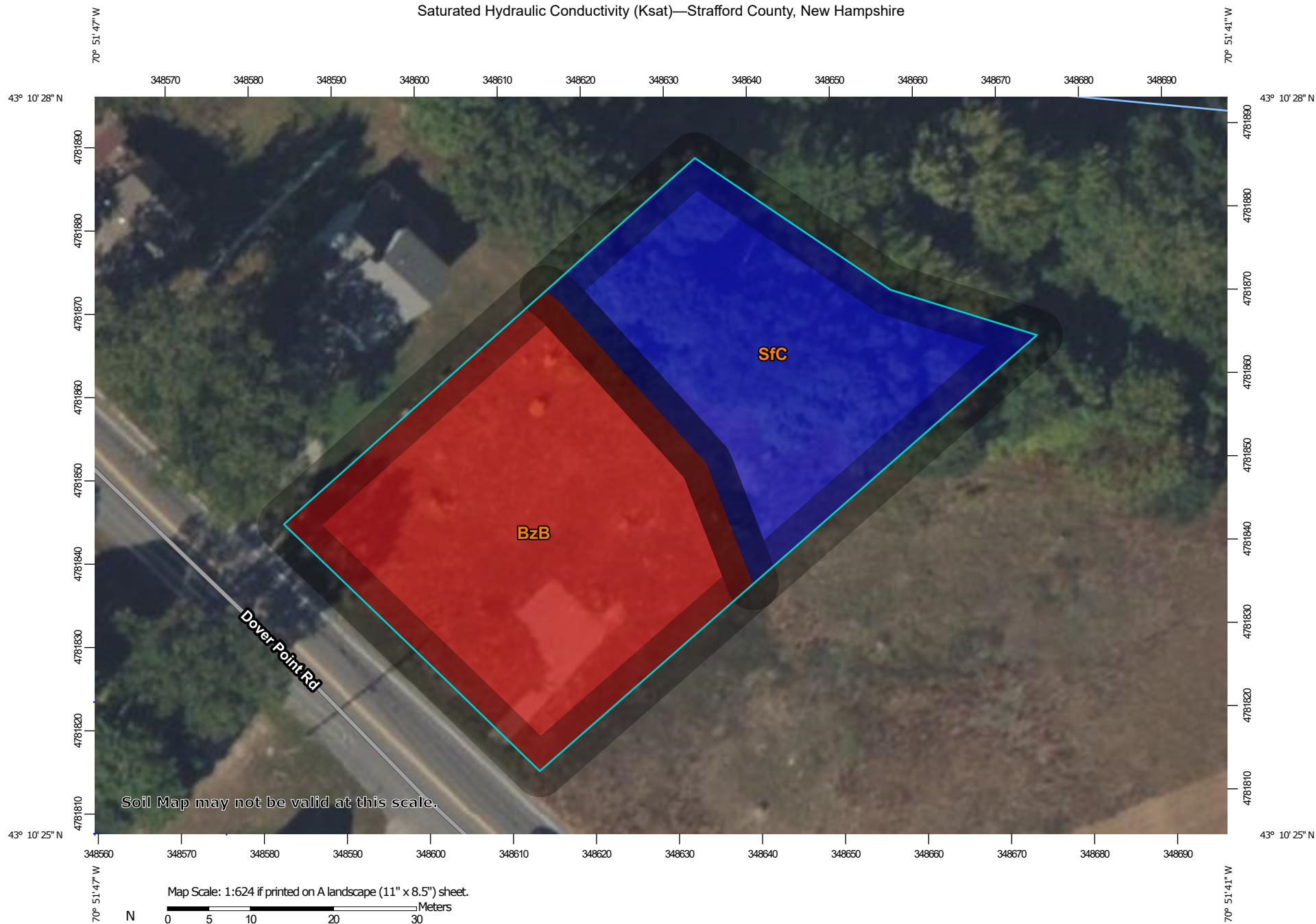
Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Saturated Hydraulic Conductivity (Ksat)—Strafford County, New Hampshire



Map Scale: 1:624 if printed on A landscape (11" x 8.5") sheet.

0 5 10 20 30 Meters

0 30 60 120 180 Feet

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



**Natural Resources
Conservation Service**

Web Soil Survey
National Cooperative Soil Survey

1/29/2026
Page 1 of 3

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

Soil Rating Polygons

 ≤ 2.8222
 > 2.8222 and ≤ 9.1722
 Not rated or not available

Soil Rating Lines

 ≤ 2.8222
 > 2.8222 and ≤ 9.1722
 Not rated or not available

Soil Rating Points

 ≤ 2.8222
 > 2.8222 and ≤ 9.1722
 Not rated or not available

Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background

 Aerial Photography

MAP INFORMATION

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

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

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

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

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

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

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

Soil Survey Area: Strafford County, New Hampshire
 Survey Area Data: Version 26, Sep 9, 2025

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.

Saturated Hydraulic Conductivity (Ksat)

Map unit symbol	Map unit name	Rating (micrometers per second)	Acres in AOI	Percent of AOI
BzB	Buxton silt loam, 3 to 8 percent slopes	2.8222	0.4	56.3%
SfC	Suffield silt loam, 8 to 15 percent slopes	9.1722	0.3	43.7%
Totals for Area of Interest			0.8	100.0%

Description

Saturated hydraulic conductivity (Ksat) refers to the ease with which pores in a saturated soil transmit water. The estimates are expressed in terms of micrometers per second. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Saturated hydraulic conductivity is considered in the design of soil drainage systems and septic tank absorption fields.

For each soil layer, this attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

The numeric Ksat values have been grouped according to standard Ksat class limits.

Rating Options

Units of Measure: micrometers per second

Aggregation Method: Dominant Component

Component Percent Cutoff: None Specified

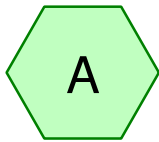
Tie-break Rule: Fastest

Interpret Nulls as Zero: No

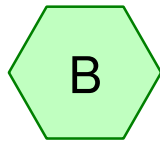
Layer Options (Horizon Aggregation Method): Surface Layer (Not applicable)

A – 1

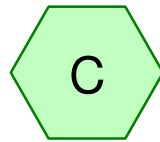
EXISTING WATERSHEDS



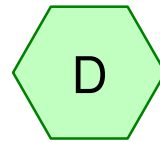
Varney Brook



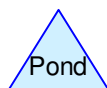
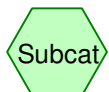
B



C



D



25026 - Pre

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Page 2

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
31,941	74	>75% Grass cover, Good, HSG C (A, B, C, D)
1,023	98	Paved parking, HSG C (B)
32,964	75	TOTAL AREA

25026 - Pre

Prepared by CIVILWORKS NEW ENGLAND

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Page 3

Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
0	HSG B	
32,964	HSG C	A, B, C, D
0	HSG D	
0	Other	
32,964		TOTAL AREA

A – 1

NODE LISTING – 2-YR

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment A: Varney Brook

Runoff Area=22,229 sf 0.00% Impervious Runoff Depth=1.01"
Flow Length=305' Tc=12.2 min CN=74 Runoff=0.41 cfs 1,873 cf

Subcatchment B: B

Runoff Area=5,239 sf 19.53% Impervious Runoff Depth=1.31"
Flow Length=46' Slope=0.0430 '/' Tc=5.7 min CN=79 Runoff=0.18 cfs 571 cf

Subcatchment C: C

Runoff Area=3,137 sf 0.00% Impervious Runoff Depth=1.01"
Flow Length=60' Slope=0.0210 '/' Tc=9.4 min CN=74 Runoff=0.06 cfs 264 cf

Subcatchment D: D

Runoff Area=2,359 sf 0.00% Impervious Runoff Depth=1.01"
Flow Length=78' Slope=0.0640 '/' Tc=7.4 min CN=74 Runoff=0.05 cfs 199 cf

Total Runoff Area = 32,964 sf Runoff Volume = 2,907 cf Average Runoff Depth = 1.06"
96.90% Pervious = 31,941 sf 3.10% Impervious = 1,023 sf

A – 1

NODE LISTING – 10-YR

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment A: Varney Brook

Runoff Area=22,229 sf 0.00% Impervious Runoff Depth=2.18"
Flow Length=305' Tc=12.2 min CN=74 Runoff=0.82 cfs 4,042 cf

Subcatchment B: B

Runoff Area=5,239 sf 19.53% Impervious Runoff Depth=2.60"
Flow Length=46' Slope=0.0430 '/' Tc=5.7 min CN=79 Runoff=0.31 cfs 1,137 cf

Subcatchment C: C

Runoff Area=3,137 sf 0.00% Impervious Runoff Depth=2.18"
Flow Length=60' Slope=0.0210 '/' Tc=9.4 min CN=74 Runoff=0.13 cfs 570 cf

Subcatchment D: D

Runoff Area=2,359 sf 0.00% Impervious Runoff Depth=2.18"
Flow Length=78' Slope=0.0640 '/' Tc=7.4 min CN=74 Runoff=0.11 cfs 429 cf

Total Runoff Area = 32,964 sf Runoff Volume = 6,179 cf Average Runoff Depth = 2.25"
96.90% Pervious = 31,941 sf 3.10% Impervious = 1,023 sf

A – 1

10-YR STORM SUMMARY

Summary for Subcatchment A: Varney Brook

Runoff = 0.82 cfs @ 12.12 hrs, Volume= 4,042 cf, Depth= 2.18"

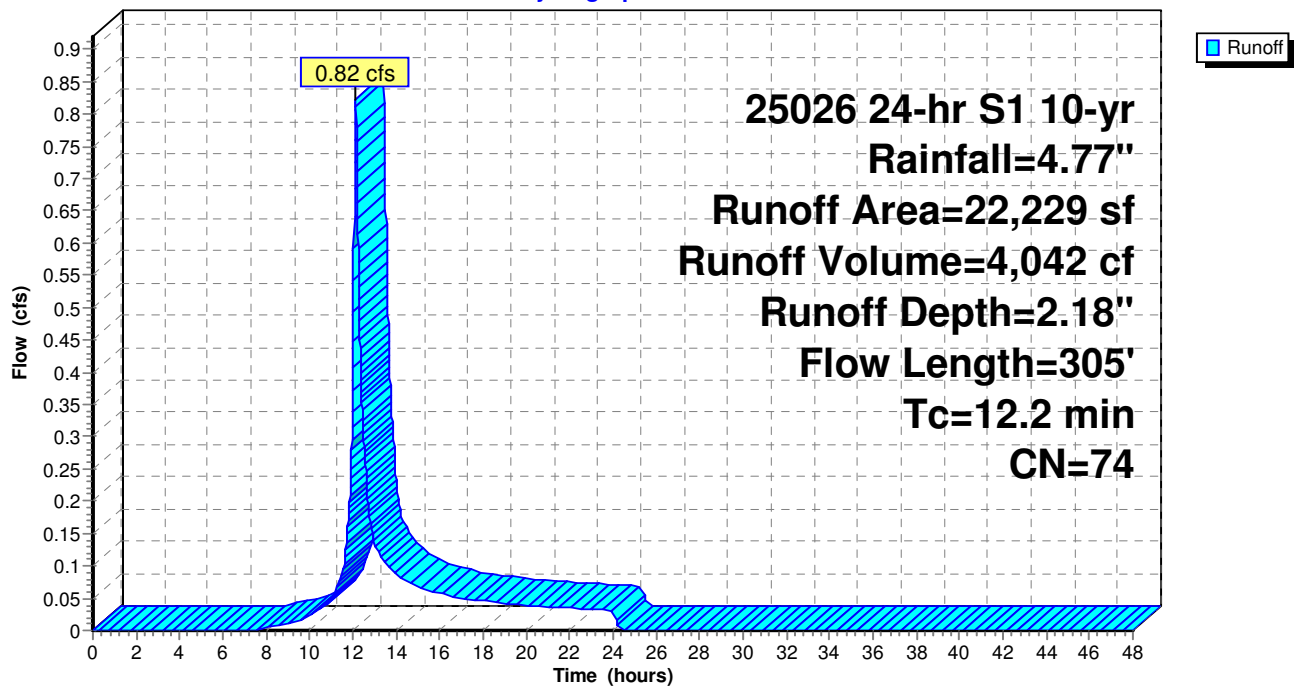
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 25026 24-hr S1 10-yr Rainfall=4.77"

Area (sf)	CN	Description
22,229	74	>75% Grass cover, Good, HSG C
22,229		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.6	100	0.0550	0.17		Sheet Flow, Grass: Dense n= 0.240 P2= 3.16"
0.5	87	0.1880	3.04		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
2.1	118	0.0050	0.94	3.14	Parabolic Channel, Varney Brook W=5.00' D=1.00' Area=3.3 sf Perim=5.5' n= 0.080 Earth, long dense weeds
12.2	305	Total			

Subcatchment A: Varney Brook

Hydrograph



Summary for Subcatchment B: B

Runoff = 0.31 cfs @ 12.04 hrs, Volume= 1,137 cf, Depth= 2.60"

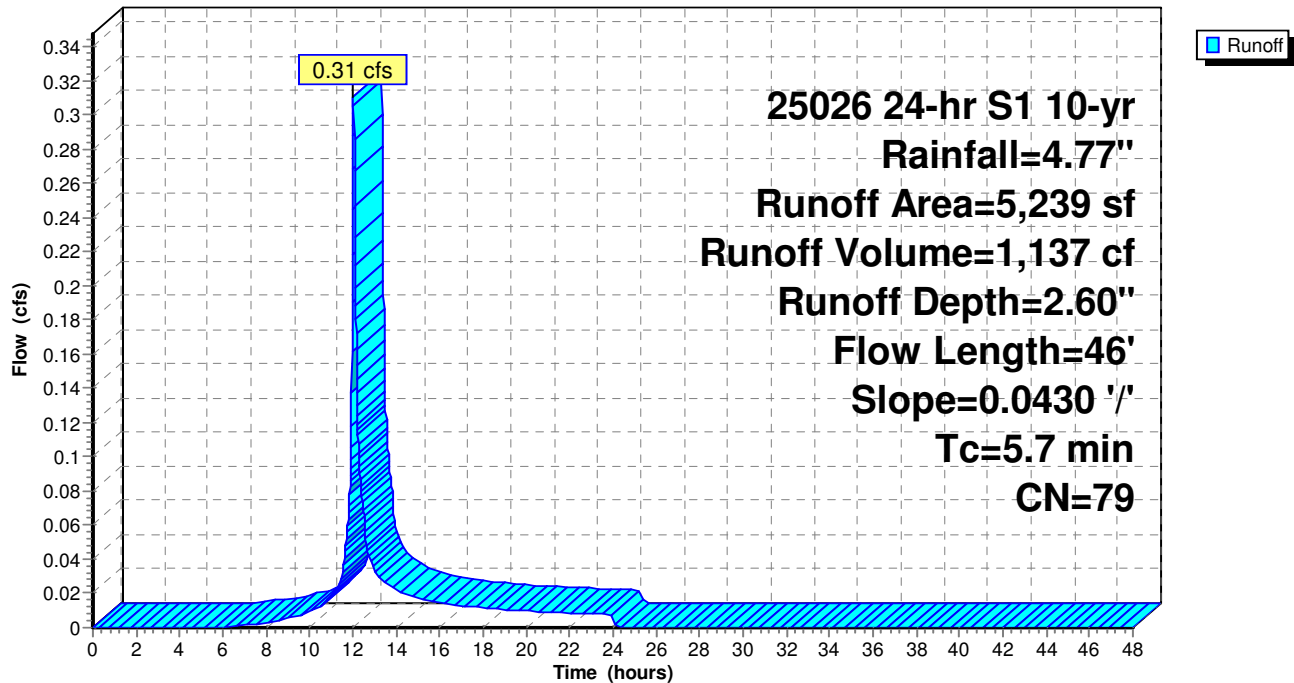
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
25026 24-hr S1 10-yr Rainfall=4.77"

Area (sf)	CN	Description
4,216	74	>75% Grass cover, Good, HSG C
1,023	98	Paved parking, HSG C
5,239	79	Weighted Average
4,216		80.47% Pervious Area
1,023		19.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	46	0.0430	0.13		Sheet Flow, Grass: Dense n= 0.240 P2= 3.16"

Subcatchment B: B

Hydrograph



Summary for Subcatchment C: C

Runoff = 0.13 cfs @ 12.08 hrs, Volume= 570 cf, Depth= 2.18"

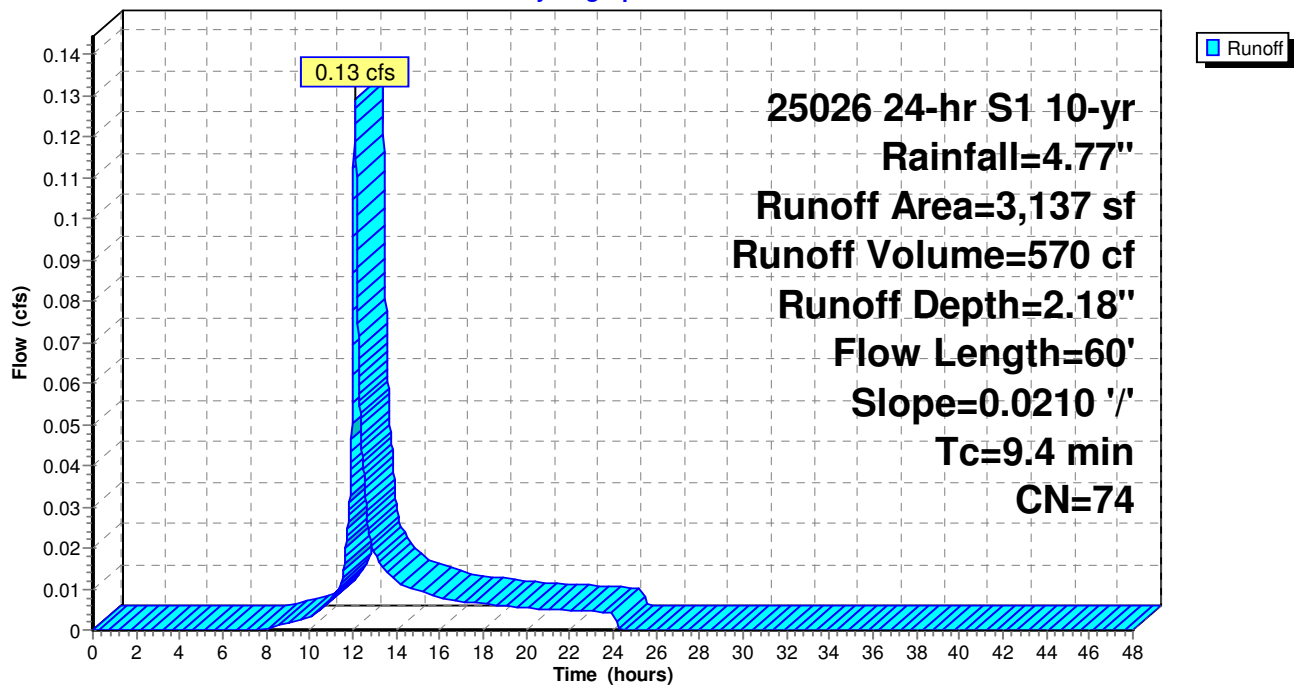
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
25026 24-hr S1 10-yr Rainfall=4.77"

Area (sf)	CN	Description
3,137	74	>75% Grass cover, Good, HSG C
3,137		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	60	0.0210	0.11		Sheet Flow, Grass: Dense n= 0.240 P2= 3.16"

Subcatchment C: C

Hydrograph



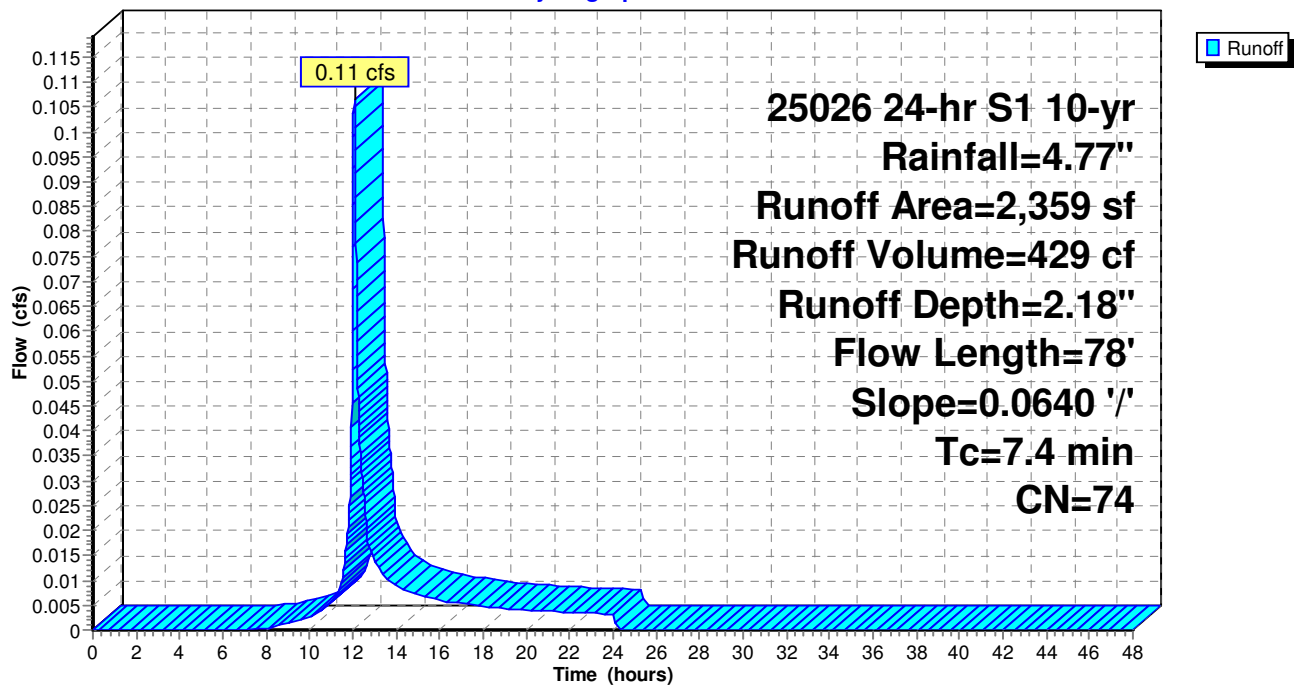
Summary for Subcatchment D: D

Runoff = 0.11 cfs @ 12.06 hrs, Volume= 429 cf, Depth= 2.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
25026 24-hr S1 10-yr Rainfall=4.77"

Area (sf)	CN	Description
2,359	74	>75% Grass cover, Good, HSG C
2,359		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	78	0.0640	0.18		Sheet Flow, Grass: Dense n= 0.240 P2= 3.16"

Subcatchment D: D**Hydrograph**

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NODE LISTING – 25-YR

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment A: Varney Brook

Runoff Area=22,229 sf 0.00% Impervious Runoff Depth=3.21"
Flow Length=305' Tc=12.2 min CN=74 Runoff=1.15 cfs 5,946 cf

Subcatchment B: B

Runoff Area=5,239 sf 19.53% Impervious Runoff Depth=3.71"
Flow Length=46' Slope=0.0430 '/' Tc=5.7 min CN=79 Runoff=0.41 cfs 1,618 cf

Subcatchment C: C

Runoff Area=3,137 sf 0.00% Impervious Runoff Depth=3.21"
Flow Length=60' Slope=0.0210 '/' Tc=9.4 min CN=74 Runoff=0.18 cfs 839 cf

Subcatchment D: D

Runoff Area=2,359 sf 0.00% Impervious Runoff Depth=3.21"
Flow Length=78' Slope=0.0640 '/' Tc=7.4 min CN=74 Runoff=0.15 cfs 631 cf

Total Runoff Area = 32,964 sf Runoff Volume = 9,035 cf Average Runoff Depth = 3.29"
96.90% Pervious = 31,941 sf 3.10% Impervious = 1,023 sf

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NODE LISTING – 50-YR

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment A: Varney Brook

Runoff Area=22,229 sf 0.00% Impervious Runoff Depth=4.23"
Flow Length=305' Tc=12.2 min CN=74 Runoff=1.46 cfs 7,828 cf

Subcatchment B: B

Runoff Area=5,239 sf 19.53% Impervious Runoff Depth=4.78"
Flow Length=46' Slope=0.0430 '/' Tc=5.7 min CN=79 Runoff=0.51 cfs 2,086 cf

Subcatchment C: C

Runoff Area=3,137 sf 0.00% Impervious Runoff Depth=4.23"
Flow Length=60' Slope=0.0210 '/' Tc=9.4 min CN=74 Runoff=0.23 cfs 1,105 cf

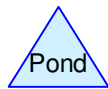
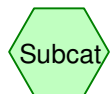
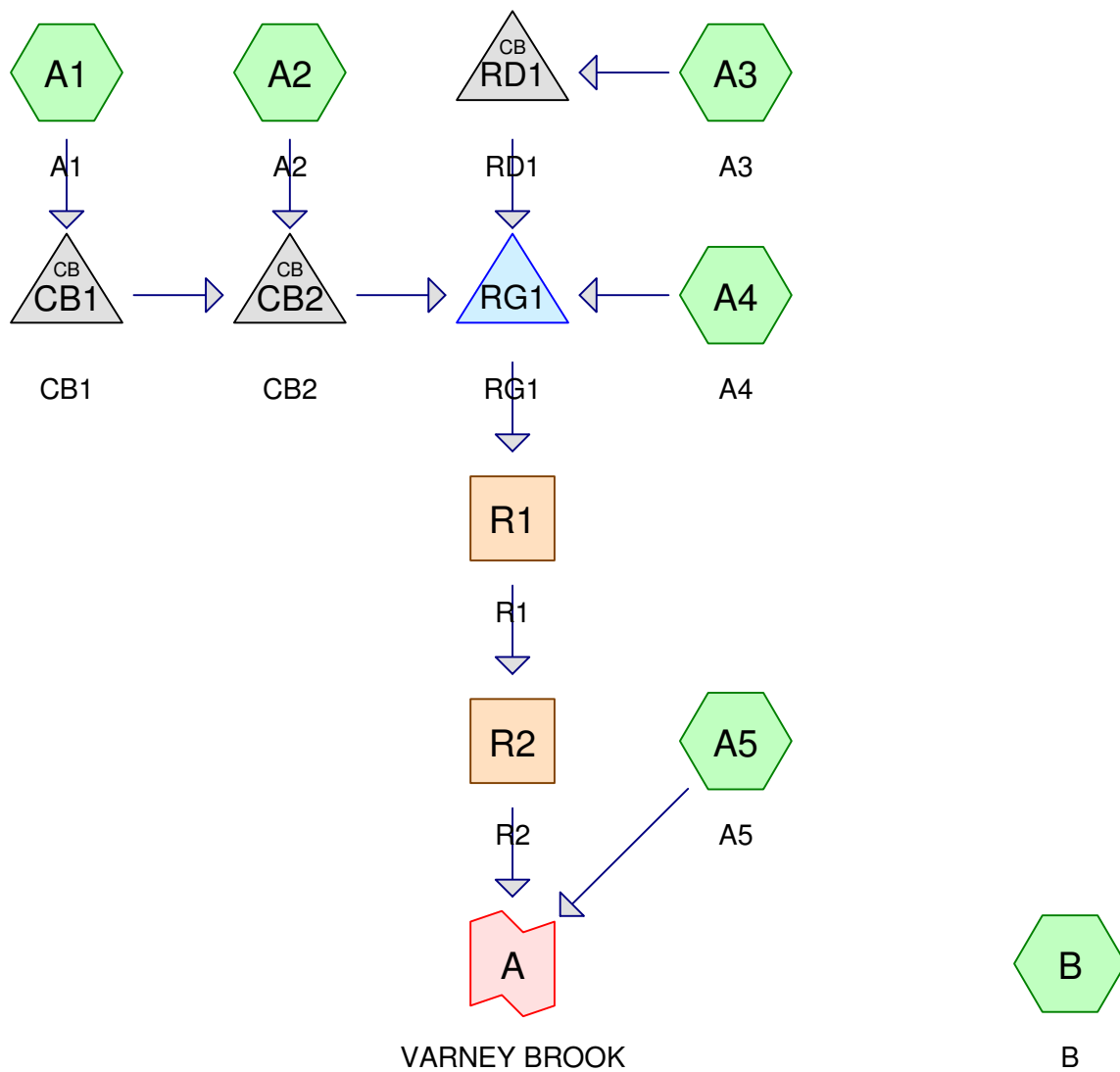
Subcatchment D: D

Runoff Area=2,359 sf 0.00% Impervious Runoff Depth=4.23"
Flow Length=78' Slope=0.0640 '/' Tc=7.4 min CN=74 Runoff=0.19 cfs 831 cf

Total Runoff Area = 32,964 sf Runoff Volume = 11,849 cf Average Runoff Depth = 4.31"
96.90% Pervious = 31,941 sf 3.10% Impervious = 1,023 sf

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DEVELOPED WATERSHEDS



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Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
21,623	74	>75% Grass cover, Good, HSG C (A1, A2, A4, A5, B)
8,293	98	Paved parking, HSG C (A1, A2, A4, A5, B)
3,048	98	Roofs, HSG C (A3)
32,964	82	TOTAL AREA

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Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
0	HSG B	
32,964	HSG C	A1, A2, A3, A4, A5, B
0	HSG D	
0	Other	
32,964		TOTAL AREA

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NODE LISTING – 2-YR

25026 - Post*25026 24-hr S1 2-yr Rainfall=3.16"*

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Page 1

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment A1: A1	Runoff Area=4,929 sf 85.13% Impervious Runoff Depth=2.51" Flow Length=79' Tc=2.4 min CN=94 Runoff=0.36 cfs 1,029 cf
Subcatchment A2: A2	Runoff Area=3,017 sf 82.07% Impervious Runoff Depth=2.51" Flow Length=73' Tc=2.3 min CN=94 Runoff=0.22 cfs 630 cf
Subcatchment A3: A3	Runoff Area=3,048 sf 100.00% Impervious Runoff Depth=2.93" Tc=2.0 min CN=98 Runoff=0.24 cfs 744 cf
Subcatchment A4: A4	Runoff Area=5,844 sf 5.49% Impervious Runoff Depth=1.07" Flow Length=80' Slope=0.0200 '/ Tc=12.0 min CN=75 Runoff=0.12 cfs 520 cf
Subcatchment A5: A5	Runoff Area=14,925 sf 1.82% Impervious Runoff Depth=1.01" Flow Length=347' Tc=14.1 min CN=74 Runoff=0.26 cfs 1,258 cf
Subcatchment B: B	Runoff Area=1,201 sf 85.60% Impervious Runoff Depth=2.61" Flow Length=58' Tc=1.7 min CN=95 Runoff=0.09 cfs 261 cf
Reach R1: R1	Avg. Flow Depth=0.06' Max Vel=2.75 fps Inflow=0.20 cfs 2,920 cf n=0.040 L=36.0' S=0.3917 '/ Capacity=18.31 cfs Outflow=0.20 cfs 2,920 cf
Reach R2: R2	Avg. Flow Depth=0.26' Max Vel=0.43 fps Inflow=0.20 cfs 2,920 cf n=0.080 L=26.0' S=0.0058 '/ Capacity=3.37 cfs Outflow=0.20 cfs 2,920 cf
Pond CB1: CB1	Peak Elev=66.32' Inflow=0.36 cfs 1,029 cf 12.0" Round Culvert n=0.012 L=100.0' S=0.0065 '/ Outflow=0.36 cfs 1,029 cf
Pond CB2: CB2	Peak Elev=65.63' Inflow=0.58 cfs 1,659 cf 12.0" Round Culvert n=0.012 L=79.0' S=0.0095 '/ Outflow=0.58 cfs 1,659 cf
Pond RD1: RD1	Peak Elev=66.11' Inflow=0.24 cfs 744 cf 6.0" Round Culvert n=0.012 L=140.0' S=0.0089 '/ Outflow=0.24 cfs 744 cf
Pond RG1: RG1	Peak Elev=63.72' Storage=597 cf Inflow=0.87 cfs 2,922 cf Outflow=0.20 cfs 2,920 cf
Link A: VARNEY BROOK	Inflow=0.45 cfs 4,178 cf Primary=0.45 cfs 4,178 cf

Total Runoff Area = 32,964 sf Runoff Volume = 4,441 cf Average Runoff Depth = 1.62"
65.60% Pervious = 21,623 sf 34.40% Impervious = 11,341 sf

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NODE LISTING – 10-YR

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25026 24-hr S1 10-yr Rainfall=4.77"

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Page 1

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment A1: A1	Runoff Area=4,929 sf 85.13% Impervious Runoff Depth=4.08" Flow Length=79' Tc=2.4 min CN=94 Runoff=0.48 cfs 1,676 cf
Subcatchment A2: A2	Runoff Area=3,017 sf 82.07% Impervious Runoff Depth=4.08" Flow Length=73' Tc=2.3 min CN=94 Runoff=0.30 cfs 1,026 cf
Subcatchment A3: A3	Runoff Area=3,048 sf 100.00% Impervious Runoff Depth=4.53" Tc=2.0 min CN=98 Runoff=0.31 cfs 1,152 cf
Subcatchment A4: A4	Runoff Area=5,844 sf 5.49% Impervious Runoff Depth=2.26" Flow Length=80' Slope=0.0200 '/' Tc=12.0 min CN=75 Runoff=0.23 cfs 1,103 cf
Subcatchment A5: A5	Runoff Area=14,925 sf 1.82% Impervious Runoff Depth=2.18" Flow Length=347' Tc=14.1 min CN=74 Runoff=0.52 cfs 2,714 cf
Subcatchment B: B	Runoff Area=1,201 sf 85.60% Impervious Runoff Depth=4.19" Flow Length=58' Tc=1.7 min CN=95 Runoff=0.12 cfs 420 cf
Reach R1: R1	Avg. Flow Depth=0.07' Max Vel=2.93 fps Inflow=0.24 cfs 4,954 cf n=0.040 L=36.0' S=0.3917 '/' Capacity=18.31 cfs Outflow=0.24 cfs 4,954 cf
Reach R2: R2	Avg. Flow Depth=0.29' Max Vel=0.46 fps Inflow=0.24 cfs 4,954 cf n=0.080 L=26.0' S=0.0058 '/' Capacity=3.37 cfs Outflow=0.24 cfs 4,954 cf
Pond CB1: CB1	Peak Elev=66.38' Inflow=0.48 cfs 1,676 cf 12.0" Round Culvert n=0.012 L=100.0' S=0.0065 '/' Outflow=0.48 cfs 1,676 cf
Pond CB2: CB2	Peak Elev=65.70' Inflow=0.78 cfs 2,702 cf 12.0" Round Culvert n=0.012 L=79.0' S=0.0095 '/' Outflow=0.78 cfs 2,702 cf
Pond RD1: RD1	Peak Elev=66.18' Inflow=0.31 cfs 1,152 cf 6.0" Round Culvert n=0.012 L=140.0' S=0.0089 '/' Outflow=0.31 cfs 1,152 cf
Pond RG1: RG1	Peak Elev=64.17' Storage=1,051 cf Inflow=1.22 cfs 4,957 cf Outflow=0.24 cfs 4,954 cf
Link A: VARNEY BROOK	Inflow=0.74 cfs 7,669 cf Primary=0.74 cfs 7,669 cf

Total Runoff Area = 32,964 sf Runoff Volume = 8,090 cf Average Runoff Depth = 2.95"
65.60% Pervious = 21,623 sf 34.40% Impervious = 11,341 sf

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10-YR STORM SUMMARY

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25026 24-hr S1 10-yr Rainfall=4.77"

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Summary for Subcatchment A1: A1

Runoff = 0.48 cfs @ 12.00 hrs, Volume= 1,676 cf, Depth= 4.08"

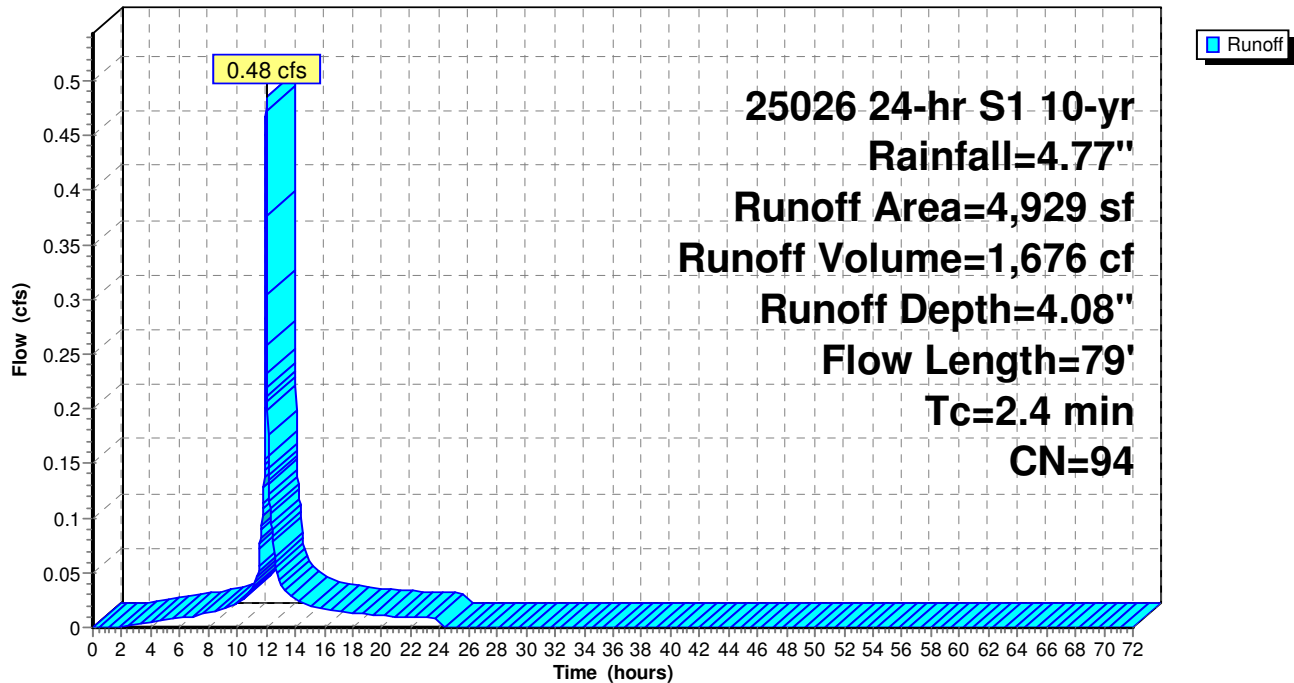
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
25026 24-hr S1 10-yr Rainfall=4.77"

Area (sf)	CN	Description
733	74	>75% Grass cover, Good, HSG C
4,196	98	Paved parking, HSG C
4,929	94	Weighted Average
733		14.87% Pervious Area
4,196		85.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	11	0.0350	0.09		Sheet Flow, Grass: Dense n= 0.240 P2= 3.16"
0.4	68	0.0210	2.94		Shallow Concentrated Flow, Paved Kv= 20.3 fps
2.4	79	Total			

Subcatchment A1: A1

Hydrograph



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25026 24-hr S1 10-yr Rainfall=4.77"

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Summary for Subcatchment A2: A2

Runoff = 0.30 cfs @ 12.00 hrs, Volume= 1,026 cf, Depth= 4.08"

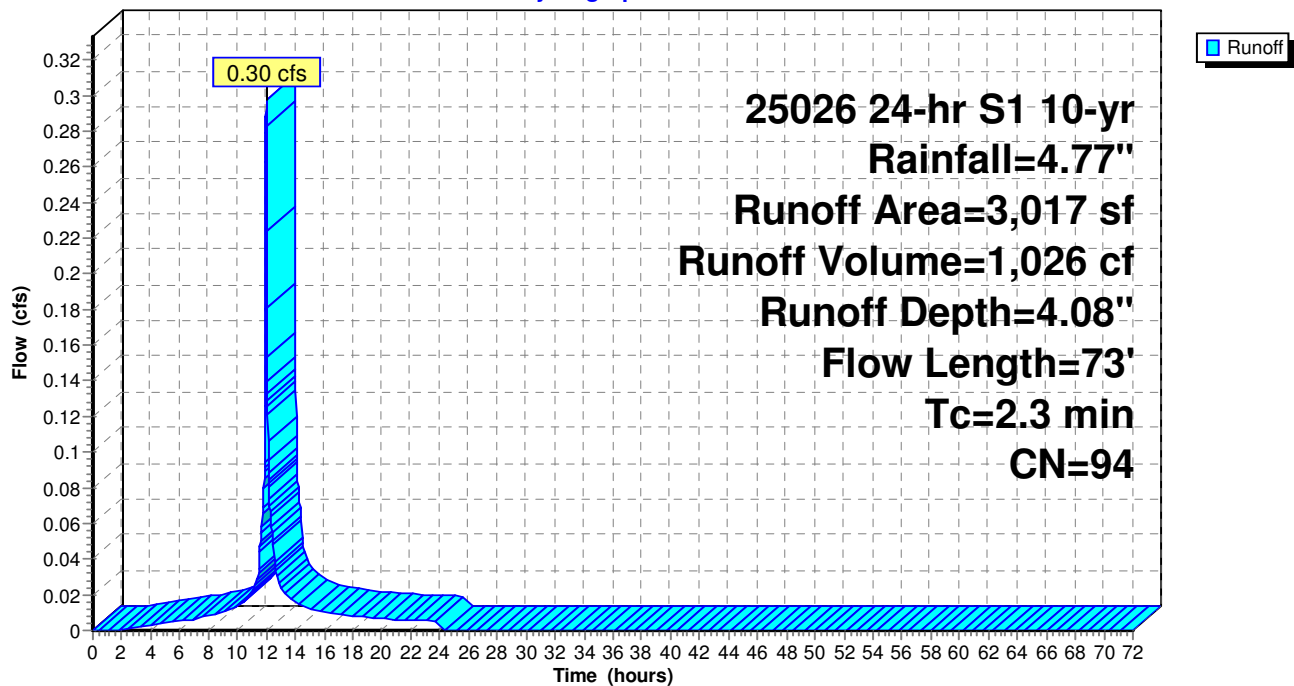
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
25026 24-hr S1 10-yr Rainfall=4.77"

Area (sf)	CN	Description
541	74	>75% Grass cover, Good, HSG C
2,476	98	Paved parking, HSG C
3,017	94	Weighted Average
541		17.93% Pervious Area
2,476		82.07% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	11	0.0350	0.09		Sheet Flow,
					Grass: Dense n= 0.240 P2= 3.16"
0.3	62	0.0410	4.11		Shallow Concentrated Flow,
					Paved Kv= 20.3 fps
2.3	73	Total			

Subcatchment A2: A2

Hydrograph



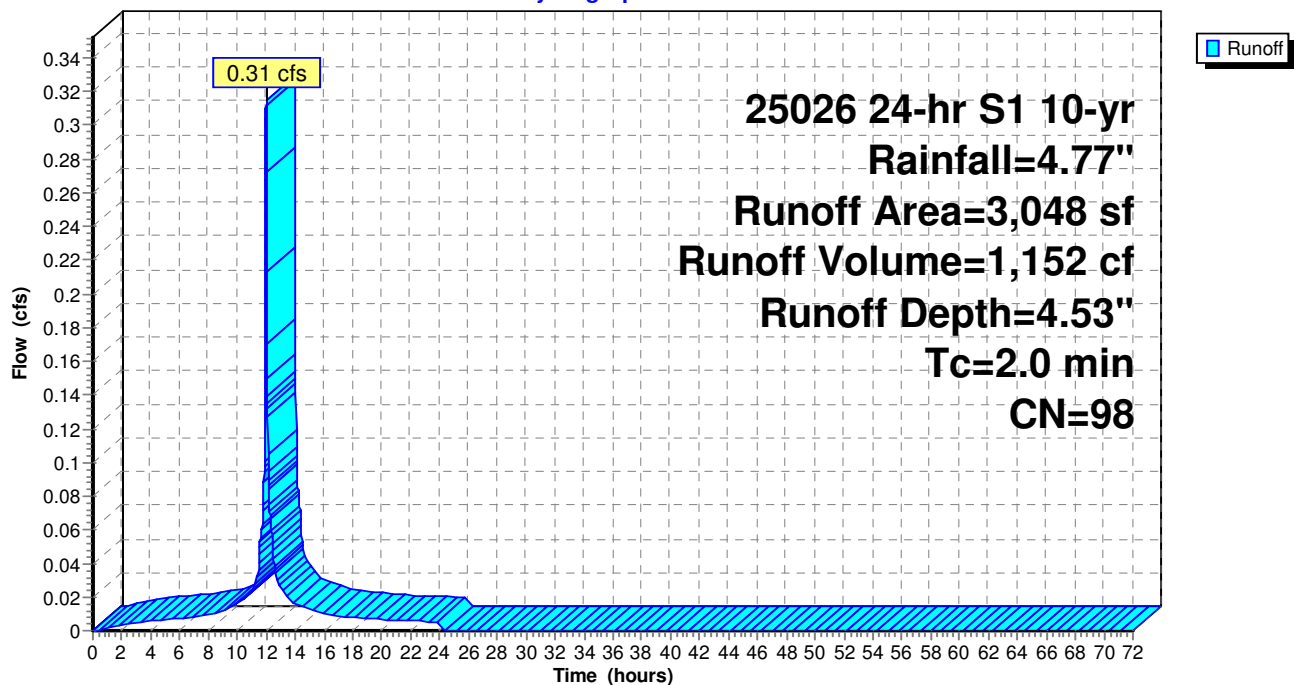
Summary for Subcatchment A3: A3

Runoff = 0.31 cfs @ 12.00 hrs, Volume= 1,152 cf, Depth= 4.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 25026 24-hr S1 10-yr Rainfall=4.77"

Area (sf)	CN	Description
3,048	98	Roofs, HSG C
3,048		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0					Direct Entry, Roof Runoff

Subcatchment A3: A3**Hydrograph**

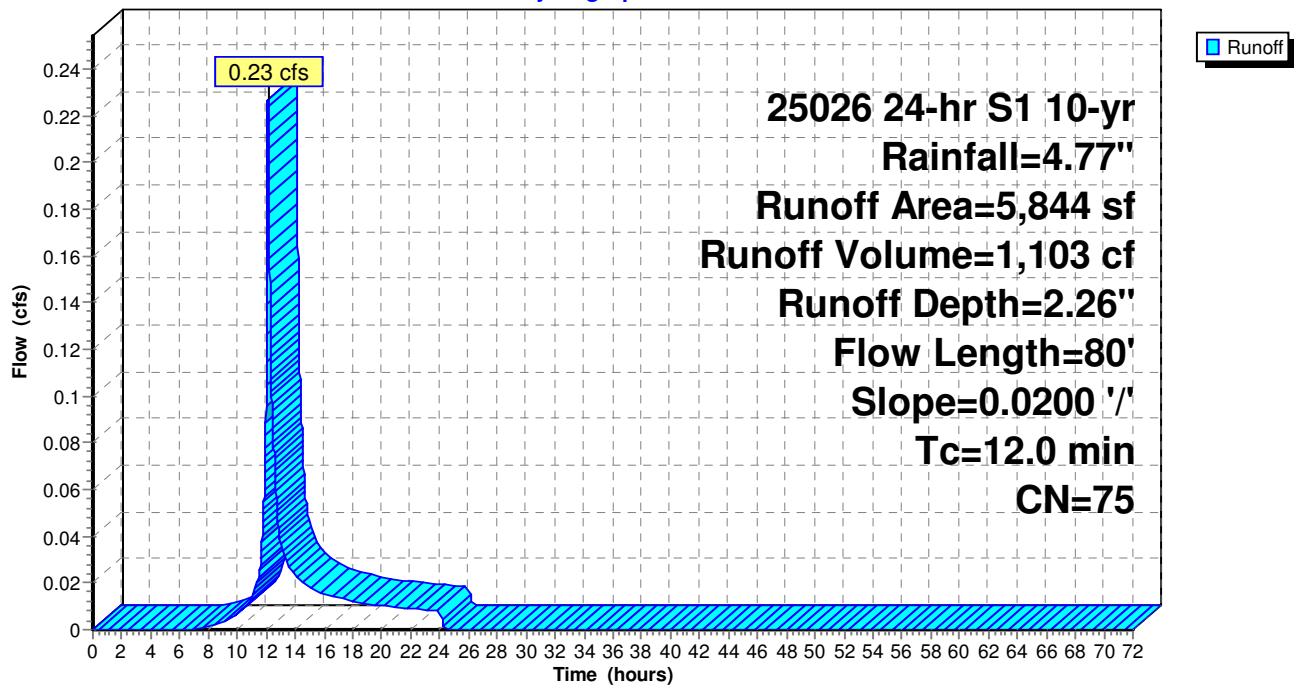
Summary for Subcatchment A4: A4

Runoff = 0.23 cfs @ 12.12 hrs, Volume= 1,103 cf, Depth= 2.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
25026 24-hr S1 10-yr Rainfall=4.77"

Area (sf)	CN	Description
5,523	74	>75% Grass cover, Good, HSG C
321	98	Paved parking, HSG C
5,844	75	Weighted Average
5,523		94.51% Pervious Area
321		5.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.0	80	0.0200	0.11		Sheet Flow, Grass: Dense n= 0.240 P2= 3.16"

Subcatchment A4: A4**Hydrograph**

Summary for Subcatchment A5: A5

Runoff = 0.52 cfs @ 12.14 hrs, Volume= 2,714 cf, Depth= 2.18"

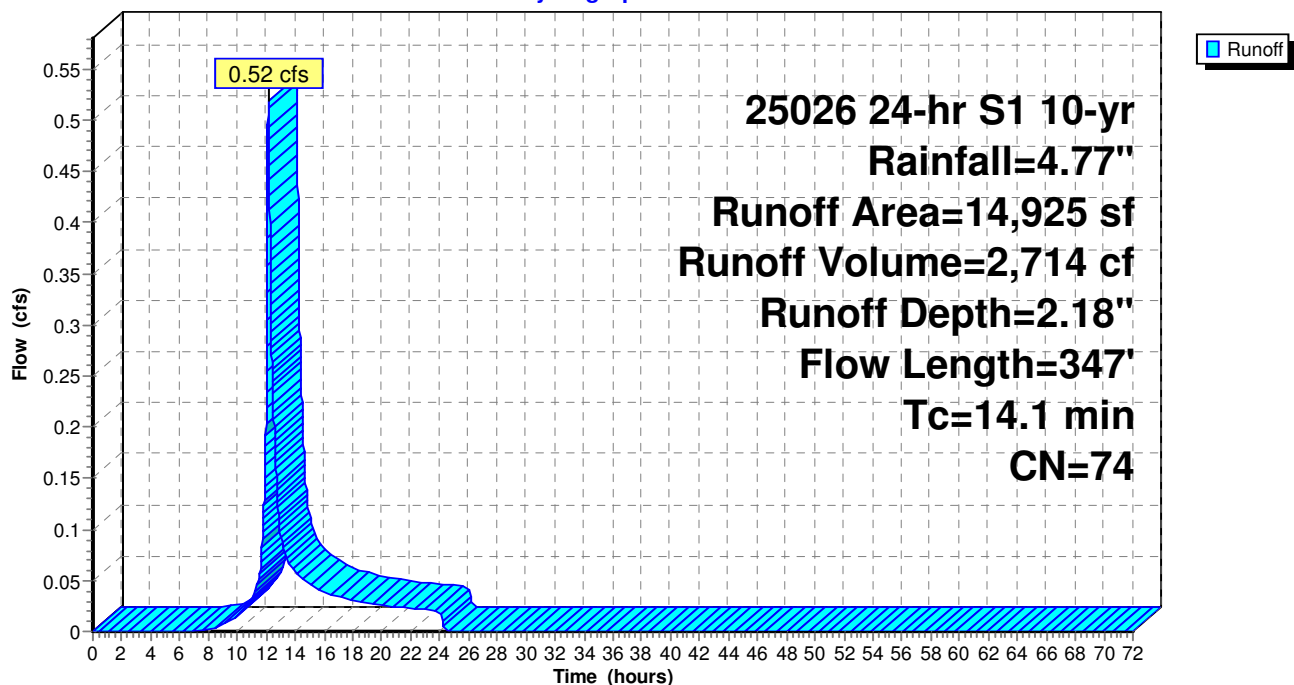
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
25026 24-hr S1 10-yr Rainfall=4.77"

Area (sf)	CN	Description
14,653	74	>75% Grass cover, Good, HSG C
272	98	Paved parking, HSG C
14,925	74	Weighted Average
14,653		98.18% Pervious Area
272		1.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.1	100	0.0380	0.15		Sheet Flow, Grass: Dense n= 0.240 P2= 3.16"
0.6	113	0.1950	3.09		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
2.4	134	0.0050	0.94	3.14	Parabolic Channel, Varney Brook W=5.00' D=1.00' Area=3.3 sf Perim=5.5' n= 0.080 Earth, long dense weeds
14.1	347	Total			

Subcatchment A5: A5

Hydrograph



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25026 24-hr S1 10-yr Rainfall=4.77"

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Summary for Subcatchment B: B

Runoff = 0.12 cfs @ 12.00 hrs, Volume= 420 cf, Depth= 4.19"

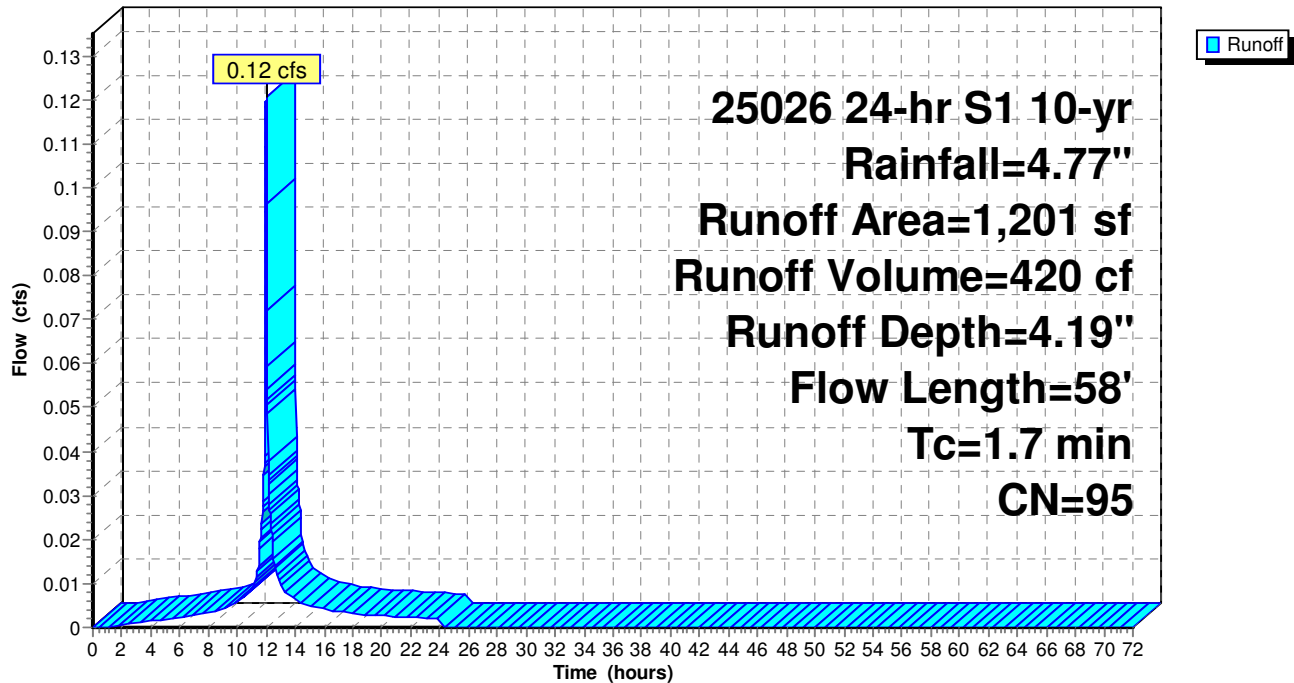
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
25026 24-hr S1 10-yr Rainfall=4.77"

