

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, October 2, 2025**
Meeting Time: **10:30 AM**

1. Site Plan for 200 Sixth Street, LLC, Assessor's Map E, Lot 70-A, zoned IT, located at 200 Sixth Street. (Proposal is to construct a 2,500 s.f. Public Utility Switching Facility.) (SITE-2025-0015)



PLAN SNAPSHOT REPORT SITE-2025-0015 FOR CITY OF DOVER, N.H.

Plan Type: Site Plan - Major
Work Class: New Construction
Status: In Review
Valuation: \$0.00

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

App Date: 09/18/2025
Exp Date: 11/22/2025
Completed: NOT COMPLETED
Approval
Expire Date:

Description: Site Plan for unmanned Public Utility Switching Facility

Parcel: E0070-A00000	Main	Address: 200 Sixth St Dover, NH	Main	Zone: IT(Non-Residential - Innovative Technolo
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Applicant Roland Leduc Business: (603) 749-0443	Applicant Civilworks New England Steve Haight 181 Watson Road PO Box 1166 Dover, NH 03820 Business: (603) 749-0443 Mobile: (603) 817-6651	Owner Dan Gabriel Business: (603) 749-4529
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Plan Custom Fields

Total	0	Total2	2500	Total3	5305
Total4	0	Total5	0	Total6	0
Total7	0	Total8	0	Total9	2500
Street Classification Type	Municipal	Net Change in # Parking ² Spaces (+/-)		Water Service	Private
Recording Number		Sewer Service	Private	Total Acres (GIS)	1.33
Deed Book		Total SQFT	57934.8	Deed Page	5157
Deed Date	679	Proposed Property Use	Private Utility Switching Facility	Area of Parcel to be Developed (SQFT)	28500
Number of Parking Spaces Existing	0	Number of Parking Spaces Proposed	2	Number of Employees Total	0
Number of Employees in Max Shift	0	Type of Building to be Built	Insulated Concrete Form with Faux Brick Facade	Estimated Construction Value	200000.00
Refuse Removal	Private	Is there an existing Conservation Easement?	No	Existing Conservation Easement Details	
TotalImpactFeeSDTOD	0.00	TotalImpactFeeTHTOD	0.00	TotalImpactFee23FTOD	0.00
TotalImpactFeeA4TOD	0.00	TotalImpactFeeMHTOD	0.00	TotalImpactFeeADUTO	0.00
TotalImpactFeeAONRT	0.00	TotalImpactFeeAR55TC	0.00	TotalImpactFeeAR62TC	0.00
OD		D		D	
Sub Total Residential	0.00	TotalImpactFeeRIRCTC	0.00	TotalImpactFeeOCSTO	0.00
		D		D	
TotalImpactFeeITWCTC	0.00	TotalImpactFeeNHALT	0.00	TotalImpactFeeOIUTOD	0.00
D		D			
TotalImpactFeeAFAOT	0.00	Sub Total	0.00	Total of Impact Fees to	0.00
OD		Non-Residential		be Assessed	

Attachment File Name	Added On	Added By	Attachment Group	Notes
Signature_Steve_Haight_9/18/2025.jpg	09/18/2025 11:36	Haight, Steve		Uploaded via CSS

Invoice No.	Fee	Fee Amount	Amount Paid
INV-2025013935	Planning General Application Fee	\$200.00	\$0.00
Total for Invoice INV-2025013935		\$200.00	\$0.00
INV-2025013941	Planning Non-Res/Mixed Use – New Construction	\$375.00	\$0.00
	Planning Impervious Paved Area Fee	\$371.35	\$0.00

PLAN SNAPSHOT REPORT (SITE-2025-0015)

Total for Invoice INV-2025013941

\$746.35

\$0.00

Grand Total for Plan

\$946.35

\$0.00

Workflow Step / Action Name

Action Type

Start Date

End Date

Review v.1

09/19/2025 9:58

Confirm application complete v.1

Generic Action

09/19/2025 9:58

Technical Review Committee Meeting Agenda v.1

Task

09/19/2025 9:58

Land Use Plan Technical Review v.1

Receive Submittal

Technical Review Committee Meeting v.1

Hold Meeting

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

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

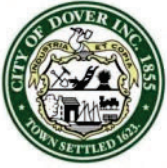
Create/Link to Records v.1

Create / Link to Permit - Building Major v.1

Create Sub Permit

Create / Link to Permit - Site Work, Construction v.1

Create Sub Permit



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: Comcast Cable Communications Management, LLC Telephone # _____

Address of Applicant: 751 East Industrial Park Drive Manchester, NH 03109

E-Mail Address: Roland_Leduc@comcast.com

Name of Property Owner (if different from applicant): Two Hundred Sixth Street, LLC Telephone # (603) 749-4529

Address of Property Owner: 601 Central Avenue Dover, NH 03820

PROPERTY INFORMATION

Address of Property: 200 Sixth Street

Assessor's Map # E Lot(s) # 70-A

Zoning District(s) Innovative Technology (IT) Overlay District(s) N/A

Size of Parcel: 57,957 sq. ft. 1.33 ac. Property Deed: Book 5157 Page: 679

Existing Use of Property: VACANT

SITE PLAN INFORMATION

Describe Proposed Use: Broadband Digital Equipment Center - Public Utility Switching Facility

Area of Parcel to be Developed: 28,500 sq. ft.

If Multi-family Residential: Number of Units N/A & Buildings Proposed N/A

If lodging: Number of Units N/A & number of Buildings N/A

Number of Parking Spaces: Existing 0 Proposed 2

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

Number of Employees Total: N/A In Maximum Shift: N/A

Disposition of Parcel:

Building Setbacks:

Building Footprint 2,500 sq. ft.

Front Yard 50 ft.

Total Building Area 2,500 sq. ft.

Rear Yard 50 ft.

Paved Area 5,305 sq. ft.

Side Yard: Right 50 ft. Left 50 ft.

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

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

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 N/A units

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

N/A

BUILDING INFORMATION

Type of Building to be Built: Insulated concrete form with faux brick facade.

Height of Building: 16 ft ± Finished Floor Elevation: 162.5 ft

Number of Seats (where applicable) N/A

Estimated value of construction: \$ 200,000.00 Refuse removal: Public/Private (circle one) Private

WAIVER REQUESTS

Site Review Regulations section(s) to be waived: Article IV 153-13 A.12

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

The proposed building will be located approximately 130 feet off the public road. The site layout has been
designed, to the maximum extent, to maintain the existing trees along the front property line as well as along the
property line to the east. The proposed landscaping will also strengthen the existing vegetated buffer along the
road frontage which will create additional screening while creating an appropriate look for the proposed building
and site layout, consistent with similar commercial use sites throughout the City of Dover.

SURVEYOR INFORMATIONName of Surveyor and Company (Licensed in N.H.) Kevin McEneaney, LLS - McEneaney Survey AssociatesAddress P.O. Box 1166 Dover, NH 03821 Telephone #: 603-742-0911Professional 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 EnglandAddress P.O. Box 1166 Dover, NH 03821 Telephone #: 603-749-0443Professional License #: NH PE # 7978 E-mail address: shaight@civilworksne.com**ARCHITECT INFORMATION**

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

Address _____ Telephone #: _____

Professional License #: _____ E-mail address: _____

LANDSCAPE ARCHITECT INFORMATION

Name of Landscape Architect and Company (Licensed in N.H.) _____

Address _____ Telephone #: _____

Professional License #: _____ E-mail address: _____

SOIL SCIENTIST INFORMATION ☐**WETLAND SCIENTIST INFORMATION** ☒Name of Soil Scientist and Company (Licensed in N.H.) Damon E. Burt
Fraggle Rock Environmental ServicesAddress 38 Garland Road Strafford, NH 03884 Telephone #: 603-969-5574Professional License #: NH Certified Wetland Scientist # 163 E-mail address: frenvironmental@gmail.com**CONSERVATION EASEMENT HOLDER**Name of Easement Holder: N/A 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: Daniel D. Schmit Date: 9/17/25

Signature of Applicant (if different from owner): Roland Leduc Date: 9/17/2025

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: Daniel D. Schmit Date: 9/17/25

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: Daniel D. Schmit Date: 9/17/25

Signature of Applicant (if different from owner): Roland Leduc Date: 9/17/2025

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: Daniel D. Schmit Date: 9/17/25

Signature of Applicant (if different from owner): Roland Leduc Date: 9/17/2025

***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
E	70-A	Two Hundred Sixth Street, LLC	601 Central Avenue Dover, NH 03820

Applicant (if different from owner):

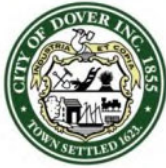
APPLICANT NAME	APPLICANT COMPANY	MAILING ADDRESS
Roland LeDuc	Comcast Cable Communications Management, LLC	751 East Industrial Park Drive Manchester, NH 03109

Surveyor and/or Engineer/Professional Agent:

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

Conservation Easement Holder:

TAX MAP	LOT #	NAME OF EASEMENT HOLDER	MAILING ADDRESS



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: Comcast Cable Communications Management, LLC File Number: SITE-2025-

PROJECT TITLE: Broadband Digital Equipment Center- Public Utility Switching Facility

PROPERTY LOCATION: 200 Sixth Street Tax Map: E Lot: 70-A

	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	☒	
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	☐	
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	☐	
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	☒ See attached waiver	
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	☒	
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	☐	
Dates and permit numbers of all required state and federal permits	☐	
If wetland buffer, indicate placards locations, as applicable	☒	
Depict test boring locations, groundwater elevations and soil profiles and/or soils types call-outs	☒	
Location of proposed drive-in facilities	☐	
Provide additional exhibits/technical data determined appropriate by the Planning Board or its staff as required	☐	

REVIEWED BY: _____ DATE _____ TRC DATE _____

COMCAST CABLE COMMUNICATIONS, LLC
751 East Industrial Park Drive
Manchester, New Hampshire 03109

September 16, 2025

City of Dover
288 Central Avenue
Dover, NH 03820

Attn: Planning Board

Re: LETTER OF APPLICANT AUTHORIZATION
Site Plan Review Application & Approval
200 Sixth Street – Tax Map E, Lot 70-A

I, Roland Leduc, authorize Civilworks New England and McEneaney Survey Associates to represent all applications made on behalf of me as Member of Comcast Cable Communications, LLC (APPLICANT) 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,

Roland Leduc

9/16/2025

Roland Leduc, Project Manager
Comcast Cable Communications, LLC

PROJECT NARRATIVE

for
Comcast Cable Communications Management, LLC
Site Plan Review
Broadband Digital Equipment Center
Public Utility Switching Facility
Tax Map E, Lot 70-A
200 Sixth Street

PROJECT OVERVIEW & SITE CHARACTERISTICS

The proposed site design is for a broadband digital equipment center on a 1.33-acre parcel in the Innovative Technology District (IT) with approximately 216' of frontage on Sixth Street in Dover, NH. The lot is currently undeveloped and bounded by Sixth Street to the North, a vacant lot to the South and West, and the Liberty Mutual lot to the East.

In addition, the applicant obtained a variance approval on June 19, 2025 (ZONE-2025-0012) from the Zoning Board to allow for a reduced size lot for public use in the Innovative Technology Zone (IT). The proposed use is a broadband digital equipment center with zero regular employees, customers, or other traffic, outside of routine or as-needed maintenance on the proposed facility itself.

The proposed site design includes the construction of a 2,500 square foot Broadband Digital Equipment Center as a public utility switching facility. The project site consists of the following general improvement plan:

- Clear the site, as necessary, for construction.
- Construction of a 2,500 sf building, with associated parking and fenced storage areas.
- Construction of on-site stormwater detention and treatment system, grading, and other drainage requirements.
- Construction of an individual on-site sewer system.
- Site utility construction & installation.
- Stabilize remaining areas with loam and seed.

DRIVEWAY AND PARKING LOT

The proposed development will provide one (1) 20' wide driveway entrance on the 216± feet of frontage along Sixth Street, a public variable width ROW. Two parking spaces are being provided at the end of the driveway.

WETLAND PROTECTION DISTRICT SETBACK & IMPACT

There is one wetland pocket on the front of the property abutting Sixth Street, and a second wetland pocket on the abutting lot, to the northwest, in which the buffer infringes onto the parcel. However, the proposed project has been designed to avoid all wetland and wetland buffer impacts.

DRAINAGE

The project proposes the construction of a 2,500 square foot Public Utility Switching Facility along with 5,305 square feet of pavement for access and parking. To mitigate development run-off, the proposed drainage system incorporates two vegetated pre-treatment swales, an infiltration basin, drainage pipes and rip rap protection. The proposed stormwater system captures, treats, stores, and infiltrates the stormwater runoff from the site and redirects it to the existing discharge points. The proposed stormwater drainage system will be maintained by the project proponent as outlined within the Stormwater Management document. The stormwater system has been designed to achieve the required pollutant removal set forth in the stormwater regulations; calculations are included in the drainage analysis.

TRAFFIC

A traffic assessment was completed for this project and is attached as a report to this submittal. The traffic assessment indicates that this proposed project will have no measurable increase on current traffic along Sixth Street as a result of the proposed development.

UTILITIES

The proposed project is designed to have a private well and an individual on-site sewer system. Electric and communication utilities will be routed underground to existing services on Sixth Street. Building and utility connections will be made per the City's Community Services Utility Division and Fire Department requirements and standards.

IT DISTRICT NARRATIVE
for
Comcast Cable Communications Management, LLC
Site Plan Review Application
Tax Map E, Lot 70-A
200 Sixth Street

September 2025

SITE DESIGN AND DEVELOPMENT CRITERIA NARRATIVE - §153-15

The project parcel is shown on Tax Map E as Lot 70A, is located within the IT District, consists of 1.33 ± acres, and is currently undeveloped. The project, as proposed by Comcast Cable Communications Management, LLC, will include the construction of a 2500 sf building, a paved driveway, and associated grading and drainage. This site will also be served by a private well and on-site septic system. The parcel is currently owned by Two Hundred Sixth Street, LLC. On behalf of Comcast, the owner has obtained a variance from the Zoning Board to create a reduced sized lot as allowed for a public utility use. A copy of this decision is included as part of this application.

The following responses (**Responses in Bold**) provide narrative in support of meeting the requirements identified in §153-15 Design Standards for Innovative Technology (IT) District of the Dover Site Design and Development Criteria.

- A. Purpose. These design standards are adopted to regulate development within the Innovative Technology (IT) District, which provides an area for large-scale high technology, research, professional office and clean manufacturing uses needing large sites and high aesthetic standards. The design standards are intended to:
- (1) Establish and maintain high aesthetic standards in the IT District. **The project proposes a single building of a typical design, a simple structure with faux brick façade, used by Comcast for the purpose of an unmanned broadband equipment switching facility. Existing trees and vegetation will be maintained to the maximum extent, with additional vegetation provided to create added screening and to keep with the current aesthetics of the neighborhood.**
 - (2) Preserve the district's natural resources and visual character by assuring that improvements are properly related to their sites and to neighboring developments. **The surrounding area is at the edge of the IT district, with a mix of office and commercial businesses and residential properties. The proposed site design will incorporate the site's existing trees/vegetation and grass areas, as well as incorporating additional vegetation to achieve adequate visible buffer from the road and nearby properties in this transitional portion of the IT district. The single-story 2,500 sf structure is a typical design for this public utility use with a brick façade, 2 parking spaces for occasional maintenance visits and a laydown area at the rear of the building for supplies and equipment delivery/storage. The site layout and positioning of the parking and laydown area towards the side and rear of the building help shield the limited activity anticipated at this site.**
 - (3) Encourage good design and innovation in site planning and development, including architecture, landscaping, and graphic design. **The single-story 2,500 sf structure is a simple design typical for this public utility use, with a brick façade, with the existing and proposed natural landscape that aesthetically blends within this neighborhood. The site design does not impact any wetland, and additionally has been designed to avoid impact to all wetland buffers.**

IT DISTRICT NARRATIVE

for

Comcast Cable Communications Management, LLC

Site Plan Review Application

Tax Map E, Lot 70-A

200 Sixth Street

September 2025

- (4) Encourage the compatible and complementary development of each site in the district. **The site design for a traditionally simple building nestled on the edge of the IT District among a mix of commercial and residential properties is both unique and compatible with the surrounding properties.**
 - (5) Minimize conflicts between residential and nonresidential uses. **The proposed project is compatible and complimentary to this transitional portion of the IT District and the remaining residential parcels within the area by placing the building toward the rear of the parcel and by designing the limited activity at this site to be at the rear of the building and providing adequate natural and vegetative screening.**
- B. Building siting and design. The general character of the IT District is intended to be a campus or parklike setting, with emphasis on the natural characteristics of the site. The site design should create a sense of entry into the site and into the businesses within the site through landscaping, facade treatment, and signage. The architectural character of each building shall be of contemporary design and style. The design should integrate the building's form, textures and colors with the landscape and topographical character of each site. Specific requirements are as follows:
- (1) All exterior building walls and structures shall be constructed with attractive, durable materials such as textured concrete, masonry, stone, brick, clapboard, finishing wood, stucco, or glass. **The building exterior is to be concrete with a faux brick façade that will be consistent with other commercial/public use buildings withing this IT District.**
 - (2) Buildings with exterior walls made of metal or corrugated steel shall not be permitted. **The building exterior is to be concrete with a faux brick façade that will be consistent with other commercial/public use buildings withing this IT District. There is no metal or steel proposed for this building exterior.**
 - (3) Building roofs shall be uncluttered, and when flat roofs are visible from public roads, pitched roofs or parapets are required. **The building has a simple, traditional commercial design with an uncluttered roof.**
 - (4) Rooftop and ground-mounted mechanical units and ventilating fans are to be either integrated into the design of the building or screened from view. **The project does not propose rooftop mounted mechanical units. Mechanical units at the rear of the building will be screened by fencing and existing and proposed vegetative screening.**
 - (5) All exterior service, loading, storage, and utility areas shall be located at the side or rear of the building and screened or sheltered so as not to be visible from the public road or adjacent parcels. **All maintenance and service activities at this site will take place at the rear of the building will be screened by fencing and existing and proposed vegetative screening.**
- C. Parking areas and pedestrian circulation.
- (1) Parking areas shall be screened from public streets and existing residential uses to minimize the visibility of such areas. **The building is located towards the rear of the parcel, over 100 feet from the road, with a small parking area, two (2) spaces at the entrance located at the rear side corner of the building, which are screened with proposed and existing vegetation to minimize visibility.**

IT DISTRICT NARRATIVE
for
Comcast Cable Communications Management, LLC
Site Plan Review Application
Tax Map E, Lot 70-A
200 Sixth Street

September 2025

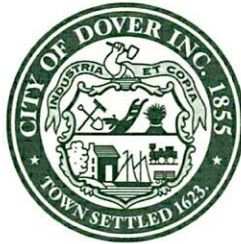
- (2) A majority of the parking spaces shall be located to the side or rear of the buildings. **The small parking area, two (2) spaces, is located at the building entrance at the rear side corner of the building.**
- (3) All sites shall be designed to promote safe pedestrian access, not only within the development but to adjacent properties and public streets. **The proposed project is for an unmanned public utility switching facility located over 100' from the road. Activity at the site will be for occasional maintenance and service needs within the building and fenced areas on site providing a safe environment for the adjacent properties.**

D. Landscaping.

- (1) A landscaping plan shall be submitted as part of the development application. The landscaping plan shall depict a scheme that creates a parklike setting. Maintenance of existing vegetation should be incorporated in the landscaping plan when appropriate. **The landscape plan incorporating much of the existing vegetation is submitted as part of the application process and includes an inspection and maintenance manual.**
- (2) Existing trees of significant size or special character should be preserved wherever possible. **Tree removal that is necessary for site development has been minimized to maintain as much existing woodland and vegetation buffer as possible.**
- (3) All trees should be planted in a permeable area of no less than a three-foot-wide radius from the base of the tree. **Tree locations are situated to ensure the maximum likelihood of survival and at a minimum 3' from edge of proposed pavement areas.**
- (4) Planting islands should be used to define vehicular and pedestrian circulation patterns and to break up large expanses of pavement. A combination of end cap islands and linear islands running parallel to parking rows is preferred. Islands should be planted with either grass or evergreen shrubs and include trees. **The project site is of a reduced lot size as allowed by its public utility use and therefore vehicular and pedestrian patterns are not applicable to this unmanned facility that has a parking area consisting of only two (2) parking spaces. A landscape design is provided that utilizes existing and proposed trees/vegetation along the perimeter of the site to create appropriate screening from other properties.**
- (5) Landscaping should be maintained to present a healthy appearance, and dead materials should be replaced. **The landscape plan is submitted as part of the application process and includes an inspection and maintenance manual.**

- E. Exterior lighting. Exterior lighting shall be low profile. High-intensity directional lighting shall be prohibited. Lighting shall be designed and oriented to avoid glare onto adjacent property or streets. **The lighting is proposed to be cut-off type fixtures that provide on-site lighting.**

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



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Dover, New Hampshire 03820-4169
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City of Dover, New Hampshire

DEPARTMENT OF PLANNING AND COMMUNITY DEVELOPMENT

Zoning Board of Adjustment NOTICE OF DECISION

June 26, 2025

200 Sixth Street, LLC
601 Central Avenue
Dover, NH 03820

Re: **ZONE-2025-0012 – 200 Sixth Street (Tax Map E, Lot 70-A)**

Dear Attorney Bruton,

Please be advised that after a public hearing on Thursday, June 19, 2025, the Zoning Board of Adjustment ("ZBA") voted 5-0 to **APPROVE** a Variance from **Section 170-12(B)** of the Zoning Ordinance, to allow for a reduced size lot for a public use. This variance was granted with the following condition.

1. (For future Site Review considerations) This variance approval is based upon the purported use of a Public Utility which will have zero regular employees, customers, or other traffic, outside of routine or as-needed maintenance on the proposed facility itself.

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

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

WAIVER REQUEST
FOR
SITE PLAN REVIEW APPLICATION
200 Sixth Street
Tax Map E, Lot 70-A
Broadband Digital Equipment Center
Public Utility Switching Facility
September 2025

ARTICLE IV
§ 153-13. Site Design and Development Criteria

- A. (12) A landscape plan that delineates the arrangement, species and dimensions of all existing and proposed landscaping materials. The landscape plan, in sufficient detail to indicate compliance with these regulations, shall be prepared by a professional landscape architect who is licensed by the State of New Hampshire. The licensed landscape architect shall sign the plan. The landscape plan shall be certified by the licensed landscape architect and include his/her State of New Hampshire license number.

Requesting relief from the requirement to have a landscape plan certified by a New Hampshire Licensed Landscape Architect.

A site-specific landscape plan has been provided for this site located in the Innovative Technology (IT) District on Sixth Street. The site, which has been approved through a variance for a reduced lot size as allowed for public utility use, is for a 2,500 s. f. building to house an unmanned broadband digital equipment switching facility. The site-specific landscape layout will maintain, to the maximum extent possible, the existing tree line along the easterly sideline of the property and along the road frontage. Additional vegetative buffer will aid in creating adequate screening along the road frontage and from nearby residential properties, consistent with similar sites within the IT District throughout the City.

SITE DEVELOPMENT DESIGN CRITERIA NARRATIVE

§153-14

STORMWATER MANAGEMENT

for
Broadband Digital Equipment Center
200 Sixth Street
Tax Map E, Lot 70A

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 development has been designed in accordance with NH DES AoT permitting requirements to include the treatment and mitigation of stormwater runoff from the site.**

(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 impervious areas of 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 an infiltration basin practice 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 and will disturb greater than 20,000 square feet, 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 NPDES CGP or NH DES AoT permitting, however, 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 project does not propose work in jurisdictional wetlands nor the City's protected wetland buffers.**

[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. **LID strategies were implemented to the maximum extent practicable. The site incorporates an infiltration practice for treatment and volume mitigation.**

[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.**

[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 road width and required number of parking spaces 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 design maximizes the treatment of stormwater runoff from impervious areas of the site.**

(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 vegetated swales for pre-treatment and an infiltration basin for treatment of impervious areas. This system provides 90% removal of TSS, 64% removal of total nitrogen and 69% removal of total phosphorus.**

[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 same as, or, less than the pre-developed conditions.**

[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. **The site incorporates an infiltration practice for volume mitigation. The project proposes a minimal increase in the volume of runoff from the site. Although the site increases runoff, the project design will still meet the Channel Protection requirements of Env-Wq 1507.05 as required by NH DES AoT regulation. The increased volume of runoff will be discharged directly to a defined drainage ditch that discharges through a forested area prior to discharge to the Cocheco River. The minimal increase in volume will not cause flooding to adjacent or downstream properties.**

[5] Infiltration rates for designing groundwater recharge practices shall be determined in accordance with Section Env-Wq 1504.14. **Infiltration rates were calculated in accordance with Env-Wq 1504.14.**

[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 take into account 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 is located on a knoll and offsite upgradient runoff will not be captured by the proposed stormwater management system.**

[9] Seasonal high-water table elevations must be accounted for in all BMP design criteria. **Test pit information was utilized in determining the SHWT associated with the infiltration basin design.**

[10] Access for maintenance of stormwater facilities must be included as part of the design, where necessary. Access easements may be required. **Stormwater facilities are included on site and the site will be solely owned by the applicant. Stormwater access easements are not required for this project.**

[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. **A site-specific planting plan and O&M document in support of site revegetation including the stormwater BMP(s) was generated.**

(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, the 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. **This project excludes work within jurisdictional wetlands and City defined wetland buffer areas.**

[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. A temporary sediment trap detail, designed with a maximum contributing area of 5 acres, has been provided in accordance with NH DES AoT requirements.**

[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. **The design engineer or a third-party inspector will provide a letter at the completion of work as requested.**

[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. **If required, 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: **This information is provided in the drainage report and throughout the plan set and details.**

[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.**

[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. **This information is provided in the drainage report and throughout the plan set and details.**

[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. **This information is provided in the drainage report and throughout the plan set and details.**

[d] Description of existing drainage patterns, receiving water bodies or drainage infrastructure and soil types for recharge potential. **This information is provided in the drainage report and throughout the plan set and details.**

[e] Watershed area limits, including any off-site and upstream areas contributing flow to shared drainage channels and/or infrastructure. **This information is provided in the drainage report and throughout the plan set and details.**

[f] Description of proposed changes in impervious cover areas and any changes in pre- and post-development drainage patterns. **This information is provided in the drainage report and throughout the plan set and details.**

[g] Methods and assumptions used to calculate pre- and post-development runoff volume, peak discharge, and discharge velocity for the specified design storm events. **This information is provided in the drainage report and throughout the plan set and details.**

[h] Methods and assumptions used to calculate the pollutant load removal. **This information is provided in the drainage report and throughout the plan set and details.**

[i] Description of LID measures that are proposed to limit the development footprint, preserve existing vegetation and mimic existing hydrology to the extent feasible. **This information is provided in the drainage report and throughout the plan set and details.**

[j] If not used, provide rationale why LID measures are not practical for the site.
N/A

[k] Describe measures and calculations for proposed practices used to achieve no net increase in runoff volumes leaving the site. **This information is provided in the drainage report and throughout the plan set and details.**

[l] Provide calculations for the infiltration or exfiltration system. **This information is provided in the drainage report and throughout the plan set and details.**

[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. **LID measures were utilized to the greatest extent practicable but a minimal increase in volume is proposed. The volume increase meets NH DES AoT Channel Protection criteria, is directed to existing defined drainage channels, and discharges downstream to the Cocheco River. The minimal increase in volume is not anticipated to cause downstream flooding.**

[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. **This information is provided in the drainage report and throughout the plan set and details.**

[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.
N/A

[p] Proposed schedule for the inspection and maintenance of all erosion control measures on site prior to achieving final site stabilization. **This information is provided in the drainage report and throughout the plan set and details.**

[q] Describe procedures for removing temporary erosion control measures and removal of accumulated sediment captured by such measures. **This information is provided in the drainage report and throughout the plan set and details.**

[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, as applicable.**

(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 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.**

September 18, 2025

Comcast Cable Communications Management, LLC
751 East Industrial Park Drive
Manchester, NH 03109

Dear Comcast Cable Communications Management, LLC,

I am responding to your request to confirm the availability of electric service for the proposed 200 Sixth Street, Dover NH 03820 project being constructed for/by Comcast Cable Communications Management, LLC.

The proposed project consists of (1) 2,500 square foot-building, housing a broadband digital equipment center. The proposed development will be constructed along Sixth Street.

The developer will be responsible for the installation of all underground/overhead facilities and infrastructure required to service the new building. The service will be as shown on the attached marked up Utility Plan. The proposed building service will be fed from a source to be determined by Eversource Engineering as depicted on utility plan. The developer will work with Eversource to obtain all necessary easements and licenses for the proposed underground/overhead facilities listed above.

This letter serves as confirmation that Eversource has sufficient capacity in the area to provide service to this proposed development. The cost of extending service to the aforementioned location and any associated infrastructure improvements necessary to provide service will be borne by the developer unless otherwise agreed upon.

The attached drawing titled "BROADBAND DIGITAL EQUIPMENT CENTER, SHEET 8 Utility Plan" dated 9/18/2025, shows transformer locations to service your proposed project.

Eversource approves the locations shown; assuming the final installed locations meet all clearances, physical protection, and access requirements as outlined in Eversource's "Information & Requirements For Electric Supply" (<https://www.eversource.com/content/docs/default-source/pdfs/requirements-for-electric-service-connections.pdf?sfvrsn=2>).

If you require additional information or I can be of further assistance please do not hesitate to contact me at our Portsmouth Office, 603-332-7515

Respectfully,



Trevor Emmons
NH Eastern Regional Engineer, Eversource

cc: (via e-mail)
Thomas Boulter, Eastern Region Operations Manager, Eversource
Nickolai Kosko, Field Supervisor, Electric Design, Eversource

CIVILWORKS NEW ENGLAND

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

TRAFFIC ASSESSMENT MEMORANDUM

September 17, 2025

INTRODUCTION

Civilworks New England has prepared this traffic-assessment memorandum (TAM) regarding the Broadband Digital Equipment Center project proposed at Tax Map E, Lot No. 70-A, which is otherwise known as 200 Sixth Street in Dover, NH.

This TAM includes:

- existing site description
- proposed project description
- road description
- public transit
- sight distances at the proposed driveway
- trip generation
- trip distribution/assignment
- potential traffic impacts

This TAM concludes that:

- relevant sight distance at the intersection of the proposed development access driveway with Sixth Street will be adequate.
- The proposed project is anticipated to add very limited, de-minimis, new traffic to the area.

EXISTING SITE DESCRIPTION

The project site:

- is along the southern side of Sixth Street about halfway between the Dover Fire Department and the Spaulding Turnpike.
- has a lot size of 1.33 acres.
- Formerly contained one residential home that has since been demolished.
- Contains an existing driveway accessing Sixth Street.

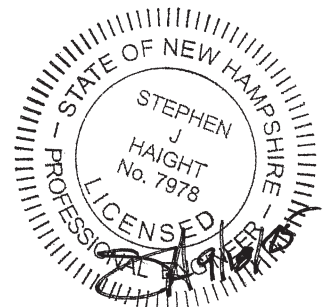
PROPOSED PROJECT DESCRIPTION

The project is comprised of the construction of a 2,500 sq. ft. Broadband Digital Equipment Center where the single-family home used to exist. The driveway serving the new building will be in the same general location as the driveway for the house.

ROAD DESCRIPTION

Sixth Street in the vicinity of the project:

- is under the jurisdiction of the City of Dover
- has a posted speed limit of 30 MPH
- Dover Police report the 85th percentile speed to be 45 MPH
- is oriented southeast – northwest with a straight/linear horizontal alignment.
- has very limited vertical grade change.
- has bituminous concrete pavement in overall good condition.
- has marked pavement consisting of double yellow centerline striping and white lane “fog” side lines



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- has two travel lanes each 10 feet in width and pavement approximately 18 inches in width beyond the fog line for a total pavement width of approximately 23 feet.
- has no sidewalks on either side.
- Is located in a no-passing zone and no streetside parking has been observed although not specifically prohibited by signage).
- has a total average daily traffic (ADT) volume of 5,551 vehicles, with 2,843 east-bound vehicles and 2,968 west-bound vehicles, as measured on Sixth Street at the Spaulding Turnpike as reported by the NHDOT for 2024.
- includes existing utility services.

PUBLIC TRANSIT

Collaborative Alliance for Seacoast Transportation (COAST) Route 33 provides bus service in the area. There is currently no bus service along this part of Sixth Street with the nearest route being in the vicinity of the fire station. However, the service technicians visiting the use will not likely be taking public transportation as they will typically be driving vehicles containing their equipment.

SIGHT DISTANCES

The project site is on a relatively straight section of Sixth Street that has limited elevation change, optimizing sight distance in both directions. Several residential driveways and the driveways for Hope Community Church and Lyndsey Loring Design exist along this stretch of roadway.

The American Association of State Highway and Transportation Officials (AASHTO) has established authoritative policy for appropriate sight distances including stopping sight distance (SSD) for vehicles on the main road reacting to traffic or other obstructions. For a roadway with vehicles traveling at the 45 MPH 85th percentile speed, AASHTO has established the SSD to be 360 feet and ISD to be 500 feet. However, for a roadway with vehicles traveling at the 30 MPH speed limit, AASHTO has established the SSD to be 200 feet and ISD to be 335 feet. The available sight distance to the east and west at the proposed project roadway has been determined to conservatively be on the order of 400 feet, which is suitable for SSD of about 48 miles per hour and ISD of about 36 miles per hour.

Therefore, sight distance should be adequate, certainly for speeds closer to the speed limit, and especially considering the very low vehicle trips to be generated. Sight distance can be improved with pruning of roadside vegetation along the property frontage which is recommended. Secondly, sight distance from the access drive should not be impeded by streetside parking. This, in combination with the relatively unobstructed nature of the streetside, will provide the opportunity to maintain sightlines throughout the year.

CALCULATED TRIP GENERATION

The Institute of Transportation Engineers (ITE) compiles and publishes trip-generation information for a variety of land uses in *Trip Generation Manual*.¹ This authoritative guide for calculating site traffic includes vehicle trip information for a single-family residential development of detached dwelling units in a general urban/suburban area; which is known in the ITE *Trip Generation Manual* as Land Use Code 160 (LUC). For this LUC, trip data is based on the size of the building.

¹ ITE, *Trip Generation Manual*, 11th edition (Washington DC, September 2021)

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However, as mentioned in the Project Description section above, a single-family detached home previously existed on the property, which is known in the ITE *Trip Generation Manual* as Land Use Code 210), so the net number of trips is appropriate to be considered.

Table 1 and Table 2 show calculated vehicle trip ends associated with the proposed development project. Table 1 data applies to the proposed project where Table 2 data is for the previous use on the property. Then the total net increase (or decrease) in vehicle trips can be determined by deducting the existing trips from the proposed total.

Table 1: Trip Generation - Data Center

Weekday Period	Avg. Trips	Vehicle Trips*			
		Proposed Units (X)	Total	In	Out
Daily	No Equation	2500 SF => 2.5	2.4	1.2	1.2
AM Peak Hour of Generator	See Equation	2.5	Neg. No. - Use 1.0	0.5	0.5
PM Peak Hour of Generator	See Equation	2.5	Neg. No. - Use 1.0	0.4	0.6
AM Peak Hour of Adjacent Street Traffic	See Equation	2.5	Neg. No. - Use 1.0	0.5	0.5
PM Peak Hour of Adjacent Street Traffic	See Equation	2.5	Neg. No.- Use 1.0	0.3	0.7

* ITE, *Trip Generation Manual*, Data Center - Land Use Code 160

Weekday Trips = No Equation Use Average rate = 0.99 Trips per 1,000 Sq. Ft. GFA (50% entering, 50% exiting)

AM Trips - Generator = $T = 0.18(X) - 9.67$ (50% entering, 50% exiting)

PM Trips - Generator = $T = 0.15(X) - 3.79$ (42% entering, 58% exiting)

AM Trips - A.S.T. = $T = 0.13(X) - 5.63$ (55% entering, 45% exiting)

PM Trips - A.S.T. = $T = 0.11(X) - 5.65$ (30% entering, 70% exiting)

Table 2: Trip Generation - Single-Family Detached Housing (1 Unit - Previously Existing)

Weekday Period	Avg. Trips	Vehicle Trips*			
		Proposed Units	Total	In	Out
Daily	See Equation	1	14.6	7.3	7.3
AM Peak Hour of Adjacent Street Traffic	See Equation	1	1.1	0.3	0.8
PM Peak Hour of Adjacent Street Traffic	See Equation	1	1.3	0.8	0.5

* ITE, *Trip Generation Manual*, Single-Family Detached Housing - Land Use Code 210

Weekday Trips = $\ln(T) = 0.92 \ln(\text{Units}) + 2.68$ (50% entering, 50% exiting)

AM Trips = $\ln(T) = 0.91 \ln(\text{Units}) + 0.12$ (26% entering, 74% exiting)

PM Trips = $\ln(T) = 0.94 \ln(\text{Units}) + 0.27$ (63% entering, 37% exiting)

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TRIP DISTRIBUTION/ASSIGNMENT

All project-related trips will access the site from Sixth Street. The calculated vehicle trip generation for the development project is so low, especially at peak hours, that area traffic operations are not sensitive to trip distribution/assignment of project vehicle trips.

POTENTIAL TRAFFIC IMPACTS

As shown in the tables, the prior residential use actually generated more trips than the proposed digital equipment "Data Center" use which is demonstrated as follows:

- Daily (weekday) = 2.4 trips proposed vs. 14.6 trips with prior use.
Net decrease = (12.2 trips)
- AM peak hour = 1.0 new trips assumed vs. 1.1 trips with prior use.
No net Increase (with realistic reduction)
- PM peak hour = 1.0 new trips assumed vs. 1.3 trips with prior use.
No net Increase (with realistic reduction)

Considering the decrease in trips, which represents only 0.04 percent of the current ADT on Sixth Street, the proposed project will not be adding significant new traffic to the surrounding area, nor will it impact on such.

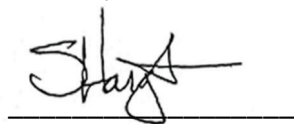
CONCLUSION

In conclusion:

- Stopping sight distances at the Sixth Street/proposed development driveway intersection will be adequate.
- The proposed project is not anticipated to add significant new traffic to the area, and in reality, will show a reduction compared to the prior use on the property.

CIVILWORKS NEW ENGLAND

Sincerely,



Stephen J. Haight, PE

Landscape Best Management Practices Operations and Maintenance Plan

Prepared for:

**COMCAST CABLE COMMUNICATIONS MANAGEMENT, LLC
751 East Industrial Park Drive
Manchester, NH 03109**

Site Location:

**Broadband Digital Equipment Center
200 Sixth Street
Tax Map E, Lot 70A
Dover, NH
Strafford County**

September 2025

Landscape Maintenance

The landscape enhancements proposed for the 200 Sixth Street development will require modest maintenance at various times throughout the year. For the site plantings maintenance is most important during the first 1-2 years following installation when the plants/trees are becoming established. All maintenance personnel shall become familiar with the landscape and its features. Identified below are the required minimum maintenance tasks:

Weekly Tasks

- Prune back any shrubs overhanging curbs or sidewalks.
- Remove litter from plant beds.
- Remove broken or fallen branches from trees.
- Prune sucker growth from tree trunks.
- Physically remove weeds that are taller than 2". Weeds 2" and taller must be removed to minimize the opportunity for the dispersal of weed seeds; weeds should not be killed and left in planting beds. The application of herbicides such as roundup is discouraged.
- Any invasive species seedlings observed should be removed and disposed of properly.
- Replace any bark mulch that has been washed out plant beds. Smooth mulch layer if it has been disturbed.
- Check plants for signs of stress, pests or disease.
- Notify owner for authorization to replace dead plants at the appropriate time
- If a significant decline in plant health is attributed to an insect pest, apply an organic product and/or process to control the pest.
- Water plants that are dry and stressed.
- Identify other tasks listed on the annual and monthly checklist tasks.

Annual Tasks

Early Spring:

- Inspect for winter damage
- Prune winter damage
- Trim dead perennial foliage to within six inches of the ground
- Gently prune shrubs for shape and form, do not shear. (time of year based on species)
- As applicable, inspect, repair, and activate irrigation system.
- Inspect all mulch beds and add new mulch to a maximize depth of 2" as needed.

Summer:

- No additional tasks

September:

- Inspect and inventory all plantings, shrubs, and trees
- Replace dead or missing plants

October:

- No additional tasks

November:

- Remove leaf litter
- Remove dead vegetation
- As applicable, deactivate irrigation system
- Apply "WILT-PRUF" to broadleaf evergreens, according to label instructions, to protect shrubs from winter die back.

December:

- Prune tree branches that are broken or interfere with public safety.
- Prune parking lot trees

STORMWATER FACILITIES

The stormwater facilities are used to attenuate and treat stormwater runoff. The stormwater system includes grassed conveyance swales, a small detention area, and a large infiltration basin. The grassed areas will be seeded with a conservation mix that has a variety of native, adaptable, and rugged perennial grasses, that can withstand water inundation for an extended period of time. Refer to the Stormwater Inspection and Maintenance manual for additional information.

Stormwater Management System Inspection & Maintenance Plan

Prepared for:

**BROADBAND DIGITAL EQUIPMENT CENTER
Tax Map E, Lot 70A**

**200 Sixth Street
Dover, New Hampshire
Strafford County**

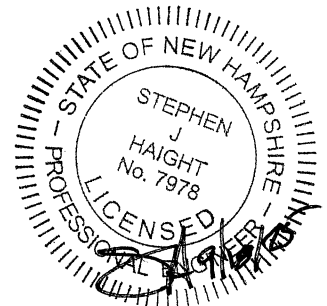
September 2025

Prepared for:

**COMCAST CABLE COMMUNICATIONS MANAGEMNT, LLC
751 EAST INDUSTRIAL PARK DRIVE
MANCHESTER, NH 03109**

Prepared By:

CIVILWORKS NEW ENGLAND
P.O. Box 1166
181 Watson Road
Dover, New Hampshire 03821



Introduction

Civilworks NE, has prepared the following Stormwater Management System Inspection & Maintenance Plan for **Comcast Cable Communications Management, 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 following 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, 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).

Applicant:

**Comcast Cable Communications Management LLC
751 East Industrial Park Drive
Manchester, NH 03109**

In the event of a change in ownership, this Inspection and Maintenance Plan shall be transferred to the new party.

Contact / Responsible Party:

**Comcast Cable Communications Management LLC
751 East Industrial Park Drive
Manchester, NH 03109**

**Roland Leduc
Email: Roland_leduc@comcast.com**

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

Management Company:

**Comcast Cable Communications Management LLC
751 East Industrial Park Drive
Manchester, NH 03109**

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. Inspection and maintenance records must be provided to the City of Dover Community Services Department annually before December 15th.

I, the responsible party, understands and will fulfil the requirements of this report.

Applicant: _____

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:

- Infiltration Basin
- Outlet Structure
- Energy Dissipation Structures (Rip Rap)
- Grassed Lined Conveyance Swale
- Pipes/Culverts
- Pavement
- Litter / Trash Removal

Design elements are identified in the design plans, 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.

INFILTRATION BASIN:

- Inspect and remove any debris from inlet and outlet structures.
- Remove any accumulated sediment.
- Inspect and repair outlet structures and appurtenances.
- Inspection of infiltration components 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.
- Periodic mowing of basin and embankments.
- Removal of woody vegetation from basin and embankments.
- Inspection and repair of embankments and spillways.
- If an infiltration system does not drain within 72 hours following a rainfall event, then a qualified professional should assess the condition of the facility to determine measures required to restore infiltration function, including not limited to removal of accumulated sediments or reconstruction of the infiltration bottom.

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 and deterioration. Repair damages immediately.
- If stones become displaced from the riprap areas, they should be replaced immediately and chinked in to assure stability. Add additional riprap as needed. Vegetation growing through the riprap should be eliminated at least yearly.

GRASS LINED CONVEYANCE SWALE:

- Inspect once per year.
- Inspect for erosion, sediment accumulation, vegetation loss, and presence of invasive species.
- Remove debris and accumulated sediment, based on inspection.
- Repair eroded areas as needed; remove invasive species and dead vegetation.
- Perform periodic mowing of swale (at least twice annually), maintain a 4" stand of vegetative growth.

PIPES/CULVERTS:

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

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 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 de-icers for each storm event and compiling salt use data annually. (See Deicing Salt Quantity Use Log).
- 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 compile salt use data annually.

Inspection & Maintenance Table

System Component / BMP	Minimum Inspection Frequency	Minimum Inspection Requirements	Maintenance / Cleanout Threshold
Infiltration Basin	Bi-Annually	• Check for sediment accumulation • Check for debris • Inspect for woody vegetation • Maintain healthy stand of veg., 4" minimum • Inspect for invasive species • Check for water draining	Remove any accumulated Sediment Remove from inlet/outlet structures Remove Immediately Mow twice per year Remove/Dispose of accordingly 72 hours after a 2.5 inch storm event in a 24 hour period
Outlet Structure	Annually	• Inspected once per year. • Inspect for clogging and sediment accumulation. • Remove all debris immediately and sediment accumulations ≥ 2 inches.	≥ 2 in. sediment Remove immediately
Energy Dissipation Structures (Rip Rap)	Annually	• Check for erosion • Check for displaced stones • Check for woody vegetation • Check for sediment accumulation	≥ 3 in. sediment Remove annually Replace/ reset Dislodged stones immediately
Grass Lined Conveyance Swale	Annually	• Check for sediment accumulation • Check for erosion • Ensure swale is stabilized • Maintain healthy stand of veg., min 4" • Inspect for invasive species	≥ 1 in. sediment Repair immediately Restore vegetation in-kind Mow twice per year Remove/Dispose of accordingly
Pipes/Culverts	Annually	• Check for clogging • Check for sediment accumulation	Remove when noticed Clean when necessary
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 pages contain 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.

Stormwater Management System's Inspection & Maintenance Log

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.

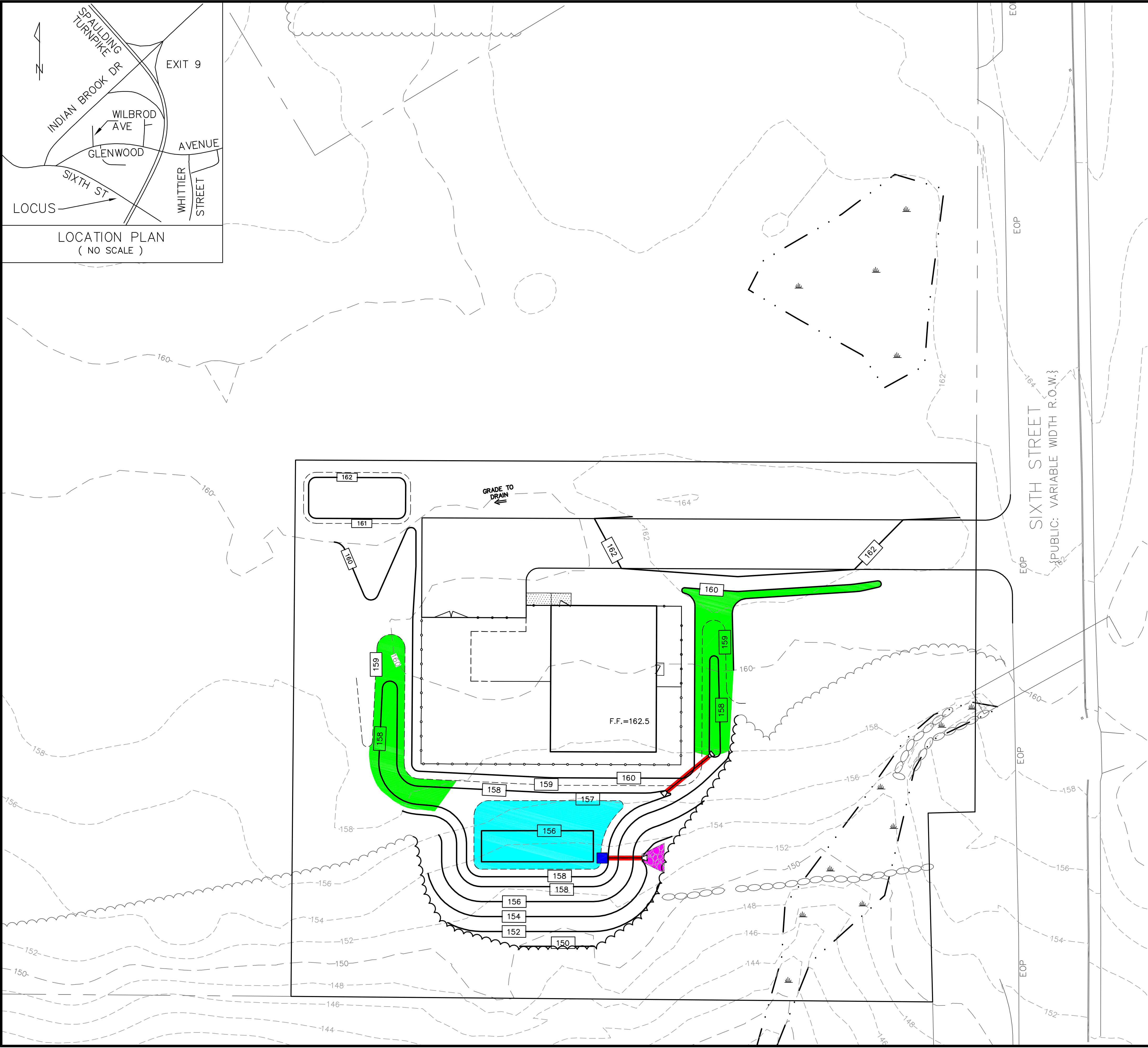
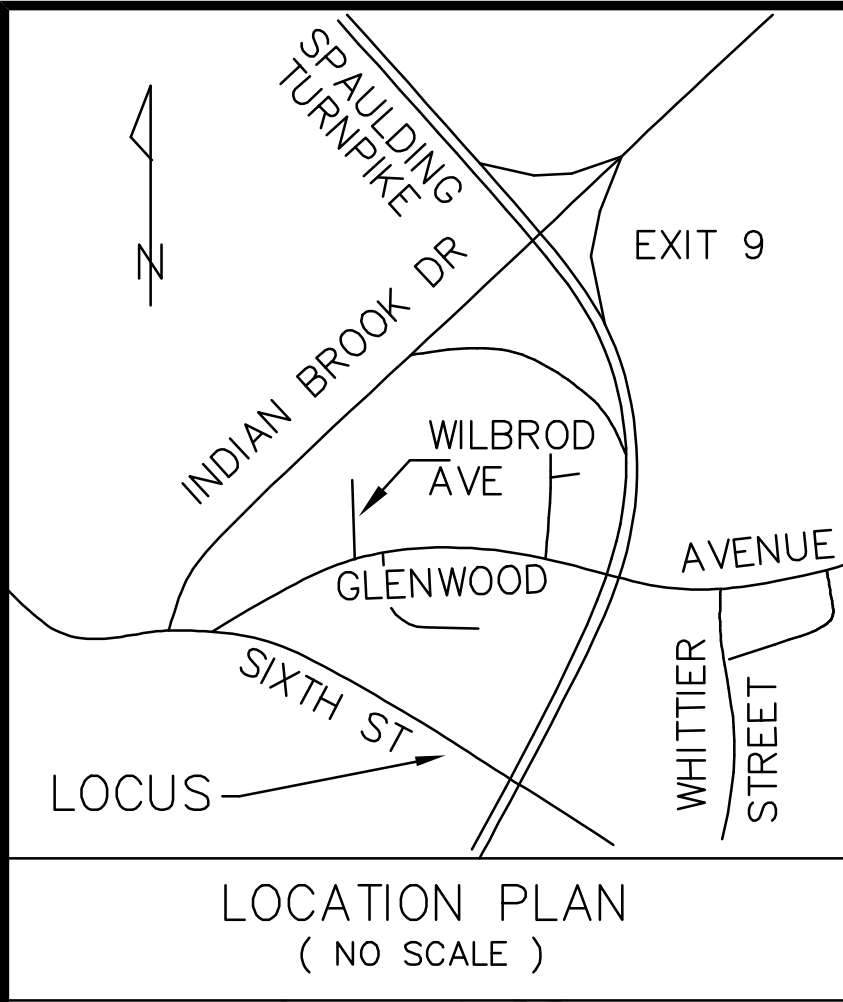
Suggested Disposal Methods for Non-Native Invasive Plants

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.

