CITY OF DOVER

PLANNING TECHNICAL REVIEW COMMITTEE –AGENDA

Meeting Type: Regular Meeting
Meeting Location: Council Conference Room – City Hall, Dover NH
Meeting Date: **Thursday, July 7, 2022**
Meeting Time: **10:30 AM**

1. 10:30 AM – 11:00 AM: Site Review for Michael Robinson, Assessor's Map 10, Lot 32, zoned HR, located at 6 Trask Drive. (Proposal is to pave 5,400 sf of private driveway) (P22-49)

2. 11:00 AM - 11:30 AM: Site Review for Weave Filtration, LLC., (Owner: DBIDA) Assessor's Map D, Lot 11-7, zoned IT, located at Quality Way. (Proposal is to construct a 23,125 sf building for manufacturing with office space). A CUP for wetland impact will also appear before the Planning Board. (P22-47)

3. 11:30AM – 12:15 PM: Site Review for Storage Barn, LLC, (Owner: TSB Properties, LLC.) Assessor's Map D, Lot 12-2, zoned IT, located at Production Drive. (Proposal is to construct five (5) storage buildings totaling 12,000 sf). A CUP for wetland impact will also appear before the Planning Board. (P22-50)

City of Dover, New Hampshire
SITE REVIEW APPLICATION

[Revision Date: July 1, 2021]

Office Use Only	Project #: P22-49	Date Received: RECEIVED Planning Office
	Amount Paid:	Time Received: JUN 20 2022

Dover, New Hampshire

APPLICANT AND OWNER INFORMATION

Name of Applicant: MICHAEL ROBINSON Telephone # 603-285-2793

Address of Applicant: 6 TRASK DRIVE DOVER NH 03820

E-Mail Address: SEAVYC@MSN.COM

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

Address of Property Owner: 6 TRASK DRIVE DOVER NH 03820

PROPERTY INFORMATION

Address of Property: 6 TRASK DRIVE DOVER NH 03820

Assessor's Map # 10 Lot(s) # 32

Zoning District(s) _____ Overlay District(s) _____

Size of Parcel: _____sq. ft. _____ac. Property Deed: Book _____ Page: _____

Existing Use of Property: WILL BE RESIDENCE

SITE PLAN INFORMATION

Describe Proposed Use: (TO PAVE TRASK DRIVE 300' X 18')

Area of Parcel to be Developed: _____ sq. ft.

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

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

Number of Parking Spaces: Existing _____ Proposed _____

Highway Access (check where applicable): ____ City Street ____ State Highway

Number of Employees Total: _____ In Maximum Shift: _____

Disposition of Parcel:

Building Footprint _____ sq. ft.

Total Building Area _____ sq. ft.

Paved Area _____ sq. ft.

Building Setbacks:

Front Yard _____ ft.

Rear Yard _____ ft.

Side Yard: Right____ ft. Left____ ft.

NOTES:

1.) OWNER: MICHAEL ROBINSON
239 WASHINGTON STREET
DOVER, NH 03820

2.) TAX MAP 10, LOT 32

3.) LOT AREA: 130,939 Sq. Ft., 3.01 Ac.±

4.) S.C.R.D. BOOK 1923, PAGE 534

5.) ZONING: (HR) HERITAGE RESIDENTIAL DISTRICT
MINIMUM FRONTAGE ~ 80'
MINIMUM LOT SIZE ~ 10,000 Sq. Ft.
FRONT BUILD-TO LINE ~ AVERAGE +/- 5'
REAR SETBACK ~ 15'
SIDE SETBACK ~ 30'
WETLANDS BUFFER ~ 50.0'
MAX. BUILDING HEIGHT: 24' - 40'
MAX. LOT COVERAGE: 40%
TDR SETBACKS (PROVIDED)
ABUTTING A STREET ~ 20'
ABUTTING A SIDE LOT LINE ~ 10'
ABUTTING A REAR LOT LINE ~ 20'
MINIMUM FRONTAGE ~ 40'
EXTERNAL PERIMETER BUFFER ~ 30'

6.) THE INTENT OF THIS PLAN IS TO SHOW THE PROPOSED GRADING AND SITE PLAN DETAILS.

7.) EXISTING CONDITIONS INFORMATION IS BASED ON A SURVEY PERFORMED BY BERRY SURVEYING & ENGINEERING AND IS ENCLOSED IN THIS PACKAGE.

8.) THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH NHDOT STANDARD SPECIFICATIONS DATED 2010, CURRENT STANDARD PLANS, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS INCLUDED IN THE PROPOSAL.

9.) THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO LOCATE EXACTLY AND TO PRESERVE ANY AND ALL UNDERGROUND UTILITIES CALL "DIG-SAFE" 1-888-DIGSAFE (344-7233) AT LEAST 72 HOURS BEFORE COMMENCING CONSTRUCTION

10.) WHERE AN EXISTING UNDERGROUND UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION OF THE CONFLICT.

11.) THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY COMPANIES.

12.) AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE. LIMIT OF GRADING SHOULD NOT BE EXPANDED WITHOUT CONSULTING THE DESIGN ENGINEER.

13.) ALL UNPAVED, DISTURBED AREAS ARE TO RECEIVE 4" QUALITY LOAM AND SEED.

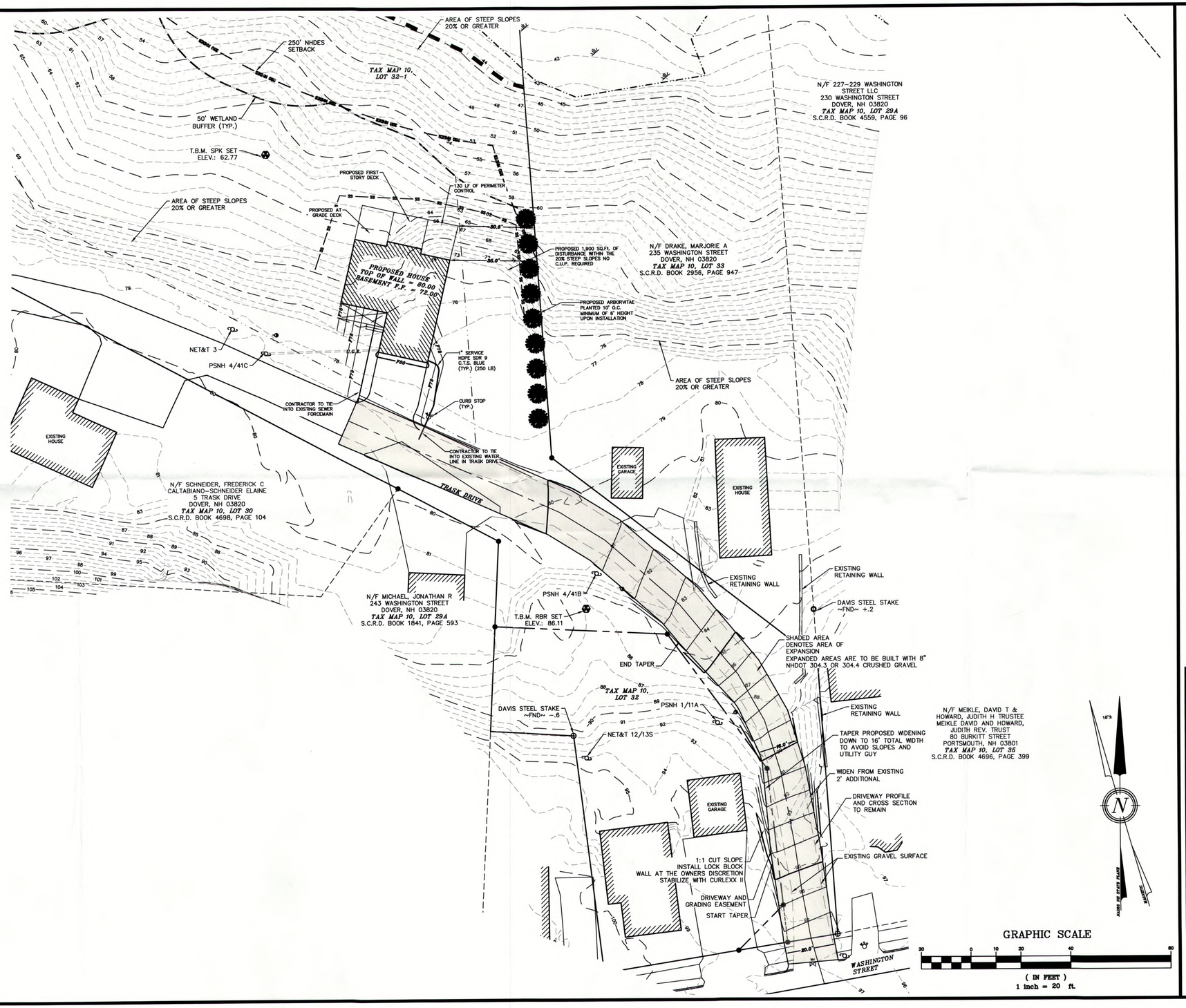
14.) BUILDING ADDRESSES SHALL BE DETERMINED BY THE BUILDING OFFICIAL.

15.) THE CONTRACTOR SHALL CALL AND COORDINATE WITH DIGSAFE AT 1-888-344-7233 AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY.

16.) THIS PROJECT PROPOSES 1,900 SqFt. OF DISTURBANCE WITHIN THE STEEP SLOPES. NO CONDITIONAL USE PERMIT IS NEEDED.

17.) CONTRACTOR TO TIE INTO EXISTING WATER LINE AND SEWER LINE IN TRASK DRIVE. CONTRACTOR TO VERIFY LOCATION PRIOR TO CONSTRUCTION.

18.) THE PROPOSED HOUSE IS TO BE SPRINKLED.



REVISION	DATE	DESCRIPTION
#1	10-7-20	MINOR REVISIONS PER STAFF COMMENT

DRIVEWAY EXPANSION PLAN
LAND OF
MICHAEL ROBINSON
239 WASHINGTON STREET
DOVER, N.H.
TAX MAP 10, LOT 32

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863

SCALE : 1 IN. EQUALS 20 FT.
DATE : SEPTEMBER 22, 2020
FILE NO. : DB 2020 - 071

STATE OF NEW HAMPSHIRE
KENNETH A. BERRY
No. 14243
LICENSED PROFESSIONAL ENGINEER

SHEET 5 OF 6

RECEIVED
Planning Office
JUN 20 2022
Dover, New Hampshire

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: Weave Filtration LLC Telephone # 603-637-1629

Address of Applicant: 100 Tri-City Road, Unit 117 Somersworth, NH 03878

E-Mail Address: emichaud@weavefiltration.com

Name of Property Owner (*if different from applicant*): DBIDA Telephone # 603-516-6023

Address of Property Owner: 288 Central Avenue Dover, NH 03820

PROPERTY INFORMATION

Address of Property: Quality Way

Assessor's Map # D Lot(s) # 11-7

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

Size of Parcel: 152,004 sq. ft. 3.49 ac. Property Deed: Book 1559 Page: 394

Existing Use of Property: VACANT

SITE PLAN INFORMATION

Describe Proposed Use: Light Manufacturing Facility

Area of Parcel to be Developed: 68,650 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 31 (includes 2 ADA)

Highway Access (check where applicable): X City Street ____ State Highway

Number of Employees Total: 25 In Maximum Shift: 2

Disposition of Parcel:

Building Footprint 23,125 sq. ft.

Total Building Area 23,125 sq. ft.

Paved Area 45,525 sq. ft.

Building Setbacks:

Front Yard 50 ft.

Rear Yard 50 ft.

Side Yard: Right 50 ft. Left 50 ft.

City Water? X Yes ___ No How far is city water from the property? at street

City Sewer? X Yes ___ No How far is city sewer from the property? at street

TRANSFER OF DEVELOPMENT RIGHTS INFORMATION N/A

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

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

Relief sought (Check All That Apply):

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

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

BUILDING INFORMATION

Type of Building to be Built: Single Story Concrete & Metal Building

Height of Building: 28.5 ft.± Finished Floor Elevation: 163.5 ft± (office) 170.0 ft± (manufacturing)

Number of Seats (where applicable) N/A

Estimated value of construction: $500, 000 Refuse removal: Public/Private (circle one)

WAIVER REQUESTS

Site Review Regulations section(s) to be waived: None Requested

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

SURVEYOR INFORMATION

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

Address 24 Chestnut Street Dover, NH 03820 Telephone #: 603-742-0911

Professional License #: Kevin McEneaney, LLS 661 E-mail address: kevin@surveynh.com

ENGINEER INFORMATION

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

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

Professional License #: Stephen J. Haight, PE #7978 E-mail address: shaight@civilworksne.com

ARCHITECT INFORMATION

Name of Architect and Company (Licensed in N.H.) John M. Tuttle, Architect TW Designs, LLC

Address 254 Drake Road Strafford, NH 03884 Telephone #: 603-664-2181

Professional License #: John M. Tuttle, NH Architect #04015 E-mail address: john@tw-designs.com

LANDSCAPE ARCHITECT INFORMATION

Name of Landscape Architect and Company (Licensed in N.H.) Jeffrey R. Hyland, Landscape Architect Ironwood Design Group, LLC

Address P.O. Box 873 Exeter, NH 03833 Telephone #: 603-772-0590

Professional License #: Jeffrey R. Hyland, Landscape Architect #00026 E-mail address: jhyland@fewood.com

SOIL SCIENTIST INFORMATION

Name of Soil Scientist and Company (Licensed in N.H.) John P. Hayes, III, CSS

Address 7 Limestone Way North Hampton, NH 03862 Telephone #: 603-205-4396

Professional License #: John P. Hayes, III, CSS #00087 E-mail address: johnphayes@comcast.net

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: _____ Date: _____

x Signature of Applicant (*if different from owner*): _____ Date: 6/16/2022

Signature of Agent: _____ Date: 6/16/2022

AUTHORIZATION TO ENTER SUBJECT PROPERTY

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

Signature of Property Owner: _____ Date: _____

AUTHORIZATION TO COMPLETE THE PROJECT ON SUBJECT PROPERTY

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

Signature of Property Owner: _____ Date: _____

x Signature of Applicant (*if different from owner*): _____ Date: 6/16/2022

CERTIFICATION OF FEES

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

Signature of Property Owner: _____ Date: _____

x Signature of Applicant (*if different from owner*): _____ Date: 6/16/2022

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: Weave Filtration LLC File Number: P22-

PROJECT TITLE: WEAVE FILTRATION

PROPERTY LOCATION: Quality Way Tax Map: D Lot: 11-7

	Where/How Provided	Reviewed
1. Completed and signed Application form	Delivered in Hand & PDF via Email	
2. Plan Review Fees are provided	Delivered in Hand	
3. Electronic copy of the engineered/surveyed plan layout	PDF via Email	
4. Electronic copy of supplementary materials and application	PDF via Email	
5. Traffic Impact Assessment and Analysis (Standard or Advanced)	Delivered in Hand & PDF via Email	
6. Waiver requests to the Site Plan Review Regulations, with written justification	None Requested	
7. Conditional Use Permit applications	Delivered in Hand & PDF via Email	
8. A colored rendering of the streetscape that will be created along the existing public right-of-way	See Plan Set Delivered in Hand & PDF via Email	
9. A colored architectural plan showing all sides of buildings	See Plan Set Delivered in Hand & PDF via Email	
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:	8 Full Size Plan Sets (for TRC), Delivered in Hand & PDF via Email	
Location map at appropriate scale	See Plan Set, Sheet 3	
Proposed Project name and title and Planning File #	See Plan Set, All Sheets	
Date, north arrow and scale	See Plan Set, All Drawing Sheets	
Names of all abutting property owners	See Plan Set, Sheet 3	
Name and address of owners and/or applicants	See Plan Set, Sheet 1	
Signature & stamp of NH licensed land surveyor and/or engineer	Provided upon Approvals	
Zoning District boundaries, including any special or overlay districts	N/A	
Location of Conservation District areas	N/A	
Location, names and widths of existing and proposed streets, including pavement widths, grades, curbs and crosswalks	See Plan Set, Sheets 3 & 6	
Location and widths of existing & proposed easements & right of ways	See Plan Set, Sheets 3 & 6	
Location and width of existing and proposed access/egress ways	See Plan Set, Sheets 3 & 6	

	Explain How Provided	Reviewed
Depict pedestrian walkways and accessible access	See Plan Set, Sheet 6	
Existing and proposed property lines with dimensions and bearings tied into Dover's Geographic Information System coordinate system	See Plan Set, Sheet 3	
Existing and proposed topographic information at two foot intervals	See Plan Set, Sheet 7	
Existing and proposed buildings and structure locations	See Plan Set, Sheet 6	
Minimum building setbacks or build to lines on all lots	See Plan Set, Sheet 3 & 6	
Location and size of existing and proposed electric, telephone, gas cable and other underground utilities	See Plan Set, Sheet 8	
Existing and proposed water lines and fire hydrants, including materials and capacity needed	See Plan Set, Sheet 8	
Location and materials of sanitary sewage facilities within project site and projected additional peak hour sewer load	See Plan Set, Sheet 4	
Existing and proposed stormwater lines and facilities	See Plan Set, Sheet 7	
Lighting plan depicting all existing and proposed exterior light fixtures and a lighting level analysis for parking lots	See Plan Set, Sheet 18	
Location of Flood Hazard Zone	N/A	
Location of all bodies of water and watercourses	N/A	
Location of wetlands and buffers	See Plan Set, All Drawing Sheets	
Neighborhood plan with aerial underlay showing how project relates to abutting uses within the plan set	See Plan Set,Sheet 2	
Existing natural features and/or significant vegetation on property	See Plan Set, Sheet 3	
Depict existing contours up to 100 ft. beyond project limits	See Plan Set, Sheet 3	
Landscape plan depicting existing and proposed landscaping, prepared by a licensed Professional Landscape Architect	See Plan Set, Sheet 25 & 26 (L1 & L2)	
Location of parking layout delineating spaces and arrangement; note addressing maximum required spaces	See Plan Set, Sheet 6	
Location, material and size of existing and proposed pavement area	See Plan Set, Sheet 6 & 12	
Location of proposed fire lanes	N/A	
Specify finished floor elevations of buildings	See Plan Set, Sheet 7	
Location of solid waste disposal facilities (dumpster, pad and screening, etc.), including required screening	See Plan Set, Sheet 6	
Depict all service, storage, loading bays and utility areas	See Plan Set, Sheet 6	
All applicable Dover Common Site Plan notes	See Plan Set, Sheet 4	
11. Additional Information if appropriate		
Stormwater Management Plan depicting the existing & proposed storm drainage system and engineered drainage analysis	Delivered in Hand & PDF via Email	
Stormwater Management System Operation and Maintenance Plan	Delivered in Hand & PDF via Email	
Letter to Serve from Public and Private Utilities	Delivered in Hand & PDF via Email	
Erosion and Sedimentation Control Plan	Delivered in Hand & PDF via Email	
Landscape Operation and Maintenance Plan	Delivered in Hand & PDF via Email	
Proposed restrictive covenants or homeowners association documents	N/A	
Dates and permit numbers of all required state and federal permits	Alteration of Terrain Permit (pending)	
If wetland buffer, indicate placards locations, as applicable	TBD	
Depict test boring locations, groundwater elevations and soil profiles and/or soils types call-outs	See Plan Set, Sheet 21	
Location of proposed drive-in facilities	N/A	
Provide additional exhibits/technical data determined appropriate by the Planning Board or its staff as required	TBD	

REVIEWED BY: _____ DATE_____ TRC DATE_____

City of Dover, New Hampshire
CONDITIONAL USE PERMIT APPLICATION

[Revision Date: October 19, 2020]

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

APPLICANT AND OWNER INFORMATION

Name of Applicant: Weave Filtration LLC Telephone # 603-637-1629

Address of Applicant: 100 Tri-City Road, Unit 117 Somersworth, NH 03878

E-Mail Address: emichaud@weavefiltration.com

Name of Property Owner (if different from applicant): DBIDA Telephone # 603-516-6023

Address of Property Owner: 288 Central Avenue Dover, NH 03820

PROPERTY INFORMATION

Assessor's Map # D Lot(s) # 11-7

Address of Property: Quality Way

Zoning District(s) IT Overlay District(s) NONE

Existing Use of Property: VACANT

CONDITIONAL USE PERMIT INFORMATION

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

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

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

The proposed Site design will impact a total of 8,860 s.f. of the wetland buffer. The impact is primarily for the associated grading (6742 s.f.) and drainage (1800 s.f.) and also small portions for pavement (285 s.f) and the building (33 s.f.). NO wetlands will be impacted.

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

_____

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

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

Professional License #: Stephen J. Haight, PE #7978 E-mail address: shaight@civilworksne.com

SIGNATURES

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

Signature of Property Owner: _____ Date: _____

x Signature of Applicant (if different from owner): _____ Date: 6/16/2022

Signature of Agent: _____ Date: 6/16/2022

AUTHORIZATION TO ENTER SUBJECT PROPERTY

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

Signature of Property Owner: _____ Date: _____

Weave Filtration LLC
100 Tri-City Road, Unit 117
Somersworth, NH 03878

June 16, 2022

City of Dover
Planning Board
288 Central Ave
Dover, NH 03820

Ref: Weave Filtration Site
Quality Way, Tax Map D, Lot 11-7
Dover, NH 03820

Re: Letter of Authorization

Erick Michaud of Weave Filtration authorizes, Civilworks New England to represent the applicant to the State of New Hampshire, the City of Dover Planning Board and any other Dover Board or Committee relative to the pursuit of permits for the development of the subject parcel.

Sincerely,

Erick Michaud – Weave Filtration

Joseph Griffin

From: Parker, Christopher G. <C.Parker@dover.nh.gov>
Sent: Thursday, June 16, 2022 10:40 AM
To: Steve Haight; David Choate (david.choate@colliers.com)
Cc: Joseph Griffin
Subject: Weave Site plan application

Steve,

This is confirmation that DBIDA has approved a purchase and sales agreement for Weave Filtration for an approximately for a 3.5 acre lot on Quality Way in Enterprise Park.

As part of the PnS DBIDA acknowledged the expectation that Weave Filtration will seek site plan approval from the City of Dover Planning Board.

The applicant should sign the application as the applicant and the City Manager will sign as the owner.

Chris

Christopher G. Parker, AICP
Deputy City Manager: Development and Strategic Initiatives
City of Dover, NH
288 Central Avenue
Dover, NH 03820-4169
e: c.parker@dover.nh.gov
p: 603.516.6024 f: 603.516.6049

Dover: First in New Hampshire, First with you!
www.dover.nh.gov

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PROJECT NARRATIVE

for

WEAVE FILTRATION LLC

Site Plan

Quality Way

Tax Map D, Lot 11-7

JUNE 2022

PROJECT OVERVIEW & SITE CHARACTERISTICS

The project parcel is shown on Tax Map D as Lot 11-7, is located within the IT District and consists of +/- 3.49 acres, currently undeveloped. The project applicant is proposing a +/- 23,125 s.f. light manufacturing and office building with associated parking. The parcel is currently owned by the Dover Business & Industrial Development Authority (DBIDA). The Applicant has met with DBIDA and received an endorsement to proceed.

The proposed site will include public water and sewer connections, underground electric service, natural gas service, and associated drainage improvements. A small portion of grading, drainage, pavement, and building is proposed within the 50' wetland buffer with impacts of 8,860 sf. (See Conditional Use Permit application). There are no proposed impacts to any wetlands.

The project site consists of the following general improvements:

- Log and clear the site for construction.
- Construction of +/- 23,125 SF professional/light manufacturing facility with associated parking, truck access, and loading docks.
- Construction of on-site stormwater detention and treatment system, grading, and other drainage requirements.
- Site utility construction.
- Construction of (2) new entrances on Quality Way.
- Stabilize remaining areas with loam and seed.

DRIVEWAY AND PARKING LOT

Employee and visitor parking will be segregated from the truck delivery entrance. The truck access will be 24' wide and the parking area will have a 24' wide driveway entrance and drive aisle. Lighting for the proposed parking lot and driveway will be per the Lighting Plan and will be LED fixtures that are dark sky compliant.