Area (sf)	CN	Description
173	74	>75% Grass cover, Good, HSG C
1,028	98	Paved parking, HSG C
1,201	95	Weighted Average
173		14.40% Pervious Area
1,028		85.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	6	0.0200	0.07		Sheet Flow,
					Grass: Dense n= 0.240 P2= 3.16"
0.2	52	0.0400	4.06		Shallow Concentrated Flow,
					Paved Kv= 20.3 fps
1.7	58	Total			

Subcatchment B: B

Hydrograph



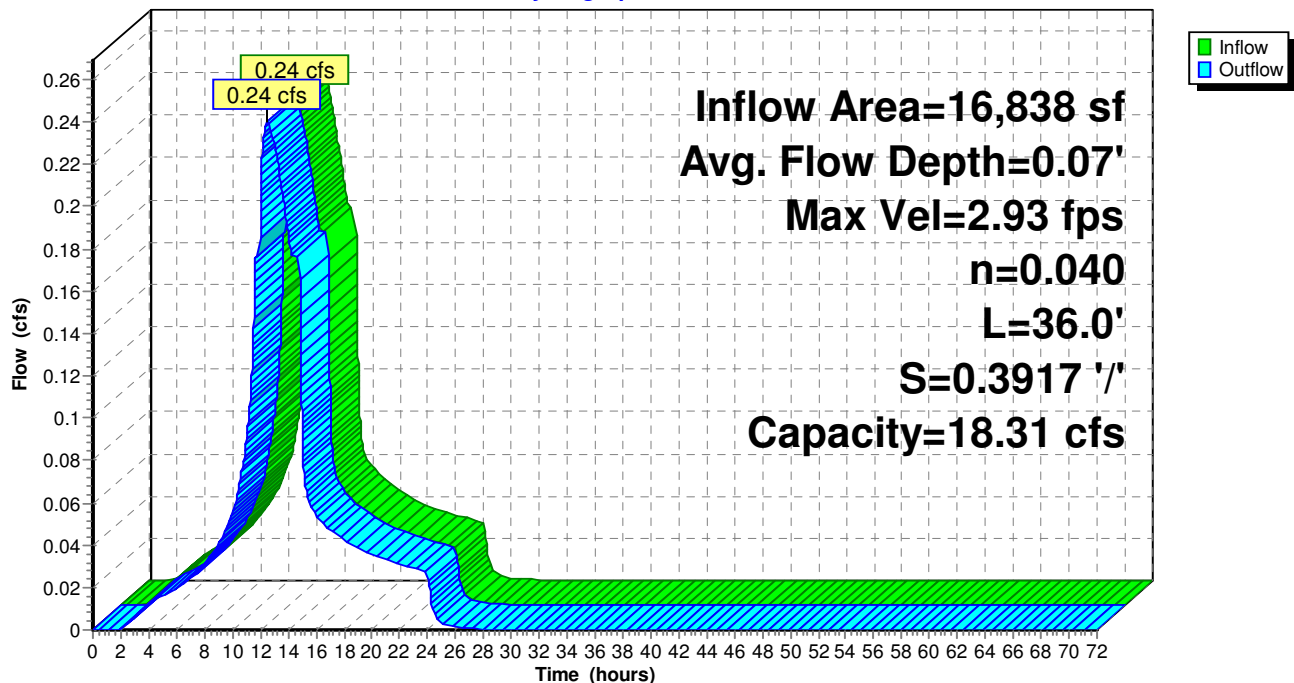
Summary for Reach R1: R1

Inflow Area = 16,838 sf, 59.63% Impervious, Inflow Depth = 3.53" for 10-yr event
 Inflow = 0.24 cfs @ 12.52 hrs, Volume= 4,954 cf
 Outflow = 0.24 cfs @ 12.53 hrs, Volume= 4,954 cf, Atten= 0%, Lag= 0.1 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 Max. Velocity= 2.93 fps, Min. Travel Time= 0.2 min
 Avg. Velocity = 1.28 fps, Avg. Travel Time= 0.5 min

Peak Storage= 3 cf @ 12.53 hrs
 Average Depth at Peak Storage= 0.07' , Surface Width= 1.83'
 Bank-Full Depth= 0.50' Flow Area= 1.7 sf, Capacity= 18.31 cfs

5.00' x 0.50' deep Parabolic Channel, n= 0.040 Earth, dense weeds
 Length= 36.0' Slope= 0.3917 '/'
 Inlet Invert= 60.00', Outlet Invert= 45.90'

**Reach R1: R1****Hydrograph**

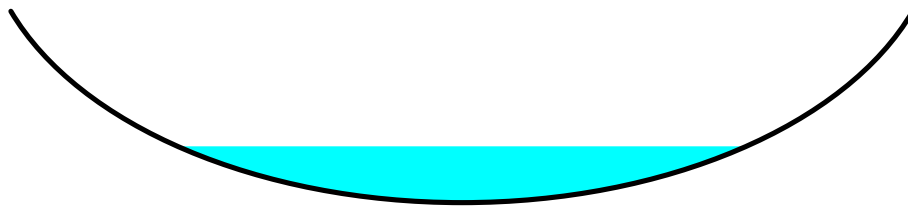
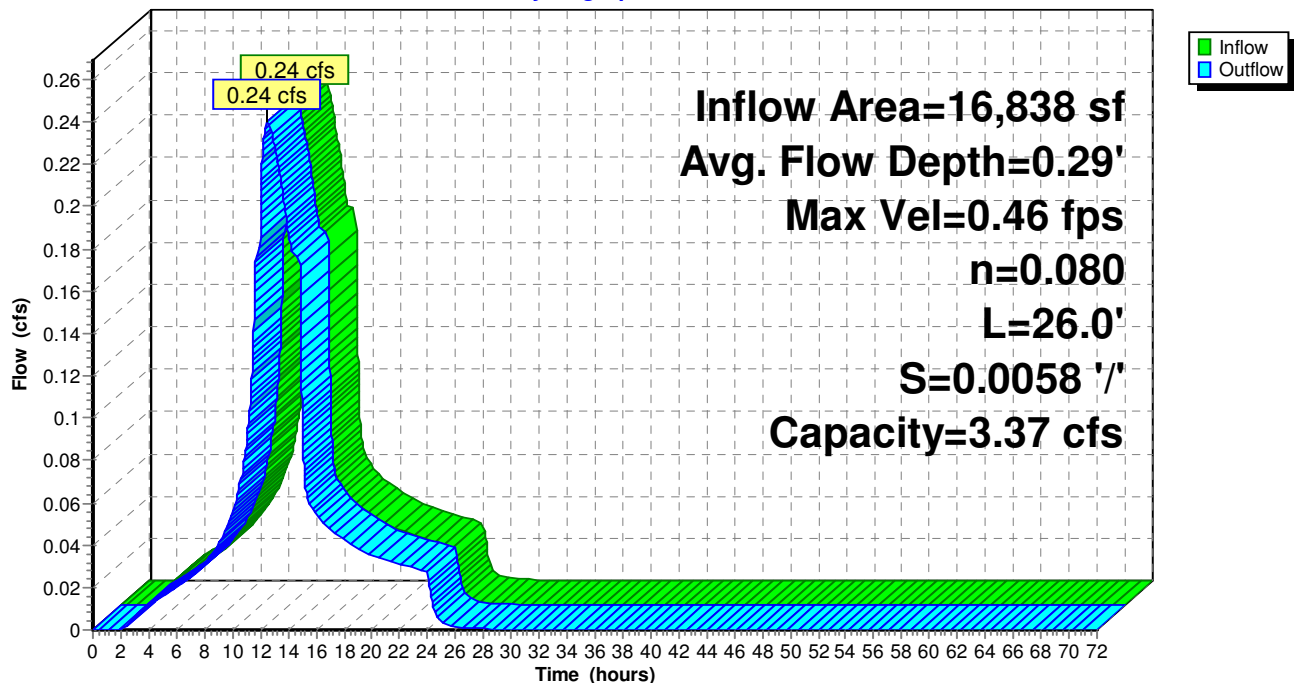
Summary for Reach R2: R2

Inflow Area = 16,838 sf, 59.63% Impervious, Inflow Depth = 3.53" for 10-yr event
 Inflow = 0.24 cfs @ 12.53 hrs, Volume= 4,954 cf
 Outflow = 0.24 cfs @ 12.54 hrs, Volume= 4,954 cf, Atten= 0%, Lag= 0.6 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 Max. Velocity= 0.46 fps, Min. Travel Time= 0.9 min
 Avg. Velocity = 0.12 fps, Avg. Travel Time= 3.5 min

Peak Storage= 14 cf @ 12.54 hrs
 Average Depth at Peak Storage= 0.29' , Surface Width= 2.69'
 Bank-Full Depth= 1.00' Flow Area= 3.3 sf, Capacity= 3.37 cfs

5.00' x 1.00' deep Parabolic Channel, n= 0.080 Earth, long dense weeds
 Length= 26.0' Slope= 0.0058 '/'
 Inlet Invert= 45.90', Outlet Invert= 45.75'

**Reach R2: R2****Hydrograph**

Summary for Pond CB1: CB1

Inflow Area = 4,929 sf, 85.13% Impervious, Inflow Depth = 4.08" for 10-yr event
 Inflow = 0.48 cfs @ 12.00 hrs, Volume= 1,676 cf
 Outflow = 0.48 cfs @ 12.00 hrs, Volume= 1,676 cf, Atten= 0%, Lag= 0.0 min
 Primary = 0.48 cfs @ 12.00 hrs, Volume= 1,676 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Peak Elev= 66.38' @ 12.00 hrs

Flood Elev= 68.50'

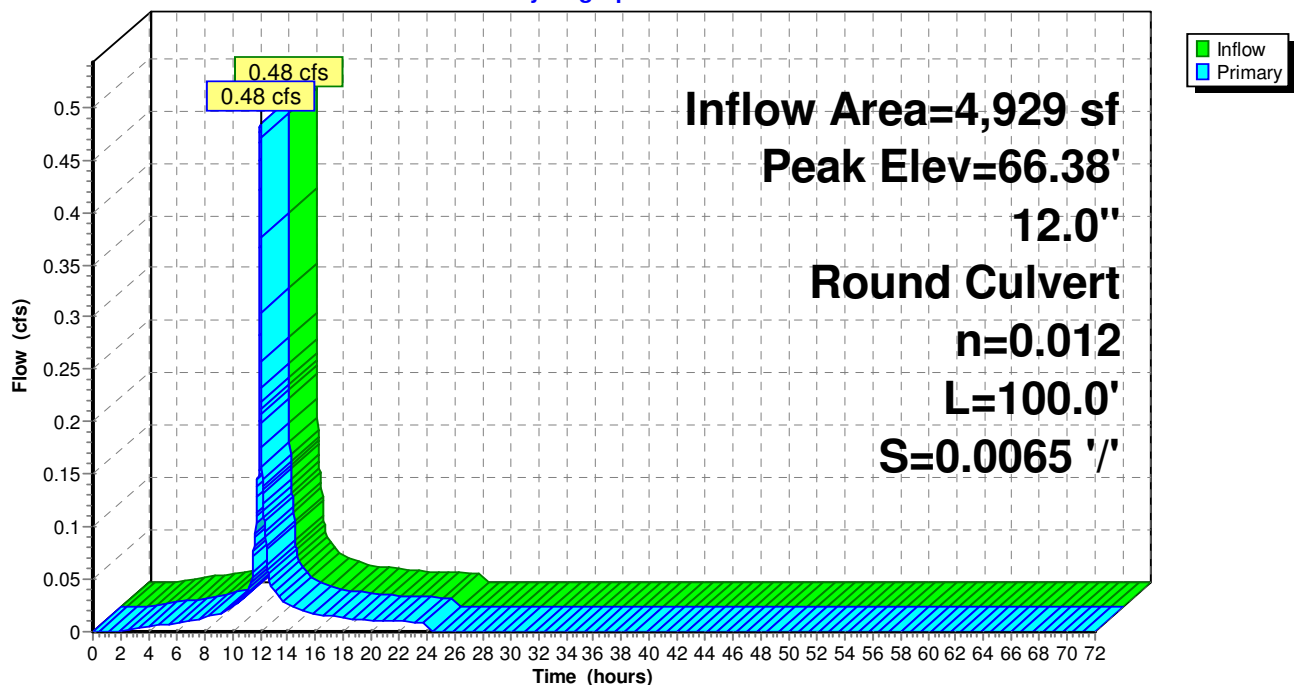
Device	Routing	Invert	Outlet Devices
#1	Primary	66.00'	12.0" Round Culvert L= 100.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 66.00' / 65.35' S= 0.0065 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.48 cfs @ 12.00 hrs HW=66.38' TW=65.70' (Dynamic Tailwater)

↑**1=Culvert** (Outlet Controls 0.48 cfs @ 2.65 fps)

Pond CB1: CB1

Hydrograph



Summary for Pond CB2: CB2

Inflow Area = 7,946 sf, 83.97% Impervious, Inflow Depth = 4.08" for 10-yr event
 Inflow = 0.78 cfs @ 12.00 hrs, Volume= 2,702 cf
 Outflow = 0.78 cfs @ 12.00 hrs, Volume= 2,702 cf, Atten= 0%, Lag= 0.0 min
 Primary = 0.78 cfs @ 12.00 hrs, Volume= 2,702 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Peak Elev= 65.70' @ 12.00 hrs

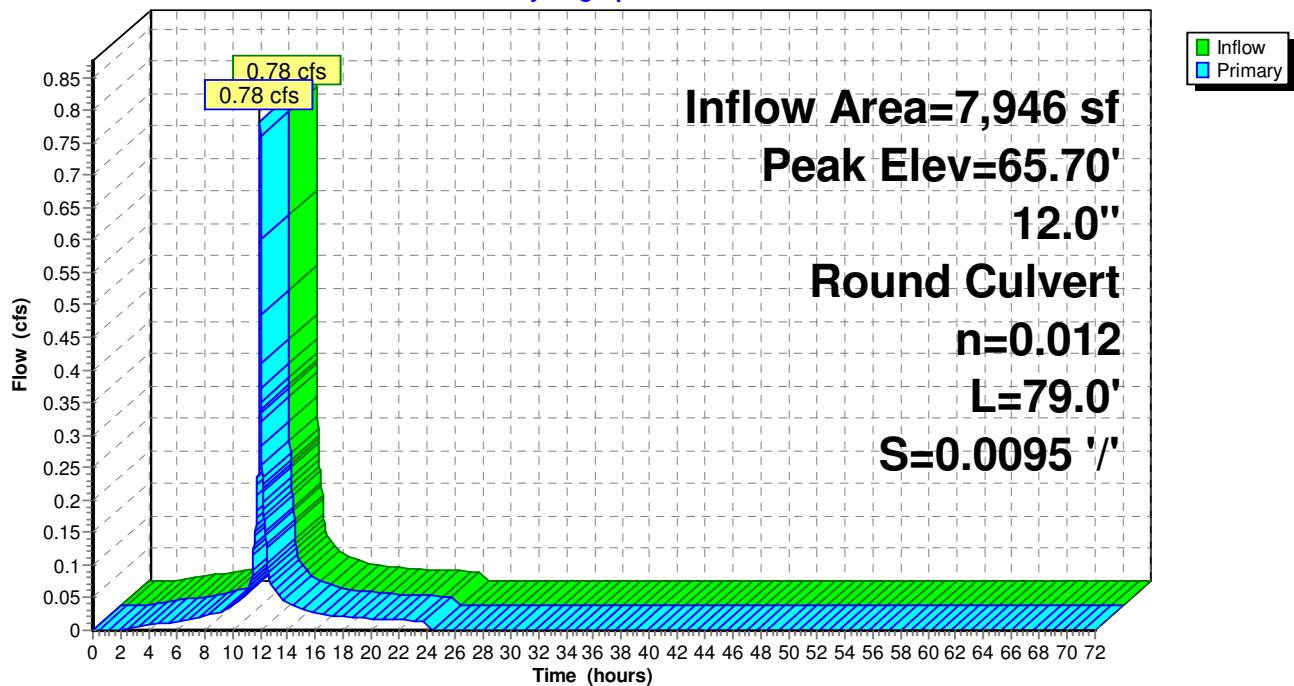
Flood Elev= 68.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	65.25'	12.0" Round Culvert L= 79.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 65.25' / 64.50' S= 0.0095 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.78 cfs @ 12.00 hrs HW=65.70' TW=63.71' (Dynamic Tailwater)
 ↑ **1=Culvert** (Inlet Controls 0.78 cfs @ 2.28 fps)

Pond CB2: CB2

Hydrograph



Summary for Pond RD1: RD1

Inflow Area = 3,048 sf, 100.00% Impervious, Inflow Depth = 4.53" for 10-yr event
 Inflow = 0.31 cfs @ 12.00 hrs, Volume= 1,152 cf
 Outflow = 0.31 cfs @ 12.00 hrs, Volume= 1,152 cf, Atten= 0%, Lag= 0.0 min
 Primary = 0.31 cfs @ 12.00 hrs, Volume= 1,152 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

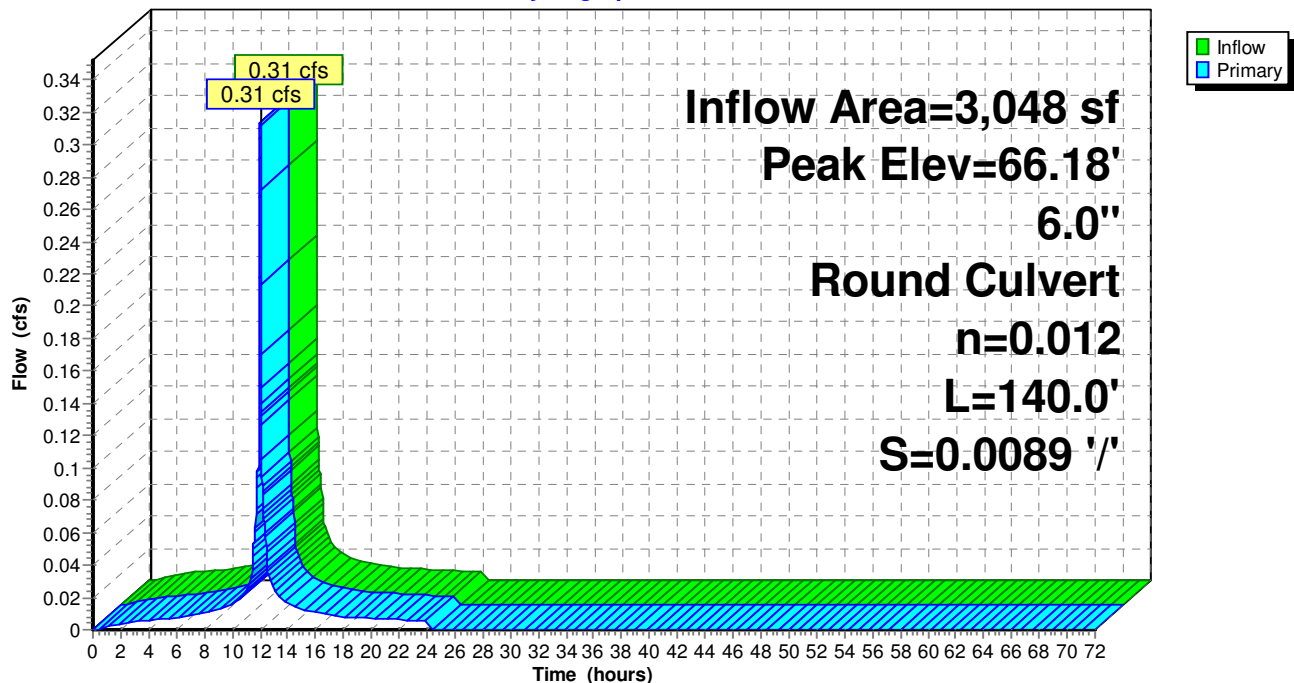
Peak Elev= 66.18' @ 12.00 hrs

Flood Elev= 69.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	65.75'	6.0" Round Culvert L= 140.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 65.75' / 64.50' S= 0.0089 '/' Cc= 0.900 n= 0.012, Flow Area= 0.20 sf

Primary OutFlow Max=0.31 cfs @ 12.00 hrs HW=66.18' TW=63.71' (Dynamic Tailwater)

↑ **1=Culvert** (Inlet Controls 0.31 cfs @ 1.76 fps)

Pond RD1: RD1**Hydrograph**

Summary for Pond RG1: RG1

Inflow Area = 16,838 sf, 59.63% Impervious, Inflow Depth = 3.53" for 10-yr event
 Inflow = 1.22 cfs @ 12.01 hrs, Volume= 4,957 cf
 Outflow = 0.24 cfs @ 12.52 hrs, Volume= 4,954 cf, Atten= 80%, Lag= 31.2 min
 Primary = 0.24 cfs @ 12.52 hrs, Volume= 4,954 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Starting Elev= 61.00' Surf.Area= 761 sf Storage= 67 cf

Peak Elev= 64.17' @ 12.52 hrs Surf.Area= 1,037 sf Storage= 1,051 cf (984 cf above start)

Flood Elev= 65.20' Surf.Area= 2,110 sf Storage= 2,691 cf (2,624 cf above start)

Plug-Flow detention time= 54.1 min calculated for 4,888 cf (99% of inflow)

Center-of-Mass det. time= 36.9 min (832.1 - 795.2)

Volume	Invert	Avail.Storage	Storage Description
#1	64.00'	307 cf	Sediment Forebay (Irregular) Listed below (Recalc) -Impervious
#2	60.75'	2,494 cf	Custom Stage Data (Irregular) Listed below (Recalc)
		2,801 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
64.00	151	105.0	0	0	151
65.00	496	124.3	307	307	521

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
60.75	761	128.9	0.0	0	0	761
61.75	761	128.9	35.0	266	266	890
62.00	761	128.9	20.0	38	304	922
63.50	761	128.9	10.0	114	419	1,115
64.00	965	140.1	100.0	430	849	1,364
64.50	1,183	149.5	100.0	536	1,385	1,593
65.00	1,414	159.0	100.0	648	2,034	1,839
65.25	2,306	187.1	100.0	460	2,494	2,614

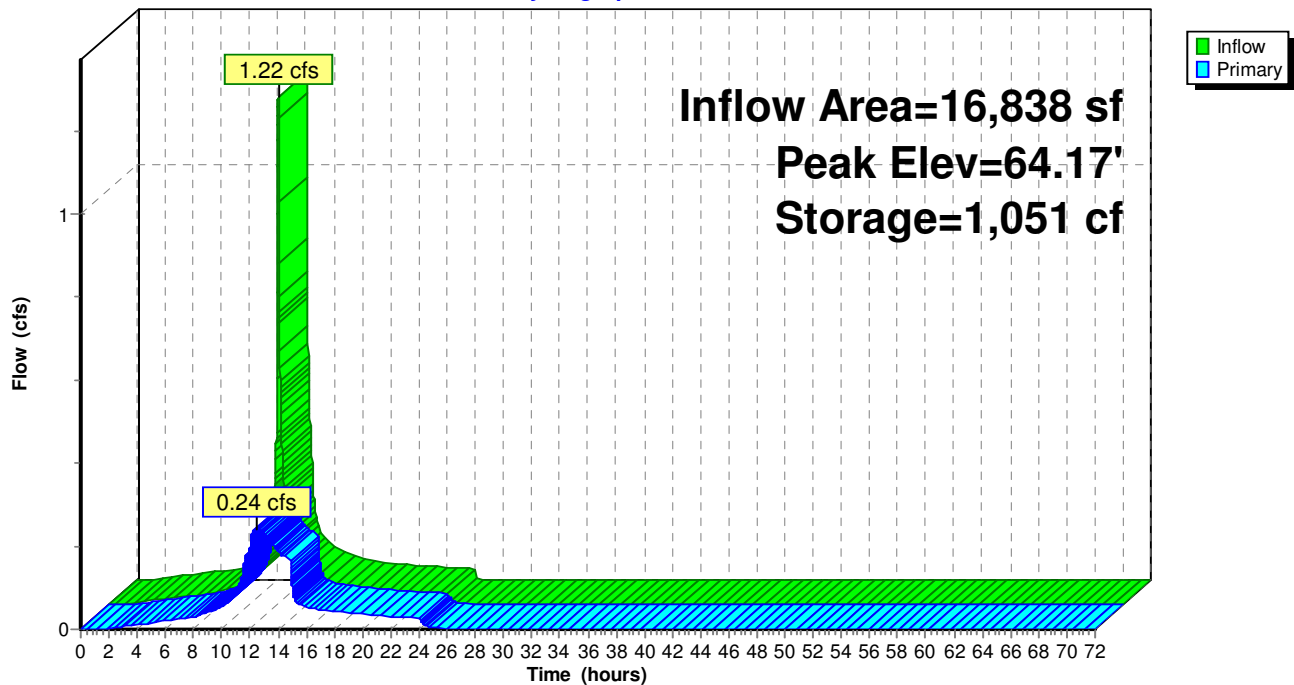
Device	Routing	Invert	Outlet Devices
#1	Primary	60.50'	12.0" Round Culvert L= 18.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 60.50' / 60.00' S= 0.0278 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	61.00'	6.0" Round Culvert L= 60.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 61.00' / 61.00' S= 0.0000 '/' Cc= 0.900 n= 0.012, Flow Area= 0.20 sf
#3	Device 2	60.75'	10.000 in/hr Exfiltration over Surface area Phase-In= 0.01'
#4	Device 1	64.50'	3.0" W x 3.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#5	Device 1	64.75'	24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.24 cfs @ 12.52 hrs HW=64.17' TW=60.07' (Dynamic Tailwater)

- 1=Culvert (Passes 0.24 cfs of 6.74 cfs potential flow)
- 2=Culvert (Passes 0.24 cfs of 1.06 cfs potential flow)
- 3=Exfiltration (Exfiltration Controls 0.24 cfs)
- 4=Orifice/Grate (Controls 0.00 cfs)
- 5=Orifice/Grate (Controls 0.00 cfs)

Pond RG1: RG1

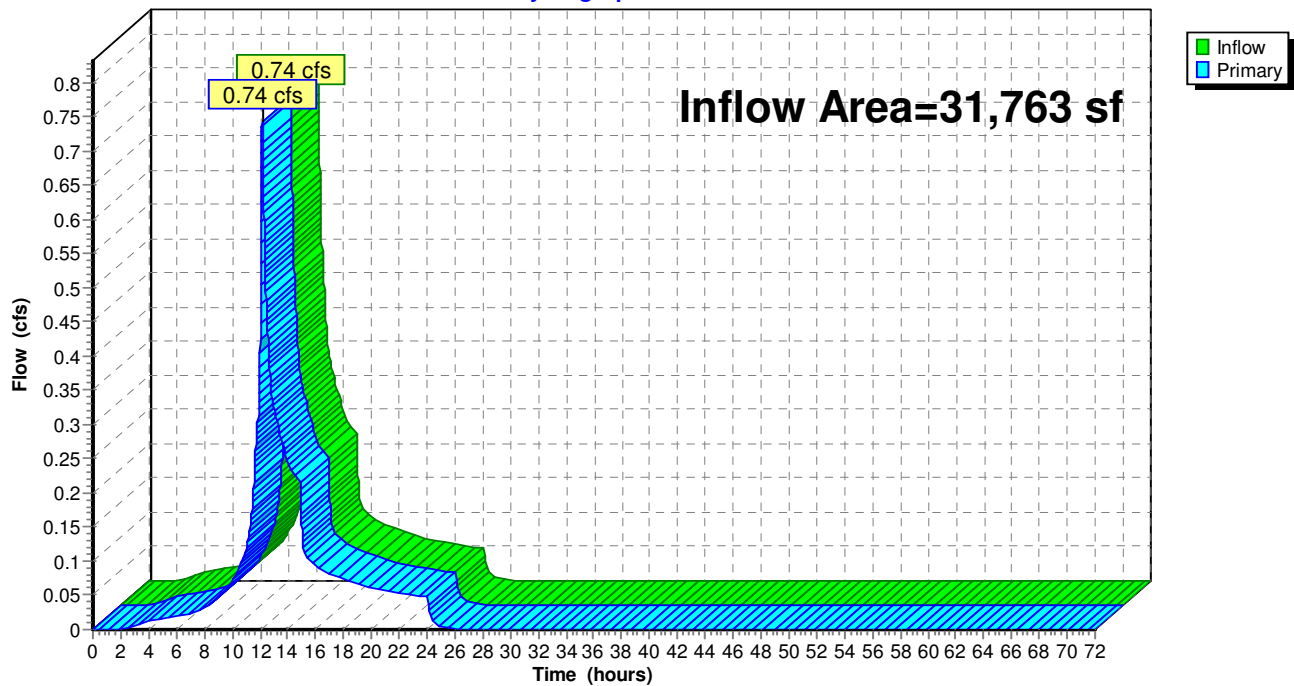
Hydrograph



Summary for Link A: VARNEY BROOK

Inflow Area = 31,763 sf, 32.47% Impervious, Inflow Depth = 2.90" for 10-yr event
Inflow = 0.74 cfs @ 12.15 hrs, Volume= 7,669 cf
Primary = 0.74 cfs @ 12.15 hrs, Volume= 7,669 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link A: VARNEY BROOK**Hydrograph**

A – 2

NODE LISTING – 25-YR

25026 - Post

25026 24-hr S1 25-yr Rainfall=6.03"

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Page 1

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment A1: A1	Runoff Area=4,929 sf 85.13% Impervious Runoff Depth=5.33" Flow Length=79' Tc=2.4 min CN=94 Runoff=0.58 cfs 2,188 cf
Subcatchment A2: A2	Runoff Area=3,017 sf 82.07% Impervious Runoff Depth=5.33" Flow Length=73' Tc=2.3 min CN=94 Runoff=0.35 cfs 1,339 cf
Subcatchment A3: A3	Runoff Area=3,048 sf 100.00% Impervious Runoff Depth=5.79" Tc=2.0 min CN=98 Runoff=0.37 cfs 1,471 cf
Subcatchment A4: A4	Runoff Area=5,844 sf 5.49% Impervious Runoff Depth=3.31" Flow Length=80' Slope=0.0200 '/' Tc=12.0 min CN=75 Runoff=0.31 cfs 1,611 cf
Subcatchment A5: A5	Runoff Area=14,925 sf 1.82% Impervious Runoff Depth=3.21" Flow Length=347' Tc=14.1 min CN=74 Runoff=0.73 cfs 3,993 cf
Subcatchment B: B	Runoff Area=1,201 sf 85.60% Impervious Runoff Depth=5.44" Flow Length=58' Tc=1.7 min CN=95 Runoff=0.14 cfs 545 cf
Reach R1: R1	Avg. Flow Depth=0.07' Max Vel=3.04 fps Inflow=0.27 cfs 6,607 cf n=0.040 L=36.0' S=0.3917 '/' Capacity=18.31 cfs Outflow=0.27 cfs 6,607 cf
Reach R2: R2	Avg. Flow Depth=0.31' Max Vel=0.48 fps Inflow=0.27 cfs 6,607 cf n=0.080 L=26.0' S=0.0058 '/' Capacity=3.37 cfs Outflow=0.27 cfs 6,607 cf
Pond CB1: CB1	Peak Elev=66.42' Inflow=0.58 cfs 2,188 cf 12.0" Round Culvert n=0.012 L=100.0' S=0.0065 '/' Outflow=0.58 cfs 2,188 cf
Pond CB2: CB2	Peak Elev=65.75' Inflow=0.93 cfs 3,527 cf 12.0" Round Culvert n=0.012 L=79.0' S=0.0095 '/' Outflow=0.93 cfs 3,527 cf
Pond RD1: RD1	Peak Elev=66.24' Inflow=0.37 cfs 1,471 cf 6.0" Round Culvert n=0.012 L=140.0' S=0.0089 '/' Outflow=0.37 cfs 1,471 cf
Pond RG1: RG1	Peak Elev=64.47' Storage=1,448 cf Inflow=1.48 cfs 6,609 cf Outflow=0.27 cfs 6,607 cf
Link A: VARNEY BROOK	Inflow=0.97 cfs 10,599 cf Primary=0.97 cfs 10,599 cf

Total Runoff Area = 32,964 sf Runoff Volume = 11,146 cf Average Runoff Depth = 4.06"
65.60% Pervious = 21,623 sf 34.40% Impervious = 11,341 sf

A – 2

NODE LISTING – 50-YR

25026 - Post

25026 24-hr S1 50-yr Rainfall=7.21"

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Page 1

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment A1: A1	Runoff Area=4,929 sf 85.13% Impervious Runoff Depth=6.50" Flow Length=79' Tc=2.4 min CN=94 Runoff=0.67 cfs 2,669 cf
Subcatchment A2: A2	Runoff Area=3,017 sf 82.07% Impervious Runoff Depth=6.50" Flow Length=73' Tc=2.3 min CN=94 Runoff=0.41 cfs 1,633 cf
Subcatchment A3: A3	Runoff Area=3,048 sf 100.00% Impervious Runoff Depth=6.97" Tc=2.0 min CN=98 Runoff=0.42 cfs 1,771 cf
Subcatchment A4: A4	Runoff Area=5,844 sf 5.49% Impervious Runoff Depth=4.33" Flow Length=80' Slope=0.0200 '/' Tc=12.0 min CN=75 Runoff=0.40 cfs 2,111 cf
Subcatchment A5: A5	Runoff Area=14,925 sf 1.82% Impervious Runoff Depth=4.23" Flow Length=347' Tc=14.1 min CN=74 Runoff=0.92 cfs 5,256 cf
Subcatchment B: B	Runoff Area=1,201 sf 85.60% Impervious Runoff Depth=6.61" Flow Length=58' Tc=1.7 min CN=95 Runoff=0.17 cfs 662 cf
Reach R1: R1	Avg. Flow Depth=0.08' Max Vel=3.31 fps Inflow=0.36 cfs 8,182 cf n=0.040 L=36.0' S=0.3917 '/' Capacity=18.31 cfs Outflow=0.36 cfs 8,182 cf
Reach R2: R2	Avg. Flow Depth=0.35' Max Vel=0.52 fps Inflow=0.36 cfs 8,182 cf n=0.080 L=26.0' S=0.0058 '/' Capacity=3.37 cfs Outflow=0.36 cfs 8,182 cf
Pond CB1: CB1	Peak Elev=66.46' Inflow=0.67 cfs 2,669 cf 12.0" Round Culvert n=0.012 L=100.0' S=0.0065 '/' Outflow=0.67 cfs 2,669 cf
Pond CB2: CB2	Peak Elev=65.79' Inflow=1.08 cfs 4,302 cf 12.0" Round Culvert n=0.012 L=79.0' S=0.0095 '/' Outflow=1.08 cfs 4,302 cf
Pond RD1: RD1	Peak Elev=66.32' Inflow=0.42 cfs 1,771 cf 6.0" Round Culvert n=0.012 L=140.0' S=0.0089 '/' Outflow=0.42 cfs 1,771 cf
Pond RG1: RG1	Peak Elev=64.69' Storage=1,790 cf Inflow=1.74 cfs 8,184 cf Outflow=0.36 cfs 8,182 cf
Link A: VARNEY BROOK	Inflow=1.19 cfs 13,437 cf Primary=1.19 cfs 13,437 cf

Total Runoff Area = 32,964 sf Runoff Volume = 14,101 cf Average Runoff Depth = 5.13"
65.60% Pervious = 21,623 sf 34.40% Impervious = 11,341 sf

APPENDIX B

DESIGN

B – 1

**STORMWATER BEST MANAGEMENT
PRACTICES**

FILTRATION PRACTICE DESIGN CRITERIA (Env-Wq 1508.08)

Type/Node Name: Rain Garden 1 (RG1)

Enter the type of filtration practice (e.g., bioretention system) and the node name in the drainage analysis, if applicable.

Yes	Check if you reviewed the restrictions on unlined systems outlined in Env-Wq 1508.08(a).	
0.39 ac	A = Area draining to the practice	
0.23 ac	A _I = Impervious area draining to the practice	
0.60 decimal	I = Percent impervious area draining to the practice, in decimal form	
0.59 unitless	R _v = Runoff coefficient = 0.05 + (0.9 x I)	
0.23 ac-in	WQV = 1" x R _v x A	
823 cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
206 cf	25% x WQV (check calc for sediment forebay volume)	
617 cf	75% x WQV (check calc for surface sand filter volume)	
Sediment Forebay	Method of Pretreatment? (not required for clean or roof runoff)	
307 cf	V _{SED} = Sediment forebay volume, if used for pretreatment	≥ 25%WQV
Calculate time to drain if system IS NOT underdrained:		
sf	A _{SA} = Surface area of the practice	
iph	K _{sat} _{DESIGN} = Design infiltration rate ¹	
	If K _{sat} (prior to factor of safety) is < 0.50 iph, has an underdrain been provided?	
Yes/No	(Use the calculations below)	
- hours	T _{DRAIN} = Drain time = V / (A _{SA} * I _{DESIGN})	≤ 72-hrs
Calculate time to drain if system IS underdrained:		
64.33 ft	E _{WQV} = Elevation of WQV (attach stage-storage table)	
0.26 cfs	Q _{WQV} = Discharge at the E _{WQV} (attach stage-discharge table)	
1.76 hours	T _{DRAIN} = Drain time = 2WQV/Q _{WQV}	≤ 72-hrs
62.00 feet	E _{FC} = Elevation of the bottom of the filter course material ²	
61.00 feet	E _{UD} = Invert elevation of the underdrain (UD), if applicable	
NA feet	E _{SHWT} = Elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
NA feet	E _{ROCK} = Elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
1.00 feet	D _{FC to UD} = Depth to UD from the bottom of the filter course	≥ 1'
#VALUE! feet	D _{FC to ROCK} = Depth to bedrock from the bottom of the filter course	≥ 1'
#VALUE! feet	D _{FC to SHWT} = Depth to SHWT from the bottom of the filter course	≥ 1'
64.69 ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
65.20 ft	Elevation of the top of the practice	
YES	50 peak elevation ≤ Elevation of the top of the practice	← yes
If a surface sand filter or underground sand filter is proposed:		
YES ac	Drainage Area check.	< 10 ac
cf	V = Volume of storage ³ (attach a stage-storage table)	≥ 75%WQV
inches	D _{FC} = Filter course thickness	18", or 24" if within GPA
Sheet	Note what sheet in the plan set contains the filter course specification.	
Yes/No	Access grate provided?	← yes

Summary for Pond RG1: RG1

Inflow Area = 16,838 sf, 59.63% Impervious, Inflow Depth = 5.83" for 50-yr event
 Inflow = 1.74 cfs @ 12.01 hrs, Volume= 8,184 cf
 Outflow = 0.36 cfs @ 12.53 hrs, Volume= 8,182 cf, Atten= 79%, Lag= 31.6 min
 Primary = 0.36 cfs @ 12.53 hrs, Volume= 8,182 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 Starting Elev= 61.00' Surf.Area= 761 sf Storage= 67 cf
 Peak Elev= 64.69' @ 12.53 hrs Surf.Area= 1,268 sf Storage= 1,790 cf (1,724 cf above start)
 Flood Elev= 65.20' Surf.Area= 2,110 sf Storage= 2,691 cf (2,624 cf above start)

Plug-Flow detention time= 55.9 min calculated for 8,115 cf (99% of inflow)
 Center-of-Mass det. time= 44.8 min (829.2 - 784.4)

Volume	Invert	Avail.Storage	Storage Description
#1	64.00'	307 cf	Sediment Forebay (Irregular) Listed below (Recalc) -Impervious
#2	60.75'	2,494 cf	Custom Stage Data (Irregular) Listed below (Recalc)
		2,801 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
64.00	151	105.0	0	0	151
65.00	496	124.3	307	307	521

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
60.75	761	128.9	0.0	0	0	761
61.75	761	128.9	35.0	266	266	890
62.00	761	128.9	20.0	38	304	922
63.50	761	128.9	10.0	114	419	1,115
64.00	965	140.1	100.0	430	849	1,364
64.50	1,183	149.5	100.0	536	1,385	1,593
65.00	1,414	159.0	100.0	648	2,034	1,839
65.25	2,306	187.1	100.0	460	2,494	2,614

Device	Routing	Invert	Outlet Devices
#1	Primary	60.50'	12.0" Round Culvert L= 18.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 60.50' / 60.00' S= 0.0278 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	61.00'	6.0" Round Culvert L= 60.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 61.00' / 61.00' S= 0.0000 '/' Cc= 0.900 n= 0.012, Flow Area= 0.20 sf
#3	Device 2	60.75'	10.000 in/hr Exfiltration over Surface area Phase-In= 0.01'
#4	Device 1	64.50'	3.0" W x 3.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#5	Device 1	64.75'	24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

25026 - Post

25026 24-hr S1 50-yr Rainfall=7.21"

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Page 2

Primary OutFlow Max=0.36 cfs @ 12.53 hrs HW=64.69' TW=60.08' (Dynamic Tailwater)

- ↑ **1=Culvert** (Passes 0.36 cfs of 7.26 cfs potential flow)
 - ↑ **2=Culvert** (Passes 0.29 cfs of 1.15 cfs potential flow)
 - ↑ **3=Exfiltration** (Exfiltration Controls 0.29 cfs)
 - **4=Orifice/Grate** (Orifice Controls 0.07 cfs @ 1.40 fps)
 - **5=Orifice/Grate** (Controls 0.00 cfs)

Stage-Area-Storage for Pond RG1: RG1 (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
63.99	961	839	64.53	1,196	1,540
64.00	965	849	64.54	1,201	1,555
64.01	969	860	64.55	1,205	1,571
64.02	973	871	64.56	1,210	1,586
64.03	977	883	64.57	1,214	1,601
64.04	982	894	64.58	1,219	1,617
64.05	986	906	64.59	1,223	1,632
64.06	990	917	64.60	1,228	1,648
64.07	994	929	64.61	1,232	1,663
64.08	998	940	64.62	1,237	1,679
64.09	1,003	952	64.63	1,241	1,695
64.10	1,007	964	64.64	1,246	1,711
64.11	1,011	976	64.65	1,250	1,727
64.12	1,015	988	64.66	1,255	1,743
64.13	1,020	1,000	64.67	1,259	1,759
64.14	1,024	1,012	64.68	1,264	1,775
64.15	1,028	1,024	64.69	1,268	1,791
64.16	1,032	1,036	64.70	1,273	1,808
64.17	1,037	1,049	64.71	1,278	1,824
64.18	1,041	1,061	64.72	1,282	1,841
64.19	1,045	1,073	64.73	1,287	1,858
64.20	1,050	1,086	64.74	1,291	1,874
64.21	1,054	1,098	64.75	1,296	1,891
64.22	1,058	1,111	64.76	1,301	1,908
64.23	1,063	1,124	64.77	1,305	1,925
64.24	1,067	1,137	64.78	1,310	1,942
64.25	1,071	1,149	64.79	1,314	1,959
64.26	1,076	1,162	64.80	1,319	1,977
64.27	1,080	1,175	64.81	1,324	1,994
64.28	1,084	1,188	64.82	1,328	2,011
64.29	1,089	1,202	64.83	1,333	2,029
64.30	1,093	1,215	64.84	1,338	2,046
64.31	1,098	1,228	64.85	1,343	2,064
64.32	1,102	1,241	64.86	1,347	2,082
64.33	1,106	1,255	64.87	1,352	2,100
64.34	1,111	1,268	64.88	1,357	2,118
64.35	1,115	1,282	64.89	1,361	2,136
64.36	1,120	1,296	64.90	1,366	2,154
64.37	1,124	1,310	64.91	1,371	2,172
64.38	1,129	1,323	64.92	1,376	2,191
64.39	1,133	1,337	64.93	1,380	2,209
64.40	1,138	1,351	64.94	1,385	2,227
64.41	1,142	1,365	64.95	1,390	2,246
64.42	1,147	1,379	64.96	1,395	2,265
64.43	1,151	1,394	64.97	1,400	2,284
64.44	1,156	1,408	64.98	1,404	2,302
64.45	1,160	1,422	64.99	1,409	2,321
64.46	1,165	1,437	65.00	1,414	2,340
64.47	1,169	1,451	65.01	1,446	2,355
64.48	1,174	1,466	65.02	1,477	2,369
64.49	1,178	1,481	65.03	1,510	2,384
64.50	1,183	1,495	65.04	1,542	2,400
64.51	1,187	1,510	65.05	1,575	2,415
64.52	1,192	1,525	65.06	1,608	2,431

Stage-Discharge for Pond RG1: RG1 (continued)

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
62.91	0.18	63.45	0.18	63.99	0.22	64.53	0.28
62.92	0.18	63.46	0.18	64.00	0.22	64.54	0.28
62.93	0.18	63.47	0.18	64.01	0.22	64.55	0.29
62.94	0.18	63.48	0.18	64.02	0.23	64.56	0.29
62.95	0.18	63.49	0.18	64.03	0.23	64.57	0.30
62.96	0.18	63.50	0.18	64.04	0.23	64.58	0.30
62.97	0.18	63.51	0.18	64.05	0.23	64.59	0.30
62.98	0.18	63.52	0.18	64.06	0.23	64.60	0.31
62.99	0.18	63.53	0.18	64.07	0.23	64.61	0.31
63.00	0.18	63.54	0.18	64.08	0.23	64.62	0.32
63.01	0.18	63.55	0.18	64.09	0.23	64.63	0.32
63.02	0.18	63.56	0.18	64.10	0.23	64.64	0.33
63.03	0.18	63.57	0.18	64.11	0.23	64.65	0.34
63.04	0.18	63.58	0.18	64.12	0.24	64.66	0.34
63.05	0.18	63.59	0.18	64.13	0.24	64.67	0.35
63.06	0.18	63.60	0.19	64.14	0.24	64.68	0.35
63.07	0.18	63.61	0.19	64.15	0.24	64.69	0.36
63.08	0.18	63.62	0.19	64.16	0.24	64.70	0.37
63.09	0.18	63.63	0.19	64.17	0.24	64.71	0.37
63.10	0.18	63.64	0.19	64.18	0.24	64.72	0.38
63.11	0.18	63.65	0.19	64.19	0.24	64.73	0.39
63.12	0.18	63.66	0.19	64.20	0.24	64.74	0.39
63.13	0.18	63.67	0.19	64.21	0.24	64.75	0.40
63.14	0.18	63.68	0.19	64.22	0.24	64.76	0.43
63.15	0.18	63.69	0.19	64.23	0.25	64.77	0.47
63.16	0.18	63.70	0.19	64.24	0.25	64.78	0.52
63.17	0.18	63.71	0.20	64.25	0.25	64.79	0.59
63.18	0.18	63.72	0.20	64.26	0.25	64.80	0.66
63.19	0.18	63.73	0.20	64.27	0.25	64.81	0.74
63.20	0.18	63.74	0.20	64.28	0.25	64.82	0.82
63.21	0.18	63.75	0.20	64.29	0.25	64.83	0.91
63.22	0.18	63.76	0.20	64.30	0.25	64.84	1.00
63.23	0.18	63.77	0.20	64.31	0.25	64.85	1.10
63.24	0.18	63.78	0.20	64.32	0.26	64.86	1.21
63.25	0.18	63.79	0.20	64.33	0.26	64.87	1.31
63.26	0.18	63.80	0.20	64.34	0.26	64.88	1.43
63.27	0.18	63.81	0.20	64.35	0.26	64.89	1.54
63.28	0.18	63.82	0.21	64.36	0.26	64.90	1.67
63.29	0.18	63.83	0.21	64.37	0.26	64.91	1.79
63.30	0.18	63.84	0.21	64.38	0.26	64.92	1.92
63.31	0.18	63.85	0.21	64.39	0.26	64.93	2.05
63.32	0.18	63.86	0.21	64.40	0.26	64.94	2.19
63.33	0.18	63.87	0.21	64.41	0.26	64.95	2.33
63.34	0.18	63.88	0.21	64.42	0.27	64.96	2.47
63.35	0.18	63.89	0.21	64.43	0.27	64.97	2.62
63.36	0.18	63.90	0.21	64.44	0.27	64.98	2.77
63.37	0.18	63.91	0.21	64.45	0.27	64.99	2.92
63.38	0.18	63.92	0.22	64.46	0.27	65.00	3.08
63.39	0.18	63.93	0.22	64.47	0.27	65.01	3.24
63.40	0.18	63.94	0.22	64.48	0.27	65.02	3.41
63.41	0.18	63.95	0.22	64.49	0.27	65.03	3.58
63.42	0.18	63.96	0.22	64.50	0.27	65.04	3.76
63.43	0.18	63.97	0.22	64.51	0.28	65.05	3.94
63.44	0.18	63.98	0.22	64.52	0.28	65.06	4.12

B – 2

POLLUTANT REMOVAL

CIVILWORKS NEW ENGLAND

181 WATSON ROAD
P.O. BOX 1166
DOVER, NH 03821-1166
PHONE: 603.749.0443

Objective: In accordance with Chapter 153-14.A.3.b.1 runoff from impervious surfaces shall be treated to provide 80% removal of total suspended solids (TSS) and 50% removal of both total nitrogen and phosphorus using appropriate treatment measures as specified in the NH Stormwater Manual, Volumes 1 and 2, December 2008, as amended.

Narrative: The subject parcel is 0.757 acres and is located at 28 Dover Point Road in Dover, NH. The site is undeveloped aside from the paved site entrance that exists for access to the adjacent property. The ground cover primarily consists of woods and lawn with Varney Brook running across the northeast side of the property. The project proposes the construction of a 3,048-sf mixed use development for commercial use and residential housing. The development proposes 0.261 acres of impervious including 0.071 acres of residential roof and 0.190 acres of commercial/residential parking. The project proposes the treatment of impervious runoff through a rain garden located at the rear of the site. 98% of the impervious runoff on site will be captured and treated. Impervious runoff from the site access will continue to be treated by the abutting property and most of the impervious on site will be treated by the proposed rain garden. The proposed stormwater mitigation system provides the required pollutant removal per City of Dover standards.

Pollutant Loads: Pollutant loads were calculated in accordance with NH Stormwater Manual, Volume 1, December 2008 utilizing the Simple Method.

Polutant Load Equations		
Annual Load - Simple Method Equation:	$L = 0.226 * R * C * A$	
	L	Annual Load (lbs/yr)
	0.226	Unit Conversion Constant
	R	Annual Runoff (in)
	C	Pollutant Concentration (mg/l)
	A	Area (ac)
Annual Runoff (R) Equation:	$R = P * P_j * R_v$	
	R	Annual Runoff (in)
	P	Annual Rainfall (in)
	P _j	Rainfall Runoff Fraction (0.9)
	R _v	Runoff Coefficient
Runoff Coefficient (R _v) Equation:	$R_v = 0.05 + 0.9I_a$	
	R _v	Runoff Coefficient
	I _a	% Impervious Area (decimal form)

CIVILWORKS NEW ENGLAND

181 WATSON ROAD
P.O. BOX 1166
DOVER, NH 03821-1166
PHONE: 603.749.0443

Runoff Coefficient (Rv): Dover requires the treatment of all impervious surfaces therefore the % Impervious Area (Ia) in decimal form is 1.

$$R_v = 0.05 + 0.9(1) = 0.95$$

Annual Runoff (R): U.S. Climate Data (<https://www.usclimatedata.com/climate/madbury/new-hampshire/united-states/usnh0285>) provides an average annual precipitation for Madbury, NH of 47.31 inches.

$$R = 47.31 \text{ in} * 0.9 * 0.95 = 40.45 \text{ in}$$

Annual Load (L): Utilizing the sites impervious areas of 0.071 ac of residential roof, 0.190 ac of commercial/residential parking and the Event Mean Concentrations identified in Appendix D of the NH Stormwater Manual, Volume 1, December 2008 for Residential Roof (19 mg/L TSS, 1.5 mg/L TN, and 0.11 mg/L TP) and Commercial/Residential Parking (27 mg/L TSS, 1.9 mg/L TN, and 0.15 mg/L TP) provides the following pollutant loads for the impervious development of the parcel.

Residential Roof:

$$L_{TSS} = 0.226 * 40.45 \text{ in} * 19 \text{ mg/L} * 0.071 \text{ ac} = 12.31 \text{ lb/yr}$$

$$L_{TN} = 0.226 * 40.45 \text{ in} * 1.5 \text{ mg/L} * 0.071 \text{ ac} = 0.97 \text{ lb/yr}$$

$$L_{TP} = 0.226 * 40.45 \text{ in} * 0.11 \text{ mg/L} * 0.071 \text{ ac} = 0.07 \text{ lb/yr}$$

Commercial/Residential Parking:

$$L_{TSS} = 0.226 * 40.45 \text{ in} * 27 \text{ mg/L} * 0.190 \text{ ac} = 46.99 \text{ lb/yr}$$

$$L_{TN} = 0.226 * 40.45 \text{ in} * 1.9 \text{ mg/L} * 0.190 \text{ ac} = 3.31 \text{ lb/yr}$$

$$L_{TP} = 0.226 * 40.45 \text{ in} * 0.15 \text{ mg/L} * 0.190 \text{ ac} = 0.26 \text{ lb/yr}$$

CIVILWORKS NEW ENGLAND

181 WATSON ROAD
P.O. BOX 1166
DOVER, NH 03821-1166
PHONE: 603.749.0443

Pollutant Removal Required: In accordance with City of Dover's Site Plan regulations, at a minimum, the following pollutant removal is required.