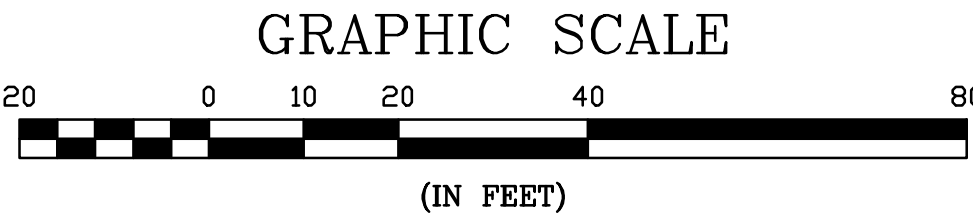
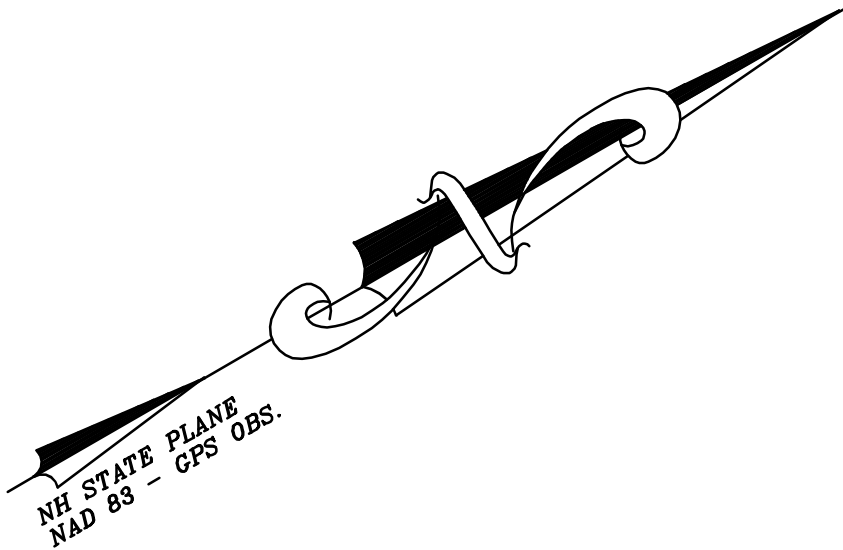
Non-Woody Plants	Method of Reproducing	Methods of Disposal
garlic mustard (<i>Alliaria petiolata</i>) spotted knapweed (<i>Centaurea maculosa</i>) ▪ Sap of related knapweed can cause skin irritation and tumors. Wear gloves when handling. black swallow-wort (<i>Cynanchum nigrum</i>) ▪ May cause skin rash. 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

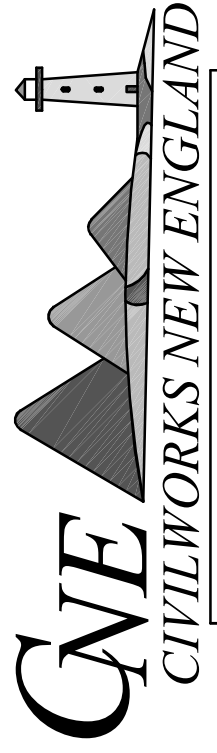


LEGEND:

- | | |
|---|---|
|  | = INFILTRATION BASIN |
|  | = ENERGY DISSIPATION STRUCTURES (RIP RAP) |
|  | = VEGETATED PRE-TREATMENT SWALE |
|  | = PIPES/CULVERTS |
|  | = OUTLET STRUCTURE |

[illegible]

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY



181 Watson Road, PO Box 11666
Dover, New Hampshire 03821
603.749.0443

BMP LOCATION PLAN

**BROADBAND DIGITAL
EQUIPMENT CENTER
200 SIXTH STREET
DOVER, NEW HAMPSHIRE**

BMP

**COMCAST CABLE
COMMUNICATIONS
MANAGEMENT, LLC
751 EAST INDUSTRIAL PARK DRIVE
MANCHESTER, NH 03109**

DRAINAGE ANALYSIS

**BROADBAND DIGITAL EQUIPMENT CENTER
200 SIXTH STREET
TAX MAP E, LOT 70A
DOVER, NH**

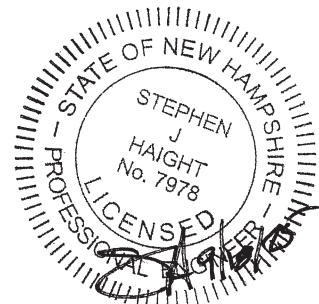
September 2025

Prepared For:

**Comcast Cable Communications Management, LLC
751 East Industrial Park Drive
Manchester, NH 03109**

Prepared By:

**Civilworks New England
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181 Watson Road
Dover, NH 03821**



CONTENTS

- 1.0 INTRODUCTION
- 2.0 DRAINAGE ANALYSIS
- 2.1 DRAINAGE DESIGN PARAMETERS
 - 2.1.1 Watersheds
 - 2.1.2 Soils
 - 2.1.3 Rainfall Data
 - 2.1.4 Runoff Curve Numbers
- 2.2 EXISTING CONDITIONS
 - 2.2.1 Table A – Existing Conditions Hydrology
- 2.3 DEVELOPED CONDITIONS
 - 2.3.1 Table B – Developed Conditions Hydrology
- 2.4 HYDROLOGIC COMPARISON
 - 2.4.1 Table C – Existing vs. Developed Conditions Hydrology
- 2.5 STORMWATER DESIGN
 - 2.5.1 Stormwater Best Management Practices
 - 2.5.2 Infiltration Rate
 - 2.5.3 Pollutant Removal
 - 2.5.4 Outlet Protection
- 3.0 APPENDIX A – HYDROLOGIC CALCULATIONS
 - A Extreme Precipitation Map & Table
 - A-1 Existing Watersheds
 - Drainage Diagram, Area, and Soil Listings
 - Node Listing – 2-yr
 - Node Listing – 10-yr
 - 10-yr Storm Summary Hydrographs
 - Node Listing – 25-yr
 - Node Listing – 50-yr
 - A-2 Developed Watersheds
 - Drainage Diagram, Area, and Soil Listings
 - Node Listing – 2-yr
 - Node Listing – 10-yr
 - 10-yr Storm Summary Hydrographs
 - Node Listing – 25-yr
 - Node Listing – 50-yr
- 4.0 APPENDIX B – DESIGN
 - B-1 Stormwater Best Management Practices
 - B-2 Infiltration Rate
 - B-3 Pollutant Removal
 - B-4 Outlet Protection
- 5.0 APPENDIX C – INSPECTION AND MAINTENANCE
 - C-1 Stormwater Management System Inspection & Maintenance Plan
- 6.0 APPENDIX D – WATERSHED PLANS
 - D-1 Pre-Development Conditions
 - D-2 Post-Development Conditions

1.0 INTRODUCTION

This is a hydrologic analysis of the subject parcel located at 200 Sixth Street, Dover, NH. The 1.33± acre lot is identified as Tax Map E, Lot 70A. The site is currently developed as residential with a single-family home, detached shed, kennel, outbuilding, and a paved driveway. The ground cover primarily consists of woods, lawn, and pavement. The property is bounded north by Sixth Street and abutting properties to the east, south, and west.

The single-family home, all detached buildings, and the existing driveway have all been demolished. The project proposes the construction of a broadband digital equipment center which includes a 2,500-sf building, site access, grading, drainage, and utilities. The proposed drainage system incorporates two (2) vegetated pre-treatment swales which directs runoff to an infiltration basin. The proposed stormwater system captures, treats, and stores the stormwater runoff from the site and redirects it to the existing discharge point. The proposed stormwater drainage structures will be maintained by the project proponent as outlined within the Stormwater Management System Inspection & Maintenance Manual (Stormwater I&M Manual) in Appendix C.

To effectively analyze the pre-development subject parcel, the site was analyzed as three separate watersheds. Watershed A drains to the abutter on the west side of the property. Watershed B drains to the back of the property on the south side. Watershed C drains towards an existing wetland and swale on site located to the east. Soil characteristics were obtained utilizing web soil survey and are a mix of HSG B & C soils. Topography information was obtained from an on-site survey.

The post-development is further divided into five (5) subcatchments that are routed to the same discharge points as defined in the pre-development model. This provides a direct comparison between the pre- and post-development models. This analysis indicates that the proposed stormwater measures and stormwater management plan will treat and mitigate stormwater runoff in general accordance with City of Dover's stormwater regulations. The proposed development of the site in conjunction with the implementation of the Stormwater I&M Manual will have minimal impact on the watersheds.

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

2.1 DRAINAGE DESIGN PARAMETERS

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

2.1.1 Watersheds

The watersheds were delineated using on site topographic and existing condition survey data field located by McEneaney Survey Associates of New England.

2.1.2 Soils

Soil types were determined utilizing the NRCS Web Soil Survey (WSS) mapping tool at <http://websoilsurvey.nrcs.usda.gov>. The soil survey area is Strafford County, NH, the soil survey data is Version 25, dated September 3rd, 2024 and the aerial images are dated June 19th to September 20th, 2020.

Hydrologic Drainage Class B:

Map Unit Symbol	Slopes	Map Unit Name
CfB	3 to 8 %	Charlton Fine Sandy Loam

Hydrologic Drainage Class C:

Map Unit Symbol	Slopes	Map Unit Name
SfC	8 to 15 %	Suffield Silt Loam

2.1.3 Rainfall Data

Extreme precipitation estimate values from the Northeast Regional Climate Center were utilized in this analysis. The analysis has been performed for the 2-year, 10-year, 25-year, and 50-year storm events with 3.14", 4.73", 5.98", and 7.14" rainfall depths respectively.

2.1.4 Runoff Curve Numbers

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

2.2 EXISTING CONDITIONS

For the purposes of this analysis, the subject parcel was split into three (3) watersheds that discharge to abutting properties on the west, south, and east sides of the property in the predevelopment condition.

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	0.010	0.2	0.3	0.4	0.4
B	0.016	0.1	0.3	0.5	0.6
C	0.046	0.3	1.0	1.6	2.1

2.3 DEVELOPED CONDITIONS

The post development model analyzes runoff to the post development discharge points to the east, west and south towards abutting properties and wetlands which are maintained from the predevelopment condition.

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	0.002	0.0	0.1	0.1	0.2
B	0.004	0.0	0.1	0.2	0.3
C	0.061	0.3	1.0	1.5	2.1

2.4 HYDROLOGIC COMPARISON

The analysis indicates that the proposed project will have negligible impact on the watersheds.

2.4.1 Table C – Pre/Post Development Comparison (2, 10, 25, and 50-year storm events)

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	0.010/ 0.002	0.2/ 0.0	0.3/ 0.1	0.4/ 0.1	0.4/ 0.2
B	0.016/ 0.004	0.1/ 0.0	0.3/ 0.1	0.5/ 0.2	0.6/ 0.3
C	0.046/ 0.061	0.3/ 0.3	1.0/ 1.0	1.6/ 1.5	2.1/ 2.1

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 single Infiltration Basin for stormwater treatment, along with two (2) Vegetated Swales for pre-treatment. See Appendix B-1 for Best Management Practice Design forms.

2.5.2 Infiltration Rate

The design infiltration rate was calculated according to Env-Wq 1504.14 from New Hampshire Code of Administrative Rules. Charlton is the natural soil on site at the proposed infiltration basin location based on NRCS Web Soil Survey (WSS) mapping. Following Env-Wq 1504.14(c)(1) *SSSNNE Special Publication No. 5, Ksat Values for New Hampshire Soils, September 2009* was used to determine the Ksat low – B infiltration rate for Charlton as 0.6 in/hr. A factor of safety of 0.5 is applied to the recorded Ksat value according to Env-Wq 1504.14(c)(3) and the design infiltration rate was calculated to be 0.3 in/hr. See Appendix B-2 for Ksat Values for New Hampshire Soils.

2.5.3 Pollutant Removal

The development proposes 0.272 acres of new impervious area including 0.057 acres of commercial roof and 0.215 acres of commercial/residential parking. The project proposes the treatment of 100% of roof runoff and 0.198 acres of parking through swales and an Infiltration Basin. The remaining 6% of new impervious area (located at the entrance of the site along Sixth Street) was unable to be captured and treated however, the proposed stormwater mitigation system is still able to provide the required pollutant removal per City of Dover standards.

The stormwater management system utilized vegetated swales & an Infiltration Basin to achieve 90% TSS, 64% TN, & 69% TP pollutant removal. Below are the NHDES published pollutant removal efficiencies. See Appendix B-3 for additional information.

	TSS	TN	TP
Infiltration Basin:	90%	60%	65%
Vegetated Swale:	65%	20%	25%

2.5.4 Outlet Protection

NHDES BMP outlet protection has been sized to accommodate the 25-year, 24-hour storm event. All proposed rip-rap applications shall consist of a minimum stone d50=6" with a stone layer thickness of 12" (min.) on a fabric layer or a 6" thick (min.) gravel base. See the plan set for rip rap locations and the drainage details for additional information. See Appendix B-4 for outlet protection sizing calculations.

APPENDIX A

HYDROLOGIC CALCULATIONS

Extreme Precipitation in New York & New England

An Interactive Web Tool for Extreme Precipitation Analysis

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 map to place a marker, or enter address or latitude/longitude.

Hybrid	Map	Locate by Address ?	Locate by Lat/Lon ?	Locate by State/County ?
Satellite	Terrain		43.21°N -70.89°W	



© Mapbox © OpenStreetMap © Maxar

Select Options ?

Smoothing ?

Yes ▼

Delivery ?

Popup ▼

Submit ?

Version 2.0

Copyright 2010-2022

This project is a joint collaboration between:

Northeast Regional Climate Center (NRCC)



Powered by
ACIS
Northeast Regional
Climate Center



Cornell University

Natural Resources Conservation Service (NRCS)



Contact: precip@cornell.edu

Extreme Precipitation Tables

Northeast Regional Climate Center

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

Metadata for Point	
Smoothing	Yes
State	New Hampshire
Location	New Hampshire, United States
Latitude	43.210 degrees North
Longitude	70.898 degrees West
Elevation	40 feet
Date/Time	Thu Aug 28 2025 09:25:16 GMT-0400 (Eastern Daylight Time)

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	1.54	1.99	2.60	2.87	1yr	2.30	2.76	3.15	3.88	4.45	1yr
2yr	0.32	0.49	0.61	0.81	1.01	1.29	2yr	0.87	1.17	1.50	1.91	2.44	3.14	3.50	2yr	2.78	3.37	3.86	4.59	5.23	2yr
5yr	0.37	0.57	0.72	0.96	1.23	1.58	5yr	1.06	1.44	1.85	2.38	3.07	3.97	4.48	5yr	3.51	4.31	4.93	5.80	6.55	5yr
10yr	0.40	0.63	0.80	1.09	1.42	1.85	10yr	1.22	1.69	2.18	2.82	3.65	4.73	5.41	10yr	4.19	5.20	5.95	6.92	7.78	10yr
25yr	0.46	0.74	0.94	1.30	1.72	2.27	25yr	1.49	2.09	2.70	3.52	4.59	5.98	6.93	25yr	5.29	6.67	7.61	8.74	9.76	25yr
50yr	0.52	0.83	1.06	1.49	2.00	2.67	50yr	1.73	2.46	3.18	4.18	5.47	7.14	8.37	50yr	6.32	8.05	9.17	10.44	11.59	50yr
100yr	0.58	0.94	1.21	1.71	2.32	3.12	100yr	2.01	2.89	3.75	4.95	6.51	8.53	10.11	100yr	7.55	9.72	11.06	12.47	13.77	100yr
200yr	0.64	1.05	1.36	1.96	2.70	3.67	200yr	2.33	3.40	4.42	5.88	7.76	10.19	12.22	200yr	9.02	11.75	13.34	14.90	16.37	200yr
500yr	0.76	1.25	1.63	2.36	3.31	4.54	500yr	2.86	4.21	5.50	7.36	9.77	12.91	15.69	500yr	11.42	15.09	17.11	18.87	20.59	500yr

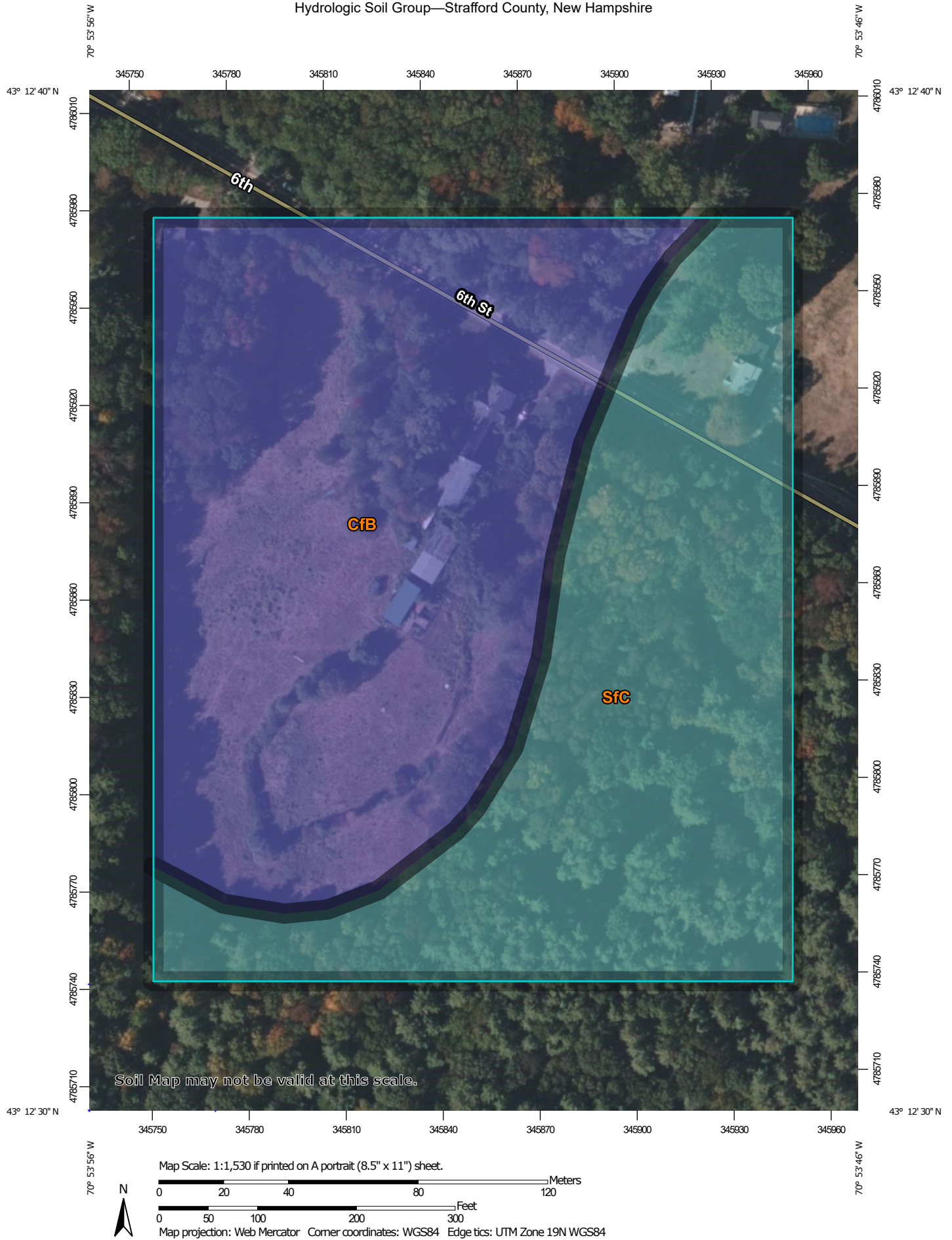
Lower Confidence Limits

	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	0.90	1yr	0.64	0.88	0.92	1.25	1.55	2.09	2.46	1yr	1.85	2.36	2.92	3.40	4.07	1yr
2yr	0.31	0.49	0.60	0.81	1.00	1.18	2yr	0.86	1.15	1.36	1.83	2.35	3.05	3.40	2yr	2.70	3.27	3.74	4.47	5.07	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	3.70	4.12	5yr	3.27	3.96	4.60	5.40	6.10	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	4.25	4.77	10yr	3.76	4.59	5.31	6.22	6.99	10yr
25yr	0.44	0.66	0.83	1.18	1.55	1.91	25yr	1.34	1.87	2.11	2.84	3.64	5.02	5.77	25yr	4.45	5.55	6.48	7.51	8.37	25yr
50yr	0.48	0.73	0.91	1.31	1.76	2.19	50yr	1.52	2.14	2.36	3.19	4.09	5.75	6.65	50yr	5.09	6.40	7.52	8.66	9.59	50yr
100yr	0.54	0.81	1.02	1.47	2.02	2.51	100yr	1.74	2.45	2.64	3.58	4.56	6.57	7.66	100yr	5.81	7.36	8.73	9.97	10.95	100yr
200yr	0.60	0.90	1.14	1.65	2.29	2.87	200yr	1.98	2.81	2.94	4.01	5.09	7.51	8.82	200yr	6.64	8.48	10.12	11.49	12.54	200yr
500yr	0.70	1.04	1.33	1.93	2.75	3.46	500yr	2.37	3.39	3.42	4.65	5.90	8.92	10.61	500yr	7.89	10.20	12.31	13.88	14.93	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	1.05	1.23	1.73	2.20	2.84	3.08	1yr	2.52	2.96	3.40	4.20	4.77	1yr
2yr	0.33	0.51	0.62	0.84	1.04	1.24	2yr	0.90	1.22	1.47	1.95	2.51	3.26	3.62	2yr	2.89	3.48	3.99	4.75	5.42	2yr
5yr	0.39	0.60	0.75	1.03	1.31	1.58	5yr	1.13	1.55	1.85	2.49	3.19	4.23	4.85	5yr	3.74	4.66	5.28	6.22	6.99	5yr
10yr	0.46	0.70	0.87	1.21	1.57	1.92	10yr	1.35	1.87	2.23	3.04	3.85	5.19	6.05	10yr	4.60	5.82	6.66	7.63	8.51	10yr
25yr	0.55	0.84	1.05	1.50	1.97	2.47	25yr	1.70	2.41	2.87	3.95	4.94	6.92	8.13	25yr	6.12	7.81	8.91	10.05	11.08	25yr
50yr	0.64	0.98	1.22	1.75	2.35	2.98	50yr	2.03	2.91	3.48	4.81	6.00	8.52	10.18	50yr	7.54	9.79	11.14	12.35	13.54	50yr
100yr	0.75	1.13	1.41	2.04	2.80	3.60	100yr	2.42	3.52	4.22	5.88	7.29	10.50	12.76	100yr	9.29	12.27	13.91	15.22	16.56	100yr
200yr	0.87	1.30	1.65	2.39	3.34	4.36	200yr	2.88	4.26	5.14	7.19	8.85	12.98	16.01	200yr	11.48	15.39	17.40	18.73	20.29	200yr
500yr	1.06	1.58	2.03	2.95	4.19	5.59	500yr	3.62	5.47	6.63	9.40	11.47	17.19	21.61	500yr	15.22	20.78	23.39	24.69	26.54	500yr

Hydrologic Soil Group—Strafford County, New Hampshire



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 25, Sep 3, 2024

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

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

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
CfB	Charlton fine sandy loam, 3 to 8 percent slopes	B	6.5	56.3%
SfC	Suffield silt loam, 8 to 15 percent slopes	C	5.0	43.7%
Totals for Area of Interest			11.5	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

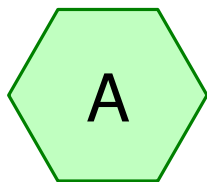
Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

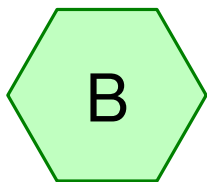
Tie-break Rule: Higher

A – 1

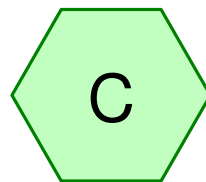
EXISTING WATERSHEDS



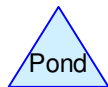
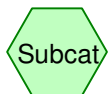
A



B



C



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Page 2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.626	61	>75% Grass cover, Good, HSG B (A, B, C)
0.014	98	Paved roads w/curbs & sewers, HSG B (C)
0.133	98	Roofs, HSG B (A, B, C)
0.179	55	Woods, Good, HSG B (C)
0.379	70	Woods, Good, HSG C (C)
1.330	67	TOTAL AREA

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Page 3

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.952	HSG B	A, B, C
0.379	HSG C	C
0.000	HSG D	
0.000	Other	
1.330		TOTAL AREA

A – 1

NODE LISTING – 2-YR

23149 - Pre*23149 24-hr S1 2-yr Rainfall=3.14"*

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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 A: A

Runoff Area=4,184 sf 48.02% Impervious Runoff Depth=1.29"
Flow Length=14' Slope=0.0100 '/' Tc=3.9 min CN=79 Runoff=0.2 cfs 0.010 af

Subcatchment B: B

Runoff Area=11,758 sf 19.71% Impervious Runoff Depth=0.70"
Flow Length=118' Slope=0.0280 '/' Tc=14.4 min CN=68 Runoff=0.1 cfs 0.016 af

Subcatchment C: C

Runoff Area=42,014 sf 4.91% Impervious Runoff Depth=0.57"
Flow Length=166' Tc=11.4 min CN=65 Runoff=0.3 cfs 0.046 af

Total Runoff Area = 1.330 ac Runoff Volume = 0.072 af Average Runoff Depth = 0.65"
88.98% Pervious = 1.184 ac 11.02% Impervious = 0.147 ac

A – 1

NODE LISTING – 10-YR

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 A: A

Runoff Area=4,184 sf 48.02% Impervious Runoff Depth=2.57"
Flow Length=14' Slope=0.0100 '/' Tc=3.9 min CN=79 Runoff=0.3 cfs 0.021 af

Subcatchment B: B

Runoff Area=11,758 sf 19.71% Impervious Runoff Depth=1.69"
Flow Length=118' Slope=0.0280 '/' Tc=14.4 min CN=68 Runoff=0.3 cfs 0.038 af

Subcatchment C: C

Runoff Area=42,014 sf 4.91% Impervious Runoff Depth=1.48"
Flow Length=166' Tc=11.4 min CN=65 Runoff=1.0 cfs 0.119 af

Total Runoff Area = 1.330 ac Runoff Volume = 0.177 af Average Runoff Depth = 1.60"
88.98% Pervious = 1.184 ac 11.02% Impervious = 0.147 ac

A – 1

10-YR STORM SUMMARY

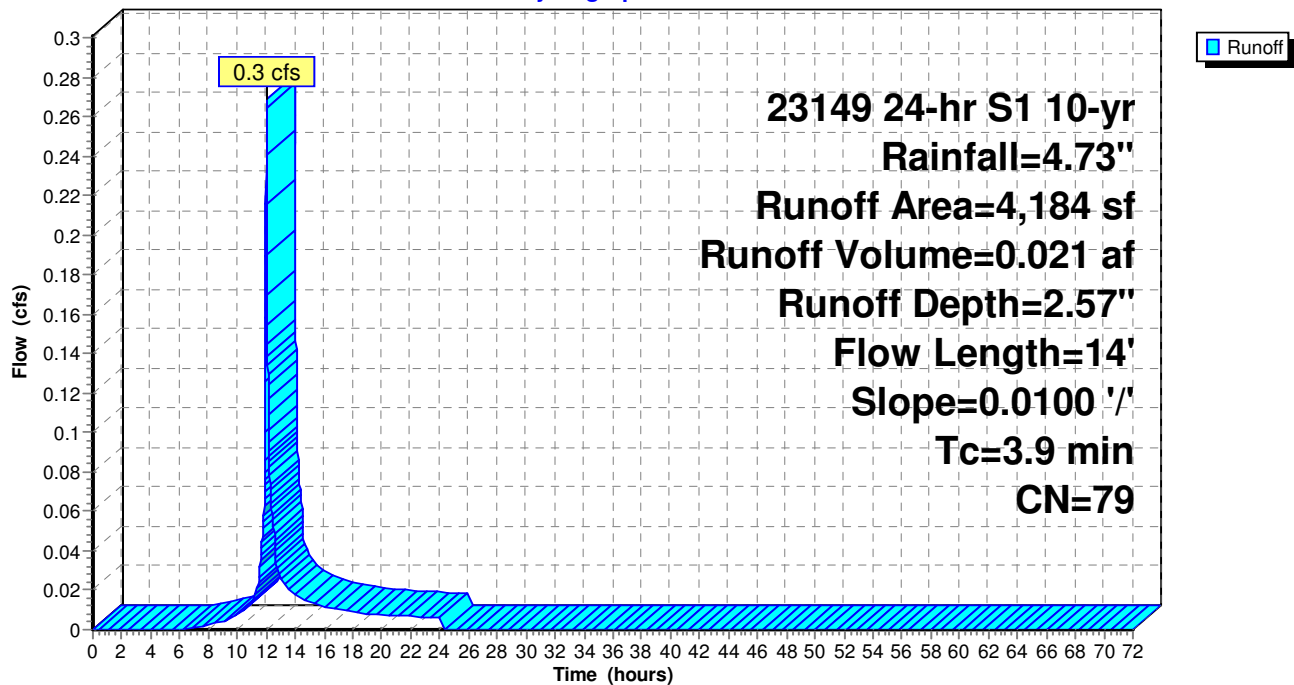
Summary for Subcatchment A: A

Runoff = 0.3 cfs @ 12.02 hrs, Volume= 0.021 af, Depth= 2.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
23149 24-hr S1 10-yr Rainfall=4.73"

Area (sf)	CN	Description
2,175	61	>75% Grass cover, Good, HSG B
2,009	98	Roofs, HSG B
4,184	79	Weighted Average
2,175		51.98% Pervious Area
2,009		48.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	14	0.0100	0.06		Sheet Flow, Grass: Dense n= 0.240 P2= 3.14"

Subcatchment A: A**Hydrograph**

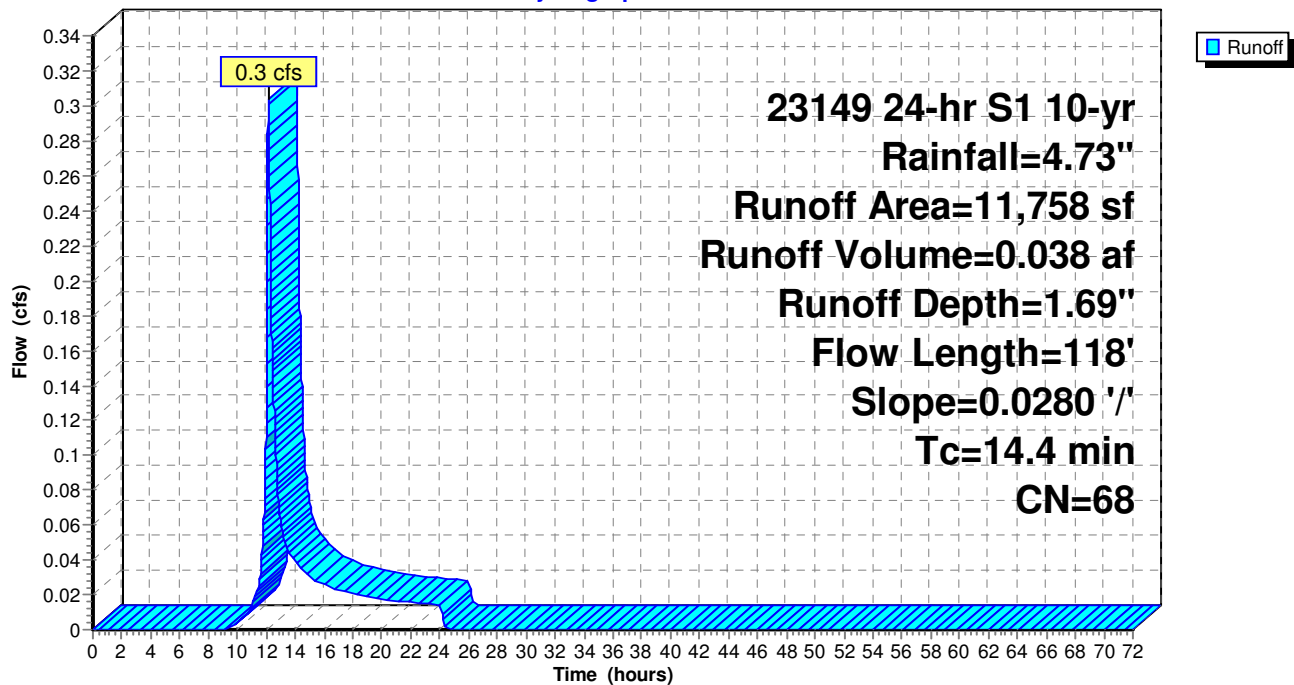
Summary for Subcatchment B: B

Runoff = 0.3 cfs @ 12.15 hrs, Volume= 0.038 af, Depth= 1.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
23149 24-hr S1 10-yr Rainfall=4.73"

Area (sf)	CN	Description
9,440	61	>75% Grass cover, Good, HSG B
2,318	98	Roofs, HSG B
11,758	68	Weighted Average
9,440		80.29% Pervious Area
2,318		19.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.4	118	0.0280	0.14		Sheet Flow, Grass: Dense n= 0.240 P2= 3.14"

Subcatchment B: B**Hydrograph**

Summary for Subcatchment C: C

Runoff = 1.0 cfs @ 12.12 hrs, Volume= 0.119 af, Depth= 1.48"

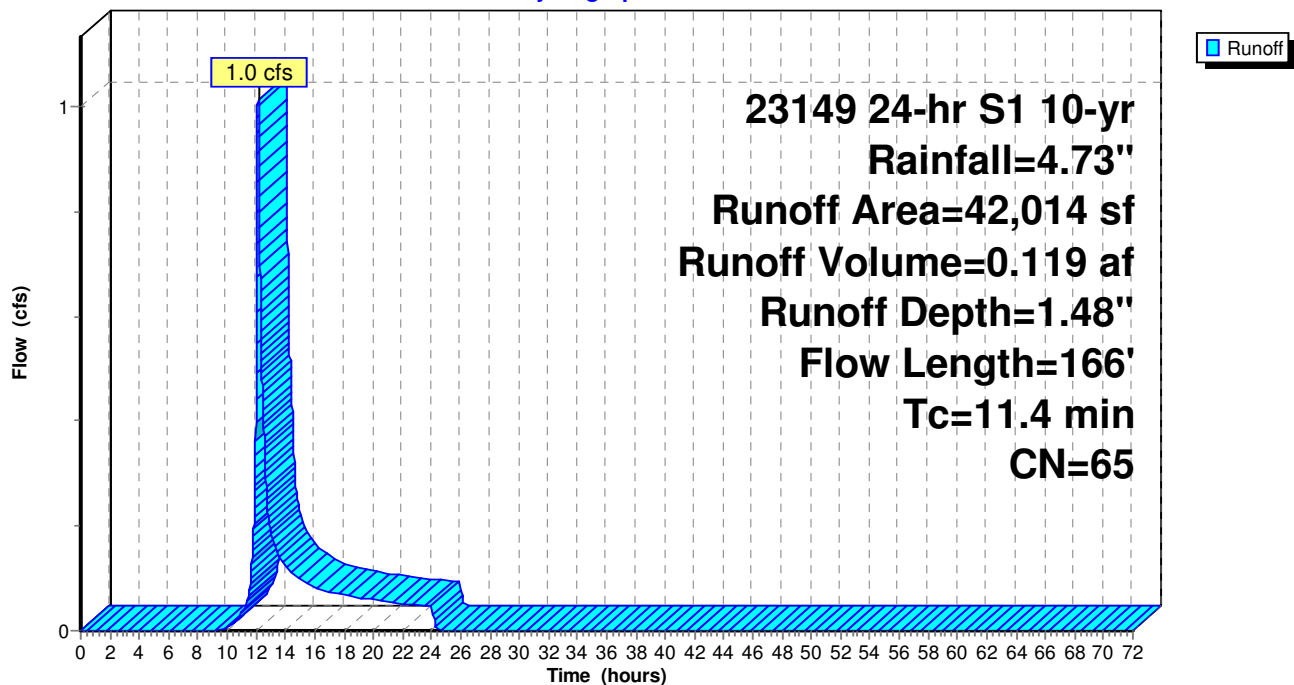
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
23149 24-hr S1 10-yr Rainfall=4.73"

Area (sf)	CN	Description
7,818	55	Woods, Good, HSG B
15,646	61	>75% Grass cover, Good, HSG B
590	98	Paved roads w/curbs & sewers, HSG B
1,471	98	Roofs, HSG B
16,489	70	Woods, Good, HSG C
42,014	65	Weighted Average
39,953		95.09% Pervious Area
2,061		4.91% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	71	0.0592	0.17		Sheet Flow, Grass: Dense n= 0.240 P2= 3.14"
3.8	29	0.1345	0.13		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.14"
0.5	66	0.1670	2.04		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
11.4	166	Total			

Subcatchment C: C

Hydrograph



A – 1

NODE LISTING – 25-YR

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 A: A

Runoff Area=4,184 sf 48.02% Impervious Runoff Depth=3.66"
Flow Length=14' Slope=0.0100 '/' Tc=3.9 min CN=79 Runoff=0.4 cfs 0.029 af

Subcatchment B: B

Runoff Area=11,758 sf 19.71% Impervious Runoff Depth=2.61"
Flow Length=118' Slope=0.0280 '/' Tc=14.4 min CN=68 Runoff=0.5 cfs 0.059 af

Subcatchment C: C

Runoff Area=42,014 sf 4.91% Impervious Runoff Depth=2.34"
Flow Length=166' Tc=11.4 min CN=65 Runoff=1.6 cfs 0.188 af

Total Runoff Area = 1.330 ac Runoff Volume = 0.276 af Average Runoff Depth = 2.49"
88.98% Pervious = 1.184 ac 11.02% Impervious = 0.147 ac

A – 1

NODE LISTING – 50-YR

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 A: A

Runoff Area=4,184 sf 48.02% Impervious Runoff Depth=4.71"
Flow Length=14' Slope=0.0100 '/' Tc=3.9 min CN=79 Runoff=0.4 cfs 0.038 af

Subcatchment B: B

Runoff Area=11,758 sf 19.71% Impervious Runoff Depth=3.52"
Flow Length=118' Slope=0.0280 '/' Tc=14.4 min CN=68 Runoff=0.6 cfs 0.079 af

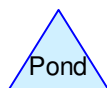
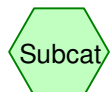
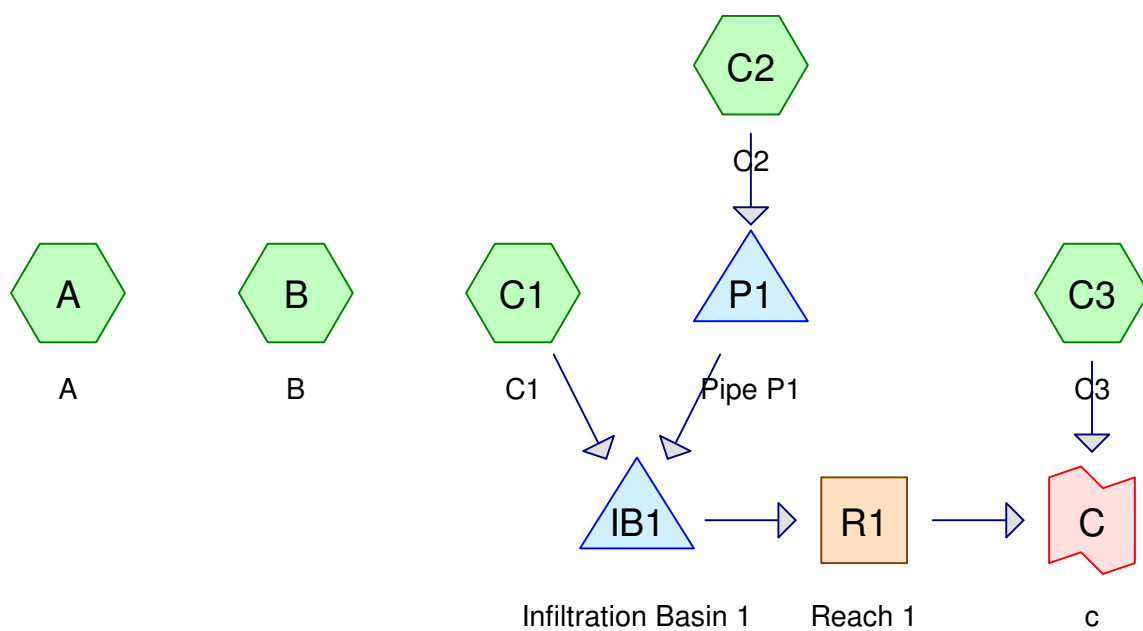
Subcatchment C: C

Runoff Area=42,014 sf 4.91% Impervious Runoff Depth=3.21"
Flow Length=166' Tc=11.4 min CN=65 Runoff=2.1 cfs 0.258 af

Total Runoff Area = 1.330 ac Runoff Volume = 0.375 af Average Runoff Depth = 3.38"
88.98% Pervious = 1.184 ac 11.02% Impervious = 0.147 ac

A – 2

DEVELOPED WATERSHEDS



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Page 2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.563	61	>75% Grass cover, Good, HSG B (A, B, C1, C2, C3)
0.068	74	>75% Grass cover, Good, HSG C (C1, C3)
0.066	96	Gravel surface, HSG B (C1, C2)
0.132	98	Paved parking, HSG B (C1, C2)
0.017	98	Paved roads w/curbs & sewers, HSG B (C3)
0.057	98	Roofs, HSG B (C1, C2)
0.117	55	Woods, Good, HSG B (C3)
0.311	70	Woods, Good, HSG C (C3)
1.330	71	TOTAL AREA

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Page 3

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.952	HSG B	A, B, C1, C2, C3
0.379	HSG C	C1, C3
0.000	HSG D	
0.000	Other	
1.330		TOTAL AREA

A – 2

NODE LISTING – 2-YR

23149 - Post*23149 24-hr S1 2-yr Rainfall=3.14"*

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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 A: A

Runoff Area=2,646 sf 0.00% Impervious Runoff Depth=0.42"
Flow Length=23' Slope=0.0430 '/' Tc=3.3 min CN=61 Runoff=0.0 cfs 0.002 af

Subcatchment B: B

Runoff Area=5,008 sf 0.00% Impervious Runoff Depth=0.42"
Flow Length=68' Slope=0.0540 '/' Tc=7.1 min CN=61 Runoff=0.0 cfs 0.004 af

Subcatchment C1: C1

Runoff Area=14,541 sf 28.70% Impervious Runoff Depth=1.23"
Flow Length=271' Tc=9.6 min CN=78 Runoff=0.4 cfs 0.034 af

Subcatchment C2: C2

Runoff Area=7,744 sf 52.36% Impervious Runoff Depth=1.49"
Flow Length=137' Tc=3.6 min CN=82 Runoff=0.3 cfs 0.022 af

Subcatchment C3: C3

Runoff Area=28,017 sf 2.63% Impervious Runoff Depth=0.61"
Flow Length=158' Tc=12.2 min CN=66 Runoff=0.3 cfs 0.033 af

Reach R1: Reach 1

Avg. Flow Depth=0.06' Max Vel=0.86 fps Inflow=0.1 cfs 0.028 af
n=0.080 L=72.5' S=0.1586 '/' Capacity=37.0 cfs Outflow=0.1 cfs 0.028 af

Pond IB1: Infiltration Basin 1

Peak Elev=156.98' Storage=957 cf Inflow=0.6 cfs 0.056 af
Discarded=0.0 cfs 0.028 af Primary=0.1 cfs 0.028 af Outflow=0.1 cfs 0.056 af

Pond P1: Pipe P1

Peak Elev=158.01' Storage=39 cf Inflow=0.3 cfs 0.022 af
12.0" Round Culvert n=0.012 L=22.0' S=0.0068 '/' Outflow=0.3 cfs 0.022 af

Link C: c

Inflow=0.3 cfs 0.061 af
Primary=0.3 cfs 0.061 af

Total Runoff Area = 1.330 ac Runoff Volume = 0.095 af Average Runoff Depth = 0.86"
84.53% Pervious = 1.125 ac 15.47% Impervious = 0.206 ac

A – 2

NODE LISTING – 10-YR

23149 - Post

23149 24-hr S1 10-yr Rainfall=4.73"

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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 A: A

Runoff Area=2,646 sf 0.00% Impervious Runoff Depth=1.21"
Flow Length=23' Slope=0.0430 '/' Tc=3.3 min CN=61 Runoff=0.1 cfs 0.006 af

Subcatchment B: B

Runoff Area=5,008 sf 0.00% Impervious Runoff Depth=1.21"
Flow Length=68' Slope=0.0540 '/' Tc=7.1 min CN=61 Runoff=0.1 cfs 0.012 af

Subcatchment C1: C1

Runoff Area=14,541 sf 28.70% Impervious Runoff Depth=2.48"
Flow Length=271' Tc=9.6 min CN=78 Runoff=0.7 cfs 0.069 af

Subcatchment C2: C2

Runoff Area=7,744 sf 52.36% Impervious Runoff Depth=2.84"
Flow Length=137' Tc=3.6 min CN=82 Runoff=0.6 cfs 0.042 af

Subcatchment C3: C3

Runoff Area=28,017 sf 2.63% Impervious Runoff Depth=1.55"
Flow Length=158' Tc=12.2 min CN=66 Runoff=0.7 cfs 0.083 af

Reach R1: Reach 1

Avg. Flow Depth=0.11' Max Vel=1.32 fps Inflow=0.3 cfs 0.081 af
n=0.080 L=72.5' S=0.1586 '/' Capacity=37.0 cfs Outflow=0.3 cfs 0.081 af

Pond IB1: Infiltration Basin 1

Peak Elev=157.36' Storage=1,576 cf Inflow=1.1 cfs 0.111 af
Discarded=0.0 cfs 0.030 af Primary=0.3 cfs 0.081 af Outflow=0.3 cfs 0.111 af

Pond P1: Pipe P1

Peak Elev=158.11' Storage=56 cf Inflow=0.6 cfs 0.042 af
12.0" Round Culvert n=0.012 L=22.0' S=0.0068 '/' Outflow=0.5 cfs 0.042 af

Link C: c

Inflow=1.0 cfs 0.164 af
Primary=1.0 cfs 0.164 af

Total Runoff Area = 1.330 ac Runoff Volume = 0.212 af Average Runoff Depth = 1.91"
84.53% Pervious = 1.125 ac 15.47% Impervious = 0.206 ac

A – 2

10-YR STORM SUMMARY

23149 - Post

23149 24-hr S1 10-yr Rainfall=4.73"

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Page 1

Summary for Subcatchment A: A

Runoff = 0.1 cfs @ 12.02 hrs, Volume= 0.006 af, Depth= 1.21"

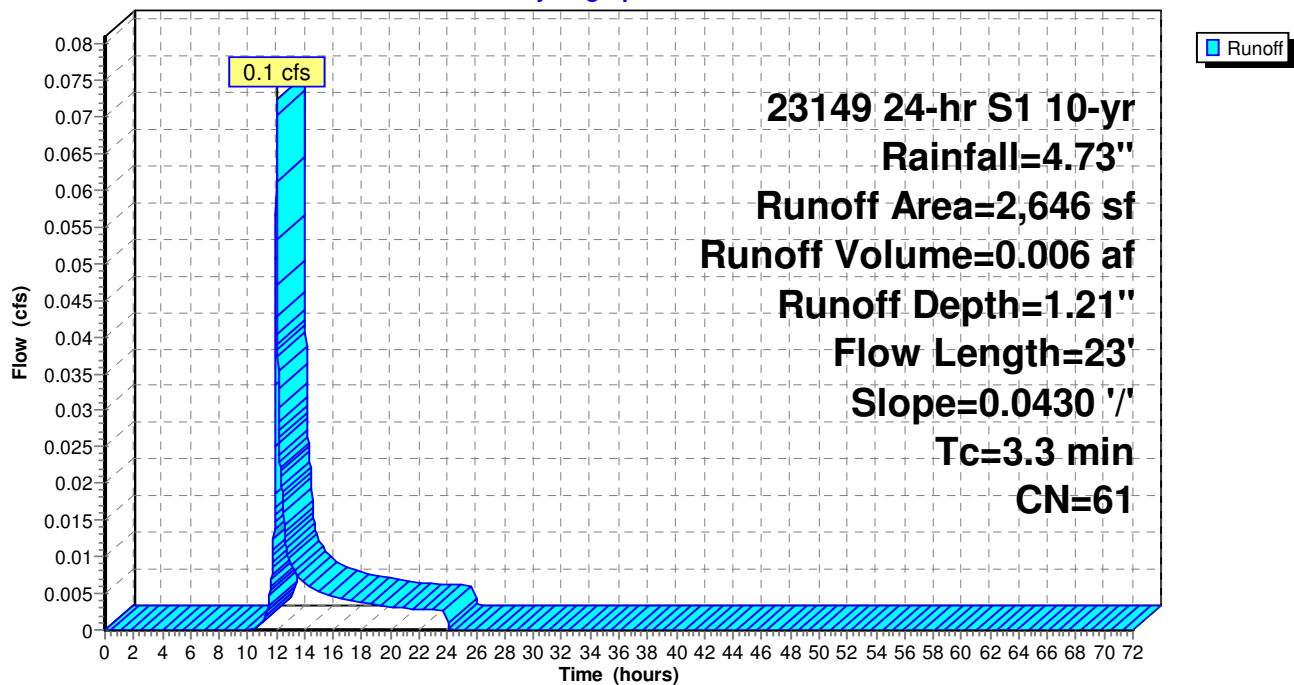
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
23149 24-hr S1 10-yr Rainfall=4.73"

Area (sf)	CN	Description
2,646	61	>75% Grass cover, Good, HSG B
2,646		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	23	0.0430	0.12		Sheet Flow, Grass: Dense n= 0.240 P2= 3.14"

Subcatchment A: A

Hydrograph



23149 - Post

23149 24-hr S1 10-yr Rainfall=4.73"

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Page 2

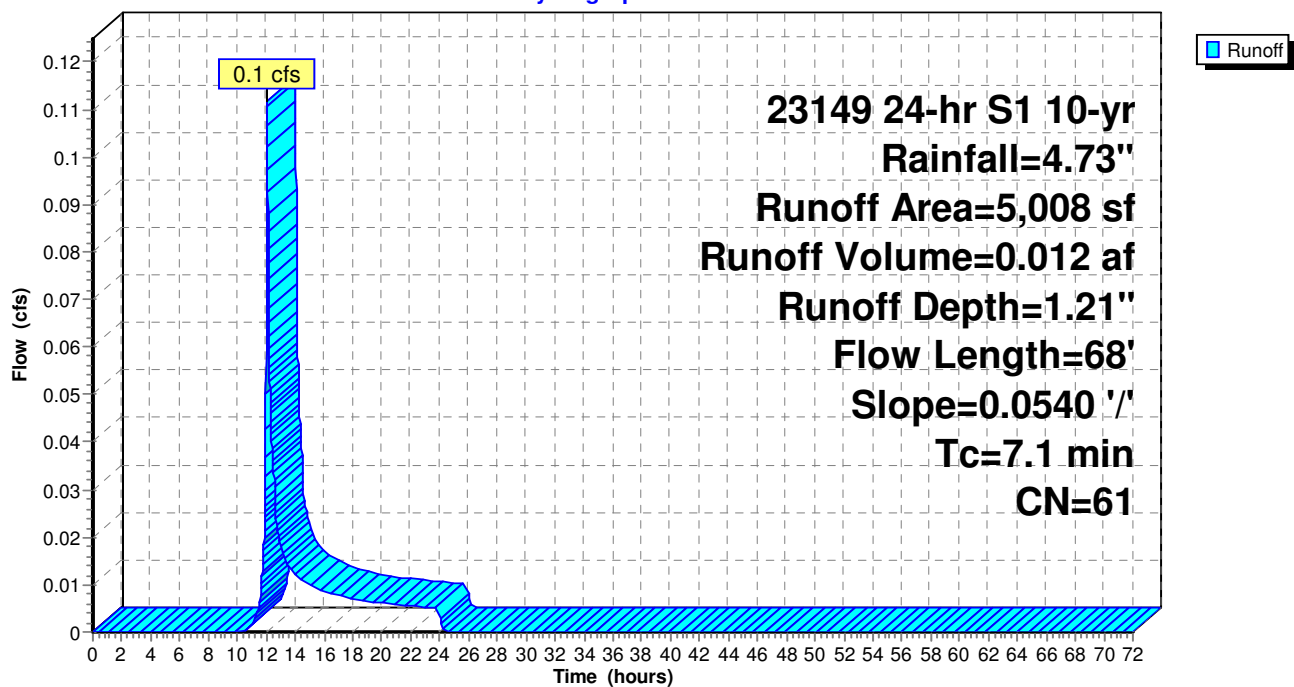
Summary for Subcatchment B: B

Runoff = 0.1 cfs @ 12.06 hrs, Volume= 0.012 af, Depth= 1.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
23149 24-hr S1 10-yr Rainfall=4.73"