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

Required/Proposed:

- Office: 1 space per 300 s.f. (2,500 s.f.) = 8 surface spaces
- Manufacturing: 1 space per 800 s.f (20,625 s.f) = 26 surface spaces

    - Total proposed = **31 Surface Spaces (includes 2 Accessible Spaces)**

PROJECT NARRATIVE

for

WEAVE FILTRATION LLC

Site Plan

Quality Way

Tax Map D, Lot 11-7

JUNE 2022

WETLAND SETBACK IMPACT TYPE

The project work requires a conditional use permit from the City of Dover. Approximately +/- 8,860 sf of the wetland buffer will be impacted. The project does not impact bogs, marshes, sand dunes, tidal wetlands, cedar swamps, undisturbed tidal buffer zone, or involve any work within 50 feet of a salt marsh. The project is not located within 100 feet of prime wetlands.

DRAINAGE

The parcel is located on the south side of the Quality Way cul-de-sac. The proposed development will consist of approximately 3.49 acres surrounded by other commercial properties within a previously established industrial park. The site is undeveloped, and the groundcover primarily consists of wooded vegetation with grassed areas along the edge of the Quality Way cul-de-sac. The 3.7 acre watershed of the parcel includes the project site as well as a portion of Quality Way. On site soils are a mix of Gloucester, Charlton, Buxton, Elmwood, Udorthents, and Scantic soils. The Gloucester series soils are HSG A, Charlton is HSG B, with the Buxton, Elmwood, and Udorthents series soils classified as HSG C, and the Scantic soil series classified as HSG D.

The project proposes 128,900± sf of disturbance including the construction of a 23,125 sf commercial building, corresponding site improvements including site grading, paved parking and loading areas, as well as stormwater quality and detention drainage improvements. The post development watershed is modeled utilizing the same points of analysis as the predevelopment watershed, allowing direct comparison of the peak runoff between the pre and post developed conditions (see drainage report).

TRAFFIC

A traffic study was completed for the project and is attached as a report to this submittal. Overall, and as expected, there is minimal increase in traffic due to the proposed facility.

UTILITIES

The proposed project will connect to City of Dover water and sewer as well as Unitil for natural gas, and Eversource for electricity. Water, sewer, electric lines and natural gas lines are currently located within Quality Way. Building connections will be made per the City's Community Services Utility Division and Fire Department requirements and standards.

EVERSOURCE ENERGY

1700 Lafayette Road
Portsmouth, NH 03801

Trevor S Emmons
603-332-7515
Trevor.emmons@eversource.com

June 6, 2022

Joseph Griffin
Civilworks NE
181 Watson Road
Dover, NH 03820

Dear Erick Michaud:

I am responding to your request to confirm the availability of electric service for the proposed Quality Way Tax Map D, Lot 7 project being constructed for/by Weave Filtration.

The proposed project consists of a 1-story building with 0 residential units approximately 23,125 s/f of factory/office space at the ground level. The proposed development will be constructed along Quality Way.

The developer will be responsible for the installation of all underground facilities and infrastructure required to service the new building. The service will be as shown on attached marked up Utility Plan 8. The proposed building service will be fed from ..... to be determined by Eversource Engineering as depicted on utility plan 8. The developer will work with Eversource to obtain all necessary easements and licenses for the proposed overhead/underground 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 "Utility Plan" dated 6/16/2022, 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 Rochester Office, 603-332-7515

Respectfully.

Trevor Emmons
Eastern Regional Engineer, Eversource

cc: Michael J. Busby, PE, Eastern Regional Engineering and Design Manager, Eversource
Thomas Boulter, Eastern Region Operations Manager, Eversource
Nickolai Kosko, Field Supervisor, Electric Design, Eversource

Unitil
Northern Utilities, Inc.

June 6th, 2022

Michael Menary
Staff Engineer
Civilworks New England, PLLC.

Natural Gas to Weave Filtration on Quality in Dover, NH

Hi Michael,

Unitil/Northern Utilities Natural Gas Division has reviewed the requested site for natural gas service:

Unitil hereby confirms that natural gas is available for the proposed building at Weave Filtration on Quality in Dover, NH

If you have any questions, please contact me at 603-534-2379.

Sincerely,



Dave MacLean
Senior Business Development Rep
Unitil
T 603.294.5261
M 603.534.2379
F 603.294.5264
Email macleand@unitil.com

Michael Menary

From: Michael Menary
Sent: Friday, June 3, 2022 1:44 PM
To: k.mavrogeorge@dover.nh.gov
Cc: Joseph Griffin
Subject: CNE 21094 - Weave Filtration-Quality Way, Dover, NH 03820 Tax Map D, Lot 7

Hello Kenneth,

Weave Filtration is proposing to construct a commercial building on Quality Way; Tax Map D, Lot 7.

The project will consist of a 23,125 sf building, with 2,500 sf of office space. This will result in approximate water & sewer usage of approximately 275 gpd. [1] The client has specified that their manufacturing processes do not generate waste water.

[1] Volume is based on NHDES Env-Wq 1008.03 Table 1008-1 Design Flow figures: for Unspecificed office space (2,500 sf) and factory employees (15 employees).

Please advise on the availability of sewer and water to the site.

Thank you for your time

Michael Menary
Staff Engineer
Civilworks New England, PLLC.
181 Watson Road
P.O. Box 1166
Dover, New Hampshire 03821
O: (603) 749-0443
C: (973) 907-0370

Landscape Best Management Practices
Operations and Maintenance Plan

Weave Filtration

Quality Way
Dover, New Hampshire 03820

Prepared for
Joseph Griffin
Civilworks New England/Haight Engineering, PLLC
181 Watson Road
PO Box 1166
Dover, New Hampshire 03821

Prepared by
Ironwood Design Group, LLC
PO Box 873
Exeter, New Hampshire 03833



Ironwood
Landscape Architecture • Planning

Landscape Maintenance

Introduction

The landscape enhancements proposed for the 7 West Commercial 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 plants are becoming established. Anyone involved in the upkeep of the facility should become familiar with the landscape and its features. Identified below are basic, at minimum, maintenance tasks:

Weekly Tasks

1. Prune back any shrubs overhanging curbs or sidewalks.
2. Remove litter from plants bed.
3. Remove broken or fallen branches from trees.
4. Prune sucker growth from tree trunks.
5. Remove weeds larger than 2 inches high or wide from plant beds. Weeds 2 inches and larger must be removed, not just killed. **The application of herbicides such as Roundup is discouraged.**
6. Any invasive species seedlings observed should be removed and disposed of properly.
7. Replace bark mulch that may have been washed out of planting beds. Smooth mulch layer if it has been disturbed.
8. Check plants for signs of stress, pests or disease and notify Owner for authorization to replace.
9. If a significant decline in plant health is attributed to an insect pest, **apply an organic product and/or process** to control the pest.
10. Water plants that are dry and stressed.
11. Notify Owner for authorization to replace dead plants at the appropriate time (see annual tasks, September).
12. Identify other tasks listed on the Annual and Monthly checklist of tasks.

Annual Tasks

Early Spring

1. Prune winter damage such as broken tree branches that interfere with public safety.
2. Trim dead perennial foliage left in the fall for winter interest to within six inches of the ground.
3. Add new mulch to plant beds where the mulch depth has been reduced to less than 2 inches. Mulch depth shall not exceed two inches (top dressed). Mulch is not required where shrubs or groundcover completely hide the soil surface from view.
4. Gently prune shrubs at appropriate time of year based on species, for shape and form. **Do not shear.**
5. Energize the irrigation system, repair damaged components, test the system, adjust heads, and update programing.
6. Conduct a soil test to measure at a minimum, pH, phosphorus, potassium, calcium, and magnesium. Follow the recommendations provided with the soil test results.
7. Apply fertilizer only when required. A single application of fertilizer per year before Memorial Day is encouraged.

Monthly Tasks

June

No additional items

July

No additional items

August

No additional items

September

1. Inventory all plant materials, including an exact count of all shrubs and trees.
2. Replace any dead or missing plants.
3. Aerate lawn areas.
4. Apply pelletized lime at a rate of 80 lbs/1,000 square feet or as soil test dictates.

October

1. Winterize irrigation system.

November

1. Remove leaves from lawn areas and planting beds.
2. Remove perennial vegetation that has died back for the season.
3. Apply “WILT-PRUF” to broadleaf evergreens, according to label instructions, to protect shrubs from winter die back.

December

1. Prune any tree branches that interfere with public safety.
2. Prune street and parking lot trees yearly to encourage strong growth the following growing season. Trees adjacent to pedestrian sidewalks shall have branches pruned to 6-foot height.

Management Task or Activity	Time or Frequency						
	Weekly	Monthly	Spring	Summer	Fall	Winter	After Major Rain Events
Replace dead or dying plants			X				
Remove weeds	X		X	X	X		
Cut down grasses			X				
Remove accumulated leaves, litter, and plant debris		X					X

Stormwater Detention Facilities

Introduction

The stormwater facilities are used to attenuate flow and treat stormwater. The stormwater treatment areas consist of a large basin and linear swales seeded with a variety of native, adaptable, and rugged perennial grasses, and sometimes additional flowering plants. There are maintenance tasks associated with stormwater facilities.

Erosion

The soil in the facility and in areas draining to the facility shall be inspected for erosion. Eroded areas shall be filled with soil or mulch and seeded with the approved seed mix for the location.

Sediment Accumulation & Clogging

The accumulation of sediment within the facility may reduce its infiltration capacity and impair performance. The facility shall be inspected for accumulation of sediment and excessive sediment shall be removed with the area re-mulched and replanted as appropriate and necessary.

Outlet Structure Maintenance

The facility outlet structure requires monitoring. Periodically, the orifice on the outlet pipe may clog with debris. Any found debris should be removed and appropriately disposed of off-site.

Debris & Litter

Debris and litter should be removed monthly to maintain aesthetic appearance and public acceptance.

Plant Maintenance

Healthy vegetation contributes to the optimal operation of the stormwater facility. Planting area maintenance tasks include the removal of accumulated leaves, litter, and plant debris as needed. During the first 1-2 years after planting, the facility should be monitored for invasive species and weeded as needed and appropriate. Well-established facility vegetation should be mowed annually in the fall.

Snow Storage

Snow shall not be dumped directly onto the facility.

Chlorides

The stormwater facility is not suitable for treating chlorides. Chloride use on source surface areas tributary to the facility should be avoided if possible. In these locations, it would be prudent to eliminate or reduce application of chloride-containing deicing compounds, use alternative deicers, or apply clean sand as needed. Aggressive sweeping in these areas, along with pretreatment sumps and filter strips, will minimize the negative impact of the sand on the facility.

Management Task or Activity	Time or Frequency						
	Weekly	Monthly	Spring	Summer	Fall	Winter	After Major Rain Events
Inspect for erosion. Rake and redistribute/replenish any soil, rap, or mulch that has eroded		X					X
Inspect for standing water							X
Remove accumulated leaves, litter, and plant debris		X					X
Weed plant material		X					
Mow plant material					X		

Stormwater Management System Inspection & Maintenance Plan

Prepared for

WEAVE FILTRATION
Map D, Lot 11-7

Quality Way
Dover, New Hampshire
Strafford County

JUNE 2022

Owner of Record:

WEAVE FILTRATION, LLC
100 Tri-City Road, Unit 117
Somersworth, New Hampshire 03878

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 **Weave Filtration, 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 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 while at the same time ensuring the recharge of groundwater resources through continued infiltration.

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 NH DES Salt Application Certification.

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

Owner

Weave Filtration, LLC
100 Tri-City Road, Unit 117
Somersworth, NH 03878

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

Contact / Responsible Party

Weave Filtration, LLC
100 Tri-City Road, Unit 117
Somersworth, NH 03878

Erick Michaud
Phone: (603) 637-1629
Email: emichaud@weavefiltration.com

The contact information for the Contact / Responsible Party shall be kept current; transfer shall be documented to NH DES in writing.

Management Company

Weave Filtration, LLC
100 Tri-City Road, Unit 117
Somersworth, NH 03878

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 NH DES. See the Inspection and Maintenance Plan for frequency requirements. A copy of the completed Stormwater Management System's Inspection & Maintenance Log and Deicing Salt Quantity Use Log shall be maintained, kept on-site, and be made available to local, state, or federal regulators as applicable by law. All Inspection and Maintenance records must be provided to NH DES upon request.

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 and to recharge the underlying groundwater resources. As a result, its design includes the following elements:

- Pipes/Culverts
- Outlet Structures
- Energy Dissipation Structures (Rip Rap)
- Catch Basins
- Wet Pond
- Grassed Lined Conveyance Swale
- Porous Pavement
- Pavement
- Litter / Trash Removal

Structure callouts correlate to 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 and to effectively recharge the underlying groundwater resources.

PIPES/CULVERTS:

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

OUTLET STRUCTURE(S):

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

ENERGY DISSIPATION STRUCTURES (RIP RAP):

- Inspect 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.

CATCH BASIN(S):

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

WET POND:

- Inspect at least once per year.
- Periodic mowing to control vegetation growth.
- Remove any woody vegetation.
- Remove any debris from pond and outlet structure.
- Remove accumulated sediment.

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.

POROUS PAVEMENT:

- Minimize sanding.
- Minimize application of salt for ice control.
- Monitor periodically, at least twice annually, within 30 minutes of a precipitation event, to ensure that the pavement surface drains effectively after storms.
- Inspect for salt accumulation, sediment, organic debris, etc. and periodically clean (1-2 times per year) using a sweeper or vacuum sweeper. Vacuum sweeping is the preferred method.

- Inspect adjacent non-permeable pavement sections (1-2 times per year) and ensure they are free of debris/sediment to prevent tracking.
- Inspect adjacent vegetated areas (1-2 times per year) to ensure there are no signs of erosion and sediment/organic debris run-on to the porous pavement areas.
- Inspect areas (as needed) to ensure stock piling of snow, sand/salt, mulch, soil, yard waste, etc. is not occurring.
- Inspect pavement for damaged areas (as needed) and repair as they are identified.

PAVEMENT:

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

LITTER / TRASH REMOVAL:

- Routinely patrol site for litter pick up.

DE-ICING AGENTS

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

ANTI-ICING AND SALT MINIMIZATION

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

Inspection & Maintenance Table

System Component / BMP	Minimum Inspection Frequency	Minimum Inspection Requirements	Maintenance / Cleanout Threshold
Pipes/Culverts	Annually	• Check for sediment accumulation • Check for erosion • Ensure swale is stabilized • Maintain healthy stand of veg., 4" minimum • Inspect for invasive species	≥ 1 in. sediment Repair immediately Restore veg. in-kind Mow twice per year Remove/Dispose of accordingly
Outlet Structure(s)	No sanding Limit 2-4 x's Year Periodically Periodically	• No sanding • Minimize salt use for ice • Vacuum to prevent tracking issues and clogging • Monitor to ensure surface drains effectively • Check for trash/debris • See attached for winter maintenance	No sanding Minimize as Req. 2-4 x's a year Remove when noticed
Energy Dissipation (ED) Structures (Rip Rap)	Annually	• Check for displaced stones • Check for woody vegetation	Replace immediately Remove annually
Catch Basins	Annually	• Check for sediment accumulation • Check for floatable contaminants	≥ 1 ft. sediment depth Remove all floatables
Wet Pond	Annually	• Check for sediment accumulation • Check for woody vegetation growth • Check for debris	Remove/Dispose of accordingly Mow twice per year Remove/Dispose of accordingly
Grass Lined Conveyance Swale	Annually	• Check for sediment accumulation • Check for erosion • Ensure swale is stabilized • Maintain healthy stand of veg., 4" minimum • Inspect for invasive species	≥ 1 in. sediment Repair immediately Restore vegetation in-kind Mow twice per year Remove/Dispose of accordingly
Porous Pavement (PP) • Sanding • Salt Applications • Accumulated Salt • Sediment/Organic debris • Adj. Vegetated Areas • Underdrain Outlet • Trash/Debris • Pavement Condition • Stockpiles • Standing Water in Pavement	Limit use As Req. Winter/Spring 1-2 x's / yr 1-2 x's / yr Annually Periodically Annually Regularly 1-2 x's / yr Rain Event	Minimize use to prevent tracking issues RECORD APPLICATION RATES Inspect surface for salt accumulation Inspect surface for sediment/organics Inspect for erosion and prevent run-on to PP Inspect outlet for blockages Inspect for trash/debris Inspect for deteriorated pavement sections Inspect for stockpiled materials • Inspect for standing water within 30 min of rain event	Vacuum to prevent issues Minimize as Req. Vacuum immediately Vacuum immediately Stabilize areas Remove blockage Remove when noticed Repair as identified Remove stockpiles Power wash or compressed air blower at 30 degrees or less
Pavement • Sanding • Salt Applications • Sweep/Vacuum • Trash/Debris	Limit use As Req. 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 Req. Sweep/Vac as needed Remove when noticed
Litter / Trash Removal	Periodically	• Check for litter and trash	Remove when noticed

Inspection & Maintenance Checklist/Log

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

Stormwater Management System's Inspection & Maintenance Log

Date of Inspection/Maintenance: _____ Inspector: _____

System Component / BMP	Cleaning / Repair Needed (List Items / Comments)	Date of Cleaning/Repair	Performed By

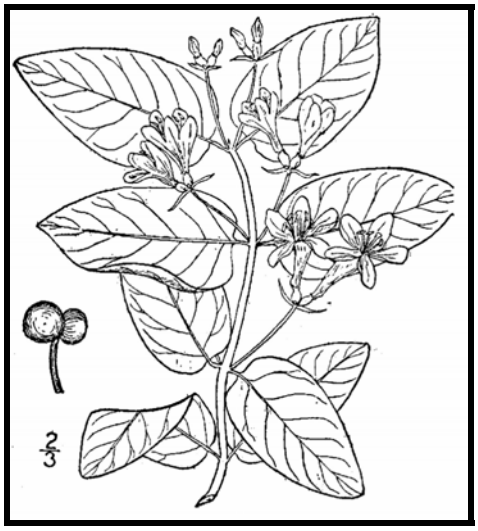
Deicing Salt Quantity Use Log

Date	Amount of Material Applied	Comments

University of New Hampshire Cooperative Extension

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

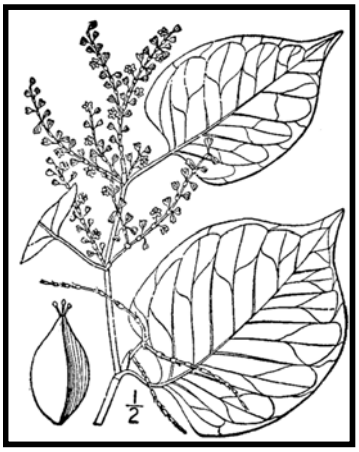
Prohibited invasive species shall only be disposed of in a manner that renders them nonliving and nonviable. (Agr. 3802.04)

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.



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.

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.

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.

<table>
<tr><th>Woody Plants</th><th>Method of Reproducing</th><th>Methods of Disposal</th></tr>
<tr><td rowspan="2">Norway maple
(Acer platanoides)
European barberry
(Berberis vulgaris)
Japanese barberry
(Berberis thunbergii)
autumn olive
(Elaeagnus umbellata)
burning bush
(Euonymus alatus)
Morrow's honeysuckle
(Lonicera morrowii)
Tatarian honeysuckle
(Lonicera tatarica)
showy bush honeysuckle
(Lonicera x bella)
common buckthorn
(Rhamnus cathartica)
glossy buckthorn
(Frangula alnus)</td><td rowspan="2">Fruit and Seeds
  </td><td>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.</td></tr>
<tr><td>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.</td></tr>
<tr><td rowspan="2">oriental bittersweet
(Celastrus orbiculatus)
multiflora rose
(Rosa multiflora)</td><td rowspan="2">Fruits, Seeds, Plant Fragments
  </td><td>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.</td></tr>
<tr><td>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.</td></tr>
</table>

Non-Woody Plants	Method of Reproducing	Methods of Disposal
garlic mustard *(Alliaria petiolata)* spotted knapweed *(Centaurea maculosa)* ▪ Sap of related knapweed can cause skin irritation and tumors. Wear gloves when handling. black swallow-wort *(Cynanchum nigrum)* ▪ May cause skin rash. Wear gloves and long sleeves when handling. pale swallow-wort *(Cynanchum rossicum)* giant hogweed *(Heracleum mantegazzianum)* ▪ Can cause major skin rash. Wear gloves and long sleeves when handling. dame's rocket *(Hesperis matronalis)* perennial pepperweed *(Lepidium latifolium)* purple loosestrife *(Lythrum salicaria)* Japanese stilt grass *(Microstegium vimineum)* mile-a-minute weed *(Polygonum perfoliatum)*	**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 (*Phragmites australis*) Japanese knotweed *(Polygonum cuspidatum)* Bohemian knotweed *(Polygonum x bohemicum)*	**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

UNH Cooperative Extension programs and policies are consistent with pertinent Federal and State laws and regulations, and prohibits discrimination in its programs, activities and employment on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sex, sexual orientation, or veteran's, marital or family status. College of Life Sciences and Agriculture, County Governments, NH Dept. of Resources and Economic Development, Division of Forests and Lands, NH Fish and Game ,and U.S. Dept. of Agriculture cooperating.