Pollutant Removal Required					
Pollutant	Residential Roof	Commerical/ Residential Parking	Annual Load (lbs/yr)	% Removal	Removal Required (lbs/yr)
TSS	12.31	46.99	59.30	80%	47.44
TN	0.97	3.31	4.28	50%	2.14
TP	0.07	0.26	0.33	50%	0.17

Pollutant Removal Provided: The project proposes the treatment of 0.070 acres of roof and 0.184 acres of parking through a rain garden. BMP Pollutant Removal Efficiency rates are provided in Appendix B of the NH Stormwater Manual, Volume 2, December 2008. Rain gardens (Bioretention Systems) provide 90% TSS, 65% TN, and 65% TP removal.

Rain Garden (RG1):

Rain Garden 1 captures and treats 0.070 acres of roof and 0.184 acres of parking.

Rain Garden (RG1)					
Pollutant	Residential Roof	Commerical/ Residential Parking	Annual Load (lbs/yr)	% Removal	Removal Provided (lbs/yr)
TSS	12.15	45.51	57.66	90%	51.89
TN	0.96	3.20	4.16	65%	2.71
TP	0.07	0.25	0.32	65%	0.21

Total Pollutant Removal Rate Provided:

Pollutant Removal Provided			
Pollutant	Removal Provided (lbs/yr)	Removal Required (lbs/yr)	Removal Rate Provided (%)
TSS	51.89	47.44	88%
TN	2.71	2.14	63%
TP	0.21	0.17	63%

Conclusion: The proposed mitigation measures implemented on site meet the minimum treatment rates for TSS, TN, and TP required by the City's regulations.

Typical Pollutant EMCs Found in Stormwater Runoff by Source Area*			
Source Area Unit	TSS mg/L	TP mg/L	TN mg/L ³
RESIDENTIAL (general) ⁴	100	0.40	2.2
Med. Density Residential ⁵	85	0.52	5.15
Residential roof	19 ¹	0.11 ²	1.5
Residential street	172 ¹	0.55 ²	1.4
Driveway	173 ¹	0.56 ²	2.1
COMMERCIAL (general) ⁵	77	0.33	2.97
Commercial roof	9 ¹	0.14 ²	2.1
Commercial street	468 ¹		
Commercial/ Residential parking	27 ¹	0.15 ²	1.9
INDUSTRIAL (general) ⁵	149	0.32	3.97
Industrial roof	17 ¹		
Industrial parking	228 ¹		
Heavy industrial	124 ¹		
HIGHWAY (general) ⁵	141	0.43	2.65
Urban highway	142 ¹	0.32 ²	3
Rural highway	51 ¹		22
Lawns	80 ¹	2.1 ²	9.1
Landscaping	37 ¹		
Urban open ⁵	51	0.11	1.74
Rural open/forest ⁵	51	0.11	1.78
Ag/pasture ⁵	145	0.37	5.98
Water/wetland ⁵	6	0.08	1.38
Sources: 1: Claytor and Schueler (1996) 2: Average of Steuer et al. (1997), Bannerman (1993) and Waschbusch (2000) 3: Steuer et al. (1997) 4: Caraco (2001), default values averaged from several individual assessments 5: Camp, Dresser, and McKee, <i>Merrimack River Watershed Assessment Study, Draft Screening Level Model</i> , January 2004.			

*To address the concerns associated with the application of chlorides and other deicing materials, NHDES requests the development of a Road Salt and Deicing Minimization Plan when a development will create one acre or more of pavement, including parking lots and roadways. The plan should address the policies that the development will keep in place to minimize salt and other deicer use after the project has been completed. The plan should include tracking the use of salt and other deicers for each storm event and compiling salt use data annually.

New Hampshire does not yet have salt reduction guidance, but recommends following the guidelines available in the Minnesota Snow and Ice Control handbook, available at: <http://www.mnltap.umn.edu/pdf/snowicecontrolhandbook.pdf>. Deicing application rate guidelines and a form for tracking salt and other deicer usage are included in Appendix C.

Pollutant Removal Efficiencies for Best Management Practices for Use in Pollutant Loading Analysis				Values Accepted for Loading Analyses		
BMP Type	BMP	Notes	Lit. Ref.	TSS	TN	TP
Stormwater Ponds	Wet Pond		B, F	70%	35%	45%
	Wet Extended Detention Pond		A, B	80%	55%	68%
	Micropool Extended Detention Pond	TBA				
	Multiple Pond System	TBA				
	Pocket Pond	TBA				
Stormwater Wetlands	Shallow Wetland		A, B, F, I	80%	55%	45%
	Extended Detention Wetland		A, B, F, I	80%	55%	45%
	Pond/Wetland System	TBA				
	Gravel Wetland		H	95%	85%	64%
Infiltration Practices	Infiltration Trench (≥75 ft from surface water)		B, D, I	90%	55%	60%
	Infiltration Trench (<75 ft from surface water)		B, D, I	90%	10%	60%
	Infiltration Basin (≥75 ft from surface water)		A, F, B, D, I	90%	60%	65%
	Infiltration Basin (<75 ft from surface water)		A, F, B, D, I	90%	10%	65%
	Dry Wells			90%	55%	60%
	Drip Edges			90%	55%	60%
Filtering Practices	Aboveground or Underground Sand Filter that infiltrates WQV (≥75 ft from surface water)		A, F, B, D, I	90%	60%	65%
	Aboveground or Underground Sand Filter that infiltrates WQV (<75 ft from surface water)		A, F, B, D, I	90%	10%	65%
	Aboveground or Underground Sand Filter with underdrain		A, I, F, G, H	85%	10%	45%
	Tree Box Filter	TBA				
	Bioretention System		I, G, H	90%	65%	65%
	Permeable Pavement that infiltrates WQV (≥75 ft from surface water)		A, F, B, D, I	90%	60%	65%
	Permeable Pavement that infiltrates WQV (<75 ft from surface water)		A, F, B, D, I	90%	10%	65%
	Permeable Pavement with underdrain		Use TN and TP values for sand filter w/ underdrain and outlet pipe	90%	10%	45%

Pollutant Removal Efficiencies for Best Management Practices for Use in Pollutant Loading Analysis				Values Accepted for Loading Analyses		
BMP Type	BMP	Notes	Lit. Ref.	TSS	TN	TP
Treatment Swales	Flow Through Treatment Swale	TBA				
Vegetated Buffers	Vegetated Buffers		A, B, I	73%	40%	45%
Pre-Treatment Practices	Sediment Forebay	TBA				
	Vegetated Filter Strip		A, B, I	73%	40%	45%
	Vegetated Swale		A, B, C, F, H, I	65%	20%	25%
	Flow-Through Device - Hydrodynamic Separator		A, B, G, H	35%	10%	5%
	Flow-Through Device - ADS Underground Multichamber Water Quality Unit (WQU)		G, H	72%	10%	9%
	Other Flow-Through Devices	TBA				
	Off-line Deep Sump Catch Basin		J, K, L, M	15%	5%	5%

APPENDIX C

INSPECTION AND MAINTENANCE

C – 1

**STORMWATER MANAGEMENT SYSTEM
INSPECTION & MAINTENANCE MANUAL**

Stormwater Management System Inspection & Maintenance Plan

Prepared for

**DOVER POINT MIXED USE
MAP K, LOT 26**

**28 Dover Point Road
Dover, New Hampshire
Strafford County**

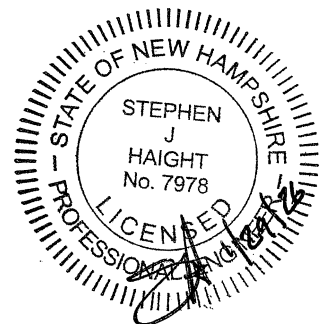
January 2026

Owner of Record:

25 DOVER POINT, LLC
99 Columbus Avenue
Dover, New Hampshire 03820

Prepared By:

CIVILWORKS NEW ENGLAND
P.O. Box 1166
181 Watson Road
Dover, New Hampshire 03820



Introduction

Civilworks NE, has prepared the following Stormwater Management System Inspection & Maintenance Plan for **25 Dover Point, LLC**. The intent of this plan is to provide a list of procedures that document the inspection and maintenance requirements of the Stormwater Management System for this site.

The inspection and maintenance requirements outlined in this document are required to be performed in perpetuity. In the event the property is sold, future owners will be responsible for implementing the responsibilities outlined in this document.

The inspection and maintenance program is necessary in order to keep the Stormwater Management System functioning properly. These measures will also help to minimize potential environmental impacts to the areas surrounding the developed site. By following the enclosed procedures, the property owners, and maintenance personnel will be able to maintain the functional design of the Stormwater Management System and maximize its ability to remove sediment and other contaminants from site generated stormwater runoff.

This plan also requires the Owner/Operator to prepare and implement a salt minimization plan to reduce salt usage on-site and ultimately within the watershed. This plan will allow the owner/operator to monitor and modify how much salt is needed, when it should be applied, and where it needs to be applied, with the ultimate goal of reducing salt-use without compromising safety. It is expected that salt-use reduction will lead to long-term cost-savings as a result of purchasing less salt and reduced impacts on vegetation (e.g., landscaping) and corrosion of infrastructure.

The salt minimization plan should include the retention of a contractor who has completed the Green SnowPro Training course and obtained NHDES Salt Application Certification.

It is anticipated that this be a living document that will be updated at regular intervals (recommend updating annually in advance of the winter season in order to facilitate adjustments).

Owner

**25 Dover Point, LLC
99 Columbus Avenue
Dover, NH 03820**

In the event of a change in ownership, this Inspection and Maintenance Plan shall be transferred to the new party; transfer shall be documented to NH DES in writing.

Contact / Responsible Party:

**True North Development, LLC
99 Columbus Avenue
Dover, NH 03820**

The contact information for the Contact / Responsible Party shall be kept current.

Management Company:

**True North Development, LLC
99 Columbus Avenue
Dover, NH 03820**

The contact information for the Management Party shall be kept current.

Inspection Schedule / Record Retention

Inspection frequency should, at a minimum, be in accordance with New Hampshire Stormwater Manual, Volume 2, latest edition, as updated by NHDES. See the Inspection and Maintenance Plan for frequency requirements. A copy of the completed Stormwater Management System's Inspection & Maintenance Log and Deicing Salt Quantity Use Log shall be maintained, kept on-site, and be made available to local, state, or federal regulators as applicable by law. All Inspection and Maintenance records must be provided to the City of Dover Community Services Department annually before Dec 15th.

Stormwater Management System Components

The Stormwater Management System associated with the project is designed to mitigate both the quantity and quality of site-generated stormwater runoff. As a result, its design includes the following elements:

- Rain Garden
- Pre-treatment Structures
 - Sediment Forebay
- Pipes/Culverts
- Outlet Structures
- Energy Dissipation Structures (Rip Rap)
- Catch Basins
- Pavement
- Litter / Trash Removal

Design elements are identified in the design plans and are depicted on a Stormwater I&M Plan attached to this document. A copy of which shall be maintained with this Inspection and Maintenance Plan.

Control of Invasive Species

During maintenance activities, check for the presence of invasive plants and remove in a safe manner. Invasive plants shall be controlled to prevent them from reproducing, spreading, or re-growing. See the University of New Hampshire – Cooperative Extension's "Method for Disposing Non-Native Invasive Plants", included at the end of this manual, for guidance on the removal and disposal of invasive species.

Inspection and Maintenance Plan

By implementing the following procedures, the owners will be able to maintain the functional design of the Stormwater Management System and maximize the system's ability to remove sediment and other contaminants from site generated stormwater runoff and to effectively recharge the underlying groundwater resources.

Rain Garden:

- Inspection of the Rain Garden at least twice annually, and following any rainfall event exceeding 2.5 inches in a 24-hour period, with maintenance or rehabilitation conducted as warranted by such inspection. If the Rain Garden systems do not drain within 72-hours following a rainfall event, a qualified professional should assess the condition and determine measures required to restore filtration practice (as applicable).
- Embankments and spillways should be inspected for settlement, erosion, seepage, animal burrows, woody vegetation, and other conditions that could degrade the embankment and reduce its stability for impounding water. Immediate corrective action should be implemented if any such conditions are found.
- Inlet and outlet pipes, inlet and outlet structures, energy dissipation structures or practices, and other structural appurtenances should be inspected, and corrective action implemented (e.g., maintenance, repairs, or replacement) as indicated by such inspection.
- The bottoms, interior and exterior side slopes, and crest of earthen detention ponds should be mowed, and the vegetation maintained in healthy condition, as appropriate to the function of the facility and type of vegetation.
- Vegetated embankments that serve as "berms" or "dams" that impound water should be mowed at least once annually to prevent the establishment of woody vegetation.
- Trash and debris should be removed from the pond and any inlet or outlet structures whenever observed.
- Accumulated sediment should be removed when it significantly affects pond capacity.

PRE-TREATMENT STRUCTURES:

SEDIMENT FOREBAYS:

- Inspect at least once per year.
- Inspect for sediment accumulation.
- Remove all debris immediately.

PIPES/CULVERTS:

- Inspect once per year.
- Inspect for clogging and sediment accumulation.
- Remove all debris immediately and sediment accumulations ≥ 2 inches.

OUTLET STRUCTURE(S):

- Inspect once per year.
- Inspect for clogging and sediment accumulation.
- Remove all debris immediately and sediment accumulations ≥ 2 inches.

ENERGY DISSIPATION STRUCTURES (RIP RAP):

- Inspect at least once a year.
- Inspect for sediment accumulation.
- Remove all debris immediately.
- Inspect the outlet protection annually for damage or deterioration. Repair damages immediately.
- If stones become displaced from riprap areas, they should be replaced immediately and chinked in to ensure stability. Add additional riprap as needed.

CATCH BASIN(S):

- Inspect once per year.
- Inspect for floatables, sediment accumulation, and hydrocarbons (oils and grease).
- Remove all floatables immediately and sediment accumulations ≥ 1 foot.
- Hydrocarbons shall be removed immediately by skimming, absorbent materials, or other methods and should be disposed of in accordance with applicable State and Federal regulations.

PAVEMENT:

- Minimize sanding.
- Minimize application of salt for ice control.
- Clean periodically (1-2 times per year) using a sweeper or vacuum sweeper. Vacuum sweeping is the preferred method.

LITTER / TRASH REMOVAL:

- Routinely patrol site for litter pick up.

DE-ICING AGENTS

- To address the concerns associated with the application of chlorides and other deicing materials, NHDES recommends that the Owner/Operator develop a Road Salt and Deicing Minimization Plan for the parking lots and roadways. The plan should develop the policies that the development will keep in place to minimize salt and other deicer use after the project has been completed. The plan should include tracking the use of salt and other deicers for each storm event and compiling salt use data annually. (See Anti-icing Data Form in the appendix).
- Use sand as primary agent for driveway and access way safety during ice and snow conditions
- Minimize the use of salt during the winter
- Use de-icing or anti-caking agents, added to enhance performance and application characteristics of sand mixtures, only as necessary and at minimum application rates.
- Recommend using a certified Winter Operator (Green SnowPro Trained) for applying de-icing agents.
- Monitor weather and apply de-icing agents based on weather conditions and temperatures.

ANTI-ICING AND SALT MINIMIZATION

- Owner to develop a Road Salt and Deicing Minimization Plan
- Provide a written policy that the “Development” will keep in place to minimize salt and other deicer use after the project has been completed.
- Use the attached form to track the use of salt and other deicers for each storm event and compiling salt use data annually.

Inspection & Maintenance Table

System Component / BMP	Minimum Inspection Frequency	Minimum Inspection Requirements	Maintenance / Cleanout Threshold
Rain Garden - Inlet/Outlet Piping - Embankments - Pond Sediment - Trash/Debris - Vegetation (Veg.)	Periodically	- Check for erosion, settlement, seepage, etc. - Check for sediment accumulation in pond - Check for trash (in pond and structures) - Maintain 95% veg. (pond & slopes) - Maintain healthy stand of veg.	Repair immediately ≥ 2 in. sediment Remove all trash/debris Restore veg. in-kind Mow when ≥ 6 in
Pre-Treatment Structure: Sediment Forebay	Annually	- Check for sediment accumulation - Check for erosion - Check for stone displacement	≥ 1 in. sediment Repair immediately Replace/Reset dislodged stones
Pipes/Culverts	Annually	- Check for clogging - Check for sediment accumulation	Remove when noticed Clean when necessary
Outlet Structure	Annually	- Check for clogging - Check for sediment accumulation	Remove when noticed Clean when necessary
Energy Dissipation Structures (Rip Rap)	Annually	- Check for damage/deterioration - Check for displaced stones - Check for woody vegetation	Repair immediately Replace immediately Remove annually
Catch Basins	Annually	- Check for sediment accumulation - Check for floatable contaminants - Check for hydrocarbons (oils and grease)	≥ 1 ft. sediment depth Remove all floatables Remove immediately
Pavement: - Sanding - Salt Applications - Sweep/Vacuum - Trash/Debris	Limit use As required 1 - 2 x's Year Periodically	- Minimize use to prevent tracking issues - RECORD APPLICATION RATES - Sweep or vacuum to prevent tracking issues - Check for trash/debris	Sweep to prevent issues Minimize (as required) Sweep/Vac as needed Remove when noticed
Litter / Trash Removal	Periodically	Check for litter and trash	Remove when noticed

Inspection & Maintenance Checklist/Log

The following page contains a blank copy of the Stormwater Management System's Inspection & Maintenance Log and a Deicing Salt Quantity Use Log. These forms are provided to assist the owners with the inspection and maintenance of the aforementioned Stormwater Management System.

Date of Inspection/Maintenance: _____ Inspector: _____

Date of Inspection/Maintenance: _____ Inspector: _____

[illegible]

Deicing Salt Quantity Use Log

[illegible]

Methods for Disposing Non-Native Invasive Plants

Prepared by the Invasives Species Outreach Group, volunteers interested in helping people control invasive plants. Assistance provided by the Piscataquog Land Conservancy and the NH Invasives Species Committee. Edited by Karen Bennett, Extension Forestry Professor and Specialist.



Tatarian honeysuckle

Lonicera tatarica

USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada and the British Possessions*. Vol. 3: 282.

Non-native invasive plants crowd out natives in natural and managed landscapes. They cost taxpayers billions of dollars each year from lost agricultural and forest crops, decreased biodiversity, impacts to natural resources and the environment, and the cost to control and eradicate them.

Invasive plants grow well even in less than desirable conditions such as sandy soils along roadsides, shaded wooded areas, and in wetlands. In ideal conditions, they grow and spread even faster. There are many ways to remove these non-native invasives, but once removed, care is needed to dispose the removed plant material so the plants don't grow where disposed.

Knowing how a particular plant reproduces indicates its method of spread and helps determine the appropriate disposal method. Most are spread by seed and are dispersed by wind, water, animals, or people. Some reproduce by vegetative means from pieces of stems or roots forming new plants. Others spread through both seed and vegetative means.

Because movement and disposal of viable plant parts is restricted (see NH Regulations), viable invasive parts can't be brought to most transfer stations in the state. Check with your transfer station to see if there is an approved, designated area for invasives disposal. This fact sheet gives recommendations for rendering plant parts non-viable.

Control of invasives is beyond the scope of this fact sheet. For information about control visit www.nhinvasives.org or contact your UNH Cooperative Extension office.

New Hampshire Regulations

Prohibited invasive species shall only be disposed of in a manner that renders them nonliving and nonviable. (Agr. 3802.04)

No person shall collect, transport, import, export, move, buy, sell, distribute, propagate or transplant any living and viable portion of any plant species, which includes all of their cultivars and varieties, listed in Table 3800.1 of the New Hampshire prohibited invasive species list. (Agr 3802.01)

How and When to Dispose of Invasives?

To prevent seed from spreading remove invasive plants before seeds are set (produced). Some plants continue to grow, flower and set seed even after pulling or cutting. Seeds can remain viable in the ground for many years. If the plant has flowers or seeds, place the flowers and seeds in a heavy plastic bag “head first” at the weeding site and transport to the disposal site. The following are general descriptions of disposal methods. See the chart for recommendations by species.

Burning: Large woody branches and trunks can be used as firewood or burned in piles. For outside burning, a written fire permit from the local forest fire warden is required unless the ground is covered in snow. Brush larger than 5 inches in diameter can’t be burned. Invasive plants with easily airborne seeds like black swallow-wort with mature seed pods (indicated by their brown color) shouldn’t be burned as the seeds may disperse by the hot air created by the fire.

Bagging (solarization): Use this technique with softer-tissue plants. Use heavy black or clear plastic bags (contractor grade), making sure that no parts of the plants poke through. Allow the bags to sit in the sun for several weeks and on dark pavement for the best effect.

Tarpping and Drying: Pile material on a sheet of plastic and cover with a tarp, fastening the tarp to the ground and monitoring it for escapes. Let the material dry for several weeks, or until it is clearly nonviable.

Chipping: Use this method for woody plants that don’t reproduce vegetatively.

Burying: This is risky, but can be done with watchful diligence. Lay thick plastic in a deep pit before placing the cut up plant material in the hole. Place the material away from the edge of the plastic before covering it with more heavy plastic. Eliminate as much air as possible and toss in soil to weight down the material in the pit. Note that the top of the buried material should be at least three feet underground. Japanese knotweed should be at least 5 feet underground!

Drowning: Fill a large barrel with water and place soft-tissue plants in the water. Check after a few weeks and look for rotted plant material (roots, stems, leaves, flowers). Well-rotted plant material may be composted. A word of caution- seeds may still be viable after using this method. Do this before seeds are set. This method isn’t used often. Be prepared for an awful stink!

Composting: Invasive plants can take root in compost. Don’t compost any invasives unless you know there is no viable (living) plant material left. Use one of the above techniques (bagging, tarping, drying, chipping, or drowning) to render the plants nonviable before composting. Closely examine the plant before composting and avoid composting seeds.



Japanese knotweed
Polygonum cuspidatum
USDA-NRCS PLANTS Database /
Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada and the British Possessions*. Vol. 1: 676.

Be diligent looking for seedlings for years in areas where removal and disposal took place.

Suggested Disposal Methods for Non-Native Invasive Plants

This table provides information concerning the disposal of removed invasive plant material. If the infestation is treated with herbicide and left in place, these guidelines don't apply. Don't bring invasives to a local transfer station, unless there is a designated area for their disposal, or they have been rendered non-viable. This listing includes wetland and upland plants from the New Hampshire Prohibited Invasive Species List. The disposal of aquatic plants isn't addressed.

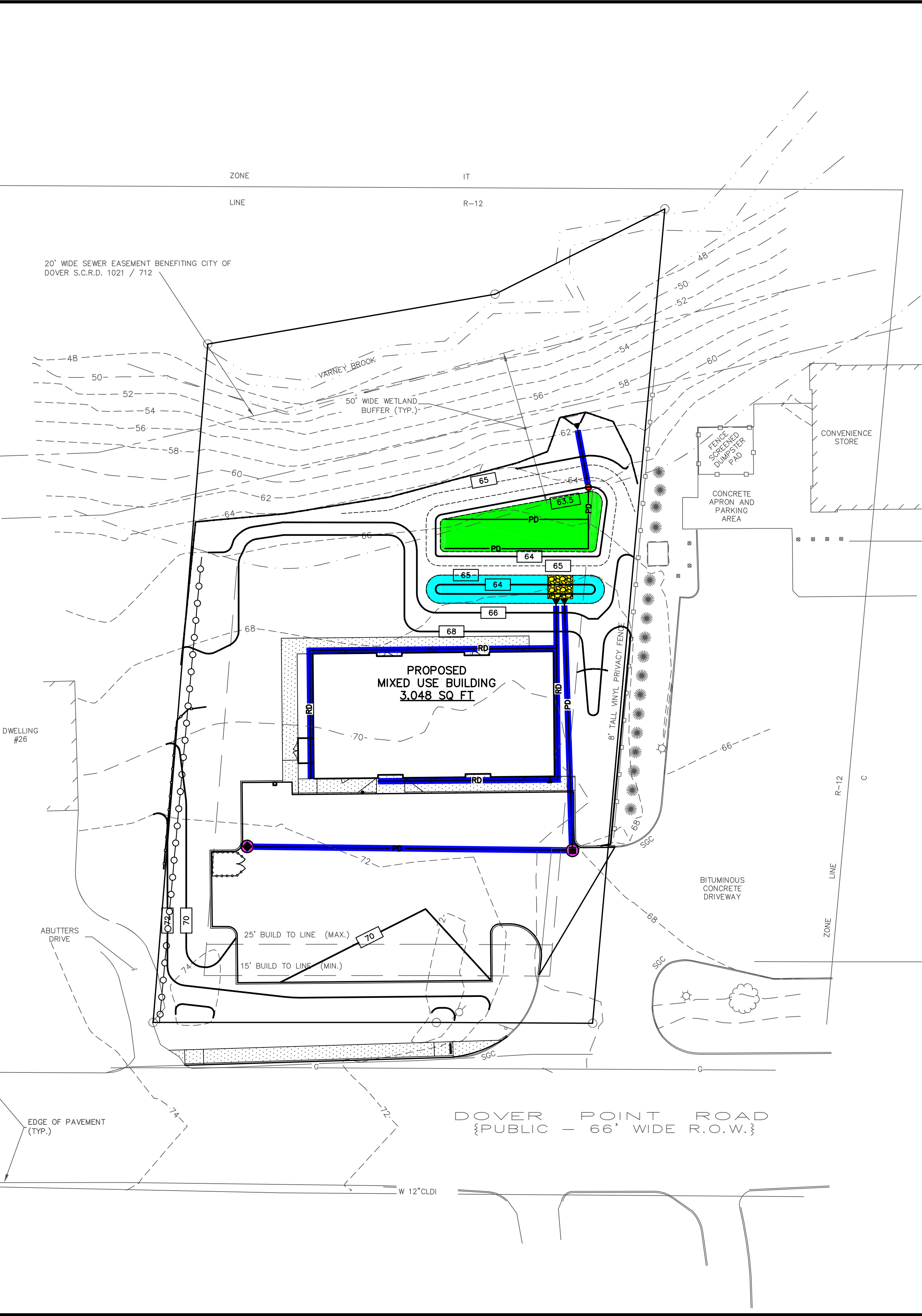
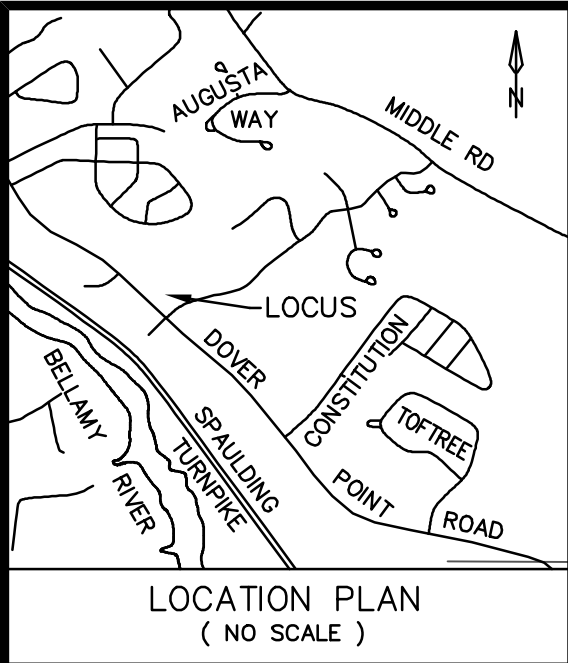
Woody Plants	Method of Reproducing	Methods of Disposal
Norway maple <i>(Acer platanoides)</i> European barberry <i>(Berberis vulgaris)</i> Japanese barberry <i>(Berberis thunbergii)</i> autumn olive <i>(Elaeagnus umbellata)</i> burning bush <i>(Euonymus alatus)</i> Morrow's honeysuckle <i>(Lonicera morrowii)</i> Tatarian honeysuckle <i>(Lonicera tatarica)</i> showy bush honeysuckle <i>(Lonicera x bella)</i> common buckthorn <i>(Rhamnus cathartica)</i> glossy buckthorn <i>(Frangula alnus)</i>	Fruit and Seeds 	Prior to fruit/seed ripening Seedlings and small plants ▪ Pull or cut and leave on site with roots exposed. No special care needed. Larger plants ▪ Use as firewood. ▪ Make a brush pile. ▪ Chip. ▪ Burn.
		After fruit/seed is ripe Don't remove from site. ▪ Burn. ▪ Make a covered brush pile. ▪ Chip once all fruit has dropped from branches. ▪ Leave resulting chips on site and monitor.
oriental bittersweet <i>(Celastrus orbiculatus)</i> multiflora rose <i>(Rosa multiflora)</i>	Fruits, Seeds, Plant Fragments 	Prior to fruit/seed ripening Seedlings and small plants ▪ Pull or cut and leave on site with roots exposed. No special care needed. Larger plants ▪ Make a brush pile. ▪ Burn.
		After fruit/seed is ripe Don't remove from site. ▪ Burn. ▪ Make a covered brush pile. ▪ Chip – only after material has fully dried (1 year) and all fruit has dropped from branches. Leave resulting chips on site and monitor.

Non-Woody Plants	Method of Reproducing	Methods of Disposal
garlic mustard (<i>Alliaria petiolata</i>) spotted knapweed (<i>Centaurea maculosa</i>) ▪ Sap of related knapweed can cause skin irritation and tumors. Wear gloves when handling. black swallow-wort (<i>Cynanchum nigrum</i>) ▪ May cause skin rash. Wear gloves and long sleeves when handling. pale swallow-wort (<i>Cynanchum rossicum</i>) giant hogweed (<i>Heracleum mantegazzianum</i>) ▪ Can cause major skin rash. Wear gloves and long sleeves when handling. dame's rocket (<i>Hesperis matronalis</i>) perennial pepperweed (<i>Lepidium latifolium</i>) purple loosestrife (<i>Lythrum salicaria</i>) Japanese stilt grass (<i>Microstegium vimineum</i>) mile-a-minute weed (<i>Polygonum perfoliatum</i>)	Fruits and Seeds 	Prior to flowering Depends on scale of infestation Small infestation ▪ Pull or cut plant and leave on site with roots exposed. Large infestation ▪ Pull or cut plant and pile. (You can pile onto or cover with plastic sheeting). ▪ Monitor. Remove any re-sprouting material. During and following flowering Do nothing until the following year or remove flowering heads and bag and let rot. Small infestation ▪ Pull or cut plant and leave on site with roots exposed. Large infestation ▪ Pull or cut plant and pile remaining material. (You can pile onto plastic or cover with plastic sheeting). ▪ Monitor. Remove any re-sprouting material.
common reed (<i>Phragmites australis</i>) Japanese knotweed (<i>Polygonum cuspidatum</i>) Bohemian knotweed (<i>Polygonum x bohemicum</i>)	Fruits, Seeds, Plant Fragments Primary means of spread in these species is by plant parts. Although all care should be given to preventing the dispersal of seed during control activities, the presence of seed doesn't materially influence disposal activities.	Small infestation ▪ Bag all plant material and let rot. ▪ Never pile and use resulting material as compost. ▪ Burn. Large infestation ▪ Remove material to unsuitable habitat (dry, hot and sunny or dry and shaded location) and scatter or pile. ▪ Monitor and remove any sprouting material. ▪ Pile, let dry, and burn.

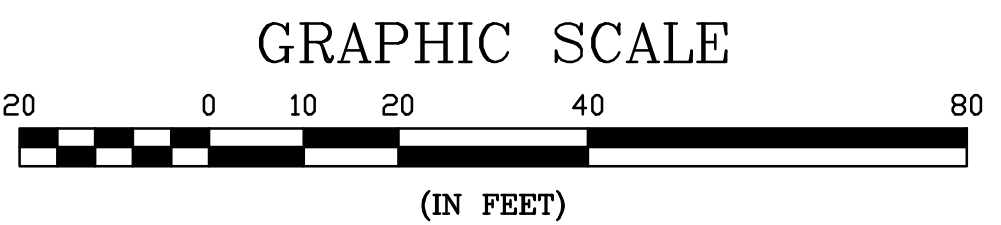
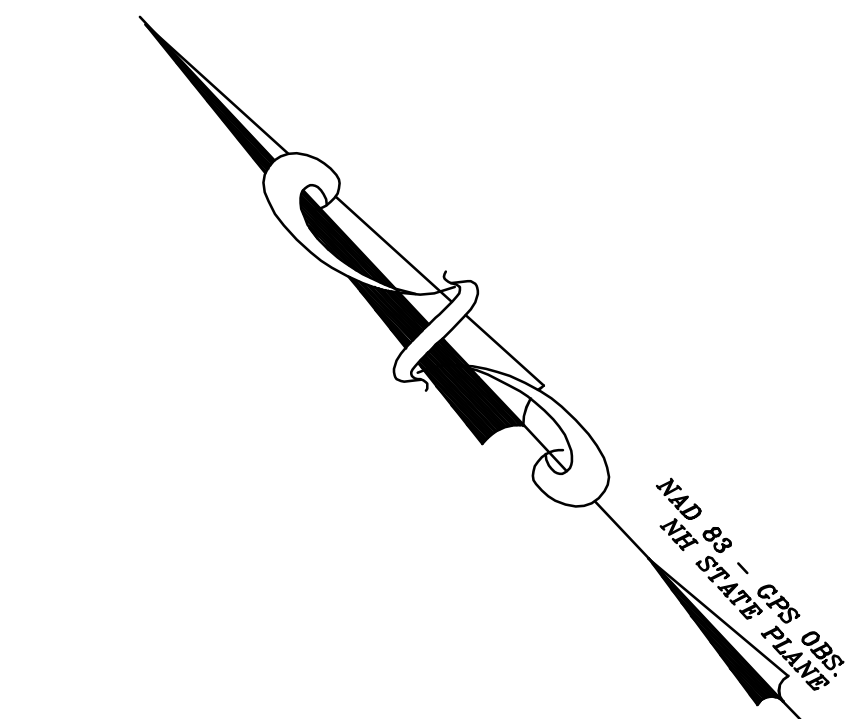
January 2010

C – 2

**STORMWATER MANAGEMENT SYSTEM
INSPECTION & MAINTENANCE PLAN**



- LEGEND**
- = RAIN GARDEN
 - = ENERGY DISSIPATION STRUCTURES (RIP RAP)
 - = CATCH BASINS
 - = SEDIMENT FOREBAY
 - = OUTLET STRUCTURE
 - = PIPES/CULVERTS



NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

CNE CIVILWORKS NEW ENGLAND

CIVIL & WATERPANT ENGINEERING

181 Watson Road, PO Box 1186
Dover, New Hampshire 03821
603.749.0443

DATE	SCALE	DRAWN BY	DESIGN BY	APPROVED BY	PROJECT NO.	FILED	NO.	REVISION	APPD	DATE
1-29-2026	1"=20'	ETA	IFG	BYSJH	25028					

INSPECTION & MAINTENANCE PLAN

DOVER POINT MIXED USE
28 DOVER POINT ROAD
DOVER, NH

I&M

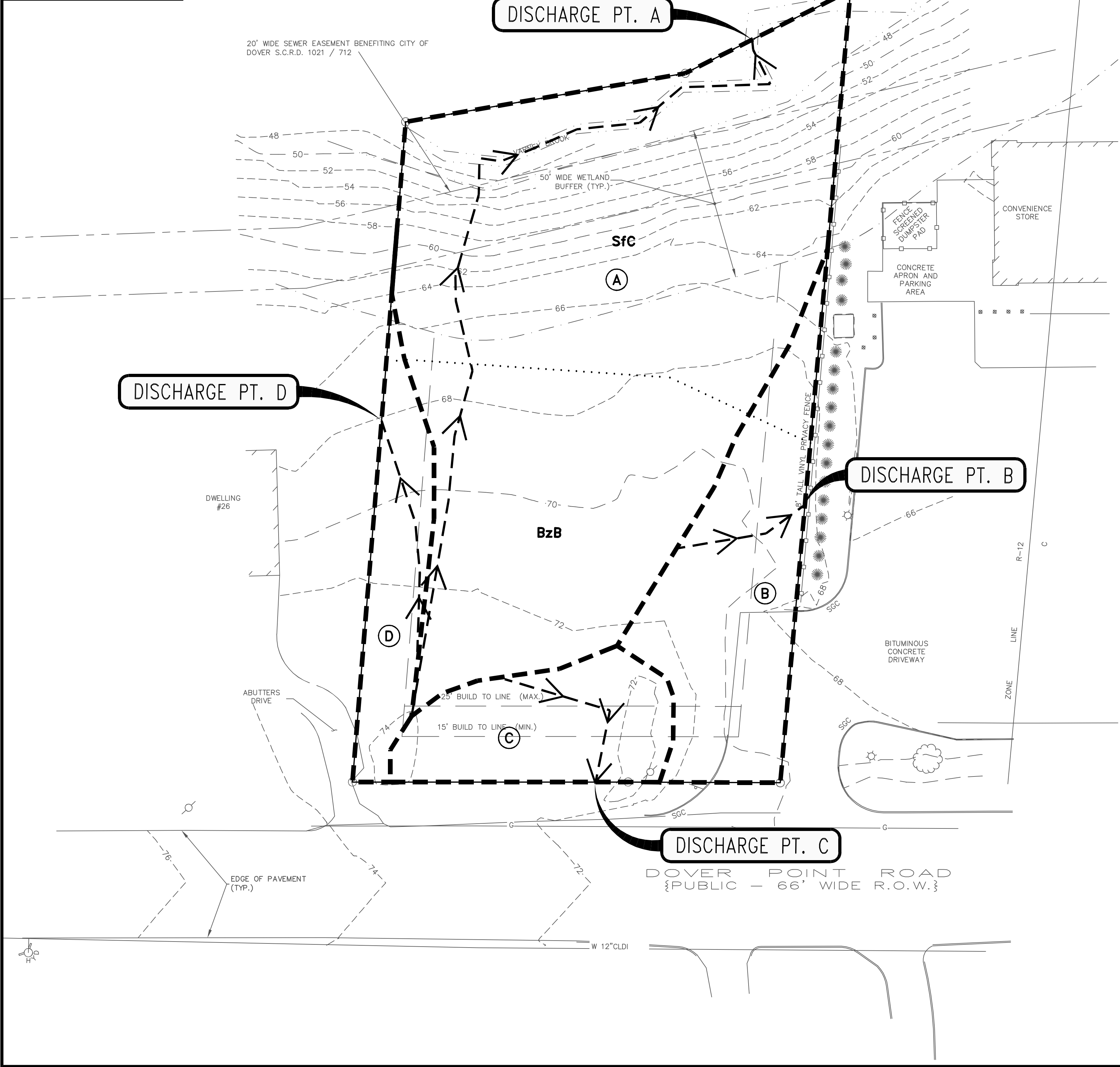
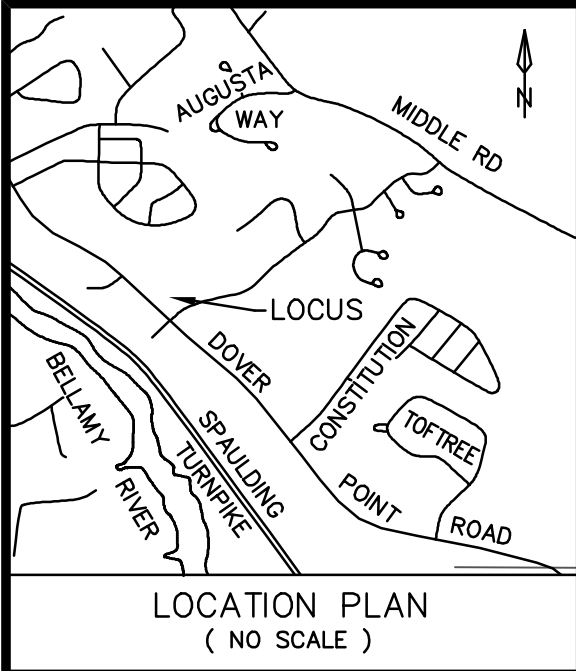
25 DOVER POINT LLC
99 COLUMBUS AVENUE
DOVER, NH 03820

APPENDIX D

WATERSHED PLANS

D – 1

PRE-DEVELOPMENT CONDITIONS



LEGEND:

- EX 2' CONTOUR
- EX 10' CONTOUR
- EDGE OF PAVEMENT TBR
- EDGE OF PAVEMENT
- EDGE OF WETLAND
- SUBCATCHMENT BOUNDARY
- LONGEST FLOW PATH WITH DIRECTION OF FLOW
- SUBCATCHMENT DESIGNATION
- WEB SOIL SURVEY BOUNDARY
- WEB SOIL SURVEY DESIGNATION

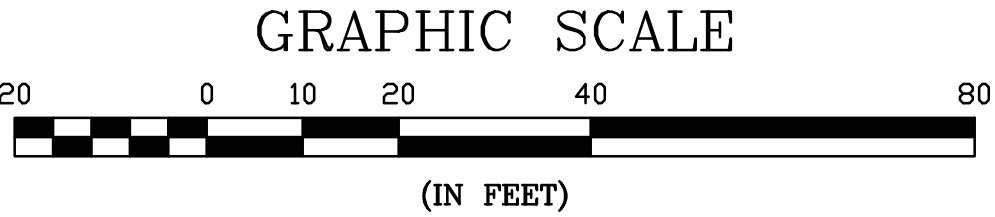
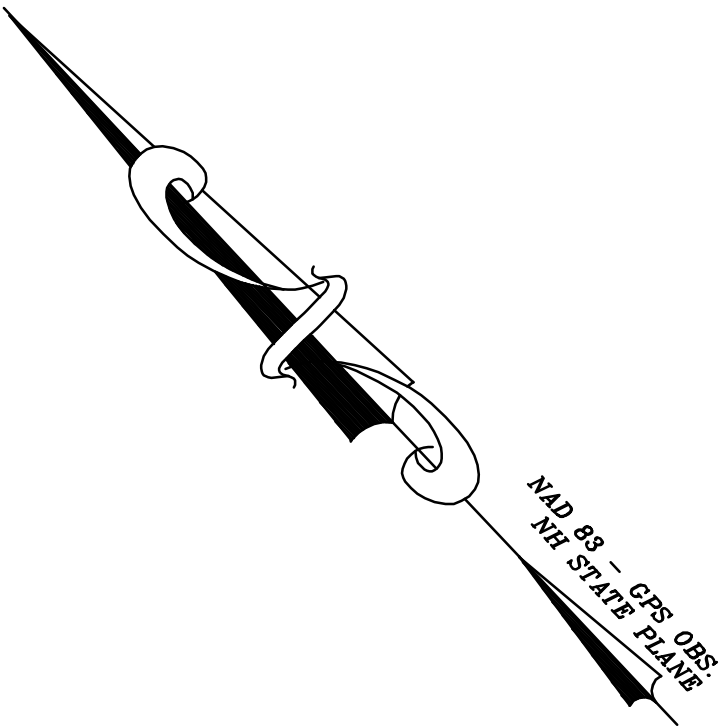
PRE-DEVELOPMENT WATERSHED CHARACTERISTICS

SUBCATCHMENT DESIGNATION	AREA (ACRES)	LONGEST FLOW PATH (FEET)	Tc (MIN)
A	0.51	305	12.2
B	0.12	46	5.7
C	0.07	60	9.4
D	0.05	78	7.4

SOILS DATA

Hydrologic Drainage Class C:

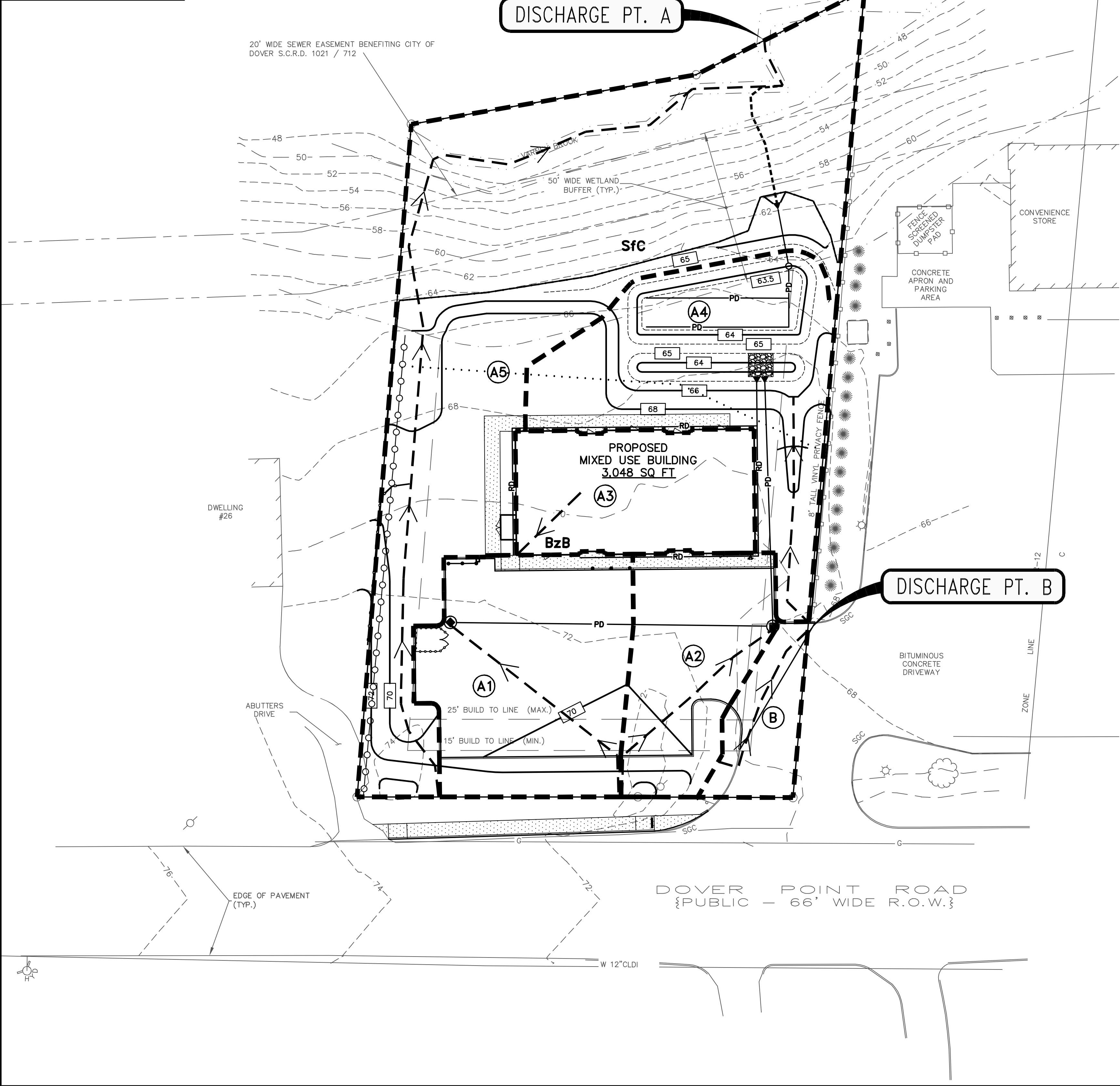
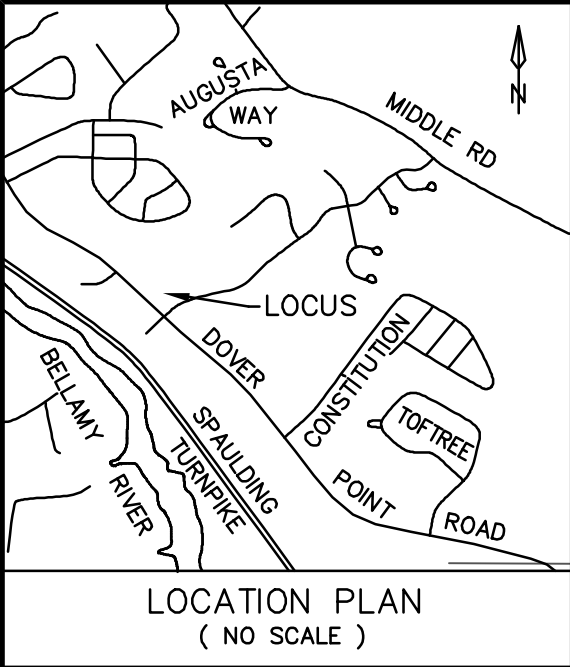
BzB - Buxton Silt Loam, 3 - 8 Percent Slopes
SfC - Suffield Silt Loam, 8 - 15 Percent Slopes



DATE	SCALE	DRAWN BY	DESIGN BY	APPROVED BY	PROJECT NO.	FILE/REV	NO.	REVISION	APP'D	DATE
1-29-2026	1"=20'	ETA	JPG	BYSJH	25026					

D – 2

POST-DEVELOPMENT CONDITIONS



LEGEND:

- EX 2' CONTOUR
- EX 10' CONTOUR
- PROPOSED CONTOUR
- EDGE OF PAVEMENT
- EDGE OF WETLAND
- SUBCATCHMENT BOUNDARY
- LONGEST FLOW PATH WITH DIRECTION OF FLOW
- SUBCATCHMENT DESIGNATION
- WEB SOIL SURVEY BOUNDARY
- WEB SOIL SURVEY DESIGNATION

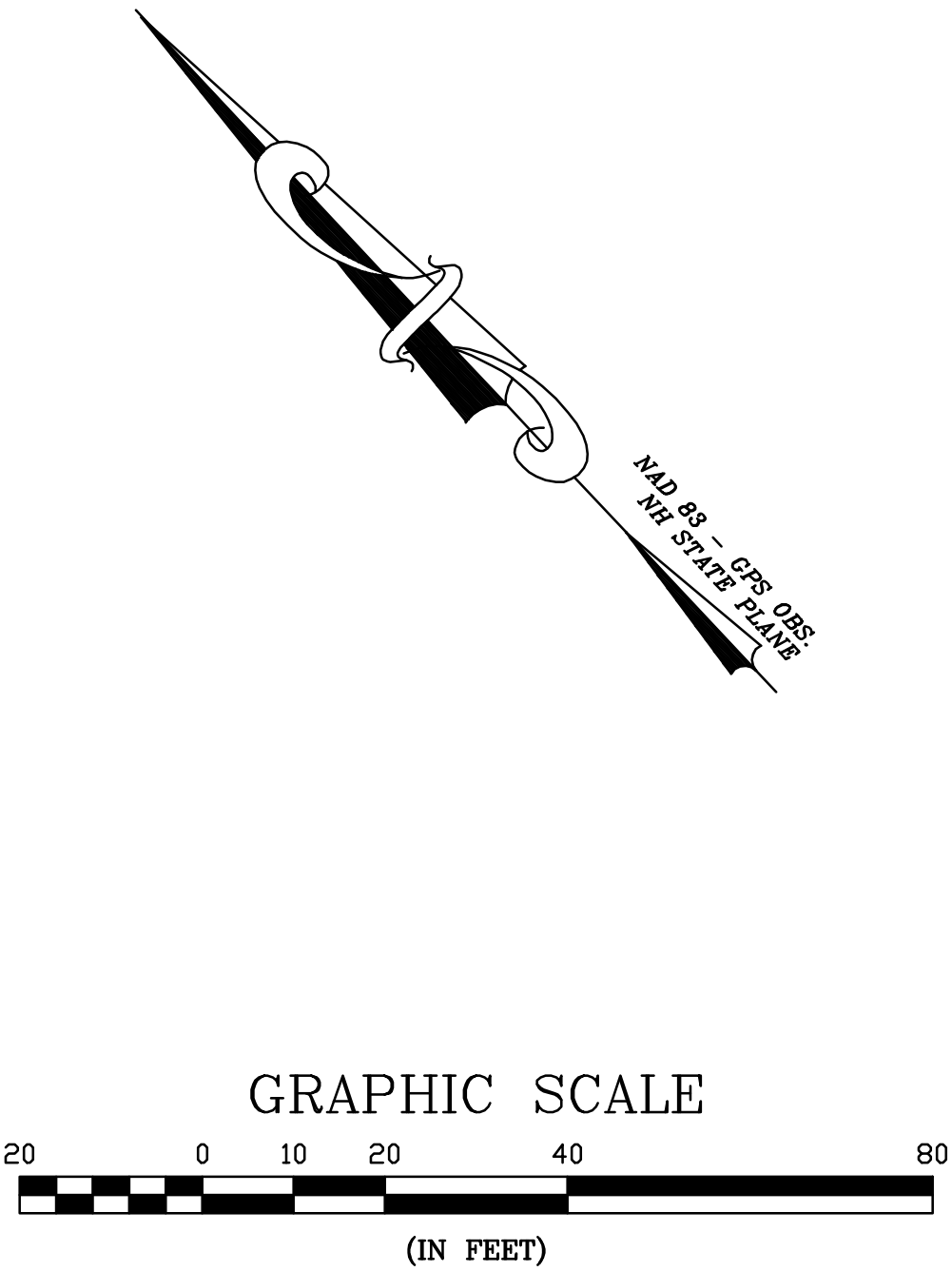
POST-DEVELOPMENT WATERSHED CHARACTERISTICS

SUBCATCHMENT DESIGNATION	AREA (ACRES)	LONGEST FLOW PATH (FEET)	Tc (MIN)
A1	0.11	79	2.4
A2	0.07	73	2.3
A3	0.08	---	2.0
A4	0.12	80	12.0
A5	0.36	347	14.1
B	0.03	58	1.7

* ROOF RUNOFF

SOILS DATA

Hydrologic Drainage Class C:
BzB - Buxton Silt Loam, 3 - 8 Percent Slopes
SfC - Suffield Silt Loam, 8 - 15 Percent Slopes



DATE	SCALE	DRAWN BY	DESIGN BY	APPROVED BY	PROJECT NO.	FILE/REV	NO.
1-29-2026	1"=20'	ETA	JPG	BYSLH	25026		

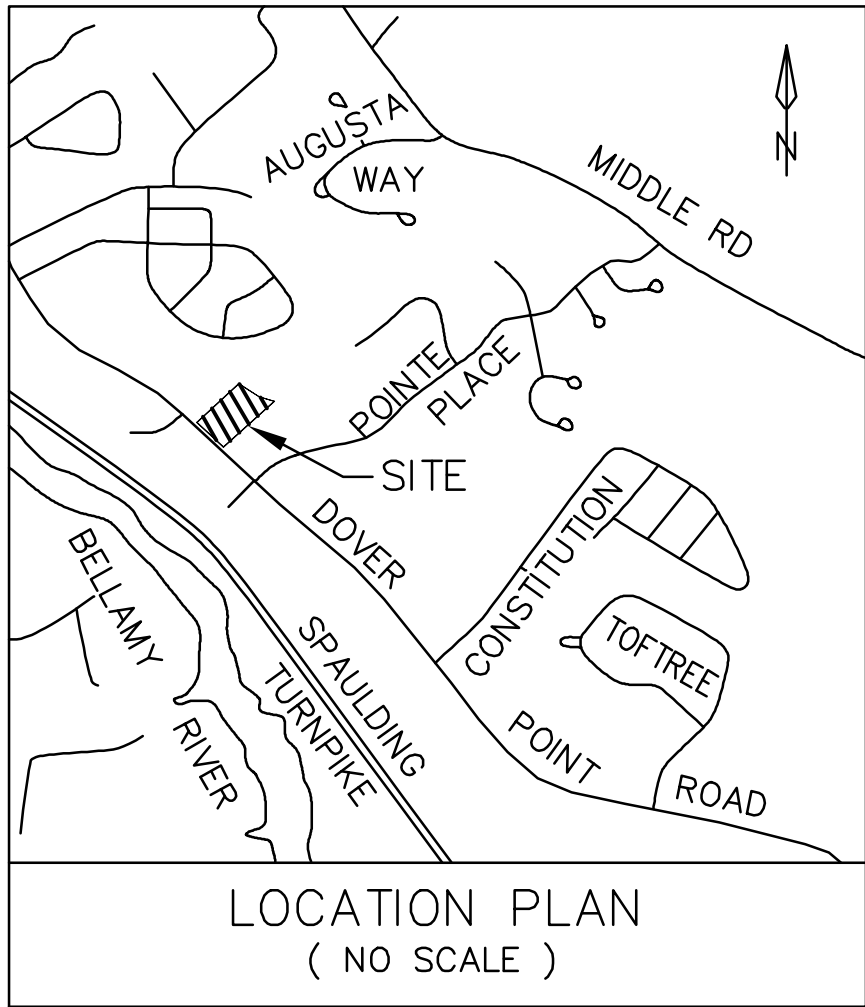
REVISION	APP'D	DATE

POST-DEVELOPMENT WATERSHEDS PLAN

25 DOVER POINT LLC
99 COLUMBUS AVENUE
DOVER, NH 03820

DOVER POINT MIXED USE
28 DOVER POINT ROAD
DOVER, NH

WS-2



DOVER POINT MIXED USE SITE PLAN

TAX MAP K, LOT 26
28 DOVER POINT ROAD
DOVER, NH
FEBRUARY 9, 2026

OWNER OF RECORD

25 DOVER POINT LLC
99 COLUMBUS AVENUE
DOVER, NH 03820

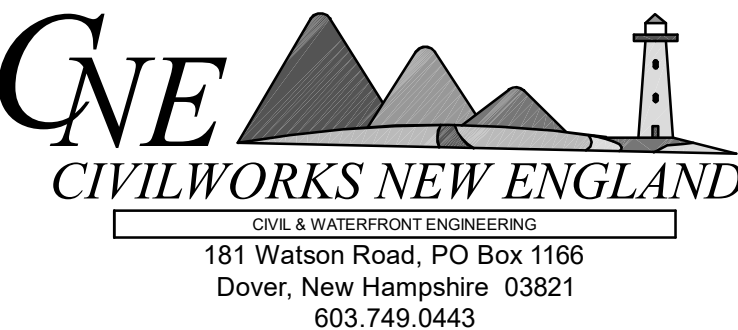
SIGNATURE _____ DATE _____

APPLICANT / PREPARED FOR

TRUE NORTH DEVELOPMENT LLC
99 COLUMBUS AVENUE
DOVER, NH 03820

SIGNATURE _____ DATE _____

CIVIL ENGINEER



SURVEYOR

MCENEANEY SURVEY OF NEW ENGLAND
P.O. BOX 1166
DOVER, NEW HAMPSHIRE 03821

WETLAND SCIENTIST

DAMON BURT
FRAGGLE ROCK ENVIRONMENTAL
38 GARLAND ROAD
STRAFFORD, NH 03884

LANDSCAPE ARCHITECT

WOODBURN & COMPANY LANDSCAPE ARCHITECTURE, LLC
103 KENT PLACE
NEWMARKET, NH 03857

ARCHITECT

FSM DRAWINGS
FSMDRAWING.COM

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NOTE SHEET	3
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SECOND FLOOR PLAN	A-4
ROOF PLAN	A-5

- PERMIT SUMMARY/ WAIVER SUMMARY:**
- THE FOLLOWING FEDERAL AND STATE PERMITS HAVE BEEN ISSUED FOR THE SUBJECT PROPERTY: N/A
 - LIST ANY VARIANCES OR SPECIAL EXCEPTIONS GRANTED BY THE ZONING BOARD OF ADJUSTMENT OR CONDITIONAL USE PERMITS GRANTED BY THE PLANNING BOARD FOR THE PROPOSED USE OR STRUCTURE, INCLUDING THE CASE NUMBER AND DATE OF DECISION AND ANY CONDITIONS.