Area (sf)	CN	Description
5,008	61	>75% Grass cover, Good, HSG B
5,008		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	68	0.0540	0.16		Sheet Flow, Grass: Dense n= 0.240 P2= 3.14"

Subcatchment B: B**Hydrograph**

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23149 24-hr S1 10-yr Rainfall=4.73"

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Page 3

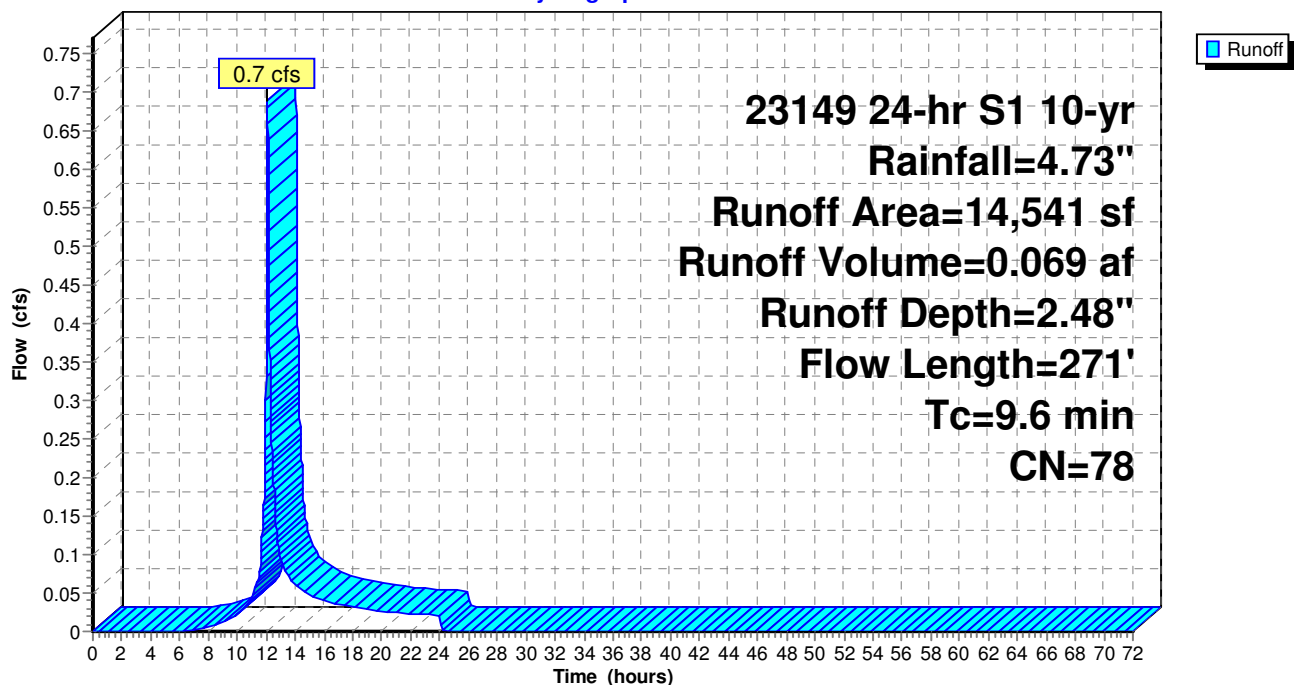
Summary for Subcatchment C1: C1

Runoff = 0.7 cfs @ 12.08 hrs, Volume= 0.069 af, Depth= 2.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
23149 24-hr S1 10-yr Rainfall=4.73"

Area (sf)	CN	Description
7,302	61	>75% Grass cover, Good, HSG B
2,605	96	Gravel surface, HSG B
2,924	98	Paved parking, HSG B
1,249	98	Roofs, HSG B
461	74	>75% Grass cover, Good, HSG C
14,541	78	Weighted Average
10,368		71.30% Pervious Area
4,173		28.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.1	62	0.0320	0.13		Sheet Flow, Grass: Dense n= 0.240 P2= 3.14"
1.5	209	0.0240	2.32		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
9.6	271	Total			

Subcatchment C1: C1**Hydrograph**

23149 - Post

23149 24-hr S1 10-yr Rainfall=4.73"

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Page 4

Summary for Subcatchment C2: C2

Runoff = 0.6 cfs @ 12.01 hrs, Volume= 0.042 af, Depth= 2.84"

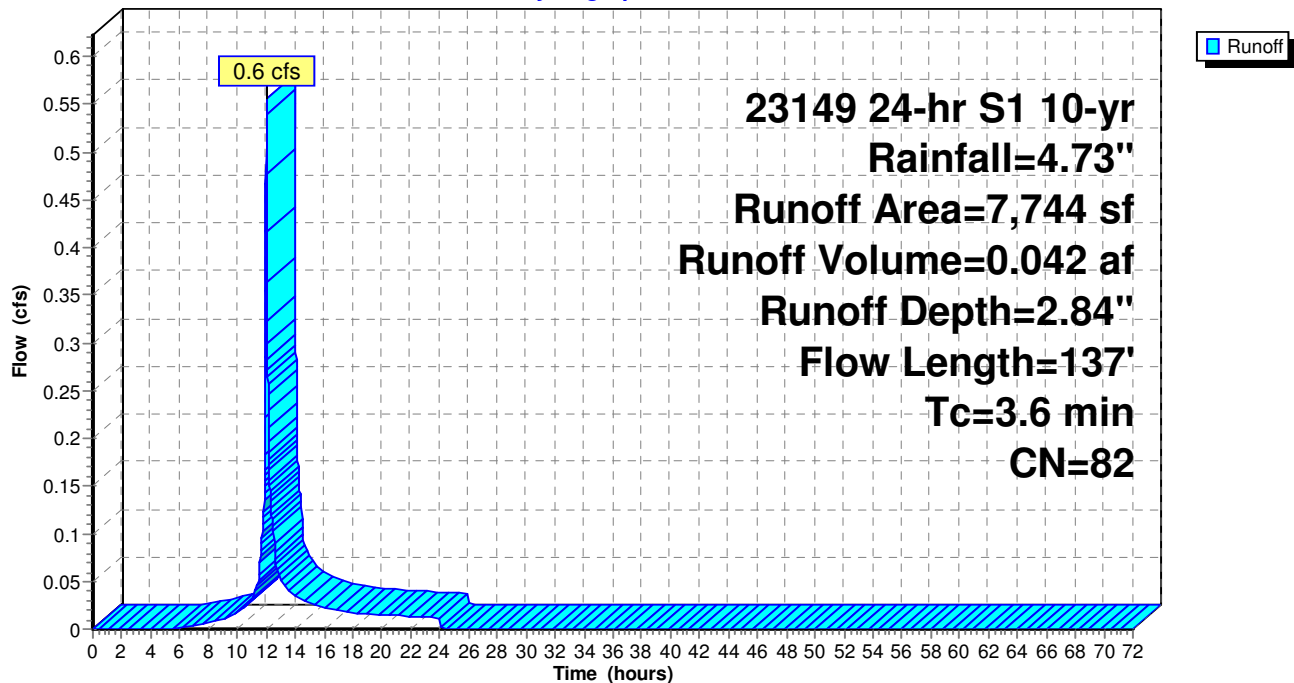
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
23149 24-hr S1 10-yr Rainfall=4.73"

Area (sf)	CN	Description
3,401	61	>75% Grass cover, Good, HSG B
288	96	Gravel surface, HSG B
2,806	98	Paved parking, HSG B
1,249	98	Roofs, HSG B
7,744	82	Weighted Average
3,689		47.64% Pervious Area
4,055		52.36% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.6	12	0.0200	0.08		Sheet Flow, Grass: Dense n= 0.240 P2= 3.14"
1.0	125	0.0180	2.01		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
3.6	137	Total			

Subcatchment C2: C2

Hydrograph



23149 - Post

23149 24-hr S1 10-yr Rainfall=4.73"

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Page 5

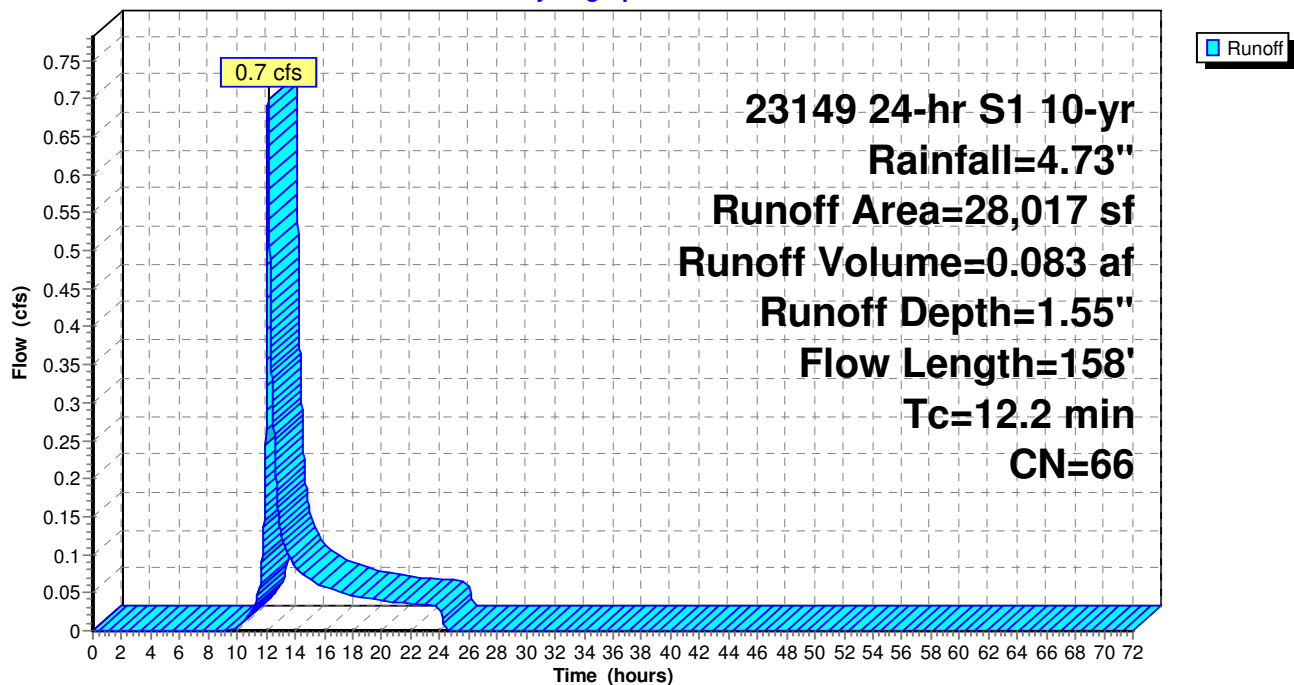
Summary for Subcatchment C3: C3

Runoff = 0.7 cfs @ 12.13 hrs, Volume= 0.083 af, Depth= 1.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
23149 24-hr S1 10-yr Rainfall=4.73"

Area (sf)	CN	Description
5,089	55	Woods, Good, HSG B
6,163	61	>75% Grass cover, Good, HSG B
736	98	Paved roads w/curbs & sewers, HSG B
13,532	70	Woods, Good, HSG C
2,497	74	>75% Grass cover, Good, HSG C
28,017	66	Weighted Average
27,281		97.37% Pervious Area
736		2.63% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	47	0.0426	0.13		Sheet Flow, Grass: Dense n= 0.240 P2= 3.14"
5.9	53	0.1472	0.15		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.14"
0.5	58	0.1759	2.10		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
12.2	158	Total			

Subcatchment C3: C3**Hydrograph**

Summary for Reach R1: Reach 1

Inflow Area = 0.512 ac, 36.92% Impervious, Inflow Depth = 1.90" for 10-yr event
 Inflow = 0.3 cfs @ 12.42 hrs, Volume= 0.081 af
 Outflow = 0.3 cfs @ 12.43 hrs, Volume= 0.081 af, 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= 1.32 fps, Min. Travel Time= 0.9 min

Avg. Velocity = 0.73 fps, Avg. Travel Time= 1.7 min

Peak Storage= 18 cf @ 12.43 hrs

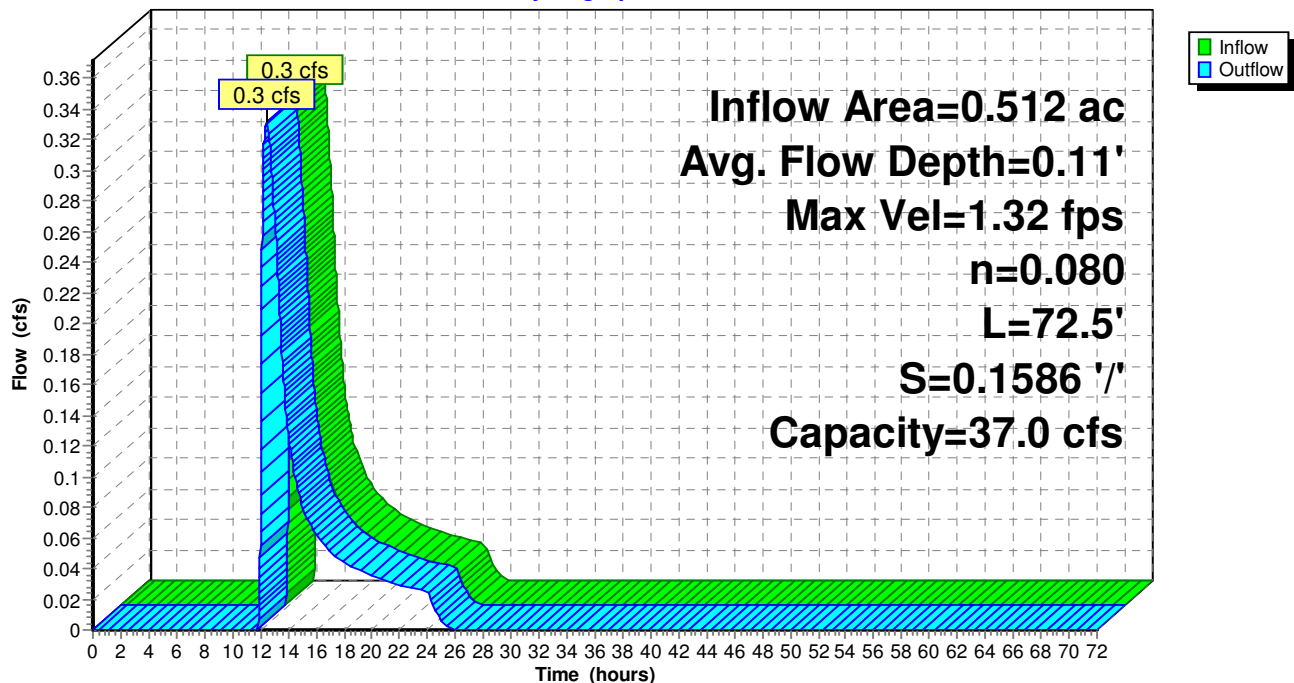
Average Depth at Peak Storage= 0.11' , Surface Width= 3.36'

Bank-Full Depth= 1.00' Flow Area= 6.7 sf, Capacity= 37.0 cfs

10.00' x 1.00' deep Parabolic Channel, n= 0.080 Earth, dense brush, high stage

Length= 72.5' Slope= 0.1586 '/'

Inlet Invert= 153.50', Outlet Invert= 142.00'

**Reach R1: Reach 1****Hydrograph**

Summary for Pond IB1: Infiltration Basin 1

Inflow Area = 0.512 ac, 36.92% Impervious, Inflow Depth = 2.61" for 10-yr event
 Inflow = 1.1 cfs @ 12.05 hrs, Volume= 0.111 af
 Outflow = 0.3 cfs @ 12.42 hrs, Volume= 0.111 af, Atten= 69%, Lag= 22.4 min
 Discarded = 0.0 cfs @ 12.42 hrs, Volume= 0.030 af
 Primary = 0.3 cfs @ 12.42 hrs, Volume= 0.081 af

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

Peak Elev= 157.36' @ 12.42 hrs Surf.Area= 1,856 sf Storage= 1,576 cf

Flood Elev= 158.10' Surf.Area= 3,005 sf Storage= 3,301 cf

Plug-Flow detention time= 293.8 min calculated for 0.111 af (100% of inflow)

Center-of-Mass det. time= 294.0 min (1,153.4 - 859.4)

Volume	Invert	Avail.Storage	Storage Description		
#1	156.00'	3,301 cf	Custom Stage Data (Irregular) Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
156.00	563	115.0	0	0	563
157.00	1,475	162.8	983	983	1,629
158.00	2,652	349.8	2,035	3,018	9,261
158.10	3,005	356.1	283	3,301	9,617

Device	Routing	Invert	Outlet Devices	
#1	Discarded	156.00'	0.300 in/hr Exfiltration over Surface area Phase-In= 0.01'	
#2	Primary	153.65'	12.0" Round Culvert L= 15.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 153.65' / 153.50' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf	
#3	Device 2	156.80'	4.0" W x 4.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads	
#4	Device 2	157.40'	7.0" W x 4.2" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads	
#5	Device 2	157.75'	48.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads	

Discarded OutFlow Max=0.0 cfs @ 12.42 hrs HW=157.36' (Free Discharge)

↑ **1=Exfiltration** (Exfiltration Controls 0.0 cfs)

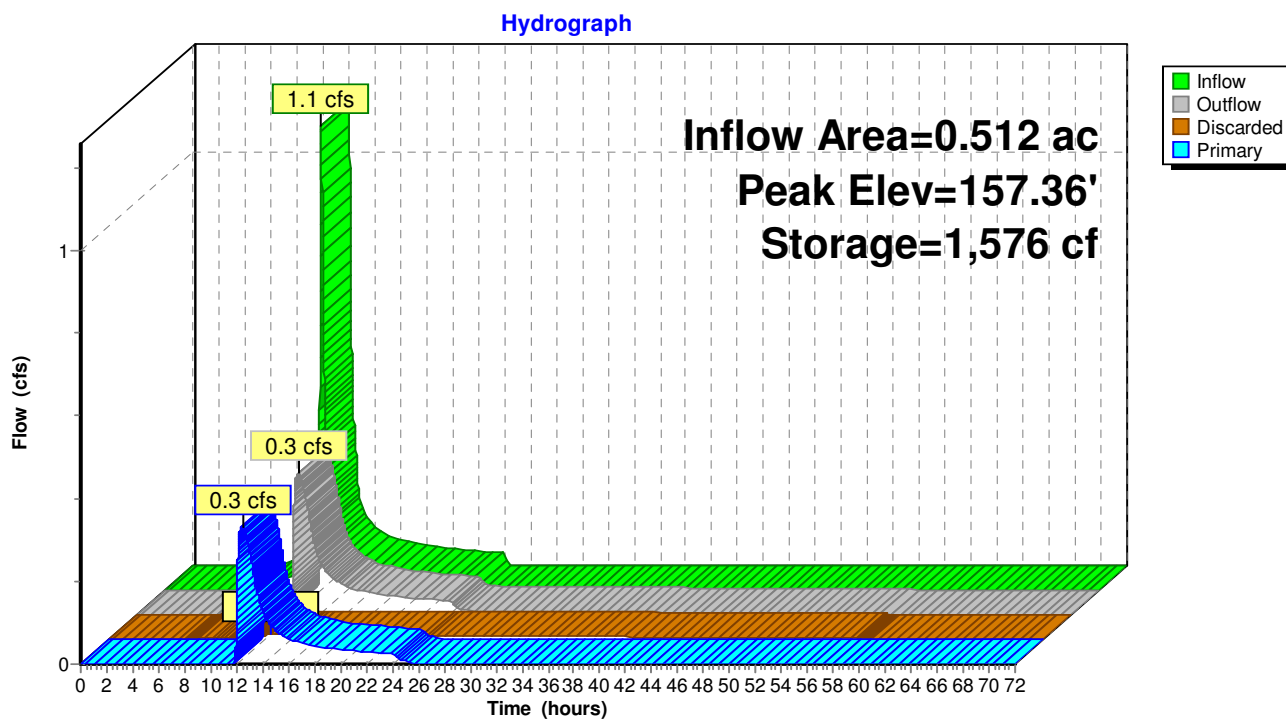
Primary OutFlow Max=0.3 cfs @ 12.42 hrs HW=157.36' TW=153.61' (Dynamic Tailwater)

↑ **2=Culvert** (Passes 0.3 cfs of 6.8 cfs potential flow)

↑ **3=Orifice/Grate** (Orifice Controls 0.3 cfs @ 2.98 fps)

↑ **4=Orifice/Grate** (Controls 0.0 cfs)

↑ **5=Orifice/Grate** (Controls 0.0 cfs)

Pond IB1: Infiltration Basin 1

Summary for Pond P1: Pipe P1

Inflow Area = 0.178 ac, 52.36% Impervious, Inflow Depth = 2.84" for 10-yr event
 Inflow = 0.6 cfs @ 12.01 hrs, Volume= 0.042 af
 Outflow = 0.5 cfs @ 12.03 hrs, Volume= 0.042 af, Atten= 5%, Lag= 0.9 min
 Primary = 0.5 cfs @ 12.03 hrs, Volume= 0.042 af

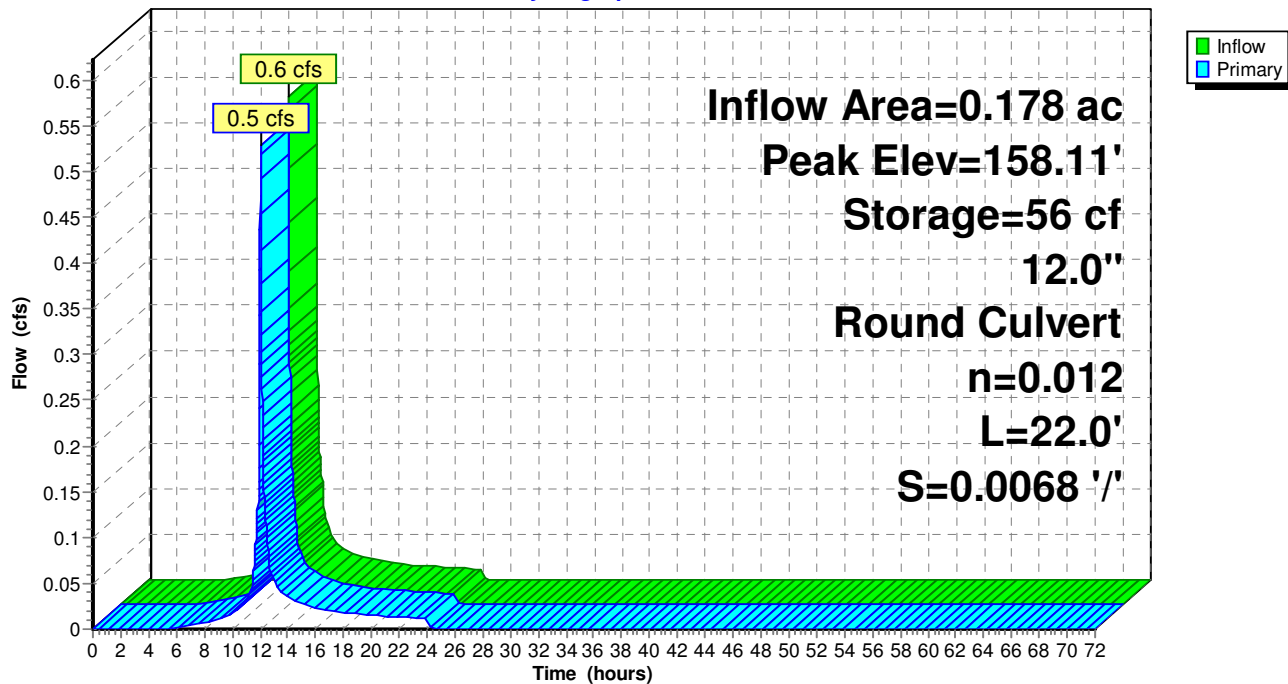
Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 Peak Elev= 158.11' @ 12.03 hrs Surf.Area= 182 sf Storage= 56 cf
 Flood Elev= 158.25' Surf.Area= 213 sf Storage= 84 cf

Plug-Flow detention time= 4.9 min calculated for 0.042 af (100% of inflow)
 Center-of-Mass det. time= 5.0 min (849.2 - 844.1)

Volume	Invert	Avail.Storage	Storage Description		
#1	157.70'	95 cf	Custom Stage Data (Irregular) Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
157.70	92	81.0	0	0	92
158.00	159	86.0	37	37	163
158.30	225	90.7	57	95	234

Device	Routing	Invert	Outlet Devices
#1	Primary	157.70'	12.0" Round Culvert L= 22.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 157.70' / 157.55' S= 0.0068 ' S= 0.0068 ' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

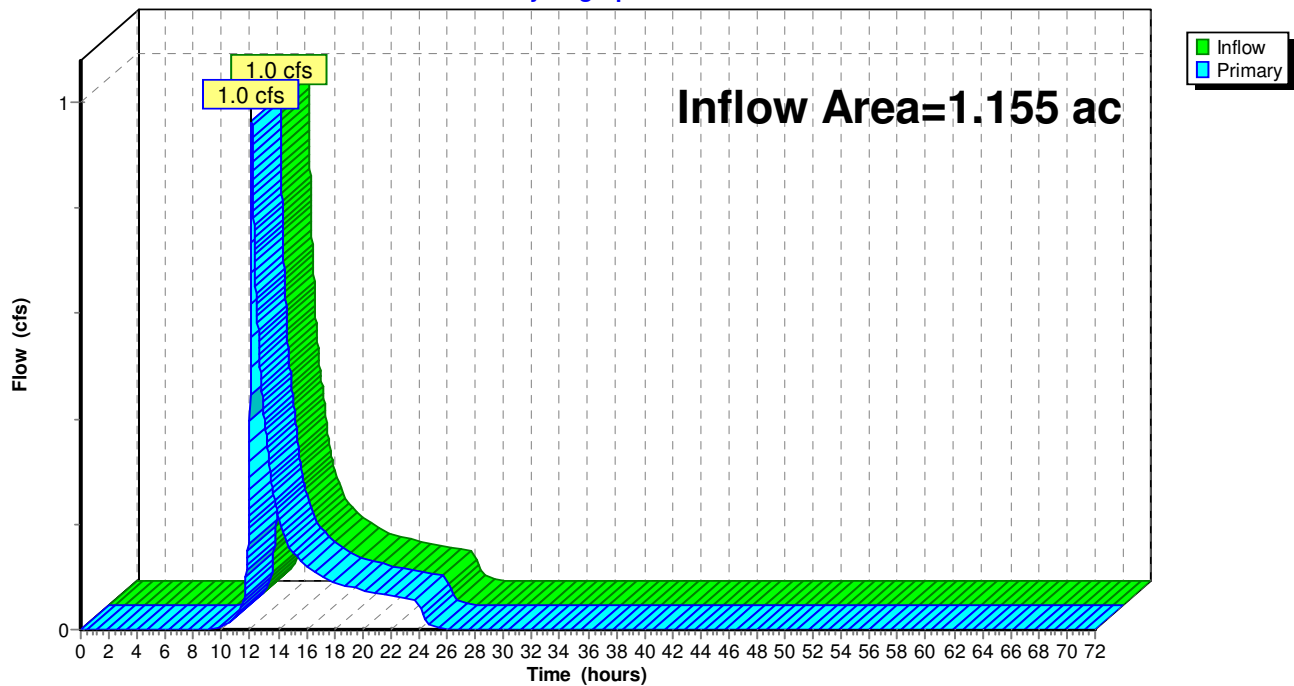
Primary OutFlow Max=0.5 cfs @ 12.03 hrs HW=158.11' TW=157.06' (Dynamic Tailwater)
↑1=Culvert (Barrel Controls 0.5 cfs @ 2.57 fps)

Pond P1: Pipe P1**Hydrograph**

Summary for Link C: c

Inflow Area = 1.155 ac, 17.82% Impervious, Inflow Depth = 1.70" for 10-yr event
Inflow = 1.0 cfs @ 12.14 hrs, Volume= 0.164 af
Primary = 1.0 cfs @ 12.14 hrs, Volume= 0.164 af, Atten= 0%, Lag= 0.0 min

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

Link C: c**Hydrograph**

A – 2

NODE LISTING – 25-YR

23149 - Post*23149 24-hr S1 25-yr Rainfall=5.98"*

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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 A: A

Runoff Area=2,646 sf 0.00% Impervious Runoff Depth=1.99"
Flow Length=23' Slope=0.0430 '/' Tc=3.3 min CN=61 Runoff=0.1 cfs 0.010 af

Subcatchment B: B

Runoff Area=5,008 sf 0.00% Impervious Runoff Depth=1.99"
Flow Length=68' Slope=0.0540 '/' Tc=7.1 min CN=61 Runoff=0.2 cfs 0.019 af

Subcatchment C1: C1

Runoff Area=14,541 sf 28.70% Impervious Runoff Depth=3.56"
Flow Length=271' Tc=9.6 min CN=78 Runoff=0.9 cfs 0.099 af

Subcatchment C2: C2

Runoff Area=7,744 sf 52.36% Impervious Runoff Depth=3.97"
Flow Length=137' Tc=3.6 min CN=82 Runoff=0.7 cfs 0.059 af

Subcatchment C3: C3

Runoff Area=28,017 sf 2.63% Impervious Runoff Depth=2.43"
Flow Length=158' Tc=12.2 min CN=66 Runoff=1.1 cfs 0.130 af

Reach R1: Reach 1

Avg. Flow Depth=0.14' Max Vel=1.55 fps Inflow=0.6 cfs 0.126 af
n=0.080 L=72.5' S=0.1586 '/' Capacity=37.0 cfs Outflow=0.6 cfs 0.126 af

Pond IB1: Infiltration Basin 1

Peak Elev=157.58' Storage=2,024 cf Inflow=1.5 cfs 0.158 af
Discarded=0.0 cfs 0.032 af Primary=0.6 cfs 0.126 af Outflow=0.6 cfs 0.158 af

Pond P1: Pipe P1

Peak Elev=158.17' Storage=68 cf Inflow=0.7 cfs 0.059 af
12.0" Round Culvert n=0.012 L=22.0' S=0.0068 '/' Outflow=0.7 cfs 0.059 af

Link C: c

Inflow=1.5 cfs 0.256 af
Primary=1.5 cfs 0.256 af

Total Runoff Area = 1.330 ac Runoff Volume = 0.317 af Average Runoff Depth = 2.86"
84.53% Pervious = 1.125 ac 15.47% Impervious = 0.206 ac

A – 2

NODE LISTING – 50-YR

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 A: A

Runoff Area=2,646 sf 0.00% Impervious Runoff Depth=2.80"
Flow Length=23' Slope=0.0430 '/' Tc=3.3 min CN=61 Runoff=0.2 cfs 0.014 af

Subcatchment B: B

Runoff Area=5,008 sf 0.00% Impervious Runoff Depth=2.80"
Flow Length=68' Slope=0.0540 '/' Tc=7.1 min CN=61 Runoff=0.3 cfs 0.027 af

Subcatchment C1: C1

Runoff Area=14,541 sf 28.70% Impervious Runoff Depth=4.60"
Flow Length=271' Tc=9.6 min CN=78 Runoff=1.2 cfs 0.128 af

Subcatchment C2: C2

Runoff Area=7,744 sf 52.36% Impervious Runoff Depth=5.05"
Flow Length=137' Tc=3.6 min CN=82 Runoff=0.9 cfs 0.075 af

Subcatchment C3: C3

Runoff Area=28,017 sf 2.63% Impervious Runoff Depth=3.31"
Flow Length=158' Tc=12.2 min CN=66 Runoff=1.4 cfs 0.178 af

Reach R1: Reach 1

Avg. Flow Depth=0.17' Max Vel=1.72 fps Inflow=0.8 cfs 0.170 af
n=0.080 L=72.5' S=0.1586 '/' Capacity=37.0 cfs Outflow=0.8 cfs 0.170 af

Pond IB1: Infiltration Basin 1

Peak Elev=157.72' Storage=2,320 cf Inflow=1.8 cfs 0.203 af
Discarded=0.0 cfs 0.033 af Primary=0.8 cfs 0.170 af Outflow=0.8 cfs 0.203 af

Pond P1: Pipe P1

Peak Elev=158.23' Storage=79 cf Inflow=0.9 cfs 0.075 af
12.0" Round Culvert n=0.012 L=22.0' S=0.0068 '/' Outflow=0.8 cfs 0.075 af

Link C: c

Inflow=2.1 cfs 0.348 af
Primary=2.1 cfs 0.348 af

Total Runoff Area = 1.330 ac Runoff Volume = 0.422 af Average Runoff Depth = 3.80"
84.53% Pervious = 1.125 ac 15.47% Impervious = 0.206 ac

APPENDIX B

DESIGN

B – 1

**STORMWATER BEST MANAGEMENT
PRACTICES**



INFILTRATION PRACTICE CRITERIA (Env-Wq 1508.06)

Type/Node Name: **Infiltration Basin (IB1)**

Enter the type of infiltration practice (e.g., basin, trench) and the node name in the drainage analysis, if applicable.

Yes		Have you reviewed Env-Wq 1508.06(a) to ensure that infiltration is allowed?	← yes
0.51	ac	A = Area draining to the practice	
0.19	ac	A _I = Impervious area draining to the practice	
0.37	decimal	I = Percent impervious area draining to the practice, in decimal form	
0.38	unitless	R _v = Runoff coefficient = 0.05 + (0.9 x I)	
0.20	ac-in	WQV = 1" x R _v x A	
709	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
177	cf	25% x WQV (check calc for sediment forebay volume)	
GRASS SWALE		Method of pretreatment? (not required for clean or roof runoff)	
N/A	cf	V _{SED} = Sediment forebay volume, if used for pretreatment	≥ 25%WQV
710	cf	V = Volume ¹ (attach a stage-storage table)	≥ WQV
563	sf	A _{SA} = Surface area of the bottom of the pond	
0.30	iph	K _{sat} _{DESIGN} = Design infiltration rate ²	
50.4	hours	I _{DRAIN} = Drain time = V / (A _{SA} * I _{DESIGN})	≤ 72-hrs
156.00	feet	E _{BTM} = Elevation of the bottom of the basin	
153.00	feet	E _{SHWT} = Elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
153.00	feet	E _{ROCK} = Elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
3.00	feet	D _{SHWT} = Separation from SHWT	≥ *³
3.0	feet	D _{ROCK} = Separation from bedrock	≥ *³
N/A	ft	D _{amend} = Depth of amended soil, if applicable due high infiltration rate	≥ 24"
N/A	ft	D _T = Depth of trench, if trench proposed	4 - 10 ft
N/A	Yes/No	If a trench or underground system is proposed, has observation well been provided?	← yes
N/A		If a trench is proposed, does material meet Env-Wq 1508.06(k)(2) requirements. ⁴	← yes
Yes	Yes/No	If a basin is proposed, Is the perimeter curvilinear, and basin floor flat?	← yes
3.0	:1	If a basin is proposed, pond side slopes.	≥ 3:1
157.36	ft	Peak elevation of the 10-year storm event (infiltration can be used in analysis)	
157.72	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
158.10	ft	Elevation of the top of the practice (if a basin, this is the elevation of the berm)	
YES		10 peak elevation ≤ Elevation of the top of the trench? ⁵	← yes
YES		If a basin is proposed, 50-year peak elevation ≤ Elevation of berm?	← yes

1. Volume below the lowest invert of the outlet structure and excludes forebay volume
2. K_{sat}_{DESIGN} includes a factor of safety. See Env-Wq 1504.14 for requirements for determining the infiltr. rate
3. 1' separation if treatment not required; 4' for treatment in GPAs & WSIPAs; & 3' in all other areas.
4. Clean, washed well graded diameter of 1.5 to 3 inches above the in-situ soil.
5. If 50-year peak elevation exceeds top of trench, the overflow must be routed in HydroCAD as secondary discharge.

Designer's Notes: _____

Summary for Pond IB1: Infiltration Basin 1

Inflow Area = 0.512 ac, 36.92% Impervious, Inflow Depth = 4.76" for 50-yr event
 Inflow = 1.8 cfs @ 12.05 hrs, Volume= 0.203 af
 Outflow = 0.8 cfs @ 12.27 hrs, Volume= 0.203 af, Atten= 56%, Lag= 13.4 min
 Discarded = 0.0 cfs @ 12.27 hrs, Volume= 0.033 af
 Primary = 0.8 cfs @ 12.27 hrs, Volume= 0.170 af

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

Peak Elev= 157.72' @ 12.27 hrs Surf.Area= 2,284 sf Storage= 2,320 cf

Flood Elev= 158.10' Surf.Area= 3,005 sf Storage= 3,301 cf

Plug-Flow detention time= 190.4 min calculated for 0.203 af (100% of inflow)

Center-of-Mass det. time= 190.7 min (1,028.2 - 837.5)

Volume	Invert	Avail.Storage	Storage Description		
#1	156.00'	3,301 cf	Custom Stage Data (Irregular) Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
156.00	563	115.0	0	0	563
157.00	1,475	162.8	983	983	1,629
158.00	2,652	349.8	2,035	3,018	9,261
158.10	3,005	356.1	283	3,301	9,617

Device	Routing	Invert	Outlet Devices		
#1	Discarded	156.00'	0.300 in/hr Exfiltration over Surface area		
#2	Primary	153.65'	12.0" Round Culvert L= 15.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 153.65' / 153.50' S= 0.0100 ' / ' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf		
#3	Device 2	156.80'	4.0" W x 4.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads		
#4	Device 2	157.40'	7.0" W x 4.2" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads		
#5	Device 2	157.75'	48.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads		

Discarded OutFlow Max=0.0 cfs @ 12.27 hrs HW=157.72' (Free Discharge)

↑ **1=Exfiltration** (Exfiltration Controls 0.0 cfs)

Primary OutFlow Max=0.8 cfs @ 12.27 hrs HW=157.72' TW=153.67' (Dynamic Tailwater)

↑ **2=Culvert** (Passes 0.8 cfs of 7.1 cfs potential flow)

↑ **3=Orifice/Grate** (Orifice Controls 0.5 cfs @ 4.16 fps)

↑ **4=Orifice/Grate** (Orifice Controls 0.3 cfs @ 1.81 fps)

↑ **5=Orifice/Grate** (Controls 0.0 cfs)

Stage-Area-Storage for Pond IB1: Infiltration Basin 1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
156.00	563	0	156.54	1,002	417
156.01	570	6	156.55	1,011	427
156.02	577	11	156.56	1,021	437
156.03	584	17	156.57	1,030	447
156.04	591	23	156.58	1,039	458
156.05	598	29	156.59	1,049	468
156.06	606	35	156.60	1,058	479
156.07	613	41	156.61	1,068	489
156.08	620	47	156.62	1,078	500
156.09	627	54	156.63	1,087	511
156.10	635	60	156.64	1,097	522
156.11	642	66	156.65	1,107	533
156.12	650	73	156.66	1,117	544
156.13	657	79	156.67	1,126	555
156.14	665	86	156.68	1,136	566
156.15	672	93	156.69	1,146	578
156.16	680	99	156.70	1,156	589
156.17	688	106	156.71	1,166	601
156.18	695	113	156.72	1,176	613
156.19	703	120	156.73	1,186	625
156.20	711	127	156.74	1,196	636
156.21	719	134	156.75	1,207	648
156.22	727	141	156.76	1,217	661
156.23	735	149	156.77	1,227	673
156.24	743	156	156.78	1,237	685
156.25	751	164	156.79	1,248	698
156.26	759	171	156.80	1,258	710
156.27	767	179	156.81	1,269	723
156.28	775	187	156.82	1,279	735
156.29	783	194	156.83	1,290	748
156.30	791	202	156.84	1,300	761
156.31	800	210	156.85	1,311	774
156.32	808	218	156.86	1,321	787
156.33	816	226	156.87	1,332	801
156.34	825	235	156.88	1,343	814
156.35	833	243	156.89	1,354	828
156.36	842	251	156.90	1,364	841
156.37	850	260	156.91	1,375	855
156.38	859	268	156.92	1,386	869
156.39	867	277	156.93	1,397	883
156.40	876	286	156.94	1,408	897
156.41	885	294	156.95	1,419	911
156.42	894	303	156.96	1,430	925
156.43	902	312	156.97	1,441	939
156.44	911	321	156.98	1,453	954
156.45	920	330	156.99	1,464	968
156.46	929	340	157.00	1,475	983
156.47	938	349	157.01	1,485	998
156.48	947	358	157.02	1,495	1,013
156.49	956	368	157.03	1,505	1,028
156.50	965	378	157.04	1,515	1,043
156.51	974	387	157.05	1,526	1,058
156.52	983	397	157.06	1,536	1,073
156.53	993	407	157.07	1,546	1,089

B – 2

INFILTRATION RATE

Soil Series	legend number	Ksat low - B in/hr	Ksat high - B in/hr	Ksat low - C in/hr	Ksat high - C in/hr	Hyd. Grp.	Group	Land Form	Temp.	Soil Textures	Spodosol ?	Other
Occum	1	0.6	2.0	6.00	20.0	B	2	Flood Plain (Bottom Land)	mesic	loamy	no	loamy over loamy sand
Suncook	2	6.0	20.0	6.00	20.0	A	1	Flood Plain (Bottomland)	mesic	sandy	no	occasionally flooded
Lim	3	0.6	2.0	6.00	20.0	C	5	Flood Plain (Bottom Land)	mesic	loamy	no	
Pootatuck	4	0.6	6.0	6.00	20.0	B	3	Flood Plain (Bottom Land)	mesic	loamy	no	single grain in C
Rippowam	5	0.6	6.0	6.00	20.0	C	5	Flood Plain (Bottom Land)	mesic	loamy	no	
Saco	6	0.6	2.0	6.00	20.0	D	6	Flood Plain (Bottom Land)	mesic	silty	no	strata
Hadley	8	0.6	2.0	0.60	6.0	B	2	Flood Plain (Bottom Land)	mesic	silty	no	strata of fine sand
Winooski	9	0.6	6.0	0.60	6.0	B		Flood Plain (Bottom Land)	mesic	silty over loamy	no	
Merrimac	10	2.0	20.0	6.00	20.0	A	1	Outwash and Stream Terraces	mesic	gravelly sand	no	loamy cap
Gloucester	11	6.0	20.0	6.00	20.0	A	1	Sandy Till	mesic	sandy-skeletal	no	loamy cap
Hinckley	12	6.0	20.0	20.00	100.0	A	1	Outwash and Stream Terraces	mesic	sandy-skeletal	no	
Sheepscot	14	6.0	20.0	6.00	20.0	B	3	Outwash and Stream Terraces	frigid	sandy-skeletal	yes	gravelly coarse sand
Searsport	15	6.0	20.0	6.00	20.0	D	6	Outwash and Stream Terraces	frigid	sandy	no	organic over sand
Saugatuck	16	0.06	0.2	6.00	20.0	C	5	Outwash and Stream Terraces	mesic	sandy	yes	ortstein
Colton, gravelly	21	6.0	20.0	20.00	100.0	A	1	Outwash and Stream Terraces	frigid	sandy-skeletal	yes	gravelly surface
Colton	22	6.0	20.0	20.00	100.0	A	1	Outwash and Stream Terraces	frigid	sandy-skeletal	yes	
Masardis	23	6.0	20.0	6.00	20.0	A	1	Outwash and Stream Terraces	frigid	sandy-skeletal	yes	slate, loamy cap
Agawam	24	6.0	20.0	20.00	100.0	B	2	Outwash and Stream Terraces	mesic	loamy over sandy	no	loamy over sand/gravel
Windsor	26	6.0	20.0	6.00	20.0	A	1	Outwash and Stream Terraces	mesic	sandy	no	
Groveton	27	0.6	2.0	0.60	6.0	B	2	Outwash and Stream Terraces	frigid	loamy	yes	loamy over sandy
Madawaska	28	0.6	2.0	6.00	20.0	B	3	Outwash and Stream Terraces	frigid	loamy over sandy	yes	sandy or sandy-skeletal
Woodbridge	29	0.6	2.0	0.00	0.6	C	3	Firm, platy, loamy till	mesic	loamy	no	sandy loam in Cd
Unadilla	30	0.6	2.0	2.00	20.0	B	2	Terraces and glacial lake plains	mesic	silty	no	silty over gravelly
Hartland	31	0.6	2.0	0.20	2.0	B	2	Terraces and glacial lake plains	mesic	silty	no	very fine sandy loam
Boxford	32	0.1	0.2	0.00	0.2	C	3	Silt and Clay Deposits	mesic	fine	no	silty clay loam
Scitico	33	0.0	0.2	0.00	0.2	C	5	Silt and Clay Deposits	mesic	fine	no	
Wareham	34	6.0	20.0	6.00	20.0	C	5	Outwash and Stream Terraces	mesic	sandy	no	
Champlain	35	6.0	20.0	20.00	100.0	A	1	Outwash and Stream Terraces	frigid	gravelly sand	no	
Adams	36	6.0	20.0	20.00	99.0	A	1	Outwash and Stream Terraces	frigid	sandy	yes	
Melrose	37	2.0	6.0	0.00	0.2	C	3	Sandy/loamy over silt/clay	frigid	loamy over clayey	no	silty clay loam in C
Eldridge	38	6.0	20.0	0.06	0.6	C	3	Sandy/loamy over silt/clay	mesic	sandy over loamy	no	
Millis	39					C	3	Firm, platy, sandy till	frigid	loamy	yes	loamy sand in Cd
Canton	42	2.0	6.0	6.00	20.0	B	2	Loose till, sandy textures	mesic	loamy over sandy	no	loamy over loamy sand
Montauk	44	0.6	6.0	0.06	0.6	C	3	Firm, platy, sandy till	mesic	loamy	no	loamy sand in Cd
Henniker	46	0.6	2.0	0.06	0.6	C	3	Firm, platy, sandy till	frigid	loamy	no	loamy sand in Cd
Madawaska, aquatic	48	0.6	2.0	6.00	20.0	B	3	Outwash and Stream Terraces	frigid	loamy over sandy	yes	sandy or sandy-skeletal
Whitman	49	0.0	0.2	0.00	0.2	D	6	Firm, platy, loamy till	mesic	loamy	no	mucky loam
Hermon	55	2.0	20.0	6.00	20.0	A	1	Sandy Till	frigid	sandy-skeletal	yes	loamy cap
Becket	56	0.6	2.0	0.06	0.6	C	3	Firm, platy, sandy till	frigid	loamy	yes	gravelly sandy loam in Cd
Waumbec	58	2.0	20.0	6.00	20.0	B	3	Loose till, sandy textures	frigid	sandy-skeletal	yes	very cobbly loamy sand
Charlton	62	0.6	6.0	0.60	6.0	B	2	Loose till, loamy textures	mesic	loamy	no	fine sandy loam
Paxton	66	0.6	2.0	0.00	0.2	C	3	Firm, platy, loamy till	mesic	loamy	no	
Sutton	68	0.6	6.0	0.60	6.0	B	3	Loose till, loamy textures	mesic	loamy	no	
Berkshire	72	0.6	6.0	0.60	6.0	B	2	Loose till, loamy textures	frigid	loamy	yes	fine sandy loam
Marlow	76	0.6	2.0	0.06	0.6	C	3	Firm, platy, loamy till	frigid	loamy	yes	fine sandy loam in Cd
Peru	78	0.6	2.0	0.06	0.6	C	3	Firm, platy, loamy till	frigid	loamy	yes	
Thorndike	84	0.6	2.0	0.60	2.0	C/D	4	Friable till, silty, schist & phyllite	frigid	loamy-skeletal	yes	less than 20 in. deep
Hollis	86	0.6	6.0	0.60	6.0	C/D	4	Loose till, bedrock	mesic	loamy	no	less than 20 in. deep
Winnecook	88	0.6	2.0	0.60	2.0	C	4	Friable till, silty, schist & phyllite	frigid	loamy-skeletal	yes	20 to 40 in. deep
Chatfield	89	0.6	6.0	0.60	6.0	B	4	Loose till, bedrock	mesic	loamy	no	20 to 40 in. deep
Hogback	91	2.0	6.0	2.00	6.0	C	4	Loose till, bedrock	frigid	loamy	yes	less than 20 in. deep
Lyman	92	2.0	6.0	2.00	6.0	A/D	4	Loose till, bedrock	frigid	loamy	yes	less than 20 in. deep
Woodstock	93	2.0	6.0	2.00	6.0	C/D	4	Loose till, bedrock	frigid	loamy	no	less than 20 in. deep
Rawsonville	98	0.6	6.0	0.60	6.0	C	4	Loose till, bedrock	frigid	loamy	yes	20 to 40 in. deep
Tunbridge	99	0.6	6.0	0.60	6.0	C	4	Loose till, bedrock	frigid	loamy	yes	20 to 40 in. deep

B – 3

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 1.33 acres and located at 200 Sixth Street in Dover, NH. The site is currently developed as residential with a single-family home, shed, kennel, outbuilding, and a paved driveway. The ground cover primarily consists of woods, lawn, and pavement. The project proposes the construction of a broadband digital equipment center which includes a 2,500-sf building, site access, grading, drainage, and utilities. The development proposes 0.272 acres of new impervious area including 0.057 acres of commercial roof and 0.215 acres of commercial/residential parking. The project proposes the treatment of 0.057 acres of roof and 0.198 acres of parking. The remaining 6% of new impervious area (located at the entrance of the site along Sixth Street) was unable to be captured and treated however, the proposed stormwater mitigation system is still able to provide 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 0.057 ac of commercial roof, 0.215 ac of commercial/residential parking and the Event Mean Concentrations identified in Appendix D of the NH Stormwater Manual, Volume 1, December 2008 for Commercial Roof (9 mg/L TSS, 2.1 mg/L TN, and 0.14 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.

Commercial Roof:

$$L_{TSS} = 0.226 * 40.45 \text{ in} * 9 \text{ mg/L} * 0.057 \text{ ac} = 4.72 \text{ lb/yr}$$

$$L_{TN} = 0.226 * 40.45 \text{ in} * 2.1 \text{ mg/L} * 0.057 \text{ ac} = 1.10 \text{ lb/yr}$$

$$L_{TP} = 0.226 * 40.45 \text{ in} * 0.14 \text{ mg/L} * 0.057 \text{ ac} = 0.073 \text{ lb/yr}$$

Commercial/Residential Parking:

$$L_{TSS} = 0.226 * 40.45 \text{ in} * 27 \text{ mg/L} * 0.215 \text{ ac} = 53.05 \text{ lb/yr}$$

$$L_{TN} = 0.226 * 40.45 \text{ in} * 1.9 \text{ mg/L} * 0.215 \text{ ac} = 3.73 \text{ lb/yr}$$

$$L_{TP} = 0.226 * 40.45 \text{ in} * 0.15 \text{ mg/L} * 0.215 \text{ ac} = 0.29 \text{ lb/yr}$$

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	Commercial Roof	Commercial/ Residential Parking	Annual Load (lbs/yr)	% Removal	Removal Required (lbs/yr)
TSS	4.72	53.05	57.77	80%	46.21
TN	1.10	3.73	4.83	50%	2.42
TP	0.07	0.29	0.37	50%	0.18

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Pollutant Removal Provided: The project proposes the treatment of 0.057 ac of roof and 0.198 ac of parking through two (2) Vegetated Swales and one (1) Infiltration Basin. BMP Pollutant Removal Efficiency rates are provided in Appendix B of the NH Stormwater Manual, Volume 2, December 2008. Infiltration Basins provide 90% TSS, 60% TN, and 65% TP removal and Vegetated Swales provide 65% TSS, 20% TN, and 25% TP removal.

Pre-treatment Swale 1 (Swale 1):

Swale 1 captures and treats 0.071 acres of parking and 0.029 acres of roof. Captured runoff is directed towards IB1.

Swale 1					
Pollutant	Commercial Roof	Commerical/ Residential Parking	Annual Load (lbs/yr)	% Removal	Removal Provided (lbs/yr)
TSS	2.36	17.53	19.89	65%	12.93
TN	0.55	1.23	1.78	20%	0.36
TP	0.04	0.10	0.13	25%	0.03

Pre-treatment Swale 2 (Swale 2):

Swale 2 captures and treats 0.127 acres of parking and 0.029 acres of roof. Captured runoff is directed towards IB1.