SITE PLAN
FOR
WEAVE FILTRATION
TAX MAP D, LOT 11-7
QUALITY WAY
DOVER, NH
JUNE 2022

OWNER
DOVER BUSINESS AND INDUSTRIAL DEVELOPMENT AUTHORITY
f/k/a DOVER INDUSTRIAL DEVELOPMENT AUTHORITY (D.I.D.A)
288 CENTRAL AVENUE
DOVER, NEW HAMPSHIRE 03820

_____ DATE

APPLICANT
WEAVE FILTRATION LLC
100 TRI-CITY ROAD, UNIT 117
SOMERSWORTH, NH 03878

_____ DATE

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

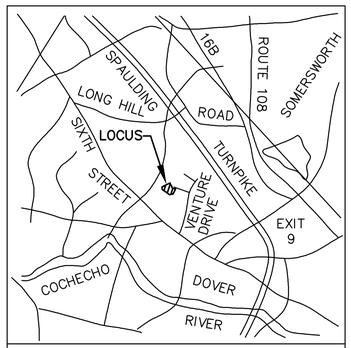
LAND SURVEYOR
MCENEANEY SURVEY ASSOCIATES OF NEW ENGLAND
P.O. BOX 681
24 CHESTNUT STREET
DOVER, NH 03820
(603) 742-0911

ARCHITECT
JOHN M. TUTTLE, ARCHITECT #04015
TW DESIGNS, LLC
254 DRAKE ROAD
STRAFFORD, NH 03884
(603) 664-2181

LANDSCAPE ARCHITECT
JEFFREY R. HYLAND, LANDSCAPE ARCHITECT #00026
IRONWOOD DESIGN GROUP, LLC
PO BOX 873
EXETER, NH 03822
(603) 772-0590

WETLAND SCIENTIST
DAMON E. BURT, CWS #00163
FRAGGLE ROCK ENVIRONMENTAL
38 GARLAND ROAD
STRAFFORD, NH 03884
(603) 969-5574

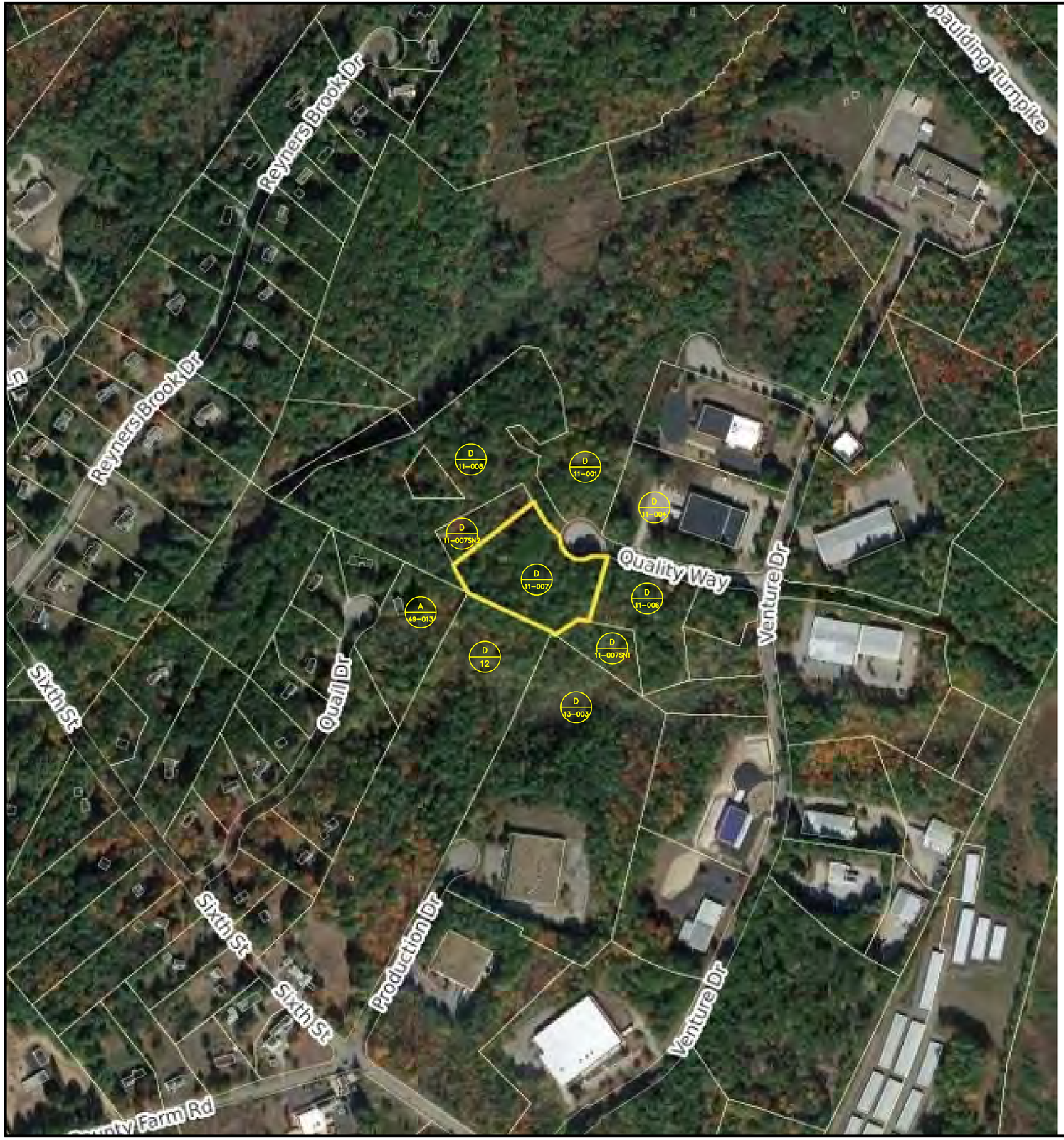
SOIL SCIENTIST
JOHN P. HAYES, III, CSS #00087
7 LIMESTONE WAY
NORTH HAMPTON, NH 03862
(603) 205-4396



LOCATION PLAN
(NO SCALE)

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
DETAIL SHEETS	10-17
LIGHTING PLAN	18
LIGHTING DETAILS	19
DOVER LADDER TRUCK MOVEMENT PLAN	20
SITE SPECIFIC SOILS	21
TEST PIT LOGS	22
ARCHITECTURAL ELEVATIONS & FLOOR PLANS	-
STREET SCAPE PLAN	-
LANDSCAPE PLAN	-

PLANNING FILE NO.: P22-



ABUTTERS LIST
(WITHIN 200 FT)

	TAX MAP	LOT NO.	NAME & ADDRESS
D 11-007	D	11-007	DOVER BUSINESS & IND DEV AUTHORITY, F/K/A DOVER IND DEV AUTHORITY 288 CENTRAL AVE DOVER, NH 03820
D 11-007SN1	D	11-007SN1	DOVER BUSINESS & IND DEV AUTHORITY, F/K/A DOVER IND DEV AUTHORITY 288 CENTRAL AVE DOVER, NH 03820
D 11-006	D	11-006	DOVER BUSINESS & IND DEV AUTHORITY, F/K/A DOVER IND DEV AUTHORITY 288 CENTRAL AVE DOVER, NH 03820
D 11-004	D	11-004	QUALITY WAY, LLC 55 MAIN STREET UNIT 407 NEWMARKET, NH 03857
D 11-001	D	11-001	DOVER BUSINESS & IND DEV AUTHORITY, F/K/A DOVER IND DEV AUTHORITY 288 CENTRAL AVE DOVER, NH 03820
D 11-008	D	11-008	DOVER BUSINESS & IND DEV AUTHORITY, F/K/A DOVER IND DEV AUTHORITY 288 CENTRAL AVE DOVER, NH 03820
D 11-007SN2	D	11-007SN2	DOVER BUSINESS & IND DEV AUTHORITY, F/K/A DOVER IND DEV AUTHORITY 288 CENTRAL AVE DOVER, NH 03820
A 49-013	A	49-013	PORTER DOUGLAS W & PORTER YUKARI 29 QUAIL DRIVE DOVER, NH 03820
D 12	D	12	TSB PROPERTIES LLC 385 SIXTH STREET DOVER, NH 03820
D 13-003	D	13-003	SARNIA PROPERTIES INC. 1 HAVEN COURT PORTSMOUTH, NH 03801

D / 11 — TAX MAP / LOT NUMBER

MAGNETIC

GRAPHIC SCALE

200 0 100 200 400 800

(IN FEET)

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILE NO.: P22_

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

NO.	REVISION	APP'D	DATE

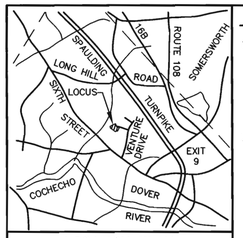
DATE: 6-16-22
SCALE: 1"=200'
DRAWN BY: SRD
DESIGN BY: SRD
APPROVED BY:SJH
PROJECT NO:21094
FILE: SITE.DWG

NEIGHBORHOOD PLAN

PROJECT:
WEAVE FILTRATION
QUALITY WAY
DOVER, NH

APPLICANT:
WEAVE FILTRATION LLC
100 TRI CITY ROAD
UNIT 117
SOMERSWORTH, NH 03878

2



LOCATION PLAN
(NO SCALE)

REFERENCE PLANS:

1.) AMENDED SUBDIVISION AND LOT LINE ADJUSTMENT PLAN PREPARED FOR GEORGE J. FOSTER & Co., INC. AND DOVER BUSINESS AND INDUSTRIAL DEVELOPMENT AUTHORITY, TAX MAP D, LOT Nos. 9A & 11–1, VENTURE DRIVE AND QUALITY WAY, DOVER, STRAFFORD COUNTY, NEW HAMPSHIRE. SCALE: 1" = 100'; DATED: FEBRUARY 14, 2006, REVISED THROUGH 5/3/06; BY THIS OFFICE. RECORDED S.C.R.D. PLANS 85–99 & 85–100.

2.) ROADWAY AS–BUILT PLAN & PROFILE PREPARED FOR DOVER INDUSTRIAL DEVELOPMENT AUTHORITY, QUALITY WAY AT VENTURE DRIVE, DOVER, STRAFFORD COUNTY, NEW HAMPSHIRE. SCALE: 1" = 40'; DATED: JANUARY 16, 2006, REVISED THROUGH 3/16/06; BY: McENEANEY SURVEY ASSOCIATES, INC. ON FILE WITH CITY OF DOVER ENGINEERING DEPARTMENT.

No.	Central Angle	Radius	Arc Length	Chord Length	Chord Bearing
C1	24°49'33"	253.78	109.96	109.10	S42°54'51"E
C2	117°00'00"	75.00	153.15	127.90	S55°26'12"E
C3	42°01'29"	100.00	73.35	71.71	N87°04'33"E

No.	Bearing	Distance
L1	N79°03'39"W	40.33'
L2	N55°16'35"W	17.58'

SEWER STRUCTURE SCHEDULE

SMH #3
RIM = 171.7'
INV. IN = 160.3'
INV. OUT = 160.2'

SMH #4
RIM = 170.3'
INV. IN = 161.1'
INV. OUT = 161.0'

DRAINAGE STRUCTURE SCHEDULE

CB #4
RIM = 176.8'
INV. = 172.8'
SUMP = 169.8'

FES #4
INV. = 173.0'

NOTES:

1.) OWNERS OF RECORD:
DOVER BUSINESS AND INDUSTRIAL DEVELOPMENT AUTHORITY
f/k/a DOVER INDUSTRIAL DEVELOPMENT AUTHORITY (D.I.D.A.)
288 CENTRAL AVENUE
DOVER, NEW HAMPSHIRE 03820
S.C.R.D. VOL. 1559 / 394
TITLE REF. SEE SCRD 1738 / 130, 1027 / 790, 773 / 481

2.) D / 11–7 – DENOTES TAX MAP AND PARCEL NUMBER.

3.) PLAN INTENT: TO SHOW THE SITE EXISTING CONDITIONS.

4.) PARCEL AREA = 152,004 S.F. / 3.49 Ac.

5.) ZONING DISTRICT IS INNOVATIVE TECHNOLOGY (IT)

DIMENSIONAL REQUIREMENTS:

MINIMUM LOT SIZE	= 2 ACRES
MINIMUM 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 MAXIMUM

6.) THE SUBJECT PARCEL IS LOCATED OUTSIDE OF THE 0.2 PERCENT ANNUAL CHANCE FLOODPLAIN AS SHOWN ON FLOOD INSURANCE RATE MAP COMMUNITY NUMBER 330145; PANEL 0310; SUFFIX E; MAP NUMBER 33017C0310E; EFFECTIVE DATE SEPTEMBER 30, 2015.

7.) BASIS OF BEARING IS THE CITY OF DOVER / GEOD CORP. GRID PER REFERENCE PLAN No. 1. (G.I.S. STATIONS TR 390 AND TR 391A) VERTICAL DATUM IS CITY OF DOVER / GEOD CORP. PER CITY G.I.S. STATIONS TR 390 AND TR 391A.

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

9.) WETLANDS SHOWN WERE IDENTIFIED BY DAMON E. BURT, N.H.C.W.S. #163 OF FRAGGLE ROCK ENVIRONMENTAL SERVICES ON JUNE 6, 2022 IN ACCORDANCE WITH THE 1987 CORPS. OF ENGINEERS WETLANDS DELINEATION MANUAL AND LOCATED BY McENEANEY SURVEY ASSOCIATES OF NEW ENGLAND.

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

11.) THE INSTALLATION OF ELECTRIC POWER, CABLE TELEVISION AND TELEPHONE LINES SHALL BE UNDERGROUND.

12.) THE PARCEL IS SERVED BY MUNICIPAL SEWER AND WATER.

13.) TOPOGRAPHY DEPICTED IS BASED ON FIELD OBSERVATIONS BY THIS OFFICE..

14.) LOT D/11–7 WAS CREATED USING THE CITY OF DOVER TDR ORDINANCE.

LEGEND

S.F. – SQUARE FEET	□ CB – CATCH BASIN
Ac. – ACRE	F.E.S. – FLARED END SECTION
(TYP.) – TYPICAL	RCP – REINFORCED CONCRETE PIPE
± – MORE OR LESS	Ⓢ SMH – SANITARY SEWER MANHOLE
ø – DIAMETER	8"S – SANITARY SEWER MAIN PIPE AND SIZE
S.C.R.D. – STRAFFORD COUNTY REGISTRY OF DEEDS	S – SANITARY SEWER SERVICE
UP – UTILITY POLE	W – WATER MAIN PIPE AND SIZE
STONE WALL	W – WATER SERVICE
EDGE OF WET	WV – WATER GATE VALVE
f/k/a – FORMERLY KNOWN AS	G – GAS MAIN
D.H. (fnd) – DRILL HOLE FOUND	U/G E,T,C – UNDERGROUND ELECTRIC, TELEPHONE AND CABLE BROADBAND
I.P. (fnd) – IRON PIPE FOUND	174 – EXISTING CONTOUR (2 FOOT INTERVAL)
I.R. (fnd) – IRON ROD FOUND	SGC – SLOPED GRANITE CURB

NO.	DATE	DESCRIPTION	BY	CHK
1	6/9/22	UPDATE WETLANDS AND NOTE 9	RJM	KMM
		REVISIONS		

22–2415	EXIST. COND.	00–1, 05–8	60–63
PROJECT NO	TYPE	FIELDBOOK & PAGES	

THE SOIL TYPE ON THE SITE IS:
GsC GLOUCESTER VERY STONY FINE SANDY 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

"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."

EXISTING CONDITIONS PLAN OF LAND
PREPARED FOR
DOVER BUSINESS AND INDUSTRIAL DEVELOPMENT AUTHORITY
TAX MAP D, LOT No. 11–7
QUALITY WAY
CITY of DOVER
COUNTY of STRAFFORD
STATE of NEW HAMPSHIRE

DOVER PLANNING FILE No. P 22–___

DRAWN BY: RJM	FILE: 2415\DWGS\22–2415ECGEOD
SCALE: 1" = 30'	DATE: FEBRUARY 10, 2022

30 15 0 15 30 60 90 120

STATE OF NEW HAMPSHIRE — No. 661 — KEVIN M. McENEANEY — LICENSED LAND SURVEYOR — SIGNATURE

McEneaney Survey Associates of NEW ENGLAND

P.O. Box 681 – 24 CHESTNUT STREET
DOVER, NH 03820 (603) 742–0911

SURVEYING – PLANNING – CONSULTING

GENERAL NOTES:

1. OWNERS OF RECORD:

   DOVER BUSINESS AND INDUSTRIAL DEVELOPMENT AUTHORITY
   f/k/a DOVER INDUSTRIAL DEVELOPMENT AUTHORITY (D.I.D.A.)
   288 CENTRAL AVENUE
   DOVER, NEW HAMPSHIRE 03820
   S.C.R.D. VOL. 1559 / 394
   TITLE REF. SEE SCRD 1738 / 130, 1027 / 790, 773 / 481

2. D/11-7 – DENOTES TAX MAP AND PARCEL NUMBER.

3. PARCEL AREA = 152,004 S.F. / 3.49 Ac.

4. ZONING DISTRICT IS INNOVATIVE TECHNOLOGY (IT)

   DIMENSIONAL REQUIREMENTS:

MINIMUM LOT SIZE	= 2 ACRES
MINIMUM 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 MAXIMUM

5. THE SUBJECT PARCEL IS LOCATED OUTSIDE OF THE 0.2 PERCENT ANNUAL CHANCE FLOODPLAIN AS SHOWN ON FLOOD INSURANCE RATE MAP COMMUNITY NUMBER 330145; PANEL 0310; SUFFIX E; MAP NUMBER 33017C0310E; EFFECTIVE DATE SEPTEMBER 30, 2015.
6. BASIS OF BEARING IS THE CITY OF DOVER / GEOD CORP. GRID PER REFERENCE PLAN NO. 1. (G.I.S. STATIONS TR 390 AND TR 391A) VERTICAL DATUM IS CITY OF DOVER / GEOD CORP. PER CITY G.I.S. STATIONS TR 390 AND TR 391A.
7. PROPERTY LINE INFORMATION HAS BEEN OBTAINED FROM A SURVEY PERFORMED BY MCENEANEY SURVEY ASSOCIATES OF NEW ENGLAND WITH AN ERROR NOT GREATER THAN 1 IN 10,000.
8. WETLANDS SHOWN WERE IDENTIFIED BY DAMON E. BURT, N.H.C.W.S. #163 OF FRAGGLE ROCK ENVIRONMENTAL SERVICES ON JUNE 6, 2022 IN ACCORDANCE WITH THE 1987 CORPS. OF ENGINEERS WETLANDS DELINEATION MANUAL AND LOCATED BY MCENEANEY SURVEY ASSOCIATES OF NEW ENGLAND.
9. BUILDING ADDRESSES (INCLUDING APT/UNIT NUMBERS IF APPLICABLE) SHALL BE ASSIGNED BY THE BUILDING OFFICIAL AT THE TIME OF ISSUANCE OF A BUILDING PERMIT.
10. THE INSTALLATION OF ELECTRIC POWER, CABLE TELEVISION AND TELEPHONE LINES SHALL BE UNDERGROUND.
11. THE PARCEL IS SERVED BY MUNICIPAL SEWER AND WATER.
12. TOPOGRAPHY DEPICTED IS BASED ON FIELD OBSERVATIONS BY THIS OFFICE..
13. LOT D/11–7 WAS CREATED USING THE CITY OF DOVER TDR ORDINANCE.

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. THE LOCATION OF UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATION IS NOT GUARANTEED BY THE OWNER OR THE ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR EXISTING UTILITIES AND RELOCATE EXISTING UTILITIES REQUIRED TO COMPLETE THE WORK.
9. ALL MATERIALS SCHEDULED TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL DISPOSE OF ALL MATERIALS OFF–SITE IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS, ORDINANCES, AND CODES.
10. ALL EROSION CONTROL NOTES SHALL INCLUDE PROVISIONS FOR CONSTRUCTION SEQUENCING, TEMPORARY EROSION CONTROL MEASURES, AND PERMANENT STANDARDS SUCH AS LOAM SPREAD RATE FOR DISTURBED AREAS, RATES OF LIME, TYPE AND RATES FOR FERTILIZER, AND SEED AND MULCH MIXTURE WITH RATES OF APPLICATION.

PERMIT SUMMARY:

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

   ALTERATION OF TERRAIN: PENDING

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.

   CONDITIONAL USE PERMIT: PENDING

SITE NOTES

1. PROPERTY LINE INFORMATION HAS BEEN OBTAINED FROM A PLAN REFERENCED AND PREPARED BY MCENEANEY SURVEY ASSOCIATES OF NEW ENGLAND (SEE EXISTING CONDITIONS PLAN IN THIS PLAN SET).
2. THE PURPOSE OF THIS PLAN IS TO DEPICT IMPROVEMENTS ASSOCIATED WITH A 23,125 S.F. COMMERCIAL BUILDING AND ASSOCIATED SITE IMPROVEMENTS.
3. EXTERIOR LIGHTING SHALL BE CUT–OFF TYPE FIXTURES PER CHAPTER 153–14–E AND SHALL PROVIDE LIGHTING DIRECTED ON–SITE ONLY.
4. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO APPLICABLE CITY AND STATE CODES.
5. ON–SITE SNOW STORAGE SHALL OCCUR ALONG THE EDGES OF PROPOSED PAVEMENT.
6. ALL CONSTRUCTION LAYOUT SHALL BE DONE BY A LICENSED SURVEYOR UNDER CONTRACT WITH THE CONTRACTOR.
7. SEE DETAILS FOR SIGN LEGENDS.
8. 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.
9. 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.
10. 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.
11. 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.
12. BUILDING ADDRESSES TO BE ASSIGNED BY THE BUILDING OFFICIAL AT THE TIME OF ISSUANCE OF A BUILDING PERMIT.
13. THE SITE LAYOUT IS DESIGNED IN COMPLIANCE WITH APPLICABLE ACCESSIBILITY REGULATIONS AND NH RSA 155–A: 5. THE PROPOSED STRUCTURE WILL ALSO BE DESIGNED IN ACCORDANCE WITH APPLICABLE ACCESSIBILITY REGULATIONS.
14. THE SITE SHALL BE MAINTAINED TO PROVIDE ACCESSIBILITY IN ALL WEATHER CONDITIONS.
15. COMMERCIAL VEHICLE ROUTE DURING CONSTRUCTION SHALL CONFORM WITH DOVER CITY CODE OR BE COORDINATED WITH THE COMMUNITY SERVICES DIRECTOR.
16. THE SUBJECT PARCEL(S) IS (ARE) SERVED BY MUNICIPAL WATER AND SEWER.
17. THE LIMITS OF CONSTRUCTION DISTURBANCE THAT ARE LOCATED IN OR WITHIN THE 50 FT. OF CONSERVATION AND WETLAND DISTRICTS SHALL BE STAKED, FLAGGED AND CLEARLY IDENTIFIED PRIOR TO ANY EARTH DISTURBANCE ACTIVITY OCCURRING.
18. AS–BUILT PLANS OF THE SITE SHALL BE SUBMITTED ON PAPER AND IN A DIGITAL FORMAT IN PDF AND AUTOCAD DWG, AUTOCAD DXF OR AN 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.
19. SITE CONSTRUCTION HOURS SHALL BE LIMITED TO MONDAY–FRIDAY 7 AM–6 PM, SATURDAY 9 AM–4 PM. NO CONSTRUCTION SHALL OCCUR ON SUNDAY OR DURING FEDERAL HOLIDAY HOURS. HOURS OF CONSTRUCTION MUST BE DOCUMENTED ON A SITE CONSTRUCTION SIGN ALONG WITH THE CONTACT INFORMATION FOR THE GENERAL CONTRACTOR AND THE SIGN SHALL NOTE THAT THE ROADWAY IS PRIVATE. SAID SIGNAGE MUST BE LOCATED AND APPROVED BY THE CITY ENGINEER OR ASSISTANT CITY MANAGER.
20. 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.
21. 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.
22. ANY RETAINING WALL TALLER THAN FOUR FEET (4') REQUIRES ISSUANCE OF A BUILDING PERMIT FROM INSPECTION SERVICES.
23. ANY FENCE TALLER THAN SEVEN FEET (7') REQUIRES THE ISSUANCE OF A BUILDING PERMIT FROM INSPECTION SERVICES.
24. APPLICANT SHALL COMPLETE LAND USE DEVELOPMENT TRACKING FORM, MOST RECENTLY REVISED VERSION, UTILIZING THE ONLINE POLLUTION TRACKING AND ACCOUNTING PILOT PROJECT (PTAPP) PORTAL.
    HTTP://WWW.UNH.EDU/UNHSC/PTAPP.
25. A LETTER OF CREDIT FOR THE COST OF REVEGETATING ALL DISTURBED AREAS ON THE SITE SHALL BE SUBMITTED PRIOR TO ANY EARTH DISTURBING ACTIVITY OCCURS.
26. 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.
27. FIRE DEPARTMENT ACCESS SHALL BE INSTALLED AND MAINTAINED TO SUPPORT THE IMPOSED LOADS OF FIRE APPARATUS IN ALL WEATHER CONDITIONS AT ALL TIMES.
28. REFUSE PICKUP WILL BE BY PRIVATE CONTRACTOR AND WILL BE VIA DUMPSTER ON–SITE.
29. SNOW STORAGE WILL BE ACCORDING TO THE OPERATION AND MAINTENANCE PLAN AND WITHIN AREAS AS INDICATED.
30. ALL EXTERIOR DOORS ARE MANUAL AND OPENED FROM THE INTERIOR BY PANIC HARDWARE. ALL EXTERIOR DOORS SHALL COMPLY WITH ADA AND ALL LOCAL BUILDING CODE REQUIREMENTS.