VARIANCES: APPROVED: DECEMBER 18, 2025

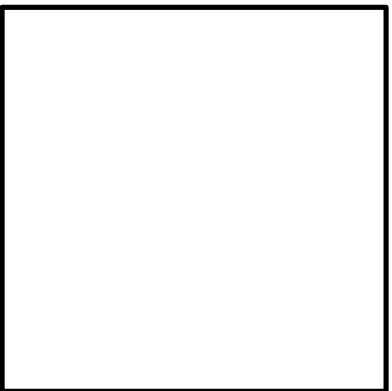
- VARIANCE: FROM SECTION 170-11.(D) TO ALLOW FOR CONSTRUCTION OF A COMMERCIAL BUILDING WITHIN A RESIDENTIAL ZONING DISTRICT.
- VARIANCE: FROM SECTION 170-12(B) TO PERMIT A FRONT SETBACK OF 78.8' WHERE THE FRONT BUILD-TO LINE REQUIRES A MAX OF 25'.
- VARIANCE: FROM SECTION 170-15(D) TO ALLOW FOR A COMMERCIAL PROPERTY CLOSER THAN 150' FROM A RESIDENTIAL STRUCTURE WITHIN A RESIDENTIAL ZONE.

APPROVED: ZONE-2025-0037, ZONE-2025-0037B, ZONE-2025-0037C

SITE PLAN: SITE-2026-xx- PENDING

CONDITIONAL USE PERMIT: COND-2026-xx PENDING

NOTE:
LANDSCAPING BOND OR OTHER FORM OF SECURITY ACCEPTABLE TO THE CITY FOR A PERIOD OF 3 YEARS AFTER CERTIFICATION OF OCCUPANCY IS ISSUED TO ENSURE LANDSCAPING IS MAINTAINED OR REPLACED IF NEEDED.



DOVERL NOTES:

1. OWNERS OF RECORD:

25 DOVER POINT LLC
99 COLUMBUS AVENUE
DOVER, NEW HAMPSHIRE 03820
S.C.R.D. VOL. 5219, PAGE 442

2.

K / 26

 - DENOTES TAX MAP AND PARCEL NUMBER.

3. ZONING DISTRICT IS R-12 (MEDIUM DENSITY RESIDENTIAL)

4. DIMENSIONAL REGULATIONS:

MINIMUM LOT SIZE	REQUIRED 12,000 S.F.	PROVIDED 32,964 S.F.
MAXIMUM LOT COVERAGE	30%	9.2%
MINIMUM FRONTAGE	100 FEET	>140'

BUILDING REQUIREMENTS:

FRONT BUILD TO

15 FEET MIN.

25 FEET MAX.

15 FEET

30 FEET

78.8 FEET

19.1 FEET

103.3 FEET

5. SITE DEVELOPMENT FOR A MIXED USE BUILDING & ASSOCIATED SITE IMPROVEMENTS

* VARIANCES GRANTED 12-18-2025.

6. PARCEL AREA = 32,964 S.F. / 0.76 Ac.

7. THE SUBJECT PARCEL IS OUTSIDE THE 0.2 PERCENT ANNUAL CHANCE FLOODPLAIN AS SHOWN ON FLOOD INSURANCE RATE MAP COMMUNITY NUMBER 330145; PANEL 0340; SUFFIX E; MAP NUMBER 33017C0340E; EFFECTIVE DATE SEPTEMBER 30, 2015.

8. BASIS OF BEARING IS NH STATE PLANE (NAD83) BASED ON GPS OBSERVATION. VERTICAL DATUM IS NAVD88 BASED ON GPS OBSERVATION. DATED: FEBRUARY 20, 2023.

9. PROPERTY LINE INFORMATION HAS BEEN OBTAINED FROM A SURVEY PERFORMED BY MCENEANEY SURVEY ASSOCIATES, INC. DURING SEPTEMBER 2018 WITH AN ERROR NOT GREATER THAN 1 IN 10,000.

10. REFERENCE IS MADE TO AMENDED AND RESTATED RECIPROCAL EASEMENT AGREEMENT MADE BETWEEN SEBRING HOLDINGS, LLC AND MAC'S CONVENIENCE STORES, LLC RECORDED AT S.C.R.D. IN BOOK 4848, PAGE 528, DATED DECEMBER 14, 2020. ALSO, REFERENCE IS MADE TO RECIPROCAL EASEMENT AGREEMENT MADE BETWEEN SEBRING HOLDINGS, LLC AND MAC'S CONVENIENCE STORES, LLC RECORDED AT S.C.R.D. IN BOOK 4114, PAGE 610, DATED APRIL 4, 2013.

11. WETLANDS SHOWN WERE DELINEATED BY DAMON E. BURT, N.H.C.W.S. #163 OF FRAGILE ROCK ENVIRONMENTAL SERVICES ON JANUARY 14, 2021 IN ACCORDANCE WITH THE 1987 CORPS. OF ENGINEERS WETLANDS DELINEATION MANUAL AND LOCATED BY THIS OFFICE.

12. THIS ENTRANCE/EXIT ONTO DOVER POINT ROAD WILL BE SHARED BY PARCELS K-19C AND K-26 AND IS DEFINED WITHIN THE "RECIPROCAL ACCESS AGREEMENT" WHICH WILL BECOME PART OF THIS PLAN WHEN THE PLAN IS APPROVED. THE COPY OF THE FULL "AGREEMENT" IS ON FILE WITH THE DOVER PLANNING OFFICE, WHEN THIS PLAN IS APPROVED THE EXISTING PAVED ACCESS FOR PARCEL K-26 WILL BE ABANDONED.

13. THE IMPROVEMENTS AND UTILITIES SHOWN ARE FROM OBSERVATIONS MADE IN THE FIELD OR REFERENCE PLANS. LOCATIONS OF UNDERGROUND UTILITIES NOT MARKED ON THE SURFACE WERE NOT LOCATED. ALL VISIBLE UTILITIES ARE SHOWN.

14. PARKING SPACE PROVIDED: 19 STRIPED SPACES, INCLUDING ONE ACCESSIBLE SPACE AND 1 EV READY SPACE.

15. THERE IS NO EVIDENCE OF RECENT EARTH MOVING WORK, BUILDING CONSTRUCTION, OR BUILDING ADDITIONS.

16. LIST ANY VARIANCE OR SPECIAL EXCEPTIONS GRANTED BY THE ZONING BOARD OF ADJUSTMENT OR CONDITIONAL USE PERMITS GRANTED BY THE PLANNING BOARD FOR THE PROPOSED USE OR STRUCTURE, INCLUDING THE CASE NUMBER AND DATE OF DECISION AND ANY CONDITIONS. (SEE PERMIT SUMMARY/WAIVER SUMMARY ON COVER SHEET)

17. AS-BUILT PLANS OF THE SITE SHALL BE SUBMITTED ON PAPER AND IN DIGITAL FORMAT AUTOCAD DWG, AUTOCAD DXF OR ESRI FORMAT TO THE CITY OF DOVER ENGINEER'S OFFICE UPON COMPLETION OF PROJECT.

18. THE INSTALLATION OF ELECTRIC POWER, CABLE TELEVISION AND TELEPHONE LINES SHALL BE UNDERGROUND THROUGHOUT THE SITE FOR WHICH DEVELOPMENT IS PROPOSED.

19. THE SUBJECT PARCEL IS TO BE SERVED BY MUNICIPAL WATER AND SEWER.

20. ALL CONSTRUCTION SHALL CONFORM WITH THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION (NHDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND WITH THE CITY OF DOVER COMMUNITY SERVICES REGULATIONS AND STANDARD SPECIFICATION FOR CONSTRUCTION. THE MORE STRINGENT SPECIFICATION SHALL APPLY.

21. EROSION CONTROL NOTES INCLUDE PROVISIONS FOR CONSTRUCTION SEQUENCING, TEMPORARY EROSION CONTROL MEASURES, AND PERMANENT STANDARDS SUCH AS LOAM SPREAD RATE FOR DISTURBED AREAS, RATES OF LIME, TYPE AND RATES FOR FERTILIZER, AND SEED AND MULCH MIXTURE WITH RATES OF APPLICATION.

22. THE LIMITS OF CONSTRUCTION DISTURBANCE THAT ARE LOCATED IN OR WITHIN 50 FT. OF CONSERVATION AND WETLAND DISTRICTS SHALL BE STAKED, FLAGGED AND CLEARLY IDENTIFIED PRIOR TO ANY EARTH DISTURBING ACTIVITY OCCURS.

23. A LETTER OF CREDIT FOR THE COST OF REVEGETATING ALL DISTURBED AREAS ON THE SITE SHALL BE SUBMITTED, AND THE APPROVED CONSTRUCTION SIGN INSTALLED PRIOR TO ANY EARTH DISTURBING ACTIVITY OCCURS.

24. A PRE-CONSTRUCTION CONFERENCE WITH THE DEVELOPER, THE DESIGN ENGINEER, THE EARTHWORK CONTRACTOR AND THE CITY ENGINEER SHALL OCCUR PRIOR TO ANY EARTH DISTURBING ACTIVITY.

25. SITE CONSTRUCTION HOURS SHALL BE LIMITED TO MONDAY-FRIDAY 7 AM-6 PM AND SATURDAYS 7AM-4PM. HOURS OF CONSTRUCTION MUST BE DOCUMENTED ON A SITE CONSTRUCTION SIGN ALONG WITH THE CONTACT INFORMATION FOR THE GENERAL CONTRACTOR. SAID SIGNAGE MUST BE LOCATED AND APPROVED BY THE CITY ENGINEER OR PLANNING DIRECTOR. WORK PRECLUDED ON SUNDAYS AND FEDERAL HOLIDAYS.

26. BUILDING ADDRESSES (INCLUDING APT/UNIT NUMBERS, IF APPLICABLE) SHALL BE ASSIGNED BY THE BUILDING OFFICIAL AT THE TIME OF ISSUANCE OF A BUILDING PERMIT.

27. THE FOLLOWING FEDERAL AND STATE PERMITS HAVE BEEN ISSUED FOR THE SUBJECT PROPERTY: (SEE PERMIT SUMMARY/WAIVER SUMMARY)

28. COMMERCIAL VEHICLE ROUTE DURING CONSTRUCTION SHALL CONFORM TO DOVER CITY CODE OR BE COORDINATED WITH THE COMMUNITY SERVICES DIRECTOR.

29. ANY RETAINING WALL TALLER THAN FOUR FEET (4') REQUIRES THE ISSUANCE OF A BUILDING PERMIT FROM INSPECTION SERVICES.

30. ANY FENCE TALLER THAN SEVEN FEET (7') REQUIRES THE ISSUANCE OF A BUILDING PERMIT FROM INSPECTION SERVICES.

31. APPLICANT SHALL COMPLETE LAND USE DEVELOPMENT TRACKING FORM, MOST RECENTLY REVISED VERSION, UTILIZING THE ONLINE POLLUTION TRACKING AND ACCOUNTING PILOT PROJECT (PTAPP) PORTAL.

HTTPS://PTAPP.UNH.EDU/

DOVER NOTES CONTINUED:

32. IF APPLICABLE, THE OWNER OF RECORD SHALL RECORD AT THE REGISTRY OF DEEDS DOCUMENTATION SUFFICIENT TO PROVIDE NOTICE TO ALL PERSONS/ENTITIES THAT MAY ACQUIRE ANY PROPERTY SUBJECT TO THE REQUIREMENTS AND RESPONSIBILITIES DESCRIBED IN THE APPROVED STORMWATER MANAGEMENT PLAN. THE NOTICE SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS FOR RECORDING CONTAINED IN RSA 477 AND 478. THE NOTICE NEED NOT SET FORTH THE REQUIREMENTS AT LENGTH, SO LONG AS IT IS SUFFICIENT TO PROVIDE NOTICE TO PROSPECTIVE PURCHASERS TO THE REQUIREMENTS FOR MAINTENANCE AND REPORTING.

33. FIRE DEPARTMENT ACCESS ROAD(S) SHALL BE INSTALLED AND MAINTAINED TO SUPPORT THE IMPOSED LOADS OF FIRE APPARATUS IN ALL WEATHER CONDITIONS AT ALL TIMES.

34. THE MAXIMUM PARKING SPACE CALCULATED IS 19 SPACES AND 19 SPACES ARE PROVIDED.

35. EXTERIOR LIGHTING SHALL BE CUT-OFF TYPE FIXTURES PER CHAPTER 153-14-E AND SHALL PROVIDE LIGHTING DIRECTED ON-SITE ONLY.

36. TOPOGRAPHIC SURVEY PERFORMED BY MCENEANEY SURVEY ASSOCIATES, FEBRUARY 27, 2025.

37. A SECURITY SYSTEM SHALL BE INSTALLED AS REQUIRED BY CHAPTER 45, ARTICLE I, SECTION 45-2 OF THE CODE OF THE CITY OF DOVER. (AS APPLICABLE)

38. APPROVED BACKFLOW PREVENTERS SHALL BE PROVIDED FOR BOTH FIRE AND DOMESTIC WATER LINES.

39. THE PROPOSED STRUCTURE SHALL BE SERVED BY A SPRINKLER SYSTEM AS REQUIRED BY CHAPTER 81-30 OF THE CODE OF THE CITY OF DOVER AND THE ADOPTED STATE OF NH BUILDING AND FIRE CODES.

40. SPRINKLER CONNECTIONS MUST BE FLUSHED IN ACCORDANCE WITH NFPA 24 AND A CONTRACTOR'S MATERIAL AND TEST CERTIFICATE FOR UNDERGROUND PIPING FORM MUST BE COMPLETED AND APPROVED BY INSPECTION SERVICES PRIOR TO CONNECTION OF THE BACKFLOW DEVICE.

41. FIRE DEPARTMENT CONNECTION(S) SHALL BE LOCATED ON THE STREET SIDE OF THE BUILDING PER NFPA 13. ACCESS TO THE FDC SHALL MAINTAIN A CLEAR AND UNOBSTRUCTED PATH AT ALL TIMES.

42. THE SITE LAYOUT IS DESIGNED IN COMPLIANCE WITH APPLICABLE ACCESSIBILITY REGULATIONS. THE PROPOSED STRUCTURE WILL ALSO BE DESIGNED IN ACCORDANCE WITH APPLICABLE ACCESSIBILITY REGULATIONS. (I.E. IBC, ANSI-117.1) AND NH RSA 155-A:5.

43. DESIGN ENGINEER SHALL PROVIDE SIGNED LETTER TO CITY ENGINEER CERTIFYING THAT THE STORMWATER MANAGEMENT SYSTEM HAS BEEN INSTALLED IN ACCORDANCE WITH THE APPROVED PLANS.

44. ALL MANHOLE COVERS SHALL BE LIFTMATE R-1743-LM OR APPROVED EQUAL WITH 90 DEGREE HINGE.

45. REQUIRED BLASTING AND EXCAVATION - DOVER FIRE DEPARTMENT SHALL BE NOTIFIED PRIOR TO ANY BLASTING ACTIVITIES AND A BLASTING PERMIT FROM THE DOVER FIRE DEPARTMENT MUST BE OBTAINED.

46. THE WATER MAIN SHALL BE POLY WRAPPED IN ACCORDANCE WITH THE CITY OF DOVER STANDARDS.

47. ALL SEWER MAINS AND MANHOLES SHALL BE TESTED IN ACCORDANCE WITH NHDES ENV-WQ 700 REQUIREMENTS. COPIES OF TEST RESULTS SHALL BE PROVIDED TO THE CITY OF DOVER ENGINEERING DEPARTMENT.

48. WETLAND PLACARDS SHOULD IDENTIFY THE NO CUT WETLAND BUFFER AND SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION AND AFTER.

49. ALL FITTINGS MUST BE CLASS 140 WATER FITTINGS.

50. ALL GATE VALVES MUST BE MANUFACTURED BY MUELLER OR CLOW.

51. BUILDING TO BE SOLAR READY

DEMOLITION NOTES:

1. COORDINATE REMOVAL, RELOCATION, DISPOSAL OR SALVAGE OF UTILITIES WITH THE OWNER AND APPROPRIATE UTILITY COMPANY.

2. ANY EXISTING WORK OR PROPERTY DAMAGED OR DISRUPTED BY CONSTRUCTION/DEMOLITION ACTIVITIES SHALL BE REPLACED OR REPAIRED TO MATCH ORIGINAL EXISTING CONDITIONS BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

3. THE CONTRACTOR SHALL NOTIFY "DIG SAFE" PRIOR TO ANY DEMOLITION/ CONSTRUCTION ACTIVITIES. (811).

4. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING STRUCTURES, UTILITIES AND PAVEMENT ON THE SITE TO THE LIMITS SHOWN UNLESS SPECIFICALLY IDENTIFIED TO REMAIN. ITEMS TO BE REMOVED INCLUDE BUT ARE NOT LIMITED TO: CONCRETE, PAVEMENT AND POLES.

5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE HIMSELF WITH THE CONDITIONS OF ALL OF THE PERMIT APPROVALS.

6. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS NOT ALREADY OBTAINED BY THE OWNER AND ARRANGE AND PAY FOR NECESSARY INSPECTIONS AND APPROVALS FROM THE AUTHORITIES HAVING JURISDICTION.

7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEMOLITION AND OFF-SITE DISPOSAL OF MATERIALS REQUIRED TO COMPLETE THE WORK, EXCEPT FOR WORK NOTED TO BE COMPLETED BY OTHERS.

8. THE LOCATION OF UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATION IS NOT GUARANTEED BY THE OWNER OR THE ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR EXISTING UTILITIES AND RELOCATE EXISTING UTILITIES REQUIRED TO COMPLETE THE WORK.

9. ALL MATERIALS SCHEDULED TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL DISPOSE OF ALL MATERIALS OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS, ORDINANCES, AND CODES.

10. EXISTING ("OLD") WATER SERVICES TO THE SUBJECT SITE SHALL BE DISCONNECTED AND SHUT-OFF AT THE WATER MAIN.

11. EXISTING SEWER SERVICES TO BE CUT AND PERMANENTLY CAPPED AT PROPERTY LINE.

12. ALL EROSION CONTROL NOTES SHALL INCLUDE PROVISIONS FOR CONSTRUCTION SEQUENCING, TEMPORARY EROSION CONTROL MEASURES, AND PERMANENT STANDARDS SUCH AS LOAM SPREAD RATE FOR DISTURBED AREAS, RATES OF LIME, TYPE AND RATES FOR FERTILIZER, AND SEED AND MULCH MIXTURE WITH RATES OF APPLICATION.

UTILITY NOTES

1. REVIEW DOVER NOTES FOR ALL APPLICABLE NOTES.

2. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE NOT GUARANTEED BY THE OWNER OR ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR EXISTING UTILITIES, AND RELOCATE EXISTING UTILITIES REQUIRED TO COMPLETE THE WORK AT NO ADDITIONAL COST TO THE OWNER.

3. SEE EXISTING CONDITIONS PLAN FOR BENCHMARK INFORMATION.

4. ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLES.

5. SEE GRADING, DRAINAGE & EROSION CONTROL PLAN FOR PROPOSED GRADING AND EROSION CONTROL MEASURES.

6. ALL WATER MAIN INSTALLATIONS SHALL BE CLASS 52, DOUBLE CEMENT LINED DUCTILE IRON PIPE OR TYPE "K" COPPER, OR CITY APPROVED MATERIAL.

7. ALL WATER MAIN INSTALLATIONS SHALL BE PRESSURE TESTED AND CHLORINATED AFTER CONSTRUCTION PRIOR TO ACTIVATING THE SYSTEM. CONTRACTOR SHALL COORDINATE CHLORINATION AND TESTING WITH THE CITY OF DOVER WATER DEPARTMENT.

8. ALL GRAVITY SEWER PIPE SHALL BE PVC SDR 35 UNLESS OTHERWISE NOTED AND CONFORM TO THE REQUIREMENTS OF THE CITY OF DOVER SEWER DEPARTMENT STANDARDS.

9. EXISTING UTILITIES TO BE REMOVED SHALL BE CAPPED AT THE MAIN AND MEET THE CITY OF DOVER COMMUNITY SERVICES DEPARTMENT STANDARDS FOR GAPPING OF WATER AND SEWER SERVICES.

10. ALL ELECTRICAL MATERIAL WORKMANSHIP SHALL CONFORM TO THE NATIONAL ELECTRIC CODE, LATEST EDITION, AND ALL APPLICABLE STATE AND LOCAL CODES.

11. THE EXACT LOCATION OF NEW UTILITY SERVICES AND CONNECTIONS SHALL BE COORDINATED WITH THE BUILDING DRAWINGS AND THE UTILITY COMPANIES.

12. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.

13. THE CONTRACTOR SHALL OBTAIN, PAY FOR, AND COMPLY WITH ALL REQUIRED PERMITS, ARRANGE FOR ALL INSPECTIONS, AND SUBMIT COPIES OF ACCEPTANCE CERTIFICATES TO THE OWNER PRIOR TO THE COMPLETION OF THIS PROJECT.

14. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL MANHOLES, BOXES, FITTINGS, CONNECTORS, COVER PLATES, AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED ON THESE DRAWINGS TO RENDER INSTALLATION OF UTILITIES COMPLETE AND OPERATIONAL.

15. CONTRACTOR SHALL PROVIDE EXCAVATION, BEDDING, BACKFILL AND COMPACTION FOR NATURAL GAS SERVICES. COORDINATE WITH GAS COMPANY.

16. A 10-FOOT MINIMUM EDGE TO EDGE HORIZONTAL SEPARATION SHALL BE PROVIDED BETWEEN ALL WATER AND SANITARY SEWER LINES. AN 18-INCH MINIMUM OUTSIDE TO OUTSIDE VERTICAL SEPARATION SHALL BE PROVIDED AT ALL WATER/SANITARY SEWER CROSSINGS.

17. THE CONTRACTOR SHALL CONTACT "DIG-SAFE" 72 HOURS PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL HAVE THE "DIG-SAFE" NUMBER ON SITE AT ALL TIMES.

18. SAWCUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN.

19. GATE VALVES, FITTINGS, ETC. SHALL MEET THE REQUIREMENTS OF THE CITY OF DOVER.

20. COORDINATE TESTING OF SEWER CONSTRUCTION WITH THE CITY OF DOVER.

21. CONTRACTOR SHALL COORDINATE ALL ELECTRIC WORK INCLUDING BUT NOT LIMITED TO: CONDUIT CONSTRUCTION, MANHOLE CONSTRUCTION, UTILITY POLE CONSTRUCTION, OVERHEAD WIRE RELOCATION, AND TRANSFORMER CONSTRUCTION WITH POWER COMPANY.

22. CONTRACTOR SHALL PHASE UTILITY CONSTRUCTION, PARTICULARLY WATER MAIN AND GAS MAIN CONSTRUCTION AS TO MAINTAIN CONTINUOUS SERVICE TO ABUTTING PROPERTIES. CONTRACTOR SHALL COORDINATE TEMPORARY SERVICES TO ABUTTERS WITH THE UTILITY COMPANY AND AFFECTED ABUTTER.

23. SITE LIGHTING SPECIFICATIONS, CONDUIT LAYOUT AND CIRCUITRY FOR PROPOSED SITE LIGHTING AND SIGN ILLUMINATION SHALL BE PREPARED BY THE PROJECT ELECTRICAL ENGINEER.

24. THE PROPOSED STRUCTURE SHALL COMPLY WITH CHAPTER 81, ARTICLE IV, SECTION 81-27 AND THE STATE BUILDING CODES OF THE CODE OF THE CITY OF DOVER.

25. FIRE SUPPRESSION PLANS SHALL BE PROVIDED TO THE FIRE/INSPECTION DEPARTMENT PRIOR TO INSTALLATION AS APPROPRIATE.

26. COORDINATE ALL UTILITY WORK WITH APPROPRIATE UTILITY COMPANY.

27. AN EASEMENT WILL BE GRANTED TO THE CITY ALONG THE WATER LINES TO ALLOW ACCESS FOR OPERATION OF THE WATER INFRASTRUCTURE TO MAINTAIN WATER QUALITY.

28. ALL VALVES SHALL OPEN COUNTER CLOCKWISE.

29. SEWAGE LOADING (PER ENV. - WQ 1008.03 TABLE 1008-1)

3,048 OFFICE 5 GPD/100 S.F. = 153

2 - 2 BDRM/300 GPD/BDRM = 600

2 - 1 BDRM/225 GPD/BDRM = 450

TOTAL = 1203 GPD

SITE NOTES

1. REVIEW DOVER NOTES FOR ALL APPLICABLE NOTES.

2. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO APPLICABLE CITY AND STATE CODES.

3. ALL CONSTRUCTION LAYOUT SHALL BE DONE BY A LICENSED SURVEYOR UNDER CONTRACT WITH THE CONTRACTOR.

4. SEE DETAILS FOR SIGN LEGENDS.

5. ALL PAVEMENT MARKINGS AND SIGNS SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", THE "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS", AND THE AMERICAN WITH DISABILITIES ACT, LATEST EDITIONS.

6. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE CONSTRUCTION PROCEDURES AND SEQUENCE TO ENSURE THE SAFETY OF THE FACILITIES AND THEIR COMPONENTS DURING DEMOLITION AND CONSTRUCTION UNLESS OTHERWISE DIRECTED BY THE OWNER'S REPRESENTATIVE. THIS INCLUDES THE ADDITION OF NECESSARY SHORING, SHEETING, TEMPORARY BRACING, GUYS OR TIE-DOWNS. SUCH MATERIALS SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AT THE COMPLETION OF THE PROJECT.

7. METHODS OF DEMOLITION, CONSTRUCTION AND ERECTION ARE THE CONTRACTOR'S RESPONSIBILITY UNLESS OTHERWISE SPECIFIED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE AND MAINTAIN ENVIRONMENTAL CONTROLS AS REQUIRED BY FEDERAL, STATE AND MUNICIPAL REGULATIONS AND PERMITS. ENVIRONMENTAL CONTROLS SHALL INCLUDE BUT SHALL NOT BE LIMITED TO DUST CONTROL AND SILT BARRIERS.

8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE DONE TO STRUCTURES OR UTILITIES OR INJURIES TO THE PUBLIC DURING THE CONSTRUCTION PHASE CAUSED BY HIMSELF, HIS EMPLOYEES, HIS SUBCONTRACTORS OR EMPLOYEES OF SAME. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL TEMPORARY FACILITIES FOR THE PROTECTION OF THE WORK, WORKERS AND PUBLIC SAFETY.

9. THE SITE SHALL BE MAINTAINED TO PROVIDE ACCESSIBILITY IN ALL WEATHER CONDITIONS.

10. REFUSE PICKUP WILL BE BY PRIVATE CONTRACTOR AND WILL BE VIA DUMPSTER ON-SITE.

11. SNOW STORAGE WILL BE ACCORDING TO THE OPERATION AND MAINTENANCE PLAN AND WITHIN AREAS AS INDICATED. ON-SITE SNOW STORAGE SHALL OCCUR ALONG THE EDGES OF PROPOSED PAVEMENT.

12. ALL EXTERIOR DOORS ARE MANUAL AND OPENED FROM THE INTERIOR BY PANIC HARDWARE. ALL EXTERIOR DOORS SHALL COMPLY WITH ADA AND ALL LOCAL BUILDING CODE REQUIREMENTS.

GRADING NOTES:

1. REVIEW DOVER NOTES FOR ALL APPLICABLE NOTES.

2. CONTRACTOR SHALL RETAIN A GEOTECHNICAL ENGINEERING CONSULTANT APPROVED BY THE OWNER, TO CONDUCT COMPACTION TESTING AND FILL GRADATION MONITORING.

3. SEE EROSION CONTROL NOTES & DETAIL SHEET FOR TEMPORARY AND PERMANENT EROSION CONTROL MEASURES.

4. ALL DRAINAGE PIPES SHALL BE HDPE OR APPROVED EQUAL UNLESS OTHERWISE NOTED.

5. ALL DISTURBED AREAS NOT OTHERWISE CALLED FOR SURFACE TREATMENT SHALL RECEIVE 4" OF HIGH QUALITY LOAM AND SHALL BE SEEDED WITH GRASS.

6. ALL SITEWORK CONSTRUCTION SHALL BE ADVANCED USING "BEST MANAGEMENT PRACTICES" SANCTIONED BY THE USDA, SCS AND NHDES.

7. TEMPORARY CONSTRUCTION ENTRANCE SHALL BE INSTALLED, UTILIZED AND MAINTAINED UNTIL BASE MATERIALS ARE CONSTRUCTED.

8. CONTRACTOR SHALL PROVIDE A FINISH GRADED SURFACE FREE OF LOW SPOTS AND PONDING AREAS. CRITICAL AREAS INCLUDE BUILDING ENTRANCE AND UNDER RAISED STRUCTURES.

9. PROVIDE INLET PROTECTION BARRIERS AROUND ALL EXISTING AND PROPOSED STORM DRAINAGE INLETS WITHIN THE WORK LIMITS AND AS SHOWN ON PLAN. MAINTAIN FOR THE DURATION OF THE PROJECT UNTIL PAVEMENT HAS BEEN INSTALLED AND UPSTREAM AREAS HAVE BEEN STABILIZED.

10. INSPECT SILT BARRIERS AFTER EACH RAIN STORM OF 1/4 INCH OR GREATER. REPAIR/MODIFY PROTECTION AS NECESSARY TO MAXIMIZE EFFICIENCY OF THE FILTER. REPLACE ALL FILTERS WHEN SEDIMENT IS 1/3 THE STRUCTURE HEIGHT.

11. LIMIT TREE CLEARING TO ONLY THE EXTENT NECESSARY FOR CONSTRUCTION.

12. CONTRACTOR SHALL NOTIFY THE CITY OF DOVER AND THE DESIGN ENGINEER 48 HOURS PRIOR TO THE INSTALLATION OF PERMANENT STORMWATER BMP'S TO PROVIDE THE CITY AND THE ENGINEER THE OPPORTUNITY TO WITNESS THE CONSTRUCTION AND MATERIALS. THE DESIGN ENGINEER MUST CERTIFY THAT THE STORMWATER MANAGEMENT SYSTEM HAS BEEN INSTALLED IN ACCORDANCE WITH THE APPROVED PLANS.

13. DENSITY REQUIREMENTS:
LOCATION
BELOW PAVED OR CONCRETE AREAS 95%
TRENCH BEDDING MATERIAL AND SAND BLANKET BACKFILL 95%
BELOW LOAM AND SEED AREA 90%
*ALL PERCENTAGES SHALL BE OF THE MAXIMUM DRY DENSITY AT THE OPTIMUM MOISTURE CONTENT AS DETERMINED AND CONTROLLED IN ACCORDANCE WITH AASHTO STANDARD 180, METHOD C. FIELD DENSITY TESTS SHALL BE MADE IN ACCORDANCE WITH AASHTO STANDARD T-191, T-204, OR T-238 AND T-239.

UTILITY CONTACTS

NATURAL GAS: UNITIL CORPORATION
CONTACT: JANET OLIVER
325 WEST ROAD
PORTSMOUTH, NH 03801
TEL: (603)-294-5174
EMAIL: OLIVER@UNITIL.COM

WATER & SEWER: CITY OF DOVER COMMUNITY SERVICES DEPARTMENT
PUBLIC WORKS & UTILITIES
CONTACT: JILLIAN SEMPRINI
271 MAST ROAD
DOVER, NH 03820
TEL: (603)-516-6450
EMAIL: J.SEMPRINI@DOVER.NH.GOV

ELECTRIC: EVERSOURCE
CONTACT: TREVOR EMMONS
4 OLD DOVER ROAD
ROCHESTER, NH 03867
TEL: (603)-332-4227
EMAIL: TREVOR.EMMONS@EVERSOURCE.COM

NOTE SHEET

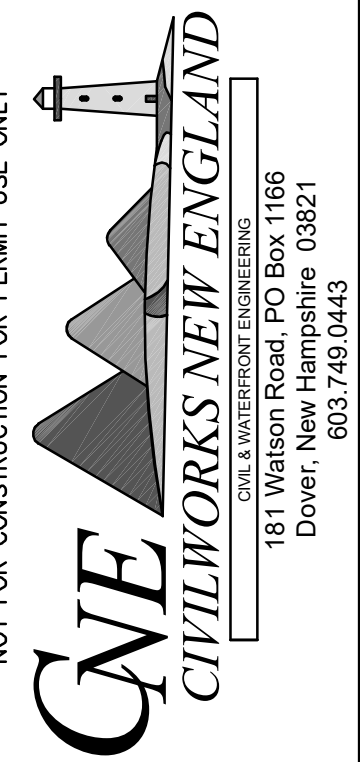
DOVER POINT MIXED USE
28 DOVER POINT ROAD
DOVER, NH

3

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

DATE: 2-9-26	SCALE: AS SHOWN	DRAWN BY: SRD	DESIGN BY: SRD	APPROVED BY:SLH	PROJECT NO.:25026	FILE:SITE-DWG	NO.	REVISION	APPD	DATE
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25 DOVER POINT LLC
99 COLUMBUS AVENUE
DOVER, NH 03820

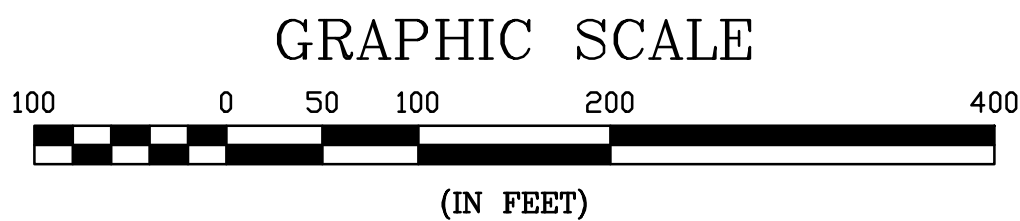
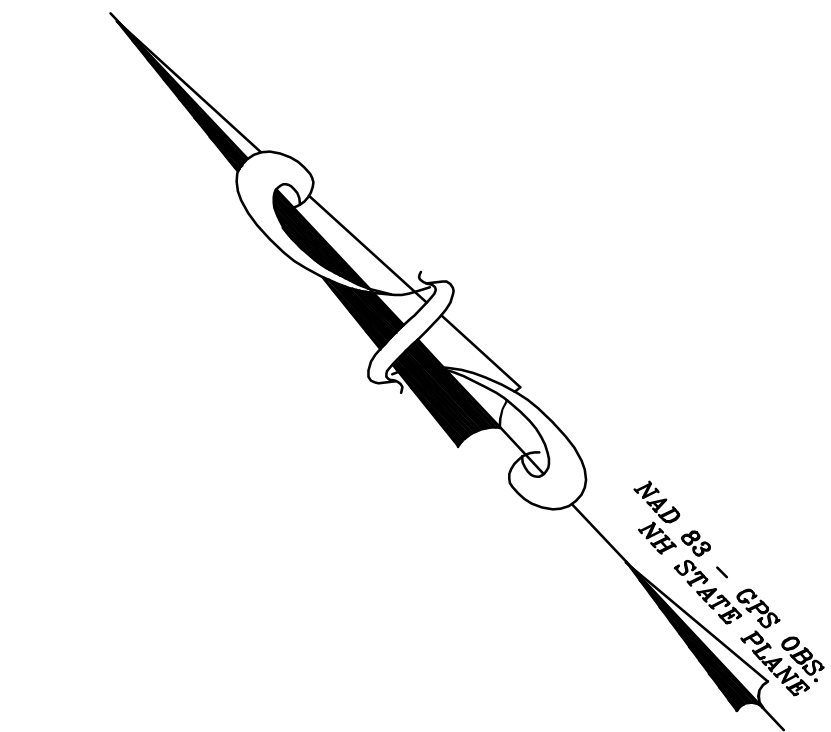




ABUTTERS LIST
(WITHIN 200 FT)

TAX MAP	LOT NO.	NAME & ADDRESS
K 18-A-10	18-A	CITY OF DOVER 288 CENTRAL AVENUE DOVER, NH 03820
K 19-C	19-C	IRVING OILS TERMINALS INC 10 KING SQUARE SOUTH ST. JOHN NEW BRUNSWICK CANADA E210G3
K 26-1	26-1	MOUNTAIN SUZANNE MARIE REYNOLDS TRUSTEE SUZANNE REYNOLDS REVOCABLE LIVING TRUST 26 DOVER POINT ROAD DOVER, NH 03820
K 27	27	MORIN JOHN K & MORIN MELLISA D 48 HALL ROAD26 DOVER POINT ROAD BARRINGTON, NH 03825
K 28	28	FORTUNA DAVIN M & ASSELTA-FORTUNA CAROLYN 22 DOVER POINT ROAD DOVER, NH 03820
K 35	35	25 DOVER POINT LLC 99 COLUMBUS AVE DOVER, NH 03820
K 36	36	31 33 DOVER POINT ROAD CONDOMINIUM PAOLINI ROBERT TRUSTEE AND WILKINSON STE 15 BRIARWOOD LANE DOVER, NH 03820
K 37	37	STF DEVELOPMENT CORP. 242 CENTRAL AVENUE DOVER, NH 03820

K TAX MAP
26 LOT NUMBER



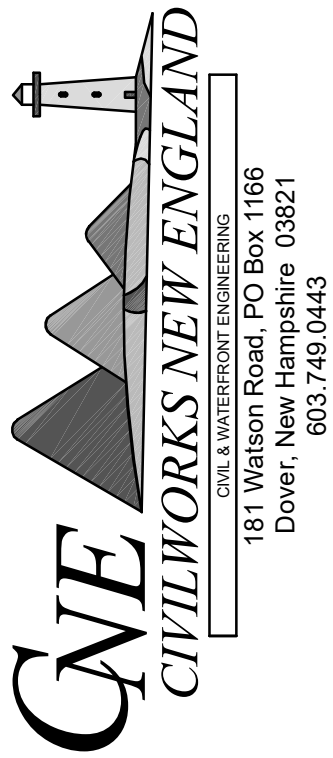
PLANNING FILE NO.: SITE-2026-

NEIGHBORHOOD PLAN

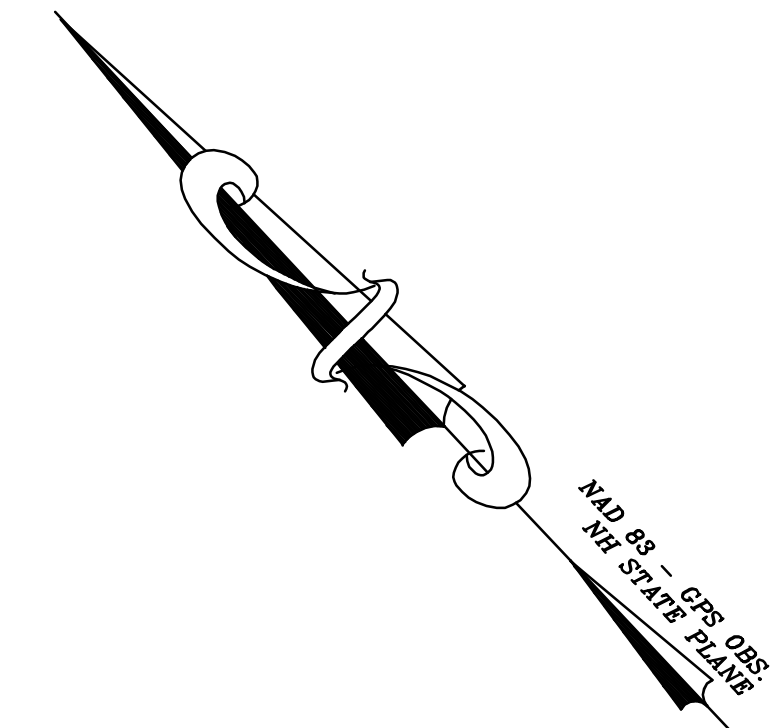
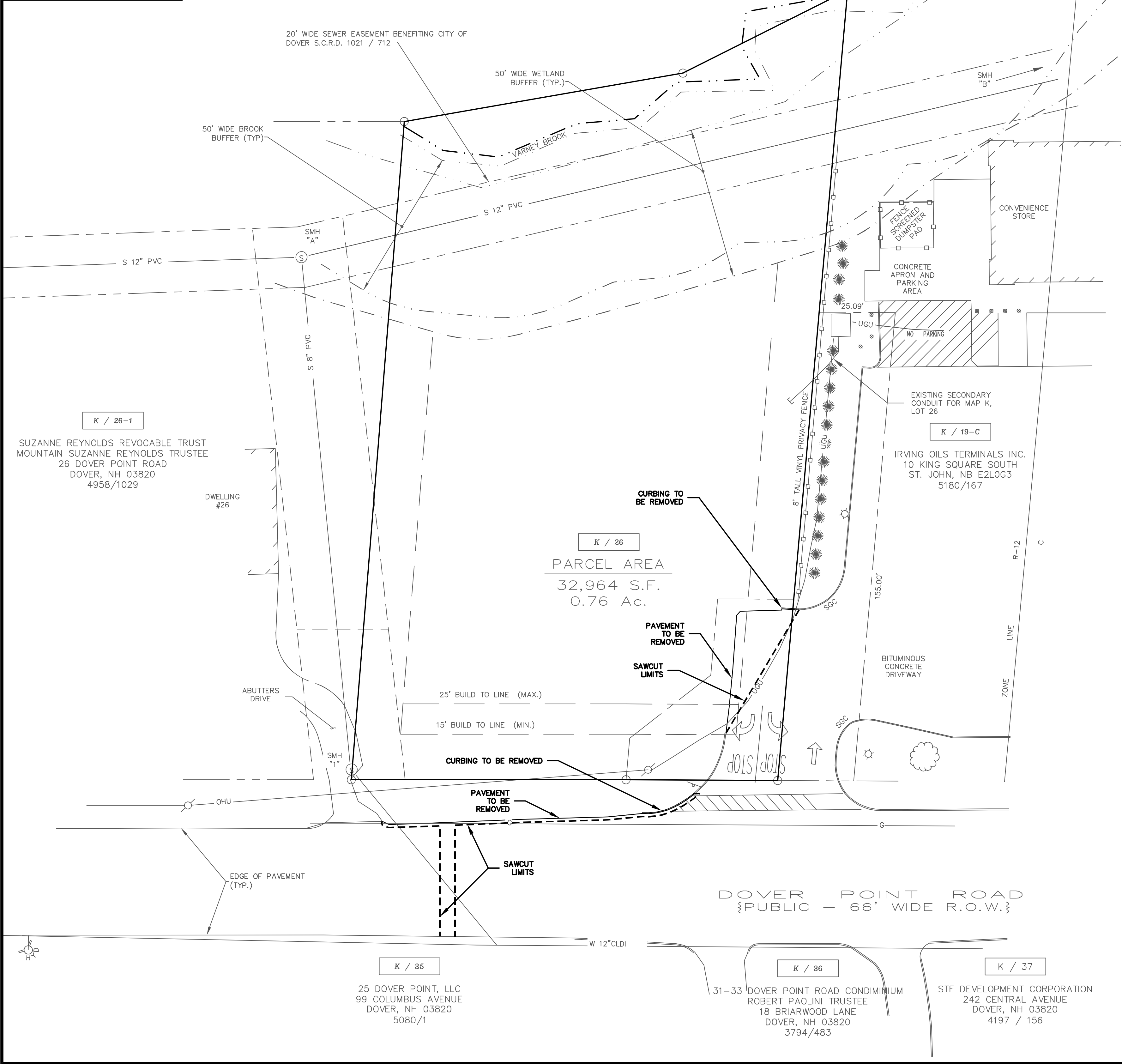
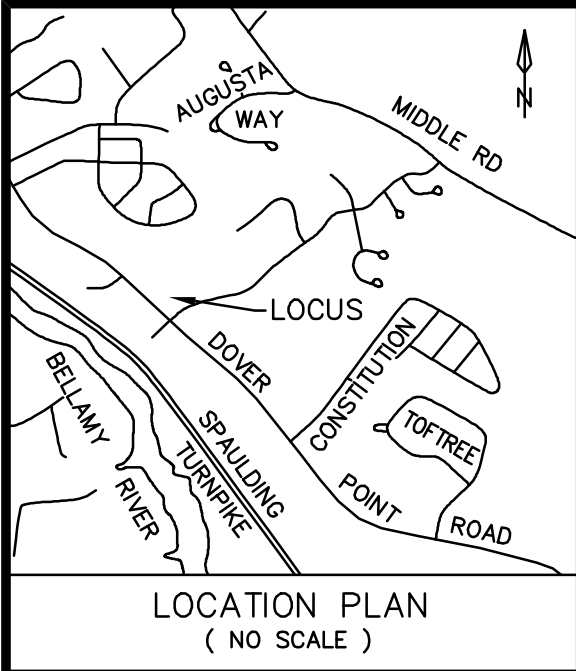
DOVER POINT MIXED USE
28 DOVER POINT ROAD
DOVER, NH

25 DOVER POINT LLC
99 COLUMBUS AVENUE
DOVER, NH 03820

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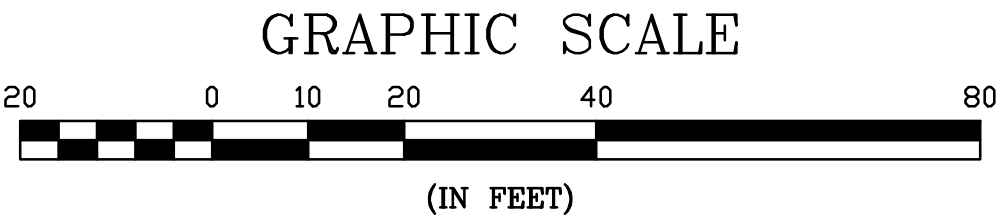


181 Watson Road, PO Box 1166
Dover, NH 03820



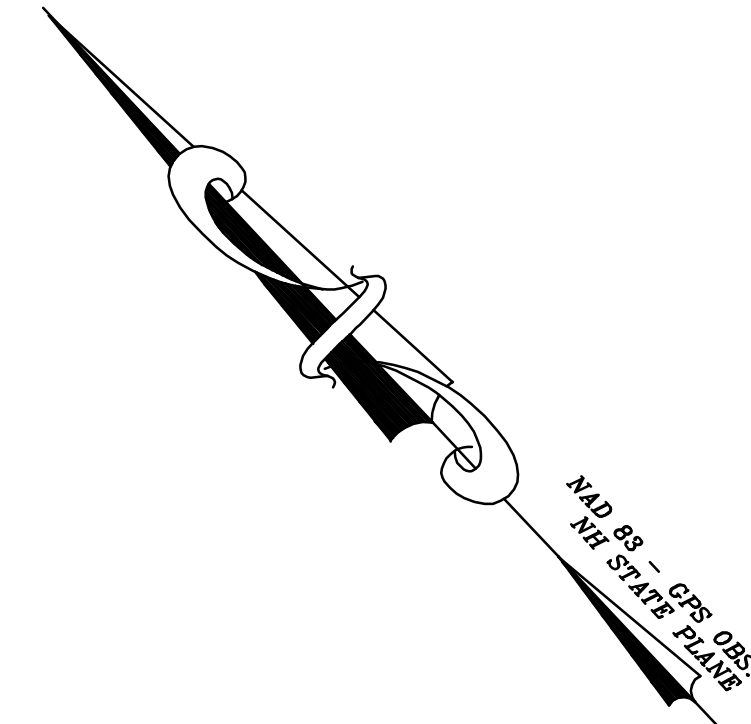
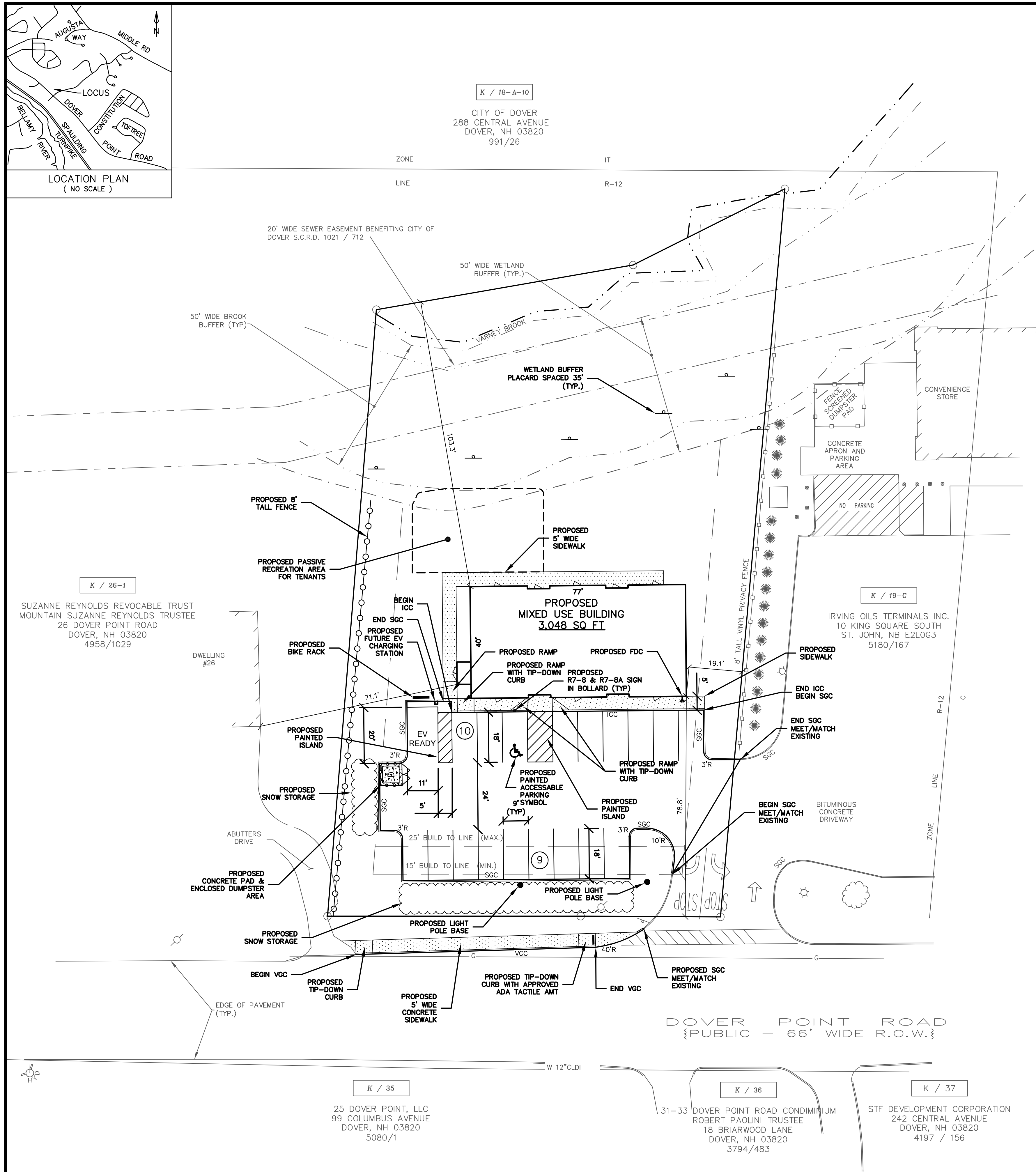
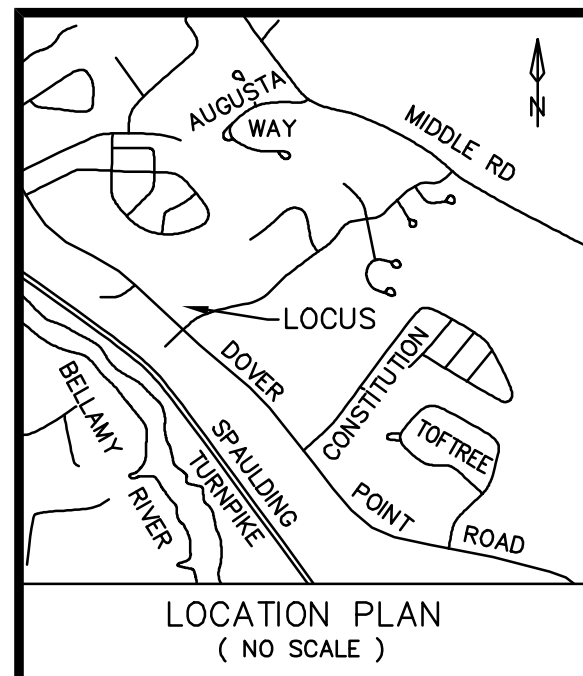
SANITARY SEWER STRUCTURE SCHEDULE

EXIST. SMH "1"	EXISTING CROSS-COUNTRY LINE
RIM ELEV:	= 73.38
INVERT IN:	= 62.5 (8")
INVERT OUT:	= 62.4 (8")
EXIST. SMH "A"	EXISTING CITY CROSS-COUNTRY LINE
RIM ELEV:	= 60.62
INVERT IN:	= (8")
INVERT IN:	= 51.32 (12")
INVERT OUT:	= 51.30 (12")
EXIST. SMH "B"	EXISTING CITY CROSS-COUNTRY LINE
RIM ELEV:	= 59.34
INVERT IN:	= 48.74 (12")
INVERT OUT:	= 48.64 (12")



PLANNING FILE NO.: SITE-2026-

DEMOLITION PLAN		25 DOVER POINT LLC 99 COLUMBUS AVENUE DOVER, NH 03820		DOVER POINT MIXED USE 28 DOVER POINT ROAD DOVER, NH		5							
DATE: 2-9-26		SCALE: 1"=20'		DRAWN BY: SRD		DESIGN BY: SRD	APPROVED BY: JH	PROJECT NO: 25026	FILE: SITE.DWG	NO.	REVISION	APP'D	DATE
NOT FOR CONSTRUCTION FOR PERMIT USE ONLY		GNE CIVILWORKS NEW ENGLAND		181 Watson Road, PO Box 1166 Dover, New Hampshire 03821 603.749.0443									



VARIANCES: APPROVED: DECEMBER 18, 2025

1. VARIANCE: FROM SECTION 170-11(D) TO ALLOW FOR CONSTRUCTION OF A COMMERCIAL BUILDING WITHIN A RESIDENTIAL ZONING DISTRICT.
2. VARIANCE: FROM SECTION 170-12(B) TO PERMIT A FRONT SETBACK OF 78.8' WHERE THE FRONT BUILD-TO-LINE REQUIRES A MAX OF 25'.
3. VARIANCE: FROM SECTION 170-15(D) TO ALLOW FOR A COMMERCIAL PROPERTY CLOSER THAN 150' FROM A RESIDENTIAL STRUCTURE WITHIN A RESIDENTIAL ZONE.