Swale 2					
Pollutant	Commercial Roof	Commerical/ Residential Parking	Annual Load (lbs/yr)	% Removal	Removal Provided (lbs/yr)
TSS	2.36	31.33	33.69	65%	21.90
TN	0.55	2.20	2.76	20%	0.55
TP	0.04	0.17	0.21	25%	0.05

Infiltration Basin 1 (IB1):

IB1 captures and treats 0.198 acres of parking and 0.057 acres of roof.

IB1					
Pollutant	Commercial Roof	Commerical/ Residential Parking	Annual Load (lbs/yr)	% Removal	Removal Provided (lbs/yr)
TSS	1.65	17.12	18.77	90%	16.90
TN	0.88	2.75	3.63	60%	2.18
TP	0.06	0.20	0.26	65%	0.17

CIVILWORKS NEW ENGLAND

181 WATSON ROAD
P.O. BOX 1166
DOVER, NH 03821-1166
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Total Pollutant Removal Rate Provided:

Pollutant Removal Provided					
Pollutant	IB1	Swale 1	Swale 2	Removal Provided (lbs/yr)	Effective Removal Rate %
TSS	16.90	12.93	21.90	51.72	90%
TN	2.18	0.36	0.55	3.09	64%
TP	0.17	0.03	0.05	0.25	69%

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%

B – 4

OUTLET PROTECTION

OUTLET PROTECTION DESIGN CALCS
NON DEFINED CHANNEL

Job #: 23149
 Date: 9/10/2025
 Structure: Outlet from
 IB1

Variables:

Q= Discharge from the pipe (cfs)
 D₀= Diameter of the pipe (ft)
 Tw= Tailwater depth above the invert of the pipe (ft)
 La= Apron length
 w₁= Apron width at pipe outlet
 w₂= Apron width at downstream end of apron

Input: Outlet elev: 153.5
 Tailwater elev: 153.64
 Tw: 0.14
 Q: 0.6
 D₀: 1

Apron Dimensions

w ₁ =	3	(ft)
w ₂ =	12	(ft)
La=	9	(ft)

Apron Length:

$\frac{Tw > .5D_0}{La: 8.800}$ $\frac{Tw < .5D_0}{La: 8.080}$

Apron Width:

$\frac{Tw > .5D_0}{w_2: 6.52}$ $\frac{Tw < .5D_0}{w_2: 11.08}$

w₁: 3

w₁= 3.00
 w₂= 11.08
 La= 8.08

RipRap Sizing

d ₅₀ =	0.07	(ft)
d ₅₀ =	0.87	(in)

RipRap Gradation

	Stone Size		% of Weight Smaller Than the Given Size
0.11	TO	0.14	100
0.09	TO	0.13	85
0.07	TO	0.11	50
0.02	TO	0.04	15

Minimum Depth of Rock= 0.22 (ft)

Summary for Pond IB1: Infiltration Basin 1

Inflow Area = 0.512 ac, 36.92% Impervious, Inflow Depth = 3.70" for 25-yr event
 Inflow = 1.5 cfs @ 12.05 hrs, Volume= 0.158 af
 Outflow = 0.6 cfs @ 12.32 hrs, Volume= 0.158 af, Atten= 61%, Lag= 16.0 min
 Discarded = 0.0 cfs @ 12.32 hrs, Volume= 0.032 af
 Primary = 0.6 cfs @ 12.32 hrs, Volume= 0.126 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 Peak Elev= 157.58' @ 12.32 hrs Surf.Area= 2,119 sf Storage= 2,024 cf
 Flood Elev= 158.10' Surf.Area= 3,005 sf Storage= 3,301 cf

Plug-Flow detention time= 227.5 min calculated for 0.158 af (100% of inflow)
 Center-of-Mass det. time= 227.6 min (1,074.6 - 847.0)

Volume	Invert	Avail.Storage	Storage Description		
#1	156.00'	3,301 cf	Custom Stage Data (Irregular) Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
156.00	563	115.0	0	0	563
157.00	1,475	162.8	983	983	1,629
158.00	2,652	349.8	2,035	3,018	9,261
158.10	3,005	356.1	283	3,301	9,617

Device	Routing	Invert	Outlet Devices		
#1	Discarded	156.00'	0.300 in/hr Exfiltration over Surface area Phase-In= 0.01'		
#2	Primary	153.65'	12.0" Round Culvert L= 15.0' CBR square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 153.65' / 153.50' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf		
#3	Device 2	156.80'	4.0" W x 4.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads		
#4	Device 2	157.40'	7.0" W x 4.2" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads		
#5	Device 2	157.75'	48.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads		

Discarded OutFlow Max=0.0 cfs @ 12.32 hrs HW=157.58' (Free Discharge)

↑ **1=Exfiltration** (Exfiltration Controls 0.0 cfs)

Primary OutFlow Max=0.6 cfs @ 12.32 hrs HW=157.58' **TW=153.64'** (Dynamic Tailwater)

↑ **2=Culvert** (Passes 0.6 cfs of 7.0 cfs potential flow)

↑ **3=Orifice/Grate** (Orifice Controls 0.4 cfs @ 3.77 fps)

↑ **4=Orifice/Grate** (Orifice Controls 0.1 cfs @ 1.37 fps)

↑ **5=Orifice/Grate** (Controls 0.0 cfs)

APPENDIX C

INSPECTION AND MAINTENANCE

C – 1

**STORMWATER MANAGEMENT SYSTEM
INSPECTION & MAINTENANCE PLAN**

Stormwater Management System Inspection & Maintenance Plan

Prepared for:

**BROADBAND DIGITAL EQUIPMENT CENTER
Tax Map E, Lot 70A**

**200 Sixth Street
Dover, New Hampshire
Strafford County**

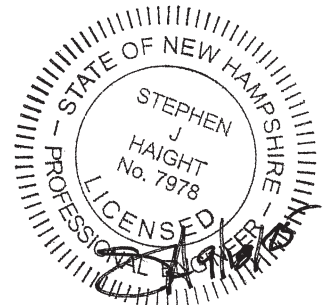
September 2025

Prepared for:

**COMCAST CABLE COMMUNICATIONS MANAGEMNT, LLC
751 EAST INDUSTRIAL PARK DRIVE
MANCHESTER, NH 03109**

Prepared By:

CIVILWORKS NEW ENGLAND
P.O. Box 1166
181 Watson Road
Dover, New Hampshire 03821



Introduction

Civilworks NE, has prepared the following Stormwater Management System Inspection & Maintenance Plan for **Comcast Cable Communications Management, 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 following 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, 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).

Applicant:

**Comcast Cable Communications Management LLC
751 East Industrial Park Drive
Manchester, NH 03109**

In the event of a change in ownership, this Inspection and Maintenance Plan shall be transferred to the new party.

Contact / Responsible Party:

**Comcast Cable Communications Management LLC
751 East Industrial Park Drive
Manchester, NH 03109**

**Roland Leduc
Email: Roland_leduc@comcast.com**

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

Management Company:

**Comcast Cable Communications Management LLC
751 East Industrial Park Drive
Manchester, NH 03109**

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. Inspection and maintenance records must be provided to the City of Dover Community Services Department annually before December 15th.

I, the responsible party, understands and will fulfil the requirements of this report.

Applicant: _____

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:

- Infiltration Basin
- Outlet Structure
- Energy Dissipation Structures (Rip Rap)
- Grassed Lined Conveyance Swale
- Pipes/Culverts
- Pavement
- Litter / Trash Removal

Design elements are identified in the design plans, 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.

INFILTRATION BASIN:

- Inspect and remove any debris from inlet and outlet structures.
- Remove any accumulated sediment.
- Inspect and repair outlet structures and appurtenances.
- Inspection of infiltration components 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.
- Periodic mowing of basin and embankments.
- Removal of woody vegetation from basin and embankments.
- Inspection and repair of embankments and spillways.
- If an infiltration system does not drain within 72 hours following a rainfall event, then a qualified professional should assess the condition of the facility to determine measures required to restore infiltration function, including not limited to removal of accumulated sediments or reconstruction of the infiltration bottom.

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 and deterioration. Repair damages immediately.
- If stones become displaced from the riprap areas, they should be replaced immediately and chinked in to assure stability. Add additional riprap as needed. Vegetation growing through the riprap should be eliminated at least yearly.

GRASS LINED CONVEYANCE SWALE:

- Inspect once per year.
- Inspect for erosion, sediment accumulation, vegetation loss, and presence of invasive species.
- Remove debris and accumulated sediment, based on inspection.
- Repair eroded areas as needed; remove invasive species and dead vegetation.
- Perform periodic mowing of swale (at least twice annually), maintain a 4" stand of vegetative growth.

PIPES/CULVERTS:

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

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 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 de-icers for each storm event and compiling salt use data annually. (See Deicing Salt Quantity Use Log).
- 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 compile salt use data annually.

Inspection & Maintenance Table

System Component / BMP	Minimum Inspection Frequency	Minimum Inspection Requirements	Maintenance / Cleanout Threshold
Infiltration Basin	Bi-Annually	- Check for sediment accumulation - Check for debris - Inspect for woody vegetation - Maintain healthy stand of veg., 4" minimum - Inspect for invasive species - Check for water draining	Remove any accumulated Sediment Remove from inlet/outlet structures Remove Immediately Mow twice per year Remove/Dispose of accordingly 72 hours after a 2.5 inch storm event in a 24 hour period
Outlet Structure	Annually	- Inspected once per year. - Inspect for clogging and sediment accumulation. - Remove all debris immediately and sediment accumulations ≥ 2 inches.	≥ 2 in. sediment Remove immediately
Energy Dissipation Structures (Rip Rap)	Annually	- Check for erosion - Check for displaced stones - Check for woody vegetation - Check for sediment accumulation	≥ 3 in. sediment Remove annually Replace/ reset Dislodged stones immediately
Grass Lined Conveyance Swale	Annually	- Check for sediment accumulation - Check for erosion - Ensure swale is stabilized - Maintain healthy stand of veg., min 4" - Inspect for invasive species	≥ 1 in. sediment Repair immediately Restore vegetation in-kind Mow twice per year Remove/Dispose of accordingly
Pipes/Culverts	Annually	- Check for clogging - Check for sediment accumulation	Remove when noticed Clean when necessary
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 pages contain 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.

Stormwater Management System's Inspection & Maintenance Log

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.

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.

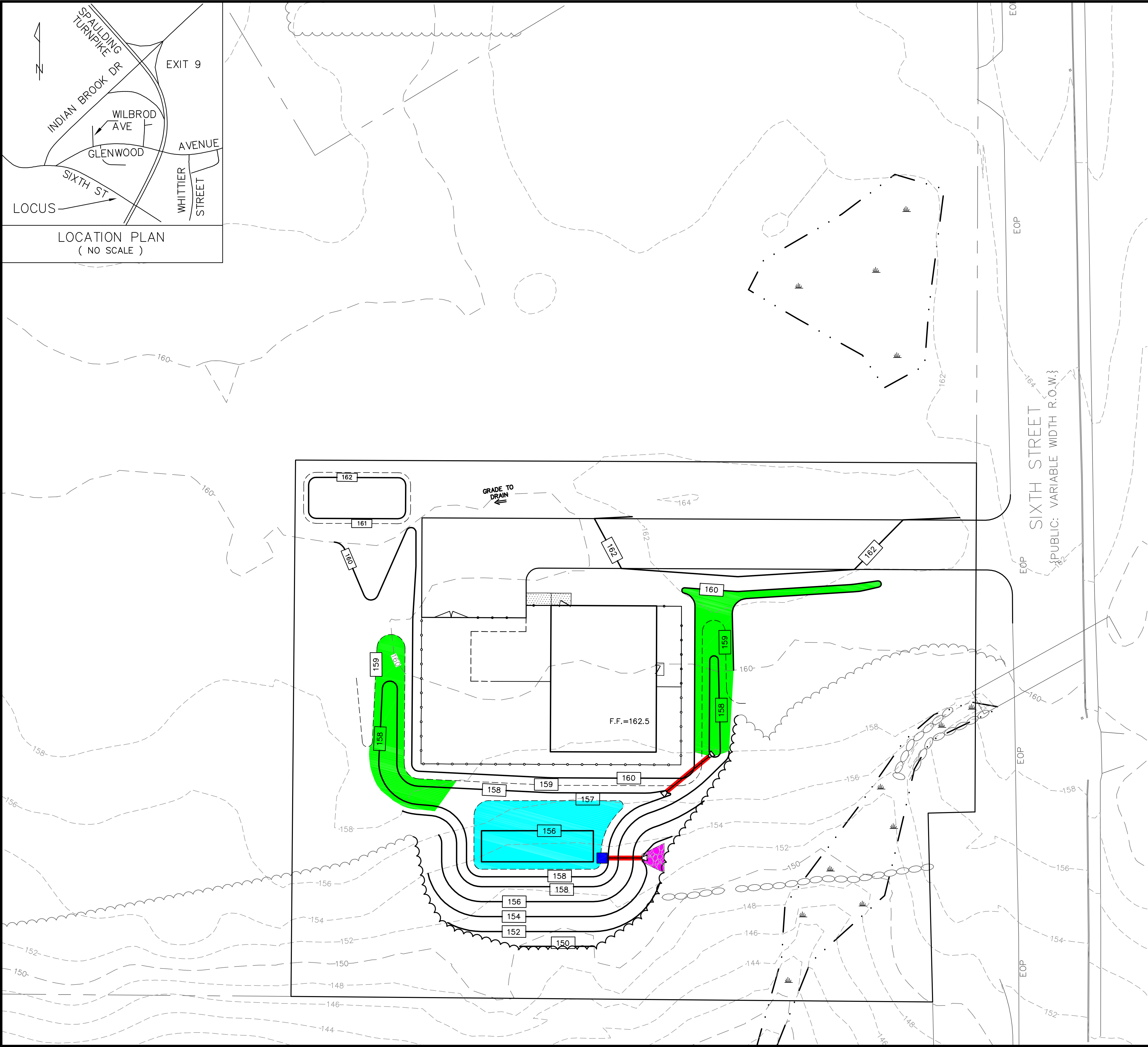
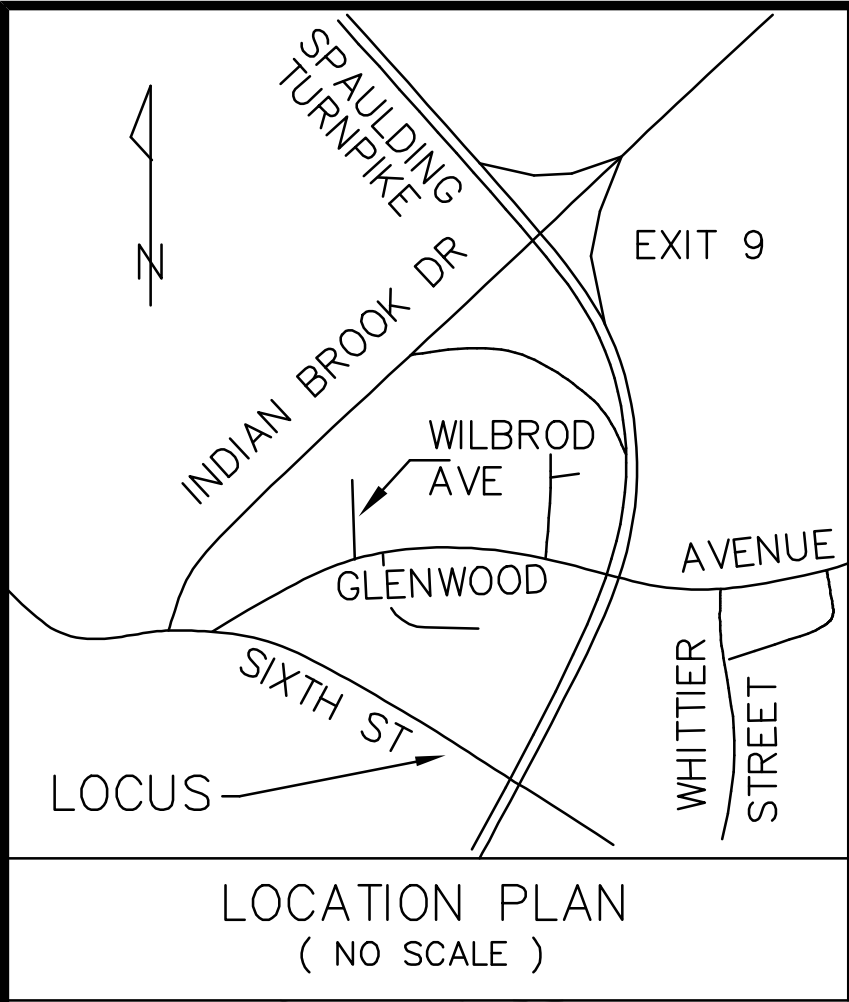
Suggested Disposal Methods for Non-Native Invasive Plants

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:

- INFLTRATION BASIN
- ENERGY DISSIPATION STRUCTURES (RIP RAP)
- VEGETATED PRE-TREATMENT SWALE
- PIPES/CULVERTS
- OUTLET STRUCTURE

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)

GRAPHIC SCALE

NH STATE PLANE
NAD 83 - GPS OBS.

BMP		BMP LOCATION PLAN																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
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APPENDIX D

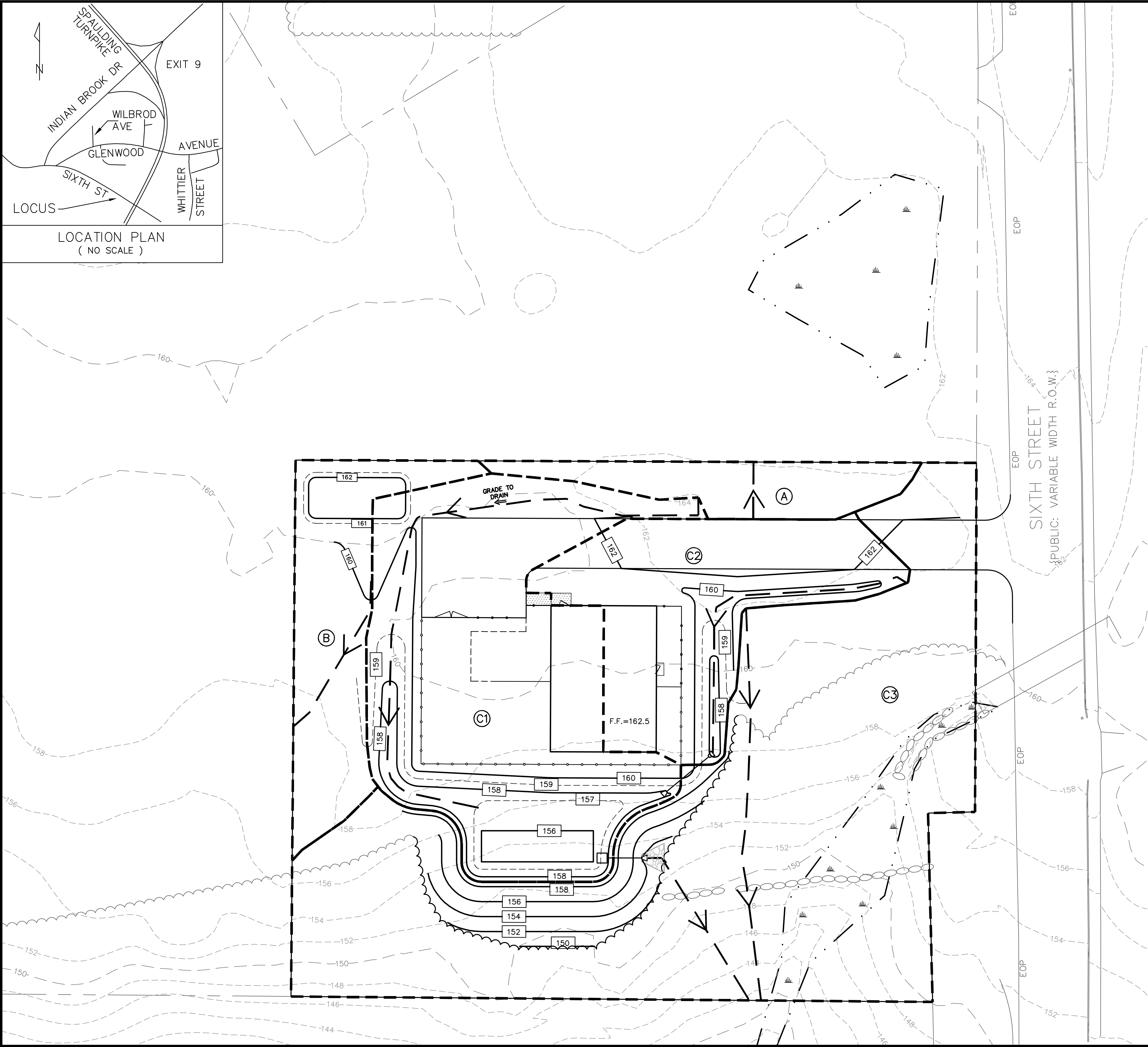
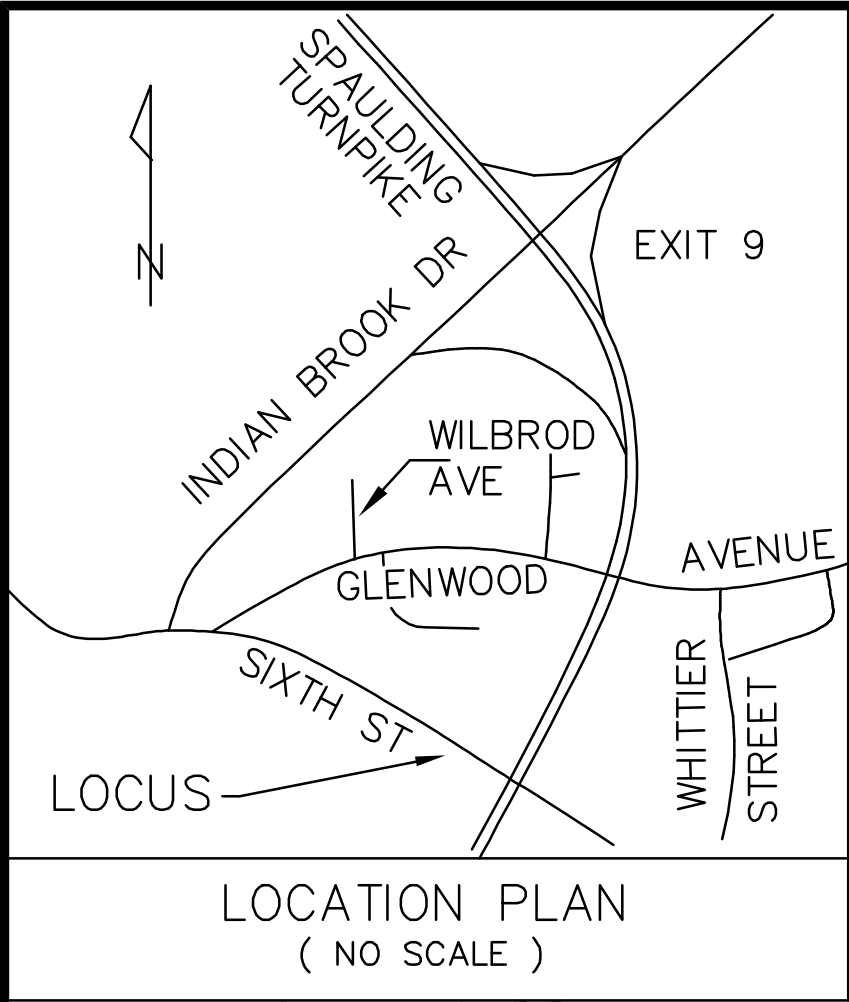
WATERSHED PLANS

D – 1

PRE-DEVELOPMENT CONDITIONS

D – 2

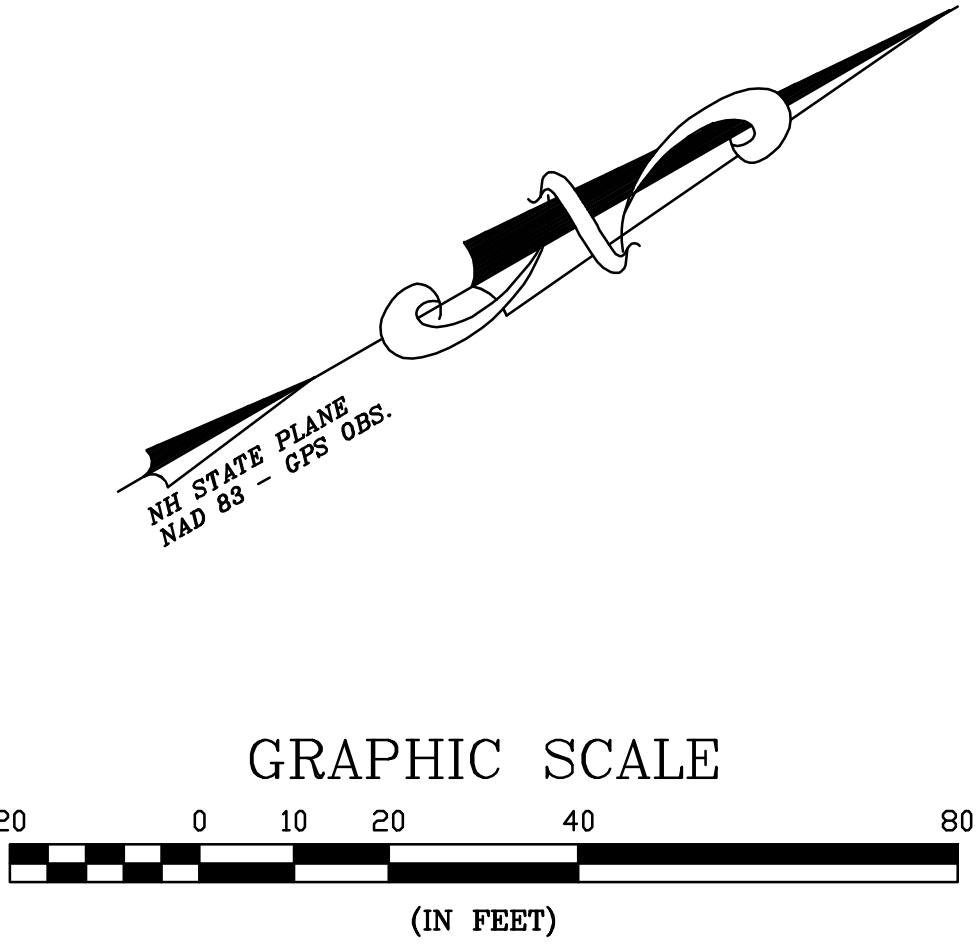
POST-DEVELOPMENT CONDITIONS



POST-DEVELOPMENT WATERSHED CHARACTERISTICS			
SUBCATCHMENT DESIGNATION	AREA (ACRES)	LONGEST FLOW PATH (FEET)	Tc (MIN)
A	0.06	23	3.3
B	0.11	68	7.1
C1	0.33	271	9.6
C2	0.18	137	3.6
C3	0.64	158	12.2

LEGEND:

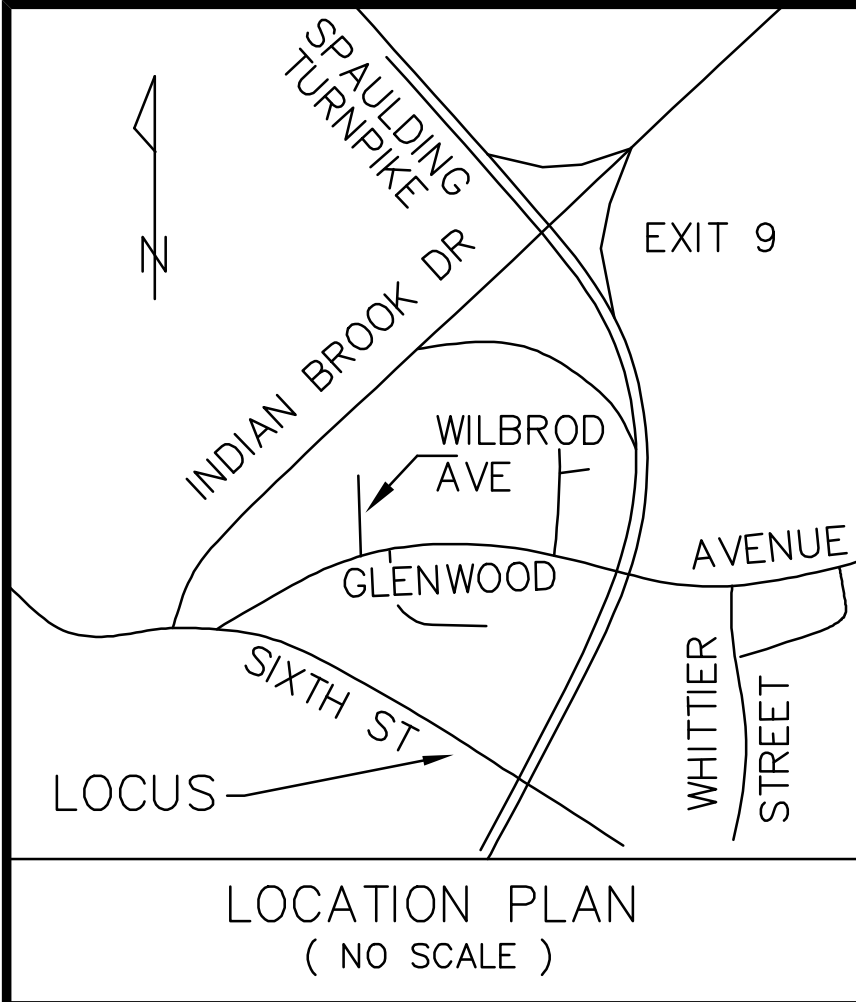
- EX 1' CONTOUR
- EX 10' CONTOUR
- PROPERTY LINE
- EXISTING EDGE OF PAVEMENT
- PROPOSED EDGE OF PAVEMENT
- PROPOSED GRADE
- PROPOSED FENCE
- PROPOSED BUILDING
- SUBCATCHMENT BOUNDARY
- LONGEST FLOW PATH WITH DIRECTION OF FLOW
- REACH FLOW PATH WITH DIRECTION OF FLOW
- EXISTING WETLAND BOUNDARY
- EXISTING WETLAND
- EXISTING TREELINE
- PROPOSED TREELINE
- SUBCATCHMENT DESIGNATION



NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

Civil & Waterfront Engineering
181 Watson Road, PO Box 1186
Dover, New Hampshire 03821
603.749.0443

DATE: 9/18/25	SCALE: 1"=20'	DRAWN BY: JFG	DESIGN BY: JFG	APPROVED BY: JH	PROJECT NO: 23148	FILE: DRAINAGE	NO.	REVISION	APPD	DATE
POST-DEVELOPMENT WATERSHED PLAN BROADBAND DIGITAL EQUIPMENT CENTER 200 SIXTH STREET DOVER, NEW HAMPSHIRE COMCAST CABLE COMMUNICATIONS MANAGEMENT, LLC 751 EAST INDUSTRIAL PARK DRIVE MANCHESTER, NH 03109 WS-2										



SITE PLAN

FOR

BROADBAND DIGITAL EQUIPMENT CENTER

PUBLIC UTILITY SWITCHING FACILITY

TAX MAP E, LOT 70A

200 SIXTH STREET

DOVER, NEW HAMPSHIRE

SEPTEMBER 18, 2025

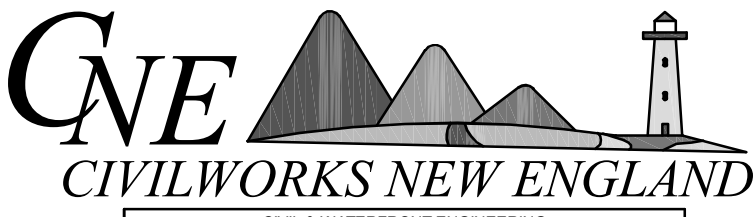
APPLICANT

COMCAST CABLE COMMUNICATIONS MANAGEMENT, LLC
751 EAST INDUSTRIAL PARK DRIVE
MANCHESTER, NH 03109

OWNER

TWO HUNDRED SIXTH STREET, LLC
601 CENTRAL AVENUE
DOVER NH, 03820

SITE CIVIL
ENGINEER


CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

LAND SURVEYOR

MCENEANEY SURVEY ASSOCIATES OF NEW ENGLAND
P.O. BOX 1166
181 WATSON ROAD
DOVER, NH 03821
(603) 742-0911

WETLAND SCIENTIST

DAMON E. BURT, CWS
FRAGGLE ROCK ENVIRONMENTAL, LLC
38 GARLAND ROAD
STRAFFORD, NH 03884
(603) 969-5574

DATE

DATE

SHEET INDEX	SHEET
COVER SHEET	1
NEIGHBORHOOD PLAN	2
EXISTING CONDITIONS PLAN (BY MCENEANEY SURVEY)	3
NOTE SHEET	4
DEMOLITION PLAN	5
SITE PLAN	6
GRADING, DRAINAGE & EROSION CONTROL PLAN	7
UTILITY PLAN	8
EROSION CONTROL NOTES	9
EROSION CONTROL DETAILS	10 - 11
DETAIL SHEETS	12 - 15
LIGHTING PLAN	16
LIGHTING DETAILS	17
DELIVERY TRUCK MOVEMENT PLAN	18
LANDSCAPE PLAN	L-1
ARCHITECTURAL PLANS	
OVERALL SCHEMATIC FLOOR PLAN	S-1
EXTERIOR ELEVATION VIEWS	S-2 - S-5

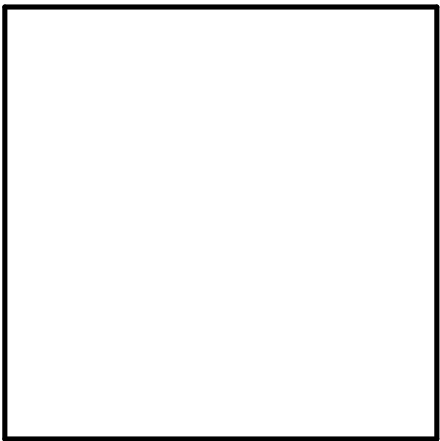
PERMIT SUMMARY/ WAIVER SUMMARY:

1. THE FOLLOWING FEDERAL AND STATE PERMITS HAVE BEEN ISSUED FOR THE SUBJECT PROPERTY:

NH DES SUBDIVISION: ESA2025072301-A
2. 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.

VARIANCE: GRANTED JUNE 19, 2025, ZONE-2025-0012, A VARIANCE TO ALLOW A REDUCED SIZE LOT FOR
PUBLIC UTILITY USE WITHIN THE INNOVATIVE TECHNOLOGY (IT) ZONE.
3. WAIVERS REQUESTED: THE PLANNING BOARD HAS FOUND THE CRITERIA OF CHAPTER 153-21 HAVE BEEN MET
AND HAVE BEEN APPROVED THE FOLLOWING WAIVERS:

A WAIVER REQUESTED FROM THE SITE REVIEW REGULATIONS 153-13.(12), TO ALLOW FOR THE LANDSCAPE
PLAN NOT TO BE STAMPED BY A LLA.





NEIGHBORHOOD LIST

TAX MAP LOT NO.	NAME & ADDRESS
E 70-A-0 E 70-A-0	TWO HUNDRED SIXTH STREET, LLC 601 CENTRAL AVENUE DOVER, NH 03820
E 24-0-0 E 24-0-0	LIBERTY MUTUAL INSURANCE CO ATTN: TYLER MUNGER 175 BERKELEY ST BOSTON, MA 02116
E 70-B-0 E 70-B-0	O CONNOR GAYLE G 250 SIXTH STREET DOVER, NH 03820-2301
E 73-2-0 E 73-2-0	NOEL ROBERT W NOEL PHYLLIS A 201 SIXTH STREET DOVER, NH 03820
E 73-1-0 E 73-1-0	CENA MATTHEW D 205 SIXTH STREET DOVER, NH 03820
E 73-0-0 E 73-0-0	209 SIXTH STREET SPE, LLC 209 SIXTH STREET DOVER, NH 03820
E 19-B-0 E 19-B-0	FORTIN ADAM A & LORING-FORTIN LYNDSEY M 233 SIXTH STREET DOVER, NH 03820
E 19-0-0 E 19-0-0	KANE KARALEE I 11 CONIFER COMMONS DOVER, NH 03820
E 20-D-0 E 20-D-0	CITY OF DOVER 288 CENTRAL AVE DOVER, NH 03820

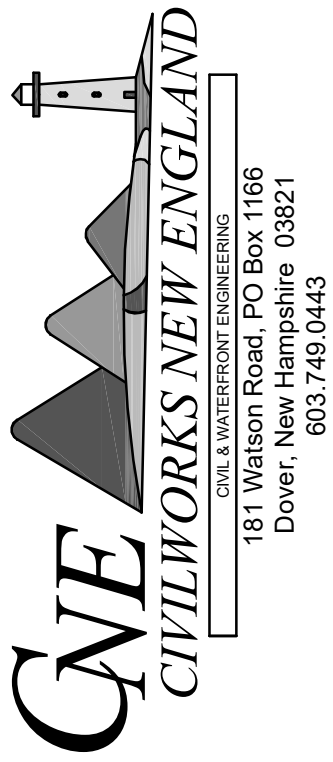
PLANNING FILE NO.: SITE-2025-XXXX

NEIGHBORHOOD PLAN

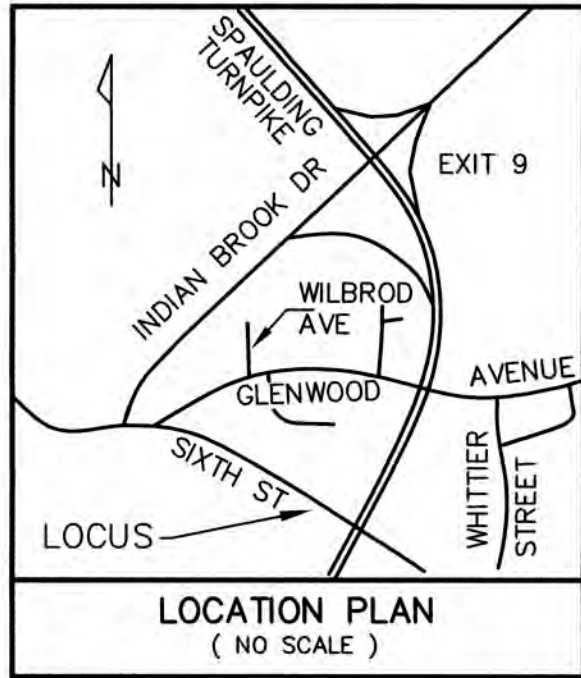
BROADBAND DIGITAL
EQUIPMENT CENTER
200 SIXTH STREET
DOVER, NEW HAMPSHIRE

COMCAST CABLE
MANAGEMENT, LLC
751 EAST INDUSTRIAL
PARK DRIVE
MANCHESTER, NH 03109

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY



DATE	SCALE	DRAWN BY	DESIGN BY	APPROVED BY	PROJECT NO.	FILE NAME	NO.	REVISION	APPD	DATE
9-18-2025	1"=200'	WEJ	SH	SH	23149	SITE.dwg				



LEGEND

- I.R.(fnd) - IRON ROD FOUND
- I.P.(fnd) - IRON PIPE FOUND
- I.R.(set) - IRON ROD SET
- NHHD(fnd) - NH HIGHWAY DEPARMENT BOUND FOUND
- UP - UTILITY POLE
- EOP - EDGE OF PAVEMENT
- S.F. - SQUARE FEET
- Ac. - ACRE
- (TYP.) - TYPICAL
- ± - MORE OR LESS
- S.C.R.D. - STRAFFORD COUNTY
REGISTRY OF DEEDS
- ELEV. - ELEVATION
- 150 - CONTOUR LINE - 2' INTERVAL
- TP S1 - TEST PIT & IDENTIFIER
- LP L1 - LEDGE PROBE
- CFB - SOIL TYPE
- - - - - SOIL BOUNDARY

E / 70C

TWO HUNDRED SIXTH STREET, LLC
601 CENTRAL AVENUE
DOVER, NH 03820
5157 / 679

NH STATE PLANE
NAD 83 - GPS OBS.

E / 70C

TWO HUNDRED SIXTH STREET, LLC
601 CENTRAL AVENUE
DOVER, NH 03820
5157 / 679

E / 70A

PARCEL AREA
57,957 S.F.
1.33 Ac.

No.	Bearing	Distance
L1	S28°40'13"W	18.90'
L2	S61°19'12"E	26.33'
L3	S61°23'52"E	49.62'

				KJF	KMM
NO.	DATE	DESCRIPTION	BY	CHK	
CNE 23148		REVISIONS			
24-2575	SUBDIVISION	24-11	51-57		
PROJECT NO	TYPE	FIELDBOOK	& PAGES		

REFERENCE PLANS:

- SUBDIVISION OF LAND IN DOVER, N.H. PREPARED FOR LIBERTY MUTUAL; SCALE: 1" = 100'; DATED: 12-23-87; BY: KIMBALL CHASE; RECORDED S.C.R.D. PLAN 32-24.

"I HEREBY CERTIFY THAT THIS PLAN IS BASED ON AN ACTUAL GROUND SURVEY PERFORMED WITH A TOTAL STATION, BY ME OR THOSE UNDER MY DIRECT SUPERVISION AND THAT, TO THE BEST OF MY KNOWLEDGE AND BELIEF, SAID SURVEY MEETS OR EXCEEDS THE MINIMUM PRECISION REQUIREMENTS FOR SURVEY CLASSIFICATION "U" AS SET FORTH IN TABLE 500.1 OF THE NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES OF THE BOARD OF LICENSURE FOR LAND SURVEYORS."

NOTES:

- OWNER OF RECORD:
TWO HUNDRED SIXTH STREET, LLC
601 CENTRAL AVENUE
DOVER, NEW HAMPSHIRE 03820
S.C.R.D. VOLUME 5157, PAGE 679
- E / 70A - DENOTES TAX MAP AND PARCEL NUMBER.
- OVERALL PARCEL AREA = 57,957 S.F. / 1.33 Ac.
- THE INTENT OF THIS PLAN IS TO DEPICT THE EXISTING CONDITIONS OF THE SUBJECT PARCEL AS OF APRIL 15, 2025.
- ZONING DISTRICT: INNOVATIVE TECHNOLOGY (IT)

DIMENSIONAL REQUIREMENTS:
MINIMUM LOT SIZE = 2 ACRES
MAXIMUM LOT COVERAGE = 33 PERCENT
MINIMUM FRONTAGE = 200 FEET

BUILDING SETBACK REQUIREMENTS:
FRONT SETBACK = 50 FEET
SIDE SETBACK = 50 FEET
REAR SETBACK = 50 FEET
MAXIMUM BUILDING HEIGHT = 55 FEET

A VARIANCE WAS APPROVED BY THE DOVER ZONING BOARD OF ADJUSTMENT ON JUNE 19, 2025 TO ALLOW FOR A REDUCED LOT SIZE FOR A PUBLIC USE (ZONE-2025-0012).
- THE SUBJECT PARCEL IS NOT LOCATED WITHIN A SPECIAL FLOOD HAZARD ZONE AS SHOWN ON FLOOD INSURANCE RATE MAP 33017C0310E, EFFECTIVE DATE 9/30/2015.
- BASIS OF BEARING IS NH STATE PLANE (NAD83) AND VERTICAL DATUM IS NAVD88 BASED ON GPS OBSERVATION DATED DECEMBER 12, 2024.
- WETLANDS SHOWN WERE DELINEATED BY DAMON E. BURT, N.H.C.W.S. #163 OF FRAGGLE ROCK ENVIRONMENTAL SERVICES ON DECEMBER 1, 2024 AND JANUARY 1, 2025, ACCORDANCE WITH THE 1987 CORPS. OF ENGINEERS WETLANDS DELINEATION MANUAL AND LOCATED BY THIS OFFICE.
- PROPERTY LINE INFORMATION HAS BEEN OBTAINED FROM A SURVEY PERFORMED BY MCENEANEY SURVEY ASSOCIATES OF NEW ENGLAND DURING DECEMBER 2024 WITH AN ERROR NOT GREATER THAN 1 IN 10,000.
- LOT IS SERVICED BY PRIVATE WELL AND INDIVIDUAL ON-SITE SEWER SYSTEM.
- CONTOURS ARE FROM A FIELD SURVEY ON AUGUST 26, 2025.
- THE SOIL TYPES ON THE SITE ARE:
CFB CHARLTON FINE SANDY LOAM, 3 TO 8 PERCENT SLOPES
SFC SUFFIELD SILT LOAM, 8 TO 15 PERCENT SLOPES
THE SOURCE FOR THE SOIL TYPE DATA IS USDA NRCS WEB SOIL SURVEY
<http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>

E / 19B

ADAM A. FORTIN
LYNDSY M. LORING-FORTIN
233 SIXTH STREET
DOVER, NH 03820
2393 / 26

EXISTING CONDITIONS SURVEY PREPARED FOR COMCAST CABLE COMMUNICATIONS MANAGEMENT, LLC TAX MAP E, LOT No. 70A 200 SIXTH STREET CITY of DOVER COUNTY of STRAFFORD STATE of NEW HAMPSHIRE	
DOVER PLANNING FILE No.	
DRAWN BY: KJF	FILE: M\2575\COMCAST EC BLD
SCALE: 1" = 20'	DATE: APRIL 15, 2025
P.O. Box 1166 - 181 WATSON ROAD DOVER, NH 03820 (603) 742-0911	
SURVEYING - PLANNING - CONSULTING	

DOVER NOTES:

1. OWNER OF RECORD:

TWO HUNDRED SIXTH STREET, LLC601 CENTRAL AVENUEDOVER NH, 03820
2.

B / 70A

 – DENOTES TAX MAP AND PARCEL NUMBER.
3. PARCEL AREA = 57,957 S.F. / 1.33 AC.
4. THE INTENT OF THE E/C PLAN IS TO DEPICT THE PARCEL BOUNDARY AND EXISTING SITE CONDITIONS AS OF JUNE 24, 2025.
5. ZONING DISTRICT: INNOVATIVE TECHNOLOGY (IT)

DIMENSIONAL REQUIREMENTS:

REQUIRED

PROPOSED

MINIMUM LOT SIZE2 AC1.33 AC.

MAXIMUM LOT COVERAGE33%20.5%

MINIMUM FRONTAGE200 FEET±216 FEET

BUILDING SETBACK REQUIREMENTS:

FRONT SETBACK50 FEET128 FEET

SIDE SETBACK50 FEET58 FEET

REAR SETBACK50 FEET103 FEET

MAXIMUM BUILDING HEIGHT55 FEET<50 FEET

6. THE SUBJECT PARCEL IS NOT LOCATED WITHIN A SPECIAL FLOOD HAZARD ZONE AS SHOWN ON FLOOD INSURANCE RATE MAP 33017C0310E, EFFECTIVE DATE 9/30/2015.

7. BASIS OF BEARING IS NH STATE PLANE (NAD83) AND VERTICAL DATUM IS NAVD88 BASED ON GPS OBSERVATION DATED DECEMBER 12, 2024.

8. PROPERTY LINE INFORMATION HAS BEEN OBTAINED FROM A SURVEY PERFORMED BY MCNEANEY SURVEY ASSOCIATES OF NEW ENGLAND DURING DECEMBER, 2024 WITH AN ERROR NOT GREATER THAN 1 IN 10,000.

9. 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.

10. ALL EXISTING UTILITY LOCATIONS ARE APPROXIMATE AS SHOWN. THE CONTRACTOR SHALL VERIFY THEIR EXACT LOCATIONS WITH THE RESPECTIVE UTILITY OWNERS PRIOR TO ANY WORK BEING PERFORMED. CALL DIGSAFE AT 1-888-344-7233.

11. THE PARCEL IS SUBJECT TO A 20' WIDE EASEMENT GRANTED TO PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE DATED MAY 27, 1965 AND DESCRIBED IN S.C.R.D. VOLUME 797, PAGE 93.

12. THIS PLAN SHOWS ONLY THOSE FEATURES THAT WERE VISUALLY APPARENT ON THE DATE OF THE SURVEY. THE ABSENCE OF SUBSURFACE STRUCTURES, UTILITIES, ETC. FROM THIS PLAN, BUT IN EXISTENCE, IS NOT INTENDED OR IMPLIED.

13. THE SOIL TYPES ON THE SITE ARE:

BzB BUXTON SILT LOAM, 3 TO 8 PERCENT SLOPES

ScA SCANTIC SILT LOAM, 0 TO 3 PERCENT SLOPES

CfB CHARLTON FINE SANDY LOAM, 3 TO 8 PERCENT SLOPES.

THE SOURCE FOR THE SOIL TYPE DATA IS USDA NRCS WEB SOIL SURVEY
http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

14. WETLANDS SHOWN WERE DELINEATED BY DAMON E. BURT N.H.C.W.S. #163, FRAGGLE ROCK ENVIRONMENTAL SERVICES, ON DECEMBER 1, 2024 & JANUARY 1, 2025 IN ACCORDANCE WITH THE 1987 CORPS. OF ENGINEERS WETLANDS DELINEATION MANUAL AND LOCATED BY THIS OFFICE.

15. AS-BUILT PLANS OF THE SITE PLAN 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. AS-BUILT PLANS SHALL BE PREPARED AND CERTIFIED CORRECT BY A L.L.S. OR P.E. DIGITAL FILES SHALL BE GEO-REFERENCED TO NEW HAMPSHIRE STATE PLANE COORDINATES NAD83 AND SHALL BE EXPRESSED IN FEET.

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

17. THE SUBJECT PARCEL IS SERVED BY PRIVATE WELL AND INDIVIDUAL ON-SITE SEWER SYSTEM.

18. 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.

19. 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.

20. 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.

21. ALL TREATMENT SWALES TO BE CONSTRUCTED SHALL HAVE SOD BOTTOMS.

22. 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.

23. 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.

24. SITE CONSTRUCTION HOURS SHALL BE LIMITED TO MONDAY-FRIDAY 7 AM-6 PM AND SATURDAY 9 AM 4 PM. 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.

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

26. THE PROPOSED USE IS FOR A PUBLIC UTILITY SWITCHING FACILITY.

27. THE FOLLOWING FEDERAL AND STATE PERMITS HAVE BEEN ISSUED FOR THE SUBJECT PROPERTY: (SEE PROJECT VARIANCE/PERMIT SECTION).
- DOVER NOTES CONTINUED:
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/

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 CALCULATION FOR THIS USE IS 3 SPACES. THE PROPOSED PROJECT PROVIDES 2 SPACES.

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 MCNEANEY SURVEY ASSOCIATES, AUGUST 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 STRUCTURES 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.
- 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.

5. IT IS THE CONTRACTORS 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. STONES FROM REMOVED STONEWALLS SHALL REMAIN ON-SITE. STONES SHALL BE REPURPOSED ON-SITE AND SHALL NOT BE USED AS FILL.

9. 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.

10. 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.

11. LEDGE REMOVAL VOLUMES ARE ENGINEERS ESTIMATES. CONTRACTOR IS RESPONSIBLE FOR CONDUCTING ADDITIONAL SUBSURFACE INVESTIGATIONS IF NECESSARY TO DETERMINE ESTIMATED VOLUMES.
- 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. 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 OWNERS 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 SHALL BE KEPT 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 6" OF HIGH QUALITY LOAM AND SHALL BE SEEDED WITH GRASS.