UTILITY NOTES

1. 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.
2. SEE EXISTING CONDITIONS PLAN FOR BENCHMARK INFORMATION.
3. THE INSTALLATION OF ELECTRIC POWER, CABLE TELEVISION AND TELEPHONE LINES SHALL BE UNDERGROUND THROUGHOUT THE SITE FOR WHICH DEVELOPMENT IS PROPOSED. SITE PLANS SHALL SHOW ANY EASEMENTS FOR THESE SERVICES.
4. ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLES.
5. THE SUBJECT PARCEL(S) IS (ARE) SERVED BY MUNICIPAL WATER AND SEWER.
6. SEE GRADING, DRAINAGE & EROSION CONTROL PLAN FOR PROPOSED GRADING AND EROSION CONTROL MEASURES.
7. ALL WATER MAIN INSTALLATIONS SHALL BE CLASS 52, DOUBLE CEMENT LINED DUCTILE IRON PIPE OR TYPE "K" COPPER, OR CITY APPROVED MATERIAL.
8. 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.
9. 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.
10. 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.
11. ALL ELECTRICAL MATERIAL WORKMANSHIP SHALL CONFORM TO THE NATIONAL ELECTRIC CODE, LATEST EDITION, AND ALL APPLICABLE STATE AND LOCAL CODES.
12. THE EXACT LOCATION OF NEW UTILITY SERVICES AND CONNECTIONS SHALL BE COORDINATED WITH THE BUILDING DRAWINGS AND THE UTILITY COMPANIES.
13. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
14. 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.
15. 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.
16. CONTRACTOR SHALL PROVIDE EXCAVATION, BEDDING, BACKFILL AND COMPACTION FOR NATURAL GAS SERVICES. COORDINATE WITH GAS COMPANY.
17. 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.
18. 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.
19. SAWCUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN
20. GATE VALVES, FITTINGS, ETC. SHALL MEET THE REQUIREMENTS OF THE CITY OF DOVER.
21. COORDINATE TESTING OF SEWER CONSTRUCTION WITH THE CITY OF DOVER.
22. 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.
23. 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.
24. SITE LIGHTING SPECIFICATIONS, CONDUIT LAYOUT AND CIRCUITRY FOR PROPOSED SITE LIGHTING AND SIGN ILLUMINATION SHALL BE PREPARED BY THE PROJECT ELECTRICAL ENGINEER.
25. APPROVED BACKFLOW PREVENTORS SHALL BE PROVIDED FOR BOTH FIRE AND DOMESTIC WATER LINES.
26. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE CITY AND STATE CODES.
27. A SECURITY ALARM SYSTEM SHALL BE INSTALLED AS REQUIRED BY CHAPTER 58, ARTICLE I, SECTION 58–2 OF THE CODE OF THE CITY OF DOVER.
28. 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.
29. FIRE SUPPRESSION PLANS SHALL BE PROVIDED TO THE FIRE/INSPECTION DEPARTMENT PRIOR TO INSTALLATION.
30. THE STRUCTURE SHALL BE SERVED BY A SPRINKLER SYSTEM AS REQUIRED UNDER CHAPTER 81–30 OF THE CODE OF THE CITY OF DOVER AND THE ADOPTED STATE OF NEW HAMPSHIRE BUILDING & FIRE CODE.
31. 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.
32. FIRE DEPARTMENT CONNECTIONS SHALL BE LOCATED ON THE STREET SIDE OF THE BUILDING PER NFPA 13.
33. COORDINATE ALL UTILITY WORK WITH APPROPRIATE UTILITY COMPANY.
34. SEWAGE LOADING (PER ENV. – Wq 1008.03 TABLE 1008–1)

OFFICE: 2500 S.F. X 5 GPD/100 S.F.	= 125 GPD
WAREHOUSES: 15 EMPLOYEES X 10 GPD/EMPLOYEE	= 150 GPD
TOTAL	= 275 GPD

GRADING NOTES:

1. ALL ROAD DRAINAGE WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS FOR CONSTRUCTION OF THE CITY OF DOVER, N.H. AND "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, STATE OF NEW HAMPSHIRE, DEPARTMENT OF TRANSPORTATION", LATEST EDITION. THE MORE STRINGENT SPECIFICATION SHALL APPLY.
2. CONTRACTOR SHALL RETAIN A GEOTECHNICAL ENGINEERING CONSULTANT APPROVED BY THE OWNER, TO CONDUCT COMPACTION TESTING AND FILL GRADATION MONITORING PER THE ABOVE REFERENCED "STANDARD SPECIFICATIONS".
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" SANCTIONED BY THE USDA SCS AND NHDES.
7. TEMPORARY CONSTRUCTION ENTRANCE SHALL BE INSTALLED, UTILIZED AND MAINTAINED UNTIL BASE MATERIALS ARE CONSTRUCTED.
8. CONTRACTOR SHALL PROVIDE A FINISH GRADED SURFACE FREE OF LOW SPOTS AND PONDING AREAS. CRITICAL AREAS INCLUDE BUILDING ENTRANCE AND UNDER RAISED STRUCTURES.
9. DENSITY REQUIREMENTS:

LOCATION	MINIMUM DENSITY
BELOW PAVED OR CONCRETE AREAS	95%
TRENCH BEDDING MATERIAL AND SAND BLANKET BACKFILL	95%
BELOW LOAM AND SEED AREA	90%

   *ALL PERCENTAGES SHALL BE OF THE MAXIMUM DRY DENSITY AT THE OPTIMUM MOISTURE CONTENT AS DETERMINED AND CONTROLLED IN ACCORDANCE WITH AASHTO STANDARD 180, METHOD C. FIELD DENSITY TESTS SHALL BE MADE IN ACCORDANCE WITH AASHTO STANDARD T–191, T–204, OR T–238 AND T–239.

10. SEE GENERAL EROSION CONTROL NOTES ON DETAIL SHEET.
11. 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.
12. INSPECT SILT BARRIERS AFTER EACH RAIN STORM OF 1/4 INCH OR GREATER. REPAIR/MODIFY PROTECTION AS NECESSARY TO MAXIMIZE EFFICIENCY FILTER. REPLACE ALL FILTERS WHEN SEDIMENT IS 1/3 THE STRUCTURE HEIGHT.
13. A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) IS REQUIRED FOR THIS PROJECT. THE SWPPP MUST INCLUDE THE APPROPRIATE BEST MANAGEMENT PRACTICES (BMP'S) TO MINIMIZE THE DISCHARGE OF POLLUTANTS FROM THE SITE. PARTIES RESPONSIBLE FOR DEVELOPING THE SWPPP SHOULD REFER TO THE EPA NPDES CONSTRUCTION GENERAL PERMITS NOTICE OF INTENT FOR A COMPLETE OUTLINE OR REQUIRED ELEMENTS. THESE PLANS AND THE STORMWATER MANAGEMENT SYSTEM INSPECTION & MAINTENANCE PLAN PREPARED FOR THIS PROJECT MAY BE UTILIZED IN FULFILLING THE REQUIREMENTS.
14. ALL TREATMENT SWALES TO BE CONSTRUCTED SHALL HAVE SOD BOTTOMS.
15. LIMIT TREE CLEARING TO ONLY THE EXTENT NECESSARY FOR CONSTRUCTION.
16. PLACARDS SHALL BE INSTALLED ALONG THE EDGE OF WETLAND PRIOR TO CONSTRUCTION.

UTILITY CONTACTS

NATURAL GAS: – UNITIL CORPORATION
CONTACT: DAVID MACLEAN
325 WEST ROAD
PORTSMOUTH, NH 03801
TEL: (603)–294–5261
EMAIL: MACLEAND@UNITIL,COM

WATER & SEWER: – CITY OF DOVER COMMUNITY SERVICES DEPARTMENT
PUBLIC WORKS & UTILITIES
CONTACT: KEN MAUROGEORGE, PE
271 MAST ROAD
DOVER, NH 03820
TEL: (603)–516–6450
EMAIL: K.MAUROGEORGE@DOVER,NH.GOV

ELECTRIC: – EVERSOURCE
CONTACT: TREVER EMMONS
4 OLD DOVER ROAD
ROCHESTER, NH 03867
TEL: (603)–332–7515
EMAIL: TREVER.EMMONS@EVERSOURCE.COM

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PLANNING FILE NO.: P22_

NO.	REVISION	APP'D	DATE

DATE: 6–16–22
SCALE: AS SHOWN
DRAWN BY: SRD
DESIGN BY: SRD
APPROVED BY: SJH
PROJECT NO: 21094
FILE: SITE.DWG

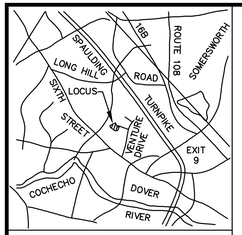
CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

APPLICANT:
WEAVE FILTRATION LLC
100 TRI CITY ROAD
UNIT 117
SOMERSWORTH, NH 03878

PROJECT:
WEAVE FILTRATION
QUALITY WAY
DOVER, NH

NOTE SHEET

4



LOCATION PLAN
(NO SCALE)

DBIDA
288 CENTRAL AVENUE
DOVER, NH 03820
1559 / 394

D / 11-1

DBIDA
288 CENTRAL AVENUE
DOVER, NH 03820
1559 / 394

50' WETLAND SETBACK (TYP.)

ELECTRIC CABINET
SC/SCG
TBM NORTHEAST
CORNER CONCRETE
ELEVATION = 170.75'

EDGE OF PAVEMENT

SMH #4

8"S

QUALITY WAY

TREELINE

END GAS

GAS – 4" SLEEVE

SMH #3

4" W

U/G T,E

6" S

F.E.S. #4

CB #4

4" WATER SERVICE

6" SEWER SERVICE
INV. = 162.19'

D/11-7-SND2

DBIDA
288 CENTRAL AVENUE
DOVER, NH 03820
1559 / 394

EDGE OF WETLAND (TYP.)

50' WETLAND SETBACK (TYP.)

PROPOSED TREELINE

TO BE REMOVED

STONEWALL TO BE REMOVED

PROPOSED TREELINE

CONCRETE BASE FOR LIGHT POLE

DRAIN LINE TO BE CUT FOR NEW PROPOSED DRAIN MANHOLE

D / 11-7

D / 11-8

DBIDA
288 CENTRAL AVENUE
DOVER, NH 03820
1559 / 394

PROPOSED TREELINE

BUILDING SETBACK LINE (TYP.)

STONEWALL TO BE REMOVED

D / 11-6

DBIDA
288 CENTRAL AVENUE
DOVER, NH 03820
1559 / 394

EDGE OF WETLAND (TYP.)

50' WETLAND SETBACK (TYP.)

D/11-7-SND1

DBIDA
288 CENTRAL AVENUE
DOVER, NH 03820
1559 / 394

LEGEND

S.F. – SQUARE FEET	□ CB – CATCH BASIN
Ac. – ACRE	F.E.S. – FLARED END SECTION
(TYP.) – TYPICAL	RCP – REINFORCED CONCRETE PIPE
± – MORE OR LESS	– HYDRANT
ø – DIAMETER	Ⓢ SMH – SANITARY SEWER MANHOLE
S.C.R.D. – STRAFFORD COUNTY REGISTRY OF DEEDS	——8"S—— – SANITARY SEWER MAIN PIPE AND SIZE
-o- UP – UTILITY POLE	——S—— – SANITARY SEWER SERVICE
– STONE WALL	——W—— – WATER MAIN PIPE AND SIZE
– EDGE OF WET	——W—— – WATER SERVICE
f/k/a – FORMERLY KNOWN AS	– WATER GATE VALVE
D.H. (fnd) – DRILL HOLE FOUND	——G—— – GAS MAIN
I.P. (fnd) – IRON PIPE FOUND	U/G E,T,C – UNDERGROUND ELECTRIC, TELEPHONE AND CABLE BROADBAND
I.R. (fnd) – IRON ROD FOUND	——174—— – EXISTING CONTOUR (2 FOOT INTERVAL)
BCC – BITUMINOUS CAPE COD CURB	SGC – SLOPED GRANITE CURB
FM – FORCE MAIN	VGC – VERTICAL GRANITE CURB

SEWER STRUCTURE SCHEDULE

SMH #3
RIM = 171.7'
INV. IN = 160.3'
INV. OUT = 160.2'

SMH #4
RIM = 170.3'
INV. IN = 161.1'
INV. OUT = 161.0'

DRAINAGE STRUCTURE SCHEDULE

CB #4
RIM = 176.8'
INV. = 172.8'
SUMP = 169.8'

FES #4
INV. = 173.0'

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)

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PLANNING FILE NO.: P22_

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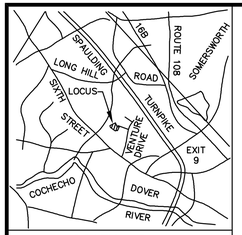
DATE: 6-16-22
SCALE: 1"=30'
DRAWN BY: SRD
DESIGN BY: SRD
APPROVED BY:SJH
PROJECT NO:21094
FILE: SITE.DWG

DEMOLITION PLAN

APPLICANT:
WEAVE FILTRATION LLC
100 TRI CITY ROAD
UNIT 117
SOMERSWORTH, NH 03878

PROJECT:
WEAVE FILTRATION
QUALITY WAY
DOVER, NH

5



LOCATION PLAN
(NO SCALE)

PARKING CALCULATIONS:

	REQUIREMENT	AREA	MAX ALLOWED	PROPOSED
INDUSTRIAL / MANUFACTURING:	1 SP / 800 S.F.	20,625 S.F.	26	23
OFFICE:	1 SP / 300 S.F.	2,500 S.F.	8	8
TOTAL PARKING:			34	31

PROPOSED 20,625 S.F. BUILDING

PROPOSED 2,500 S.F. OFFICE AREA

QUALITY WAY

50' WETLAND SETBACK (TYP.)

EDGE OF WETLAND (TYP.)

PROPOSED STANDARD DUTY PAVEMENT

PROPOSED LIGHT POLE BASE

PROPOSED POROUS PAVEMENT

PROPOSED PAINTED ISLAND

EDGE OF PAVEMENT

TREELINE

END BCC BEGIN VGC

PROPOSED 5' WIDE SIDEWALK

PROPOSED ACCESSIBLE PARKING SYMBOL (TYP)

BEGIN SGC

END SGC BEGIN BCC

END SGC

END VGC BEGIN BCC

PROPOSED TIP-DOWN CURB

PROPOSED RAMP

END BCC BEGIN SGC

PROPOSED 8'x8' HVAC CONCRETE PAD

PROPOSED 5'x5' CONCRETE PAD WITH STAIRS

PROPOSED 8'x8' HVAC CONCRETE PAD

CONCRETE BASE FOR LIGHT POLE

PROPOSED TREELINE

PROPOSED BOLLARD

PROPOSED 15'x25' CONCRETE DUMPSTER PAD

PROPOSED 10' WIDE GATE (TYP OF 2)

PROPOSED 5'x5' CONCRETE PAD

PROPOSED 8'x8' HVAC CONCRETE PAD

BUILDING SETBACK LINE (TYP.)

PROPOSED HEAVY DUTY PAVEMENT

END BCC

END BCC

EDGE OF WETLAND (TYP.)

50' WETLAND SETBACK (TYP.)

LEGEND

S.F. – SQUARE FEET	□ CB – CATCH BASIN
Ac. – ACRE	F.E.S. – FLARED END SECTION
(TYP.) – TYPICAL	RCP – REINFORCED CONCRETE PIPE
± – MORE OR LESS	– HYDRANT
ø – DIAMETER	Ⓢ SMH – SANITARY SEWER MANHOLE
S.C.R.D. – STRAFFORD COUNTY REGISTRY OF DEEDS	8"S – SANITARY SEWER MAIN PIPE AND SIZE
	S – SANITARY SEWER SERVICE
UP – UTILITY POLE	W – WATER MAIN PIPE AND SIZE
– STONE WALL	W – WATER SERVICE
– EDGE OF WET	WV – WATER GATE VALVE
f/k/a – FORMERLY KNOWN AS	G – GAS MAIN
D.H. (fnd) – DRILL HOLE FOUND	U/G E,T,C – UNDERGROUND ELECTRIC, TELEPHONE AND CABLE BROADBAND
I.P. (fnd) – IRON PIPE FOUND	
I.R. (fnd) – IRON ROD FOUND	174 – EXISTING CONTOUR (2 FOOT INTERVAL)
BCC – BITUMINOUS CAPE COD CURB	SGC – SLOPED GRANITE CURB
FM – FORCE MAIN	VGC – VERTICAL GRANITE CURB

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)

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CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
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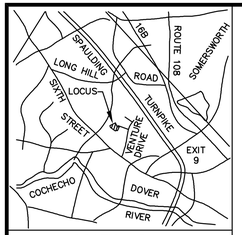
DATE: 6-16-22
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APPLICANT:
WEAVE FILTRATION LLC
100 TRI CITY ROAD
UNIT 117
SOMERSWORTH, NH 03878

PROJECT:
WEAVE FILTRATION
QUALITY WAY
DOVER, NH

SITE PLAN

6



LOCATION PLAN
(NO SCALE)

PDMH2
RIM=168.5
INV.IN=162.0
INV.OUT=160.0

BUFFER IMPACT A =6,651 S.F.

50' WETLAND SETBACK/ (TYP.)

PFES4
INV.OUT=158.0

PROPOSED 50 LF
15" HDPE
S=0.040

EDGE OF WETLAND (TYP.)

158.25
TOP OF POND

50' WETLAND SETBACK (TYP.)

PFES6
INV.OUT=153.5

PFES5
INV.OUT=155.5

PROPOSED 24 LF
15" HDPE
S=0.0167

POS1
RIM=157.25
1.5"x1.5" ORIFICE =154.0
1.5" DIA ORIFICE =154.5
4" DIA. ORIFICE =156.0
INV.OUT=153.9

PROPOSED 110' LF
15" HDPE
S=0.009

PROPOSED
20,625 S.F.
BUILDING
F.F. = 163.5

F.F. = 170.0
PROPOSED
2,500 S.F.
OFFICE AREA

PROPOSED 300 LF
12" HDPE
S=0.003

BUILDING SETBACK LINE (TYP.)

158.37

158.25
TOP OF POND

158.0

156.5

157.5

158.0

BUFFER IMPACT B =1,068 S.F.

EDGE OF WETLAND (TYP.)

50' WETLAND SETBACK (TYP.)

PCB1 (DEEP SUMP)
RIM=167.85
INV.OUT=163.6

PROPOSED 45 LF
15" HDPE
S=0.011

PDMH1
RIM=169.1
INV.IN=163.1
INV.OUT=163.0

PFES2
INV.IN=165.5

PROPOSED 92 LF
15" HDPE
S=0.011

PROPOSED
INV.IN=156.5

EDGE OF PAVEMENT

QUALITY WAY

TREELINE

PROPOSED CONSTRUCTION ENTRANCE

PDMHA
RIM=175.5
INV.IN=MATCH EXISTING
INV.OUT=172.6

CB #4

PROPO
15" HI
S=0.0

CONCRETE BASE FOR LIGHT POLE

PFES1
INV.OUT=172.5

PFES3
INV.OUT=164.5

DRAINAGE STRUCTURE SCHEDULE

CB #4
RIM = 176.8'
INV. = 172.8'
SUMP = 169.8'

FES #4
INV. = 173.0'

LEGEND

S.F. – SQUARE FEET	□ CB – CATCH BASIN
Ac. – ACRE	F.E.S. – FLARED END SECTION
(TYP.) – TYPICAL	RCP – REINFORCED CONCRETE PIPE
± – MORE OR LESS	– HYDRANT
ø – DIAMETER	S SMH – SANITARY SEWER MANHOLE
S.C.R.D. – STRAFFORD COUNTY REGISTRY OF DEEDS	8"S – SANITARY SEWER MAIN PIPE AND SIZE
UP – UTILITY POLE	S – SANITARY SEWER SERVICE
– STONE WALL	W – WATER MAIN PIPE AND SIZE
– EDGE OF WET	W – WATER SERVICE
f/k/a – FORMERLY KNOWN AS	– WATER GATE VALVE
D.H. (fnd) – DRILL HOLE FOUND	G – GAS MAIN
I.P. (fnd) – IRON PIPE FOUND	U/G E,T,C – UNDERGROUND ELECTRIC, TELEPHONE AND CABLE BROADBAND
I.R. (fnd) – IRON ROD FOUND	174 – EXISTING CONTOUR (2 FOOT INTERVAL)
BCC – BITUMINOUS CAPE COD CURB	SGC – SLOPED GRANITE CURB
FM – FORCE MAIN	VGC – VERTICAL GRANITE CURB

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)

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PLANNING FILE NO.: P22-

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

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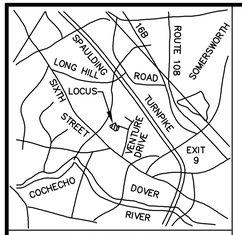
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SCALE: 1"=30'
DRAWN BY: SRD
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APPROVED BY:SJH
PROJECT NO: 21094
FILE: SITE.DWG

GRADING DRAINAGE & EROSION CONTROL PLAN

PROJECT:
WEAVE FILTRATION
QUALITY WAY
DOVER, NH

APPLICANT:
WEAVE FILTRATION LLC
100 TRI CITY ROAD
UNIT 117
SOMERSWORTH, NH 03878

7



LOCATION PLAN
(NO SCALE)

50' WETLAND SETBACK (TYP.)

ELECTRIC CABINET 5C/SC9 TBM NORTHEAST CORNER CONCRETE ELEVATION = 170.75'

EDGE OF PAVEMENT

SMH #4

8"S

QUALITY WAY

TREELINE

END GAS

GAS – 4" SLEEVE

SMH #3

U/GT,E

4" WATER SERVICE

INV. =162.29

6" SEWER SERVICE INV. = 162.19'

EDGE OF WETLAND (TYP.)

50' WETLAND SETBACK (TYP.)

PROPOSED 2,500 S.F. OFFICE AREA

INV.=164.5

PROPOSED SEWER LINE

PROPOSED UNDERGROUND TELEPHONE

PROPOSED 5 LF 6" SDR35

PROPOSED CLEANOUT INV.=162.35

PROPOSED CURB STOP CHECK VALVE

PROPOSED UNDERGROUND ELECTRIC

PROPOSED 106 LF 6" PVC SDR35

CONCRETE BASE FOR LIGHT POLE

PROPOSED WATER LINE

PROPOSED 20,625 S.F. BUILDING

PROPOSED 1" DOMESTIC WATER CONNECTION

PROPOSED 6" FIRE WATER CONNECTION

PROPOSED FIRE DEPARTMENT CONNECTION (FDC)

PROPOSED GAS LINE

INV.OUT=155.5

PROPOSED 10 LF 6" PVC SDR35

PROPOSED SEWAGE EJECTOR PUMP STATION

PROPOSED FORCE MAIN

PROPOSED 1-1/4" SDR11

BUILDING SETBACK LINE (TYP.)

EDGE OF WETLAND (TYP.)

50' WETLAND SETBACK (TYP.)

SEWER STRUCTURE SCHEDULE

SMH #3
RIM = 171.7'
INV. IN = 160.3'
INV. OUT = 160.2'

SMH #4
RIM = 170.3'
INV. IN = 161.1'
INV. OUT = 161.0'

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)

LEGEND

S.F. – SQUARE FEET	CB – CATCH BASIN
Ac. – ACRE	F.E.S. – FLARED END SECTION
(TYP.) – TYPICAL	RCP – REINFORCED CONCRETE PIPE
± – MORE OR LESS	– HYDRANT
ø – DIAMETER	SMH – SANITARY SEWER MANHOLE
S.C.R.D. – STRAFFORD COUNTY REGISTRY OF DEEDS	8"S – SANITARY SEWER MAIN PIPE AND SIZE
UP – UTILITY POLE	S – SANITARY SEWER SERVICE
– STONE WALL	W – WATER MAIN PIPE AND SIZE
– EDGE OF WET	W – WATER SERVICE
f/k/a – FORMERLY KNOWN AS	– WATER GATE VALVE
D.H. (fnd) – DRILL HOLE FOUND	G – GAS MAIN
I.P. (fnd) – IRON PIPE FOUND	U/G E,T,C – UNDERGROUND ELECTRIC, TELEPHONE AND CABLE BROADBAND
I.R. (fnd) – IRON ROD FOUND	174 – EXISTING CONTOUR (2 FOOT INTERVAL)
BCC – BITUMINOUS CAPE COD CURB	SGC – SLOPED GRANITE CURB
FM – FORCE MAIN	VGC – VERTICAL GRANITE CURB

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILE NO.: P22-

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

NO.	REVISION	APP'D	DATE

DATE: 6-16-22
SCALE: 1"=30'
DRAWN BY: SRD
DESIGN BY: SRD
APPROVED BY:SJH
PROJECT NO:21094
FILE: SITE.DWG

UTILITY PLAN

APPLICANT:
WEAVE FILTRATION LLC
100 TRI CITY ROAD
UNIT 117
SOMERSWORTH, NH 03878

PROJECT:
WEAVE FILTRATION
QUALITY WAY
DOVER, NH

8

DESCRIPTION

1. THE INTENT OF THIS PLAN IS TO SHOW SITE IMPROVEMENTS ASSOCIATED WITH THE CONSTRUCTION OF A 23,125 S.F. BUILDING, DRAINAGE AND UTILITY IMPROVEMENTS, AND SITE ACCESS.