APPROVED: ZONE-2025-0037, ZONE-2025-0037B, ZONE-2025-0037C

PARKING CALCULATIONS:

	REQUIRED	PROPOSED
COMMERCIAL 1 SPACE/300 S.F. =	11	
RESIDENTIAL 1.9 SPACE/UNIT X 4 =	8	
TOTAL	19	19

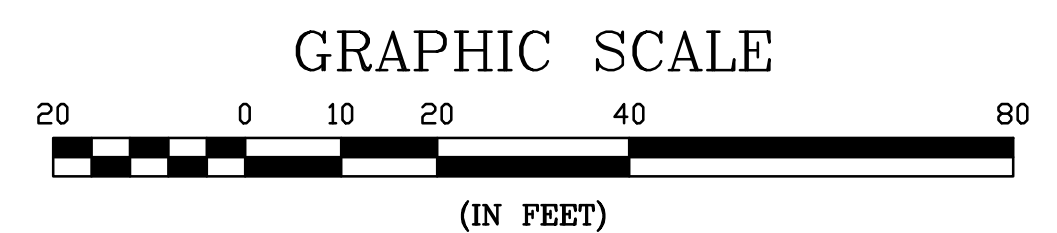
SNOW STORAGE:

$$\frac{1 \text{ S.F. STORAGE}}{10 \text{ S.F. PAVEMENT}} = 645.2 \text{ S.F.}$$

SNOW STORAGE AREA PROVIDED = ±910 S.F.

SNOW NOTE:

SNOW NOTE:
SNOW PLOWING SERVICE TO BE GREEN SNOPRO CERTIFIED.



PLANNING FILE NO.: SITE-2026-

SITE PLAN

**DOVER POINT MIXED USE
28 DOVER POINT ROAD
DOVER, NH**

**25 DOVER POINT LLC
99 COLUMBUS AVENUE
DOVER, NH 03820**

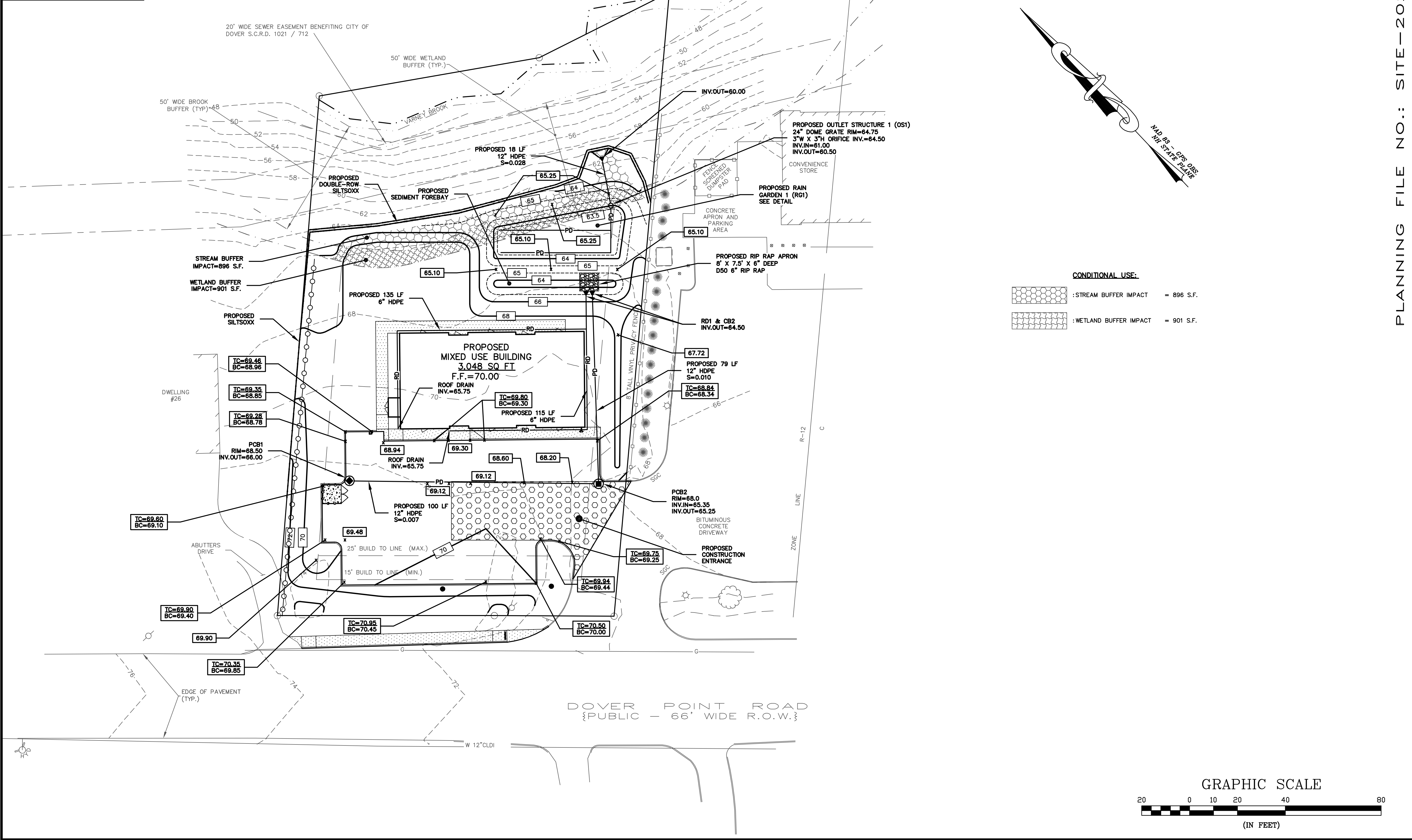
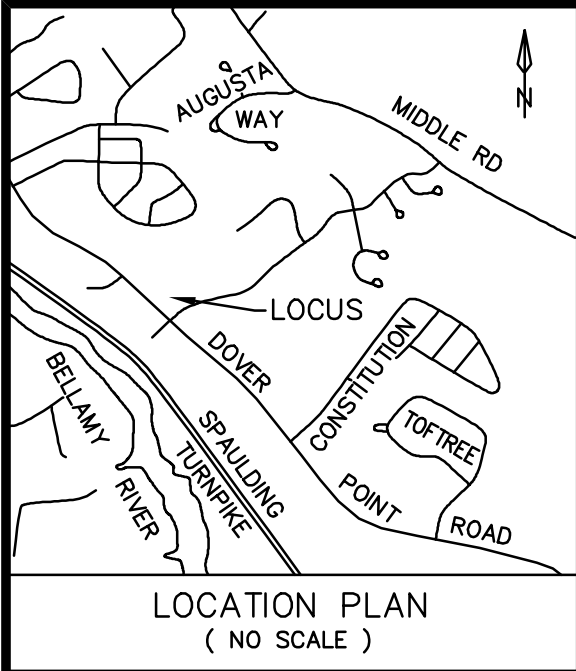
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NOT FOR CONSTRUCTION FOR PERMIT USE ONLY



CNE
CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING

181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443



GRADING, DRAINAGE & EROSION CONTROL PLAN

DOVER POINT MIXED USE
28 DOVER POINT ROAD
DOVER, NH

25 DOVER POINT LLC
99 COLUMBUS AVENUE
DOVER, NH 03820

PLANNING FILE NO.: SITE-2026-

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

DATE: 2-9-26

SCALE: 1"=20'

DRAWN BY: SRD

DESIGN BY: SRD

APPROVED BY: JH

PROJECT NO: 25026

FILE SITE: DWG

NO. 1

REVISION

DATE

CNE

CIVILWORKS NEW ENGLAND

181 Watson Road, PO Box 1166
Dover, NH 03820

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

DATE: 2-9-26

SCALE: 1"=20'

DRAWN BY: SRD

DESIGN BY: SRD

APPROVED BY: JH

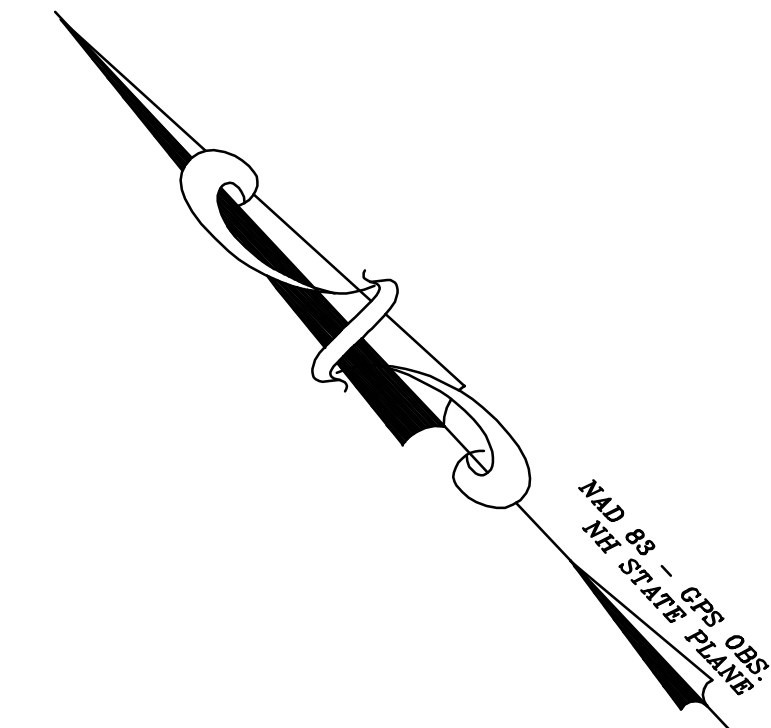
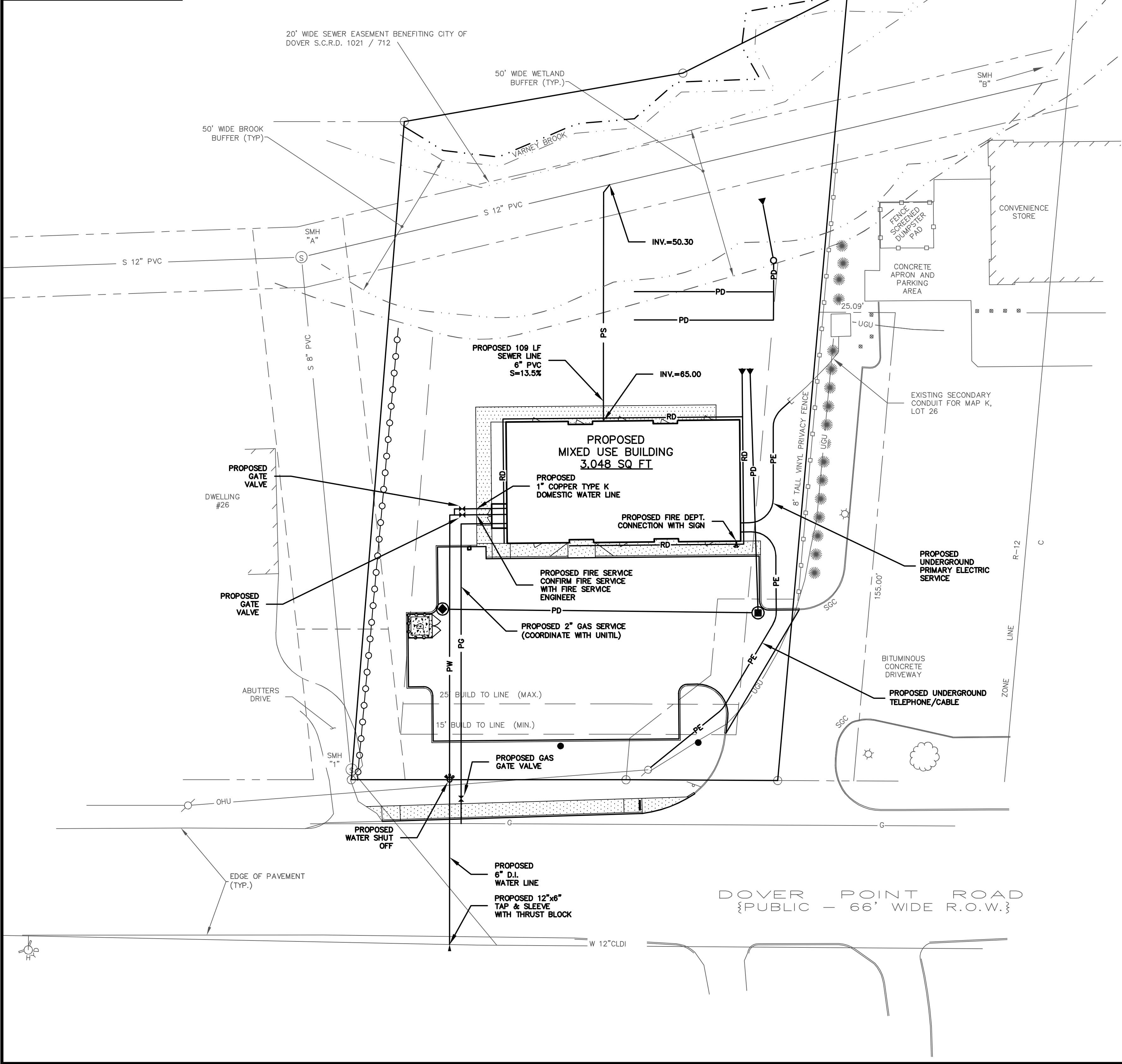
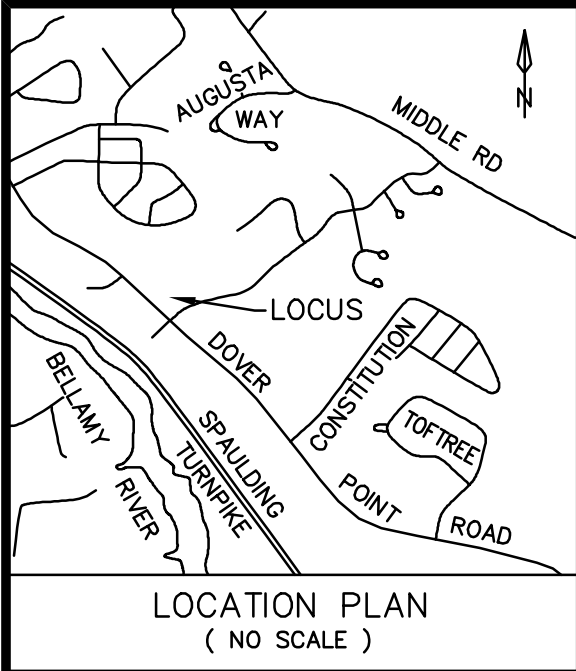
PROJECT NO: 25026

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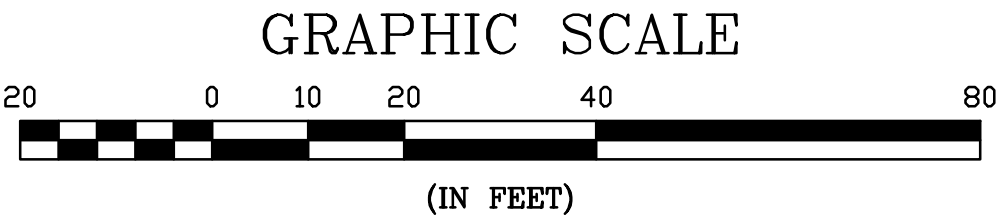
REVISION

DATE



SANITARY SEWER STRUCTURE SCHEDULE

EXIST. SMH "1"	EXISTING CROSS-COUNTRY LINE
RIM ELEV:	= 73.38
INVERT IN:	= 62.5 (8")
INVERT OUT:	= 62.4 (8")
EXIST. SMH "A"	EXISTING CITY CROSS-COUNTRY LINE
RIM ELEV:	= 60.62
INVERT IN:	= (8")
INVERT IN:	= 51.32 (12")
INVERT OUT:	= 51.30 (12")
EXIST. SMH "B"	EXISTING CITY CROSS-COUNTRY LINE
RIM ELEV:	= 59.34
INVERT IN:	= 48.74 (12")
INVERT OUT:	= 48.64 (12")



PLANNING FILE NO.: SITE-2026-

UTILITY PLAN

DOVER POINT MIXED USE
28 DOVER POINT ROAD
DOVER, NH

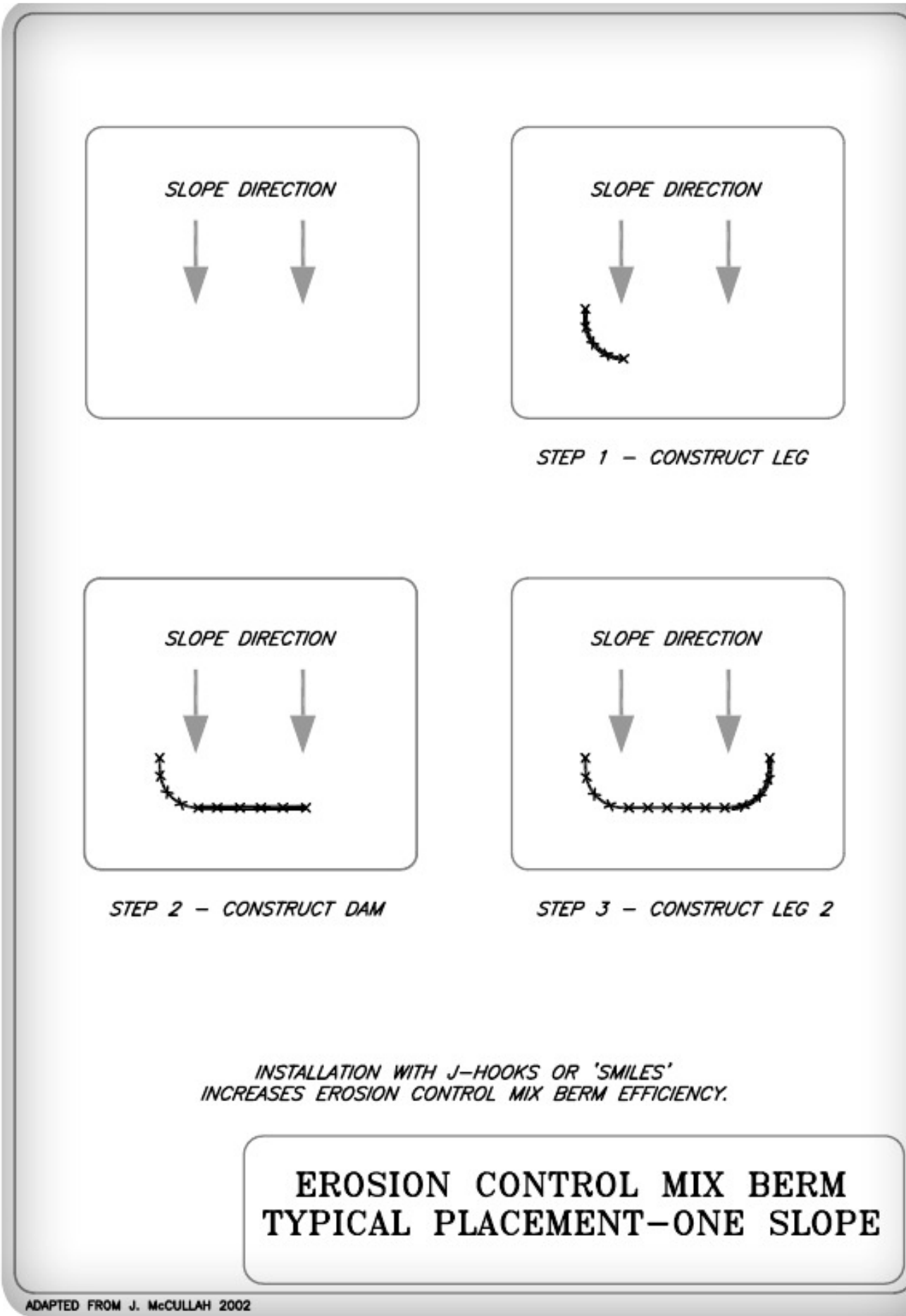
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25 DOVER POINT LLC
99 COLUMBUS AVENUE
DOVER, NH 03820

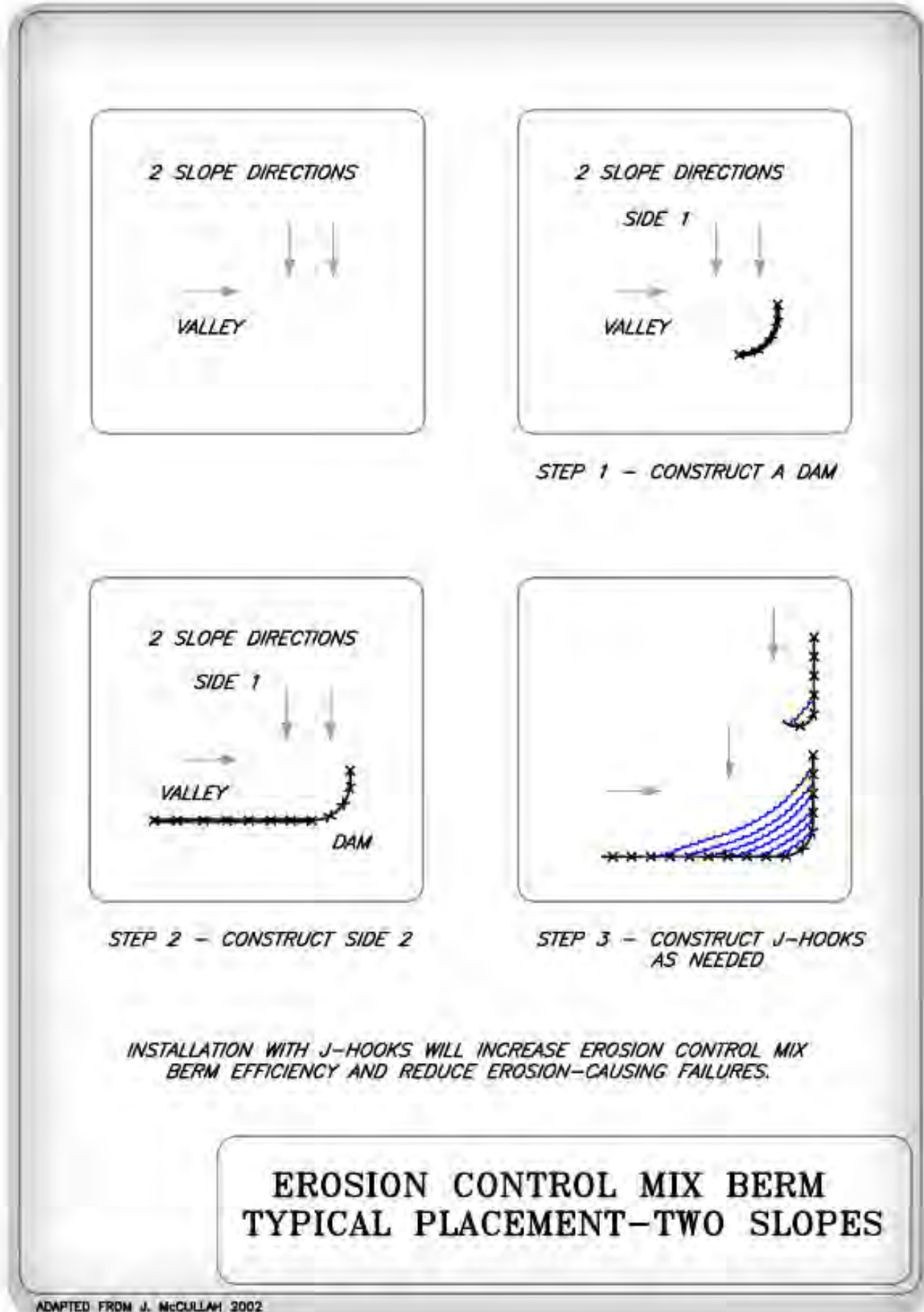
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GNE CIVILWORKS NEW ENGLAND
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

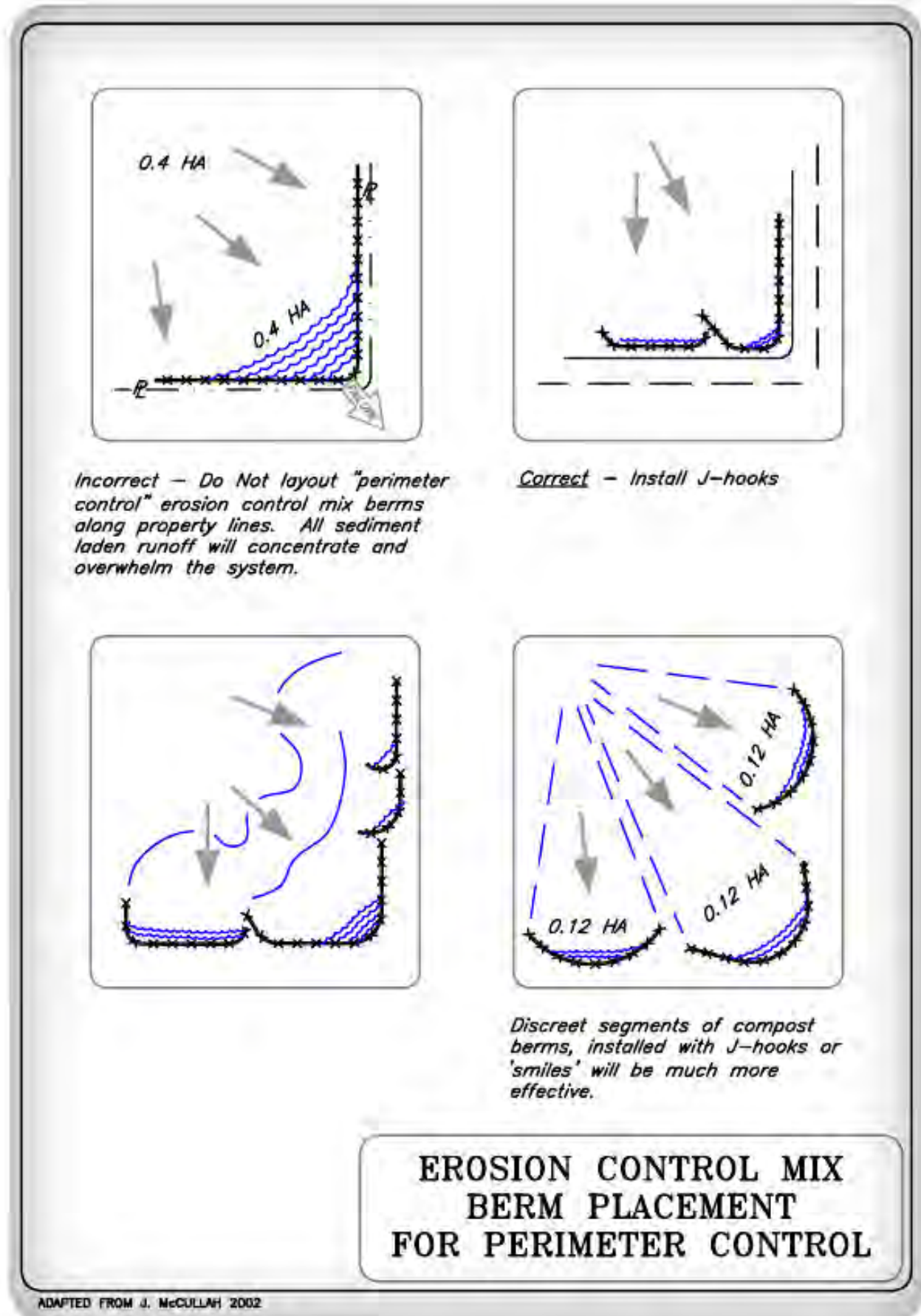
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2-9-26	1"=20'	SRD	SRD	BY:SRD	25026					



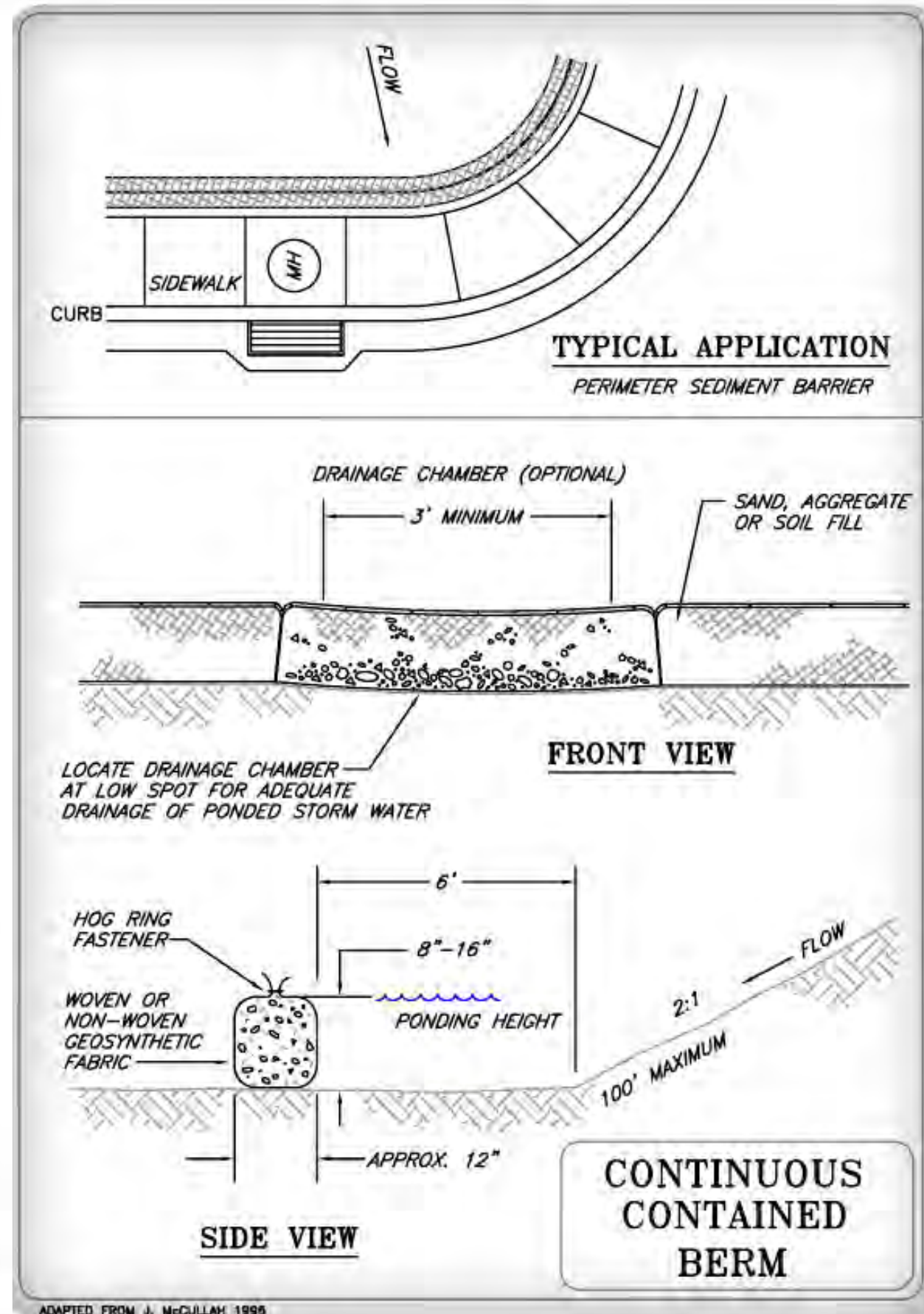
DETAIL FROM NHDES STORMWATER MANUAL VOLUME 3



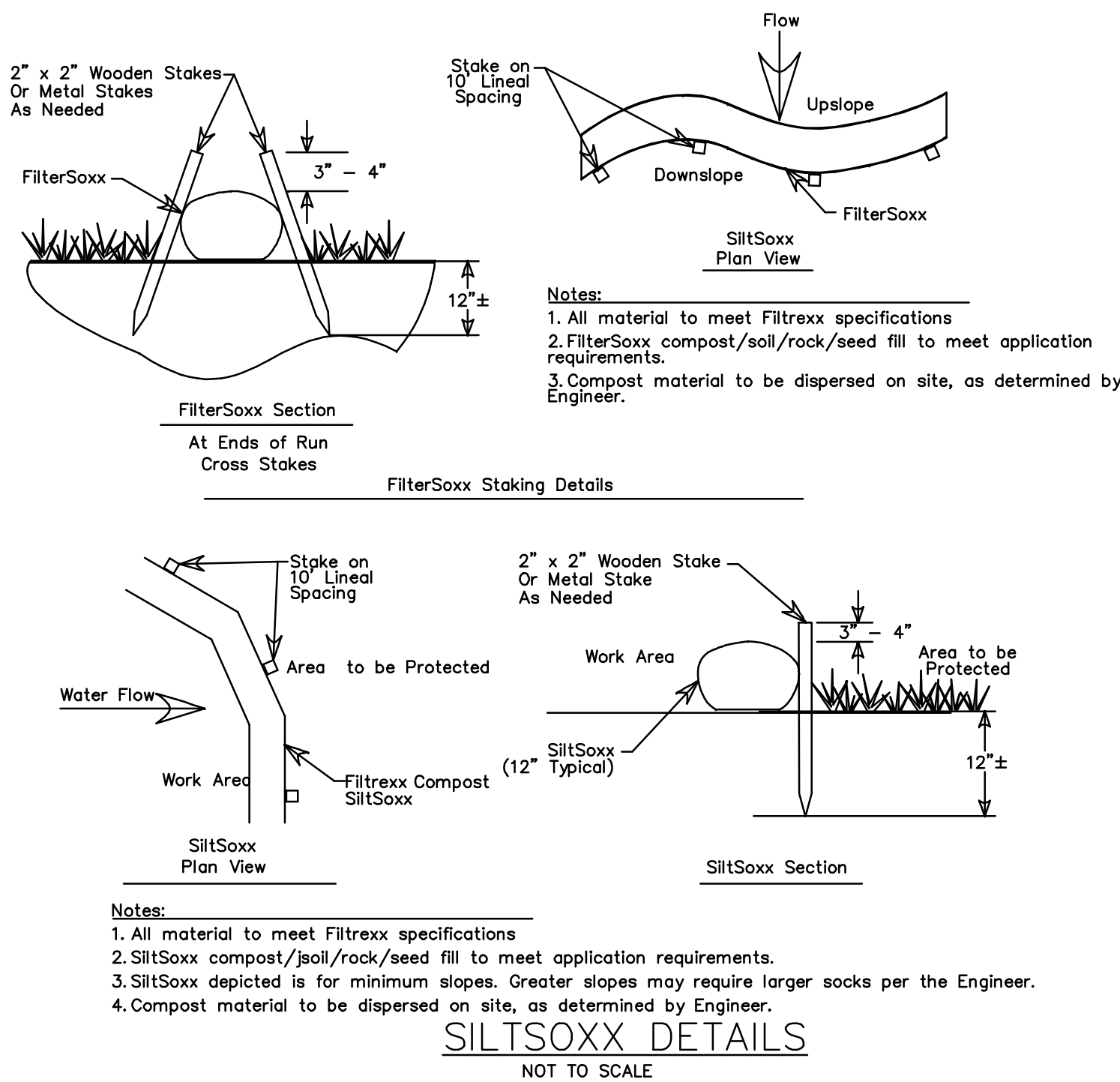
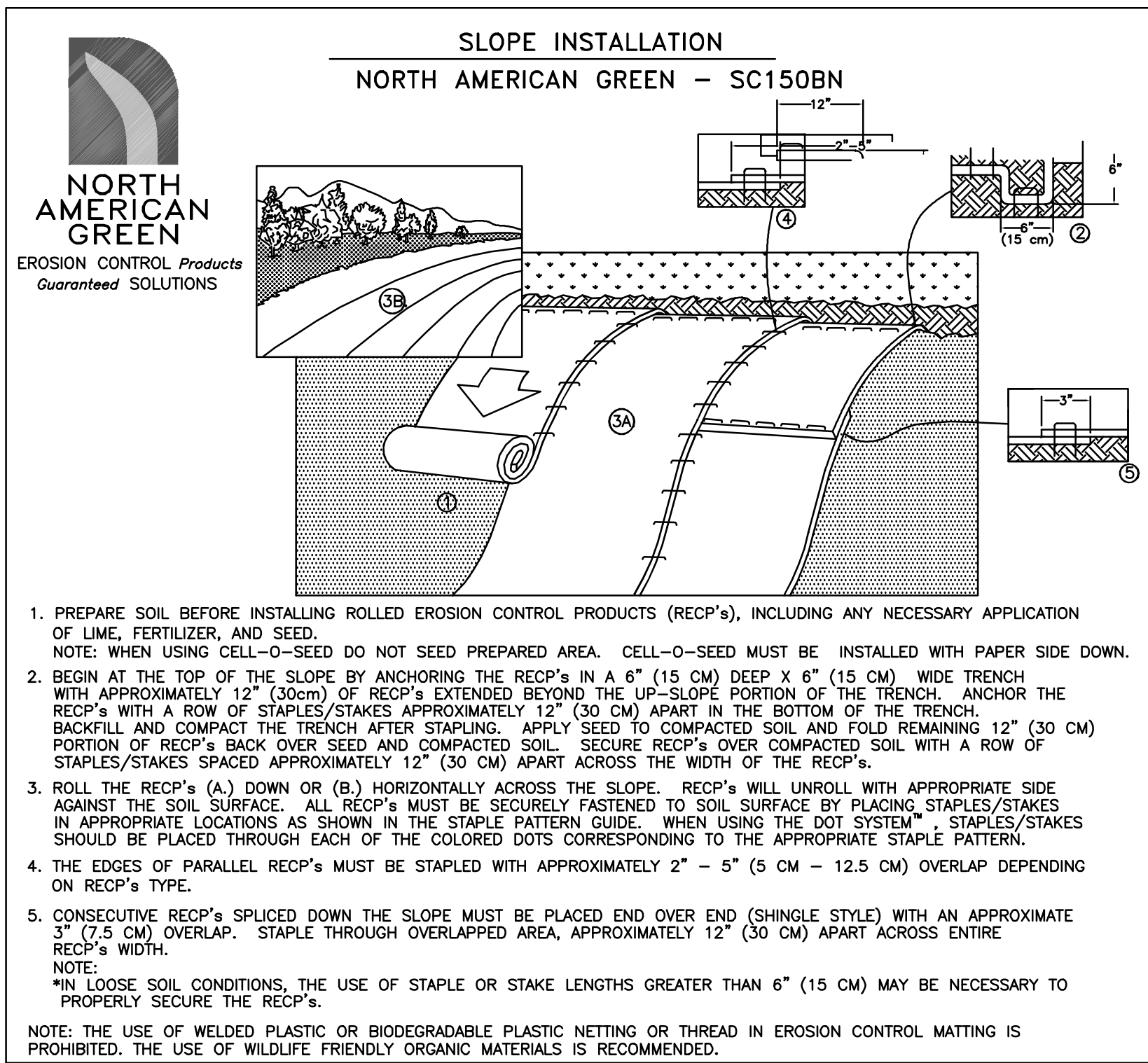
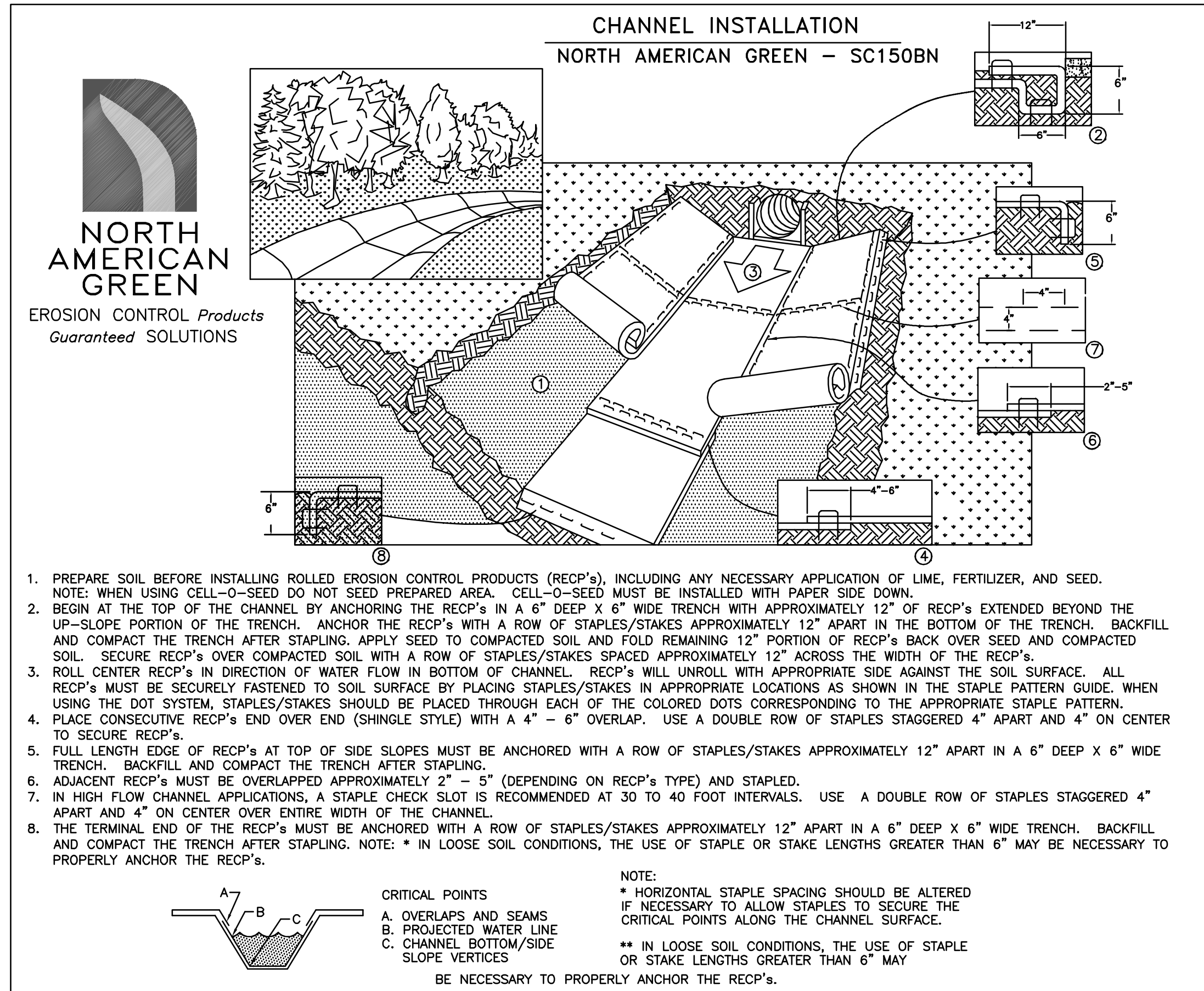
DETAIL FROM NHDES STORMWATER MANUAL VOLUME 3



DETAIL FROM NHDES STORMWATER MANUAL VOLUME 3



DETAIL FROM NHDES STORMWATER MANUAL VOLUME 3



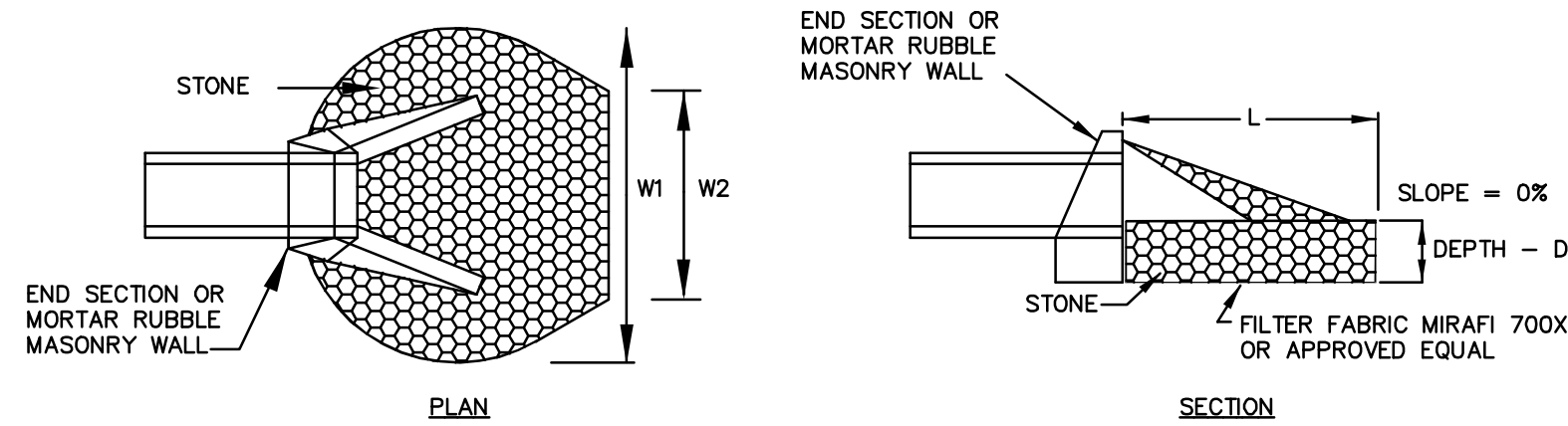
PLANNING FILE NO.: SITE-2026-

DATE: 2-9-26	SCALE: AS SHOWN	DRAWN BY: SRD	DESIGN BY: SRD	APPROVED BY: SRD	PROJECT NO: 25026	FILE: SITE.DWG	NO.	REVISION	APP'D	DATE

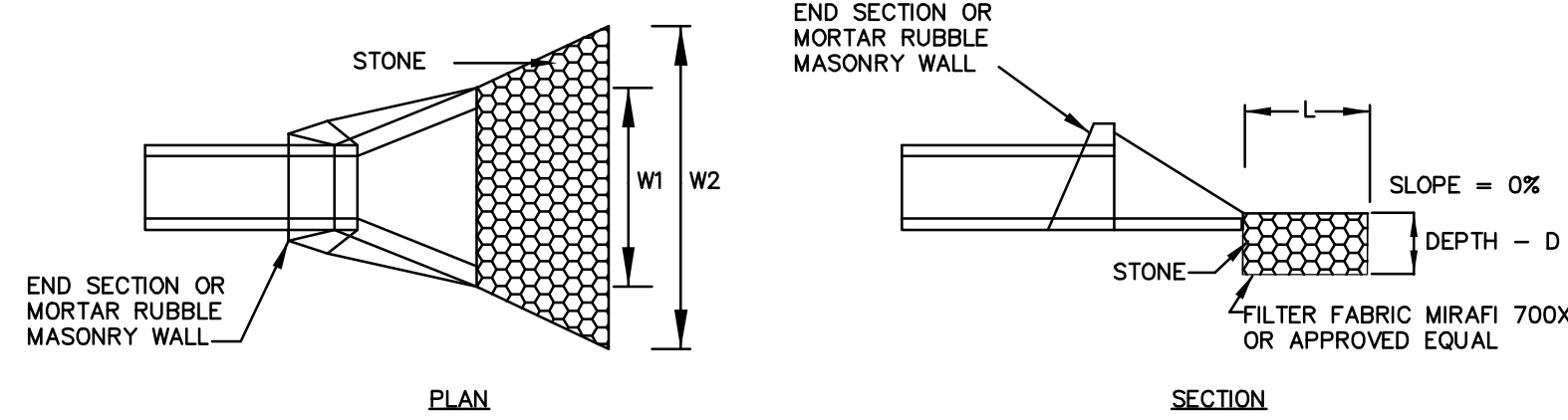
EROSION CONTROL DETAILS

25 DOVER POINT LLC
99 COLUMBUS AVENUE
DOVER, NH 03820

DOVER POINT MIXED USE
28 DOVER POINT ROAD
DOVER, NH



STONE APRON OUTLET PROTECTION DETAIL
OUTLET TO DEFINED CHANNEL



STONE APRON OUTLET PROTECTION DETAIL
OUTLET TO FLAT AREA, NON DEFINED CHANNEL

MAINTENANCE

THE OUTLET PROTECTION SHOULD BE CHECKED AT LEAST ANNUALLY AND AFTER EVERY MAJOR STORM. IF THE RIPRAP HAS BEEN DISPLACED, UNDERMINED OR DAMAGED, IT SHOULD BE REPAIRED IMMEDIATELY. THE CHANNEL IMMEDIATELY BELOW THE OUTLET SHOULD BE CHECKED TO SEE THAT EROSION IS NOT OCCURRING. THE DOWNSTREAM CHANNEL SHOULD BE KEPT CLEAR OF OBSTRUCTIONS SUCH AS FALLEN TREES, DEBRIS, AND SEDIMENT THAT COULD CHANGE FLOW PATTERNS AND/OR TAILWATER DEPTHS ON THE PIPES. REPAIRS MUST BE CARRIED OUT IMMEDIATELY TO AVOID ADDITIONAL DAMAGE TO THE OUTLET PROTECTION APRON.