6. ALL SITEWORK CONSTRUCTION SHALL BE ADVANCED USING "BEST MANAGEMENT PRACTICES" SANGTIONED 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 GRADE 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

MINIMUM DENSITY

BELOW PAVED OR CONCRETE AREAS95%

TRENCH BEDDING MATERIAL AND SAND BLANKET BACKFILL95%

BELOW LOAM AND SEED AREA90%

*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:
- ELECTRICITY-CONTACT:EVERSOURCE

TRVOR EMMONS

4 OLD DOVER ROAD

ROCHESTER NH, 03867

TEL: (603)-516-6450

EMAIL: TREVOR.EMMONS@EVERSOURCE.COM
- LEGEND
- | | |
|------------|--------------------------------|
| S.F. | SQUARE FEET |
| Ac. | ACRE |
| ± | MORE OR LESS |
| (TYP.) | TYPICAL |
| S.C.R.D. | STRAFFORD REGISTRY OF DEEDS |
| NHHD | NEW HAMPSHIRE HIGHWAY DEPT. |
| TBR | TO BE REMOVED |
| ELEV. | ELEVATION |
| INV. | INVERT |
| R.O.W. | RIGHT-OF-WAY |
| | EXISTING UTILITY POLE |
| | EXISTING SIGN |
| | EXISTING WATER SHUT-OFF |
| | OVERHEAD UTILITIES |
| | EXISTING ELECTRIC |
| | EXISTING WATER LINE |
| | EXISTING SEWER LINE |
| | EXISTING DRAINAGE LINE |
| | EXISTING UNDERGROUND TELEPHONE |
| | EXISTING WATER VALVE |
| | EXISTING GAS VALVE |
| | EXISTING HYDRANT |
| | EXISTING LIGHT/SIGNAL POLE |
| | EXISTING SEWER MANHOLE |
| | EXISTING DRAINAGE MANHOLE |
| | EXISTING CATCHBASIN |
| 5'R | PAVEMENT RADIUS |
| BCC | BITUMINOUS CONCRETE CURB |
| x[74.00] | EXISTING SPOT GRADE |
| ---94--- | EXISTING GRADE |
| ---[74]--- | PROPOSED FINISH GRADE |
| | PAVEMENT WITH CURB |
| | PROPOSED SILTSOXX |
| | PROPOSED SEWER |
| | PROPOSED WATER |
| | PROPOSED UNDERGROUND UTILITIES |
| | PROPOSED GAS |
- 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 CAPPING 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. THE 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.

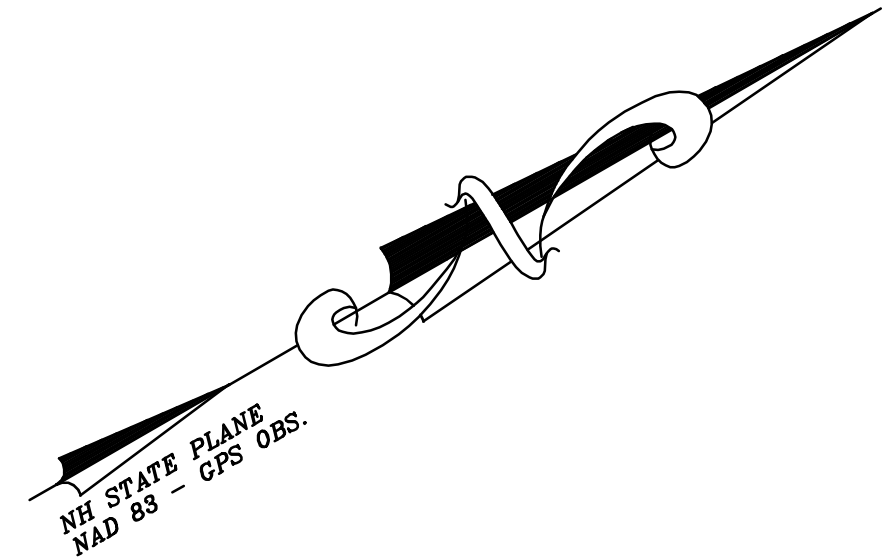
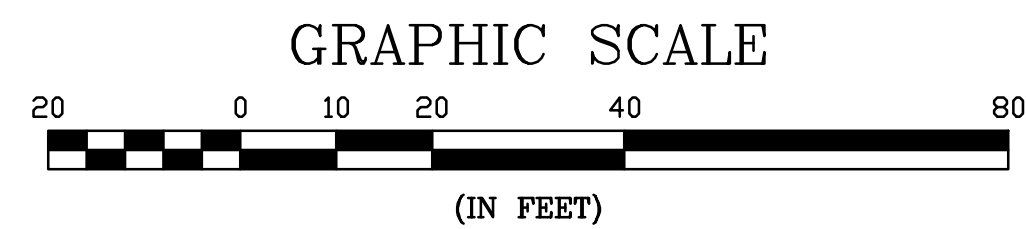
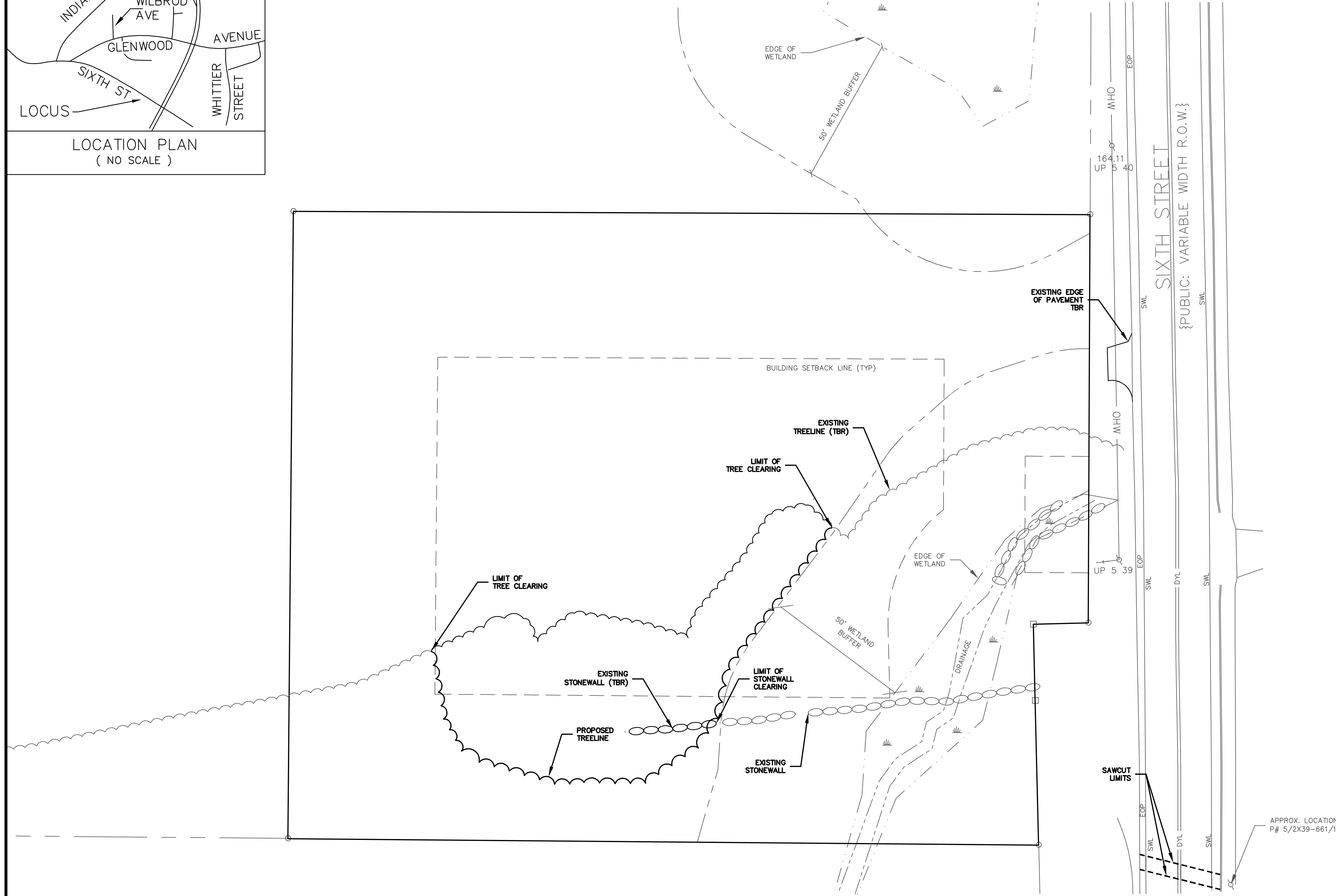
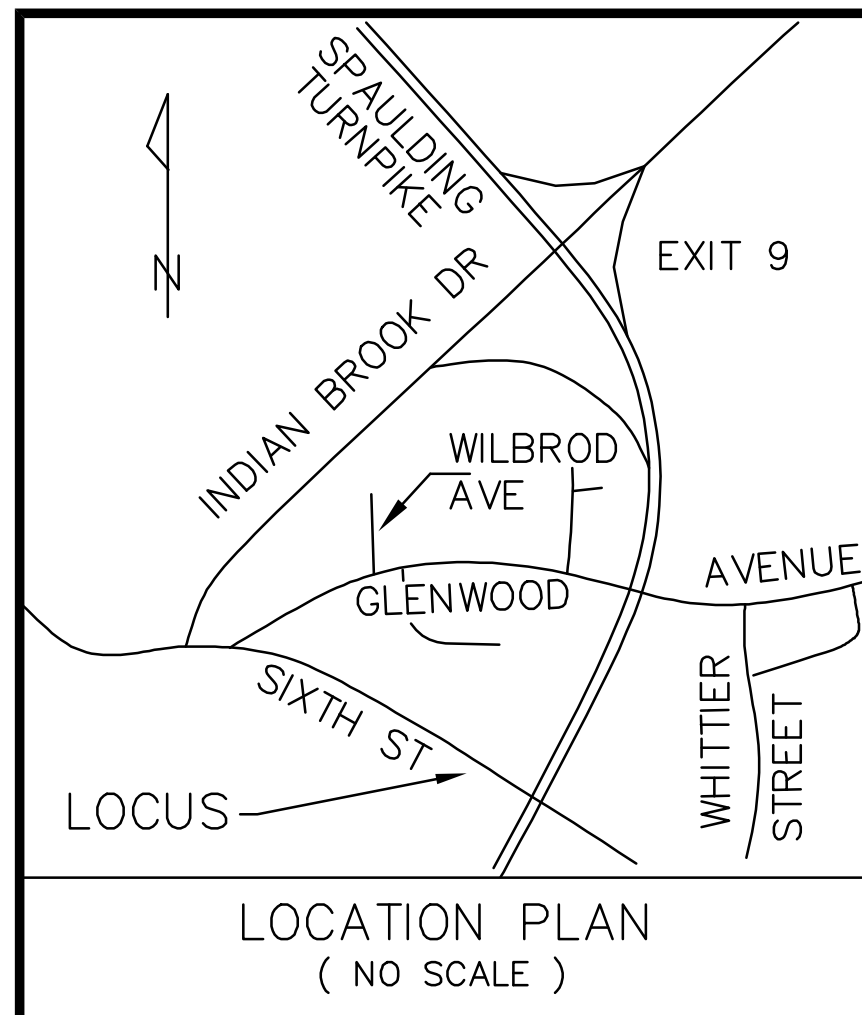
24. THE PROPOSED STRUCTURE SHALL COMPLY WITH CHAPTER 81, ARTICLE IV, SECTION 81-27 AND THE STATE BUILDING CODES OF THE CODE OF THE CITY OF DOVER.

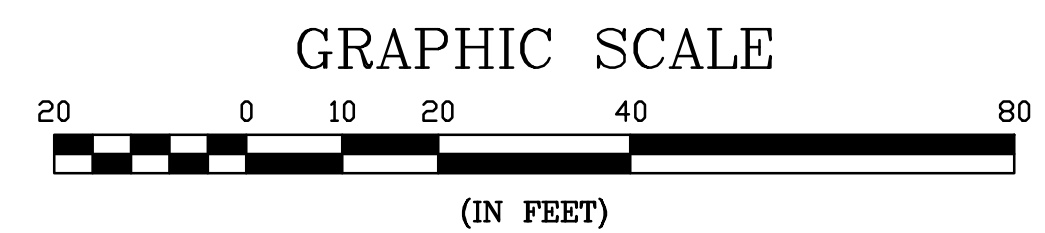
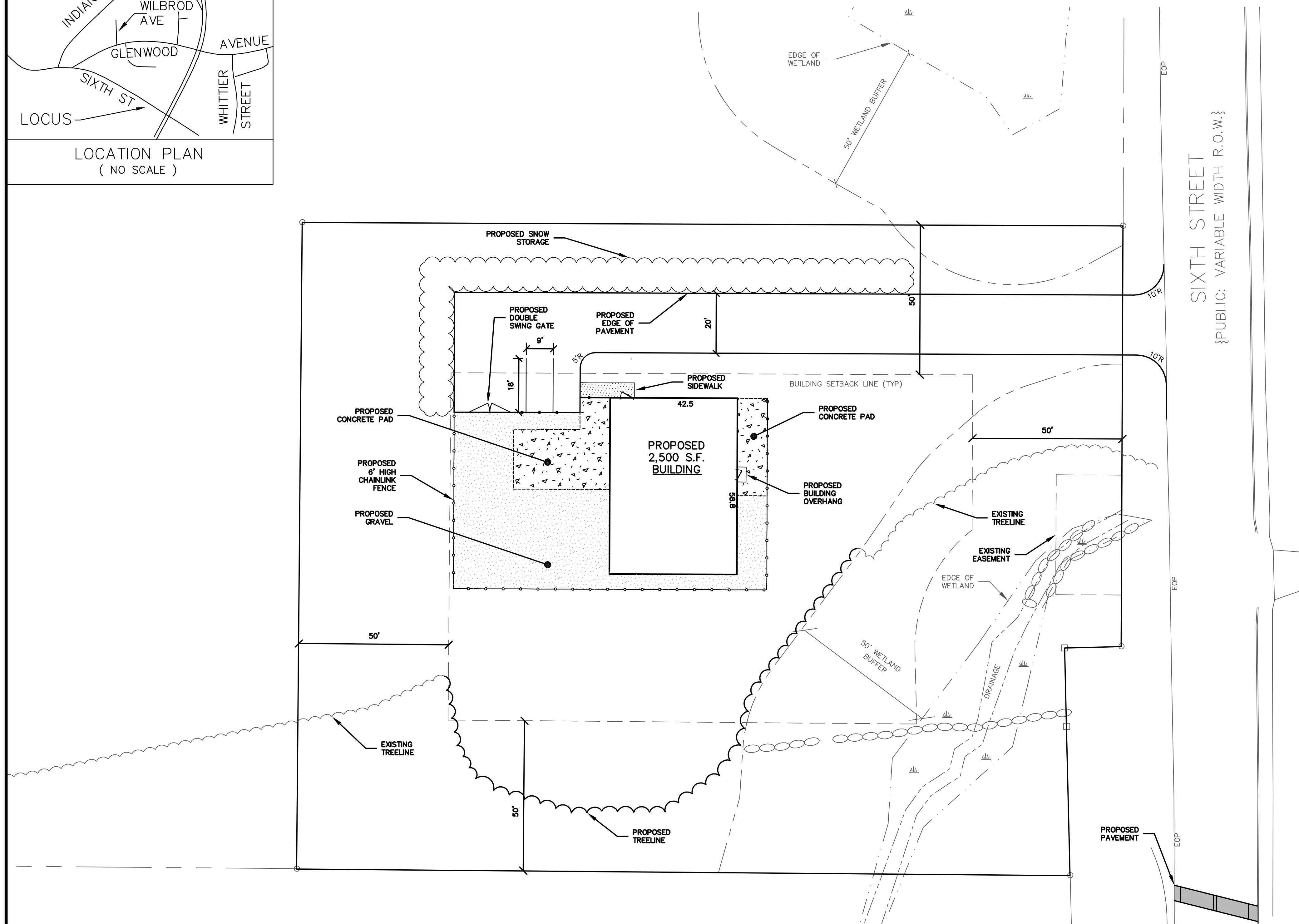
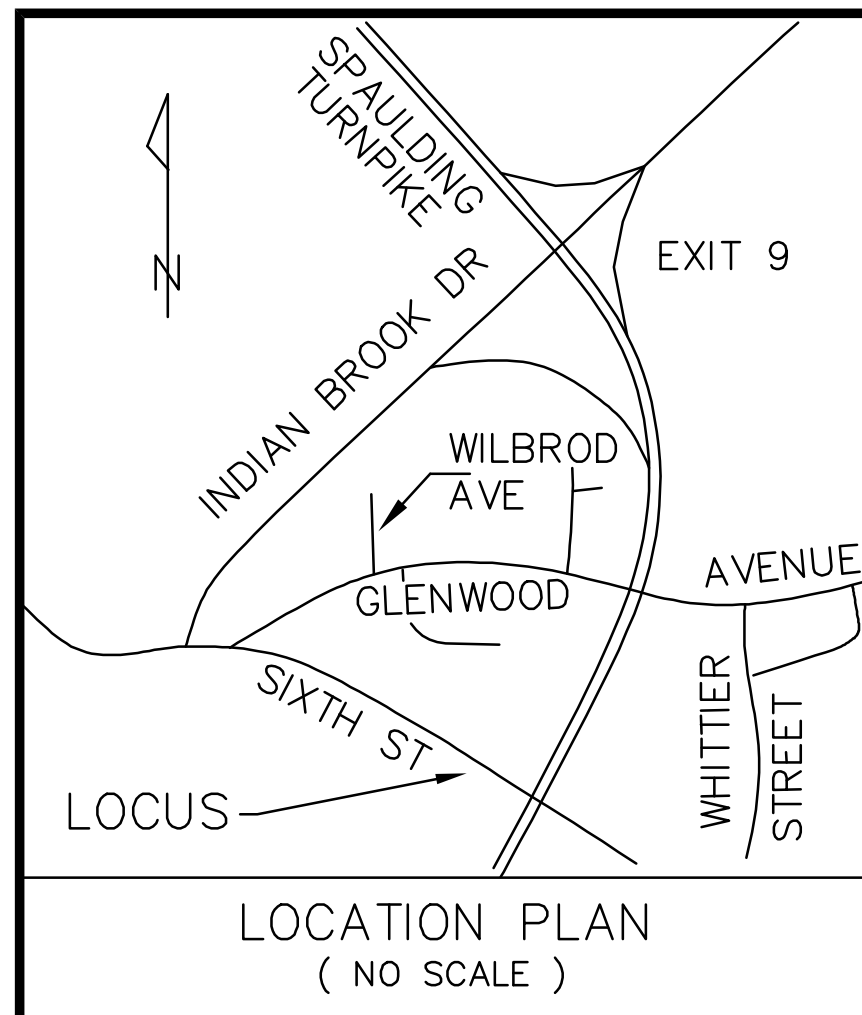
25. FIRE SUPPRESSION PLANS SHALL BE PROVIDED TO THE FIRE/INSPECTION DEPARTMENT PRIOR TO INSTALLATION.

26. COORDINATE ALL UTILITY WORK WITH APPROPRIATE UTILITY COMPANY.

27. SEWAGE LOADING (PER NHDES ENV-WQ 1008.03) PER ADVANCED ENVIROSEPTIC GUIDELINES: THE MINIMUM DESIGN FLOW FOR A COMMERCIAL FACILITY IS 300 GALLONS PER DAY.

28. PUMP CHAMBERS AS APPLICABLE ARE PROPOSED..
- NOTE SHEET
- BROADBAND DIGITAL
EQUIPMENT CENTER
200 SIXTH STREET
DOVER, NEW HAMPSHIRE
- 4
- COMCAST CABLE
MANAGEMENT, LLC
751 EAST INDUSTRIAL
PARK DRIVE
MANCHESTER, NH 03109
-
- 181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443
- NOT FOR CONSTRUCTION FOR PERMIT USE ONLY
- PLANNING FILE NO.: SITE-2025-XXXX
- | DATE | SCALE | DRAWN BY | DESIGN BY | APPROVED BY | PROJECT NO. | FILE SITE | NO. | REVISION | APPD | DATE |
|-----------|-------|----------|-----------|-------------|-------------|-----------|-----|----------|------|------|
| 9-18-2025 | N.T.S | WEJ | SH | BSH | 2314 | .dwg | | | | |

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SIT. PARKING CALCULATIONS
INNOVATIVE TECHNOLOGY (IT) DISTRICT

USES:

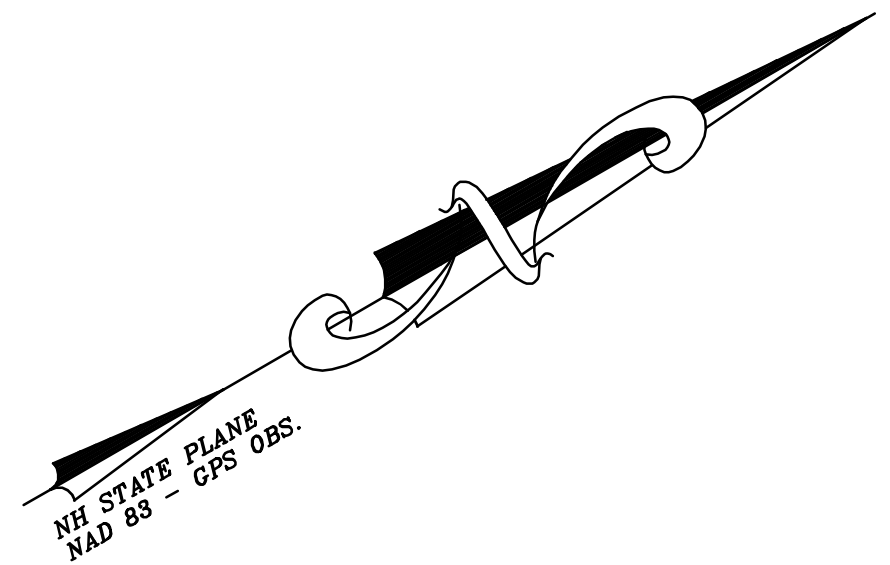
	<u>MAXIMUM</u>	<u>PROPOSED</u>
1 SPACE/300 S.F. 800 S.F. x 1 / 300 S.F.=2.67	3	2
TOTAL	3	2

ACCESSIBLE PARKING: NA FOR UN-MANNED FACILITY

SNOW STORAGE CALCULATIONS
5,303.23 S.F. PAVEMENT

$$\frac{1 \text{ S.F. STORAGE}}{10 \text{ SF PAVEMENT}} = \pm 530.3 \text{ S.F.}$$

SNOW STORAGE AREA PROVIDED $\pm 2,169.64$ S.F.



PLANING FILE NO.: SITE-2025-XXXX

[illegible]

SITE PLAN

**BROADBAND DIGITAL
EQUIPMENT CENTER
200 SIXTH STREET
DOVER, NEW HAMPSHIRE**

**COMCAST CABLE
MANAGEMENT, LLC
751 EAST INDUSTRIAL
PARK DRIVE
MANCHESTER, NH 03109**

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

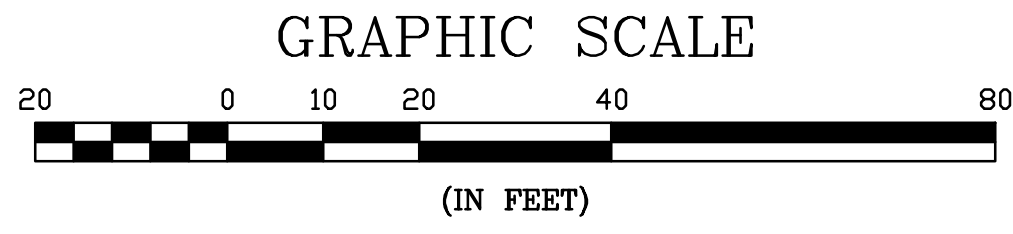
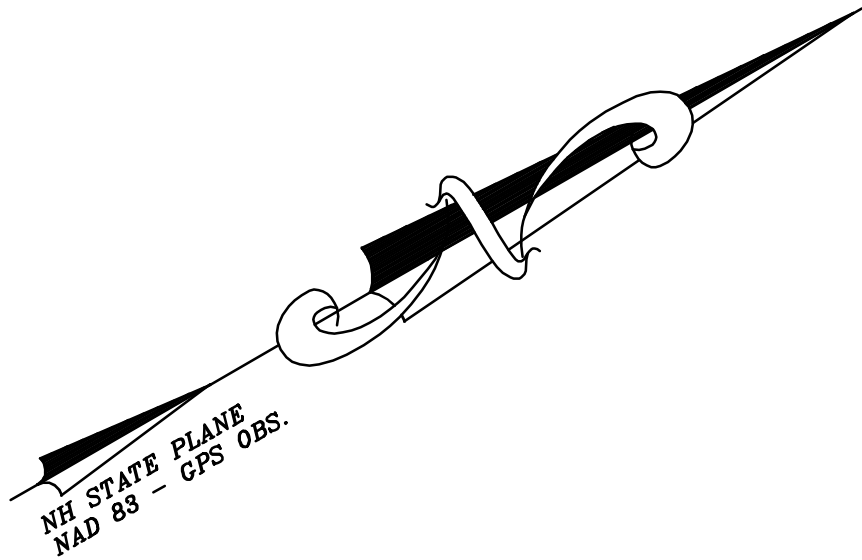
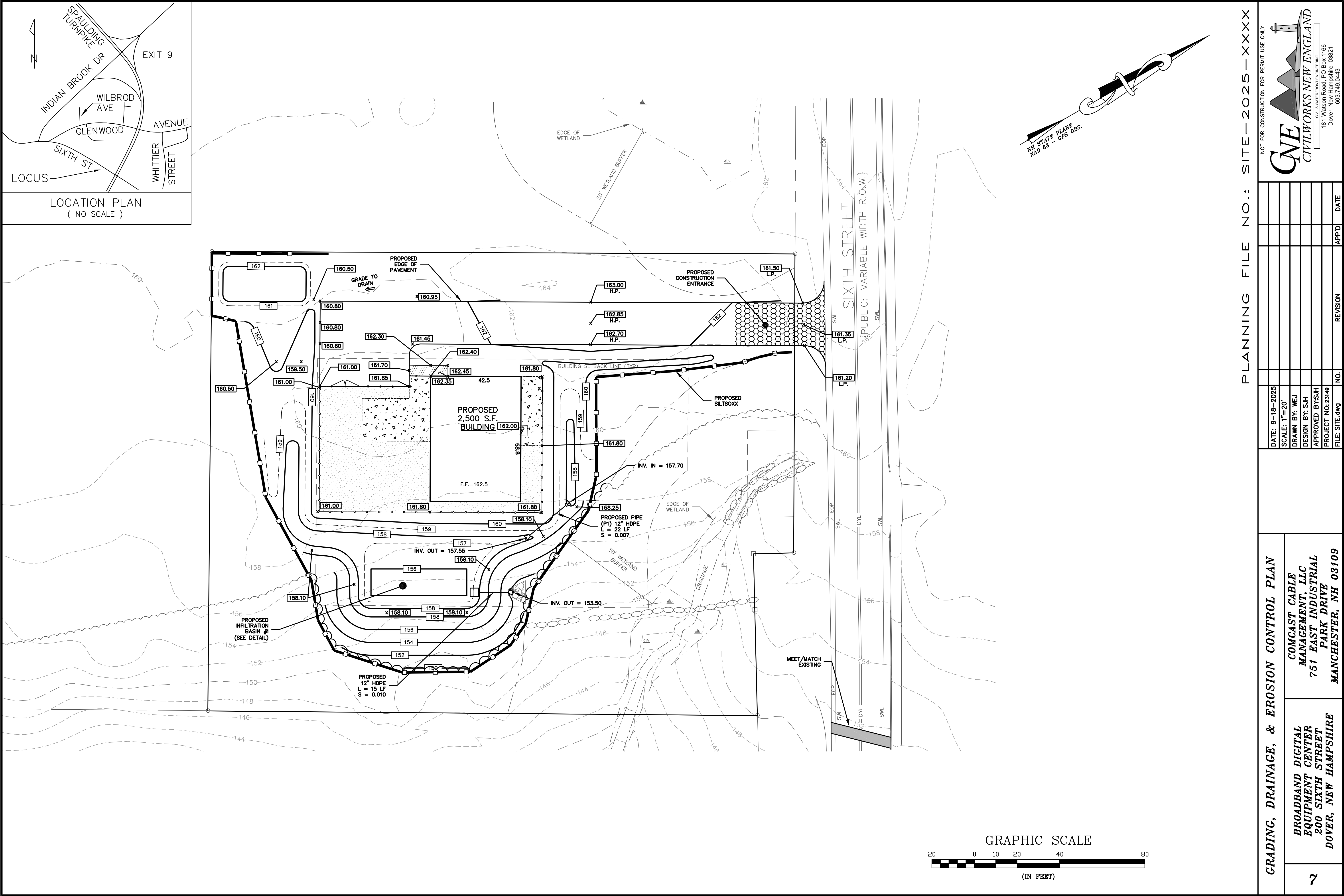
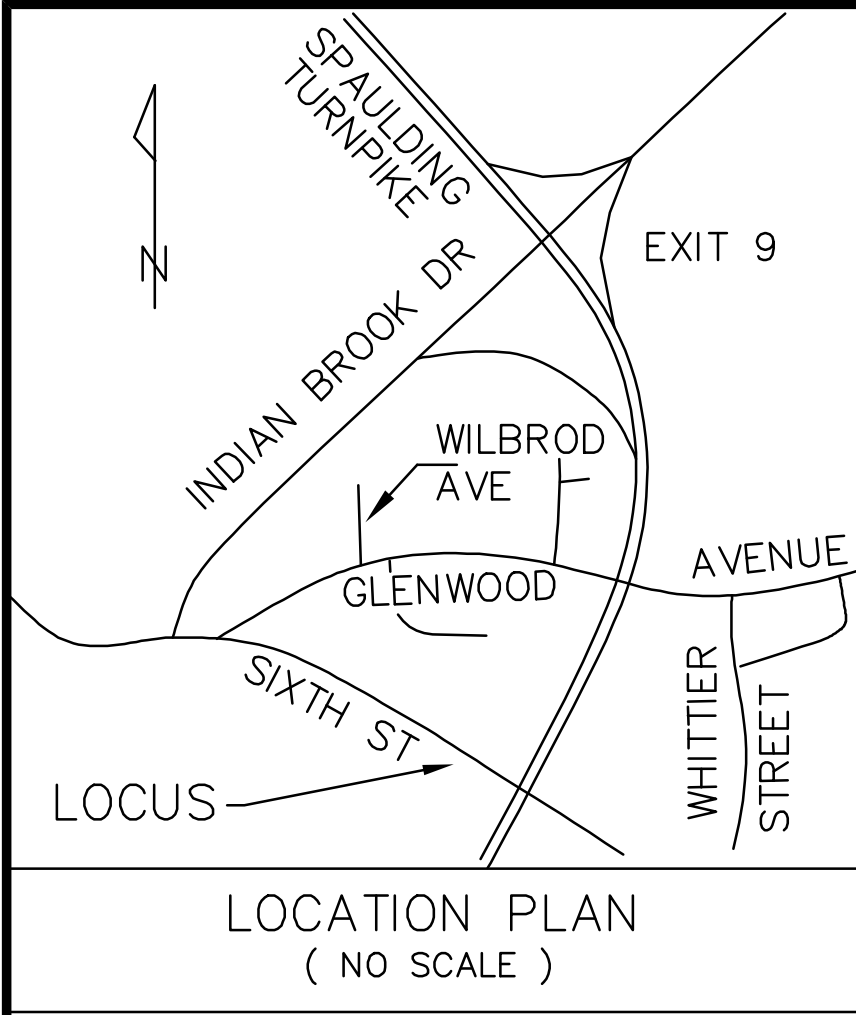


CNE

CIVILWORKS NEW ENGLAND

CIVIL & WATERPORT ENGINEERING

181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443



GRADING, DRAINAGE, & EROSION CONTROL PLAN

BROADBAND DIGITAL EQUIPMENT CENTER
200 SIXTH STREET
DOVER, NEW HAMPSHIRE

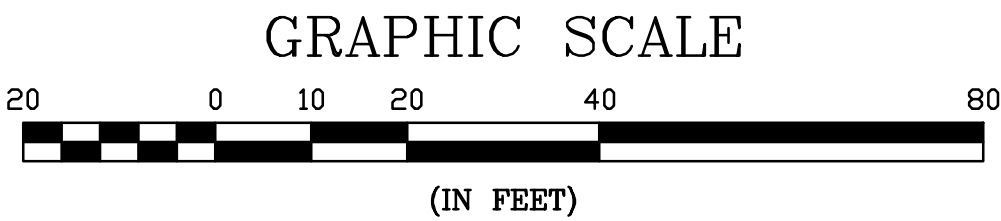
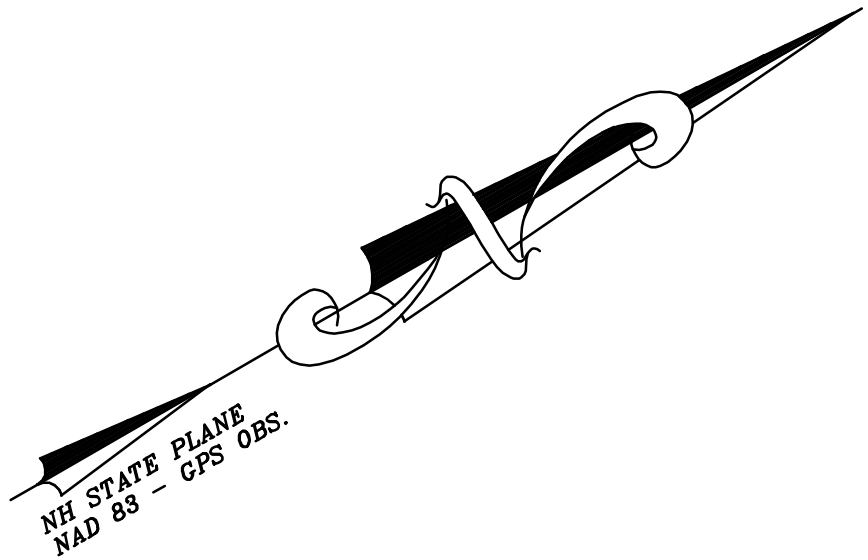
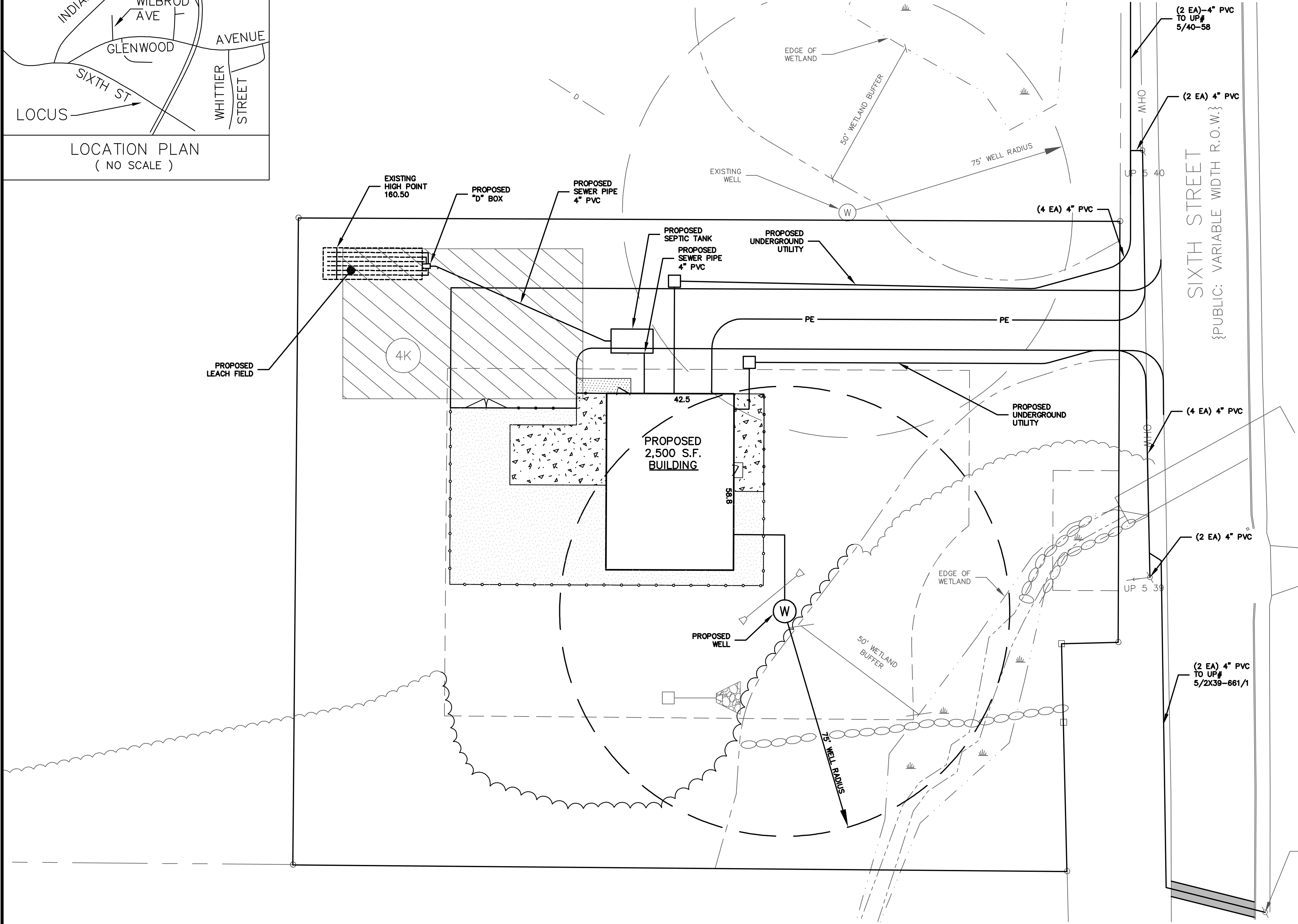
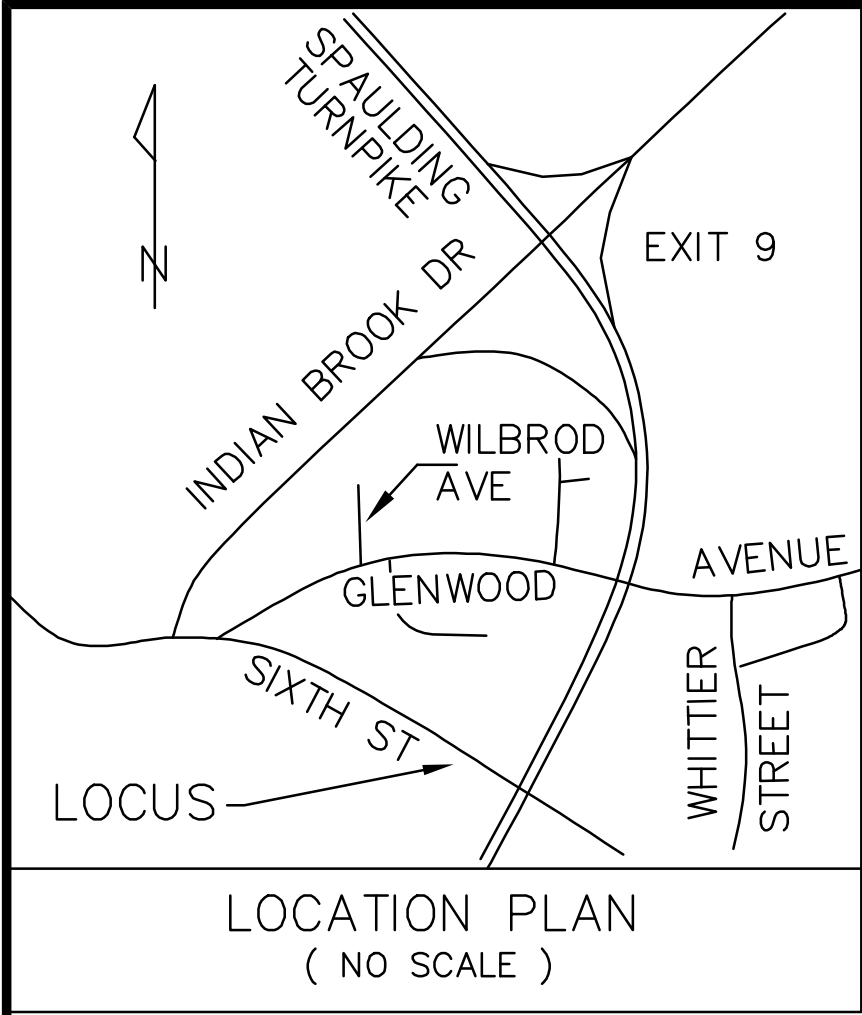
COMCAST CABLE MANAGEMENT, LLC
751 EAST INDUSTRIAL PARK DRIVE
MANCHESTER, NH 03109

PLANNING FILE NO.: SITE-2025-XXXX

DATE: 9-18-2025	SCALE: 1"=20'	DESIGN BY: SJH	APPROVED BY: SJH	PROJECT NO: 23149	FILE: SITE.dwg	NO.	REVISION	APP'D	DATE

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CIVILWORKS NEW ENGLAND
CIVIL & WATERWARRANT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443



UTILITY PLAN

BROADBAND DIGITAL EQUIPMENT CENTER
200 SIXTH STREET
DOVER, NEW HAMPSHIRE

COMCAST CABLE MANAGEMENT, LLC
751 EAST INDUSTRIAL PARK DRIVE
MANCHESTER, NH 03109

PLANNING FILE NO.: SITE-2025-XXXX

DATE: 9-18-2025	SCALE: 1"=20'	DESIGN BY: SJH	APPROVED BY: SJH	PROJECT NO: 23149	FILE: SITE.dwg	NO.	REVISION	APP'D	DATE

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

CIVILWORKS NEW ENGLAND
181 Watson Road, PO Box 1166
Dover, NH 03821
603.749.0443

DESCRIPTION

1. THE INTENT OF THIS PLAN IS TO SHOW SITE IMPROVEMENTS ASSOCIATED WITH THE CONSTRUCTION OF A 2,500 S.F. BUILDING AS WELL AS DRAINAGE AND UTILITY IMPROVEMENTS, AND SITE ACCESS.

PROJECT NAME AND LOCATION

COMCAST CABLE MANAGEMENT, LLC
TAX MAP E, LOT 70-A
200 SIXTH STREET
DOVER, NH

LATITUDE N43° 12' 35"
LONGITUDE W70° 53' 51"

DISTURBED AREA

±28,500 S.F..

NOTES:

1. THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION, BUT IN NO CASE SHALL EXCEED 5 ACRES AT ANY TIME BEFORE DISTURBED AREAS ARE STABILIZED.
2. ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.

SEQUENCE OF MAJOR ACTIVITIES

1. CONTRACTOR SHALL PREPARE THE SWPPP, FILE FOR AND OBTAIN THE NOI A MINIMUM OF 2 WEEKS PRIOR TO COMMENCEMENT OF SITE WORK.
2. PLACE TEMPORARY EROSION AND SEDIMENT CONTROL BMP'S PRIOR TO EARTH MOVING ACTIVITIES.
3. ALL EROSION CONTROL AND PERIMETER CONTROLS SHALL BE INSTALLED PRIOR TO COMMENCING EARTH MOVING OPERATIONS.
4. SELECTIVE DEVOLITION
5. REGRADE SITE TO SUBGRADE.
6. TEMPORARY WATER DIVERSION (SWALES, BASINS) MUST BE USED AS NECESSARY UNTIL AREAS ARE STABILIZED.
7. SWALES AND PONDS (AS APPLICABLE) SHALL BE CONSTRUCTED EARLY ON IN THE CONSTRUCTION SEQUENCE AND BEFORE ROUGH GRADING OF THE SITE AND ALL DITCHES AND SWALES SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
8. INSTALL DRAINAGE STRUCTURES AND CONTROLS.
9. INSTALL FOUNDATION FOOTINGS AND WALLS.
10. INSTALL UTILITIES.
11. PLACE GRAVELS AND FINE GRADE.
12. STABILIZE ROADWAYS AND PARKING AREAS WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
13. ALL CUT AND FILL SLOPES SHALL BE LOAMED AND SEEDED (AS APPLICABLE) WITHIN 72 HOURS OF ACHIEVING FINISH GRADE.
14. ALL EROSION CONTROL MEASURES SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EVERY 1/2" OF RAINFALL.
15. IN ALL CASES THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION AND IN NO CASE SHALL EXCEED 5 ACRES AT ANY TIME BEFORE DISTURBED AREAS ARE STABILIZED. ALL DISTURBED AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.
16. WHEN ALL SITE WORK IS COMPLETE AND ALL DISTURBED AREAS ARE STABILIZED REMOVE ALL TEMPORARY EROSION CONTROL MEASURES AND FILE THE EPA – N.O.T.I.

DEFINITIONS

- AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED.
1. BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED
2. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED
3. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP-RAP HAS BEEN INSTALLED, OR
4. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED

INSTALLATION, MAINTENANCE, AND INSPECTION PROCEDURES OF EROSION AND SEDIMENT CONTROLS

A. SILT BARRIER

1. INSTALLATION
a. USE SILT BARRIER AS PERIMETER CONTROLS, PARTICULARLY AT THE LOWER OR DOWN SLOPE EDGE OF A DISTURBED AREA
b. LEAVE SPACE FOR MAINTENANCE BETWEEN TOE AND SLOPE OF SILT BARRIER.
c. TRENCH IN THE SILT BARRIER ON THE UPHILL SIDE (6 INCHES DEEP BY 6 INCHES WIDE).
d. INSTALL STAKES ON THE DOWNHILL SIDE OF THE SILT BARRIER.
e. CURVE THE END OF THE SILT BARRIER UP–GRADIENT TO HELP IT CONTAIN RUNOFF.
2. SEQUENCE OF INSTALLATION
a. SEDIMENT BARRIERS SHALL BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE OF THE CONTRIBUTING DRAINAGE AREA ABOVE THEM.
3. MAINTENANCE
a. SILT BARRIERS SHOULD BE INSPECTED AND MAINTAINED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL.
b. SILT BARRIERS HAVE A USEFUL LIFE OF ONE SEASON. ON LONGER CONSTRUCTION PROJECTS, SILT BARRIERS SHOULD BE REPLACED PERIODICALLY TO MAINTAIN EFFECTIVENESS.
c. REMOVE SEDIMENT WHEN IT REACHES ONE–THIRD (1/3) THE HEIGHT OF THE SILT BARRIER.
d. REPLACE THE SILT BARRIERS WHERE THEY ARE TORN, WORN, OR OTHERWISE DAMAGED AND MONITOR PERFORMANCE TO ENSURE EFFECTIVE PERFORMANCE.
e. RETRENCH OR REPLACE ANY SILT BARRIER THAT IS NOT PROPERLY ANCHORED TO THE GROUND.
f. IF THERE IS EVIDENCE OF END FLOW ON PROPERLY INSTALLED BARRIERS, EXTEND BARRIERS UPHILL OR CONSIDER REPLACING THEM WITH OTHER MEASURES, SUCH AS TEMPORARY DIVERSIONS AND SEDIMENT TRAPS.
g. SILT BARRIERS SHOULD BE REPAIRED IMMEDIATELY IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THEM. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR THE EDGES OF THE BARRIER, OR IMPONDING OF LARGE VOLUMES OF WATER BEHIND THEM, SILT BARRIERS SHOULD BE REPLACED WITH A TEMPORARY CHECK DAM.

B. MULCHING

1. TIMING
a. APPLY MULCH PRIOR TO ANY STORM EVENT. IT WILL BE NECESSARY TO CLOSELY MONITOR WEATHER PREDICTIONS TO HAVE ADEQUATE WARNING OF SIGNIFICANT STORMS.
b. IN OTHER AREAS, THE TIME PERIOD CAN RANGE FROM 14 TO 30 DAYS OF INACTIVITY ON A AREA. THE LENGTH OF TIME VARYING WITH SITE CONDITIONS. PROFESSIONAL JUDGEMENT SHALL BE USED TO EVALUATE THE INTERACTION OF SITE CONDITIONS (SOIL ERODIBILITY, SEASON OF YEAR, EXTENT OF DISTURBANCE, PROXIMITY TO SENSITIVE RESOURCES, ETC.) AND THE POTENTIAL IMPACT OF EROSION ON ADJACENT AREAS TO CHOOSE AN APPROPRIATE TIME RESTRICTION.
c. WITHIN 100 FEET OF RIVERS, STREAMS, WETLANDS, AND IN LAKE AND POND WATERSHEDS, THE TIME PERIOD OF WHICH MULCHING SHOULD TAKE OCCUR SHOULD BE NO GREATER THAN SEVEN (7) DAYS. THIS SEVEN DAY LIMIT SHOULD BE REDUCED FURTHER DURING WET WEATHER PERIODS.
2. APPLICATION RATE
a. MULCH SHALL BE APPLIED AT A RATE OF BETWEEN 1.5 TO 2 TONS PER ACRE, OR 70 TO 90 POUNDS PER 1000 SQUARE FEET.
b. GUIDELINES FOR WINTER MULCH APPLICATION. WHEN MULCH IS APPLIED TO PROVIDE PROTECTION OVER WINTER (PAST THE GROWING SEASON) IT SHALL BE AT A RATE OF 150–200 POUNDS OF HAY OR STRAW PER ACRE WITH ABOUT 4 INCHES IN DEPTH. A TACKIFIER MAY BE ADDED TO THE MULCH.
3. MAINTENANCE
a. ALL MULCHES MUST BE INSPECTED PERIODICALLY, IN PARTICULAR AFTER RAINSTORMS. CHECK FOR SIGNS OF EROSION OR DISPLACEMENT OF THE MULCH. IF LESS THAN 90% OF THE SOIL SURFACE IS COVERED BY MULCH, ADDITIONAL MULCH SHALL BE IMMEDIATELY APPLIED.
b. NETS MUST BE INSPECTED AFTER RAIN EVENTS FOR DISLOCATION OR FAILURE AND SHOULD BE REPAIRED AS NECESSARY.
c. INSPECTIONS SHOULD TAKE PLACE UNTIL THE SITE IS ESTABLISHED.
d. EROSION CONTROL MIX MULCH USED FOR TEMPORARY STABILIZATION SHOULD BE LEFT IN PLACE. VEGETATION ADDS STABILITY AND SHOULD BE PROMOTED.

C. TEMPORARY SEEDING

1. SEEDBED PREPARATION
a. STONES AND TRASH SHOULD BE REMOVED SO AS NOT TO INTERFERE WITH THE SEEDING AREA
b. WHERE THE SOIL HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF 2 INCHES BEFORE APPLYING FERTILIZER, LIME AND SEED.
c. APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS.
i) APPLY FERTILIZER AT A RATE OF 600 POUNDS PER ACRE OR 13.8 POUNDS PER 1,000 SQUARE FEET OF LOW PHOSPHATE FERTILIZER OR EQUIVALENT.
ii) APPLY LIMESTONE AT A RATE OF 3 TONS PER ACRE OR 138 POUNDS PER 1,000 SQUARE FEET.
2. SEEDING
a. APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL, CULTIPACKER TYPE SEEDER OR HYDROSEEDER (SUMMARY INCLUDING SEED AND FERTILIZER) WITH A SEEDING DEPTH FROM A QUARTER (1/4) TO A HALF (1/2) INCH.
b. SEEDING RATES MUST BE INCREASED BY 10% WHEN HYDROSEEDING.
c. TEMPORARY SEEDING BETWEEN MAY 15TH AND AUGUST 15TH SHOULD BE COVERED WITH HAY OR STRAW MULCH, ACCORDING TO THE "TEMPORARY AND PERMANENT MULCHING" PRACTICE.
d. VEGETATED GROWTH COVERING 85% OF THE DISTURBED AREA SHOULD BE ACHIEVED PRIOR TO OCTOBER 15TH.
3. MAINTENANCE
a. TEMPORARY SEEDING SHALL BE INSPECTED PERIODICALLY. AT A MINIMUM, 85% OF THE SOIL SURFACE SHOULD BE COVERED BY VEGETATION. IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHALL BE MADE AND OTHER TEMPORARY MEASURES USED IN THE INTERIM (MULCH, FILTER FABRICS, CHECK DAMS, ETC.).