PROJECT NAME AND LOCATION

WEAVE FILTRATION
TAX MAP D, LOT 11–7 LATITUDE N43° 13' 23"
QUALITY WAY LONGITUDE W70° 54' 44"
DOVER, NH

DISTURBED AREA

±126,000 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 DEMOLITION.
5. REGRADE SITE TO SUBGRADE.
6. TEMPORARY WATER DIVERSION (SWALES, BASINS) MUST BE USED AS NECCESSARY 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 ONE 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.

DEFINITIONS

AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWNG 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 OTHERWISED 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 IMPOUNDING 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 NECCESSARY.
   c. INSPECTIONS SHOULD TAKE PLACE UNTIL THE SITE IS ESTABLISHED.
   d. EROSION CONTROL 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 INTERFERRING 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 NITORGEN 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 FESCUE	20	0.45
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 STABALIZATION 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.

MAINTENACE 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 SUBSTANCES 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 MAINTENACE 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 TRAILER/BIN. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILZER 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 AND INTENT OF RSA 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.

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

a. ANY PERSON ENGAGED IN ANY ACTIVITY WITHIN THE STATE EMITS FUGITIVE DUST, OTHER THAT 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 SUCH COVERS 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 FOLLOWNG REQUIRMENTS 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 WHICH 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

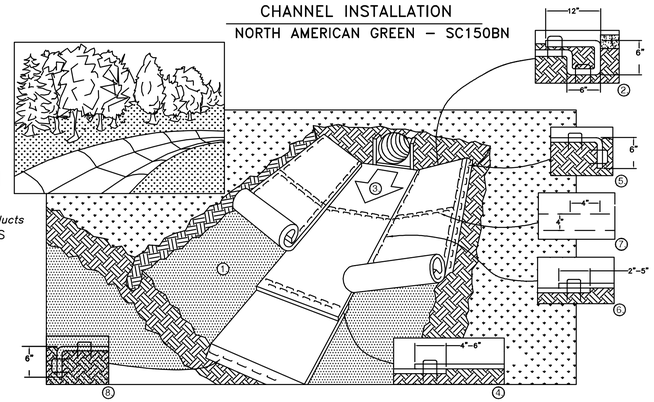
1. ALL PROPOSED POST–DEVELOPMENT VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF 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.

ENV–WQ 1510: BEST MANAGEMENT PRACTICES FOR BLASTING

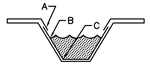
1) ALL ACTIVITIES ASSOCIATED WITH BLASTING NEED TO BE OPTIMIZED TO PREVENT THE RELEASE OF CHEMICALS ASSOCIATED WITH BLASTING ACTIVITIES TO THE ENVIRONMENT.
2) IF MORE THAN 5,000 CY OF ROCK REMOVAL IS REQUIRED DRINKING WATER WELLS MUST BE IDENTIFIED AND LOCATED WITHIN 2000 FEET OF THE PROPOSED BLASTING ACTIVITIES. DEVELOP A GROUNDWATER QUALITY SAMPLING PROGRAM TO MONITOR FOR NITRATE AND NITRITE EITHER IN THE DRINKING WATER SUPPLY WELLS OR IN OTHER WELLS THAT ARE REPRESENTATIVE OF THE DRINKING WATER SUPPLY WELLS IN THE AREA. THE PLAN MUST INCLUDE PRE AND POST BLAST WATER QUALITY MONITORING AND BE APPROVED BY NHDES PRIOR TO INITIATING BLASTING. THE GROUNDWATER SAMPLING PROGRAM MUST BE IMPLEMENTED ONCE APPROVED BY NHDES.
3) THE FOLLOWING BEST MANAGEMENT PROCEDURES FOR BLASTING SHALL BE COMPLIED WITH:
   (1) LOADING PRACTICES. THE FOLLOWING BLASTHOLE LOADING PRACTICES TO MINIMIZE ENVIRONMENTAL EFFECTS SHALL BE FOLLOWED:
      (A) DRILLING LOGS SHALL BE MAINTAINED BY THE DRILLER AND COMMUNICATED DIRECTLY TO THE BLASTER. THE LOGS SHALL INDICATE DEPTHS AND LENGTHS OF V

CHANNEL INSTALLATION
NORTH AMERICAN GREEN – SC150BN

NORTH AMERICAN GREEN
EROSION CONTROL *Products Guaranteed* SOLUTIONS



1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL–O–SEED DO NOT SEED PREPARED AREA. CELL–O–SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE RECP's IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF RECP's EXTENDED BEYOND THE UP–SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP's WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF RECP's BACK OVER SEED AND COMPACTED SOIL. SECURE RECP's OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" ACROSS THE WIDTH OF THE RECP's.
3. ROLL CENTER RECP's IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. RECP's WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP's MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. PLACE CONSECUTIVE RECP's END OVER END (SHINGLE STYLE) WITH A 4" – 6" OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER TO SECURE RECP's.
5. FULL LENGTH EDGE OF RECP's AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
6. ADJACENT RECP's MUST BE OVERLAPPED APPROXIMATELY 2" – 5" (DEPENDING ON RECP's TYPE) AND STAPLED.
7. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER OVER ENTIRE WIDTH OF THE CHANNEL.
8. THE TERMINAL END OF THE RECP's MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. NOTE: * IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY ANCHOR THE RECP's.



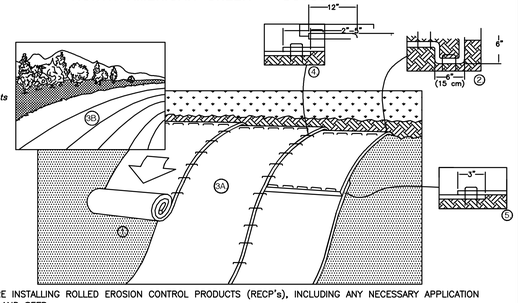
CRITICAL POINTS
A. OVERLAPS AND SEAMS
B. PROJECTED WATER LINE
C. CHANNEL BOTTOM/SIDE SLOPE VERTICES

NOTE:
* HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE.

** IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY ANCHOR THE RECP's.

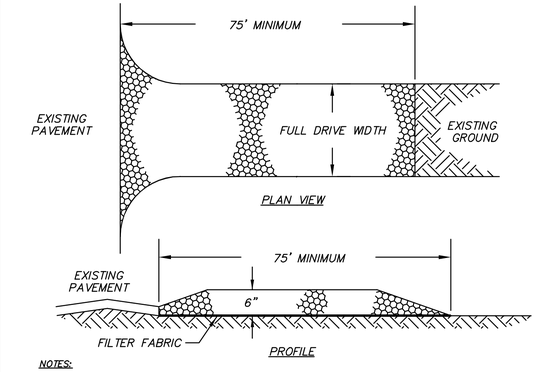
SLOPE INSTALLATION
NORTH AMERICAN GREEN – SC150BN

NORTH AMERICAN GREEN
EROSION CONTROL *Products Guaranteed* SOLUTIONS



1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
   NOTE: WHEN USING CELL–O–SEED DO NOT SEED PREPARED AREA. CELL–O–SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP's IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF RECP's EXTENDED BEYOND THE UP–SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP's WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP's BACK OVER SEED AND COMPACTED SOIL. SECURE RECP's OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE RECP's.
3. ROLL THE RECP's (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. RECP's WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP's MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM™ , STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL RECP's MUST BE STAPLED WITH APPROXIMATELY 2" – 5" (5 CM – 12.5 CM) OVERLAP DEPENDING ON RECP's TYPE.
5. CONSECUTIVE RECP's SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5 CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE RECP's WIDTH.
   NOTE:
   *IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE RECP's.

NOTE: THE USE OF WELDED PLASTIC OR BIODEGRADABLE PLASTIC NETTING OR THREAD IN EROSION CONTROL MATTING IS PROHIBITED. THE USE OF WILDLIFE FRIENDLY ORGANIC MATERIALS IS RECOMMENDED.



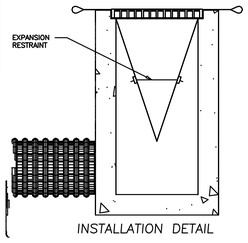
NOTES:
1. *SEE EROSION CONTROL NOTES BELOW FOR MATERIAL, INSTALLATION AND MAINTENANCE REQUIREMENTS.*
2. *TO BE INSTALLED AT EACH POINT OF EGRESS FROM THE WORK AREA.*

STABILIZED CONSTRUCTION ENTRANCE

1. SPECIFICATIONS
   A. AGGREGATE SIZE: USE THREE (3) INCHES STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
   B. AGGREGATE THICKNESS: NOT LESS THAN SIX (6) INCHES.
   C. WIDTH TEN (10) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH OF POINTS WHERE INGRESS OR EGRESS OCCURS.
   D. LENGTH: AS REQUIRED, BUT NOT LESS THAN SEVENTY–FIVE (75) FEET. PIPING OF SURFACE WATER UNDER ENTRANCE SHALL BE PROVIDED AS REQUIRED.
   E. GEOTEXTILE: TO BE PLACED OVER THE ENTIRE AREA TO BE COVERED WITH AGGREGATE.
   F. CRITERIA FOR GEOTEXTILE: THE FABRICS SHALL BE TREVIA SPUNBOND 1135, MIRAFI 600X OR EQUAL.

2. MAINTENANCE
   THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC RIGHT–OF–WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH AGGREGATE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES, OR WATERWAYS.

STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE



INSTALLATION DETAIL

SILTSACK®
SPECIFICATIONS

NOTE: THE SILTSACK WILL BE MANUFACTURED FROM A WOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS THE FOLLOWING SPECIFICATIONS. AS SUPPLIED BY AH HARRIS OF PORTSMOUTH OR APPROVED EQUAL

REGULAR FLOW SILTSACK®
(FOR AREAS OF LOW TO MODERATE PRECIPITATION AND RUN-OFF)

PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	300 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	120 LBS
MULLEN BURST	ASTM D-3786	800 PSI
TRAPEZOID TEAR	ASTM D-4533	120 LBS
UV RESISTANCE	ASTM D-4355	90 %
APPARENT OPENING SIZE	ASTM D-4751	40 US SIEVE
FLOW RATE	ASTM D-4491	40 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	0.55 SEC -1

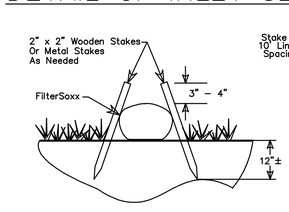
HI-FLOW SILTSACK®
(FOR AREAS OF MODERATE TO HEAVY PRECIPITATION AND RUN-OFF)

PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	265 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	135 LBS
MULLEN BURST	ASTM D-3786	420 PSI
TRAPEZOID TEAR	ASTM D-4533	45 LBS
UV RESISTANCE	ASTM D-4355	90 %
APPARENT OPENING SIZE	ASTM D-4751	20 US SIEVE
FLOW RATE	ASTM D-4491	200 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	1.5 SEC -1

OIL-ABSORBANT SILTSACK®

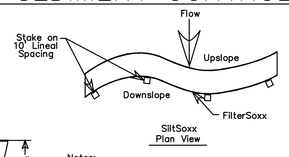
(FOR AREAS WHERE THERE IS A CONCERN FOR OIL RUN-OFF OR SPILLS)
DEPENDING ON YOUR PARTICULAR APPLICATION, THE SILTSACK® CAN BE MADE FROM EITHER ONE OF THE ABOVE FABRICS WITH AN OIL-ABSORBANT PILLOW INSERT OR, MADE COMPLETELY FROM AN OIL-ABSORBANT SILTSACK®, WITH A WOVEN PILLOW INSERT.

DETAIL OF INLET SEDIMENT CONTROL DEVICE



FilterSoxx Section

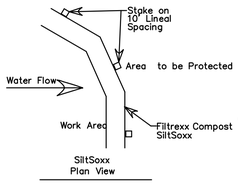
At Ends of Run Cross Stakes



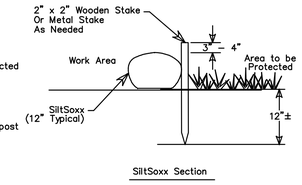
SiltSoxx Plan View

Notes:
1. All material to meet Filtrexx specifications
2. FilterSoxx compost/soil/rock/seed fill to meet application requirements.
3. Compost material to be dispersed on site, as determined by Engineer.

FilterSoxx Staking Details



SiltSoxx Plan View



SiltSoxx Section

Notes:
1. All material to meet Filtrexx specifications
2. SiltSoxx compost/soil/rock/seed fill to meet application requirements.
3. SiltSoxx depicted is for minimum slopes. Greater slopes may require larger socks per the Engineer.
4. Compost material to be dispersed on site, as determined by Engineer.

SILTSOXX DETAILS
NOT TO SCALE

SEEKING REPORTS OF RARE TURTLES

The NH Fish & Game Department is collecting observations of four turtle species:



Blanding's turtle (state endangered)
- Large, dark/black domed shell with lighter speckles
- Distinct yellow throat/chin
- Aquatic but often moves on land



Wood turtle (special concern)
- Sculpted, pyramidal brownish shell
- Orange around neck and limbs
- River/stream turtle spending many months on land



Eastern box turtle (state endangered)
- Small terrestrial turtle with highly domed shell
- Irregular yellow or orange markings over brown/black base



Spotted turtle (state threatened)
- Small, mostly aquatic with black or dark brown with yellow spots.
- Fairly flat shell compared to Blanding's turtle

Report sightings to RAARP@wildlife.nh.gov or 603-271-2461 *Please report promptly, noting specific location and date – Photographs strongly encouraged*

NOTES:
1. *ALL OUTSIDE CONSTRUCTION PERSONNEL SHALL RECEIVE TRAINING IN THE IDENTIFICATION OF RARE TURTLE SPECIES AND MADE AWARE OF THEIR PROTECTED STATUS.*
2. *THE USE OF WELDED PLASTIC OR 'BIODEGRADABLE PLASTIC' NETTING OR THREAD IN EROSION CONTROL MATTING IS PROHIBITED*
3. *THE USE OF EROSION CONTROL BERM, WHITE FILTREXX DEGRADABLE WOVEN SILT SOCK, OR 'WILDLIFE FRIENDLY' WOVEN ORGANIC MATERIAL (E.G. COCO OR JUTE MATTING SUCH AS NORTH AMERICAN GREEN SC150BN OR EQUIVALENT) ARE ACCEPTABLE FOR USE*
4. *IF WOOD, SPOTTED, OR BLANDING'S TURTLES ARE FOUND LAYING EGGS IN THE WORK AREA, PLEASE CONTACT MELISSA DOPERALSKI AT 271–1738 or JOSH MEGYESY AT 271–1125 FOR FURTHER INSTRUCTIONS.*

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILE NO.: P22_

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

NO.	REVISION	APP'D	DATE

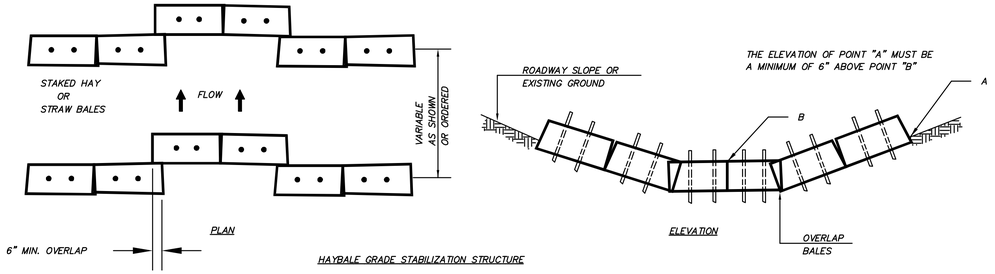
DATE: 6–16–22
SCALE: AS SHOWN
DRAWN BY: SRD
DESIGN BY: SRD
APPROVED BY: JH
PROJECT NO: 21094
FILE: SITE.DWG

APPLICANT:
WEAVE FILTRATION LLC
100 TRI CITY ROAD
UNIT 117
SOMERSWORTH, NH 03878

PROJECT:
WEAVE FILTRATION
QUALITY WAY
DOVER, NH

DETAIL SHEET

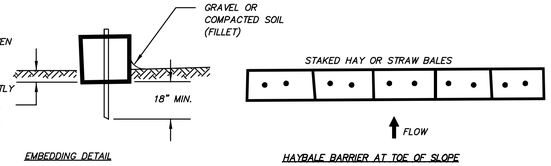
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HAYBALE GRADE STABILIZATION STRUCTURE

CONSTRUCTION SPECIFICATIONS

1. BALES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2. EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 4".
3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY 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.
4. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
5. BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
6. REMOVE AND PROPERLY DISPOSE OF ALL SEDIMENT PRIOR TO REMOVING HAYBALES.

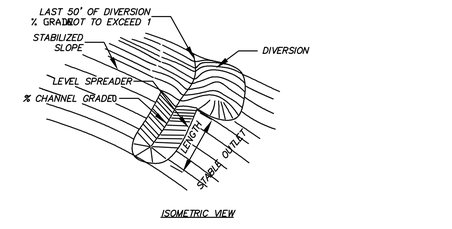


EMBEDDING DETAIL

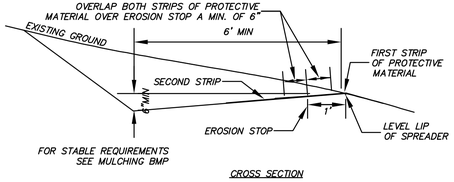
HAYBALE BARRIER AT TOE OF SLOPE

HAYBALE NOTES AND DETAILS

NOT TO SCALE



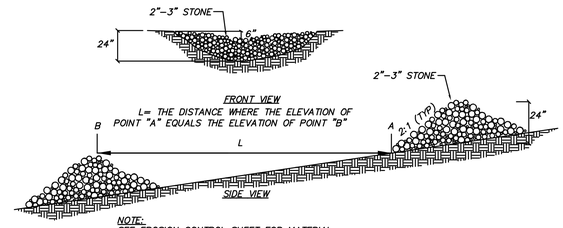
ISOMETRIC VIEW



CROSS SECTION

LEVEL SPREADER DETAIL

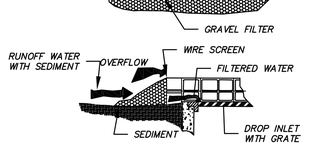
NOT TO SCALE



NOTE:
SEE EROSION CONTROL SHEET FOR MATERIAL, INSTALLATION AND MAINTENANCE REQUIREMENTS.

STONE CHECK DAM

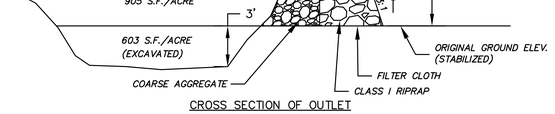
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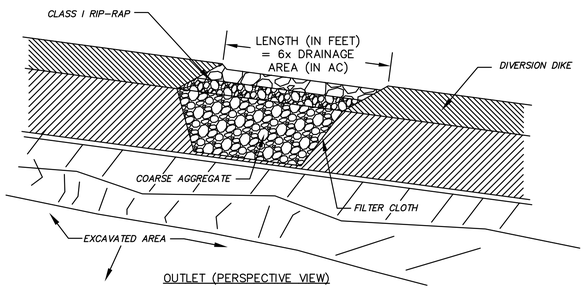
NORMAL USE AROUND CATCH BASINS

TEMPORARY EROSION CONTROL

NOT TO SCALE



CROSS SECTION OF OUTLET

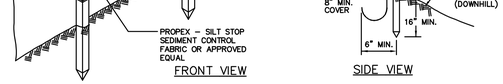


OUTLET (PERSPECTIVE VIEW)

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

TEMPORARY SEDIMENT TRAP

NOT TO SCALE



FRONT VIEW

SIDE VIEW

SILT FENCE DETAIL

NOT TO SCALE

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILE NO.: P22_

NO.	REVISION	APP'D	DATE

DATE: 6-16-22
SCALE: AS SHOWN
DRAWN BY: SRD
DESIGN BY: SRD
APPROVED BY:JH
PROJECT NO: 21094
FILE: SITE.DWG

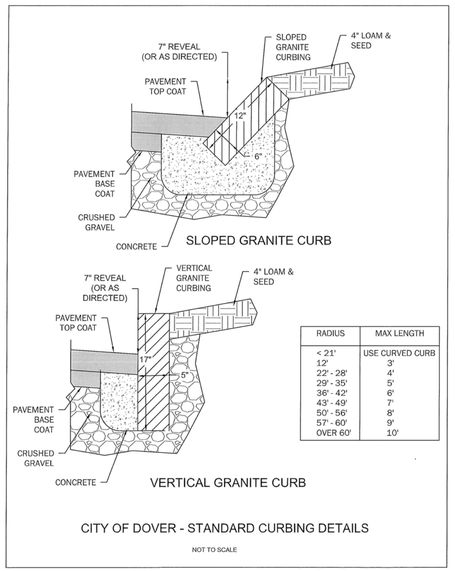
CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

DETAIL SHEET

APPLICANT:
WEAVE FILTRATION LLC
100 TRI CITY ROAD
UNIT 117
SOMERSWORTH, NH 03878

PROJECT:
WEAVE FILTRATION
QUALITY WAY
DOVER, NH

11

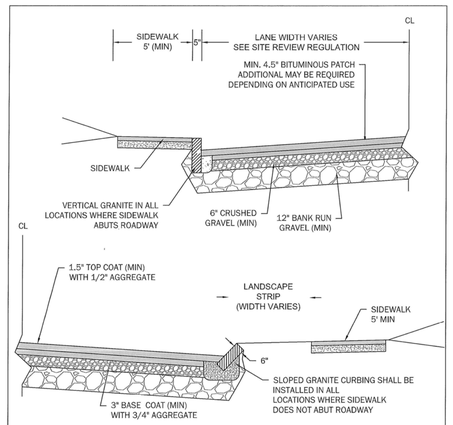


RADIUS	MAX LENGTH
< 21'	USE CURVED CURB
12'	3'
22' - 28'	4'
29' - 35'	5'
36' - 42'	6'
43' - 49'	7'
50' - 56'	8'
57' - 60'	9'
OVER 60'	10'

CITY OF DOVER - STANDARD CURBING DETAILS

NOT TO SCALE

Appendix B Page 6



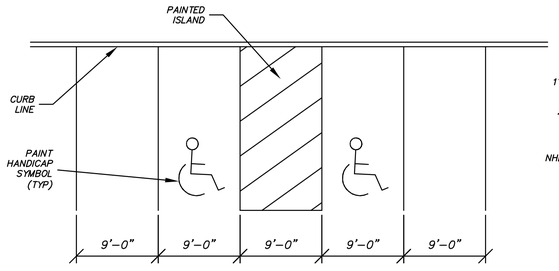
NOTES:

1. THIS DETAIL IS FOR GENERAL REVIEW PURPOSES ONLY, FINAL DESIGN SHALL BE BASED ON SPECIFIC SITE CONDITIONS.
2. SIDEWALK LOCATION SHALL BE AS APPROVED BY THE CITY OF DOVER.