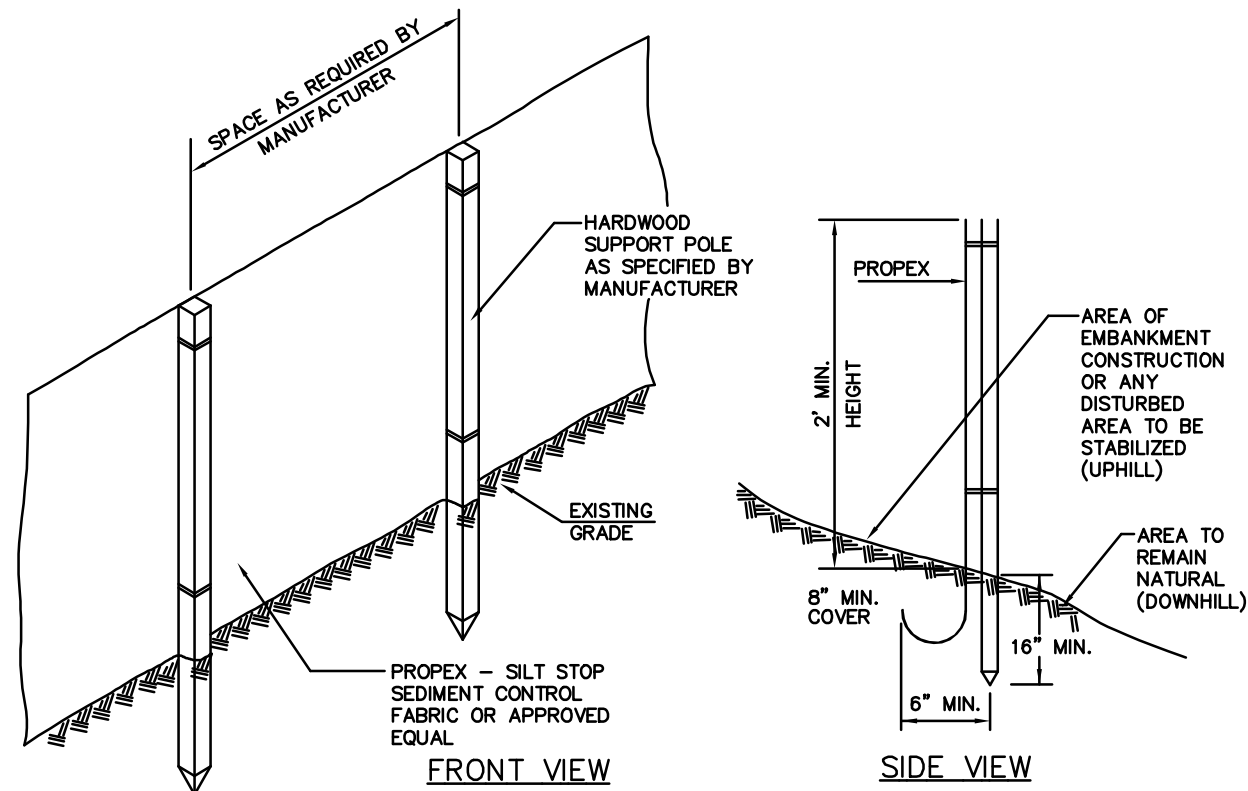
STONE GRADATION		
% OF WEIGHT SMALLER THAN THE GIVEN SIZE	SIZE OF STONE	
100	1.5 TO 2.0 D50	
85	1.3 TO 1.8 D50	
50	1.0 TO 1.5 D50	
15	0.3 TO 0.5 D50	

RIP RAP OUTLET PROTECTION
NOT TO SCALE

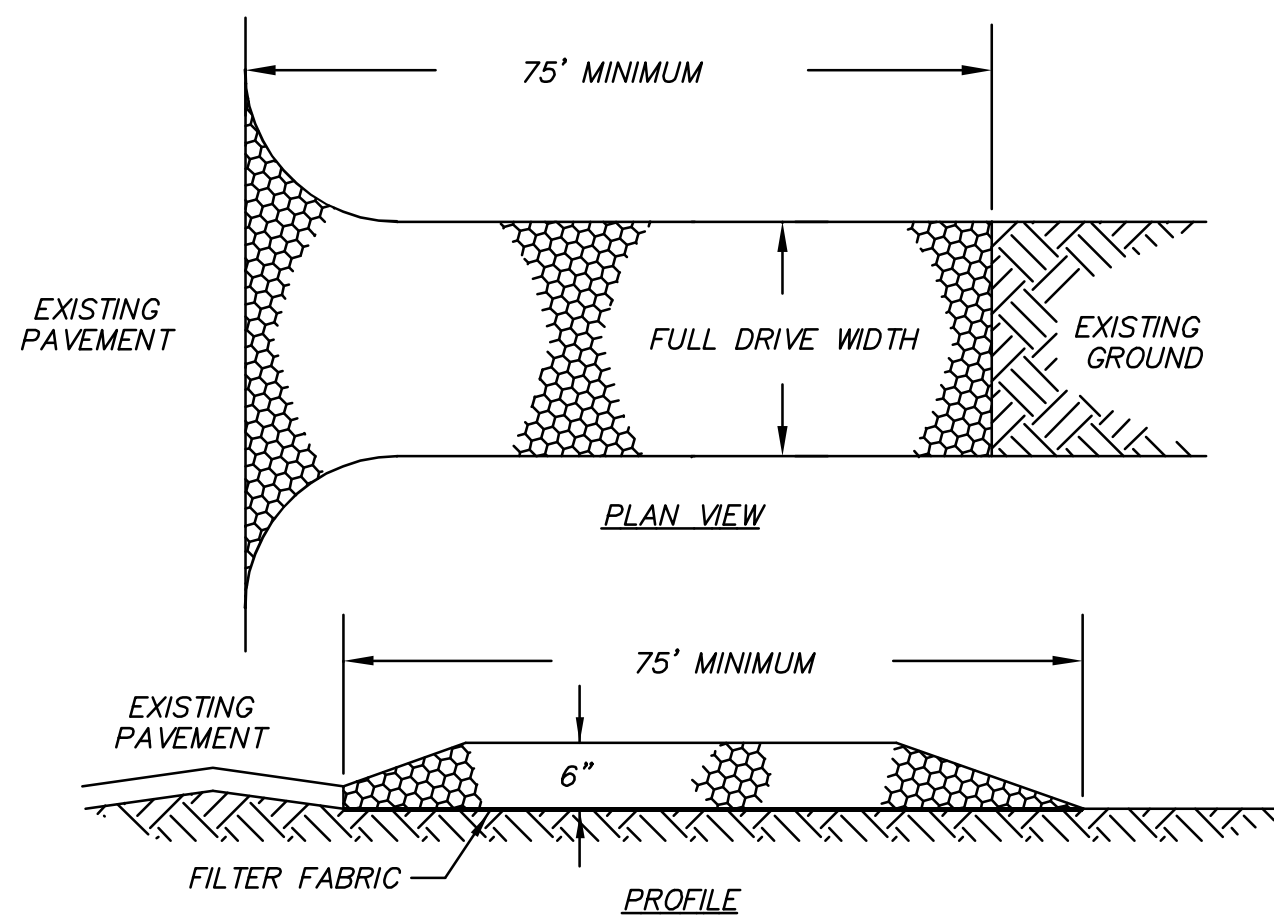
OUTLET FROM	W1<(ft)	W2<(ft)	L<(ft)	D <(ft)	D50<(IN)	CHANNEL TYPE
RD1	8	8	7.5	1	6	NA
PCB2	8	8	7.5	1	6	NA

CONSTRUCTION SPECIFICATIONS

1. THE SUBGRADE FOR THE FILTER MATERIAL, GEOTEXTILE FABRIC, AND RIPRAP SHALL BE PREPARED TO THE LINES AND GRADES SHOWN ON THE PLANS.
2. THE ROCK OR GRAVEL USED FOR FILTER OR RIPRAP SHALL CONFORM TO THE SPECIFIED GRADATION.
3. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE ROCK RIPRAP. DAMAGED AREAS IN THE FABRIC SHALL BE REPAIRED BY PLACING A PIECE OF FABRIC OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL OVERLAPS REQUIRED FOR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 12 INCHES.
4. STONE FOR THE RIP RAP MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT SEGREGATION OF THE STONE SIZES.



SILT FENCE DETAIL
NOT TO SCALE



NOTES:

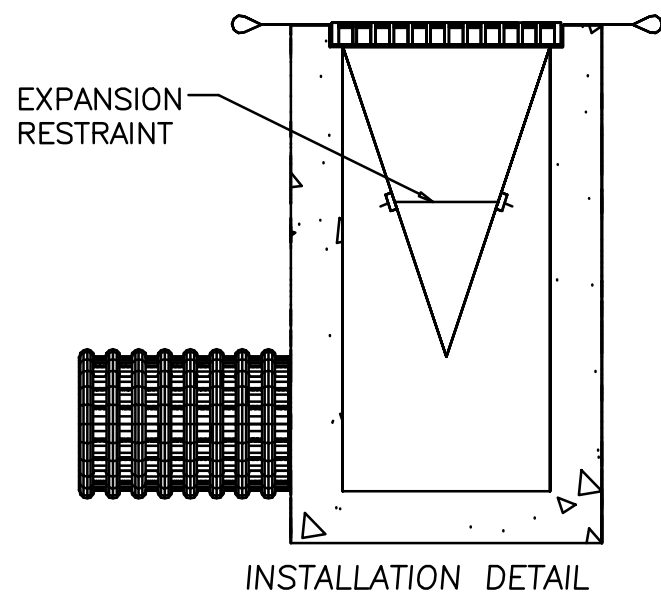
1. SEE EROSION CONTROL NOTES BELOW FOR MATERIAL, INSTALLATION AND MAINTENANCE REQUIREMENTS.
2. TO BE INSTALLED AT EACH POINT OF EGRESS FROM THE WORK AREA.

STABILIZED CONSTRUCTION ENTRANCE

1. SPECIFICATIONS
 - A. AGGREGATE SIZE: USE THREE (3) INCHES STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
 - B. AGGREGATE THICKNESS: NOT LESS THAN SIX (6) INCHES.
 - C. WIDTH TEN (10) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH OF POINTS WHERE INGRESS OR EGRESS OCCURS.
 - D. LENGTH: AS REQUIRED, BUT NOT LESS THAN SEVENTY-FIVE (75) FEET. PIPING OF SURFACE WATER UNDER ENTRANCE SHALL BE PROVIDED AS REQUIRED.
 - E. GEOTEXTILE: TO BE PLACED OVER THE ENTIRE AREA TO BE COVERED WITH AGGREGATE.
 - F. CRITERIA FOR GEOTEXTILE: THE FABRICS SHALL BE TREVIA SPUNBOND 1135, MIRAFI 600X OR EQUAL.
2. MAINTENANCE

THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH AGGREGATE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES, OR WATERWAYS.

STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE



OIL-ABSORBANT SILTSACK

(FOR AREAS WHERE THERE IS A CONCERN FOR OIL RUN-OFF OR SPILLS)
DEPENDING ON YOUR PARTICULAR APPLICATION, THE SILTSACK® CAN BE MADE FROM EITHER ONE OF THE ABOVE FABRICS WITH AN OIL-ABSORBANT PILLLOW INSERT OR, MADE COMPLETELY FROM AN OIL-ABSORBANT SILTSACK®, WITH A WOVEN PILLLOW INSERT.

DETAIL OF INLET SEDIMENT CONTROL DEVICE

NOT TO SCALE

SILTSACK® SPECIFICATIONS

NOTE: THE SILTSACK WILL BE MANUFACTURED FROM A WOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS THE FOLLOWING SPECIFICATIONS.
AS SUPPLIED BY AH HARRIS OF PORTSMOUTH OR APPROVED EQUAL

REGULAR FLOW SILTSACK®

(FOR AREAS OF LOW TO MODERATE PRECIPITATION AND RUN-OFF)

PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	300 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	120 LBS
MULLEN BURST	ASTM D-3786	800 PSI
TRAPEZOID TEAR	ASTM D-4533	120 LBS
UV RESISTANCE	ASTM D-4355	80 %
APPARENT OPENING SIZE	ASTM D-4751	40 US SIEVE
FLOW RATE	ASTM D-4491	40 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	0.55 SEC -1

HI-FLOW SILTSACK®

(FOR AREAS OF MODERATE TO HEAVY PRECIPITATION AND RUN-OFF)

PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	265 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	135 LBS
MULLEN BURST	ASTM D-3786	420 PSI
TRAPEZOID TEAR	ASTM D-4533	45 LBS
UV RESISTANCE	ASTM D-4355	90 %
APPARENT OPENING SIZE	ASTM D-4751	20 US SIEVE
FLOW RATE	ASTM D-4491	200 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	15 SEC -1

PLANNING FILE NO.: SITE-2026-

EROSION CONTROL DETAILS

DOVER POINT MIXED USE
28 DOVER POINT ROAD
DOVER, NH

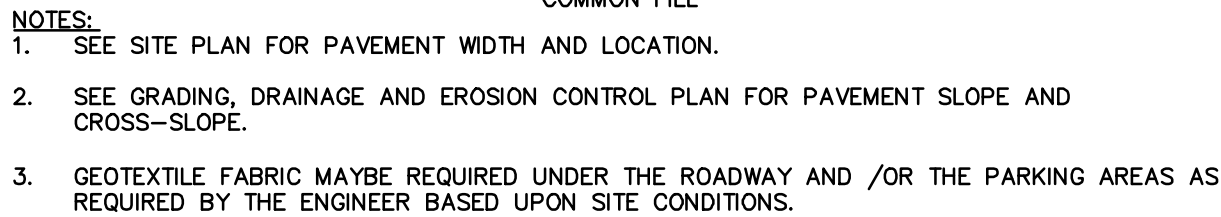
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DATE	SCALE	DRAWN BY	DESIGN BY	APPROVED BY	PROJECT NO.	FILE SITE	NO.	REVISION	APP'D	DATE
2-9-26	AS SHOWN	BY: SRD	BY: SRD	BY: SRD	25026	SITE.DWG				

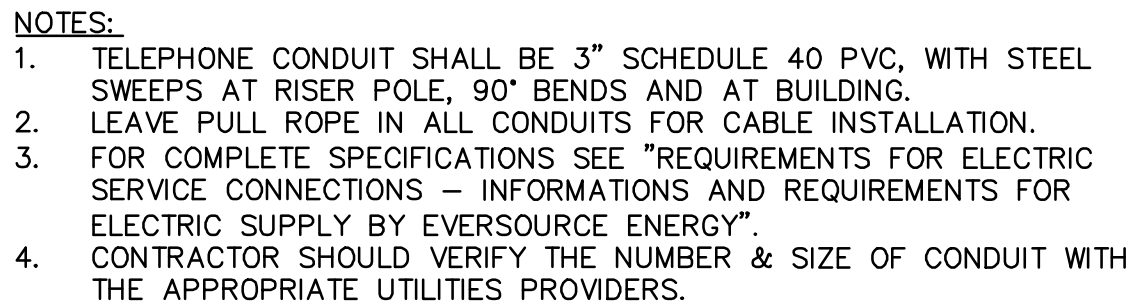


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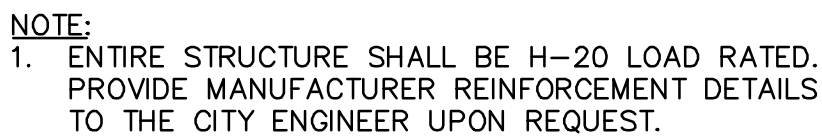
1. LOAM AND SEED SHOULD BE IN COMPLIANCE WITH NH DOT 641, 642, 643, 644 AND 645.
2. CONCRETE CURB SUPPORT SHOULD BE SET 1/2" BELOW THE TOP OF THE PAVEMENT BASE COURSE.



NOT TO SCALE



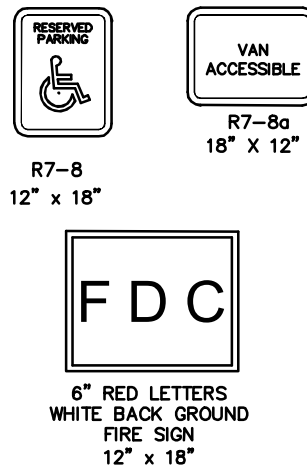
NOT TO SCALE



NOT TO SCALE

1. ALL CONSTRUCTION SHALL CONFORM WITH THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION (NHDOT), "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION"; HEREINAFTER REFERRED TO AS THE "STANDARD SPECIFICATIONS".
2. STORM DRAINS SHALL BE ADS N12 OR APPROVED EQUAL, AND SHALL BE JOINED WITH NEOPRENE "O" RINGS.
3. CATCH BASINS AND MANHOLES SHALL BE PRE-CAST REINFORCED CONCRETE DESIGNED BY AN ENGINEER REGISTERED IN NEW HAMPSHIRE, AND ABLE TO WITHSTAND LOADINGS OF 8 INCHES OF MORTAR.
4. MANHOLES SHALL HAVE CAST IRON FRAMES AND COVERS WITH 30" INSIDE DIAMETER OPENINGS. A 3-INCH (MINIMUM) LETTER "D" FOR DRAIN SHALL BE PLAINLY CAST INTO THE CENTER OF EACH COVER.
5. CATCH BASINS SHALL ADJUST TO GRADE WITH COURSES OF BRICK. MAXIMUM ADJUSTMENT TO GRADE SHALL BE 12 INCHES. FRAMES SHALL BE SET ON A FULL BED OF MORTAR, TRUE TO GRADE AND CONCENTRIC WITH THE MASONRY. ALL VOIDS BETWEEN THE TOP OF THE STRUCTURE AND THE 12 INCH TIME FRAME SHALL BE COMPLETELY FILLED TO MAKE A WATER TIGHT JOINT. A RING OF MORTAR, AT LEAST ONE INCH THICK, AND PITCHED TO SHED WATER AWAY FROM THE FRAME, SHALL BE PLACED OVER AND AROUND THE OUTSIDE OF THE BOTTOM FLANGE. THE MORTAR SHALL EXTEND TO THE OUTER EDGE OF THE MASONRY ALL AROUND ITS CIRCUMFERENCE AND SHALL BE FINISHED SMOOTH. NO VISIBLE LEAKAGE WILL BE PERMITTED.
6. INVERT CHANNELS OF SEWER MANHOLES SHALL BE FORMED SMOOTHLY TO THE LARGEST PIPE RADIUS. CHANGES IN GRADE SHALL BE FORMED SMOOTHLY AND EVENLY. THE OUTSIDE OF THE STRUCTURE OF THE CHANNEL SHALL BE SLOPED TOWARDS THE CHANNELS AT APPROXIMATELY 1/2 INCH PER FOOT. THE FLOOR AT THE CHANNEL SHALL MATCH THE CROWN OF THE LARGEST PIPE.
7. TRENCH CONSTRUCTION WILL CONFORM WITH SECTION 603.3.1 OF THE STANDARD SPECIFICATIONS (1974).
8. WOOD SHEETING OR A SUITABLE TRENCH BOX SHALL BE USED TO SUPPORT THE TRENCH AS NECESSARY. IF WOOD SHEETING IS USED, IT SHALL BE DRIVEN AT A DISTANCE OF 1 FOOT FROM THE OUTSIDE DIAMETER OF THE PIPE TO A DEPTH OF 6 INCHES BELOW THE FINISHED GRADE. WOOD SHEETING SHALL BE CUT OFF AND LEFT IN PLACE TO AN ELEVATION NOT LESS THAN 1 FOOT ABOVE THE TOP OF THE PIPE, BUT NOT GREATER THAN 3 FEET BELOW THE FINISHED GRADE.
9. BEDDING SHALL CONFORM WITH SECTION 603.3.2 OF THE STANDARD SPECIFICATIONS (1974).
10. BACKFILL MATERIAL WILL CONFORM WITH SECTION 603.3.5 OF THE STANDARD SPECIFICATIONS (1974) AND, IN ADDITION, SHALL EXCLUDE DEBRIS PIECES OF PAVEMENT, GRASS, STONE, OR SOFT MUCK, PEAT OR CLAY, ALL EXCAVATED LEDGE MATERIAL, FROZEN MATERIAL, ALL ROCKS OVER 6 INCHES IN LARGEST DIMENSION, OR ANY MATERIAL WHICH, AS DETERMINED BY THE ENGINEER, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION. BACKFILL SHALL NOT BE PLACED ON FROZEN OR PREVIOUSLY FROZEN MATERIAL.
11. ALL BACKFILL AND BEDDING COMPACTION SHALL MEET THE REQUIREMENTS OF AASHTO T 99 METHOD C. DENSITY SHALL BE 95 PERCENT. COMPACTION SHALL BE 6 INCH LIFTS FOR BEDDING AND BACKFILL TO A PLANE 1 FOOT ABOVE THE PIPE AND IN 12 INCH LIFTS THEREAFTER BY AN APPROVED MECHANICAL COMPACTOR.
12. SHOULD FROZEN MATERIAL BE ENCOUNTERED, IT SHALL NOT BE PLACED IN THE BACKFILL NOR SHALL BACKFILL BE PLACED UPON FROZEN MATERIAL. PREVIOUSLY FROZEN MATERIAL SHALL BE REMOVED AS REQUIRED BEFORE NEW BACKFILL IS PLACED.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO FRAMES AND GRATES DURING AND FROM THE TIME OF REMOVAL FROM THE EXISTING STRUCTURE TO AND DURING THE TIME OF RESETTING, AND SHALL REPLACE IN KIND ANY DAMAGED FRAMES OR GRATES AT NO ADDITIONAL COMPENSATION.
14. ALL TRENCHES WILL BE COVERED AND DEBRIS, INCLUDING ANY REJECTED MATERIALS, SHALL BE REMOVED DAILY. STRICT SAFETY PRECAUTIONS SHALL BE MAINTAINED AT ALL TIMES.
15. LOCATION OF UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE.
 - A) THE CONTRACTOR SHALL, 48 HOURS PRIOR TO CONSTRUCTION, NOTIFY THE UTILITY COMPANIES AND HAVE ALL UTILITIES IN THE VICINITY OF THE CONSTRUCTION MARKED IN THE FIELD.
 - B) AFTER THE UTILITIES HAVE BEEN LOCATED AND PRIOR TO CONSTRUCTION, THE CONTRACTOR WITH THE ENGINEER, SHALL LAYOUT THE PROPOSED DRAINAGE SYSTEM IN THE FIELD AND RECTIFY ANY UTILITY CONFLICTS WHICH MAY BE FOUND.
 - C) IF UTILITIES ARE FOUND WITHIN THE TRENCH DURING CONSTRUCTION BY THE CONTRACTOR SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER AND THE UTILITY COMPANY AND PROPERLY RECTIFIED.
 - D) THE CONTRACTOR IS RESPONSIBLE FOR THE COST OF REPAIR FOR ANY UTILITIES DAMAGED DURING CONSTRUCTION. IF THE CONTRACTOR SHALL CONTACT THE UTILITY COMPANY TO REPAIR ANY DAMAGES, HOWEVER, THE CONTRACTOR MAY MAKE APPROPRIATE REPAIRS WITH THE UTILITY COMPANY'S PERMISSION.
16. COMPLETE SHOP DRAWINGS FOR PIPE, MANHOLES, CATCH BASINS, FRAMES, AND GRATES TO BE COVERED SHALL BE SUBMITTED IN TRIPLICATE FOR APPROVAL BY THE ENGINEER PRIOR TO THE START OF CONSTRUCTION. EACH SHOP DRAWING SHALL BE CHECKED AND INITIALIZED BY THE CONTRACTOR TO INDICATE APPROVAL BEFORE IT IS SUBMITTED TO THE ENGINEER.
17. SHOP DRAWINGS FOR CAST IN PLACE CONCRETE COVERS SHALL BE SUBMITTED PRIOR TO SUBMISSION FOR APPROVAL BY A NEW HAMPSHIRE REGISTERED PROFESSIONAL ENGINEER.
18. BRICK MASONRY FOR SETTING FRAMES AND BRICK AND MORTAR PLUGS SHALL CONFORM TO THE STANDARD SPECIFICATION SECTION 604.2.4.

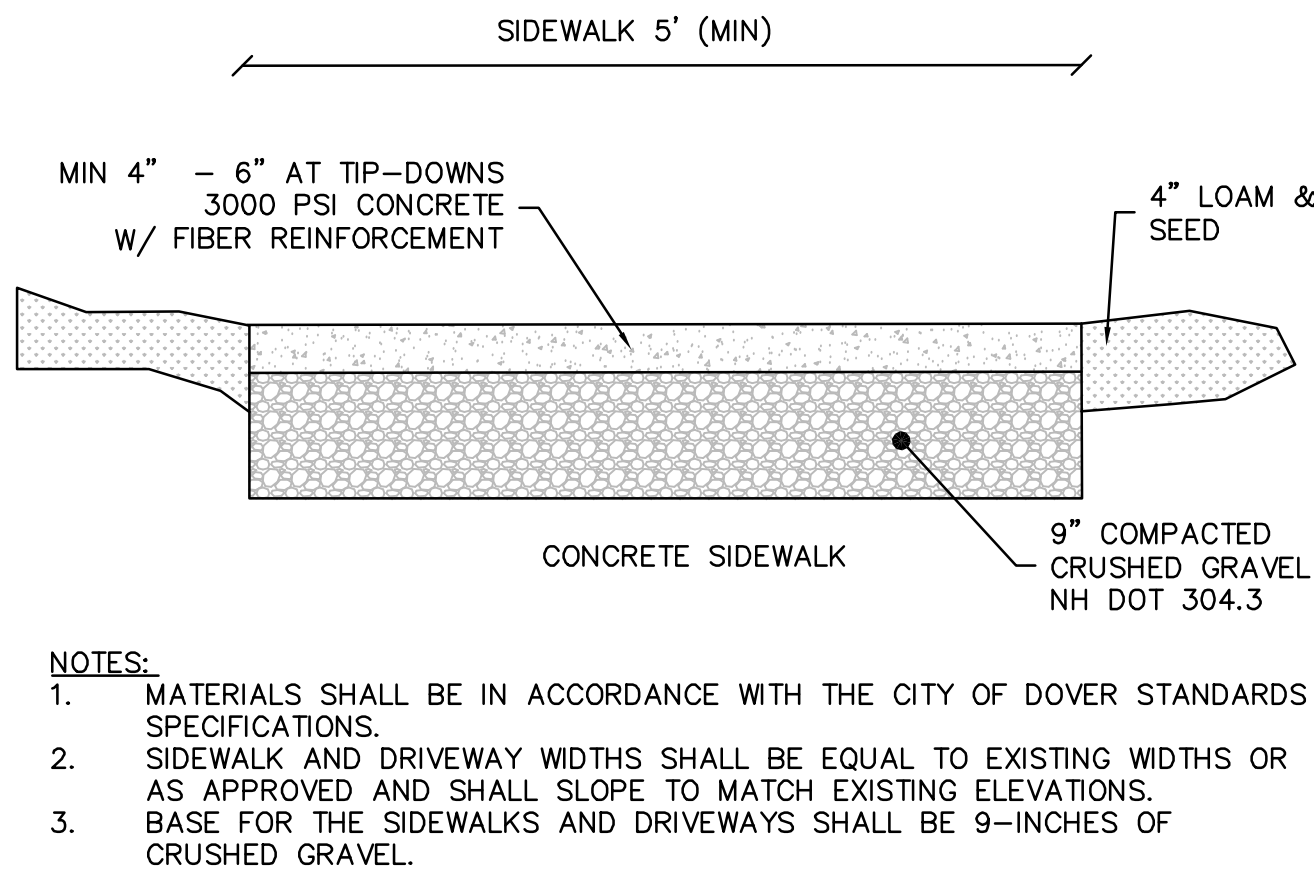
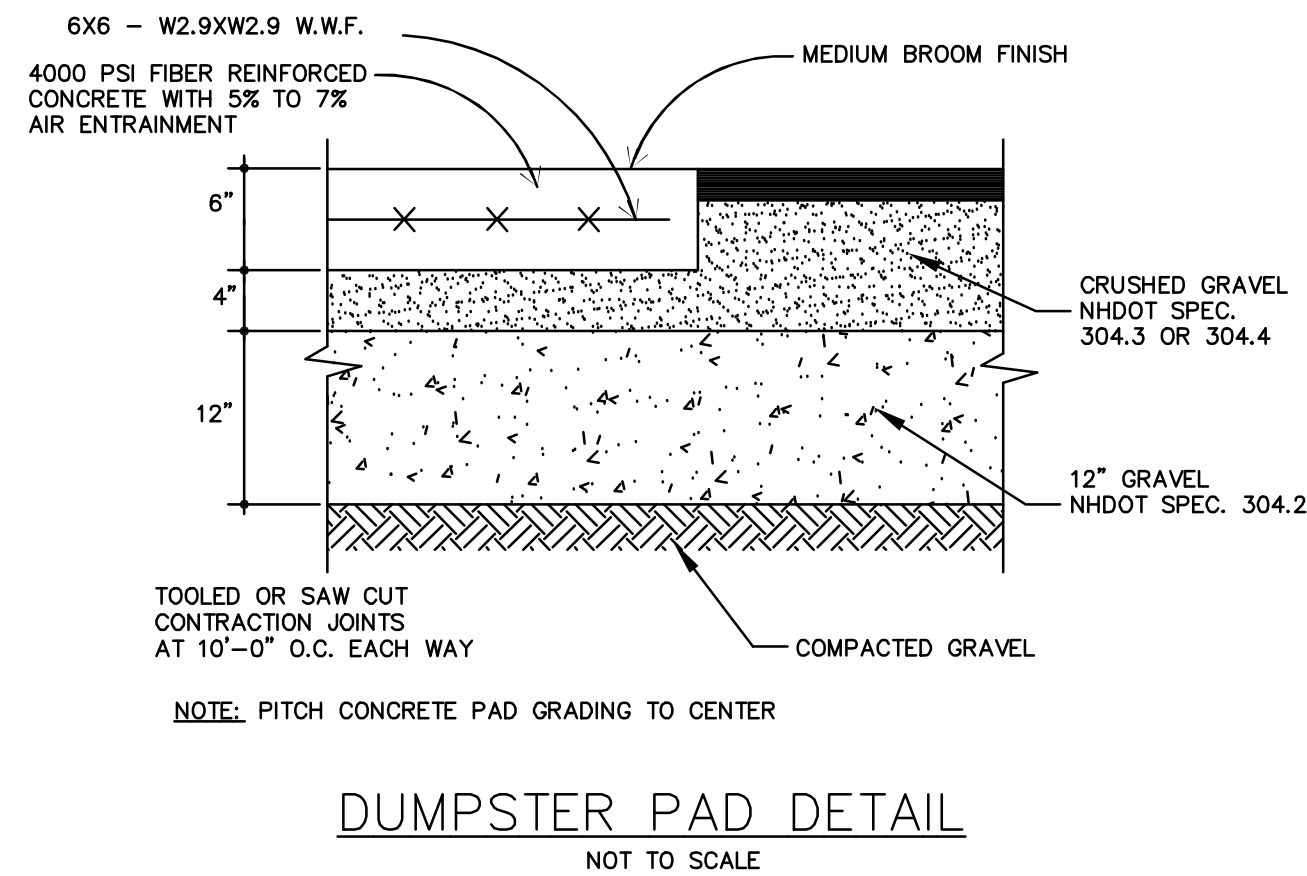
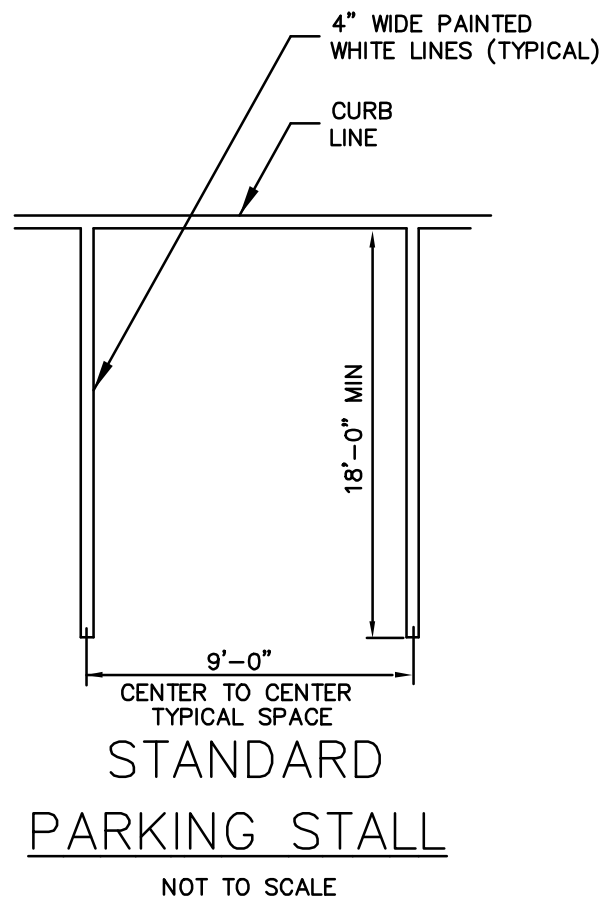
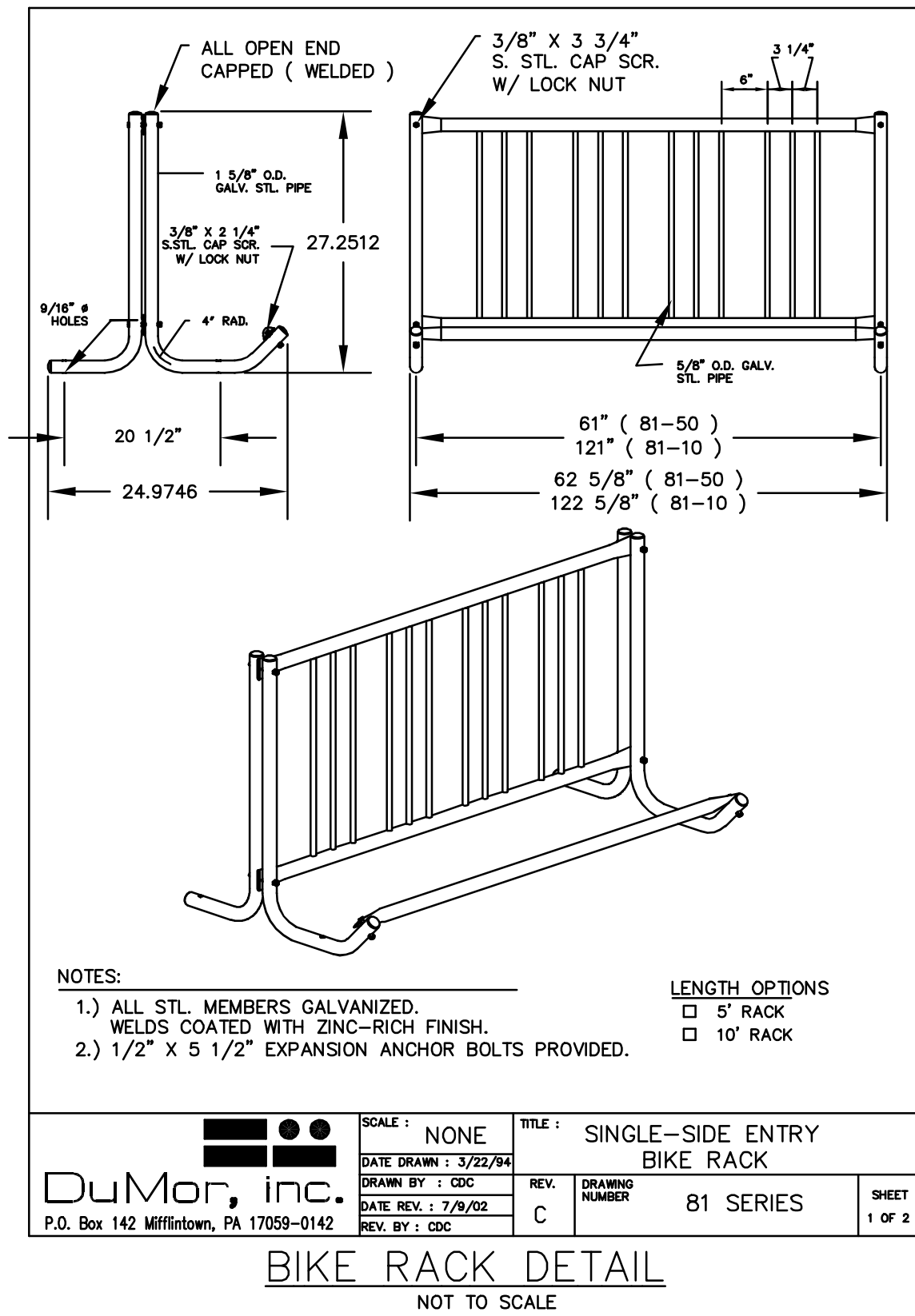
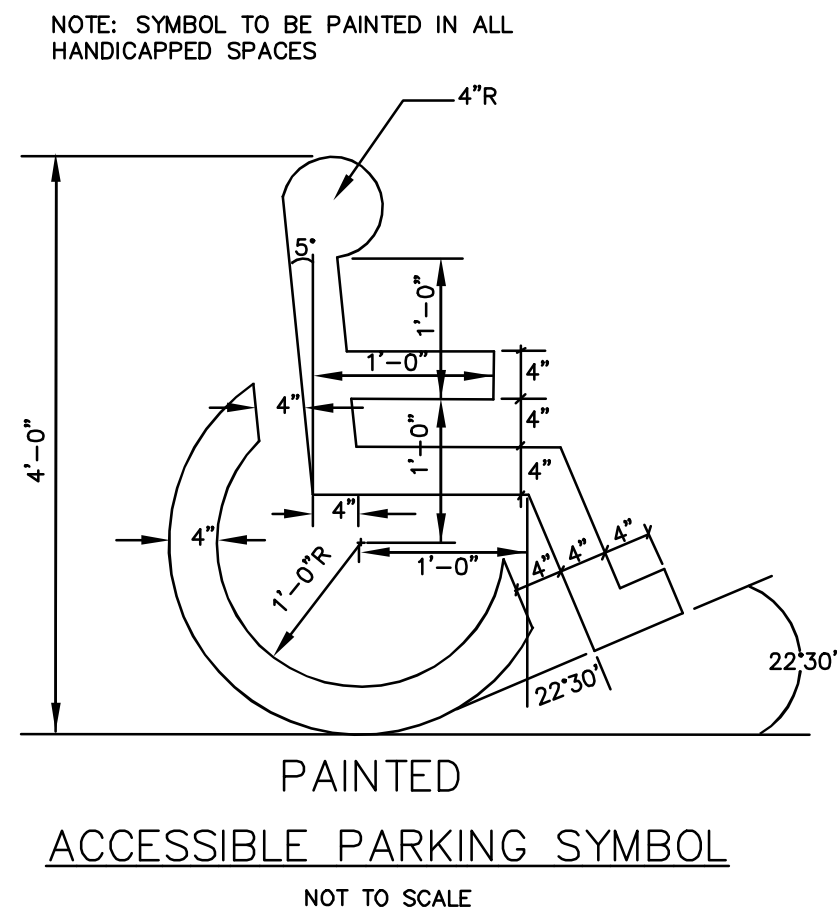
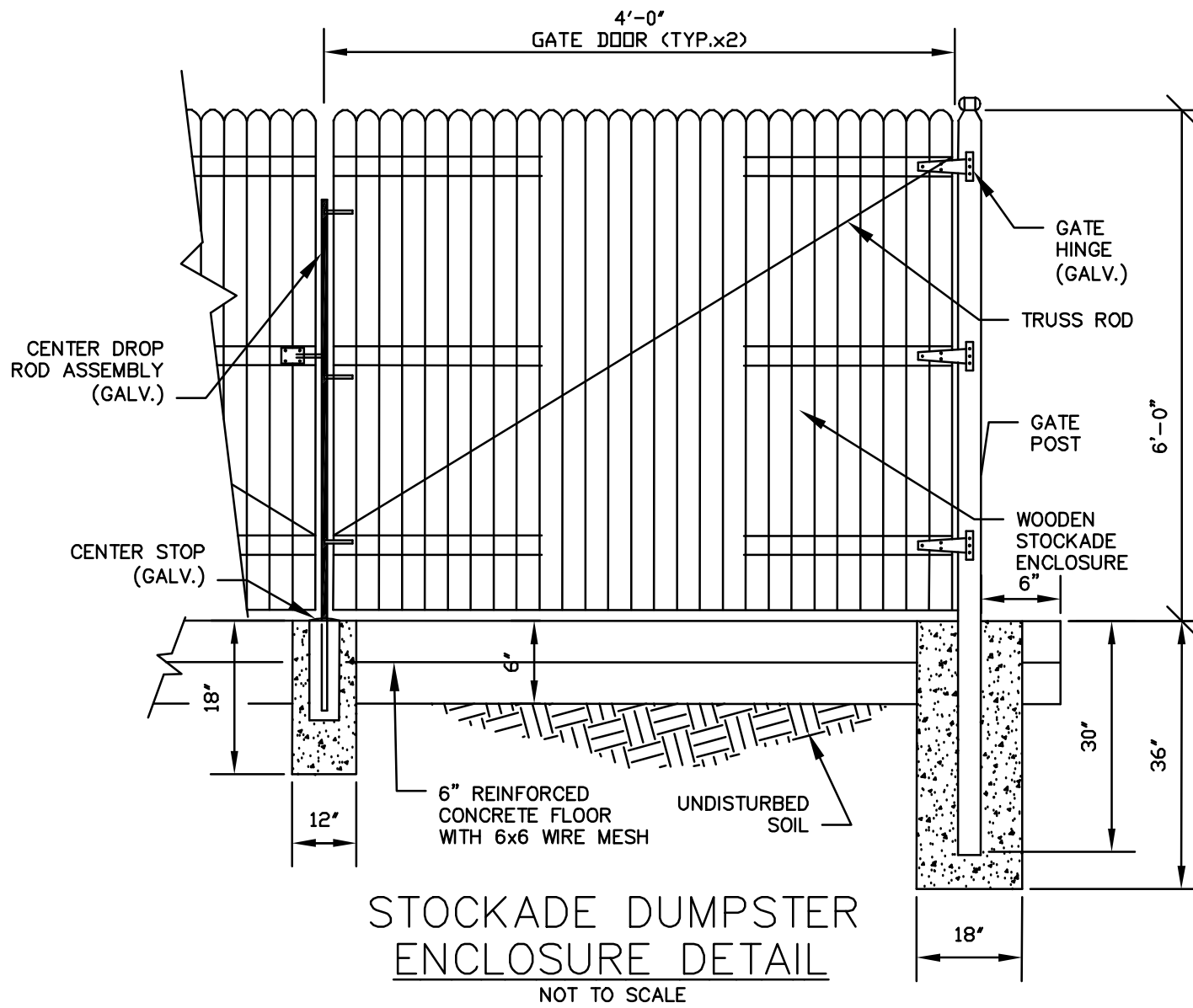
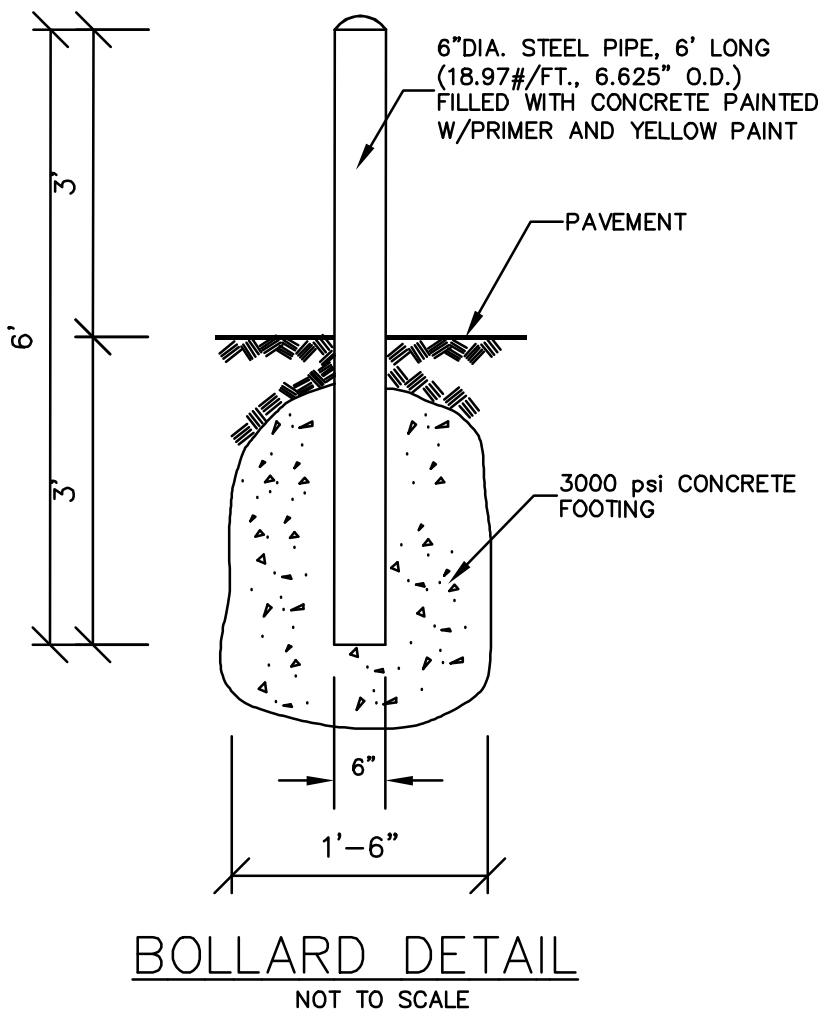
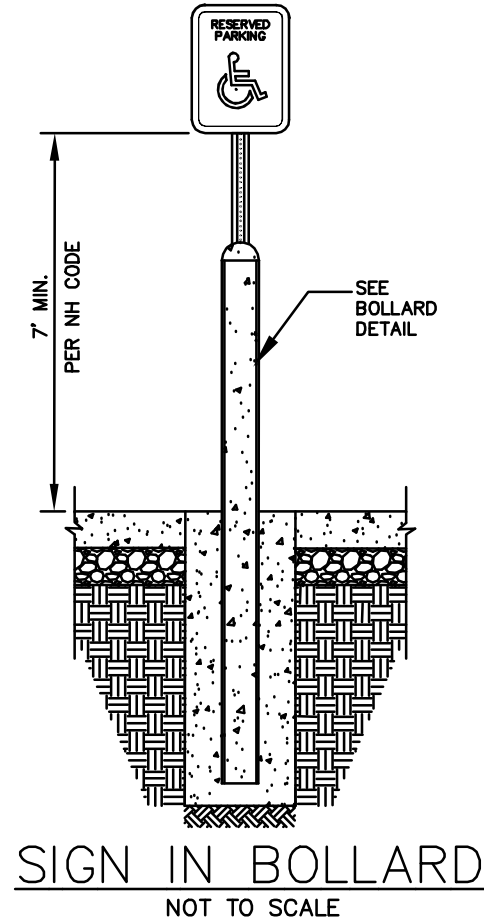
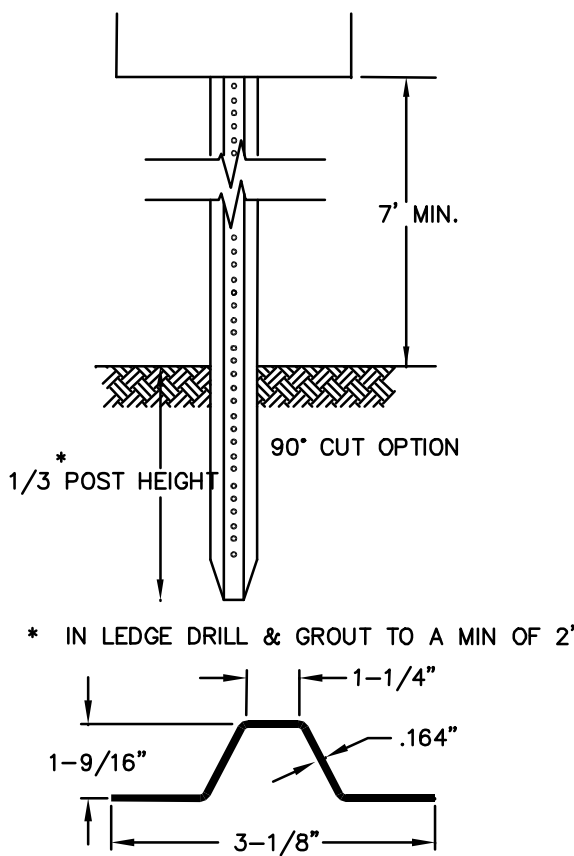
12



NOTE:
1. ALL SIGNS TO BE INSTALLED AS INDICATED
IN THE MANUAL ON UNIFORM TRAFFIC CONTROL
DEVICES, LATEST EDITION.

LENGTH: AS REQUIRED
WEIGHT PER LINEAR FOOT: 2.50 LBS (MIN.)
HOLES: 3/8" DIAMETER, 1" C-C FULL LENGTH
STEEL: SHALL CONFORM TO ASTM A-499 (GRADE 60) OR
ASTM A-576 (GRADE 1070 - 1080)
FINISH: SHALL BE PAINTED WITH TWO COATS OF AN APPROVED
MEDIUM GREEN
BAKED ON OR AIR DRIED, PAINT OF WEATHER RESISTANT QUALITY.
ALL FABRICATION SHALL BE COMPLETE BEFORE PAINTING.

SIGN LEGEND & SIGN POST
NOT TO SCALE



CT4000 Family
ChargePoint® Level 2 Commercial Charging Stations

The CT4000 family is the latest generation of ChargePoint commercial charging stations. Refined yet rugged, these stations set the industry standard for functionality and aesthetics.

The CT4000 full motion color LCD display instructs drivers and supports dynamic updates of custom branded videos and advertisements.

Intelligent power management options double the number of parking spaces served by allowing two charging ports to share a single circuit. Sites with single port EV stations can upgrade to dual port stations without requiring additional electrical services.

The CT4000 is the first ENERGY STAR® certified EV charger because it charges efficiently and conserves power when not charging. As an ENERGY STAR certified EV charger, the CT4000 uses significantly less energy than a standard EV charger when in standby mode to help you save money on your utility bill.

All CT4000 models offer one or two standard SAE J1772™ Level 2 charging ports with locking holsters, each port supplying up to 7.2kW. With this standard connector, ChargePoint level 2 stations can charge any EV.

Stations are available in bollard and wall mount configurations for easy installation anywhere. All stations are fully software upgradeable remotely over the air.

Stations come in both 6' and 8' tall models with 18' and 23' cords, respectively. With multiple options for size and cord reach, your station can service up to four parking spaces, reach all car models regardless of parking style or car sizes and increase the usability of your EV spots.

Driver Friendly User Interface

- ★ Instructional video shows how to use the station
- ★ Multi-language: English, French, Spanish
- ★ Touch button interface; works in rain, ice and with gloves
- ★ Backed by ChargePoint's world class 24/7 driver phone support

Easily Communicate with Your Drivers

Whether you're a retail establishment wanting to advertise your latest product, a workplace looking to communicate with employees or a municipality wanting to welcome visitors, ChargePoint's prominent LCD screen makes it easy to reach EV drivers:

- ★ Daylight readable, with auto brightness control
- ★ 640 X 480 resolution active matrix
- ★ Full motion 30fps video support
- ★ Upload up to 60 seconds of high quality video on a color LCD screen to individual stations as often as desired
- ★ Brand your charging stations to communicate with drivers
- ★ Instructional video in English, Spanish or French



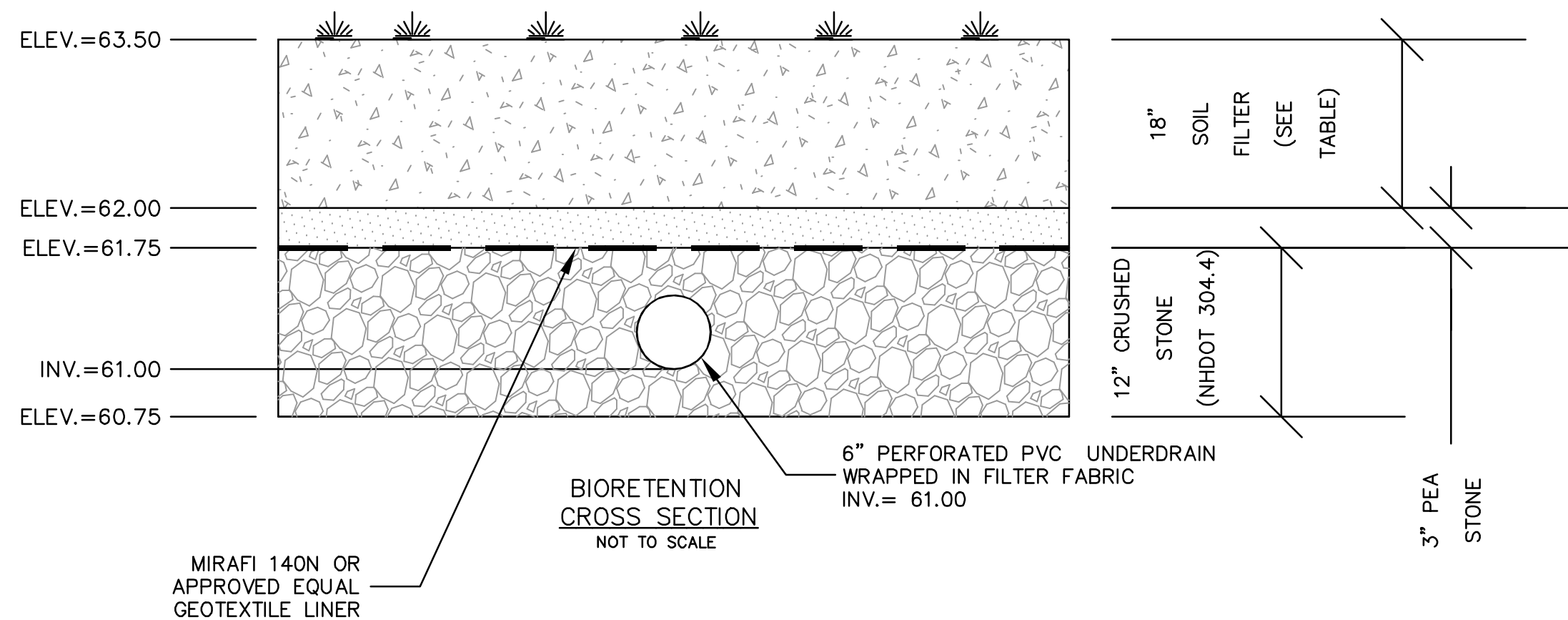
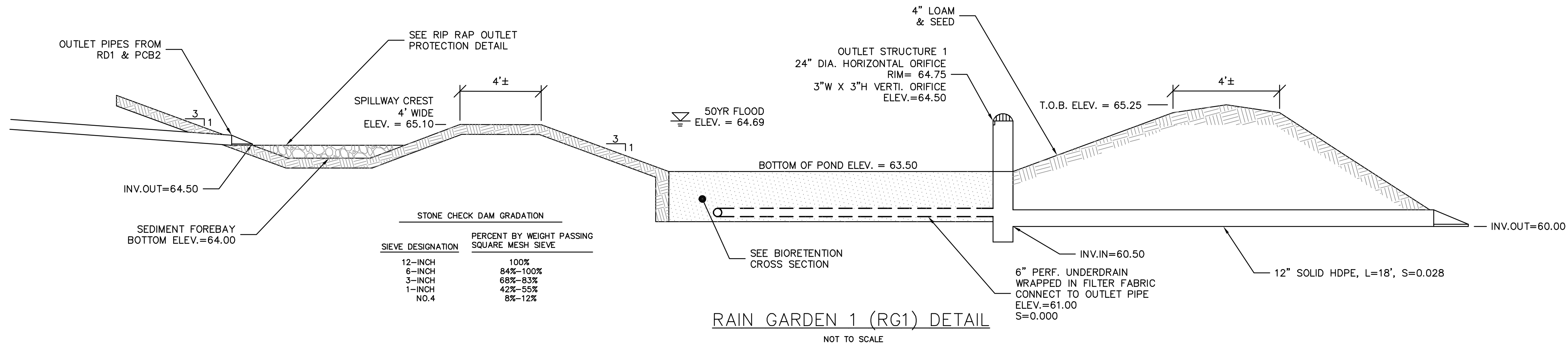
EV CHARGING STATION DETAIL (OR EQUAL)
NOT TO SCALE

PLANNING FILE NO.: SITE-2026-

DETAIL SHEET

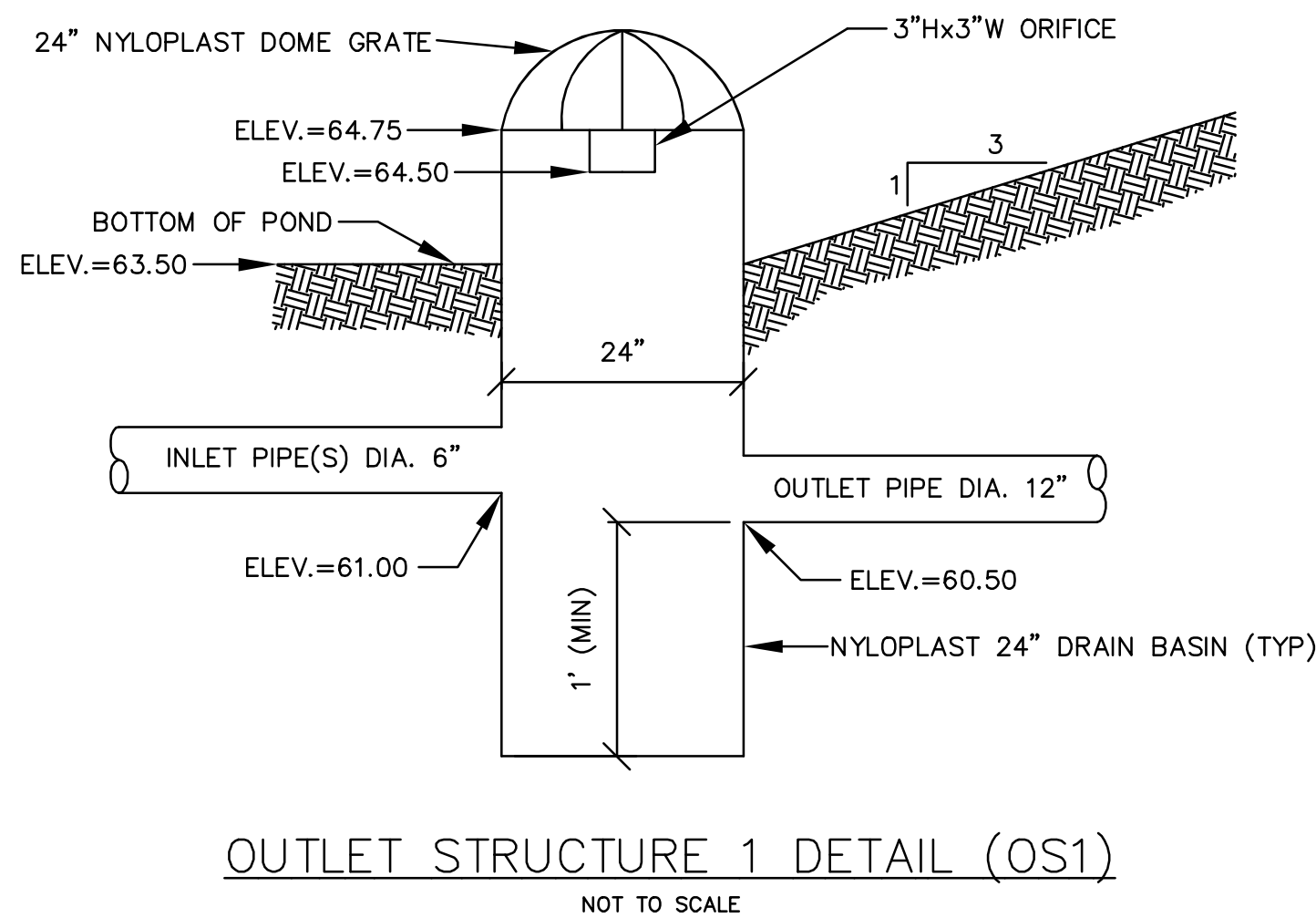
DOVER POINT MIXED USE
28 DOVER POINT ROAD
DOVER, NH

25 DOVER POINT LLC
99 COLUMBUS AVENUE
DOVER, NH 03820



- RAIN GARDEN NOTES:**
1. CONSTRUCT GRASSED OVERFLOW SPREADER EARLY DURING INITIAL CONSTRUCTION TO ESTABLISH TURF PRIOR TO CONSTRUCTION OF BIORETENTION SYSTEM.
 2. DO NOT BEGIN CONSTRUCTION OF THE BIORETENTION AREA UNTIL LAWN AREA ON THE ENTIRE SITE AREA ESTABLISHED WITH AT LEAST 80 PERCENT TURF.
 3. DO NOT DRIVE CONSTRUCTION EQUIPMENT ON THE FILTER MATERIAL. INSTALL FILTER MATERIAL BY MEANS OF AN EXCAVATOR LOCATED ADJACENT TO THE FILTER AREA.
 4. MATERIALS: CRUSHED STONE LAYER SHALL MEET NHDOT 304.4. STONE SHALL CONTAIN NO MORE THAN 5% FINES PASSING THE #200 SIEVE. TOPSOIL SHALL CONTAIN 15 TO 25% FINES PASSING THE #200 SIEVE.
 5. REFER TO EROSION CONTROL NOTES FOR GRASS SEED MIXES. FERTILIZATION OF THE FILTER AREA SHALL BE AVOIDED UNLESS ABSOLUTELY NECESSARY TO ESTABLISH VEGETATION.
 6. INITIAL ESTABLISHMENT: DURING THE FIRST 2-3 MONTHS OF ESTABLISHMENT WATER THE GARDEN ON A WEEKLY BASIS (TO SUPPLEMENT RAINFALL FOR TOTAL OF 1 INCH PER WEEK).
 7. ANNUAL MAINTENANCE: IN THE SPRING OF EACH YEAR, ANY DEAD VEGETATION SHALL BE REMOVED TO ALLOW FOR NEW GROWTH, AND ANY ACCUMULATED SEDIMENT (NORMALLY AT THE ENTRANCE TO THE POND) SHALL ALSO BE REMOVED. TURF AT FILTER SHALL BE MOWED NO MORE THAN 3 TIMES PER GROWING SEASON. IF WATER PONDS ON THE SURFACE FOR MORE THAN 24 HOURS DURING THE FIRST YEAR OR 72 HOURS THEREAFTER, THE FILTER SURFACE SHALL BE AERATED WITH DEEP TINES OR THE SURFACE REPLACED.
 8. UNDERLYING SOILS IN THE BIORETANTION BASIN LOCATIONS SHOULD BE TESTED FOR PERMEABILITY. PARENT MATERIAL MAY MEET THE REQUIREMENTS FOR THE IMPERVIOUS CLAY LINER.