D. PERMANENT SEEDING

1. BEDDING STONES LARGER THAN 2 INCHES, TRASH, ROOTS, AND OTHER DEBRIS INTERFERING WITH SEEDING AND FUTURE MAINTENANCE OF THE AREA SHOULD BE REMOVED. WHERE FEASIBLE, THE SOIL SHOULD BE TILLED TO A DEPTH OF 4" TO PREPARE A SEEDBED AND MIX FERTILIZER INTO THE SOIL.
2. FERTILIZER
a. LIME AND FERTILIZER SHOULD BE WORKED INTO THE SOIL TO A DEPTH OF 4 INCHES USING A DISC, SPRING TOOTH HARROW, OR OTHER SUITABLE EQUIPMENT PRIOR TO OR AT THE SAME TIME OF SEEDING.
b. FERTILIZER SHOULD BE RESTRICTED TO A LOW PHOSPHATE, SLOW RELEASE NITROGEN FERTILIZER WHEN APPLIED TO AREAS BETWEEN 25 FEET AND 250 FEET FROM A SURFACE WATER BODY. NO FERTILIZER EXCEPT LIMESTONE SHOULD BE APPLIED WITHIN 25 FEET OF THE SURFACE WATER.
c. KINDS AND AMOUNTS OF LIME AND FERTILIZER SHOULD BE BASED ON AN EVALUATION OF SOIL TESTS. WHEN A SOIL TEST IS NOT AVAILABLE, THE FOLLOWING MINIMUM AMOUNTS SHOULD BE APPLIED:
AGRICULTURAL LIMESTONE @ 138 LBS. PER 1,000 S.F.
LOW PHOSPHATE (N–P205–K20) FERTILIZER @ 13.8 LBS. PER 1,000 S.F.
3. SEED MIXTURE (RECOMMENDED)
RATE:
TYPE LBS. PER ACRE LBS. PER 1,000 S.F.
TALL FESCUE 20 0.45
CREEPING RED 20 0.45
FESCUE
BIRDSFOOT TREFOIL 8 0.20
TOTAL 48 1.10
4. SEEDING
a. SPRING SEEDING USUALLY GIVES THE BEST RESULTS FOR ALL SEED MIXES OR WITH LEGUMES. PERMANENT SEEDING SHOULD BE COMPLETED 45 DAYS PRIOR TO THE FIRST KILLING FROST.
b. APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL, CULTIPACKER TYPE SEEDER OR HYDROSEEDER (SLURRY INCLUDING SEED AND FERTILIZER) WITH A SEEDING DEPTH FROM A QUARTER (1/4) TO A HALF (1/2) INCH.
c. VEGETATED GROWTH COVERING AT LEAST 85% OF THE DISTURBED SHOULD BE ACHIEVED PRIOR TO OCTOBER 15TH. IF THIS CONDITION IS NOT ACHIEVED, IMPLEMENT TEMPORARY STABILIZATION MEASURES FOR OVERWINTER PROTECTION.
5. HYDROSEEDING
a. LIME AND FERTILIZER MAY BE APPLIED SIMULTANEOUSLY WITH THE SEED. THE USE OF STRAW MULCH ON CRITICAL AREAS IS PREFERRED SINCE IT GRANTS BETTER SLOPE PROTECTION BY USING ADHESIVE MATERIALS.
b. SLOPES MUST BE NO STEEPER THAN 2 TO 1 (2 FEET HORIZONTALLY TO 1 FOOT VERTICALLY).
c. SEEDING RATES MUST BE INCREASED BY 10% WHEN HYDROSEEDING.
6. MAINTENANCE
a. PERMANENT SEEDED AREAS SHOULD BE INSPECTED AT LEAST MONTHLY DURING THE COURSE OF CONSTRUCTION. INSPECTIONS, MAINTENANCE, AND CORRECTIVE ACTIONS SHOULD CONTINUE UNTIL THE OWNER ASSUMES PERMANENT OPERATION OF THE SITE.
b. SEEDED AREAS SHOULD BE MOWED AS REQUIRED TO MAINTAIN A HEALTHY STAND OF VEGETATION, WITH MOWING HEIGHT AND FREQUENCY DEPENDENT ON TYPE OF GRASS COVER.
c. BASED ON INSPECTION, AREAS SHOULD BE RESEEDED TO ACHIEVE FULL STABILIZATION OF EXPOSED SOILS.
d. IF EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHOULD BE MADE AND AREAS RESEEDED. WITH OTHER TEMPORARY MEASURES USED TO PROVIDE EROSION PROTECTION DURING THE PERIOD OF VEGETATION ESTABLISHMENT.
e. AT A MINIMUM, 85% OF THE SOIL SURFACE SHOULD BE COVERED BY VEGETATION.

E. STORM DRAIN INLET PROTECTION

1. SPECIFICATIONS
a. THE MAXIMUM CONTRIBUTING DRAINAGE AREA TO THE BARRIER SHOULD BE LESS THAN ONE ACRE.
b. ANY RESULTANT PONDING OF STORMWATER MUST NOT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT AREAS OR STRUCTURES.
2. INSTALLATION
a. INSTALL INLET PROTECTION AS SOON AS STORM DRAIN INLETS ARE INSTALLED AND BEFORE LAND–DISTURBANCE ACTIVITIES BEGIN IN AREAS WITH EXISTING STORM DRAIN SYSTEMS.
b. PROTECT ALL INLETS THAT COULD RECEIVE STORMWATER FROM YOUR CONSTRUCTION PROJECT.
c. USE IN CONJUNCTION WITH OTHER EROSION PREVENTION AND SEDIMENT CONTROL BMPs.
d. DESIGN YOUR INLET PROTECTION TO HANDLE THE VOLUME OF WATER FROM THE AREA BEING DRAINED. ENSURE THAT THE DESIGN IS SIZED APPROPRIATELY.
3. MAINTENANCE
a. INSPECT INLETS BARRIERS FREQUENTLY, BEFORE AND AFTER EACH RAINFALL EVENT AND REPAIR WHEN NECESSARY.
b. SEDIMENT SHOULD BE REMOVED AND THE STORM DRAIN SEDIMENT BARRIER RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE BARRIER.
c. REMOVED SEDIMENT SHOULD BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
d. SWEEP STREETS, SIDEWALKS, AND OTHER PAVED AREAS REGULARLY.
e. ALL CATCH BASINS AND STORM DRAIN INLETS MUST BE CLEANED AT THE END OF CONSTRUCTION AND AFTER THE SITE HAS BEEN FULLY STABILIZED

TIMING OF CONTROLS/MEASURES

AS INDICATED IN THE SEQUENCE OF MAJOR ACTIVITIES THE SILT BARRIERS SHALL BE INSTALLED PRIOR TO COMMENCING ANY CLEARING OR GRADING OF THE SITE. STRUCTURAL CONTROLS SHALL BE INSTALLED CONCURRENTLY WITH THE APPLICABLE ACTIVITY. AREAS WHERE CONSTRUCTION ACTIVITY TEMPORARILY CEASES FOR MORE THAN TWENTY ONE (21) DAYS WILL BE STABILIZED WITH A TEMPORARY SEED AND MULCH WITHIN FOURTEEN (14) DAYS OF THE LAST DISTURBANCE. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN AREA, SILT FENCES AND ANY EARTH/DIKES WILL BE REMOVED ONCE PERMANENT MEASURES ARE ESTABLISHED. ALL AREAS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISH GRADE.

WASTE DISPOSAL

- a. WASTE MATERIALS
ALL WASTE MATERIALS WILL BE COLLECTED AND STORED IN SECURELY LIDDED RECEPTACLES. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE WILL BE DEPOSITED IN A DUMPSTER. NO CONSTRUCTION WASTE MATERIALS WILL BE BURIED ON SITE. ALL PERSONEL WILL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL BY THE SUPERINTENDENT.
b. HAZARDOUS WASTE
ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER. SITE PERSONNEL WILL BE INSTRUCTED IN THESE PRACTICES BY THE SUPERINTENDENT.
c. SANITARY WASTE
ALL SANITARY WASTE WILL BE COLLECTED FROM THE PORTABLE UNITS A MINIMUM OF ONCE PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.

MAINTENANCE OF STORMWATER MANAGEMENT FACILITIES

THE PROJECT PROPONENT IS RESPONSIBLE FOR THE MAINTENANCE OF ALL STORMWATER FACILITIES DURING CONSTRUCTION AND THE PROPERTY OWNER IS RESPONSIBLE AFTER CONSTRUCTION IS COMPLETE.

CATCH BASINS & STORMWATER TREATMENT STRUCTURES

1. CATCH BASINS & STORMWATER TREATMENT STRUCTURES SHOULD BE INSPECTED ON A MONTHLY BASIS AND/OR AFTER A MAJOR RAINFALL EVENT TO ASSURE THAT DEBRIS OR SEDIMENTS DO NOT REDUCE THE EFFECTIVENESS OF THE SYSTEM.

SPILL PREVENTION

A. MATERIAL MANAGEMENT PRACTICES

- THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT WILL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL SANITARY EXPOSURE OF MATERIALS AND SUBSTANCE DURING CONSTRUCTION TO STORMWATER RUNOFF:
GOOD HOUSEKEEPING: THE FOLLOWING GOOD HOUSEKEEPING PRACTICES THAT WILL BE FOLLOWED ON SITE DURING
1. THE CONSTRUCTION PROJECT:
a. AN EFFORT WILL BE MADE TO STORE ONLY SUFFICIENT AMOUNTS OF PRODUCTS TO DO THE JOB.
b. ALL MATERIALS STORED ON SITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR PROPER (ORIGINAL IF POSSIBLE) CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE.
c. MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED.
d. THE SITE SUPERINTENDENT WILL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS.
e. SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER.
f. WHENEVER POSSIBLE ALL OF A PRODUCT WILL BE USED UP BEFORE DISPOSING OF THE CONTAINER.
2. HAZARDOUS PRODUCTS:
a. THE FOLLOWING PRACTICES WILL BE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS:
b. PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE.
c. ORIGINAL LABELS AND MATERIAL SAFETY DATA WILL BE RETAINED FOR IMPORTANT PRODUCT INFORMATION.
d. SURPLUS PRODUCT THAT MUST BE DISPOSED OF WILL BE DISCARDED ACCORDING TO THE MANUFACTURER'S RECOMMENDED METHODS OF DISPOSAL.

B. PRODUCT SPECIFICATION PRACTICES

- THE FOLLOWING PRODUCT SPECIFIC PRACTICES WILL BE FOLLOWED ON SITE:
1. PETROLEUM PRODUCTS:
a. ALL ON SITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTATIVE MAINTENANCE TO REDUCE LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT BASED SUBSTANCES USED ON SITE WILL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
2. FERTILIZERS:
a. FERTILIZERS USED WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS DIRECTED BY THE SPECIFICATIONS. ONCE APPLIED, FERTILIZER WILL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORMWATER. STORAGE WILL BE IN A COVERED SHED OR ENCLOSED TRAILERS. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER WILL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.
3. PAINTS:
a. ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM BUT WILL BE DISPOSED OF PROPERLY ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.
4. CONCRETE TRUCKS:
a. CONCRETE TRUCKS WILL DISCHARGE AND WASH OUT SURPLUS CONCRETE OR DRUM WASH WATER IN A CONTAINED AREA ON SITE.

C. SPILL CONTROL PRACTICES

- IN ADDITION TO GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTION THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:
a. MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.
b. MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ON SITE. EQUIPMENT AND MATERIALS WILL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUSTPANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST, AND PLASTIC OR METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE.
c. ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.
d. THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.
e. SPILLS OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OF LOCAL GOVERNMENT AGENCY, REGARDLESS OF THE SIZE.
f. THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM RECURRING AND HOW TO CLEANUP THE SPILL IF IT OCCURS. A DESCRIPTION OF THE SPILL, ITS CAUSE, AND THE CLEANUP MEASURES WILL BE INCLUDED.
g. THE SITE SUPERINTENDENT RESPONSIBLE FOR DAY–TO–DAY SITE OPERATIONS WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR.

THE PROJECT PROPONENT IS REQUIRED TO MANAGE CONSTRUCTION TO MEET THE REQUIREMENTS OF RS 430:53 AND AGR 3800 RELATIVE TO CONTROLLING INVASIVE SPECIES AND CONTROLLING FUGITIVE DUST IN ACCORDANCE WITH ENV–A 1002.

AGR 3800 PROHIBITED INVASIVE PLANT SPECIES RULES

THE RULE, AGR 3800, STATES: NO PERSON SHALL COLLECT, TRANSPORT, IMPORT, EXPORT, MOVE, BUY SELL, DISTRIBUTE, PROPAGATE OR TRANSPLANT ANY LIVING AND VIABLE PORTION OF ANY PLANT SPECIES, WHICH INCLUDED ALL OF THEIR CULTIVARS AND VARIETIES, LISTED IN TABLE 3800.1, NEW HAMPSHIRE PROHIBITED INVASIVE SPECIES LIST. A COMPLETE COPY OF THE RULES CAN BE ACCESSED ON THE INTERNET AT:
[HTTP://AGRICULTURE.NH.GOV/TOPICS/PLANTS_INSECTS.HTM](http://agriculture.nh.gov/topics/plants_insects.htm).

ENV–A 1002 FUGITIVE DUST: PRECAUTIONS TO PREVENT, ABATE, AND CONTROL FUGITIVE DUST.

- a. ANY PERSON ENGAGED IN ANY ACTIVITY WITHIN THE SITE EMITS FUGITIVE DUST, OTHER THAN THOSE LISTED IN ENV–A 1002.02 (b), SHALL TAKE PRECAUTIONS THROUGHOUT THE DURATION OF THE ACTIVITY IN ORDER TO PREVENT, ABATE, AND CONTROL THE EMISSION OF FUGITIVE DUST.
b. PRECAUTIONS REQUIRED BY (a) ABOVE, SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:
i) THE USE OF WATER OR HYDROPHILIC MATERIAL ON OPERATIONS OR SURFACES, OR BOTH;
ii) THE APPLICATION OF ASPHALT, WATER, OR HYDROPHILIC MATERIAL, OR TARPS OR OTHER SUBSTANCES TO MATERIAL STOCKPILES;
iii) THE USE OF HOODS, FANS, FABRIC FILTERS, OR OTHER DEVICES TO ENCLOSE AND VENT AREAS WHERE MATERIALS PRONE TO PRODUCING FUGITIVE DUST ARE HANDLED;
iv) THE USE OF CONTAINMENT METHODS FOR SANDBLASTING OR SIMILAR OPERATIONS; AND
v) THE USE OF VACUUMS OR OTHER SUCTION DEVICES TO COLLECT AIRBORNE PARTICULATE MATTER.

PER 153–10.F.

ALL SITE IMPROVEMENTS WHICH REQUIRE BLASTING OF LAND SHALL MEET THE FOLLOWING REQUIREMENTS PRIOR TO ANY BLASTING OCCURING.

1. THE APPLICANT SHALL PREPARE A PRE–BLAST SURVEY OF ALL STRUCTURES WITHIN FIVE HUNDRED (500) FEET OF THE EXTERNAL BOUNDARIES OF THE PROPOSED LOT TO BE DEVELOPED. THIS SURVEY, ALONG WITH A MONITORING PLAN, SHALL BE ON FILE WITH THE DOVER FIRE AND RESCUE. UPON RECOMMENDATIONS OF THE CHIEF, THE PLANNING BOARD MAY REQUIRE A PRE–BLAST SURVEY OF ALL STRUCTURES WITHIN ONE THOUSAND (1000) FEET.
2. THE APPLICANT SHALL HOLD A NEIGHBORHOOD MEETING TO REVIEW THE BLASTING PLAN AND PRE–BLAST SURVEY, WITH REPRESENTATIVES OF THE FIRE AND RESCUE AND THE BLASTING COMPANY IN ATTENDANCE. PRIOR TO ANY ON–SITE BLASTING, ABUTTERS WITHIN ONE THOUSAND (1000) FEET OF THE EXTERNAL BOUNDARY OF THE PROJECT PARCEL SHALL BE NOTIFIED BY THE CERTIFIED MAIL (PAID FOR BY THE APPLICANT) OF THE MEETING NO LESS THAN TEN (10) DAYS PRIOR TO THE MEETING AND NO MORE THAN FIFTEEN (15) DAYS PRIOR TO THE MEETING. THE NOTICE SHALL STATE THE TIME AND DATE OF THE BLASTING AND CONTAIN A MAP SHOWING THE BLASTING AREA, THE 1,000–FOOT–RADIUS AREA, AND THE 500–FOOT–RADIUS AREA.
3. PERMIT HOLDERS SHALL BE IN COMPLIANCE WITH NFPA 495, EXPLOSIVE MATERIALS CODE, IN ADDITION TO ALL OTHER ORDINANCES AND CODES SET FORTH IN THE CITY OF DOVER CODE, § 153–14A, STORMWATER MANAGEMENT, EROSION CONTROL AND FLOOD HAZARDS, OF THIS CHAPTER AND THE CITY OF DOVER FIRE PREVENTION CODE, WHICH SPECIFICALLY PROHIBITS THE OVERNIGHT STORAGE OF EXPLOSIVES OR BLASTING AGENTS. FURTHER, ALL STORAGE MAGAZINES SHALL BE LOCKED IN THE OPEN POSITION AT THE END OF THE DAY'S OPERATION FOR EASY INSPECTION BY CITY OFFICIALS.
4. BLASTING PERMITS MAY BE OBTAINED BY CALLING THE DOVER FIRE AND RESCUE DURING NORMAL BUSINESS HOURS. THE PERMITS ARE ONLY ACTIVE FOR THE DATES AND TIME SPECIFIED ON THE PERMIT.
5. PERMIT HOLDERS SHALL HOLD INSURANCE AGAINST CLAIMS FOR DAMAGES FOR PERSONAL INJURY AND PROPERTY DAMAGE THAT MAY ARISE FROM THE PERFORMANCE OF THE WORK.
6. HOURS OF OPERATION FOR THE BLASTING SHALL BE NO EARLIER THAN 8:00AM AND NO LATER THAN 6:00PM, MONDAY THROUGH FRIDAY, EXCLUDING FEDERAL HOLIDAYS.

WINTER CONSTRUCTION NOTES

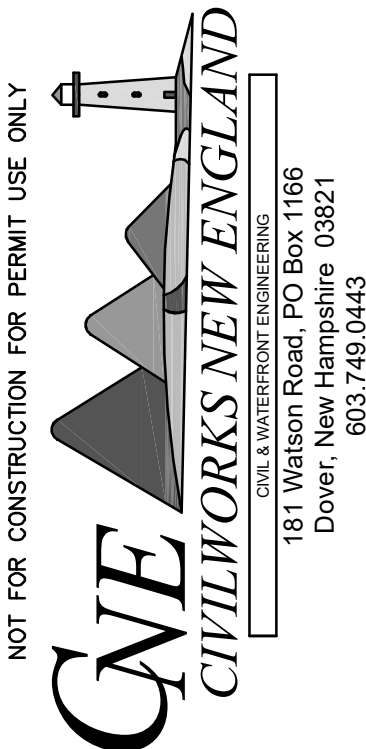
1. ALL PROPOSED POST–DEVELOPMENT VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING. ELSEWHERE, THE PLACEMENT OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT.
2. ALL DITCHES & SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH SHALL BE STABILIZED WITH STONE OR EROSION CONTROL BLANKETS.
3. AFTER OCTOBER 15TH, INCOMPLETE ROAD AND PARKING SURFACES SHALL BE PROTECTED WITH A MINIMUM OF 3–INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3, OR IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER SEASON BE CLEARED OF ANY ACCUMULATED SNOW AFTER EACH STORM EVENT.

PLANNING FILE NO.: SITE–2025–XXXX

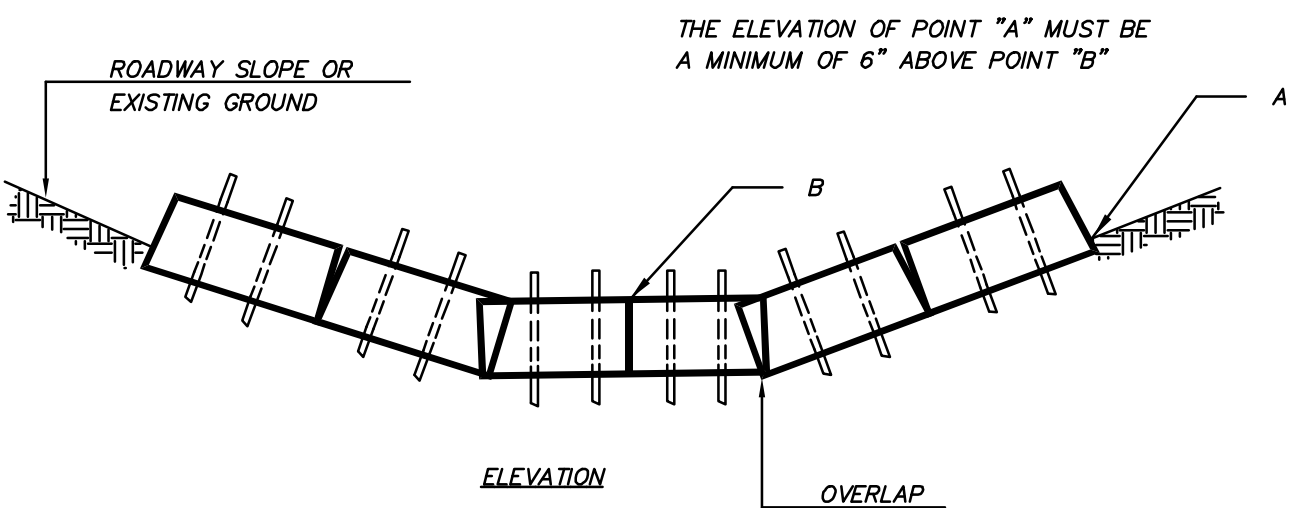
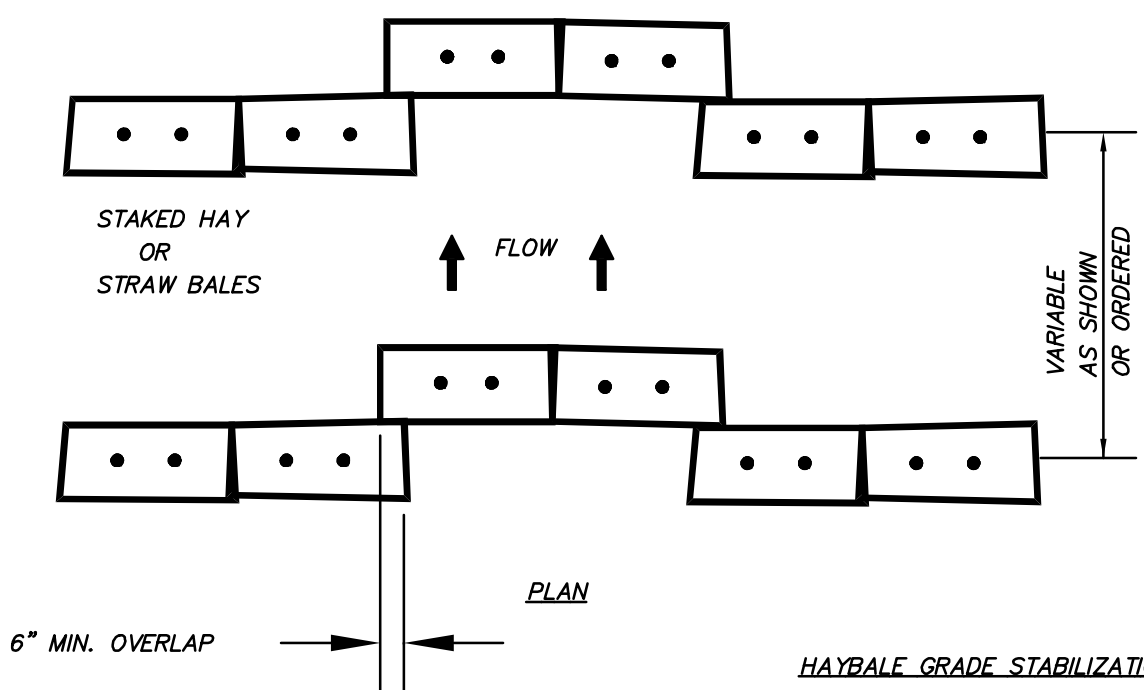
EROSION CONTROL NOTES

BROADBAND DIGITAL
EQUIPMENT CENTER
200 SIXTH STREET
DOVER, NEW HAMPSHIRE

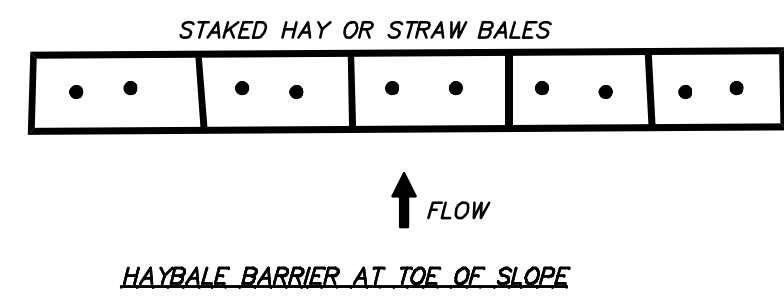
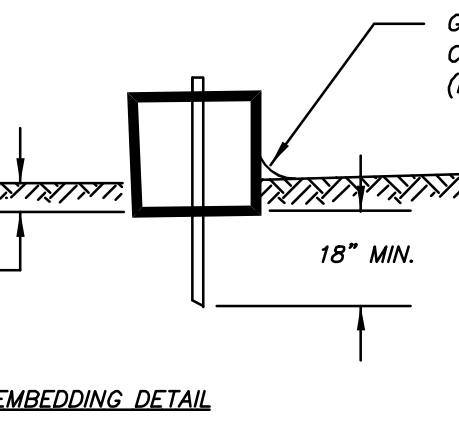
COMCAST CABLE
MANAGEMENT, LLC
751 EAST INDUSTRIAL
PARK DRIVE
MANCHESTER, NH 03109



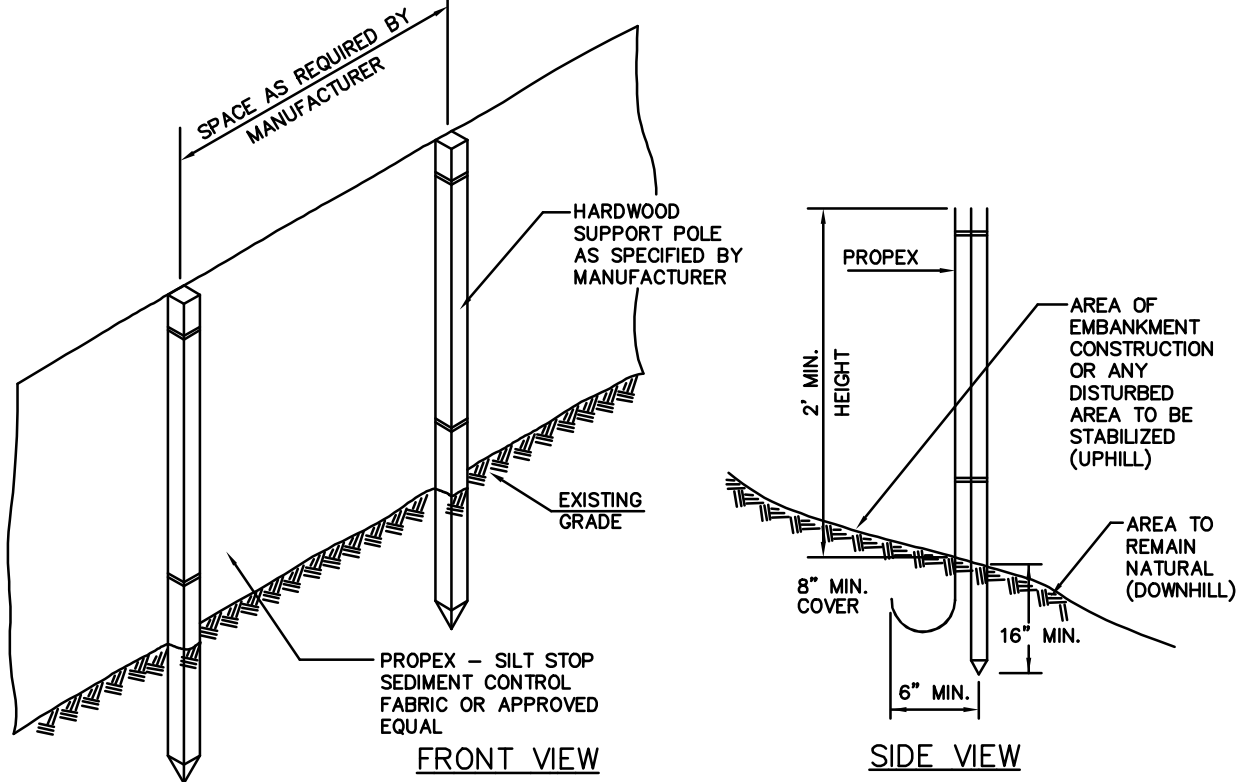
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443



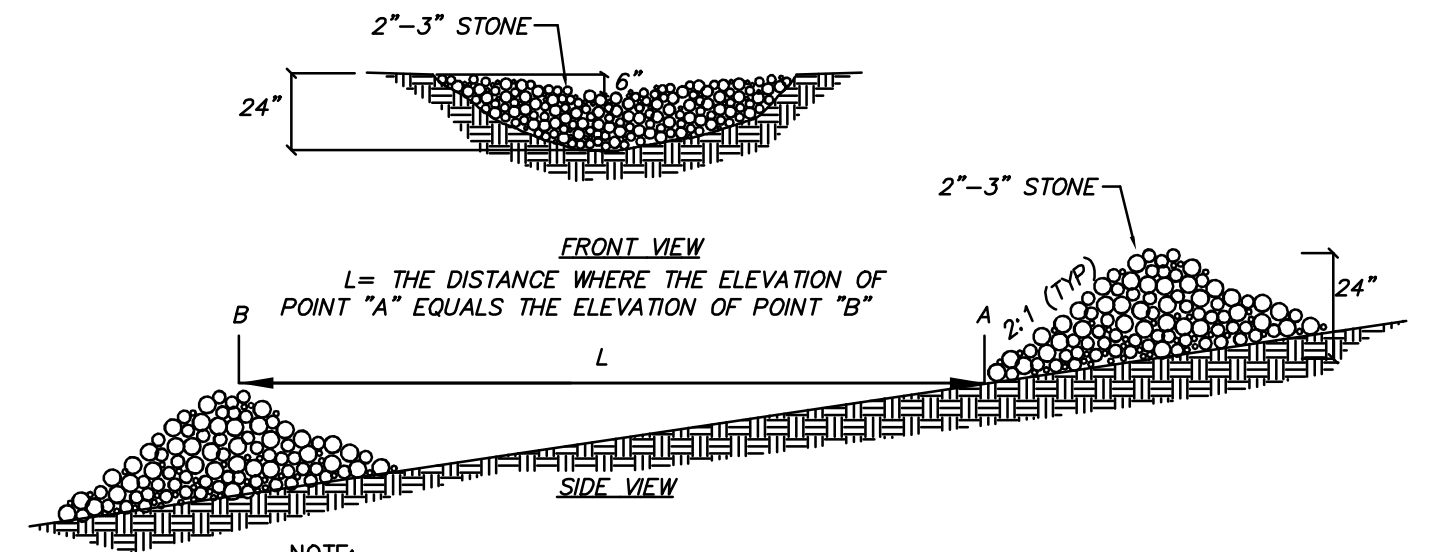
- CONSTRUCTION SPECIFICATIONS
- BALES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
 - EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 4".
 - BALES SHALL BE SECURELY ANCHORED IN PLACE BY 2" x 2" STAKES OR RE-BARS DRIVEN THROUGH THE BALES. THE FIRST STAKE IN EACH BALE SHALL BE ANGLED TOWARD PREVIOUSLY LAID BALE TO FORCE BALES TOGETHER.
 - INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
 - BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
 - REMOVE AND PROPERLY DISPOSE OF ALL SEDIMENT PRIOR TO REMOVING HAYBALES.



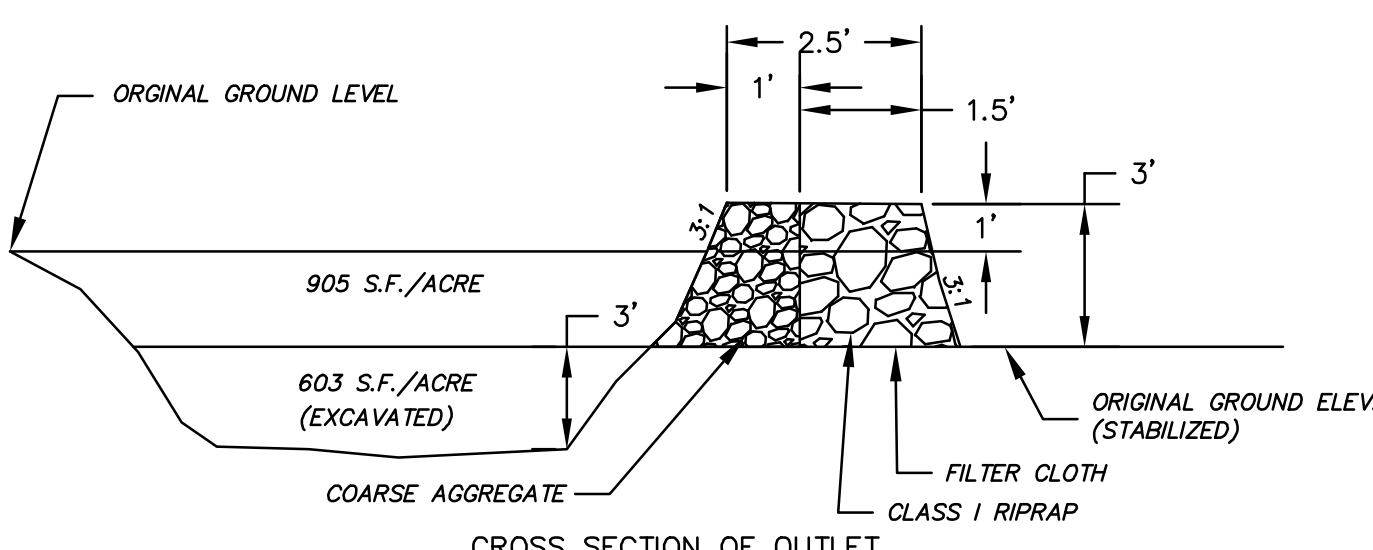
HAYBALE NOTES AND DETAILS
NOT TO SCALE



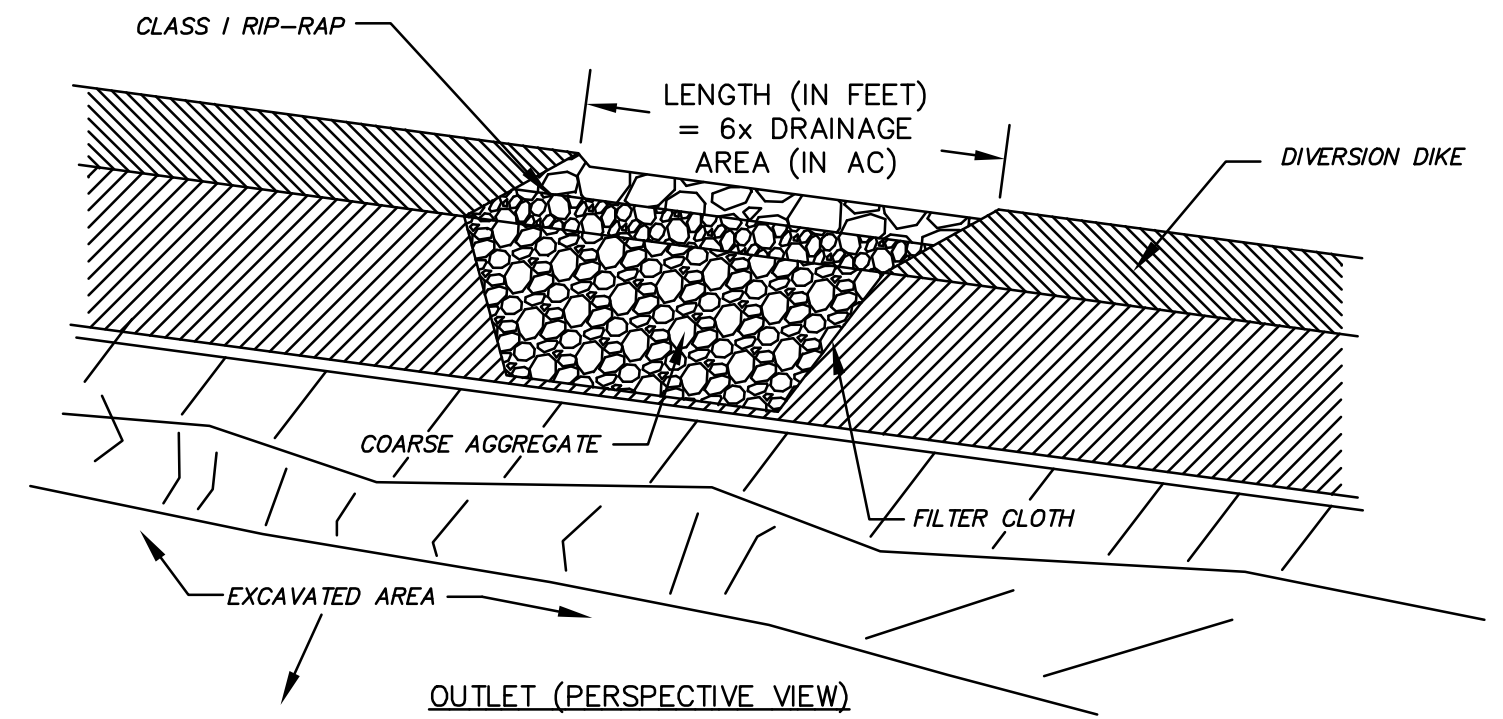
SILT FENCE DETAIL
NOT TO SCALE



STONE CHECK DAM
NOT TO SCALE

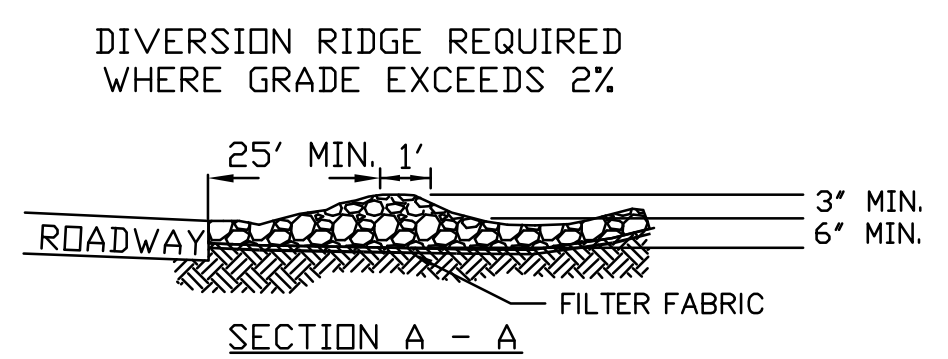


CROSS SECTION OF OUTLET

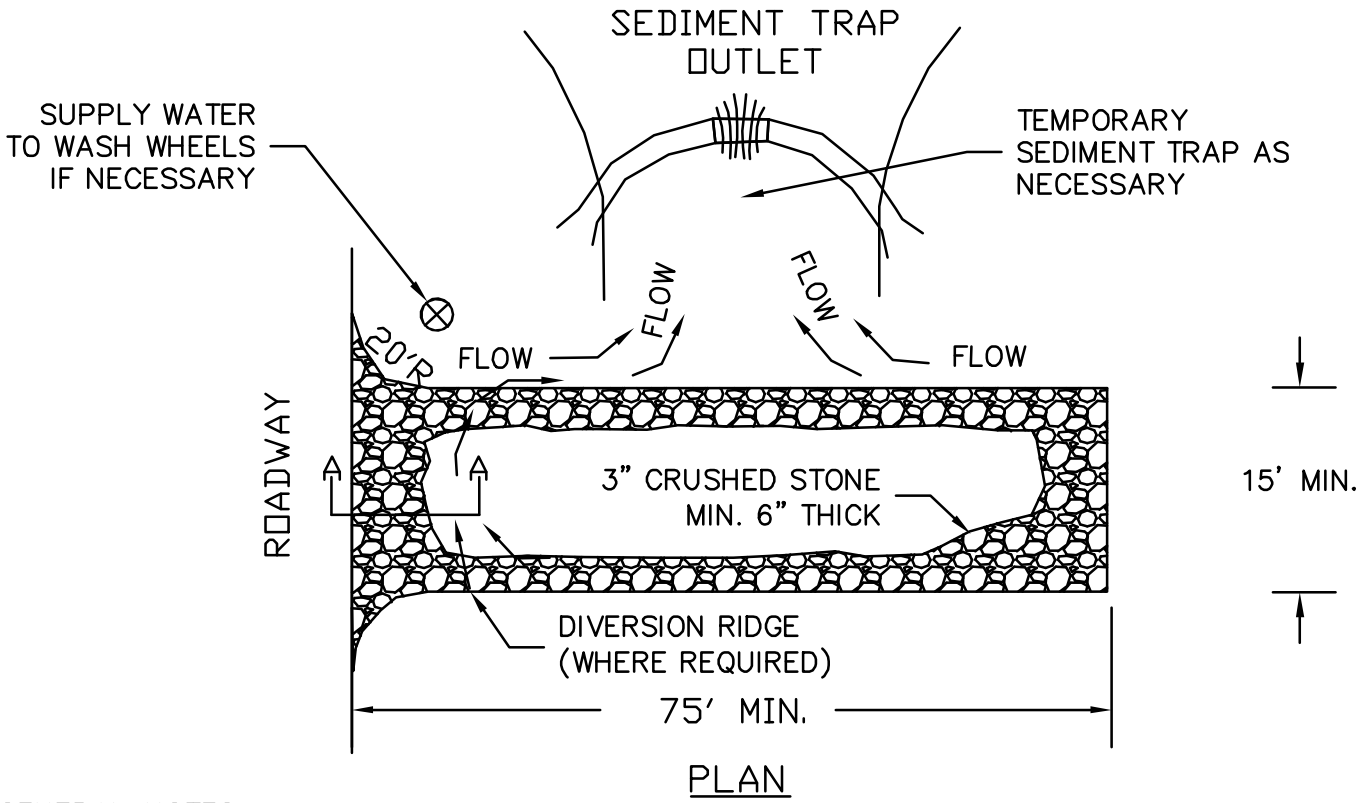


- NOTES:
- COARSE AGGREGATE SHALL MEET NHDOT 304.5 SPECIFICATIONS AND SHALL NOT CONTAIN MORE THAN 5% FINES PASSING THE #200 SIEVE.
 - FILTER CLOTH SHALL BE MIRAFI 700X OR APPROVED EQUAL.
 - CLASS I RIPRAP SHALL MEET NHDOT 583 SS SPECIFICATIONS.
 - THE MAXIMUM CONTRIBUTING AREA TO THE TRAP SHALL BE LESS THAN 5 AC.
 - THE TRAP SHALL BE CLEANED WHEN 50% OF THE ORIGINAL VOLUME IS FILLED.
 - MATERIALS REMOVED FROM THE TRAP SHALL BE PROPERLY DISPOSED OF AND STABILIZED.

TEMPORARY SEDIMENT TRAP
NOT TO SCALE



SECTION A - A



PLAN

A. GENERAL NOTES:

- A STABILIZED CONSTRUCTION ENTRANCE/EXIT CONSISTS OF A PAD OF STONE AGGREGATE PLACED ON A GEOTEXTILE FILTER FABRIC, LOCATED AT ANY POINT WHERE TRAFFIC WILL BE LEAVING A CONSTRUCTION SITE TO AN EXISTING ACCESS ROAD WAY OR OTHER PAVED SURFACE. ITS PURPOSE IS TO REDUCE OR ELIMINATE THE TRACKING OF SEDIMENT ONTO PUBLIC ROADS BY CONSTRUCTION VEHICLES. THIS HELPS PROTECT RECEIVING WATERS FROM SEDIMENT CARRIED BY STORM WATER RUNOFF FROM ROADS.
- ONLY CONSTRUCTION TRAFFIC LEAVING THE SITE IS REQUIRED TO USE THE TEMPORARY STABILIZED EXIT. CONSIDER PROVIDING A SEPARATE, UNPROTECTED ENTRANCE FOR TRAFFIC ENTERING THE SITE. THIS WILL INCREASE THE LONGEVITY OF THE STABILIZED EXIT BY ELIMINATING HEAVY LOADS ENTERING THE SITE AND REDUCING THE TOTAL TRAFFIC OVER THE DEVICE.
- LOCATE THE CONSTRUCTION ENTRANCES AND EXITS, A MINIMUM OF 100 FEET FROM INTERSECTIONS, TO LIMIT SEDIMENT LEAVING THE SITE AND TO PROVIDE FOR MAXIMUM UTILITY BY ALL CONSTRUCTION VEHICLES. AVOID ENTRANCES THAT HAVE STEEP GRADES AND ENTRANCES AT CURVES IN ROADS.
- THE ENTRANCE SHOULD BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AND REPAIR AND/OR MAINTENANCE OF ANY MEASURES USED TO TRAP SEDIMENT.

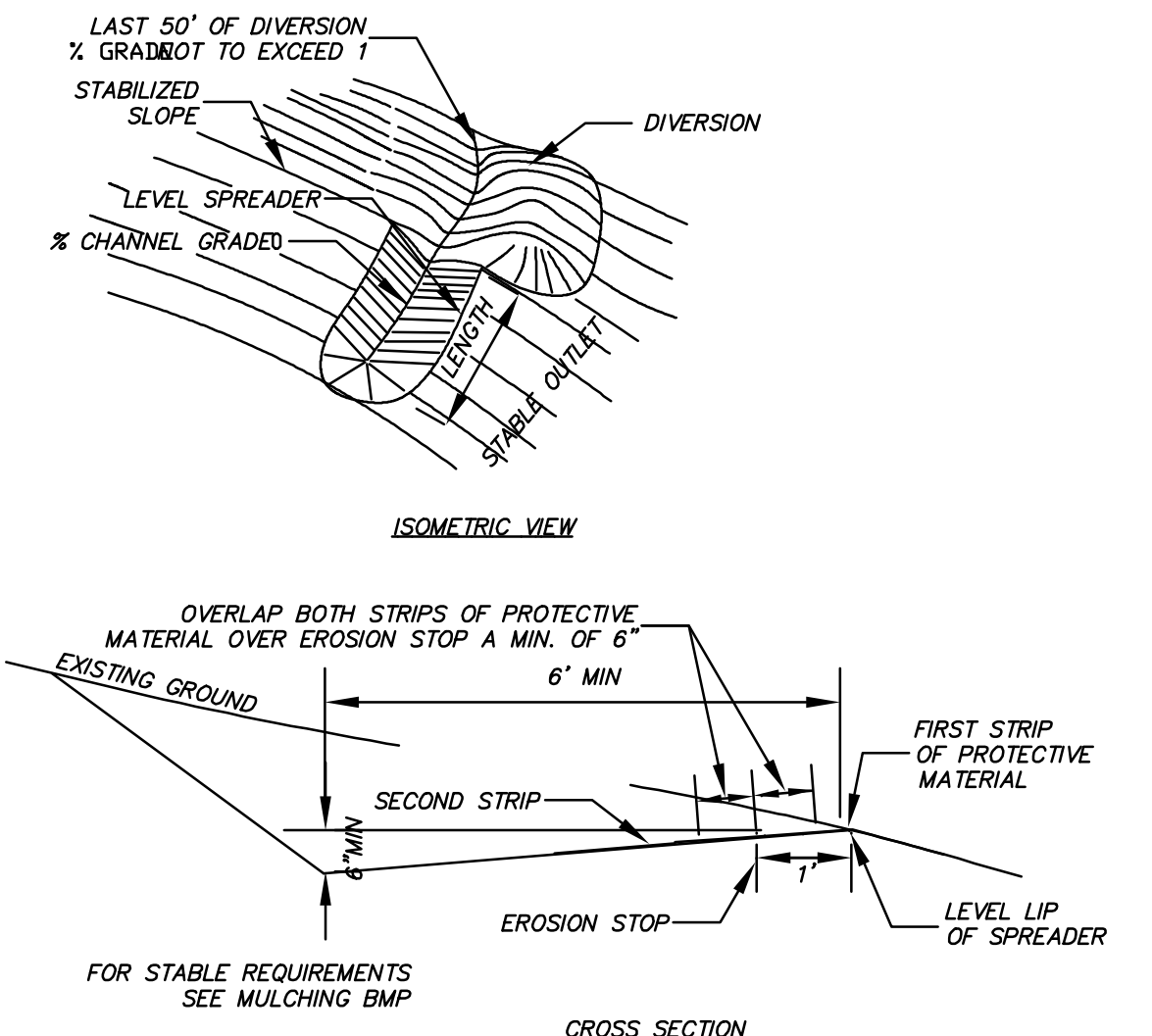
B. SPECIFICATIONS (TEMPORARY CONSTRUCTION ENTRANCE/EXITS SHOULD MEET THE FOLLOWING REQUIREMENTS).

- STONE SIZE MINIMUM: USE SHOULD BE 3" CRUSHED STONE.
- THE MINIMUM LENGTH OF THE PAD SHOULD BE 75 FEET.
- THE MINIMUM WIDTH OF THE PAD SHOULD BE 15 FEET OR THE WIDTH OF THE ENTRANCE, WHICHEVER IS GREATER
- THE PAD SHOULD SLOPE AWAY FROM THE EXISTING ROADWAY.
- THE PAD SHOULD BE AT LEAST 6" THICK.
- A GEOTEXTILE FILTER FABRIC SHOULD BE PLACED BETWEEN THE STONE PAD AND THE EARTH SURFACE BELOW THE PAD.
- THE PAD SHOULD BE MAINTAINED OR REPLACED WHEN MUD AND SOIL PARTICLES CLOG THE VOIDS IN THE STONE SUCH THAT MUD AND SOIL PARTICLES ARE TRACKED OFF-SITE.
- NATURAL DRAINAGE THAT CROSSES THE LOCATION OF THE STONE PAD SHOULD BE INTERCEPTED AND PIPED BENEATH THE PAD, AS NECESSARY, WITH SUITABLE OUTLET PROTECTION.

C. MAINTENANCE REQUIREMENTS (THE ENTRANCE/EXIT SHOULD BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY, THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT).

- WHEN THE CONTROL PAD BECOMES INEFFECTIVE, THE STONE SHOULD BE REMOVED ALONG WITH THE COLLECTED SOIL MATERIAL, REGRADED ON SITE, AND STABILIZED. THE ENTRANCE SHOULD THEN BE RECONSTRUCTED.
- THE CONTRACTOR SHOULD SWEEP THE PAVEMENT AT EXITS WHENEVER SOIL MATERIALS ARE TRACKED ONTO THE ADJACENT PAVEMENT OR TRAVELED WAY.
- WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY. WHEN WHEEL WASHING IS REQUIRED, IT SHOULD BE CONDUCTED ON AN AREA STABILIZED WITH AGGREGATE, WHICH DRAINS INTO AN APPROVED SEDIMENT-TRAPPING DEVICE. ALL SEDIMENT SHOULD BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES OR WATERWAYS.