CITY OF DOVER - PUBLIC ROADWAY CROSS SECTION

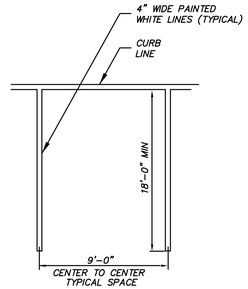
NOT TO SCALE

Appendix B Page 4

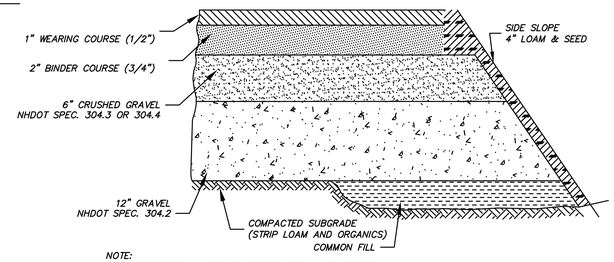


ACCESSIBLE PARKING LAYOUT

NOT TO SCALE



STANDARD PARKING STALL

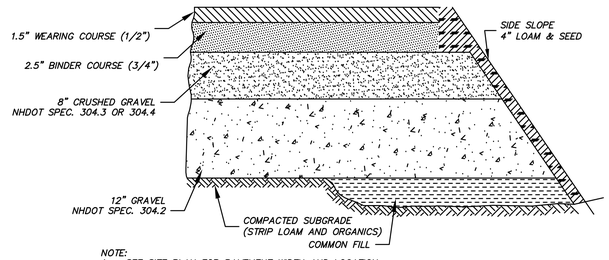


NOTE:

1. SEE SITE PLAN FOR PAVEMENT WIDTH AND LOCATION.
2. SEE GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR PAVEMENT SLOPE AND CROSS-SLOPE.
3. GEOTEXTILE FABRIC MAYBE REQUIRED UNDER THE ROADWAY AND /OR THE PARKING AREAS AS REQUIRED BY THE ENGINEER BASED UPON SITE CONDITIONS.

TYPICAL PAVEMENT SECTION

NOT TO SCALE



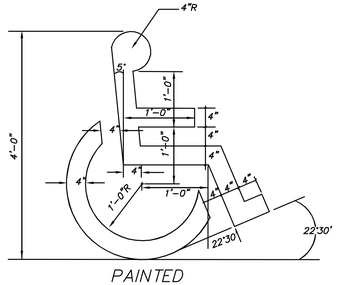
NOTE:

1. SEE SITE PLAN FOR PAVEMENT WIDTH AND LOCATION.
2. SEE GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR PAVEMENT SLOPE AND CROSS-SLOPE.
3. GEOTEXTILE FABRIC MAYBE REQUIRED UNDER THE ROADWAY AND /OR THE PARKING AREAS AS REQUIRED BY THE ENGINEER BASED UPON SITE CONDITIONS.

HEAVY DUTY TYPICAL PAVEMENT SECTION

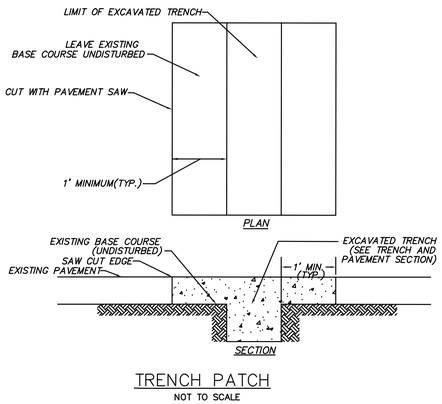
NOT TO SCALE

NOTE: SYMBOL TO BE PAINTED IN ALL HANDICAPPED SPACES



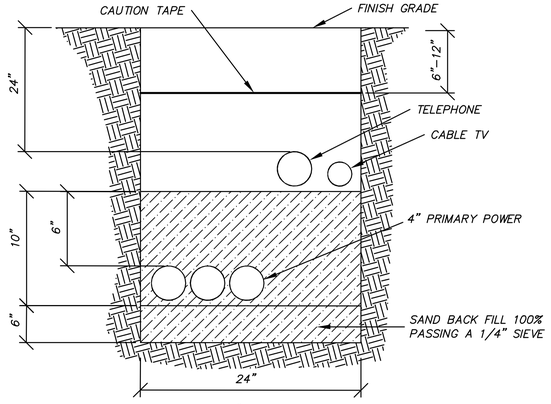
PAINTED HANDICAP SYMBOL

NOT TO SCALE



TRENCH PATCH

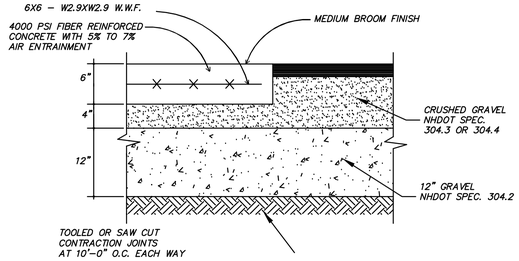
NOT TO SCALE



1. TELEPHONE CONDUIT SHALL BE 3" SCHEDULE 40 PVC, WITH STEEL SWEEPS AT RISER POLE, 90° BENDS AND AT BUILDING.
2. LEAVE PULL ROPE IN ALL CONDUITS FOR CABLE INSTALLATION.
3. FOR COMPLETE SPECIFICATIONS SEE "PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE CONSTRUCTION SPECIFICATIONS FOR UNDERGROUND CONDUIT SYSTEMS".
4. CONTRACTOR SHOULD VERIFY THE NUMBER & SIZE OF CONDUIT WITH THE APPROPRIATE UTILITIES.

UTILITY TRENCH

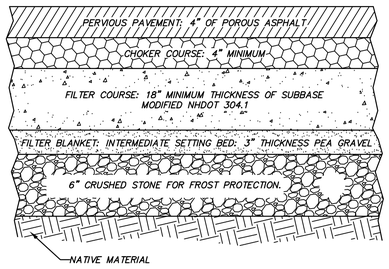
NOT TO SCALE



NOTE: PITCH CONCRETE PAD GRADING TO CENTER

DUMPSTER DETAIL

NOT TO SCALE



(UNHSC DESIGN SPECIFICATIONS FOR POROUS ASPHALT PAVEMENT AND INFILTRATION BEDS)

NOTE:

1. SEE SITE PLAN FOR LOCATION OF POROUS PAVEMENT, PAVEMENT WIDTH AND LOCATION.
2. CONSTRUCTION MATERIALS SHALL NOT BE STORED ON THE POROUS PAVEMENT OR BASE MATERIALS.
3. A PROFESSIONAL ENGINEER SHALL PERFORM ON-SITE INSPECTIONS DURING THE CONSTRUCTION AND INSTALLATION OF POROUS PAVEMENT AND PROVIDE A STATEMENT UPON COMPLETION OF WORK IDENTIFYING THAT THE PAVEMENT WAS PRODUCED AND INSTALLED AS PER THE REFERENCED SPECIFICATION. NOTIFY THE CITY ENGINEER OF THE INSTALLATION SCHEDULE AND IN ADVANCED OF INSTALLATION.
4. CRUSHED STONE, BANK RUN GRAVEL & CRUSHED GRAVEL MATERIALS SHALL CONFORM WITH NHDOT STD. SPECIFICATIONS.
5. THE POROUS PAVEMENT AREAS SHALL BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH THE SPECIFICATIONS IN "UNHSC DESIGN SPECIFICATIONS FOR POROUS ASPHALT PAVEMENT AND INFILTRATION BEDS, FEBRUARY 2014, REVISED SEPTEMBER 2016" (OR LATEST EDITION), PUBLISHED BY UNIVERSITY OF NEW HAMPSHIRE STORMWATER CENTER.
6. SEE GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR PAVEMENT SLOPE AND CROSS-SLOPE.
7. QUALITY CONTROL AND QUALITY ASSURANCE SHALL BE IN ACCORDANCE WITH THE REFERENCED SPECIFICATION.
8. POROUS ASPHALT SHALL BE INSTALLED AS THE LAST CONSTRUCTION ACTIVITY ONCE THE GRADING ACTIVITIES HAVE BEEN COMPLETED AND THE SITE HAS BEEN STABILIZED.

(SEE SITE PLAN FOR LOCATION)

POROUS PAVEMENT SECTION

NOT TO SCALE

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILE NO.: P22_

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

NO.	REVISION	APP'D	DATE

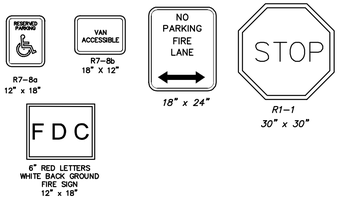
DATE: 6-16-22
SCALE: AS SHOWN
DRAWN BY: SRD
DESIGN BY: SRD
APPROVED BY:SJH
PROJECT NO: 21094
FILE: SITE.DWG

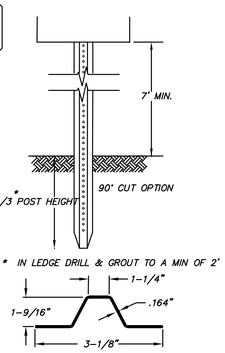
DETAIL SHEET

APPLICANT:
WEAVE FILTRATION LLC
100 TRI CITY ROAD
UNIT 117
SOMERSWORTH, NH 03878

PROJECT:
WEAVE FILTRATION
QUALITY WAY
DOVER, NH

12



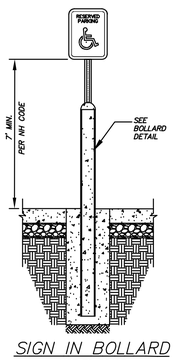


NOTE:
1. ALL SIGNS TO BE INSTALLED AS INDICATED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.

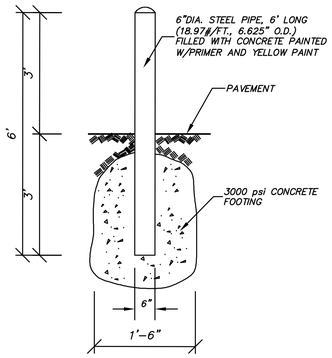
LENGTH: AS REQUIRED
WEIGHT PER LINEAR FOOT: 2.50 LBS (MIN.)
HOLES: 3/8" DIAMETER, 1" C-C FULL LENGTH
STEEL: SHALL CONFORM TO ASTM A-499 (GRADE 60) OR ASTM A-576 (GRADE 1070 - 1080)
FINISH: SHALL BE PAINTED WITH TWO COATS OF AN APPROVED MEDIUM GREEN

BAKED ON OR AIR DRIED, PAINT OF WEATHER RESISTANT QUALITY.
ALL FABRICATION SHALL BE COMPLETE BEFORE PAINTING.

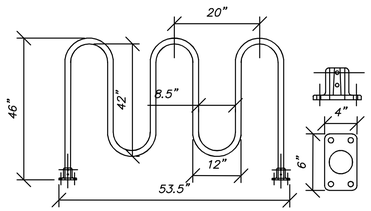
SIGN LEGEND & SIGN POST
NOT TO SCALE



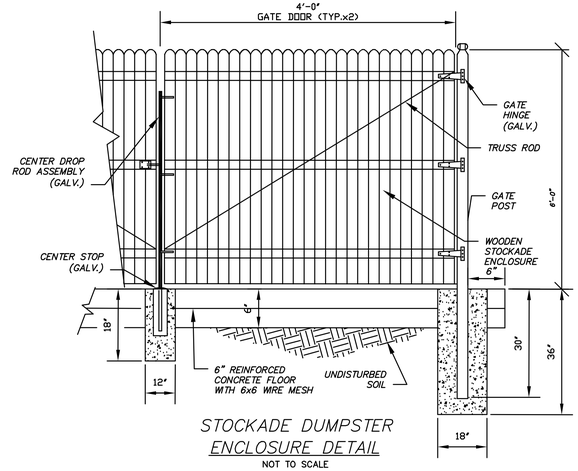
SIGN IN BOLLARD
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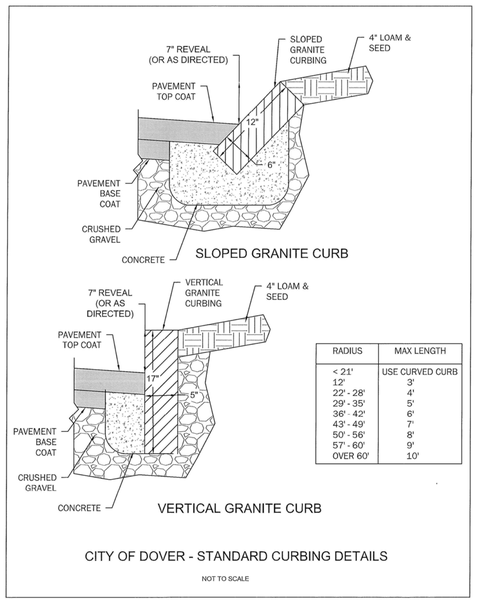
BOLLARD DETAIL
NOT TO SCALE



BIKE RACK DETAIL
NOT TO SCALE



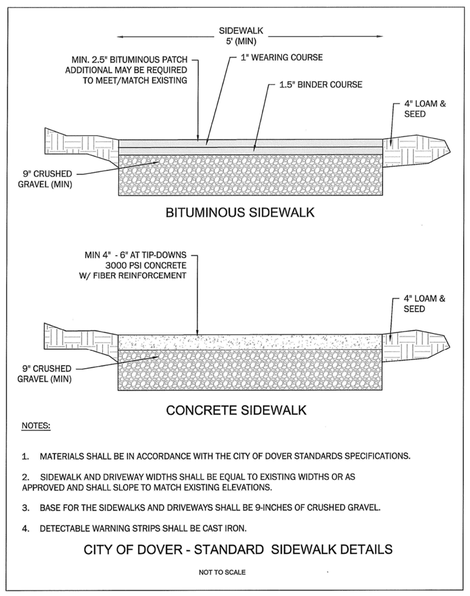
STOCKADE DUMPSTER ENCLOSURE DETAIL
NOT TO SCALE



RADIUS	MAX LENGTH
< 21'	USE CURVED CURB
12'	3'
22' - 28'	4'
29' - 35'	5'
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CITY OF DOVER - STANDARD CURBING DETAILS
NOT TO SCALE

Appendix B Page 6

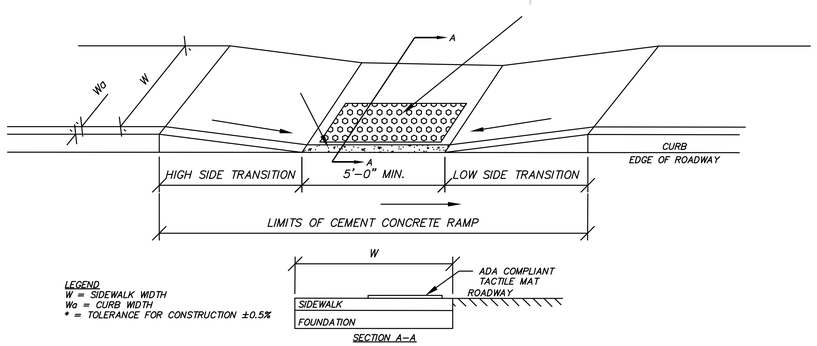


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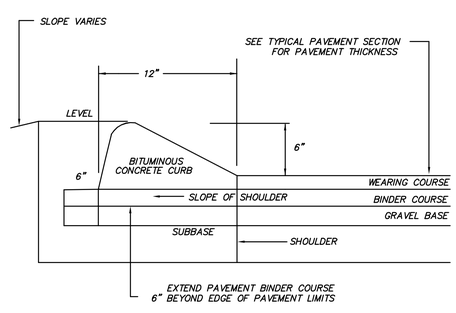
1. MATERIALS SHALL BE IN ACCORDANCE WITH THE CITY OF DOVER STANDARDS SPECIFICATIONS.
2. SIDEWALK AND DRIVEWAY WIDTHS SHALL BE EQUAL TO EXISTING WIDTHS OR AS APPROVED AND SHALL SLOPE TO MATCH EXISTING ELEVATIONS.
3. BASE FOR THE SIDEWALKS AND DRIVEWAYS SHALL BE 9-INCHES OF CRUSHED GRAVEL.
4. DETECTABLE WARNING STRIPS SHALL BE CAST IRON.

CITY OF DOVER - STANDARD SIDEWALK DETAILS
NOT TO SCALE

Appendix B Page 5



SIDEWALK APRON
NOT TO SCALE



BITUMINOUS SLOPED CURB
NOT TO SCALE

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILE NO.: P22_

NO.	REVISION	APP'D	DATE

DATE: 6-16-22
SCALE: AS SHOWN
DRAWN BY: SRD
DESIGN BY: SRD
APPROVED BY:JH
PROJECT NO: 21094
FILE: SITE.DWG

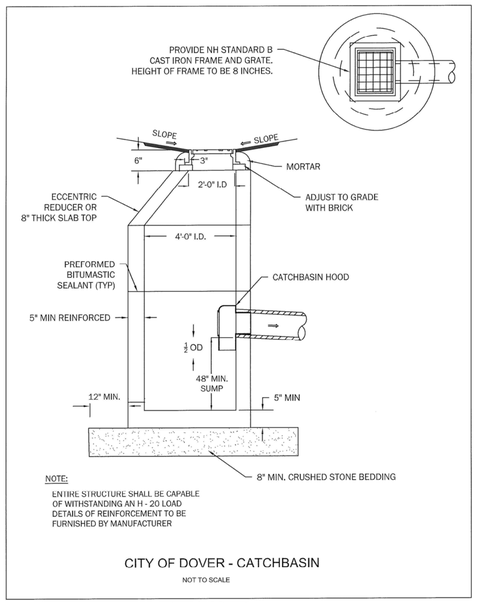
CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

DETAIL SHEET

APPLICANT:
WEAVE FILTRATION LLC
100 TRI CITY ROAD
UNIT 117
SOMERSWORTH, NH 03878

PROJECT:
WEAVE FILTRATION
QUALITY WAY
DOVER, NH

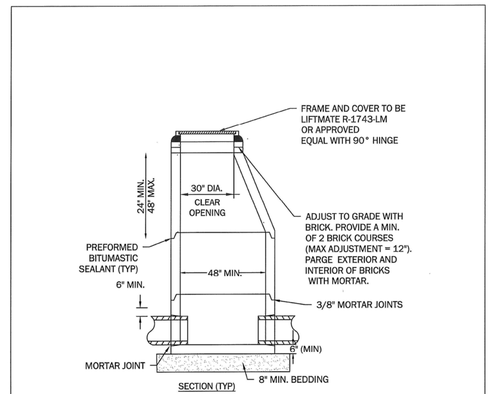
13



CITY OF DOVER - CATCHBASIN

NOT TO SCALE

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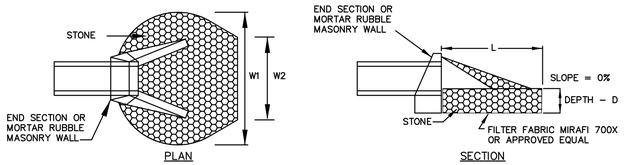
CITY OF DOVER - DRAIN MANHOLE

NOT TO SCALE

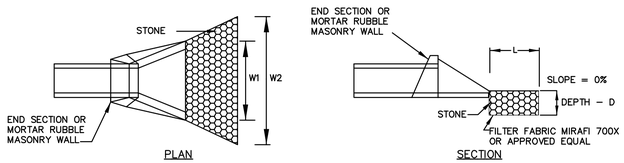
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SPECIFICATIONS

1. All construction shall conform with the State of New Hampshire Department of Transportation (NHDOT), "Standard Specifications for Road and Bridge Construction"; hereinafter referred to as the "Standard Specifications".
2. Storm drains shall be ADS N12 or approved equal, and shall be jointed with neoprene "O" rings.
3. Catch basins and manholes shall be pre-cast reinforced concrete designed by an engineer registered in New Hampshire, and able to withstand loadings of 8 tons (H20 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 and manholes shall be adjusted to grade with courses of brick. Maximum adjustment to grade shall be 12 inches. Frames shall be set on a full bed of mortar, true to grade and concentric with the masonry. All voids between the top of the structure and the bottom flange of the frame shall be completely filled to make a watertight 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 around its circumference and shall be finished smooth. No visible leakage will be permitted.
6. Invert channels of sewer manholes shall be formed smoothly to the largest pipe radius. Changes in grade shall be formed smoothly and evenly. The floor of the structure outside 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 driven 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, organic matter, top soil, all wet or soft muck, peat or clay, all excavated ledge material, frozen material, all rocks over 6 inches in largest dimension, or any material which, as determined by the Engineer, will not provide sufficient support or maintain the completed construction in a stable condition. Backfill shall not be placed on frozen or previously frozen material.
11. All backfill and bedding compaction shall meet the requirements of AASHO T 99 Method C. Density shall be 95 percent. Compaction shall be 6 inch lifts for bedding and backfill to a plane 1 foot above the pipe and in 12 inch lifts thereafter by an approved mechanical compactor.
12. Should frozen material be encountered, it shall not be placed in the backfill nor shall backfill be placed upon frozen material. Previously frozen material shall be removed as required before new backfill is placed.
13. The Contractor shall be responsible for any damage to frames and grates during and from the time of removal from the existing structure to and during the time of resetting, and shall replace in kind any damaged frames or grates at no additional compensation.
14. All trenches will be covered and debris, including any rejected materials, shall be removed daily. Strict safety precautions shall be maintained at all times.
15. Location of utilities shown on the plans are approximate.
    a) The Contractor shall, 48 hours prior to construction, notify the utility companies and have all utilities in the vicinity of the construction marked in the field.
    b) After the utilities have been located and prior to construction, the Contractor with the Engineer, shall layout the proposed drainage system in the field and rectify any utility conflicts which may be found.
    c) Any conflicts with utilities 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. The Contractor shall contact the Utility Company to repair any damages, however, the Contractor may make appropriate repairs with the Utility Company's permission.
16. Complete shop drawings for pipe, manholes, catch basins, frames, 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.



STONE APRON OUTLET PROTECTION DETAIL
OUTLET TO DEFINED CHANNEL



STONE APRON OUTLET PROTECTION DETAIL
OUTLET TO FLAT AREA, NON DEFINED CHANNEL

MAINTENANCE

THE OUTLET PROTECTION SHOULD BE CHECKED AT LEAST ANNUALLY AND AFTER EVERY MAJOR STORM. IF THE RIPRAP HAS BEEN DISPLACED, UNDERMINED OR DAMAGED, IT SHOULD BE REPAIRED IMMEDIATELY. THE CHANNEL IMMEDIATELY BELOW THE OUTLET SHOULD BE CHECKED TO SEE THAT EROSION IS NOT OCCURRING. THE DOWNSTREAM CHANNEL SHOULD BE KEPT CLEAR OF OBSTRUCTIONS SUCH AS FALLEN TREES, DEBRIS, AND SEDIMENT THAT COULD CHANGE FLOW PATTERNS AND/OR TAILWATER DEPTHS ON THE PIPES. REPAIRS MUST BE CARRIED OUT IMMEDIATELY TO AVOID ADDITIONAL DAMAGE TO THE OUTLET PROTECTION APRON.

STONE GRADATION

% OF WEIGHT SMALLER THAN THE GIVEN SIZE	SIZE OF STONE
100	1.5 TO 2.0 D50
85	1.3 TO 1.8 D50
50	1.0 TO 1.5 D50
15	0.3 TO 0.5 D50

CONSTRUCTION SPECIFICATIONS

1. THE SUBGRADE FOR THE FILTER MATERIAL, GEOTEXTILE FABRIC, AND RIPRAP SHALL BE PREPARED TO THE LINES AND GRADES SHOWN ON THE PLANS.
2. THE ROCK OR GRAVEL USED FOR FILTER OR RIPRAP SHALL CONFORM TO THE SPECIFIED GRADATION.
3. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE ROCK RIPRAP. DAMAGED AREAS IN THE FABRIC SHALL BE REPAIRED BY PLACING A PIECE OF FABRIC OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL OVERLAPS REQUIRED FOR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 12 INCHES.
4. STONE FOR THE RIP RAP MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT SEGREGATION OF THE STONE SIZES.