BIORETENTION FILTER MEDIA SPECIFICATIONS			
COMPONENT MATERIAL	PERCENT OF MIXTURE BY VOLUME	GRADATION OF MATERIAL	
		SIEVE NO.	PERCENT BY WEIGHT PASSING STANDARD SIEVE
FILTER MEDIA OPTION A			
ASTM C-33 CONCRETE SAND	50 TO 55		
LOAMY SAND TOPSOIL, WITH FINES AS INDICATED	20 TO 30	200	15 TO 25
MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH, WITH FINES AS INDICATED	20 TO 30	200	< 5
FILTER MEDIA OPTION B			
MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH, WITH FINES AS INDICATED	20 TO 30	200	< 5
LOAMY COARSE SAND	70 TO 80	10	85 TO 100
		20	70 TO 100
		60	15 TO 40
		200	8 TO 15



PLANNING FILE NO.: SITE-2026-

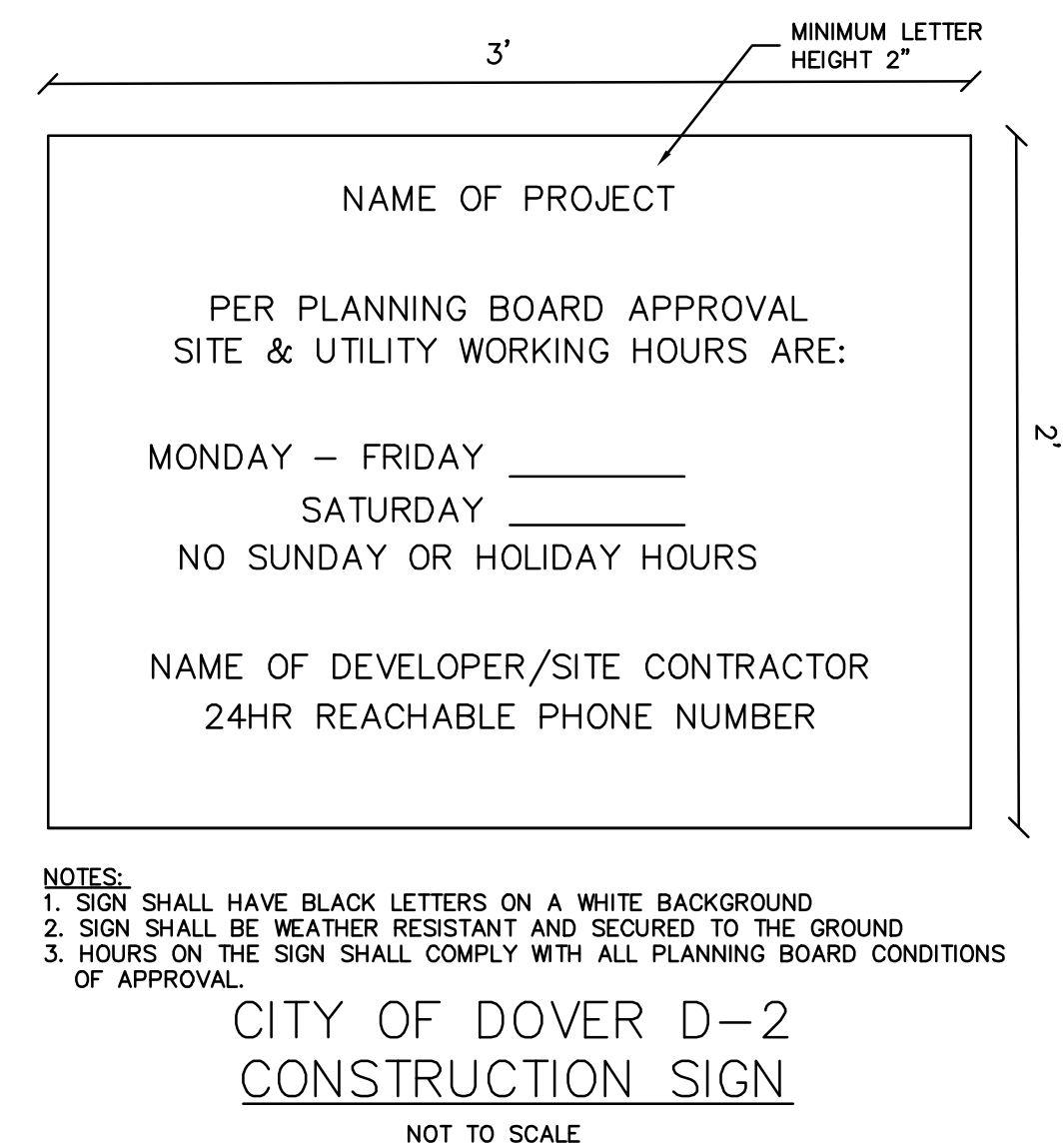
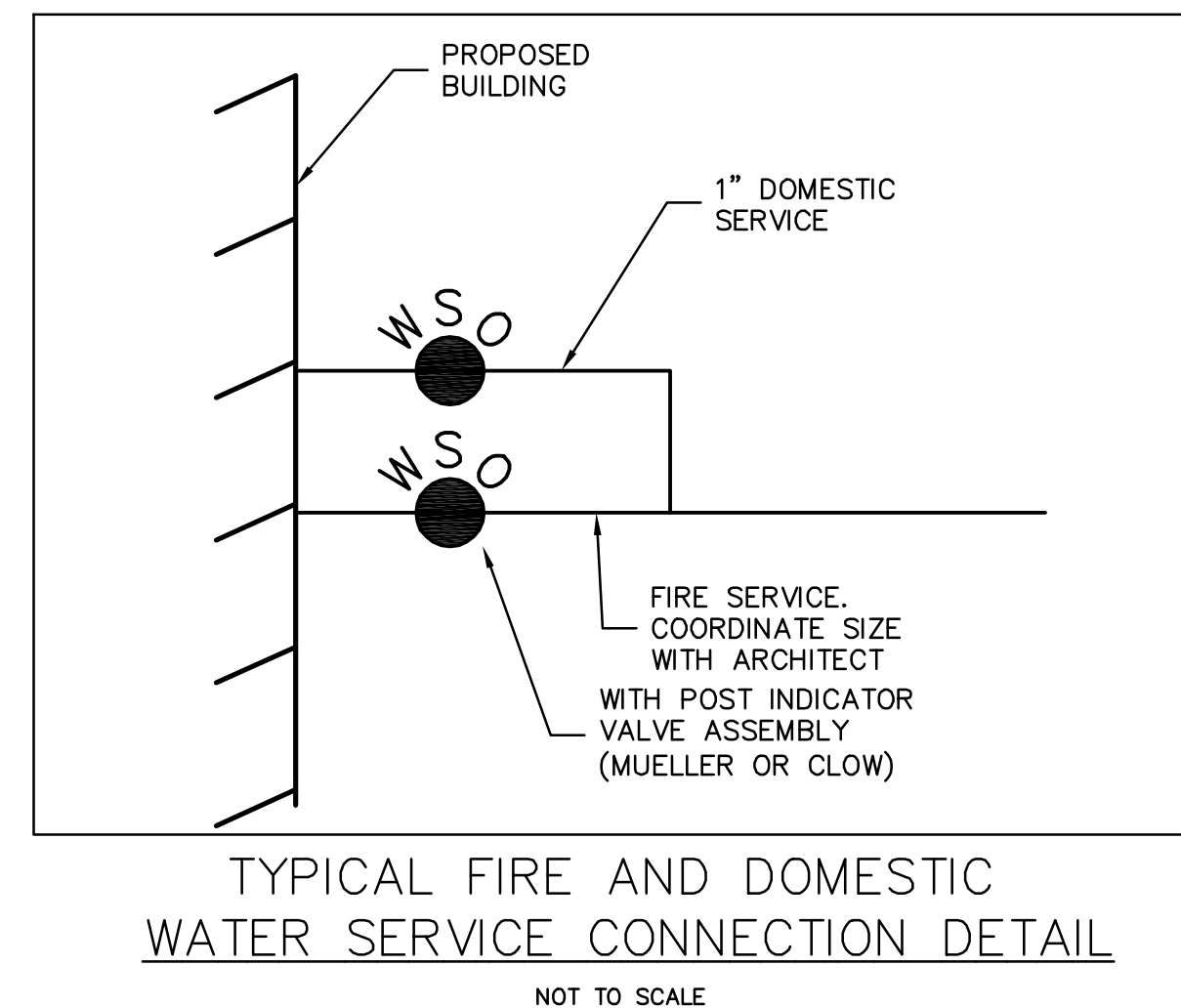
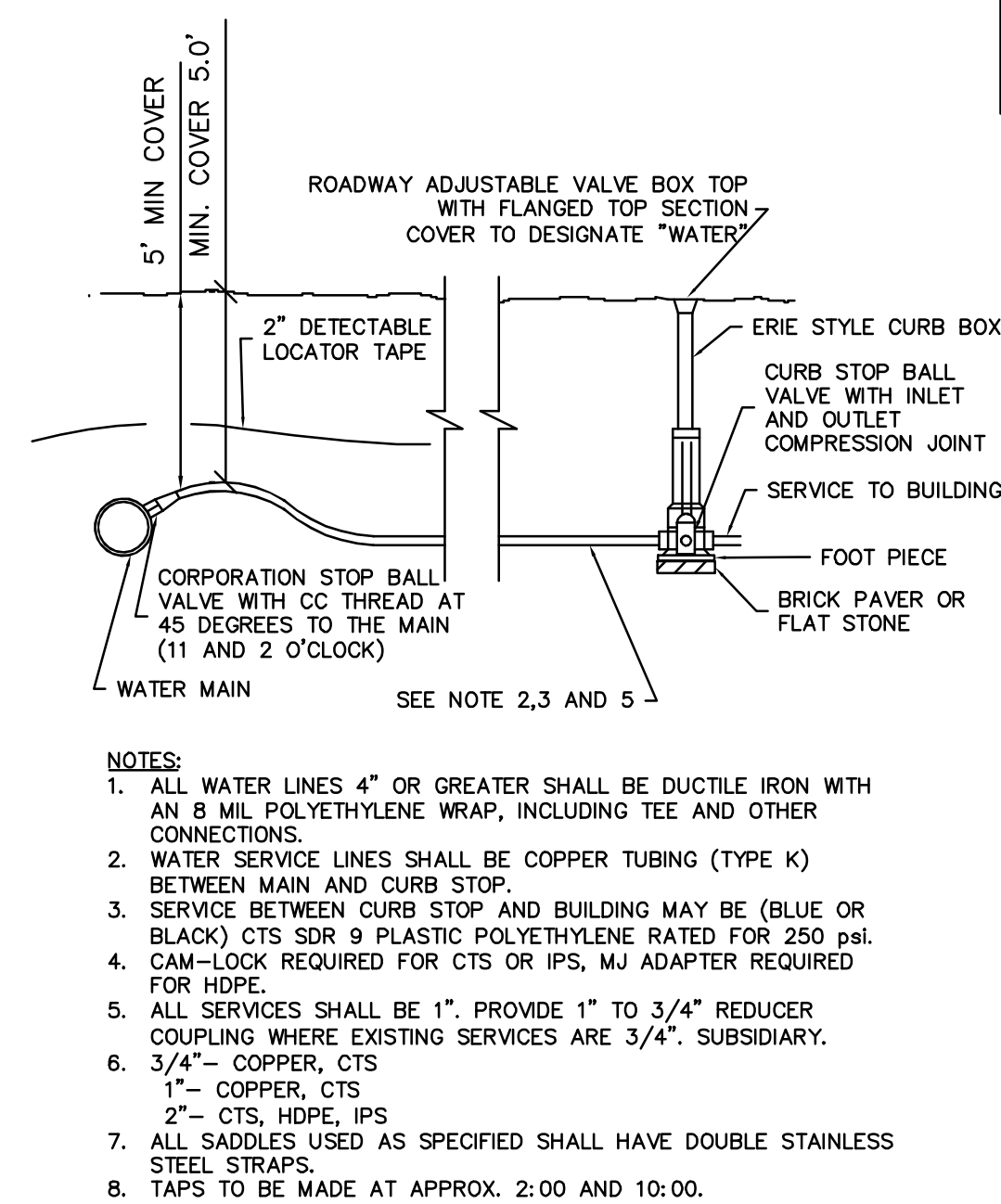
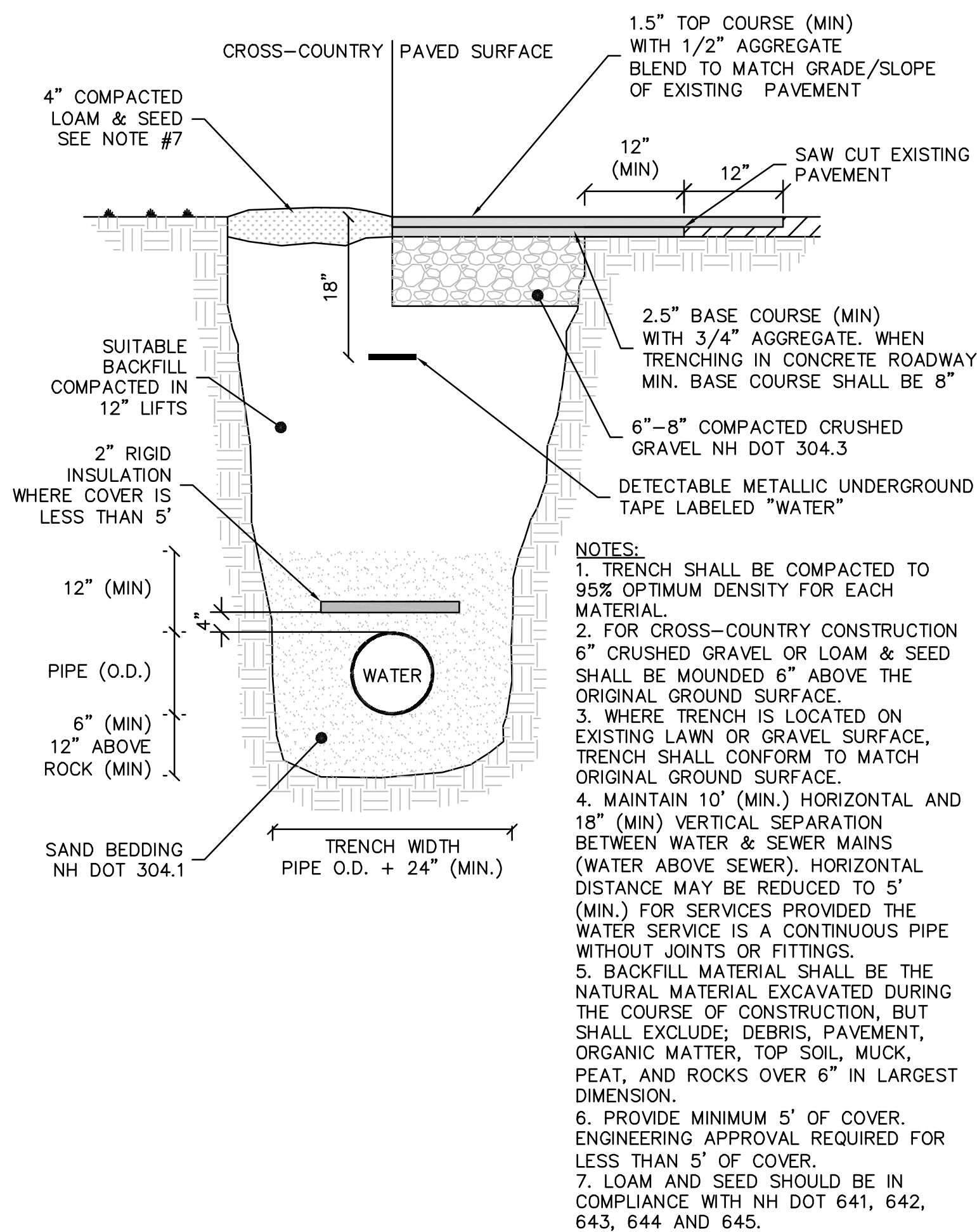
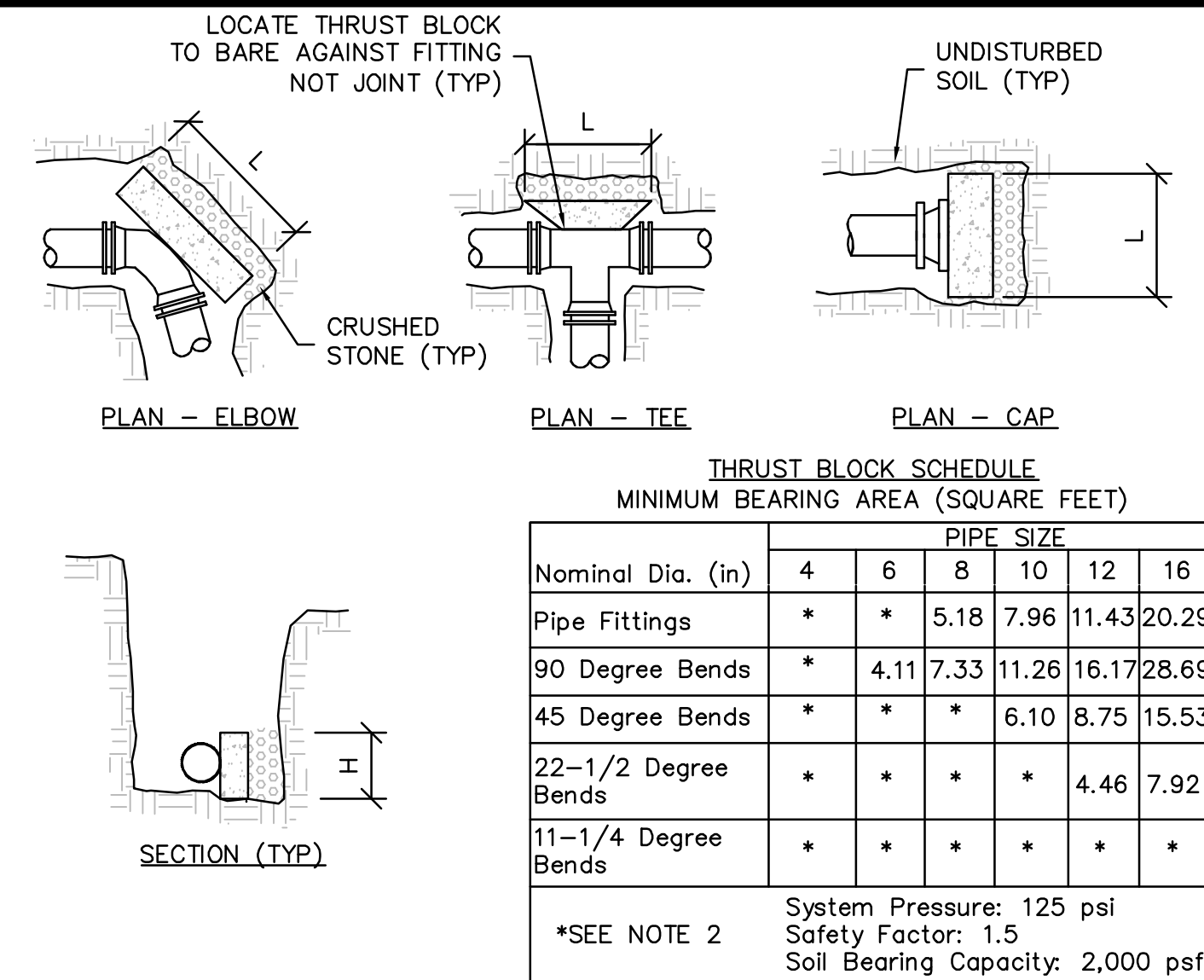
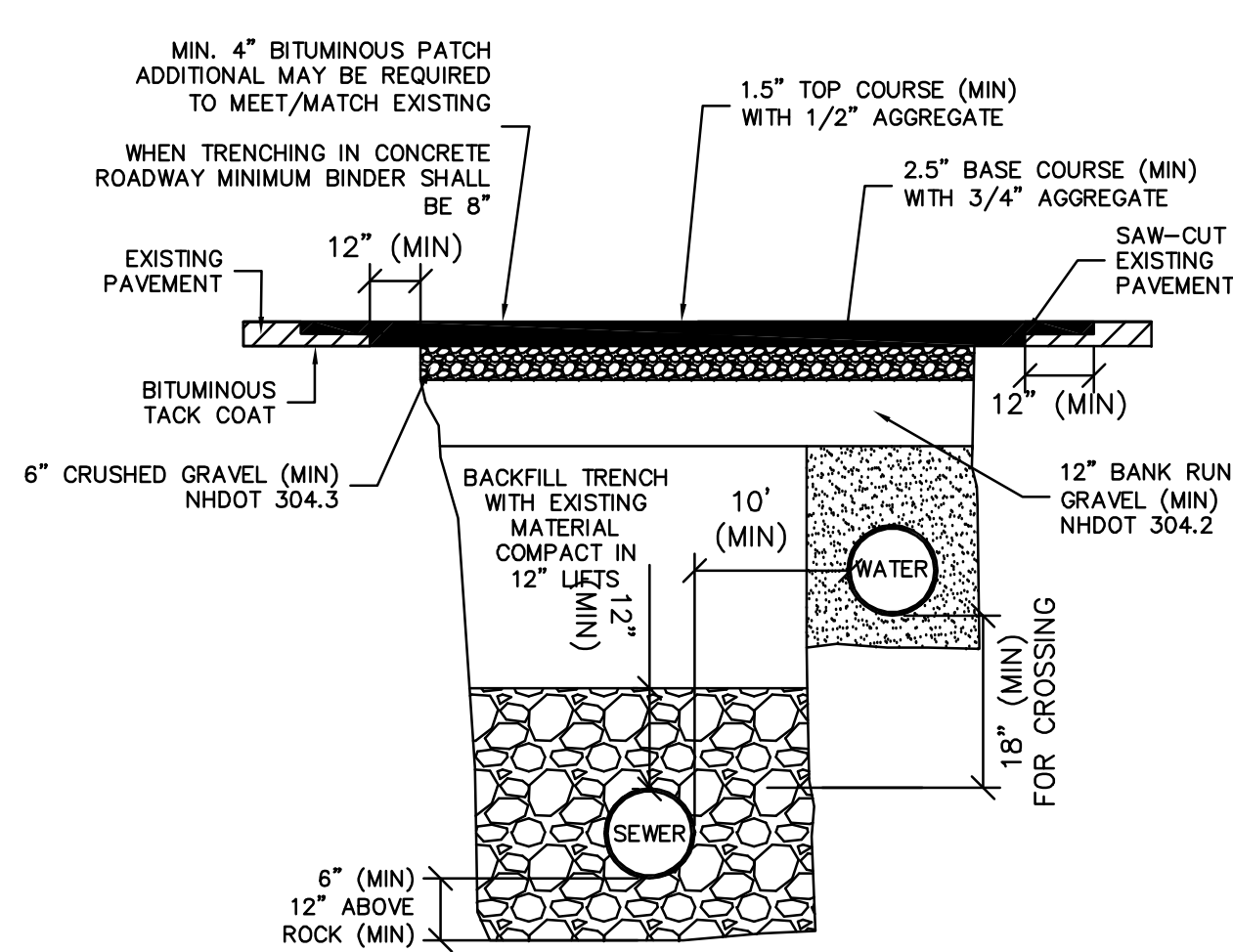
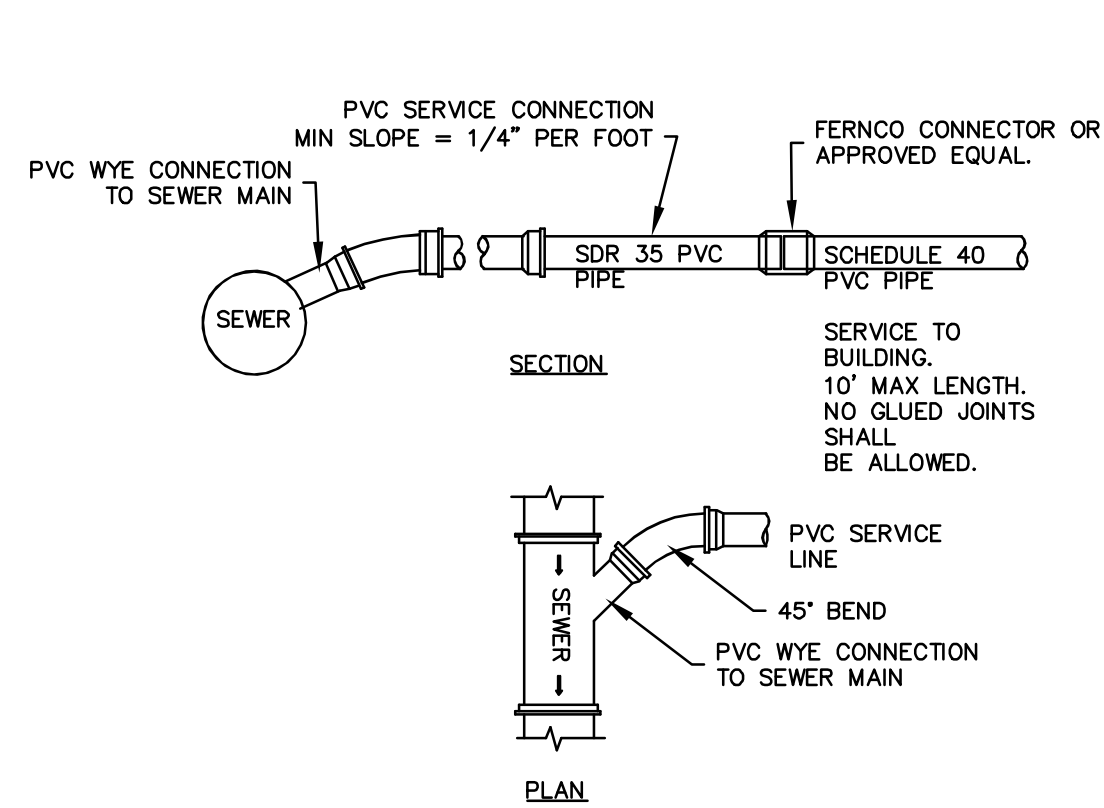
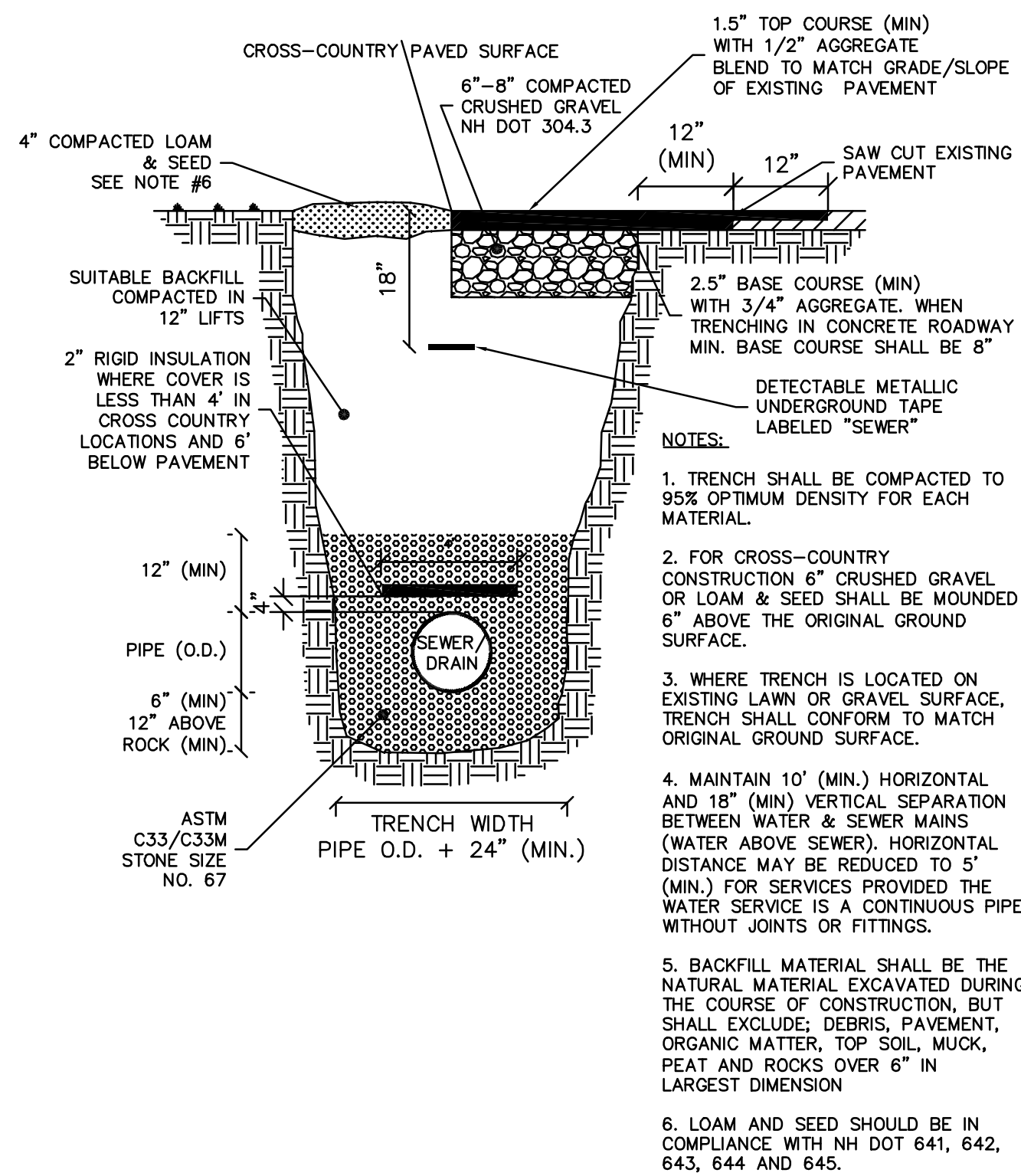
DETAIL SHEET

DOVER POINT MIXED USE
28 DOVER POINT ROAD
DOVER, NH

25 DOVER POINT LLC
99 COLUMBUS AVENUE
DOVER, NH 03820

14

DATE	SCALE	DRAWN BY	DESIGN BY	APPROVED BY	PROJECT NO.	FILE SITE	DWG	NO.	REVISION	APP'D	DATE
2-9-26	AS SHOWN	BY: SRD	BY: SRD		25026						



Kor-N-Seal® I Stainless Steel Wedge Connector (WS Series)

Installation Instructions

CONNECTOR INSTALLATION

1. Check to be sure the Stainless Steel Waveband® is properly located in Connector groove.
2. Inspect the inside surface of the cored/formed hole. If there is porosity or wire-to-concrete separation, use patching or hydraulic cement to smooth the surface.
3. Insert Connector Assembly into hole with Wedge Expander at top of hole.
4. Position Connector so it is square to manhole both vertically and horizontally.
5. Tighten Wedge Expander using 1/2" socket wrench to 12 foot pounds.
6. Retorquing prior to shipment is recommended but not required.

Note if Vacuum Testing

Testing should be done prior to backfilling so that leaks can be easily located and repaired.

All lift holes need to be plugged with a nonshrinking mortar.

Plug all pipes entering the manhole, taking care to securely brace the pipes and plugs.

Patented Waveband technology "captures" the rubber between itself and the concrete, creating a more effective seal.



PIPE INSTALLATION

1. Be sure sealing area of pipe is smooth and free of defects. Repair if needed.
2. Center pipe in Connector opening. (Pipe must not rest on Connector Korband).
3. Position the Pipe Clamp in the Connector's Pipe Clamp groove with the screw at the top.
4. Tighten the Pipe Clamp screw to 60 inch pounds with a Handle Torque Wrench, P/N 80090

Note:

On minimum pipe O.D. installations, tension the rubber under the pipe clamp by lifting the rubber toward pipe clamp screw housing by hand. This will help prevent the rubber from wrinkling or folding over during tightening of hose clamp. Application of a very small amount pipe lube on the pipe clamp track will allow the pipe clamp to slide on the rubber and improve the performance of the hose clamp. Make sure to torque all screw locations on the pipe clamps.

Caution:

Do not use an impact wrench for installation.

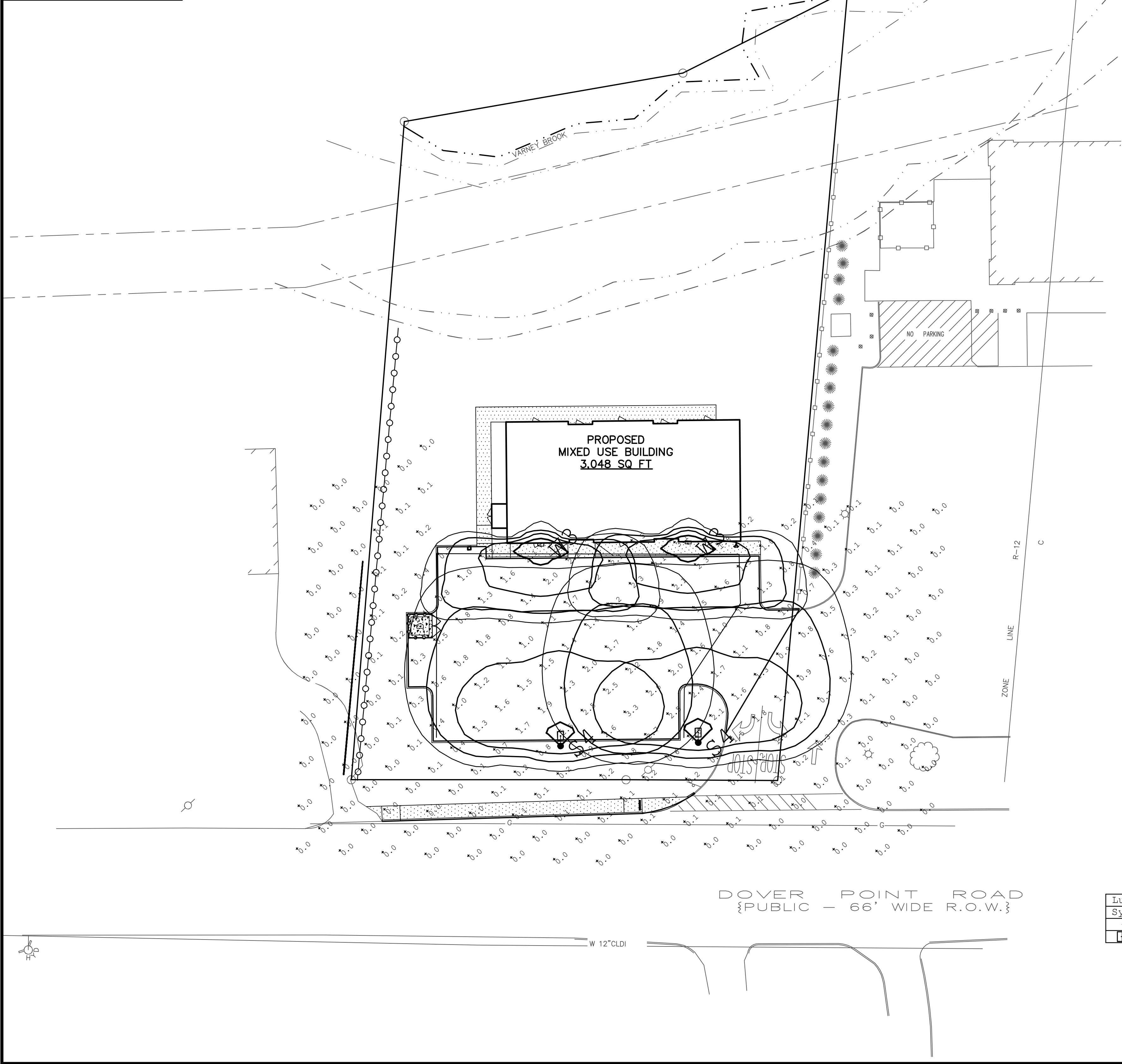
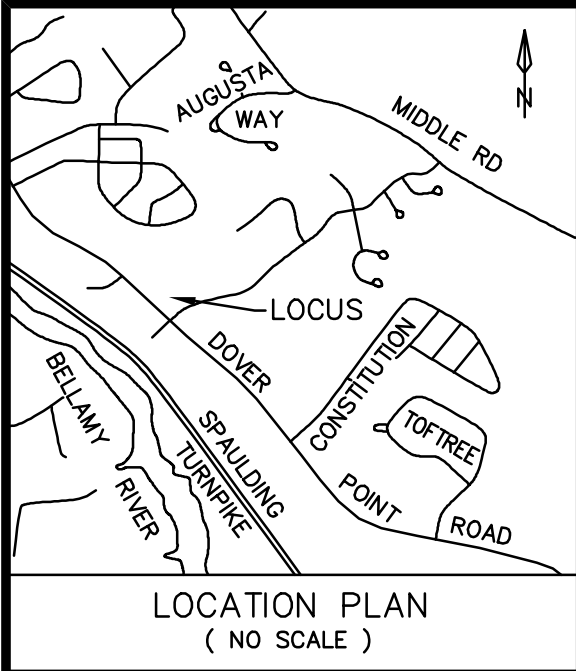
All pipe stubs must be restrained

Adapters are required when using Corrugated Pipe. Refer to the Corrugated Pipe Adapter Data Sheet for more information.

Check calibration of torque limiters monthly

Torque limiters are available for connectors that can be used with cordless drills and hand or air ratchets.

Call 800-626-2180 for information.



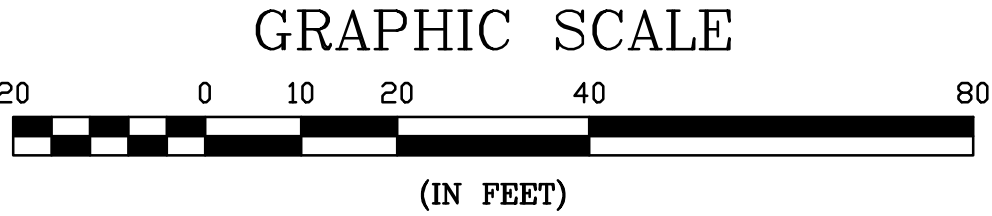
LIGHTING DESIGN AND PHOTOMETRIC DESIGN BY:

EXPOSURE
— LIGHTING — CONTROLS — ELECTRICAL —

PHOTOMETRIC PLAN PREPARED BY
KEN SWEENEY
KSWEEENEY@EXPOSURE2LIGHTING.COM
FOR PRICING PLEASE CONTRACT OUR OFFICE IN
NEW HAMPSHIRE
603-601-8080
WWW.EXPOSURE2LIGHTING.COM

StatArea_1
PARKING LOT
Illuminance (Fc)
Average = 1.71
Maximum = 3.3
Minimum = 0.5
Avg/Min Ratio = 3.42
Max/Min Ratio = 6.60

Luminaire Schedule				
Symbol	Qty	Label	Arrangement	Description
	2	S4	SINGLE	GLEON-AF-01-LED-E1-SL4/ SSS4A20SFN1 (20' AFG)
	2	W3	SINGLE	ISS-AF-350-LED-E1-SL3/ WALL MTD 12' AFG



PLANNING FILE NO.: SITE-2026-

LIGHTING PLAN

DOVER POINT MIXED USE
28 DOVER POINT ROAD
DOVER, NH

25 DOVER POINT LLC
99 COLUMBUS AVENUE
DOVER, NH 03820

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

CNE
CIVILWORKS NEW ENGLAND
CHIL & WATERGENT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

DATE	SCALE	DRAWN BY	DESIGN BY	APPROVED BY	PROJECT NO.	FILE SITE	NO.	REVISION	APP'D	DATE
2-9-26	1"=20'	SRD	SRD	SRD	25026	SITE.DWG				

DESCRIPTION

The Galleon™ LED luminaire delivers exceptional performance in a highly scalable, low-profile design. Patented, high-efficiency AccuLED Optics™ system provides uniform and energy conscious illumination to walkways, parking lots, roadways, building areas and security lighting applications. IP66 rated and UL/cUL Listed for wet locations.

SPECIFICATION FEATURES

Construction
Extruded aluminum driver enclosure thermally isolated from Light Squares for optimal thermal performance. Heavy-wall, die-cast aluminum end caps enclose housing and die-cast aluminum heat sinks. A unique, patent pending interlocking housing and heat sink provides scalability with superior structural rigidity. 3G vibration tested and rated. Optional tool-less hardware available for ease of entry into electrical chamber. Housing is IP66 rated.

Optics
Patented, high-efficiency injection-molded AccuLED Optics technology. Optics are precisely designed to shape the distribution maximizing efficiency and application spacing. AccuLED Optics create consistent distributions with the scalability to meet customized application requirements. Offered standard in 4000K (4- 275K) CCT 70 CRI. Optional 3000K, 5000K and 6000K CCT.

Electrical
LED drivers are mounted to removable tray assembly for ease of maintenance. 120-277V 50/60Hz, 347V 60Hz or 480V 60Hz operation. 480V is compatible for use with 480V Wye systems only. Standard with 0-10V dimming. Shipped standard with Eaton proprietary circuit module designed to withstand 10kV of transient line surge. The Galleon LED luminaire is suitable for operation in -40°C to 40°C ambient environments. For applications with ambient temperatures exceeding 40°C, specify the HA (High Ambient) option. Light Squares are IP66 rated. Greater than 90% lumen maintenance expected at 60,000 hours. Available in standard 1A drive current and optional 600mA, 800mA and 1200mA drive currents (nominal).

Mounting
STANDARD ARM MOUNT:
Extruded aluminum arm includes internal bolt guides allowing for easy positioning of fixture during mounting. When mounting two or more luminaires at 90° and 120° apart, the EA extended arm may be required. Refer to the

arm mounting requirement table. Round pole adapter included. For wall mounting, specify wall mount bracket option. QUICK MOUNT ARM: Adapter is bolted directly to the pole. Quick mount arm slide into place on the adapter and is secured via two screws, facilitating quick and easy installation. The versatile, patent pending, quick mount arm accommodates multiple drill patterns ranging from 1-1/2" to 4-7/8". Removal of the door on the quick mount arm enables wiring of the fixture without having to access the driver compartment. A knock-out enables round pole mounting.

Finish
Housing finished in super durable TGIC polyester powder coat paint. 2.5 mil nominal thickness for superior protection against fade and wear. Heat sink is powder coated black. Standard housing colors include black, bronze, grey, white, dark platinum and graphite metallic. RAL and custom color matches available.

Warranty
Five-year warranty.

McGraw-Edison

Catalog #	Type
Project	
Comments	
Prepared by	
Date	



GLEON
GALLEON LED

1-10 Light Squares
Solid State LED

AREA/SITE LUMINAIRE



WaveLinx



CERTIFICATION DATA
3G Vibration Rated
DesignLights Consortium™ Qualified†
Dark Sky Approved (3000K CCT and warmer only)
IP66 Rated
ISO 9001
LM79 / LM80 Compliant
UL/cUL Wet Location Listed

ENERGY DATA
Electronic LED Driver
≥0.9 Power Factor
≤20% Total Harmonic Distortion
120V-277V 50/60Hz
347V, 480V 60Hz
-40°C Min. Temperature
40°C Max. Temperature
50°C Max. Temperature (HA Option)

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March 9, 2020 3:14 PM

Project	Catalog #	Type
Prepared by	Notes	Date



McGraw-Edison

Impact Elite LED

Wall Mount Luminaire

Typical Applications

Outdoor • Wall Mount • Walkways

Interactive Menu

- Ordering Information page 2
- Product Specifications page 2
- Energy and Performance Data page 3
- Control Options page 4

Product Certifications



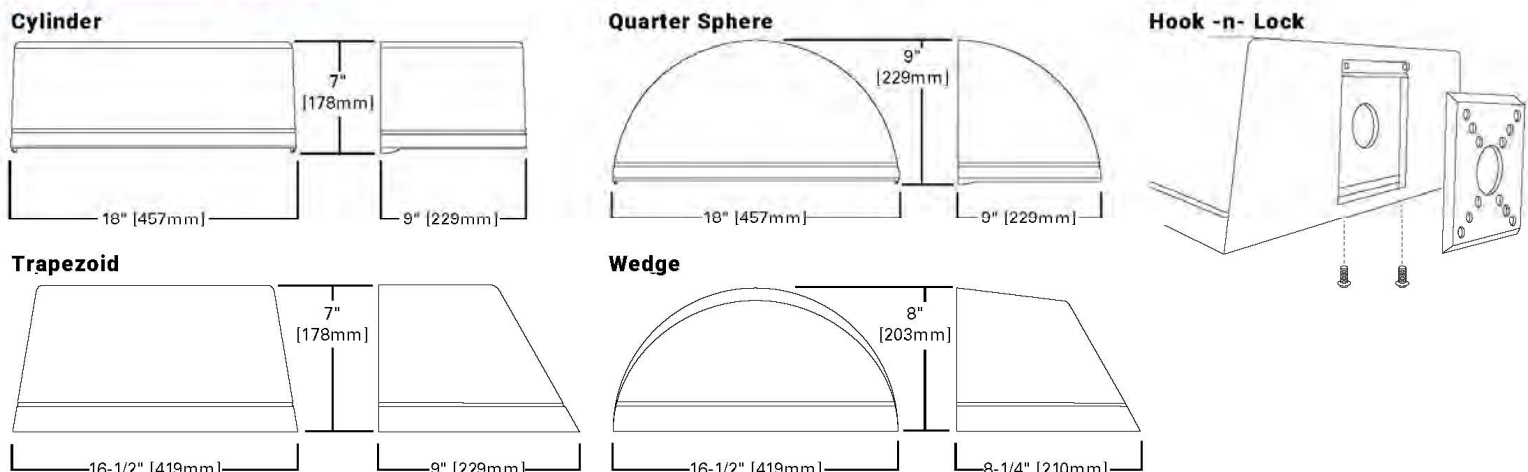
Connected Systems

- Enlighted
- WaveLinx

Quick Facts

- 10 Optical Distributions
- Lumen packages range from 2,459 to 8,123 (20W - 66W)
- Efficacy up to 143 lumens per watt

Dimensional Details



PS500040EN: page 1
January 7, 2021 4:45 PM

Steel Poles

Catalog #	Type
Project	
Comments	
Prepared by	
Date	

- FEATURES**
- ASTM Grade steel base plate with ASTM A368 base cover
 - Hand hole assembly 3" x 5" on 5" and 6" pole; and 2" x 4" on 4" pole
 - 10'-39" mounting heights
 - Drilled or tenon (specify)



SSS SQUARE
STRAIGHT STEEL

DESIGN CONSIDERATIONS

Wind induced vibrations resulting from steady, unidirectional winds and other aerodynamic forces, as well as vibration and coefficient of height factors for non-grounded mounted installations (e.g., installations on bridges or buildings) are not included in this document. The information contained herein is for general guidance only and is not a replacement for professional judgement. Consult with a professional, and local and federal standards, before ordering to ensure product is appropriate for the intended purpose and installation location. Also, please review Eaton's Light Pole White Paper for risk factors and design considerations. [Last11.m0316](#)

Specifications and dimensions subject to change without notice. Consult your lighting representative at Eaton or visit [www.eaton.com/lighting](#) for available options, accessories and ordering information.

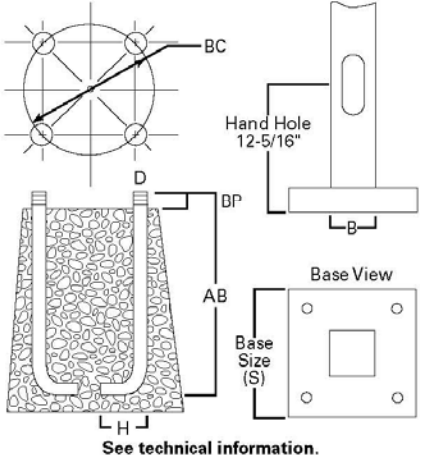
ORDERING INFORMATION

SAMPLE NUMBER: SSSA5A22SFM1XG

Product Family	Shaft Size (Inches)†	Wall Thickness (Inches)	Mounting Height (feet)	Base Type	Finish	Mounting Type	Number and Location of Arms	Arm Lengths (feet)	Options (Add as Suffix)
SSS=Square Straight Steel	4=4" 5=5" 6=6"	A=0.120" M=0.188" X=0.250"	10=10' 15=15' 20=20' 25=25' 30=30' 35=35' 39=39'	S=Square Steel Base	F=Dark Bronze G=Galvanized Steel J=Summit White K=Carbon Bronze L=Dark Platinum R=Hartford Green S=Silver T=Graphite Metallic V=Grey W=White X=Custom Color Y=Black	2=2 3/8" O.D. Tenon (4" Long) 3=3 1/2" O.D. Tenon (5" Long) 4=4" O.D. Tenon (6" Long) 5=5" O.D. Tenon (8" Long) 6=6 3/8" O.D. Tenon (10" Long) 7=7 1/4" O.D. Tenon (12" Long)	1=Single 2=2 at 180° 3=Triple 4=4 at 90° 5=2 at 90° X=None	X=None 2=2' 3=2.5' 4=4' 6=6' 8=8'	A=1/2" Tapped Hub† B=3/4" Tapped Hub† C=Convenience Outlet† E=CFD Convenience Outlet† G=Ground Lug H=Additional Hand Hole† V=Vibration Damper

NOTES: 1. All shaft sizes nominal. 2. Square poles are 3 at 90°, round poles are 3 at 120°. 3. Tapped Hub is located 5' below the pole top and on the same side of pole as hand hole, unless specified otherwise. 4. Outlet is located 4' above base and on same side of pole as hand hole, unless specified otherwise. Receptacle not included, provision only. 5. Additional hand hole is located 12" below pole top and 90° from standard hand hole location, unless otherwise specified.