TEMPORARY CONSTRUCTION ENTRANCE/EXIT
NOT TO SCALE

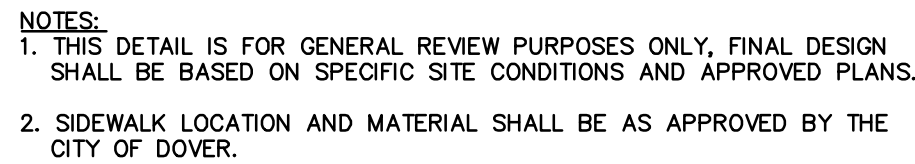


LEVEL SPREADER DETAIL
NOT TO SCALE

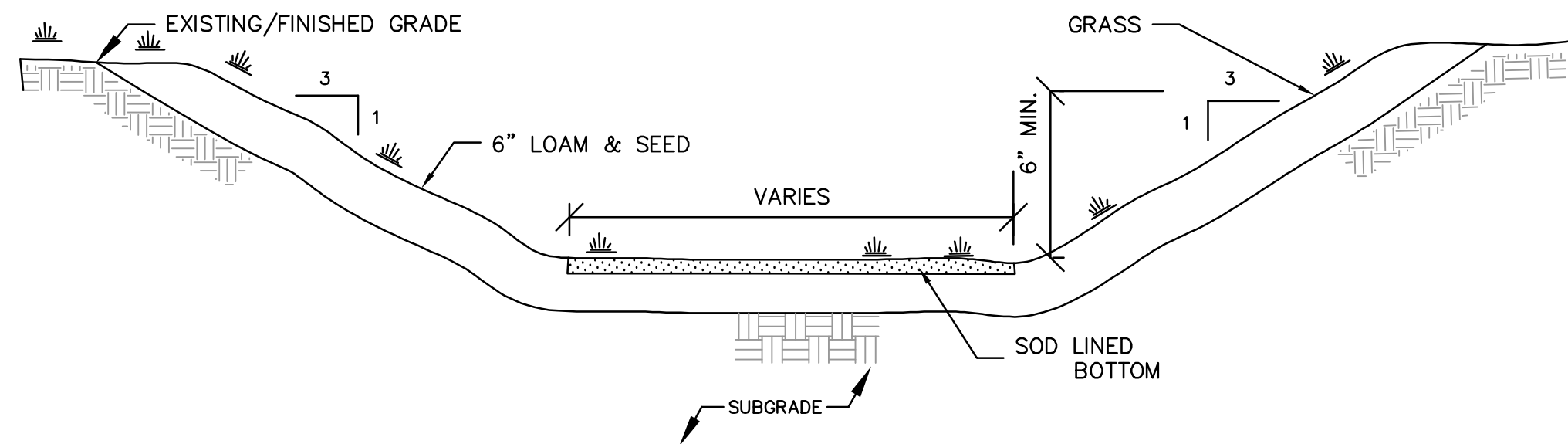
PLANNING FILE NO.: SITE-2025-XXXX

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY				 CIVILWORKS NEW ENGLAND 181 Watson Road, PO Box 1166 Dover, NH 03821 603.749.0443			
DATE:	9-18-2025	SCALE:	N.T.S.	DRAWN BY:	WEJ	DESIGN BY:	SH
APPROVED BY:	SH	PROJECT NO.:	23149	FILE:	SITE.dwg	NO.	
REVISION		APP'D		DATE			

EROSION CONTROL DETAILS		COMCAST CABLE MANAGEMENT, LLC 751 EAST INDUSTRIAL PARK DRIVE MANCHESTER, NH 03109	
BROADBAND DIGITAL EQUIPMENT CENTER 200 SIXTH STREET DOVER, NEW HAMPSHIRE		11	



NOT TO SCALE

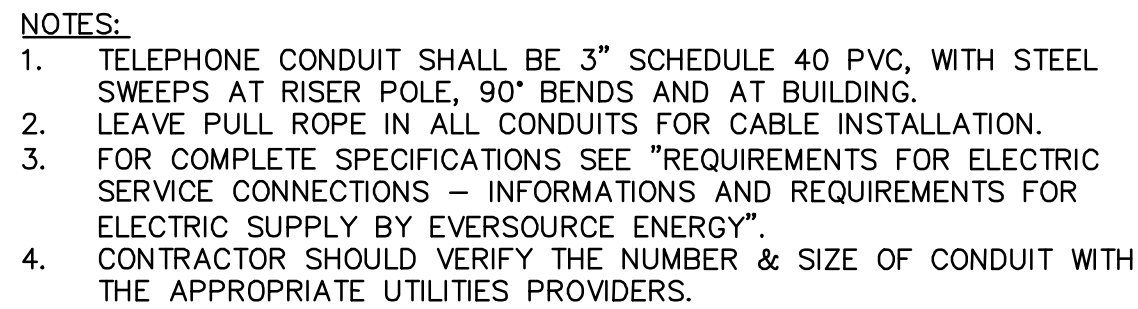
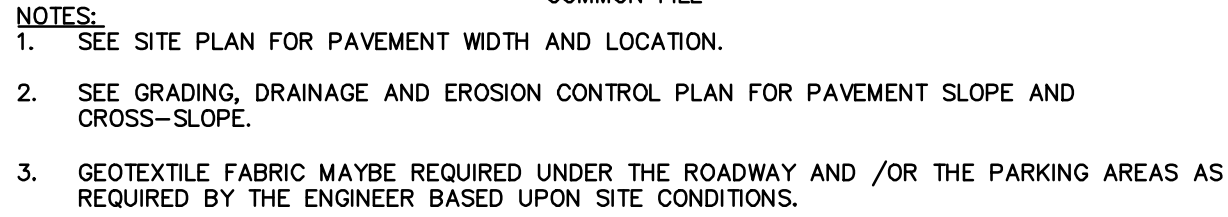


MAINTENANCE

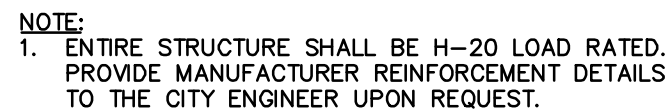
MINIMAL MAINTENANCE IS IMPORTANT TO KEEP THE VEGETATION IN THE SWALE IN GOOD CONDITION. MOWING SHOULD BE DONE FREQUENTLY ENOUGH TO KEEP THE VEGETATION IN VIGOROUS CONDITION AND TO CONTROL ENCRoACHMENT OF WEEDS AND WOODY VEGETATION. HOWEVER IT SHOULD NOT BE MOWED TOO CLOSELY. MAINTAIN A MINIMUM 4" STAND OF VEGETATION. FERTILIZATION ON AN "AS NEEDED" BASIS TO KEEP THE GRASS HEALTHY. OVER FERTILIZATION CAN RESULT IN THE SWALE BECOMING A SOURCE OF POLLUTION.

THE SWALE SHOULD BE INSPECTED PERIODICALLY AND AFTER EVERY MAJOR STORM TO DETERMINE THE CONDITION OF THE SWALE. RILLS AND DAMAGED AREAS SHOULD BE PROMPTLY REPAIRED AND REVEGETATED AS NECESSARY TO PREVENT FURTHER DETERIORATION.

NOT TO SCALE



NOT TO SCALE

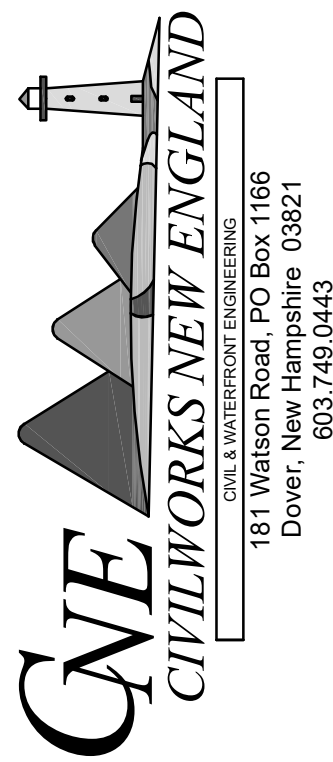


NOT TO SCALE

1. ALL CONSTRUCTION SHALL CONFORM WITH THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION (NDOT), "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 LOADING OF 8 TONS (H2O LOADING).
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 BE SET 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 JOINTS BETWEEN THE TOP OF THE STRUCTURE AND THE MORTAR FLANGE OF THE FRAME SHALL BE COVERED WITH A MAKE A WATER TIGHT FIT. 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 ROCKS IN 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 EVEN. THE OUTSIDE OF THE CHANNELS 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 PLACED AT A DISTANCE OF 1 FOOT FROM THE OUTSIDE DIAMETER OF THE PIPE TO A DEPTH 6 INCHES BELOW THE INVERT OF THE PIPE. 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, OR CURB, OR OTHER MATERIAL, 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 STRUCTURE IN 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 AND ALL 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 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 SETS OF PIPE, MANHOLES, CATCH BASINS, FRAMES, GRATES AND COVERS 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 FLAT CONCRETE COVERS SHALL BE STAMPED 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

PLANNING FILE NO.: SITE-2025-XXXX



Dover, New Hampshire 03821
603.749.0443

New Hampshire
603.749.0443

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REVISION

No.

DATE: 9-18-20

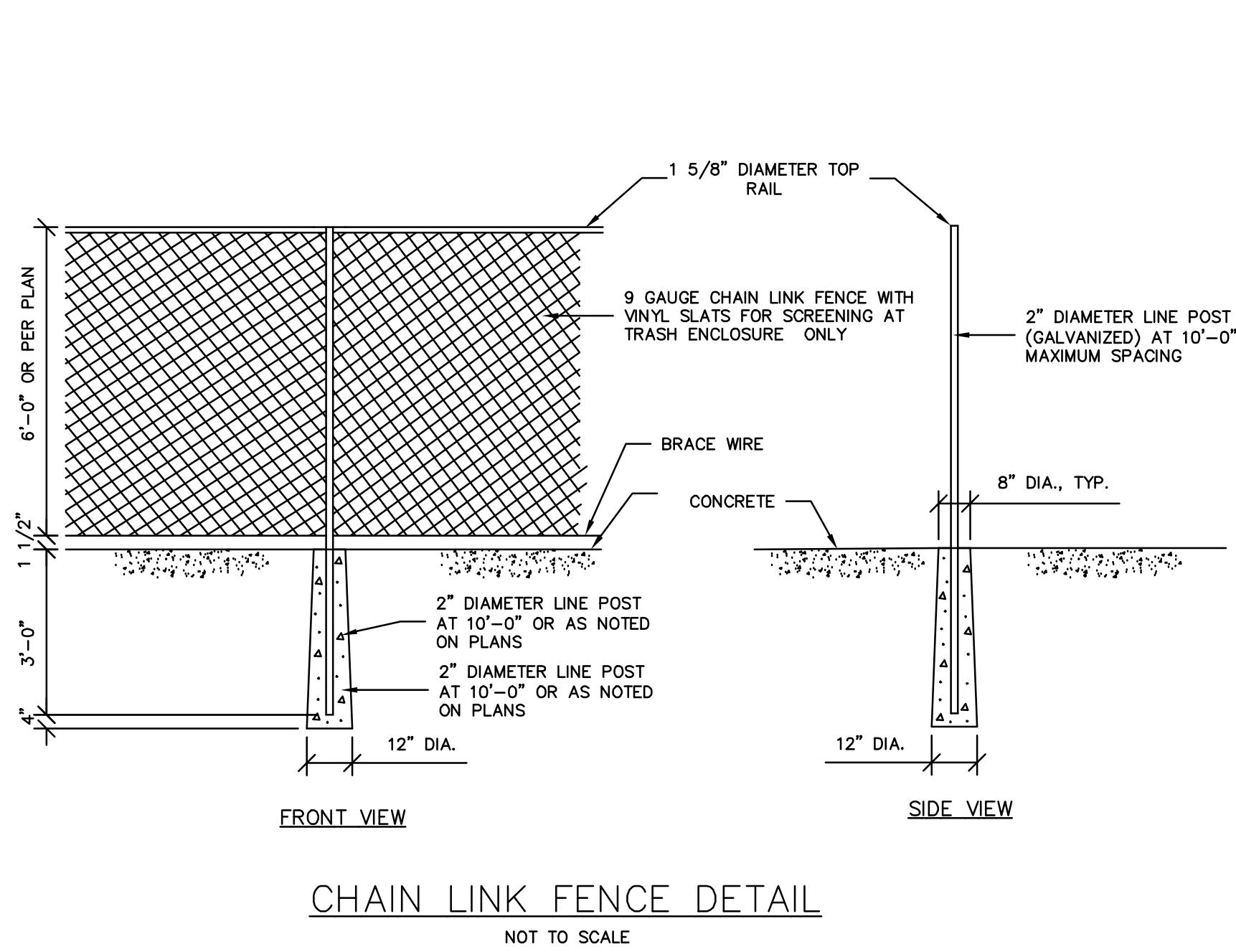
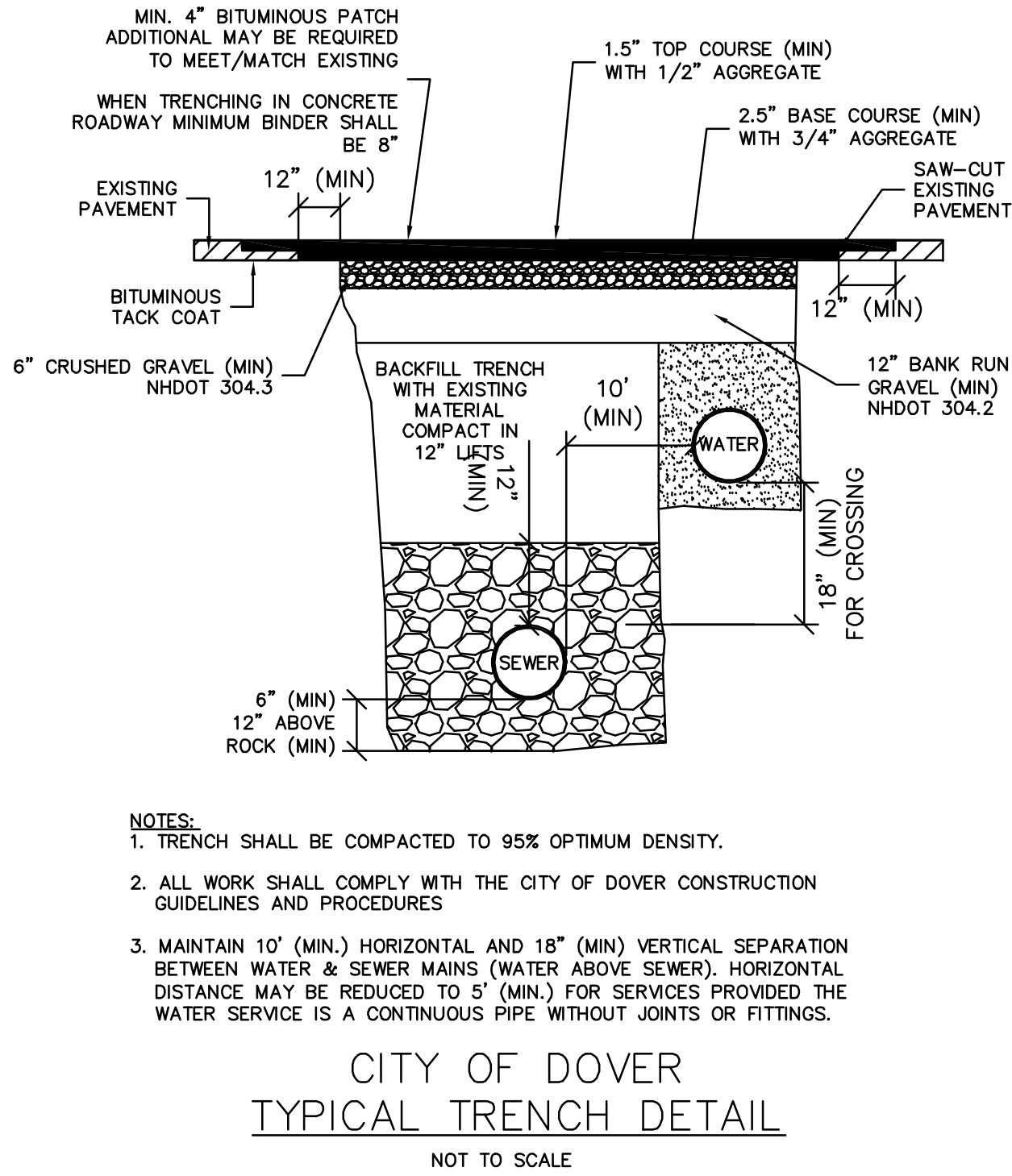
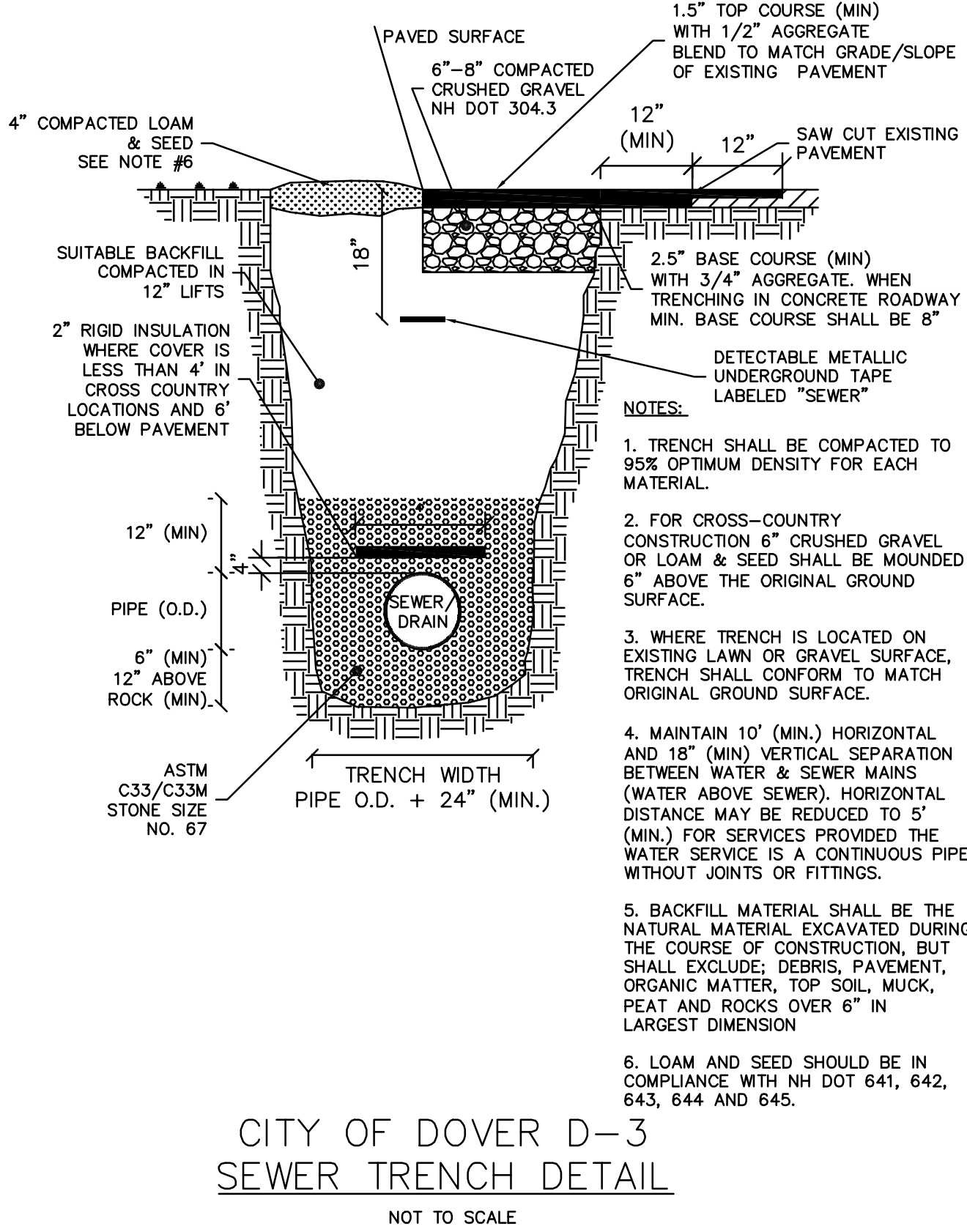
SCALE: N.T.S

DRAWN BY: WEJ

DESIGN BY: SJH

APPROVED BY: S

PROJECT NO: 23



TRELLEBORG PIPE SEALS

Kor-N-Seal® I Stainless Steel Wedge Connector (WS Series)

Installation Instructions

CONNECTOR INSTALLATION

- Check to be sure the Stainless Steel Waveband® is properly located in Connector groove.
- 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.
- Insert Connector Assembly into hole with Wedge Expander at top of hole.
- Position Connector so it is square to manhole both vertically and horizontally.
- Tighten Wedge Expander using 1/2" socket wrench to 12 foot pounds.
- 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.



*Covered under US Patent No. 5,738,359

PIPE INSTALLATION

- Be sure sealing area of pipe is smooth and free of defects. Repair if needed.
- Center pipe in Connector opening. (Pipe must not rest on Connector Korband).
- Position the Pipe Clamp in the Connector's Pipe Clamp groove with the screw at the top.
- Tighten the Pipe Clamp screw to 60 inch pounds with a T-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.

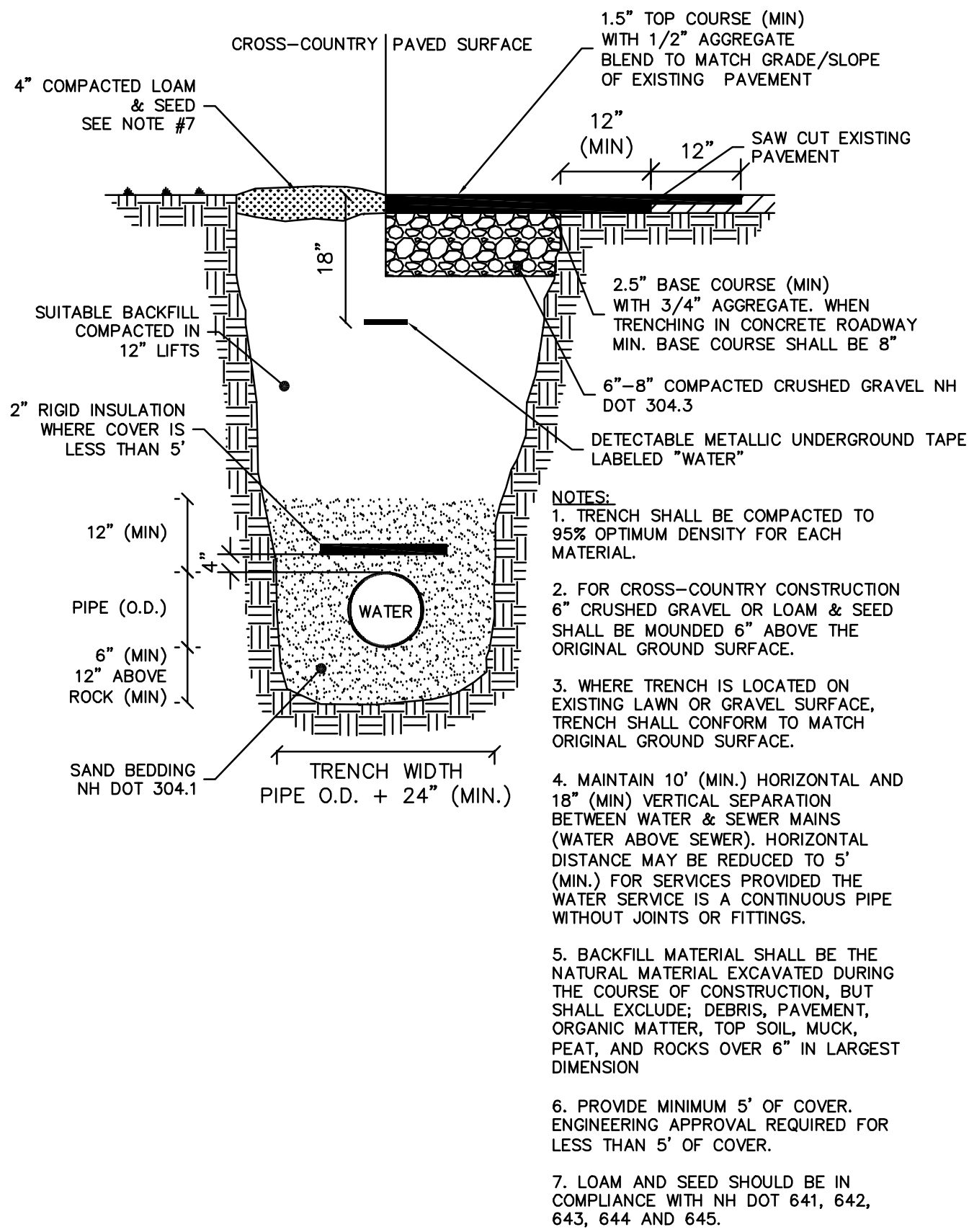
All pipe stubs must be restrained.

Adapters are required when using Corrugated Pipe. Refer to the Corrugated Pipe Adapter Data Sheet for more information.

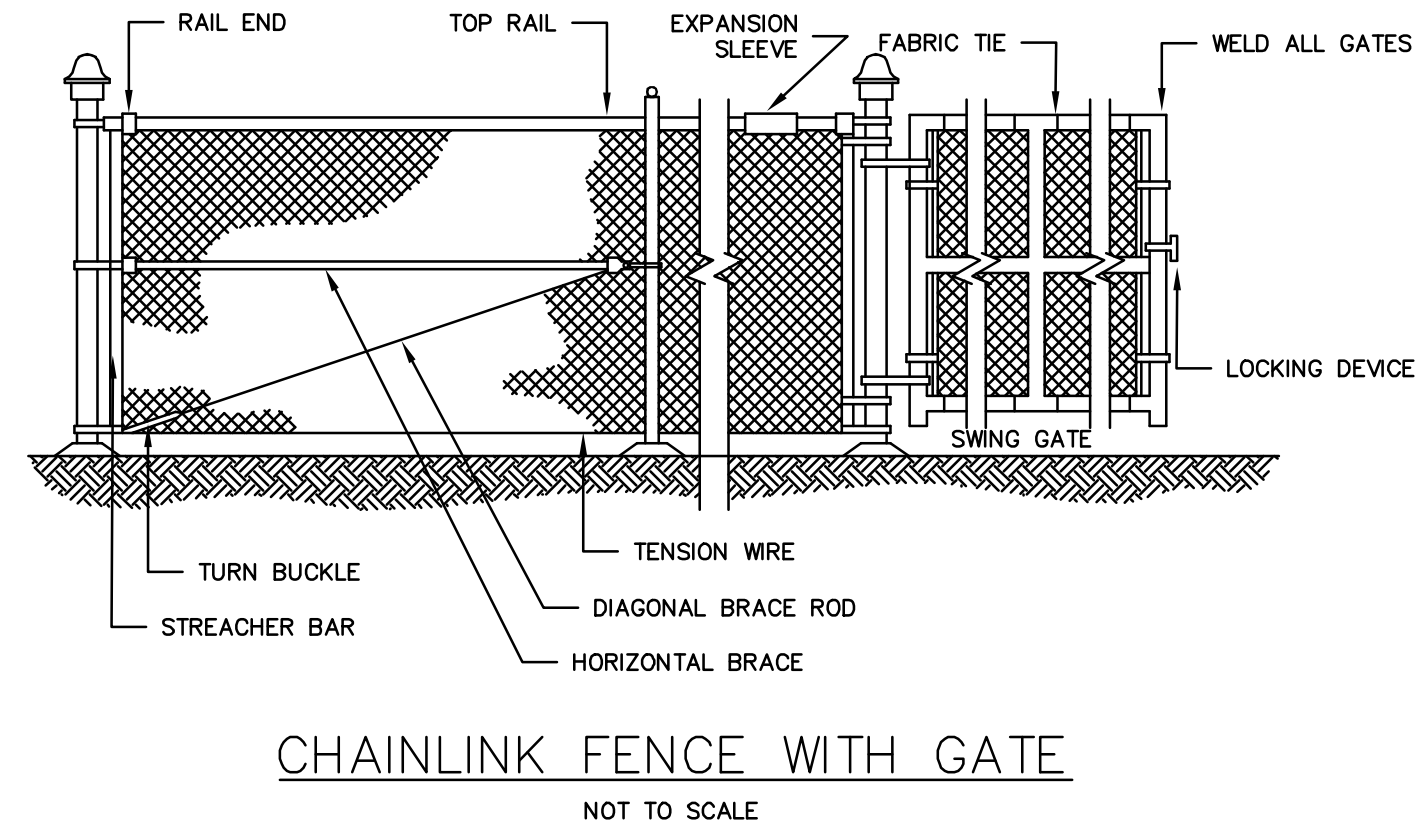
Check calibration of torque limiters monthly

Torque limiters are available for connectors that can be used with cordless drills and hand or air ratchets.

Call 800-626-2180 for information.

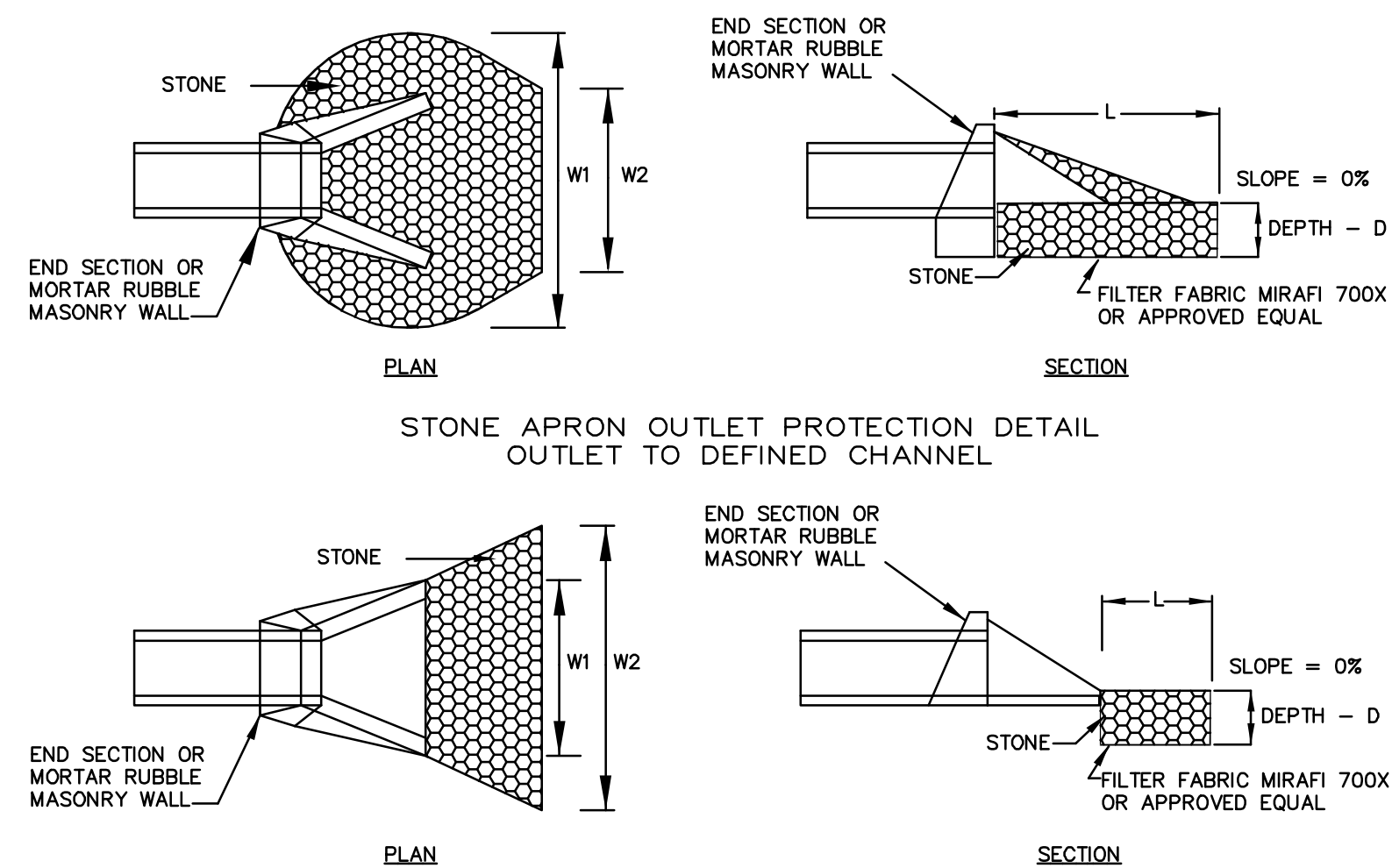
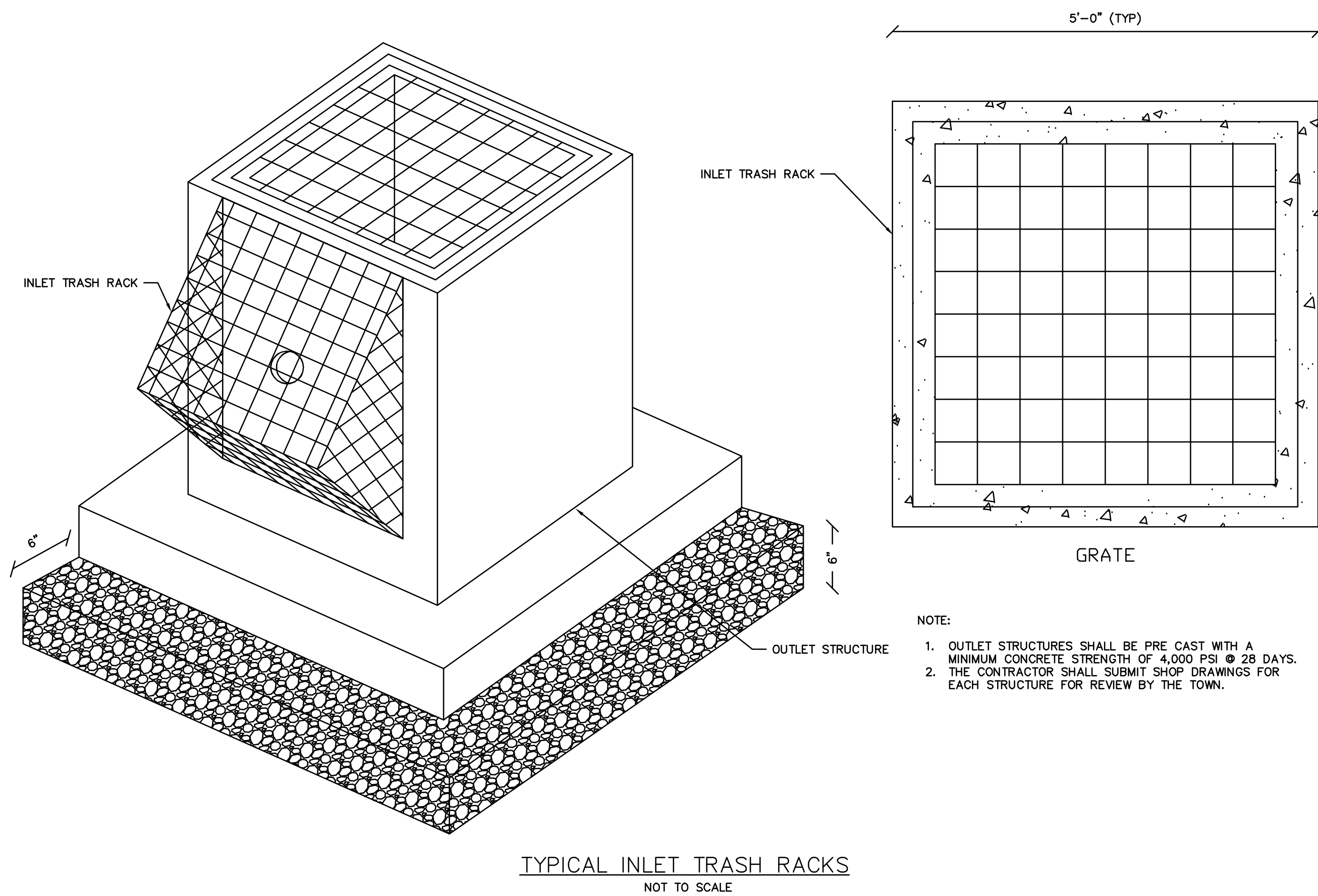
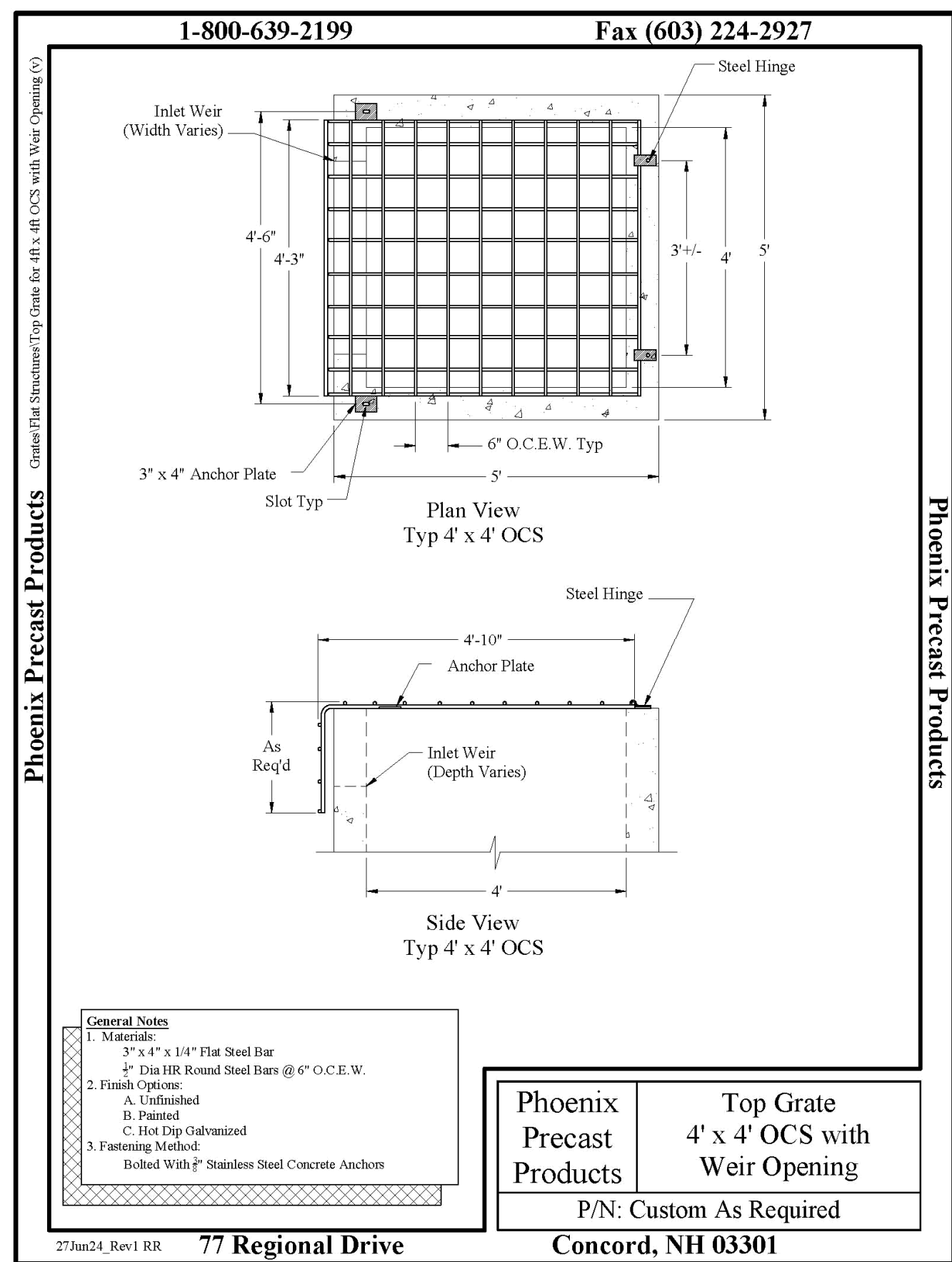
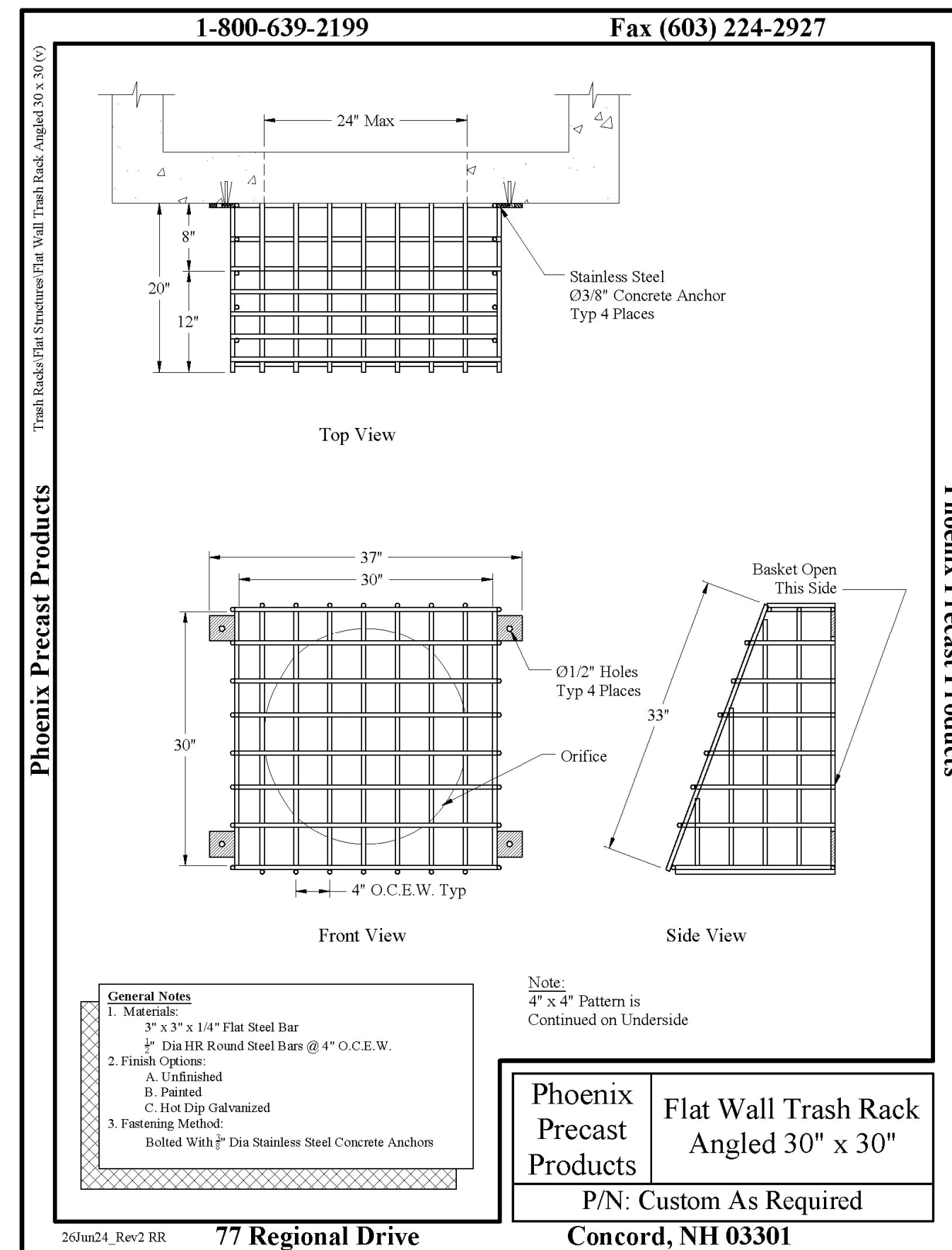


CITY OF DOVER D-4
WATER TRENCH DETAIL
NOT TO SCALE



PLANNING FILE NO.: SITE-2025-XXXX

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY				CIVILWORKS NEW ENGLAND			
DATE: 9-18-2025				181 Watson Road, PO Box 1166 Dover, New Hampshire 03821 603.749.0443			
SCALE: N.T.S.				DRAWN BY: WEJ			
				DESIGN BY: SJH			
				APPROVED BY: SJH			
				PROJECT NO: 23149			
				FILE: SITE.dwg			
				COMCAST CABLE MANAGEMENT, LLC 751 EAST INDUSTRIAL PARK DRIVE MANCHESTER, NH 03109			
				BROADBAND DIGITAL EQUIPMENT CENTER 200 SIXTH STREET DOVER, NEW HAMPSHIRE			
DETAIL SHEET				13			



OUTLET FROM	W1(ft)	W2(ft)	L(ft)	D (ft)	D50(IN)	CHANNEL TYPE
IB1	3	12	9	1	6	NON-DEFINED

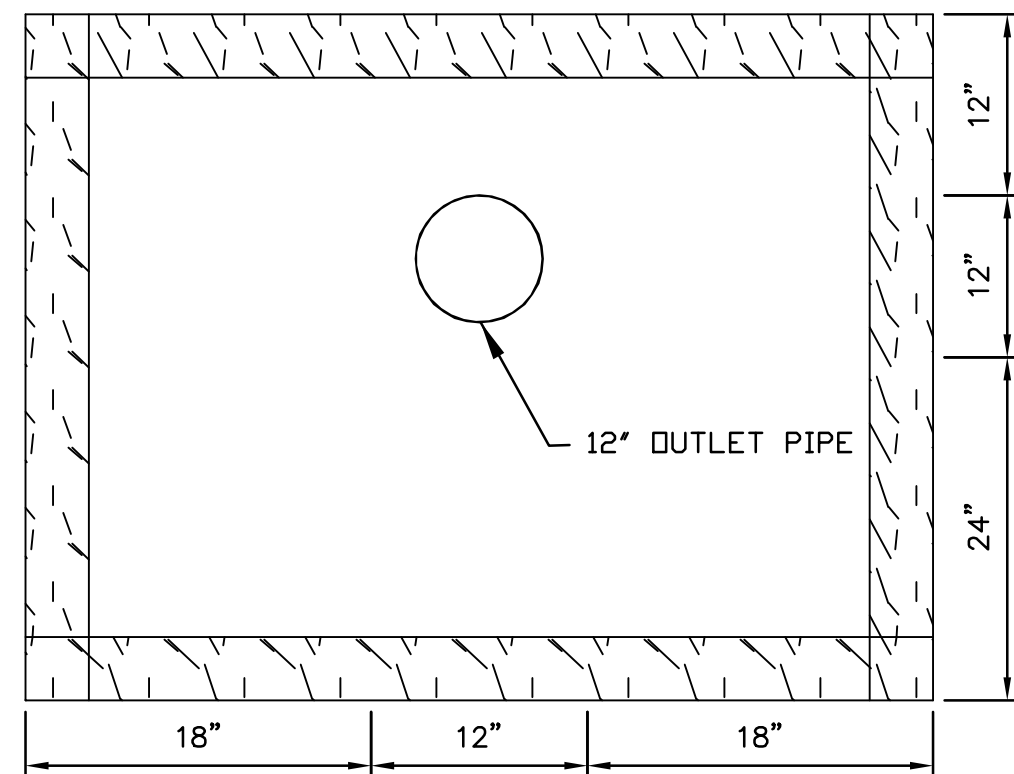
CONSTRUCTION SPECIFICATIONS

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. THE GEOTEXTILE FABRIC 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.

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

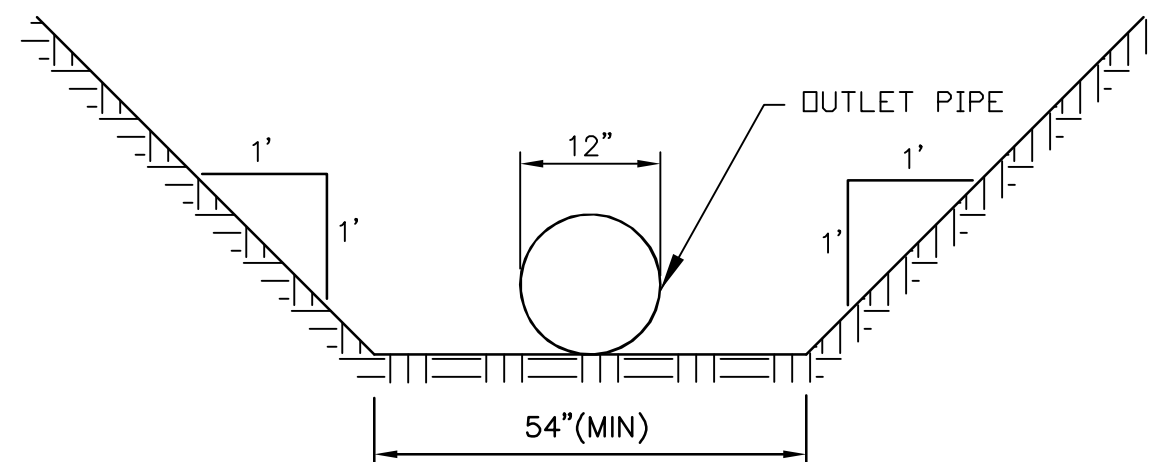


IB1 OUTLET PIPE
ANTI-SEEP COLLAR DETAIL

NOT TO SCALE

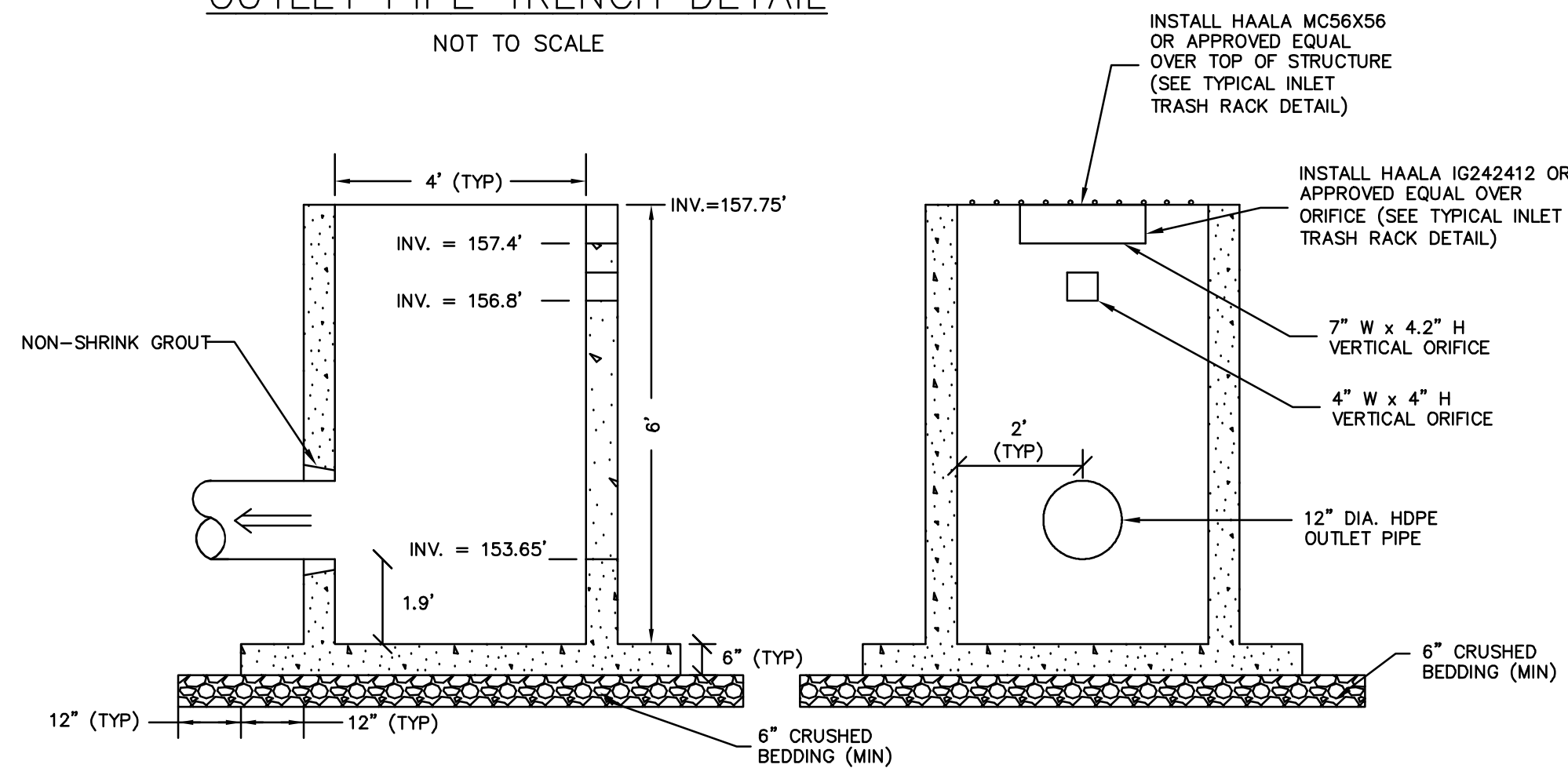
NOTES:

1. ANTI-SEEP COLLARS SHALL BE WATERPROOF AND HAVE A WATERPROOF CONNECTION TO THE PIPE.
2. ANTI-SEEP COLLARS TO BE AGRI DRAIN OR APPROVED EQUAL.



IB1 POND 1
OUTLET PIPE TRENCH DETAIL

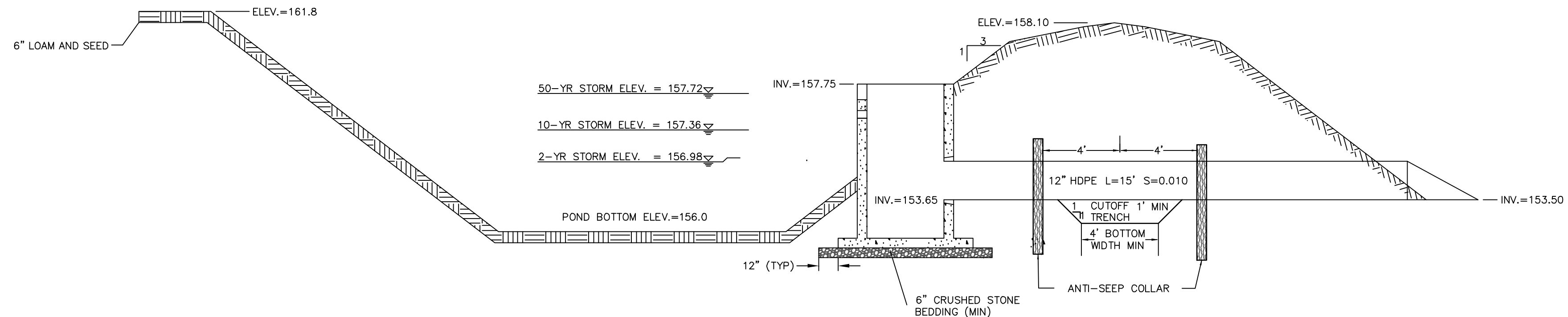
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NOTE:

- 1) ALL OUTLET STRUCTURES SHALL BE PRE CAST WITH A MINIMUM CONCRETE STRENGTH OF 4,000 PSI @ 28 DAYS.
- 2) THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR EACH STRUCTURE FOR REVIEW BY THE TOWN.