OUTLET FROM	W1(ft)	W2(ft)	L(ft)	D (ft)	D50(IN)	CHANNEL TYPE
FES3	12	4	10	1	6	DEFINED
FES4	4	14	10	1	6	UNDEFINED
FES5	3	10	16	1	6	UNDEFINED
FES6	11	3	11	1	6	DEFINED

RIP RAP OUTLET PROTECTION

NOT TO SCALE

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILE NO.: P22_

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

NO.	REVISION	APP'D	DATE

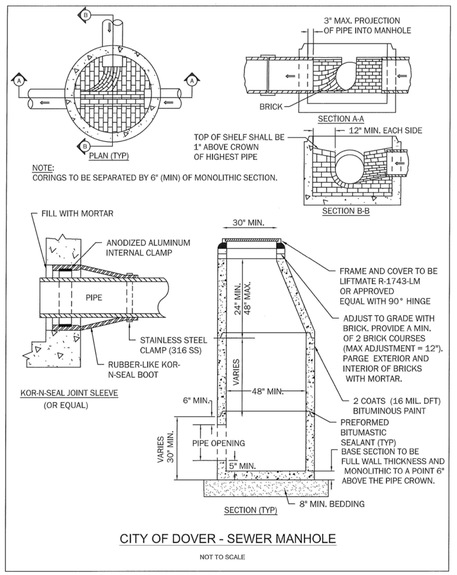
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SCALE: AS SHOWN
DRAWN BY: SRD
DESIGN BY: SRD
APPROVED BY:JH
PROJECT NO: 21094
FILE: SITE.DWG

DETAIL SHEET

APPLICANT:
WEAVE FILTRATION LLC
100 TRI CITY ROAD
UNIT 117
SOMERSWORTH, NH 03878

PROJECT:
WEAVE FILTRATION
QUALITY WAY
DOVER, NH

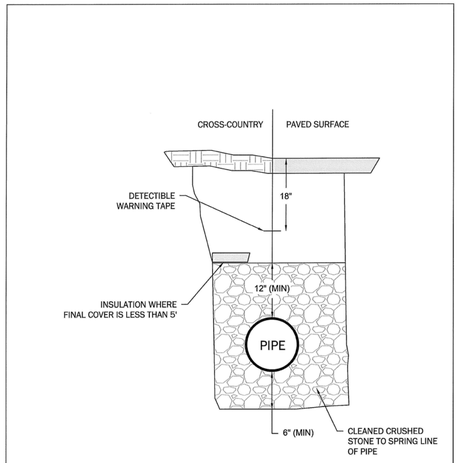
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CITY OF DOVER - SEWER MANHOLE

NOT TO SCALE

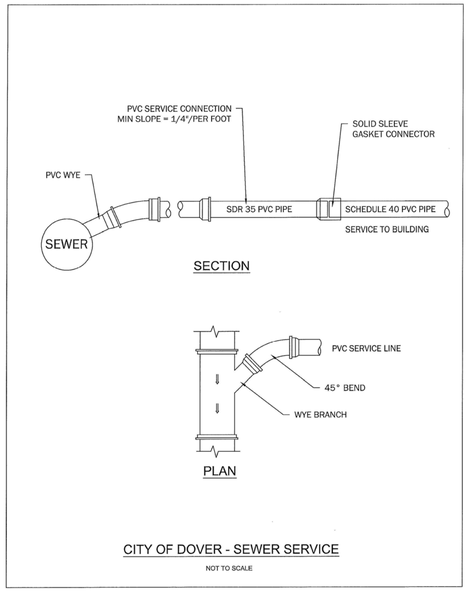
Appendix B Page 12



CITY OF DOVER- TYPICAL SEWER/DRAINLINE TRENCH

NOT TO SCALE

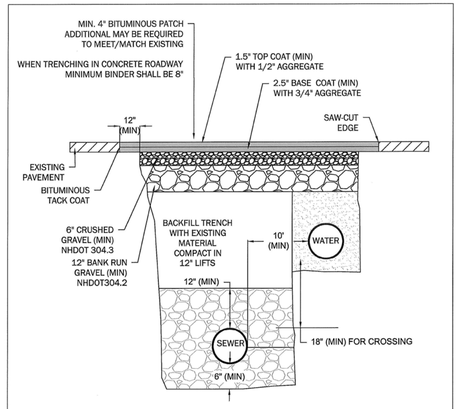
Appendix B Page 13



CITY OF DOVER - SEWER SERVICE

NOT TO SCALE

Appendix B Page 15



NOTES:

1. TRENCH SHALL BE COMPACTED TO 95% OPTIMUM DENSITY.
2. ALL WORK SHALL COMPLY WITH THE CITY OF DOVER CONSTRUCTION GUIDELINES AND PROCEDURES

CITY OF DOVER - TYPICAL TRENCH DETAIL

NOT TO SCALE

Appendix B Page 3

NOTE:

1. ALL WATER LINES 4" OR GREATER SHALL BE DUCTILE IRON WITH AN 8 MIL POLYETHYLENE WRAP. CONTRACTOR MAY FORGO WRAPPING PIPE IF THE DUCTILE IRON PIPE IS ZINC-COATED, TEES AND OTHER CONNECTIONS WILL STILL NEED TO BE WRAPPED.

CITY OF DOVER - WATERLINE TRENCH

NOT TO SCALE

NOTE:

1. ALL WATER LINES 4" OR GREATER SHALL BE DUCTILE IRON WITH AN 8 MIL POLYETHYLENE WRAP. CONTRACTOR MAY FORGO WRAPPING PIPE IF THE DUCTILE IRON PIPE IS ZINC-COATED, TEES AND OTHER CONNECTIONS WILL STILL NEED TO BE WRAPPED.
2. WATER SERVICE LINES SHALL BE COPPER TUBING (TYPE K) BETWEEN MAIN AND CURB STOP.
3. SERVICE BETWEEN CURB STOP AND BUILDING MAY BE SDR 9 CTS (BLUE) PLASTIC POLYETHYLENE RATED FOR 250 psi.

CITY OF DOVER - WATER SERVICE CONNECTION

NOT TO SCALE

THRUST BLOCK SCHEDULE

MINIMUM BEARING AREA (SQUARE FEET)

	PIPE SIZE					
Nominal Dia. (in)	4	6	8	10	12	16
Tees, Caps, Plugs, & Tapping Sleeves	1.05	2.32	4.15	6.37	9.15	16.23
90 Degree Bends	1.48	3.29	5.86	9.01	12.93	22.96
45 Degree Bends	0.80	1.78	3.17	4.88	7.00	12.42
22-1/2 Degree Bends	0.41	0.91	1.62	2.49	3.57	6.33
11-1/4 Degree Bends	0.21	0.46	0.81	1.25	1.79	3.18
	System Pressure: 100 psi Safety Factor: 1.5 Soil Bearing Capacity: 2,000 psf					

THE MINIMUM BEARING AREAS SHOWN IN THE THRUST BLOCK SCHEDULE ARE BASED ON A SYSTEM PRESSURE OF 100 PSI. IF THE SYSTEM PRESSURE IS ABOVE 100 PSI, INCREASE THE NOTED AREAS PROPORTIONAL TO THE ACTUAL SYSTEM PRESSURE. FOR EXAMPLE, IF THE ACTUAL SYSTEM PRESSURE IS 160 PSI, MULTIPLY THE ABOVE VALUES BY 160%.

CITY OF DOVER - PRECAST CONCRETE THRUST BLOCK & ANCHOR

NOT TO SCALE

Appendix B Page 11

NOTES:

1. FIRE HYDRANT TO BE EDDY 2641.
2. HYDRANT TO BE PAINTED RED.
3. HYDRANT SHALL OPEN LEFT.

CITY OF DOVER - HYDRANT

NOT TO SCALE

Appendix B Page 10

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

NO.	REVISION	APP'D	DATE

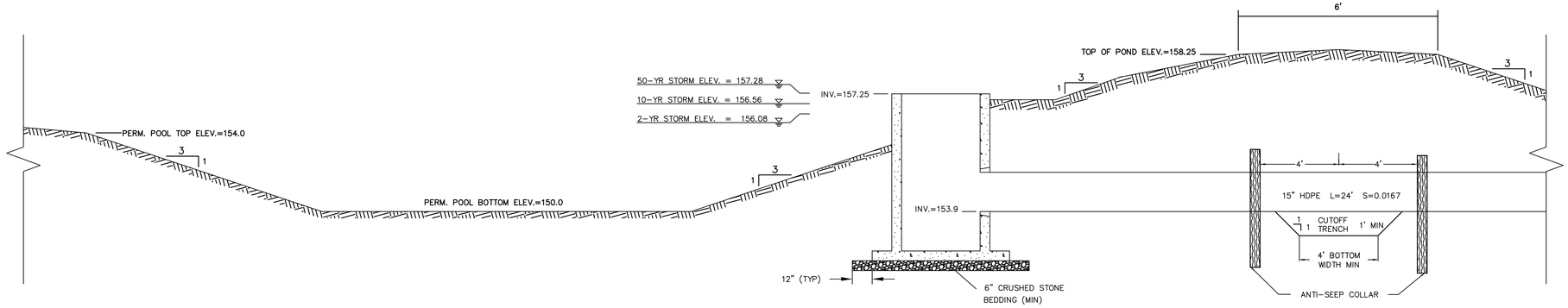
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SCALE: AS SHOWN
DRAWN BY: SRD
DESIGN BY: SRD
APPROVED BY:JH
PROJECT NO: 21094
FILE: SITE.DWG

DETAIL SHEET

APPLICANT:
WEAVE FILTRATION LLC
100 TRI CITY ROAD
UNIT 117
SOMERSWORTH, NH 03878

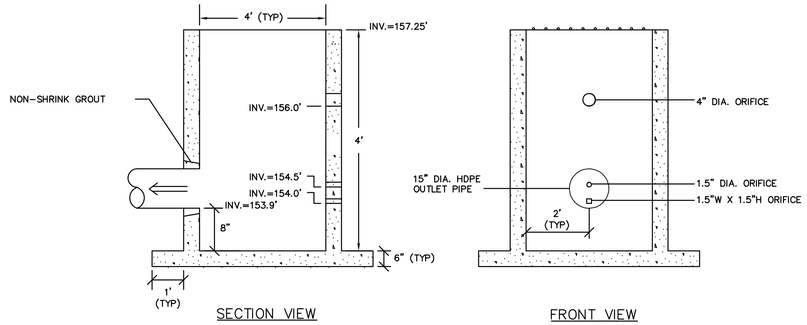
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DOVER, NH

15



WET POND 1 (WP1)

NOT TO SCALE



SECTION VIEW

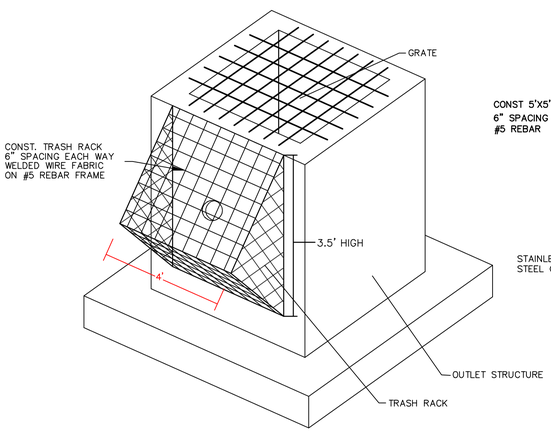
FRONT VIEW

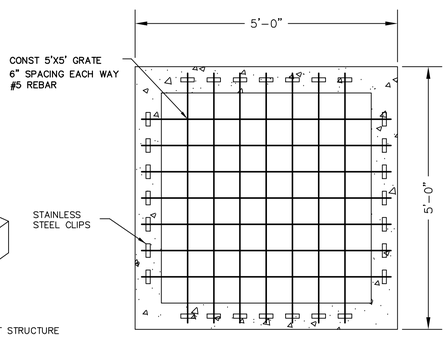
NOTE:

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.
3) SUMPS SHALL NOT BE GREATER THAN 8 INCHES.

OUTLET STRUCTURE WET POND 1 (OS1) DETAIL

NOT TO SCALE





GRATE

NOTE:

1) 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.

TYPICAL INLET TRASH RACKS

NOT TO SCALE

DETENTION POND CONSTRUCTION NOTES

DETENTION AREA EARTH EMBANKMENT:

1 SEE GRADING PLAN FOR BERM WIDTHS.
2 SIDE SLOPES – THREE HORIZONTAL TO ONE VERTICAL (3:1) OR UNLESS OTHERWISE NOTED.
3 FILL MATERIALS SHALL BE FREE OF DETRIMENTAL AMOUNTS OF SOD, ROOTS, FROZEN SOIL, STONES MORE THAN 6 INCHES IN DIAMETER (EXCEPT FOR ROCK FILLS), AND OTHER OBJECTIONABLE MATERIAL.
4 FILL MATERIALS SHALL BE A MIXTURE OF STONES (NOT EXCEEDING 6" IN DIAMETER) AND A FINE SANDY SILT MATERIAL.
5 THE SOIL USED FOR THE SEDIMENT FOREBAY BERM SHALL HAVE A MINIMUM PERCOLATION RATE OF 10 MINUTES AN INCH.
6 SELECTED BACKFILL MATERIAL SHALL BE PLACED AROUND STRUCTURES, PIPE CONDUITS, AND ANTISEEP COLLARS AT ABOUT THE SAME RATE ON ALL SIDES TO PREVENT DAMAGE FROM UNEQUAL LOADING.

DETENTION AREA BERM BASE PREPARATION:

1 THE BASE AREA SHALL BE CLEARED OF TREES, LOGS, STUMPS, ROOTS, BRUSH, BOULDERS, SOD, AND RUBBISH. IF NEEDED TO ESTABLISH VEGETATION, THE TOPSOIL AND SOD SHALL BE STOCKPILED AND SPREAD ON THE COMPLETED BERM. THE BASE AREA SHALL BE THOROUGHLY SCARIFIED BEFORE PLACEMENT OF MATERIAL.
2 REMOVE ALL SOFT ORGANIC MATTER, PEAT, DEBRIS AND FOREIGN MATERIAL TO A DEPTH AS NEEDED (1' MIN) TO REACH AN UNYIELDING BASE OF VIRGIN SOIL.

EXECUTION:

1 FILL MATERIALS SHALL BE PLACED IN HORIZONTAL 12" (MAX.) LIFTS TO FULL WIDTHS AS SHOWN ON THE DESIGN PLAN.
2 FILL MATERIALS SHALL BE FRESHLY PLACED PRIOR TO COMPACTION.
3 ALL FILLS SHALL BE COMPACTED BY MECHANICAL VIBRATORY COMPACTION TO 95% PROCTOR DENSITY.
4 FILL SHALL BE CONSTRUCTED IN CONTINUOUS HORIZONTAL LAYERS EXCEPT WHERE OPENINGS OR SECTIONALIZED FILLS ARE REQUIRED. IN THOSE CASES, THE SLOPE OF THE BONDING SURFACES BETWEEN THE EMBANKMENT IN PLACE AND THE EMBANKMENT TO BE PLACED SHALL NOT BE STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL. PLACE THE MORE IMPERVIOUS SOIL (HIGHER PERCENTAGE PASSING THE #200 SIEVE) IN THE UPSTREAM TWO-THIRDS (2/3) OF THE BERM. THE MORE GRANULAR SOIL MATERIAL SHOULD BE PLACED IN THE REMAINING DOWNSTREAM ONE-THIRD PORTION OF THE BERM.
5 INSTALL ANTI-SEEP COLLARS CONCURRENTLY WITH FILL MATERIAL PLACEMENT.
6 INSTALL CUT-OFF TRENCH CONCURRENTLY WITH FILL MATERIAL PLACEMENT. THE CUT OFF TRENCH SHALL BE LOCATED AT OR SLIGHTLY UPSTREAM OF THE CENTER LINE OF THE BERM. IT SHALL EXTEND UP THE ABUTMENTS AS REQUIRED AND BE DEEP ENOUGH TO EXTEND INTO A RELATIVELY IMPERVIOUS LAYER.
7 THE CUTOFF TRENCH SHALL HAVE A BOTTOM WIDTH ADEQUATE TO ACCOMMODATE THE EQUIPMENT USED FOR EXCAVATION, BACKFILL AND COMPACTION OPERATIONS. CUTOFF TRENCH TO BE EXCAVATED AND BACKFILLED PRIOR TO PLACING PIPE.
8 CUTOFF TRENCH SIDE SLOPES SHALL NOT BE STEEPER THAN ONE HORIZONTAL TO ONE VERTICAL.

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 DETENTION BASINS 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 BURROWS, WET AREAS, OR EROSION OF THE FILL IS TAKING PLACE. IF SUCH ISSUES ARE NOTED THEY SHALL BE RECTIFIED AS SOON AS PRACTICAL.
2 VEGETATION – THE VEGETATED AREAS OF THE BERM SHOULD BE PROTECTED FROM DAMAGE BY FIRE, GRAZING, TRAFFIC, AND DENSE WEED GROWTH. LIME AND FERTILIZER SHOULD BE APPLIED AS NECESSARY AS DETERMINED BY SOIL TESTS. TREES SHOULD BE KEPT OFF THE BERM AREA.
3 INLETS AND OUTLETS – SHOULD BE INSPECTED ANNUALLY AND AFTER EVERY MAJOR STORM. ACCUMULATED DEBRIS AND SEDIMENT SHOULD BE REMOVED.
4 SEDIMENT – SEDIMENT SHOULD BE CONTINUALLY CHECKED IN THE BASIN. WHEN SEDIMENT ACCUMULATIONS REACH THE STRUCTURE INLET ELEVATION 89.5' THEN THE SEDIMENT SHOULD BE REMOVED AND PROPERLY DISPOSED OF.

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DESIGN BY: SRD
APPROVED BY:JH
PROJECT NO:21094
FILE: SITE.DWG

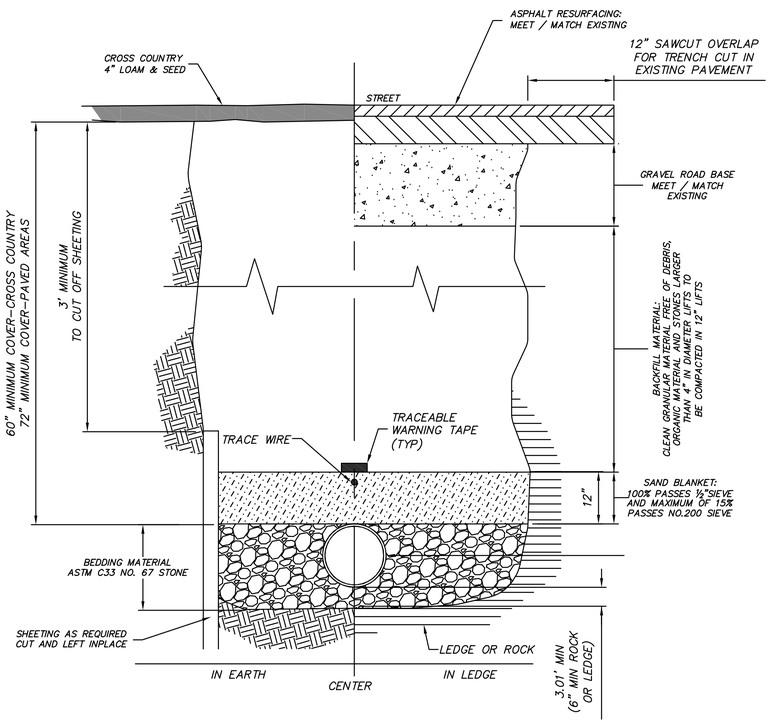
CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
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Dover, New Hampshire 03821
603.749.0443

DETAIL SHEET

PROJECT:
WEAVE FILTRATION
QUALITY WAY
DOVER, NH

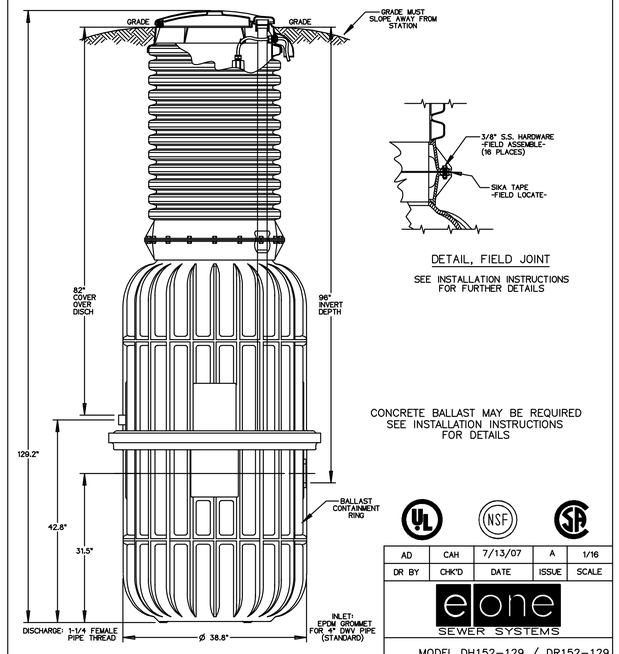
APPLICANT:
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100 TRI CITY ROAD
UNIT 117
SOMERSWORTH, NH 03878

16



SEWER FORCEMAIN TRENCH
NOT TO SCALE

OPTIONS: DH152-129 (HARD WIRED LEVEL CONTROLS)



AD	CAH	7/13/07	A	1/16
DR BY	CHK'D	DATE	ISSUE	SCALE

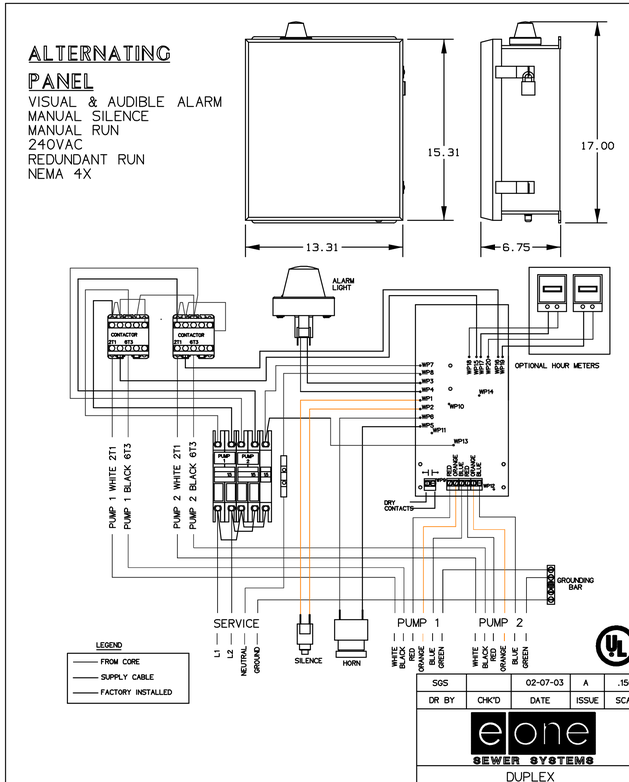
SEWER SYSTEMS

MODEL DH152-129 / DR152-129

NA0052P05

ALTERNATING PANEL

VISUAL & AUDIBLE ALARM
MANUAL SILENCE
MANUAL RUN
240VAC
REDUNDANT RUN
NEMA 4X



SGS		02-07-03	A	.156
DR BY	CHK'D	DATE	ISSUE	SCALE

SEWER SYSTEMS

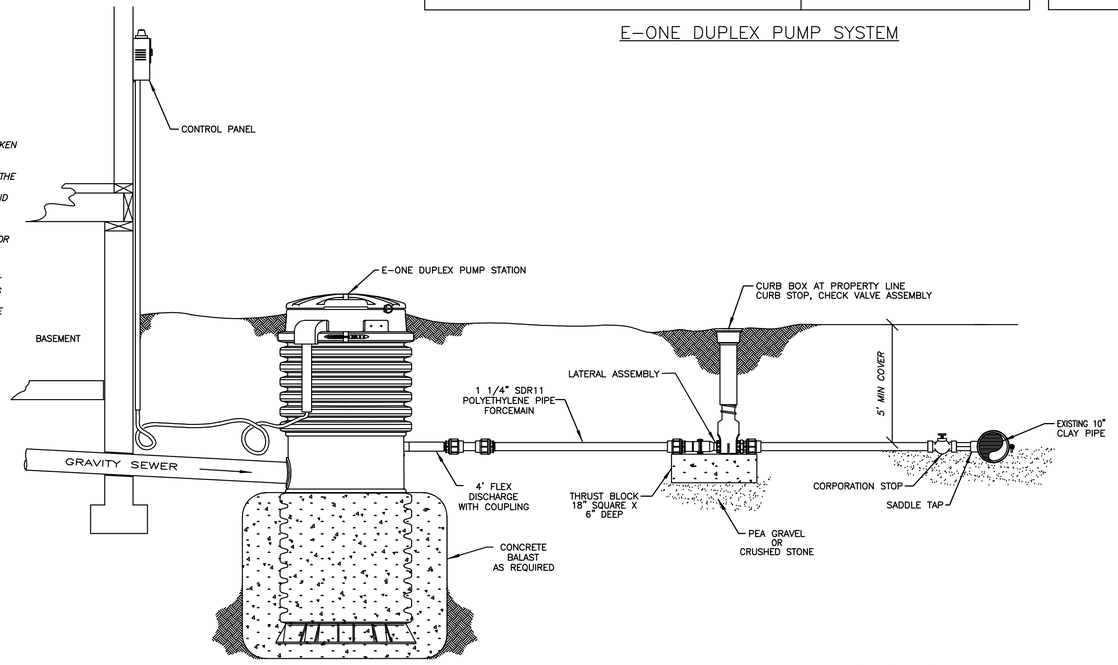
DUPLEX
SPLIT TIME ALTERNATING PANEL

LM000270

E-ONE DUPLEX PUMP SYSTEM

BURIED NON-METALLIC UTILITIES SHALL RECEIVE A TRACER WIRE.