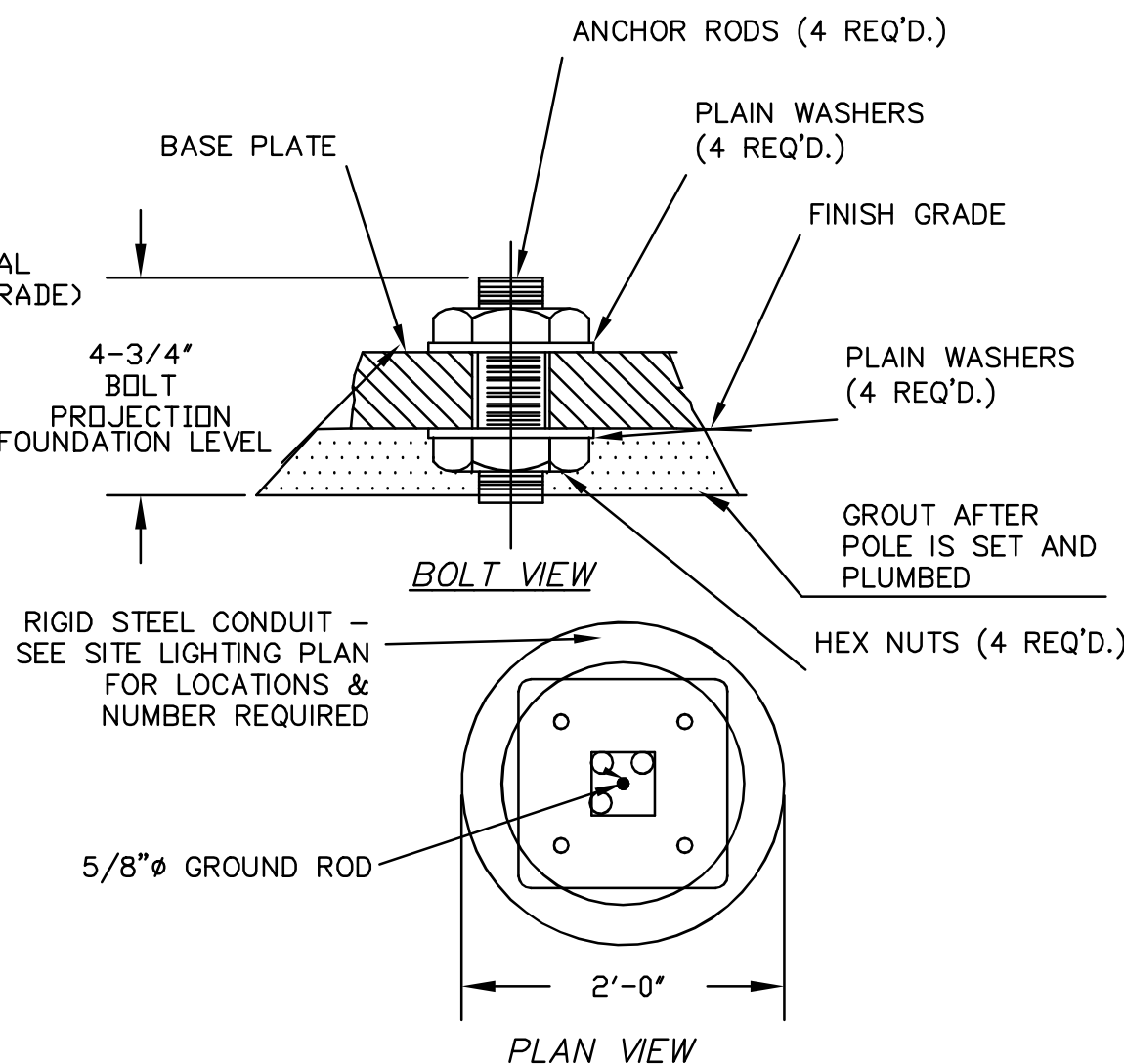
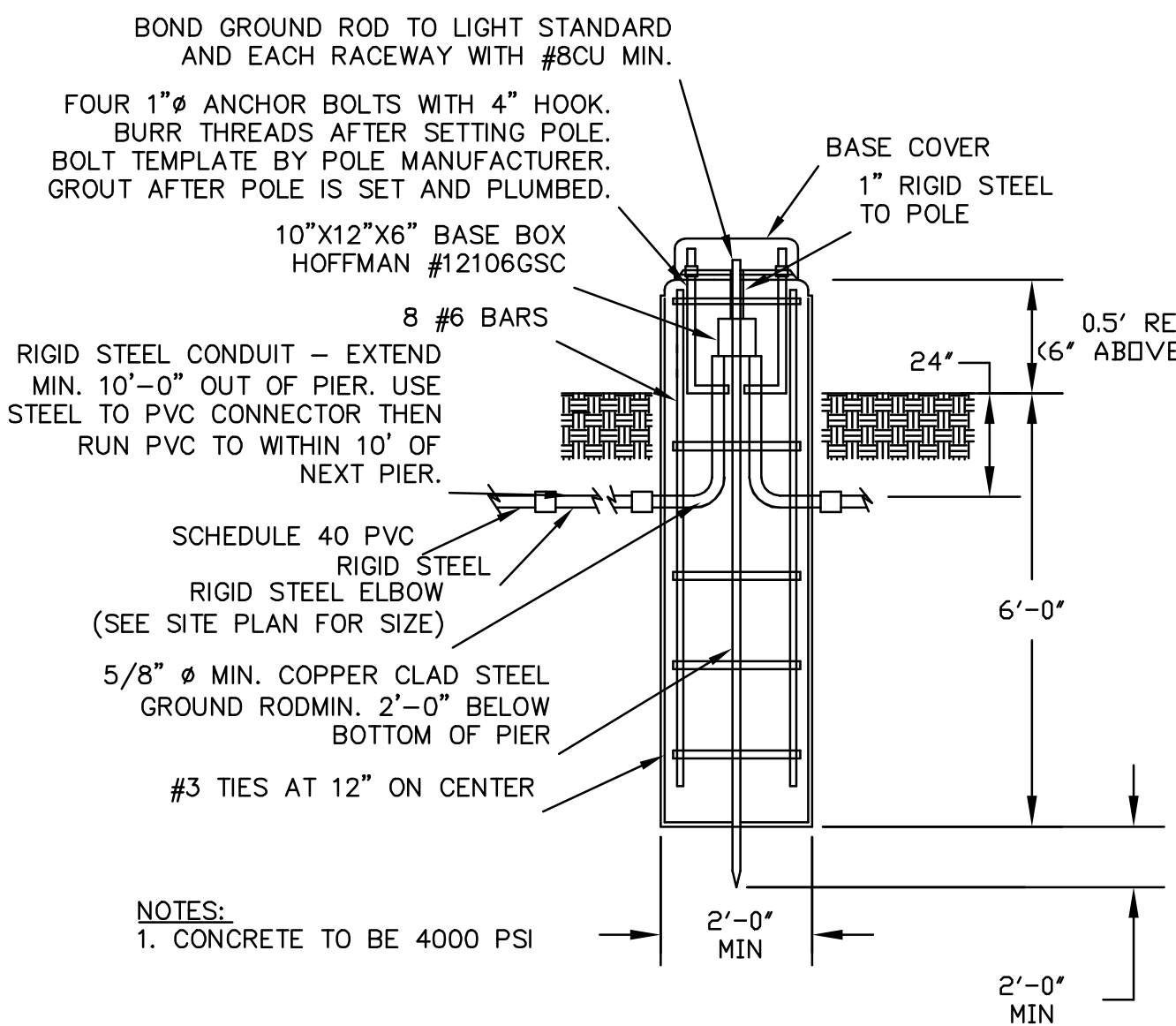
DIMENSIONS



See technical information.



TD513013EN
June 6, 2018 11:14 AM



LIGHT POLE BASE

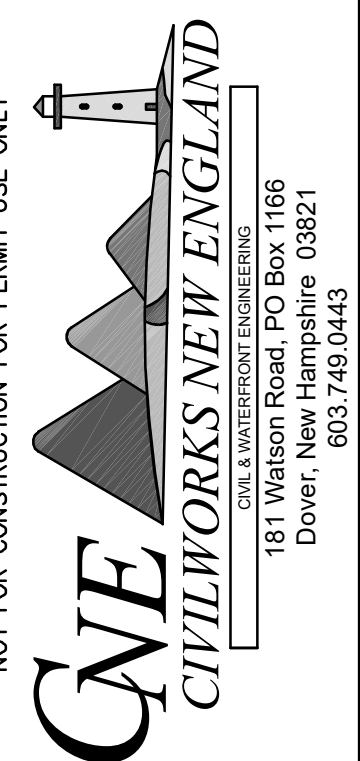
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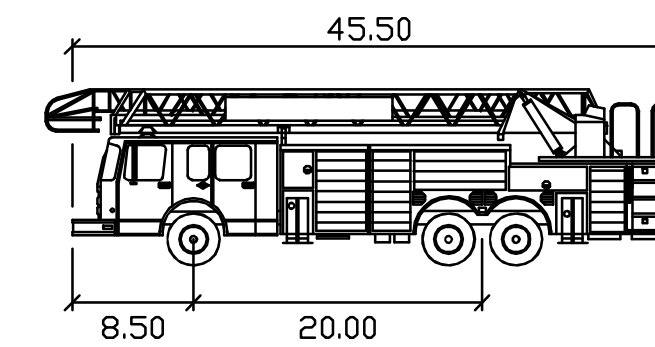
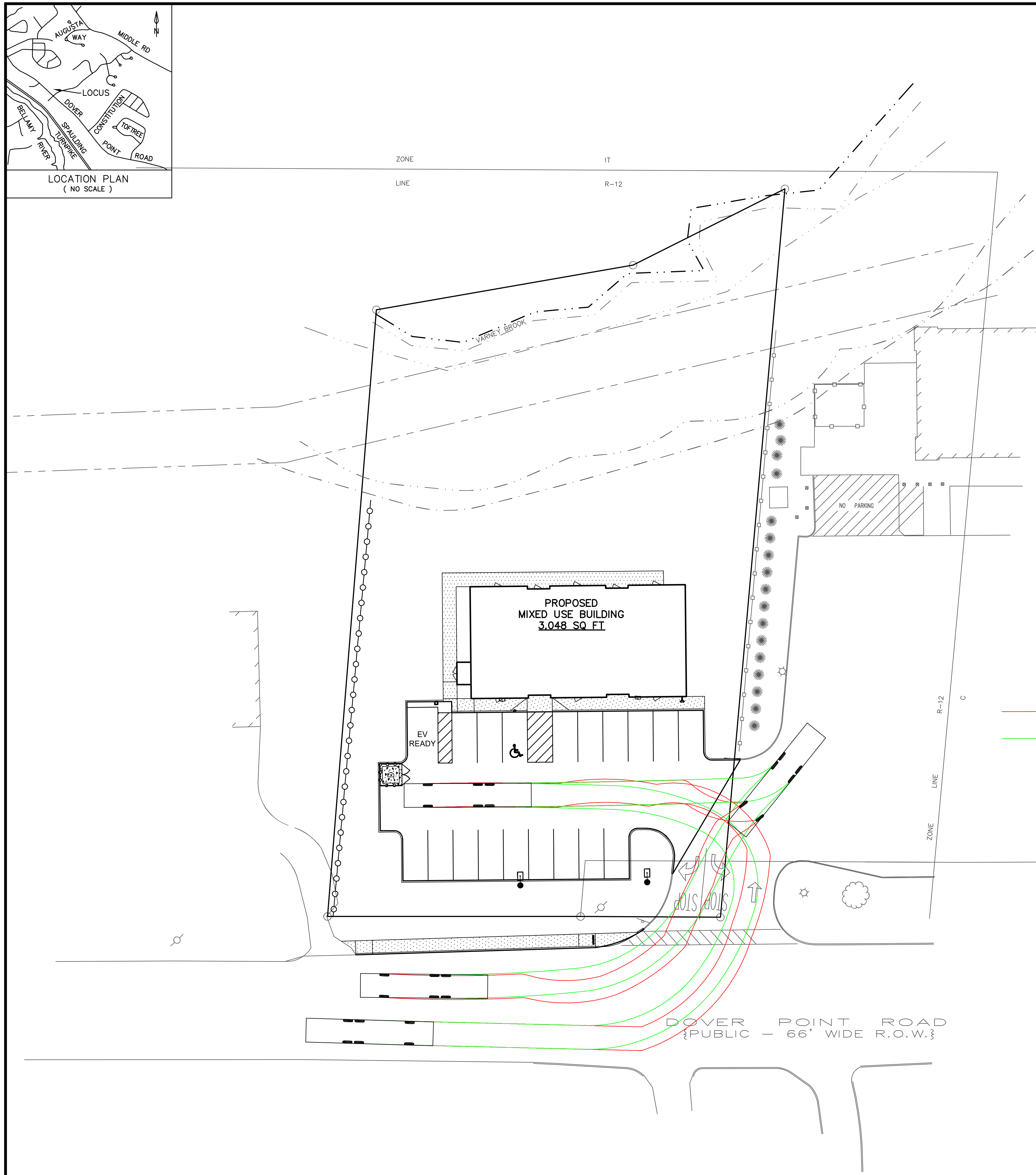
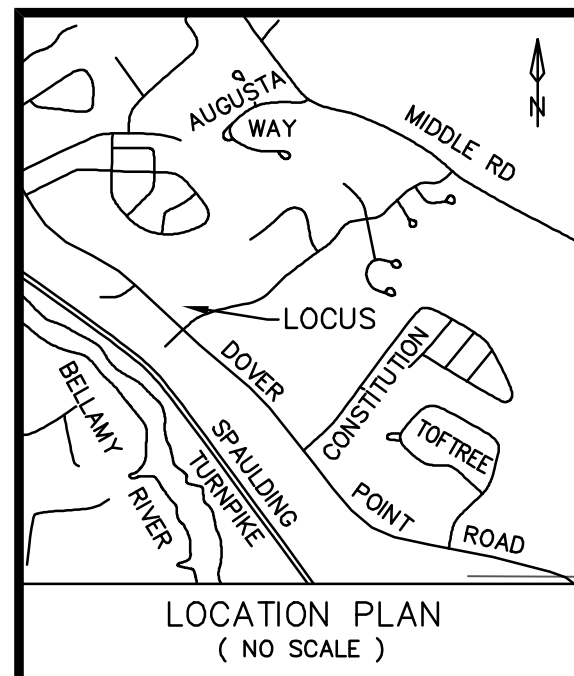
LIGHTING DETAILS

DOVER POINT MIXED USE
28 DOVER POINT ROAD
DOVER, NH

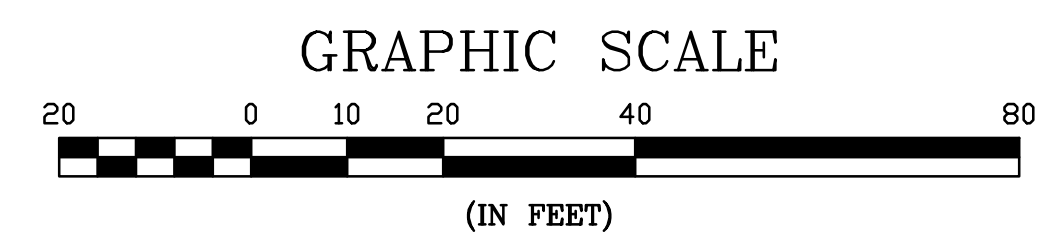
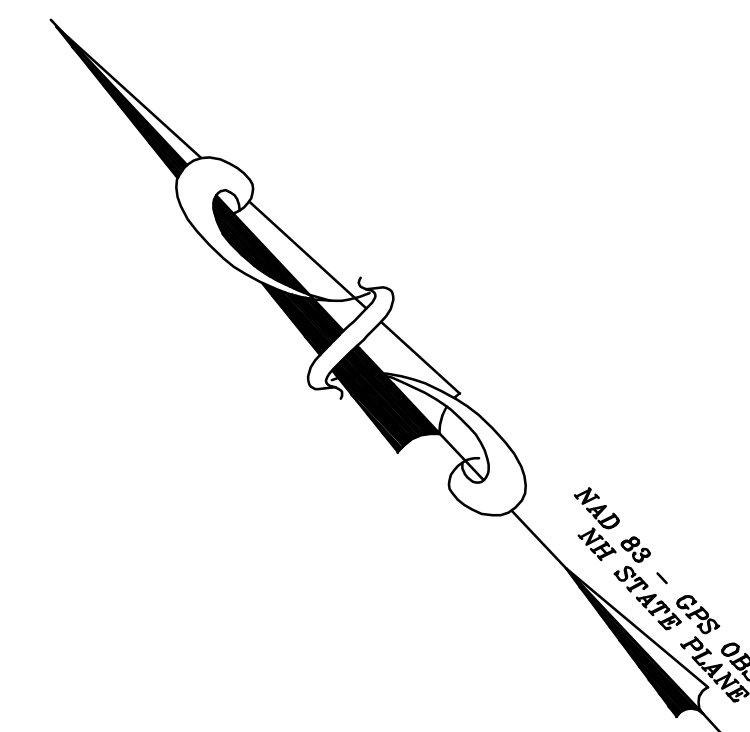
NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

DATE: 2-9-26	SCALE: AS SHOWN	DRAWN BY: SRD	DESIGN BY: SRD	APPROVED BY: JH	PROJECT NO: 25026	FILE: SITE.DWG	NO.	REVISION	APPD	DATE
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Dover Ladder	feet
Width	: 8.50
Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 44.0

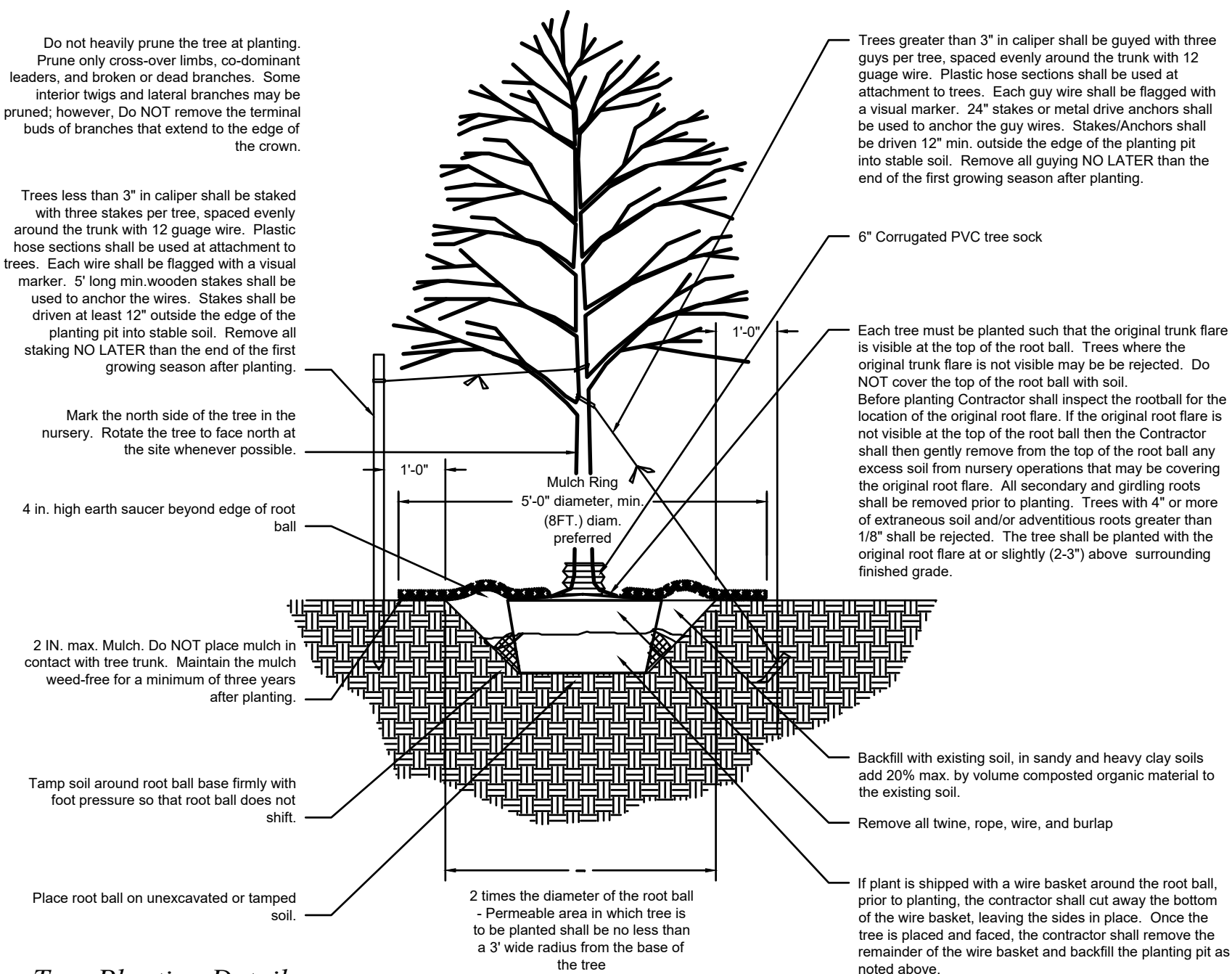
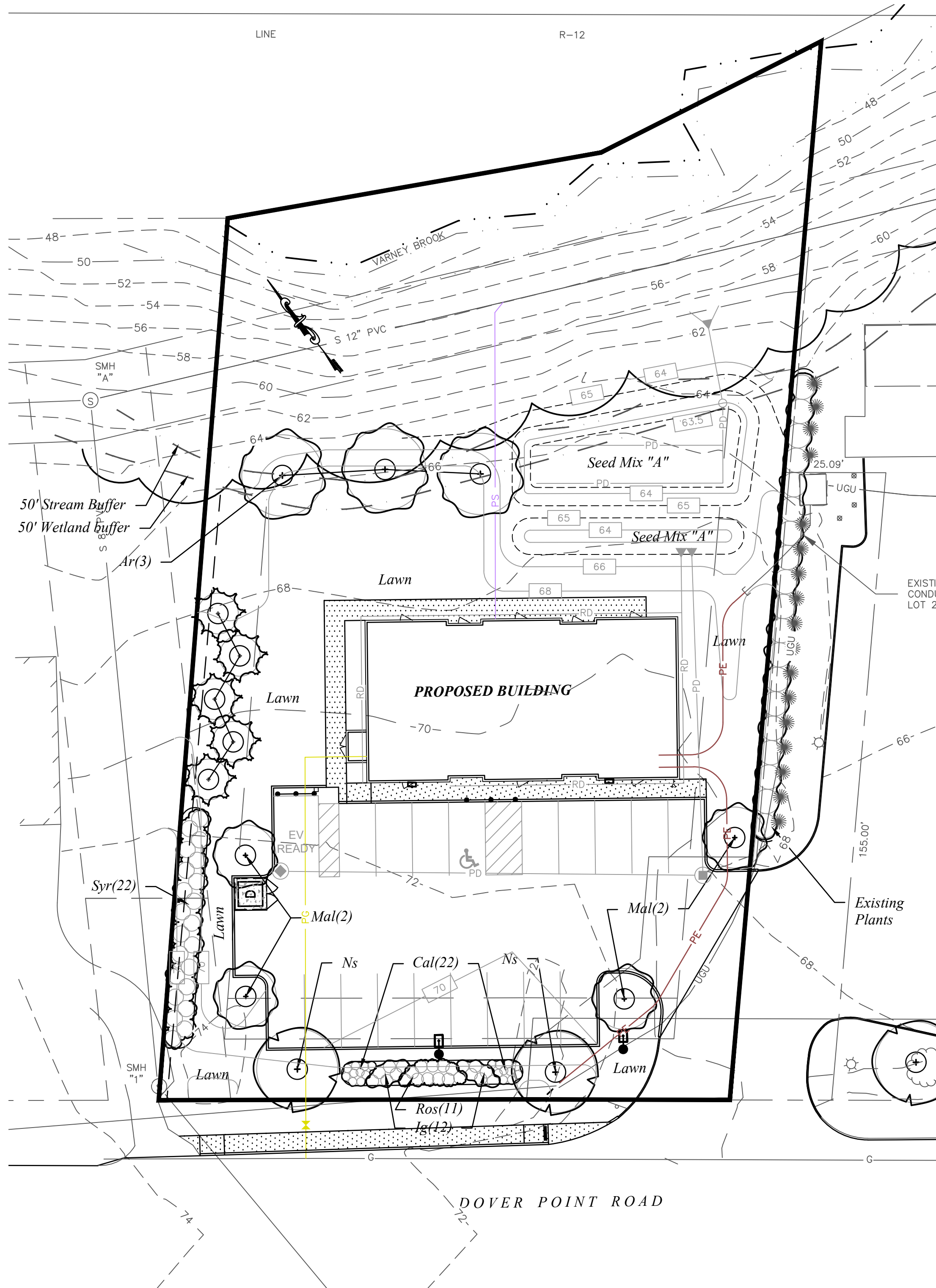


PLANNING FILE NO.: SITE-2026-

18	DOVER LADDER TRUCK MOVEMENT PLAN																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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1. Design is based on drawings by Civilworks New England and may require adjustment due to actual field conditions.
2. The contractor shall follow best management practices during construction and shall take all means necessary to stabilize and protect the site from erosion.
3. Erosion Control shall be in place prior to construction.
4. Erosion Control to consist of Hay Bales and Erosion Control Fabric shall be staked in place between the work and Water bodies, Wetlands and/or drainage ways prior to any construction.
5. The Contractor shall verify layout and grades and inform the Landscape Architect or Client's Representative of any discrepancies or changes in layout and/or grade relationships prior to construction.
6. It is the contractor's responsibility to verify drawings provided are to the correct scale prior to any bid, estimate or installation. A graphic scale bar has been provided on each sheet for this purpose. If it is determined that the scale of the drawing is incorrect, the landscape architect will provide a set of drawings at the correct scale, at the request of the contractor.
7. Trees to Remain within the construction zone shall be protected from damage for the duration of the project by snow fence or other suitable means of protection to be approved by Landscape Architect or Client's Representative. Snow fence shall be located at the drip line at a minimum and shall include any and all surface roots. Do not fill or mulch on the trunk flare. Do not disturb roots. In order to protect the integrity of the roots, branches, trunk and bark of the tree(s) no vehicles or construction equipment shall drive or park in or on the area within the drip line(s) of the tree(s). Do not store any refuse or construction materials or portalets within the tree protection area.
8. Location, support, protection, and restoration of all existing utilities and appurtenances shall be the responsibility of the Contractor.
9. The Contractor shall verify exact location and elevation of all utilities with the respective utility owners prior to construction. Call DIGSAFE at 1-888-344-7233.
10. The Contractor shall procure any required permits prior to construction.
11. Prior to any landscape construction activities Contractor shall test all existing loam and loam from off-site intended to be used for lawns and plant beds using a thorough sampling throughout the supply. Soil testing shall indicate levels of pH, nitrates, macro and micro nutrients, texture, soluble salts, and organic matter. Contractor shall provide Landscape Architect with test results and recommendations from the testing facility along with soil amendment plans as necessary for the proposed plantings to thrive. All loam to be used on site shall be amended as approved by the Landscape Architect prior to placement.
12. Contractor shall notify landscape architect or owner's representative immediately if at any point during demolition or construction a site condition is discovered which may negatively impact the completed project. This includes, but is not limited to, unforeseen drainage problems, unknown subsurface conditions, and discrepancies between the plan and the site. If a contractor is aware of a potential issue, and does not bring it to the attention of the landscape architect or owner's representative immediately, they may be responsible for the labor and materials associated with correcting the problem.
13. The Contractor shall furnish and plant all plants shown on the drawings and listed thereon. All plants shall be nursery-grown under climatic conditions similar to those in the locality of the project. Plants shall conform to the botanical names and standards of size, culture, and quality for the highest grades and standards as adopted by the American Association of Nurserymen, Inc. in the American Standard of Nursery Stock, American Standards Institute, Inc. 230 Southern Building, Washington, D.C. 20005.
14. A complete list of plants, including a schedule of sizes, quantities, and other requirements is shown on the drawings. In the event that quantity discrepancies or material omissions occur in the plant materials list, the planting plans shall govern.
15. All plants shall be legibly tagged with proper botanical name.
16. The Contractor shall guarantee all plants for not less than one year from time of acceptance.
17. Owner or Owner's Representative will inspect plants upon delivery for conformity to Specification requirements. Such approval shall not affect the right of inspection and rejection during or after the progress of the work. The Owner reserves the right to inspect and/or select all trees at the place of growth and reserves the right to approve a representative sample of each type of shrub, herbaceous perennial, annual, and ground cover at the place of growth. Such sample will serve as a minimum standard for all plants of the same species used in this work.
18. No substitutions of plants may be made without prior approval of the Owner or the Owner's Representative for any reason.
19. All landscaping shall be provided with either of the following
 - a. An underground sprinkling system
 - b. An outside hose attachment within 150 feet
20. If an automatic irrigation system is installed, all irrigation valve boxes shall be located within planting bed areas.
21. All disturbed areas will be dressed with 6" of topsoil and planted as noted on the plans or seeded except plant beds. Plant beds shall be prepared to a depth of 12" with 75% loam and 25% compost.
22. Trees, ground cover, and shrub beds shall be mulched to a depth of 2" with one-year-old, well-composted, shredded natural bark not longer than 4" in length and 1/2" in width, free of woodchips and sawdust. Mulch for ferns and herbaceous perennials shall be no longer than 1" in length. Trees in lawn areas shall be mulched in a 5' diameter min. saucer. Color of mulch shall be black.
23. In no case shall mulch touch the stem of a plant nor shall mulch ever be more than 3" thick total (including previously applied mulch) over the root ball of any plant.
24. Secondary lateral branches of deciduous z
25. trees overhanging vehicular and pedestrian travel ways shall be pruned up to a height of 6' to allow clear and safe passage of vehicles and pedestrians under tree canopy.
26. Snow shall be stored a minimum of 5' from shrubs and trunks of trees.
27. Landscape Architect is not responsible for the means and methods of the contractor.

Plant List					
TREES					
Symbol	Botanical Name	Common Name	Quantity	Size	Comments
Ar	<i>Acer rubrum</i> 'October Glory'	October Glory Red Maple	3	3-3.5" Cal	B&B
Mal	<i>Malus</i> 'Prairefire'	Prairefire Crabapple	4	3-3.5" Cal	B&B
Ns	<i>Nyssa Sylvatica</i>	Black Tupelo	2	3-3.5" Cal	B&B
Th	<i>Thuja plicata</i> 'Green Giant'	Green Giant Arborvitae	5	8-10' Ht	B&B
SHRUBS & PERENNIALS					
Symbol	Botanical Name	Common Name	Quantity	Size	Comments
Cal	<i>Calamagrostis acutifolia</i> 'Karl Foerster'	Feather Reed Grass	22	3 gal	
Ig	<i>Ilex glabra</i> 'Shamrock'	Shamrock Inkberry	12	5 gal	installed height, 2-2.5', mature height, 3', 2 years to maturity
Ros	<i>Rosa</i> 'Double Knockout'	Double Knockout Rose	11	3 gal	installed height, 2-2.5', mature height, 3', 2 years to maturity
Syr	<i>Syringa</i> 'Bloomerang'	Bloomerang Lilac	22	5 gal	
Seed Mix "A"	50% New England Conservation/Wildlife Mix 50% New England Showy Wildflower Mix, by New England Wetland Plants, Inc.				
Lawn Areas	Pennington Smart Seed Tall Fescue Blend				



Tree Planting Details



woodburn
& company
LANDSCAPE ARCHITECTURE

103 Kent Place Newmarket, New Hampshire Phone: 603.659.5949

[illegible]



TOP PLATE
20'-1 5/8" A.F.F.

TOP PLATE
17'-9" A.F.F.

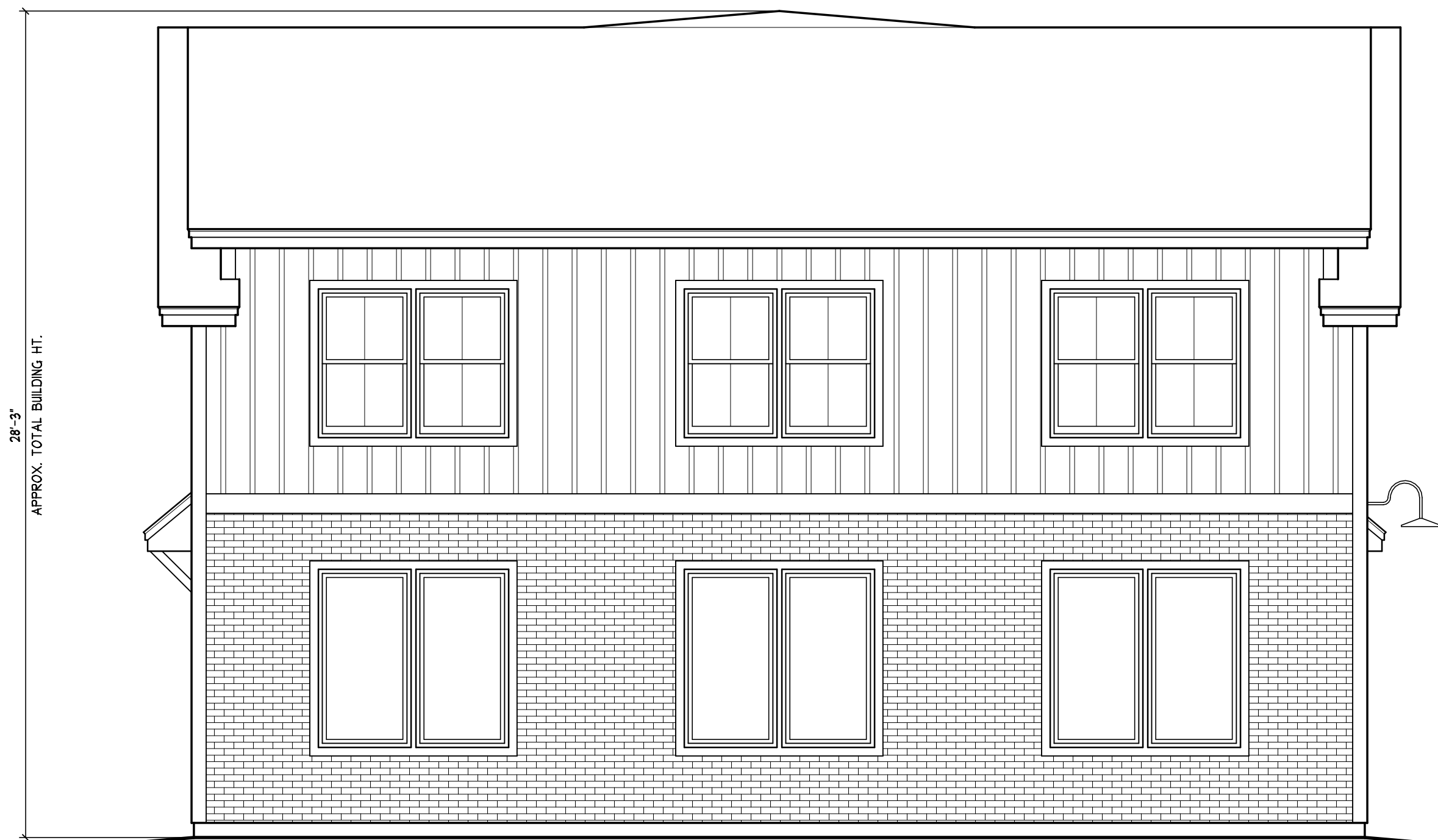
SECOND FLOOR
12'-1" A.F.F.

FIRST FLOOR
0'-0" A.F.F.



FRONT ELEVATION

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



LEFT ELEVATION

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

SQUARE FOOTAGE TABLE

PLAN	SQ. FTG.
COMMERCIAL A	824
COMMERCIAL B	191
COMMERCIAL C	824
RESIDENTIAL 1	840
RESIDENTIAL 2	599
RESIDENTIAL 3	599
RESIDENTIAL 4	840



REVISIONS		
NO.	DATE	REVISION
1	1/19/24	PRELIMINARY PLANS RELEASED FOR REVIEW

FRONT / LEFT ELEVATION

ZACHERY LEAVITT
MIXED USE
3 COMMERCIAL / 4RESIDENTIAL

JOB # 25012CL

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TOP PLATE
20'-1 5/8" A.F.F.

TOP PLATE
17'-9" A.F.F.

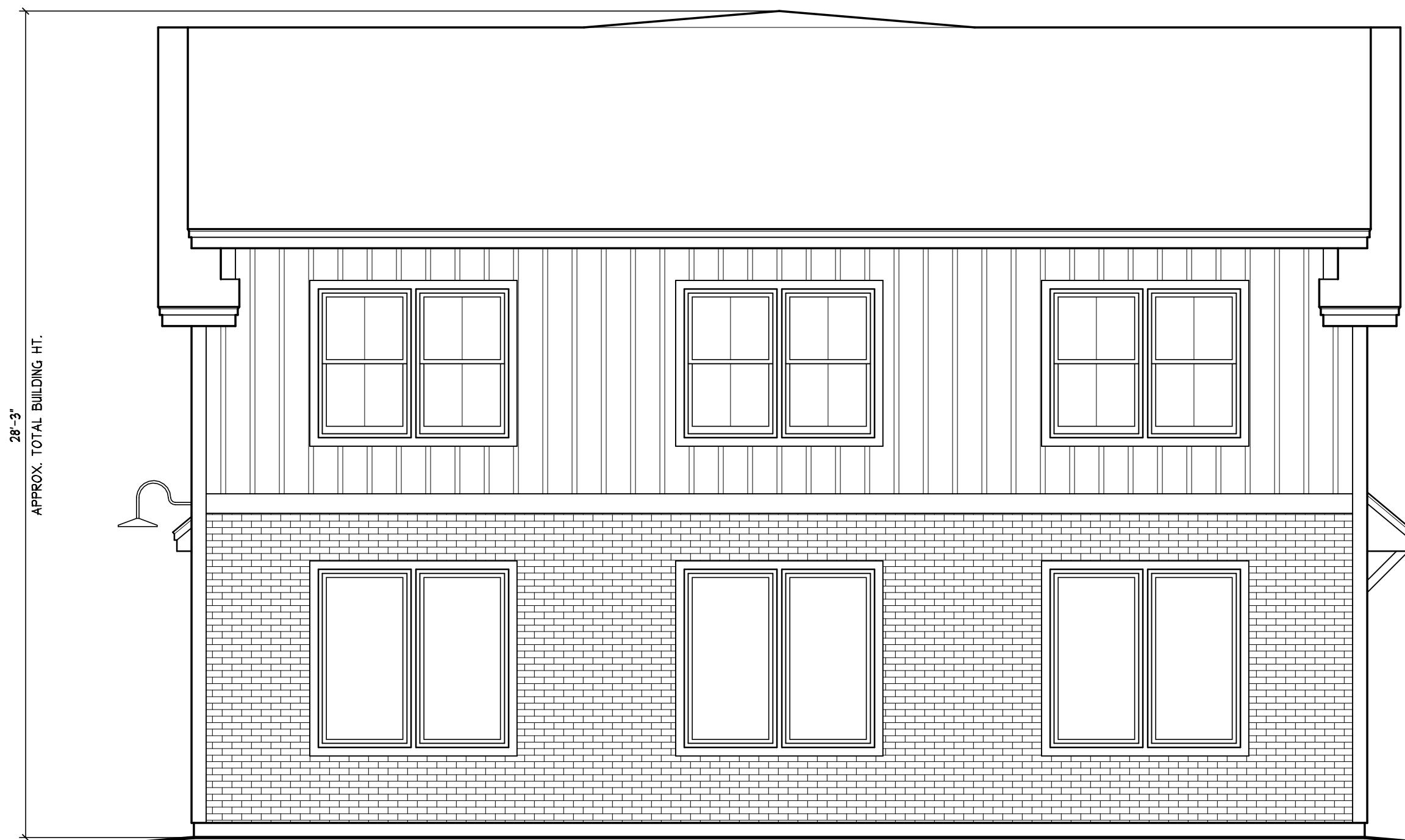
SECOND FLOOR
12'-1" A.F.F.

FIRST FLOOR
0'-0" A.F.F.



REAR ELEVATION

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



RIGHT ELEVATION

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

SQUARE FOOTAGE TABLE

PLAN	SQ. FTG.
COMMERCIAL A	824
COMMERCIAL B	147
COMMERCIAL C	824
RESIDENTIAL 1	840
RESIDENTIAL 2	599
RESIDENTIAL 3	599
RESIDENTIAL 4	840

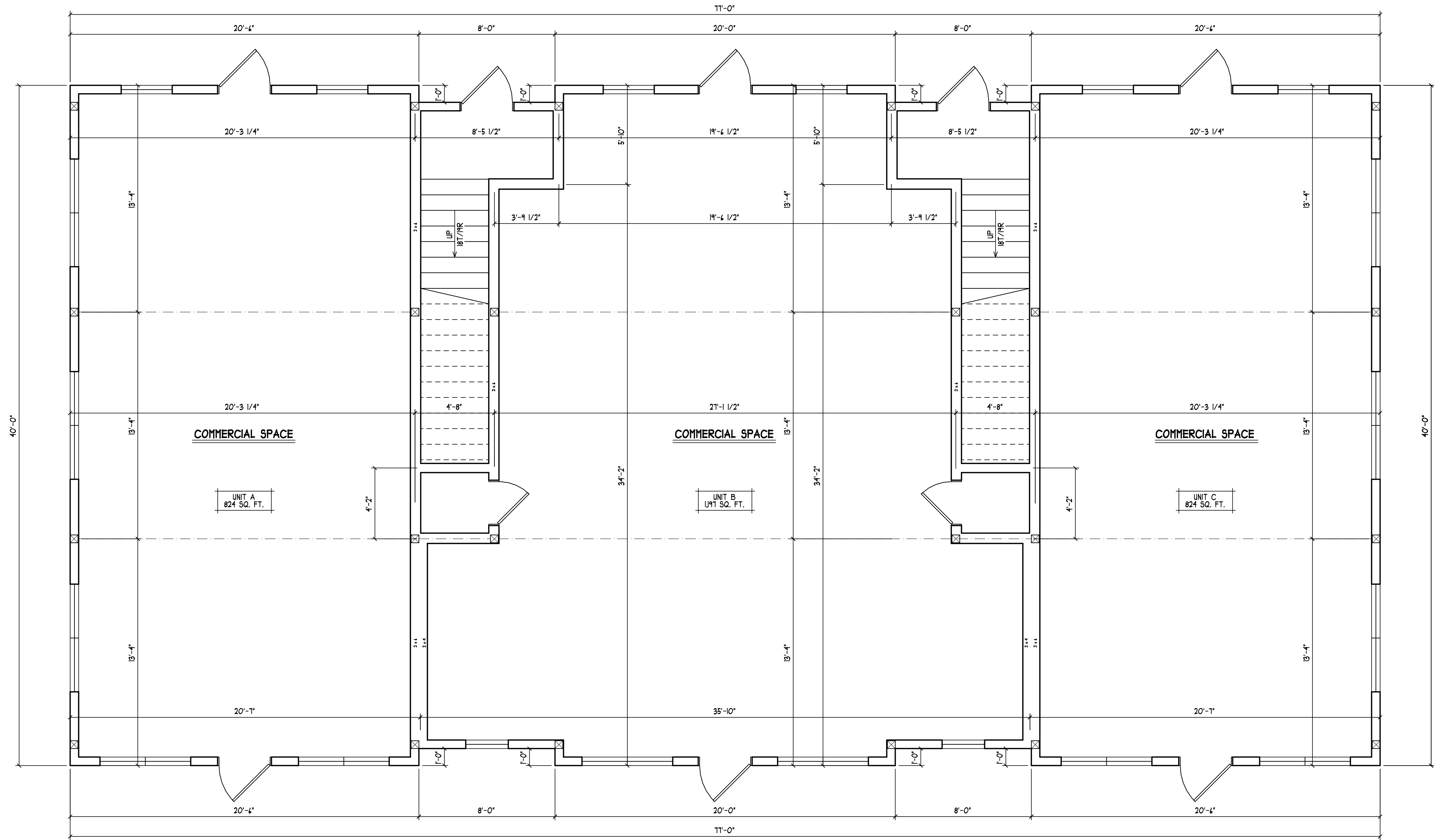


REVISIONS			
NO.	DATE	REVISION	PRELIMINARY PLANS RELEASED FOR REVIEW
1	1/19/24		

REAR / RIGHT ELEVATION

ZACHERY LEAVITT
MIXED USE
3 COMMERCIAL / 4RESIDENTIAL

JOB # 25012CL



FIRST FLOOR PLAN

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

SQUARE FOOTAGE TABLE

PLAN	SQ. FTG.
COMMERCIAL A	824
COMMERCIAL B	197
COMMERCIAL C	824
RESIDENTIAL 1	840
RESIDENTIAL 2	599
RESIDENTIAL 3	599
RESIDENTIAL 4	840



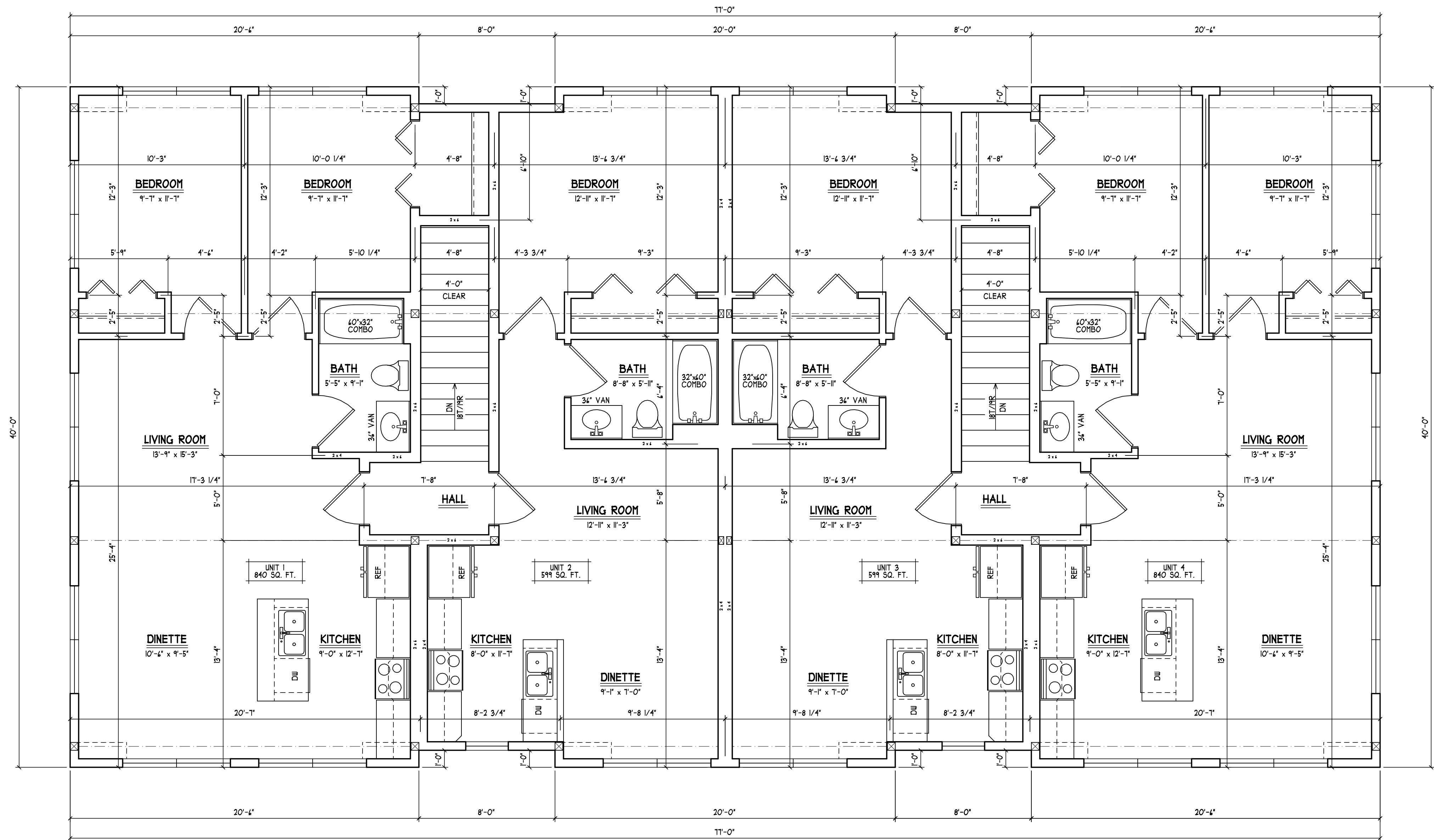
REVISIONS		
NO.	DATE	REVISION
1	1/19/24	PRELIMINARY PLANS RELEASED FOR REVIEW

FIRST FLOOR PLAN

ZACHERY LEAVITT
MIXED USE
3 COMMERCIAL / 4 RESIDENTIAL

JOB # 25012CL

3



SECOND FLOOR PLAN

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

SQUARE FOOTAGE TABLE

PLAN	SQ. FTG.
COMMERCIAL A	824
COMMERCIAL B	1471
COMMERCIAL C	824
RESIDENTIAL 1	840
RESIDENTIAL 2	599
RESIDENTIAL 3	599
RESIDENTIAL 4	840

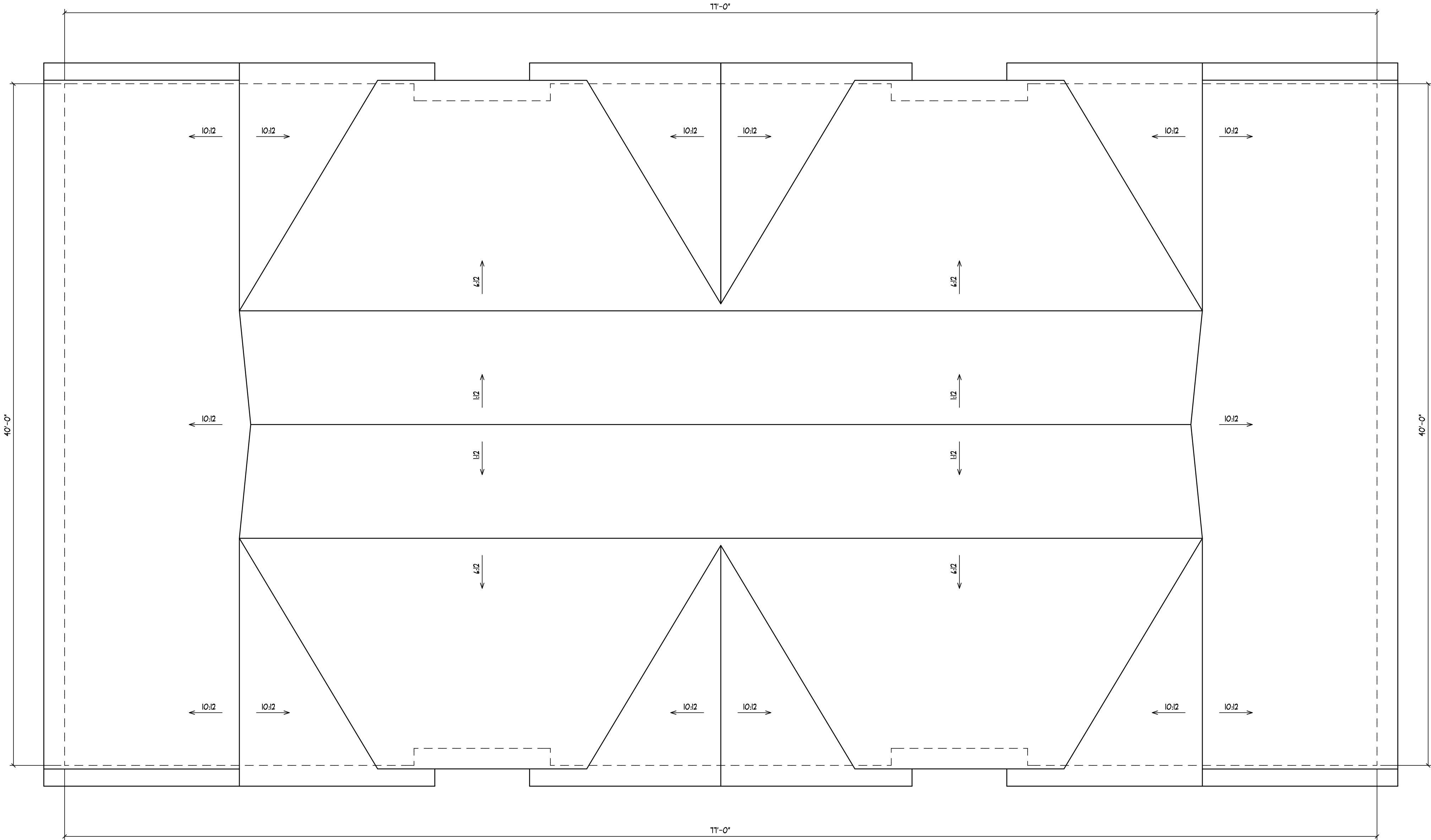


REVISIONS		
NO.	DATE	REVISION
1	1/19/24	PRELIMINARY PLANS RELEASED FOR REVIEW

SECOND FLOOR PLAN

ZACHERY LEAVITT
MIXED USE
3 COMMERCIAL / 4 RESIDENTIAL

JOB # 25012CL



ROOF PLAN

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

SQUARE FOOTAGE TABLE	
PLAN	SQ. FTG.
COMMERCIAL A	824
COMMERCIAL B	191
COMMERCIAL C	824
RESIDENTIAL 1	840
RESIDENTIAL 2	599
RESIDENTIAL 3	599
RESIDENTIAL 4	840



REVISIONS			
NO.	DATE	REVISION	
1	1/9/24	PRELIMINARY PLANS RELEASED FOR REVIEW	

ROOF PLAN

ZACHERY LEAVITT
MIXED USE
3 COMMERCIAL / 4 RESIDENTIAL

JOB # 25012CL