IB1 OUTLET STRUCTURE DETAIL



INFILTRATION BASIN 1 (IB1)

MOISTURE CONTROL

THE MOISTURE CONTENT OF THE FILL MATERIAL SHALL BE ADEQUATE FOR OBTAINING THE REQUIRED COMPACTION. MATERIAL THAT IS TOO WET SHALL BE DRIED TO MEET THIS REQUIREMENT, AND MATERIAL THAT IS TOO DRY SHALL HAVE WATER ADDED AND MIXED UNTIL THE REQUIREMENT IS MET.

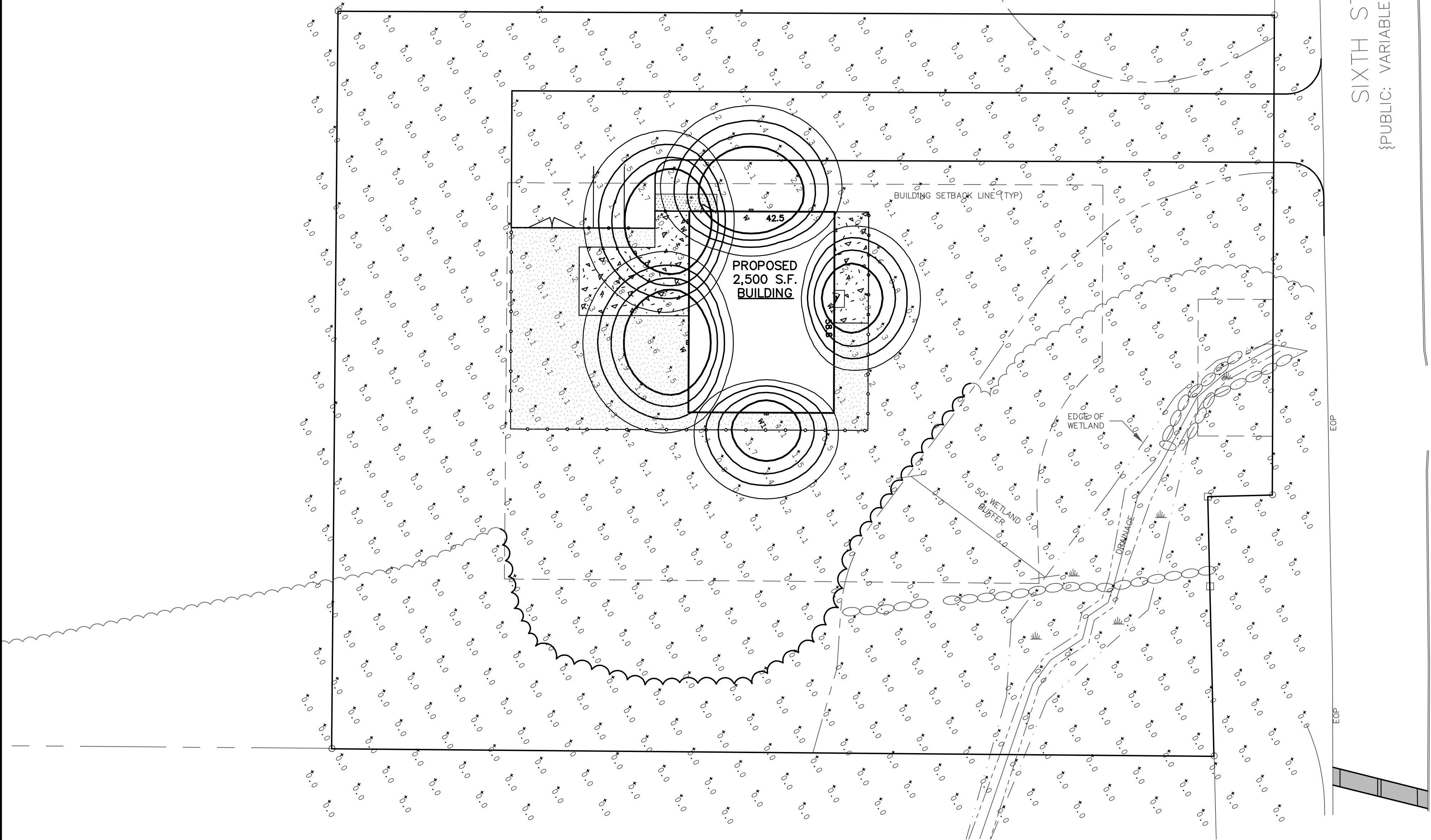
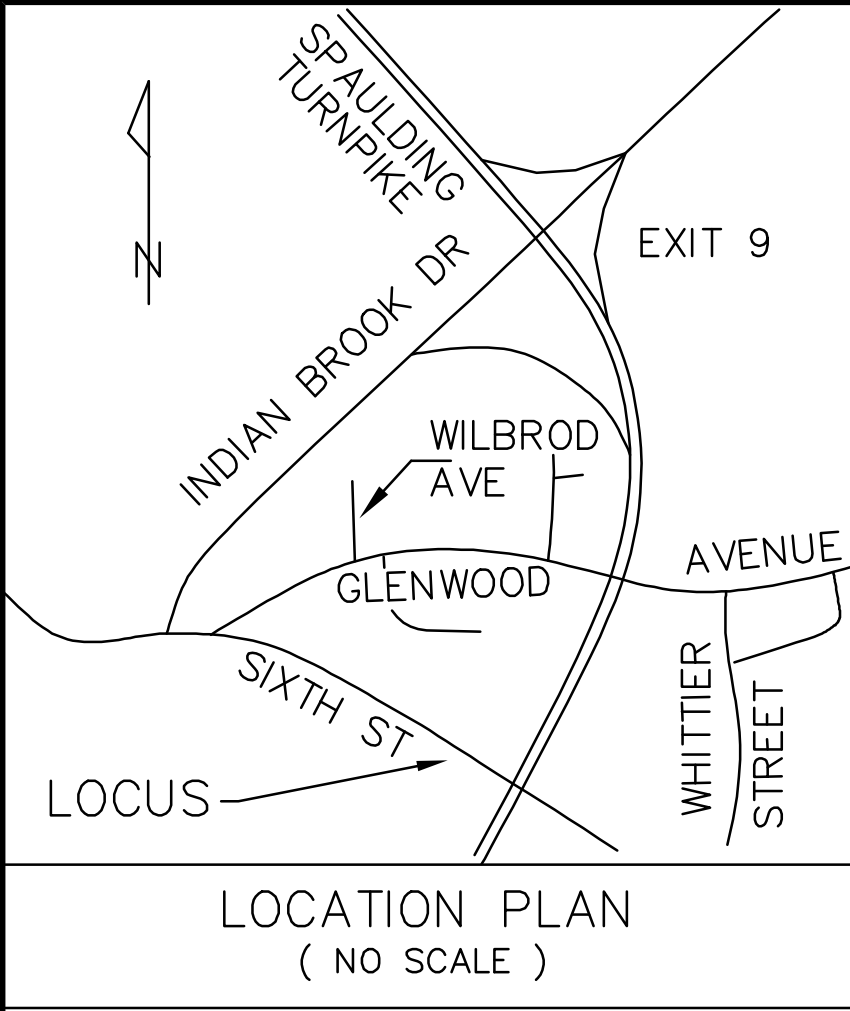
COMPACTION

FILL ADJACENT TO STRUCTURES, PIPE CONDUITS, AND ANTI-SEEP COLLARS SHALL BE COMPACTED TO A DENSITY EQUIVALENT TO THAT OF THE SURROUNDING FILL BY MEANS OF HAND TAMPING OR MANUALLY DIRECTED POWER TAMPER OR PLATE VIBRATORS.

MAINTENANCE:

MAINTENANCE IS NECESSARY TO ENSURE THAT THE WET POND WILL CONTINUE TO FUNCTION AS ORIGINALLY DESIGNED. THE "HOMEOWNERS ASSOCIATION" IS RESPONSIBLE FOR MAINTAINING THE STRUCTURES AND THE BASIN AREA.

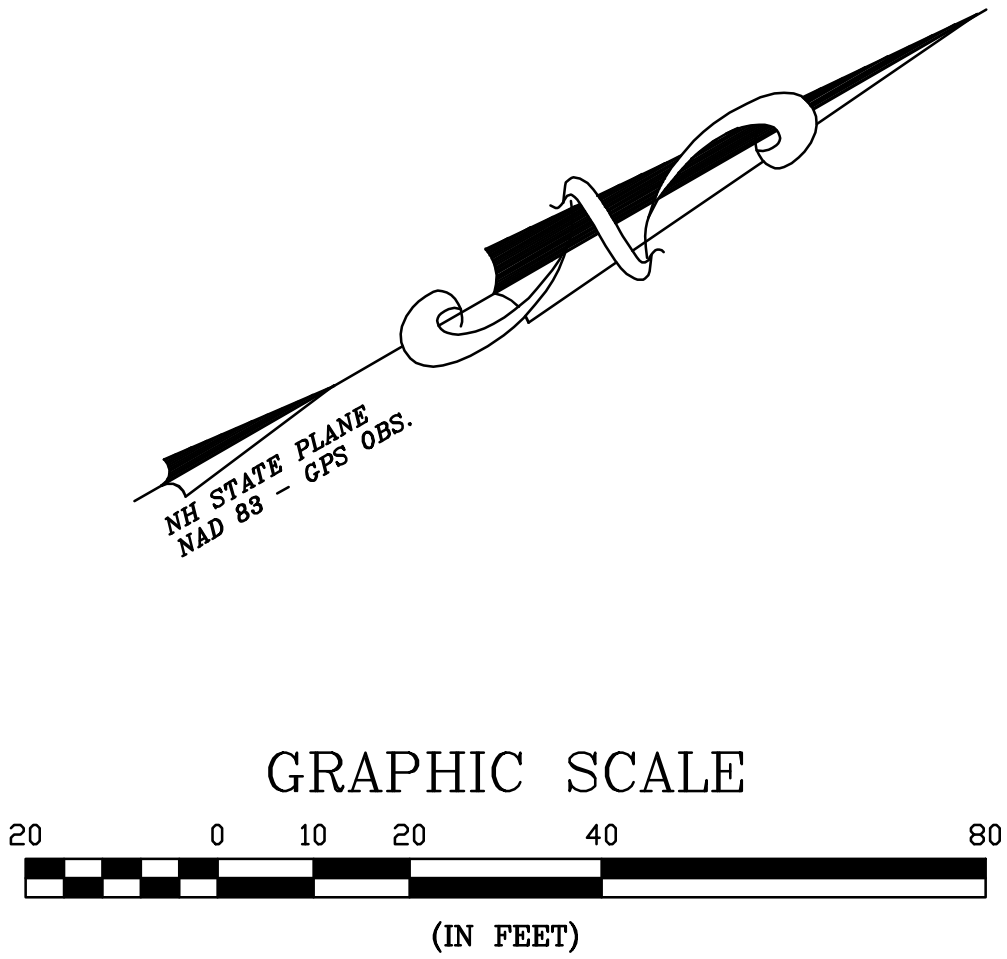
- 1 EMBANKMENT - THE EMBANKMENT SHOULD BE INSPECTED ANNUALLY TO DETERMINE IF RODENT
2 BURROWS, WET AREAS, OR EROSION OF THE FILL IS TAKING PLACE. IF SUCH ISSUES ARE NOTED
3 THEY SHALL BE RECTIFIED AS SOON AS PRACTICAL.
4 THE VEGETATION OF THE EMBANKMENT SHALL BE MAINTAINED. THE BERM SHOULD BE PROTECTED FROM DAMAGE BY FIRE,
5 GRAZING, TRAFFIC, AND DENSE WEED GROWTH. LIME AND FERTILIZER SHOULD BE APPLIED AS
6 NECESSARY AS DETERMINED BY SOIL TESTS. TREES SHOULD BE KEPT OFF THE BERM AREA.
7 AND OUTCROPPED ROCKS SHOULD BE REMOVED. AFTER EVERY MAJOR STORM,
8 ACCUMULATED DEBRIS AND SEDIMENT SHOULD BE REMOVED.
9 SEDIMENT - SEDIMENT SHOULD BE CONTINUALLY CHECKED IN THE BASIN. WHEN SEDIMENT
10 ACCUMULATIONS EXCEED THE STRUCTURE INLET ELEVATION, THEN THE SEDIMENT SHOULD BE REMOVED
11 AND PROPERLY DISPOSED OF.



Luminaire Schedule						
Symbol	Qty	Label	Arrangement	Description	Tag	[MANUFAC]
□	3	W	Single	XWS-LED-5L-MTPD-UNV-DIM-30-80CRI-IMSBT1L-CXX	WALL MOUNTED 12' AFG	LSI INDUSTRIES, INC.
□	2	W1	Single	XWS-LED-2L-MTPD-UNV-30-80CRI-IMSBT1L-CXX	WALL MOUNTED 12' AFG	LSI INDUSTRIES, INC.



PHOTOMETRIC PLAN PREPARED BY
KEN SWEENEY
KSWEENEY@EXPOSURE2LIGHTING.COM
FOR PRICING PLEASE CONTRACT OUR OFFICE IN
NEW HAMPSHIRE
603-601-8080
WWW.EXPOSURE2LIGHTING.COM



DATE: 9-18-2025
SCALE: 1"=20'
DRAWN BY: WEJ
DESIGN BY: SJH
APPROVED BY: SJH
PROJECT NO: 23149
FILE: SITE.dwg

NO. REVISION APP'D DATE

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CIVILWORKS NEW ENGLAND
CIVIL & WATERCRAFT ENGINEERING
181 Watson Road, PO Box 1166
Dover, NH 03821
603.749.0443



Catalog # :

Project :

Type :

Prepared By :

Date :

Mirada Small Wall Sconce

Visual Comfort (XWS VC)

Outdoor LED Wall Light



OVERVIEW	
Lumen Package (lm)	1,000 - 6,000
Wattage Range (W)	10 - 52
Efficacy Range (LPW)	119 - 163
Weight lbs (kg)	8 (3.6)

QUICK LINKS

- Ordering Guide
- Performance
- Photometrics
- Dimensions

FEATURES & SPECIFICATIONS

Construction

- Rugged die-cast aluminum housing.
- Fixtures are finished with LSI's DuraGrip® polyester powder coat finishing process. The DuraGrip finish withstands extreme weather changes without cracking or peeling. Other standard LSI finishes available. Consult factory.
- Extended housing available with 1/2" threaded hubs for surface conduit and rated wire.
- Standard luminaire shipping weight: 10 lbs in carton.
- Max luminaire shipping weight (with back housing): 20 lbs in carton.

Optical System

- Choice of acrylic lens or high impact resistant polycarbonate lens
- The lens is fully gasketed with a one-piece solid silicone gasket to keep out moisture and dust, providing an IP65 rating for the luminaire
- Reflector system with recessed light engine reduces glare and brightness.
- Forward Throw Wide and Medium distributions available.
- Optional diffused lens for reduced LED pixilation over the lens and maximum visual comfort.
- Zero uplight.
- Available in 5000K, 4000K, 3500K, 3000K and 2700K color temperatures per ANSI C78.377.
- Minimum CRI of 80

Electrical

- High-performance driver features over-voltage under-voltage, short-circuit and over temperature protection.

- 0-10V dimming (10% - 100%) standard.
- Standard Universal Voltage (120-277 VAC) Input 50/60 Hz or optional High Voltage (347-480 VAC).
- L70 Calculated Life: >60k Hours
- Total harmonic distortion (THD): <20%
- Operating temperature: -40°C to +50°C (-40°F to +122°F).
- Power factor (PF): >.90
- Input power stays constant over life.
- Optional 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).
- High-efficacy LEDs mounted to metal-core circuit board to maximize heat dissipation
- Driver is fully encased in potting material for moisture resistance. Driver complies with FCC standards. Accessible driver and electrical components.
- Optional Dual Drivers/Circuit/Power Feeds.
- Optional battery backup provides 90-minutes of constant power to the LED system, ensuring code compliance. A test switch/indicator button is installed on the housing for ease of maintenance. Standard battery rated for 0° to 50° with cold weather battery rated for -20°C to 50°. 120-277V Only.

Controls

- Optional integral passive infrared Bluetooth™ motion and photocell sensor. Fixtures operate independently and can be commissioned via iOS or Android configuration app.
- LSI's AirLink™ wireless control system options reduce energy and maintenance costs while optimizing light quality 24/7.

Installation

- Universal wall mounting plate mounts directly to vertical surface or 4" junction box (octagonal or square).
- Luminaire hinges to the top of the mounting plate and is secured via two flush mount screws that help to conceal the hardware and prevent over tightening during installation.

Warranty

- LSI luminaires carry a 5-year limited warranty. Refer to <https://www.isicorp.com/resources/terms-conditions-warranty/> for more information.

Listings

- Listed to UL 1598 and UL 8750.
- Meets Buy American Act requirements.
- IDA compliant; with 2700K or 3000K color temperature selection.
- Title 24 Compliant; see local ordinance for qualification information.
- Suitable for wet locations.
- IP65 rated luminaire per IEC 60598-1.
- IK10 rated luminaire per IEC 66262 mechanical impact code with clear polycarbonate lens (MTP).
- DesignLights Consortium® (DLC) qualified product. Not all versions of this product are DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.



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Page 1/7 Rev. 06/11/24
SPEC1021.D 0723

PLANNING FILE NO.: SITE-2025-XXXX

LIGHTING DETAILS

BROADBAND DIGITAL
EQUIPMENT CENTER
200 SIXTH STREET
DOVER, NEW HAMPSHIRE

COMCAST CABLE
MANAGEMENT, LLC
751 EAST INDUSTRIAL
PARK DRIVE
MANCHESTER, NH 03109

17

DATE: 9-18-2025
SCALE: N.T.S.
DRAWN BY: WEJ
DESIGN BY: SJH
APPROVED BY: SJH
PROJECT NO: 23149
FILE: SITE.dwg

NO.	REVISION	APP'D	DATE

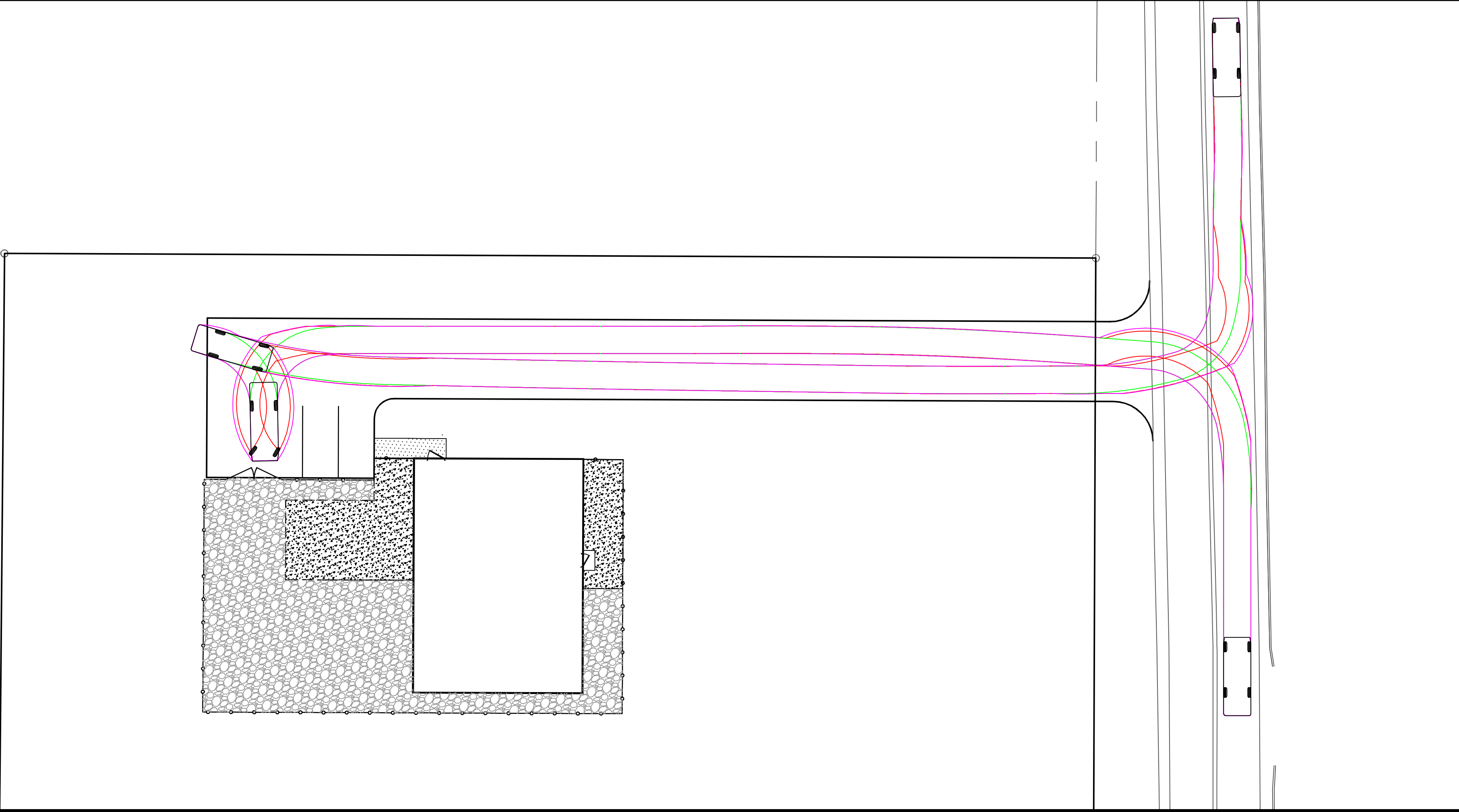
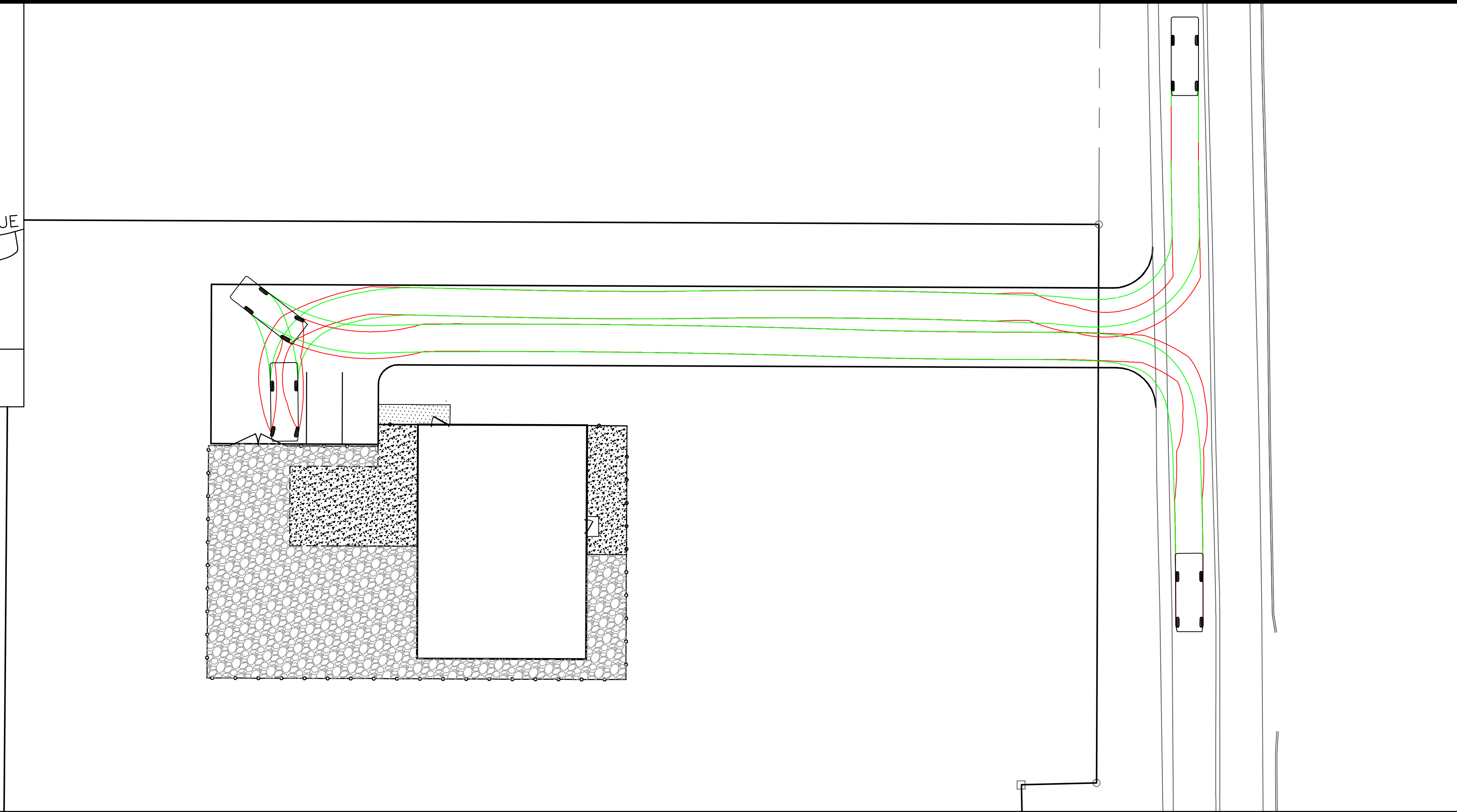
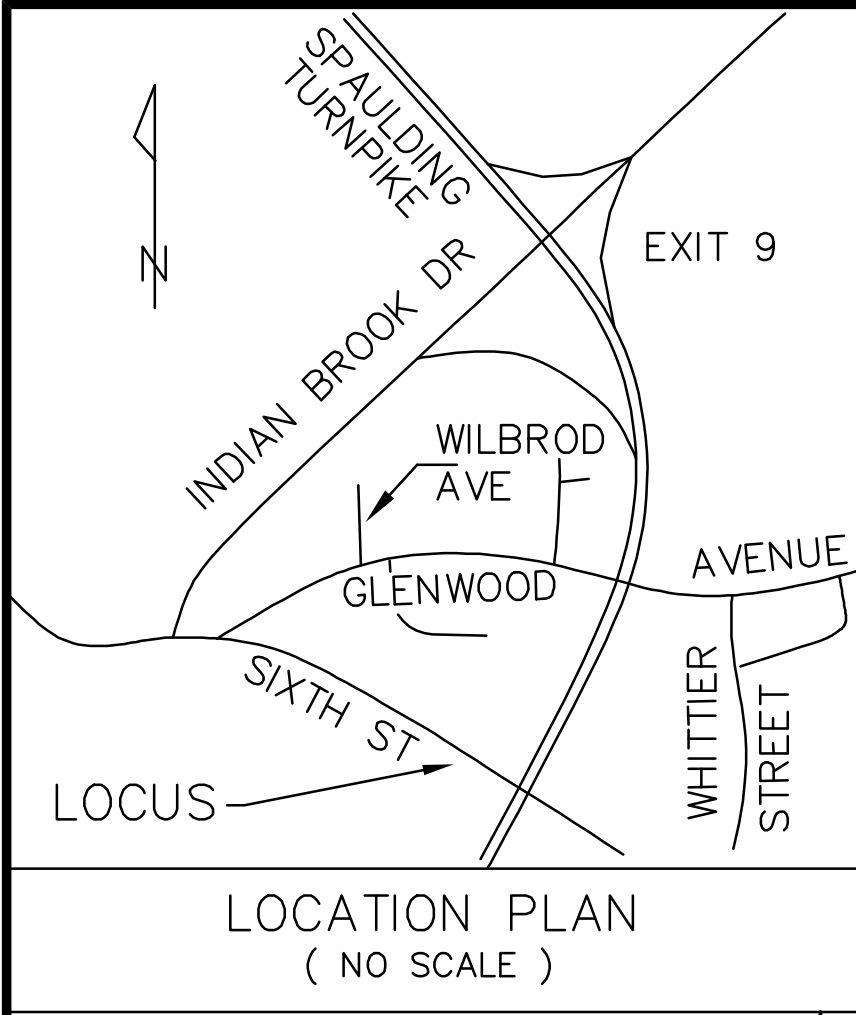
NOT FOR CONSTRUCTION FOR PERMIT USE ONLY



CIVILWORKS NEW ENGLAND

CIVIL & WATERFRONT ENGINEERING

181 Watson Road, PO Box 1166
Dover, NH 03821 603.749.0443



GRAPHIC SCALE
(IN FEET)

CNE delivery van

Width	: 6.89
Track	: 6.89
Lock to Lock Time	: 6.0
Steering Angle	: 46.2

feet

PLANNING FILE NO.: SITE-2025-XXXX

DELIVERY TRUCK MOVEMENT PLAN 18 BROADBAND DIGITAL EQUIPMENT CENTER 200 SIXTH STREET DOVER, NEW HAMPSHIRE COMCAST CABLE MANAGEMENT, LLC 751 EAST INDUSTRIAL PARK DRIVE MANCHESTER, NH 03109		NOT FOR CONSTRUCTION FOR PERMIT USE ONLY									
		</									

ROOM FINISH SCHEDULE							
ROOM NAME	FLOOR	BASE	WALLS				CEILING
			NORTH	EAST	SOUTH	WEST	
HEADEND & STORAGE ROOM	VCT	4" VINYL	5/8" CLASS A FIRE RETARDANT PLYWOOD SHEATHING, PRIME COAT, 1 HOUR PROTECTION OF INTUMESCENT PAINT, & NFR PANEL WHITE				EXPOSED CONCRETE PLANK/PAINTED
							FINISH
							HEIGHT
							13'-0"

DOOR SCHEDULE									
MARK	DOORS				FRAMES			HARDWARE SET	DOOR PURPOSE
	SIZE	MATERIAL	GLASS	TYPE	FIRE RATING	MATERIAL	TYPE		
101	4'-0" X 8'-0" X 1 3/4"	H.M.	N/A	D1	1.5 HOUR	H.M.	F1	A	PRIMARY ENTRANCE
102	3'-0" X 7'-0" X 1 3/4"	H.M.	N/A	D1	1.5 HOUR	H.M.	F1	A	SECONDARY ENTRANCE
103	3'-0" X 7'-0" X 1 3/4"	H.M.	N/A	D1	1.5 HOUR	H.M.	F1	A	STORAGE

DOOR HARDWARE - SET A		
ITEM	MFR.	MODEL / PART NO.
HINGES (4)	IVES	112HD-313AN-95-EPT
EXIT DEVICE	VON DUPRIN	XP-99-NL-F_-628-4'-990NL-RV/628-S
RIM CYLINDER	SCHLAGE	20-022 (626)
CLOSER	LCN	4040XP
GASKETING	NGP	160V
DRIP CAP	NGP	16A
DOOR SWEEP	NGP	D698A
PANIC THRESHOLD	NGP	884-V



OWNER
COMCAST CABLE COMMUNICATIONS MANAGEMENT, LLC,
A DELAWARE LIMITED LIABILITY CO.

REV	DATE	DESCRIPTION	BY
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PROJECT NAME
BDEC-03/23
BROADBAND DIGITAL EQUIPMENT CENTER

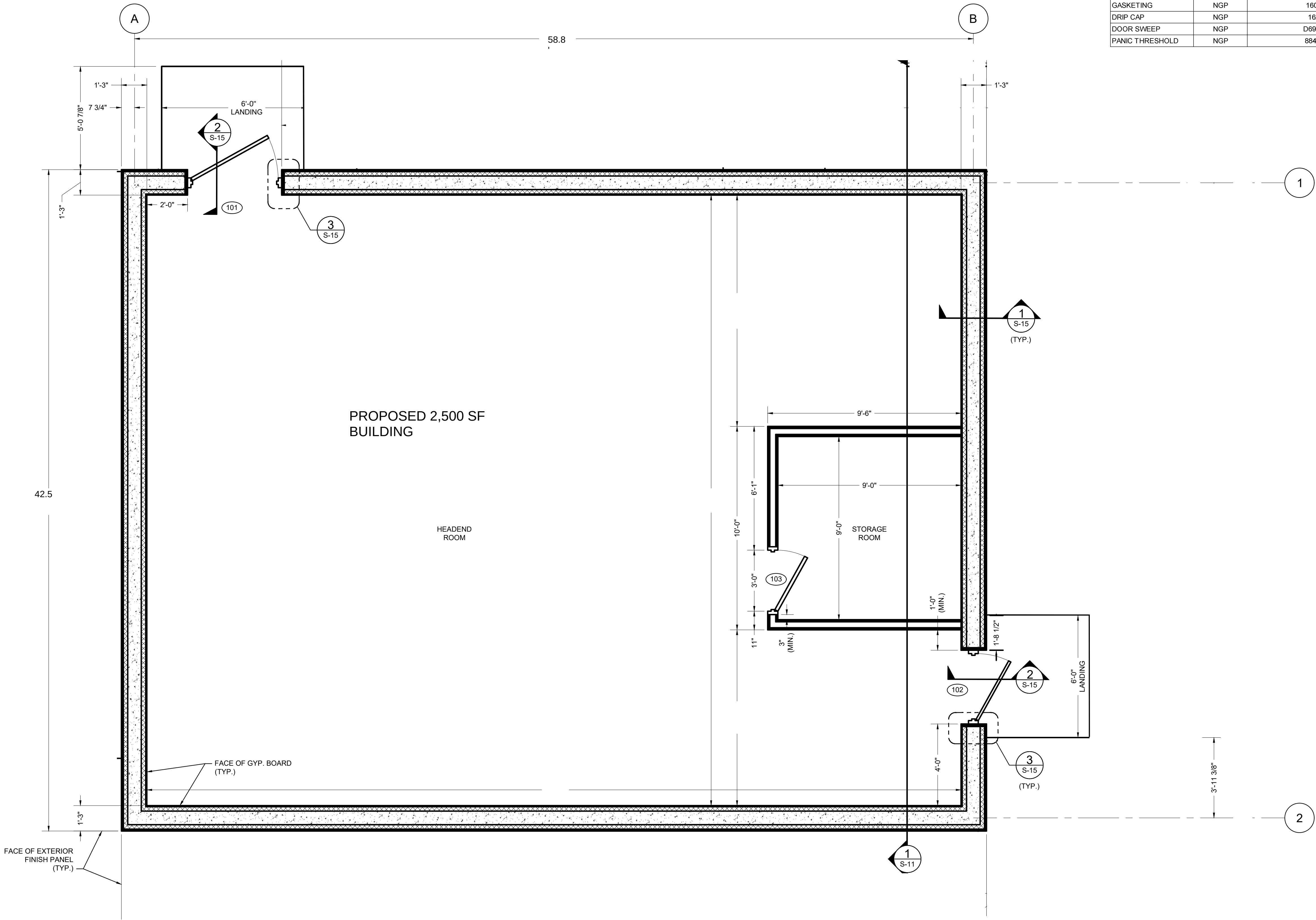
SITE NAME
COMCAST - DOVER

DATE
SEPTEMBER 17, 2025

SITE ADDRESS
200 SIXTH STREET
DOVER NH

SHEET NAME
PROPOSED FLOOR PLAN & SCHEDULE

SHEET NUMBER
S-1



PROPOSED FLOOR PLAN



NOTE:
1. ALL ITEMS ARE PROPOSED UNLESS NOTED OTHERWISE.
2. PROJECT SPECIFIC BUILDING ELEVATIONS BY CIVILWORKS NEW ENGLAND.



OWNER
COMCAST CABLE
COMMUNICATIONS
MANAGEMENT, LLC,
A DELAWARE LIMITED LIABILITY CO.

REV	DATE	DESCRIPTION	BY
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PROJECT NAME
BDEC-03/23
BROADBAND DIGITAL
EQUIPMENT CENTER

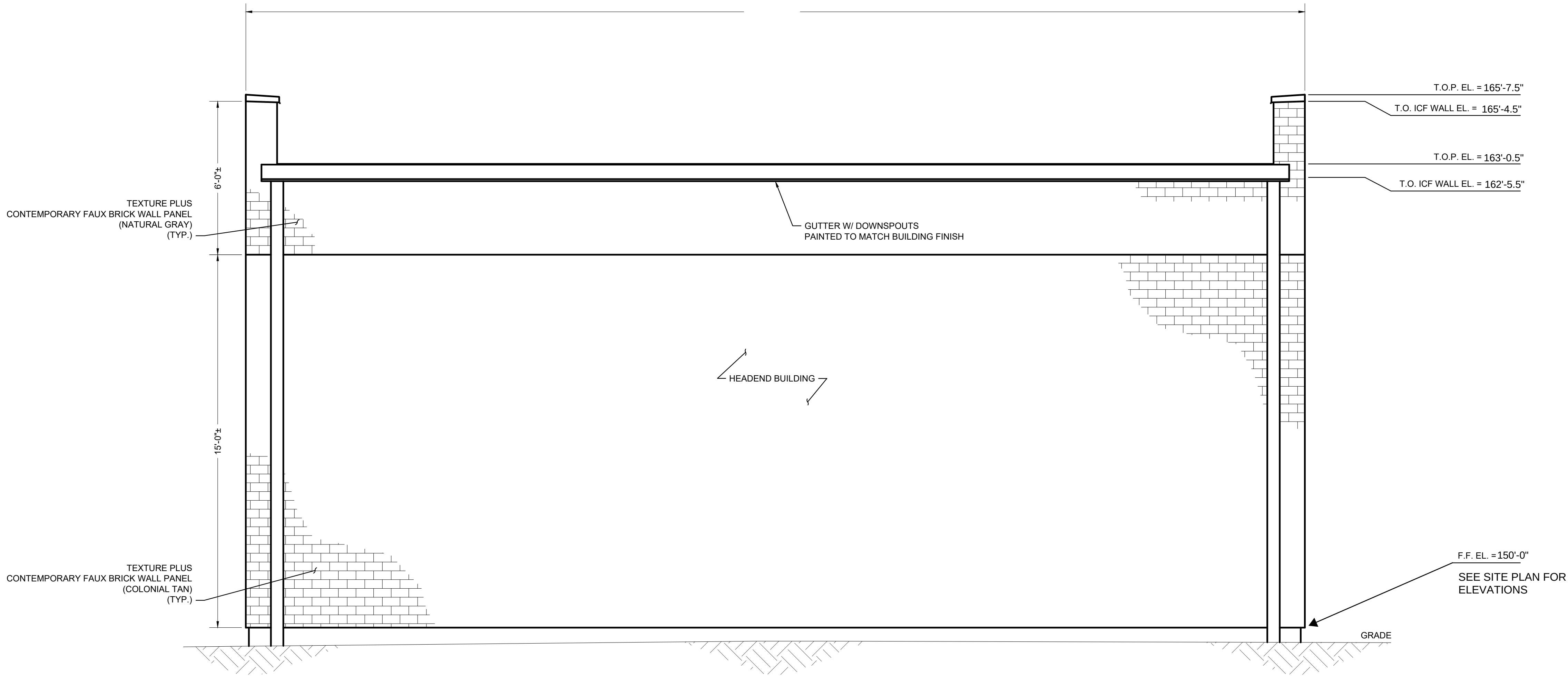
SITE NAME

DATE

SITE ADDRESS

SHEET NAME
SOUTH ELEVATION

SHEET NUMBER
S-2



1 SOUTH ELEVATION
(LOOKING NORTH)
SCALE: 3/8" = 1'-0"

NOTE:
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OWNER
COMCAST CABLE
COMMUNICATIONS
MANAGEMENT, LLC,
A DELAWARE LIMITED LIABILITY CO.

REV	DATE	DESCRIPTION	BY
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PROJECT NAME
BDEC-03/23
BROADBAND DIGITAL
EQUIPMENT CENTER

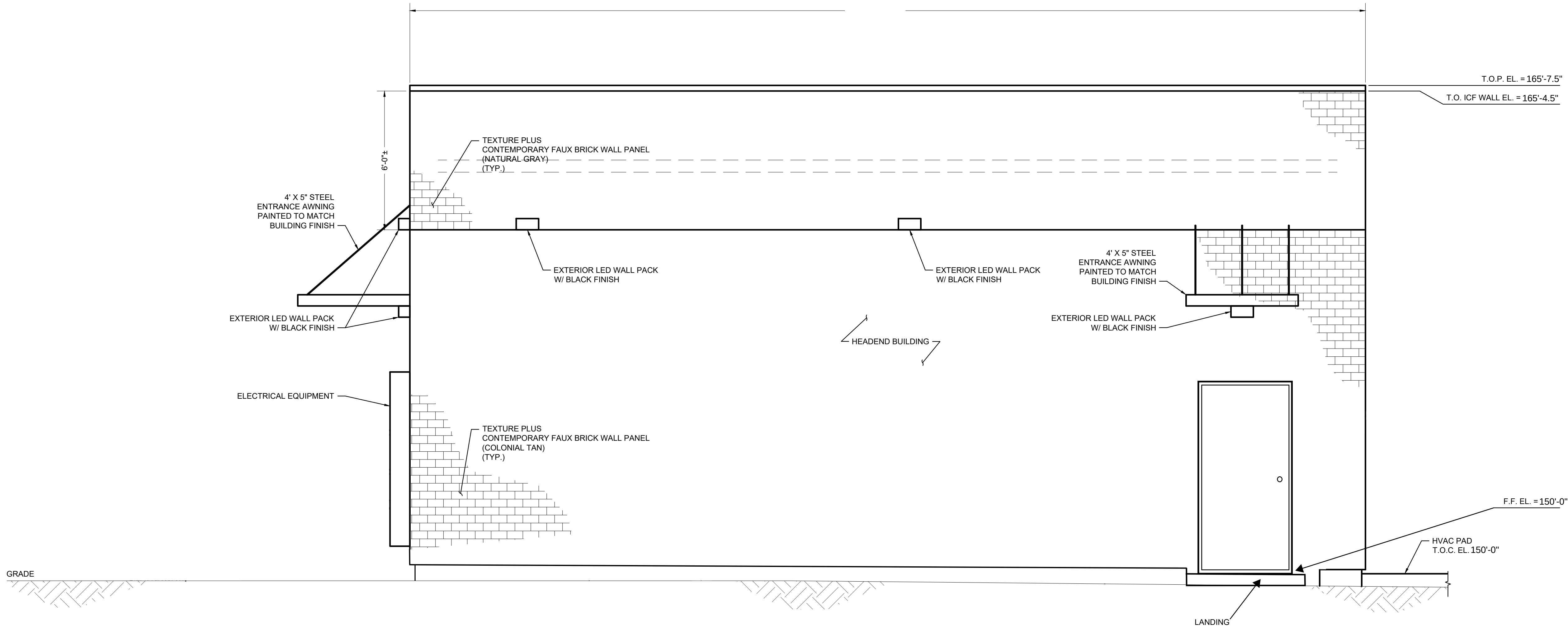
SITE NAME

DATE

SITE ADDRESS

SHEET NAME
NORTH ELEVATION

SHEET NUMBER
S-3



2 NORTH ELEVATION
(LOOKING SOUTH)
SCALE: 3/8" = 1'-0"

NOTE:
1. ALL ITEMS ARE PROPOSED UNLESS NOTED OTHERWISE.
2. PROJ. SPECIFIC BUILDING ELEV'S BY CIVILWORKS NEW ENGLAND.

REV	DATE	DESCRIPTION	BY
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PROJECT NAME
BDEC-03/23
BROADBAND DIGITAL
EQUIPMENT CENTER

SITE NAME

DATE

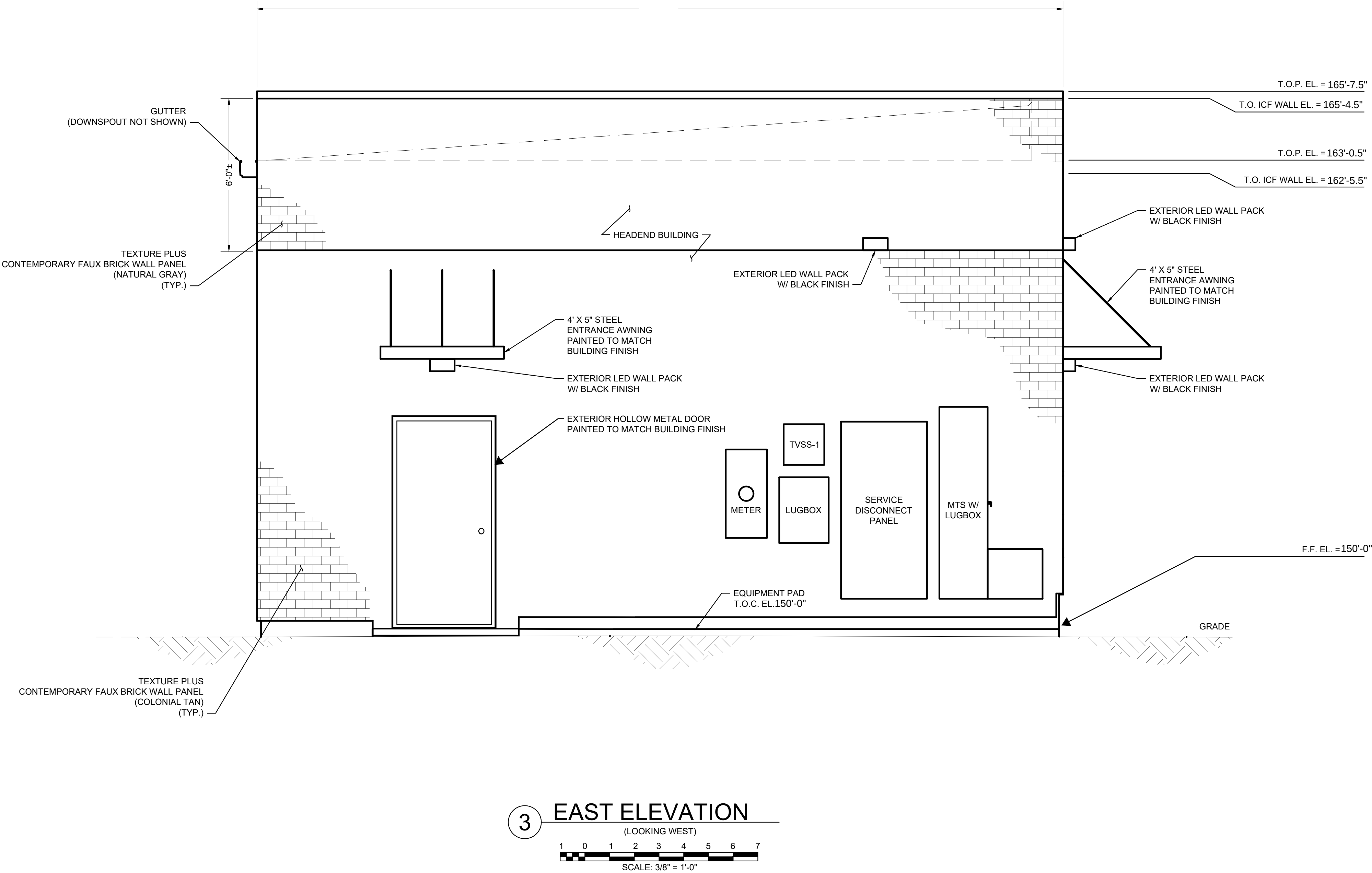
SITE ADDRESS

SHEET NAME

EAST ELEVATION

SHEET NUMBER

S-4



3 EAST ELEVATION
(LOOKING WEST)
SCALE: 3/8" = 1'-0"

NOTE:
1. ALL ITEMS ARE PROPOSED UNLESS NOTED OTHERWISE.
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REV	DATE	DESCRIPTION	BY
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PROJECT NAME
BDEC-03/23
BROADBAND DIGITAL
EQUIPMENT CENTER

SITE NAME

DATE

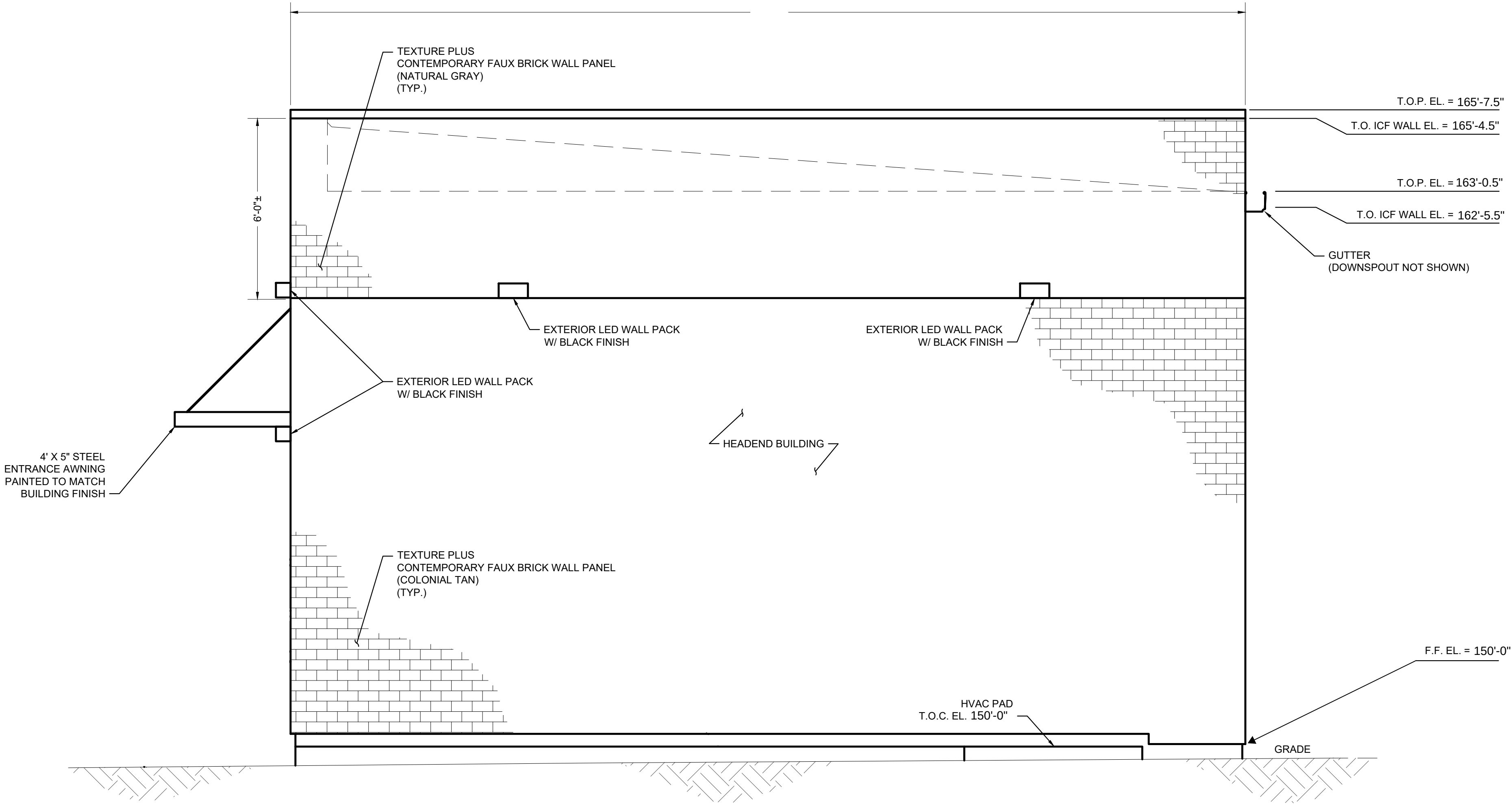
SITE ADDRESS

SHEET NAME

WEST ELEVATION

SHEET NUMBER

S-5



4 WEST ELEVATION
(LOOKING EAST)
1 0 1 2 3 4 5 6 7
SCALE: 3/8" = 1'-0"

NOTE:
1. ALL ITEMS ARE PROPOSED UNLESS NOTED OTHERWISE.
2. PROJ. SPECIFIC BUILDING ELEV'S BY CIVILWORKS NEW ENGLAND.