1. *THE TRACER WIRE SHALL BE INSTALLED ON TOP OF THE BURIED UTILITY CROWN.*
2. *THE TRACER WIRE SHALL BE POSITIVELY ATTACHED TO THE NON-METALLIC BURIED UTILITIES BY PLASTIC WIRE TIES OF SIMILAR TYPE OF ATTACHMENT EVERY 6 FEET FOR STRAIGHT RUN OF UTILITY AND AT ALL CHANGES OF DIRECTION. TAPE SHALL BE POLYKEN "930-35," PROTECTO-WRAP "310", OR EQUAL.*
3. *THE ENDS OF THE TRACER WIRE SHALL BE EXPOSED ABOVE THE FINISHED GRADE.*
4. *INSTALL APPROVED CAST IRON VALVE BOXES AT ALL LOCATIONS WHERE THE ENDS OF THE TRACER WIRE ARE EXPOSED ABOVE THE FINISHED GRADE. THE BOXES SHALL NOT BE MORE THAN 200 FEET APART AND SHALL CONTAIN A 24" COIL OF WIRE FROM EACH END OF THE TRACER WIRE.*
5. *TRACER WIRE SHALL BE CONTINUOUS BETWEEN BOXES AND SHALL BE TESTED FOR CONTINUITY IN THE PRESENCE OF THE INSPECTOR.*
6. *TRACER WIRE SHALL BE NO. 10 AWG, COPPER WIRE WITH TW INSULATION (BLUE IN COLOR FOR USE WITH POTABLE WATER, GREEN FOR USE WITH SEWER). CONNECTORS SHALL BE DRY-CON TYPE CONNECTORS FOR SPECIFIED WIRE GAGE AND SUITABLE FOR USE WITH BURIED TRACER WIRE.*
7. *TRACER WIRE SHALL BE EXPOSED ABOVE FINISHED GRADE IN THE CAST IRON BOXES AT THE TRANSITION WHERE THE NON-METALLIC BURIED UTILITY CONNECTS TO THE EXISTING METALLIC UTILITY.*
8. *EXTEND WIRE INTO VALVE BOXES AND TERMINATE WITH A WIRE CONNECTOR. TERMINATE WIRE FROM LINES EXTENDING FROM MAINS TO FIRE RISERS OR BUILDING SERVICES 12" (300MM) ABOVE GRADE AND CAP WITH A WIRE CONNECTOR.*



TYPICAL LATERAL INSTALLATION (E/ONE)
NOT TO SCALE

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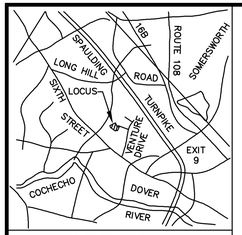
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DETAIL SHEET

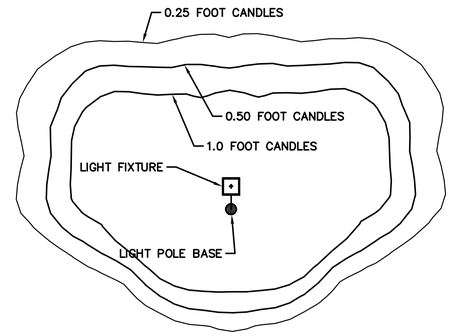
APPLICANT:
WEAVE FILTRATION LLC
100 TRI CITY ROAD
UNIT 117
SOMERSWORTH, NH 03878

PROJECT:
WEAVE FILTRATION
QUALITY WAY
DOVER, NH

17

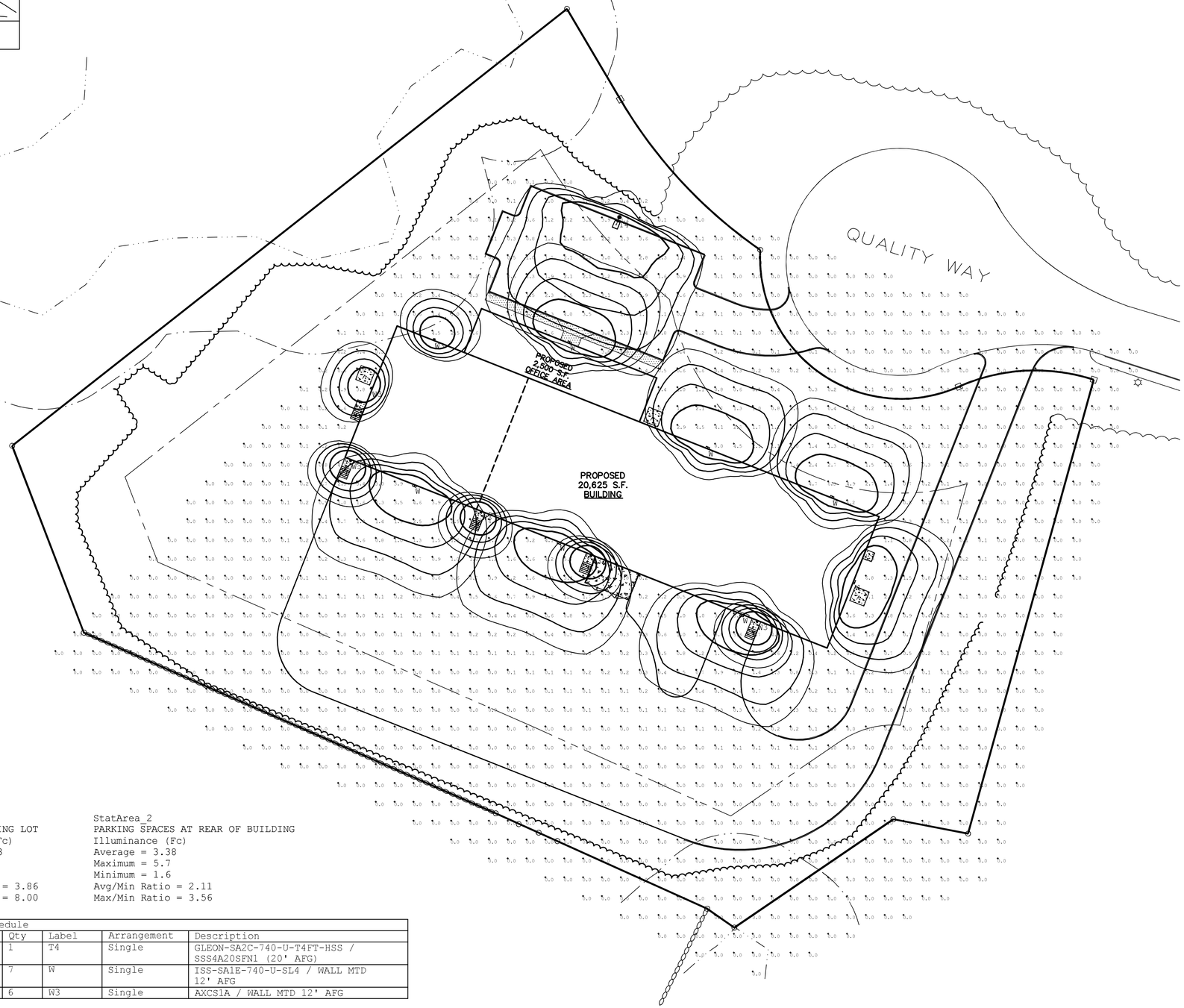


LOCATION PLAN
(NO SCALE)



TYPICAL LIGHT SPREAD
NOT TO SCALE

NOTE:
1. LIGHTING PHOTOMETRICS PREPARED BY CHARRON INC. HOOKSETT, NH.



StatArea_1
EMPLOYEE PARKING LOT
Illuminance (Fc)
Average = 1.93
Maximum = 4.0
Minimum = 0.5
Avg/Min Ratio = 3.86
Max/Min Ratio = 8.00

StatArea_2
PARKING SPACES AT REAR OF BUILDING
Illuminance (Fc)
Average = 3.38
Maximum = 5.7
Minimum = 1.6
Avg/Min Ratio = 2.11
Max/Min Ratio = 3.56

Luminaire Schedule				
Symbol	Qty	Label	Arrangement	Description
	1	T4	Single	GLEON-SA2C-740-U-T4FT-HSS / SSS4A20SFN1 (20' AFG)
	7	W	Single	ISS-SA1E-740-U-SL4 / WALL MTD 12' AFG
	6	W3	Single	AXCS1A / WALL MTD 12' AFG



GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)

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NO.	REVISION	APP'D	DATE

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SCALE: 1"=30'
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PROJECT NO:21094
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CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

LIGHTING PLAN

APPLICANT:
WEAVE FILTRATION LLC
100 TRI CITY ROAD
UNIT 117
SOMERSWORTH, NH 03878

PROJECT:
WEAVE FILTRATION
QUALITY WAY
DOVER, NH

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Project		Catalog #		Type	
Prepared by		Notes		Date	



McGraw-Edison

GLEON Galleon

Area / Site Luminaire

Typical Applications

Outdoor • Parking Lots • Walkways • Roadways • Building Areas

Interactive Menu

- Ordering Information page 2
- Mounting Details page 3
- Optical Distributions page 4
- Product Specifications page 4
- Energy and Performance Data page 4
- Control Options page 9

Quick Facts

- Lumen packages range from 4,200 - 80,800 (34W - 640W)
- Efficacy up to 156 lumens per watt

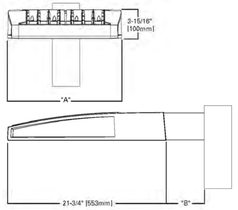
Product Certifications

Product Features

Connected Systems

- WaveLinx
- Enlighted

Dimensional Details



Number of Light Squares	"A" Width	"B" Standard Arm Length	"B" Extended Arm Length[1]	"B" Quick Mount Arm Length	"B" Quick Mount Extended Arm Length
1-4	15-1/2"	7"	10"	10-5/8"	16-9/16"
5-6	21-5/8"	7"	10"	10-5/8"	16-9/16"
7-8	27-5/8"	7"	13"	10-5/8"	--
9-10	33-3/4"	7"	16"	--	--

NOTES:
For arm selection requirements and additional line art, see Mounting Details section.

Project		Catalog #		Type	
Prepared by		Notes		Date	



McGraw-Edison

Impact Elite LED

Wall Mount Luminaire

Interactive Menu

- Ordering Information page 2
- Product Specifications page 2
- Energy and Performance Data page 3
- Control Options page 4

Quick Facts

- 10 Optical Distributions
- Lumen packages range from 2,459 to 8,123 (20W - 66W)
- Efficacy up to 143 lumens per watt

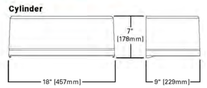
Product Certifications

Connected Systems

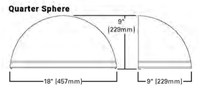
- WaveLinx
- Enlighted

Dimensional Details

Cylinder



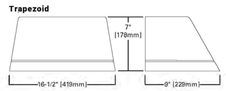
Quarter Sphere



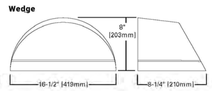
Hook -n- Lock



Trapezoid



Wedge



Steel Poles



SSS SQUARE
STRAIGHT STEEL

Catalog #		Type	
Project			
Comments		Date	
Prepared by			

FEATURES
- ASTM Grade steel base plate with ASTM A366 base cover
- Hand hole assembly 3" x 5" on 5" and 6" pole; and 2" x 4" on 4" pole
- 10'-39' mounting heights
- Drilled or tenon (specify)

DESIGN CONSIDERATIONS

Wind induced vibrations resulting from steady, unidirectional winds and other aerodynamic forces, as well as vibration and coefficient of height factors for non-grounded mounted installations (e.g., installations on bridges or buildings) are not included in this document. The information contained herein is for general guidance only and is not a replacement for professional judgement. Consult with a professional, and local and federal standards, before ordering to ensure product is appropriate for the intended purpose and installation location. Also, please review Eaton's Light Pole White Paper for risk factors and design considerations. Learn more.

Specifications and dimensions subject to change without notice. Consult your lighting representative at Eaton or visit www.eaton.com/lighting for available options, accessories and ordering information.

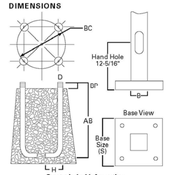
ORDERING INFORMATION

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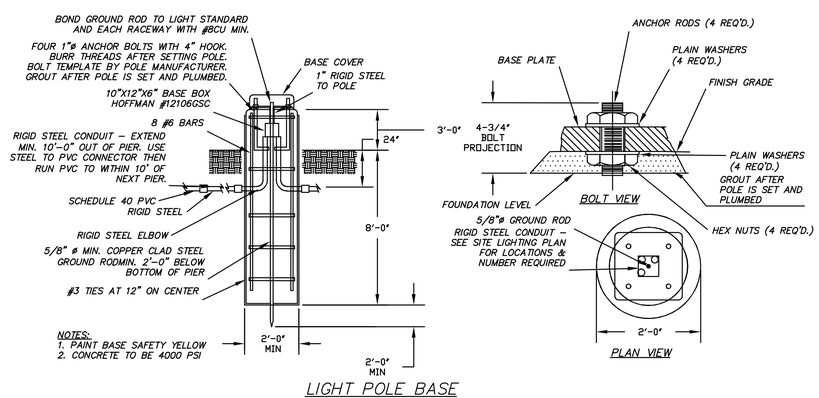
Product Family	Shaft Size (Inches)	Wall Thickness (Inches)	Mounting Height (Feet)	Base Type	Finish	Mounting Type	Number and Location of Arms	Arm Lengths (Feet)	Options (Add as Suffix)
SSS=Square Straight Steel	**4**=4" **5**=5" **6**=6"	**A**=0.120" **M**=0.188" **X**=0.250"	**10**=10' **15**=15' **20**=20' **25**=25' **30**=30' **35**=35' **39**=39'	**S**=Square Steel Base	**F**=Dark Bronze **G**=Galvanized Steel **J**=Summit White **K**=Carbon Bronze **L**=Dark Platinum **R**=Hartford Green **S**=Silver **T**=Graphite Metallic **V**=Gray **W**=White **X**=Custom Color **Y**=Black	**2**=2-3/8" O.D. Tenon (4" Long) **3**=3-1/2" O.D. Tenon (5" Long) **4**=4" O.D. Tenon (6" Long) **9**=3" O.D. Tenon (4" Long) **6**=2-3/8" O.D. Tenon (6" Long) **7**=4" O.D. Tenon (10" Long) **A**=Type A Drilling **C**=Type C Drilling **E**=Type E Drilling **F**=Type F Drilling **G**=Type G Drilling **J**=Type J Drilling **K**=Type K Drilling **M**=Type M Drilling **N**=Type N Drilling **R**=Type R Drilling **S**=Standard Upsweep Arm **Z**=Type Z Drilling	**1**=Single **2**=2 at 180° **3**=Triple[2] **4**=4 at 90° **5**=2 at 90° **X**=None	**X**=None **2**=2 **3**=2.5' **4**=4' **6**=6' **8**=8'	**A**=1/2" Tapped Hub[3] **B**=3/4" Tapped Hub[3] **C**=Convenience Outlet[4] **E**=GFCI Convenience Outlet[4] **G**=Ground Lug **H**=Additional Hand Hole[5] **V**=Vibration Dampener

NOTES: 1. All shaft sizes nominal. **2.** Square poles are 3 at 90°, round poles are 3 at 120°. **3.** Tapped Hub is located 6" below the pole top and on the same side of pole as hand hole, unless specified otherwise. **4.** Outlet is located 4' above base and on same side of pole as hand hole, unless specified otherwise. Receptacle not included, provision only. **5.** Additional hand hole is located 12" below pole top and 90° from standard hand hole location, unless otherwise specified.

DIMENSIONS



See technical information.



NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILE NO.: P22_

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

NO.	REVISION	APP'D	DATE

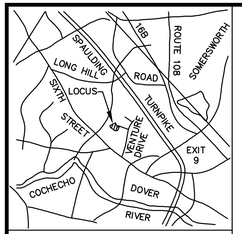
DATE: 6-16-22
SCALE: AS SHOWN
DRAWN BY: SRD
DESIGN BY: SRD
APPROVED BY:SJH
PROJECT NO: 21094
FILE: SITE.DWG

LIGHTING DETAILS

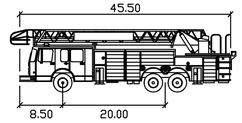
APPLICANT:
WEAVE FILTRATION LLC
100 TRI CITY ROAD
UNIT 117
SOMERSWORTH, NH 03878

PROJECT:
WEAVE FILTRATION
QUALITY WAY
DOVER, NH

19



LOCATION PLAN
(NO SCALE)



Dover ladder feet

Width	: 8.50
Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 44.0

QUALITY WAY

PROPOSED 2,500 S.F. OFFICE AREA

PROPOSED 20,625 S.F. BUILDING

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)

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PLANNING FILE NO.: P22_

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

NO.	REVISION	APP'D	DATE

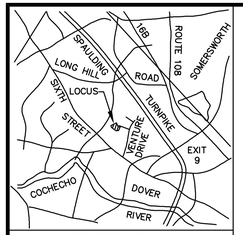
DATE: 6-16-22
SCALE: 1"=30'
DRAWN BY: SRD
DESIGN BY: SRD
APPROVED BY:SJH
PROJECT NO:21094
FILE: SITE.DWG

DOVER LADDER TRUCK MOVEMENT PLAN

APPLICANT:
WEAVE FILTRATION LLC
100 TRI CITY ROAD
UNIT 117
SOMERSWORTH, NH 03878

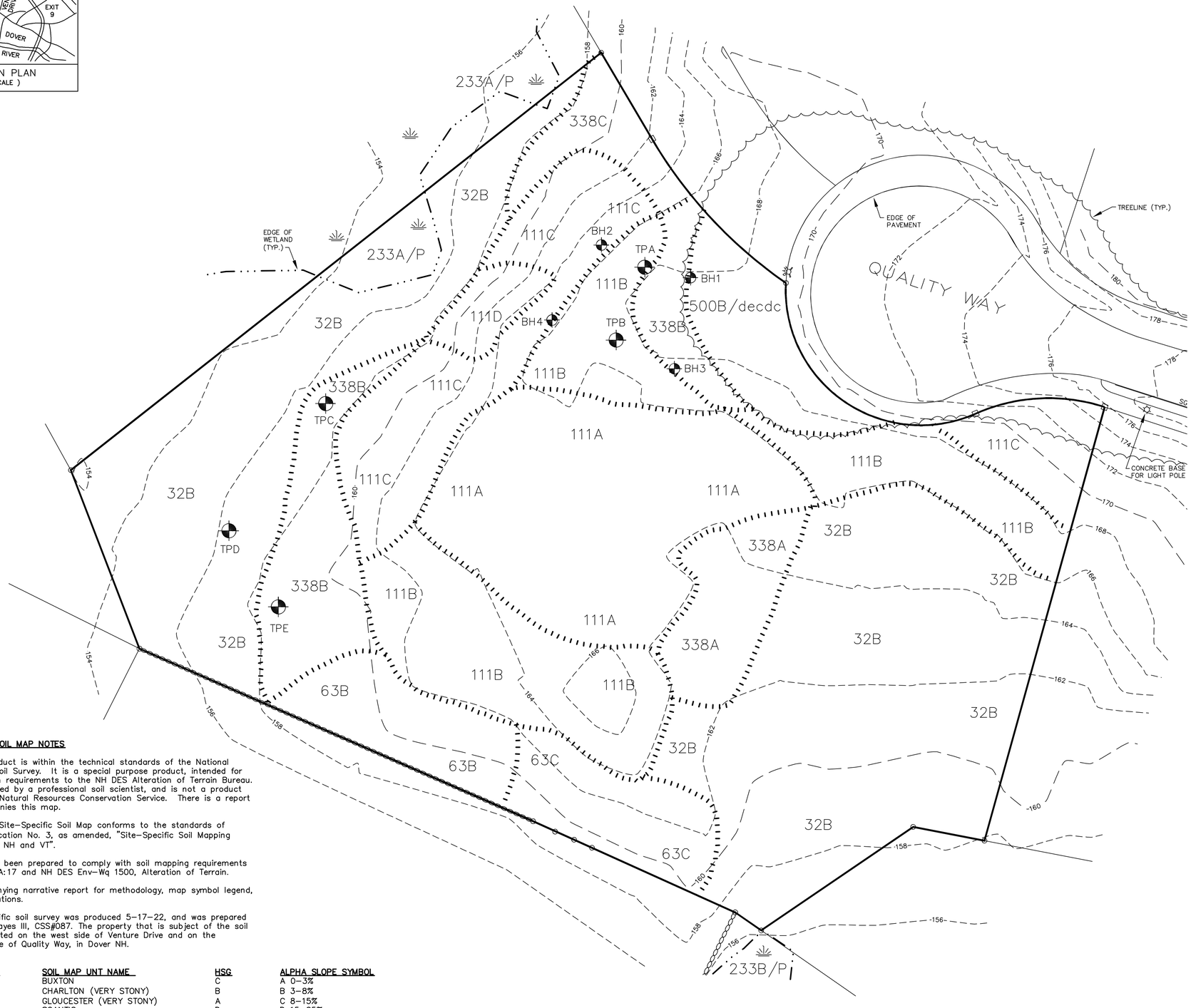
PROJECT:
WEAVE FILTRATION
QUALITY WAY
DOVER, NH

20



LOCATION PLAN
(NO SCALE)





LEGEND

- EXISTING GRADE
- SOIL BOUNDARY
- EDGE OF JURISDICTIONAL WETLAND / SOIL BOUNDARY
- PROPERTY LINE
- WETLANDS
- 953B — SOIL TYPE
- BH2 — BOREHOLE INFILTRATION TEST
- TPA — TEST PIT

SITE-SPECIFIC SOIL MAP NOTES

1. This map product is within the technical standards of the National Cooperative Soil Survey. It is a special purpose product, intended for the infiltration requirements to the NH DES Alteration of Terrain Bureau. It was produced by a professional soil scientist, and is not a product of the USDA Natural Resources Conservation Service. There is a report that accompanies this map.
2. This detailed Site-Specific Soil Map conforms to the standards of SSSNNE Publication No. 3, as amended, "Site-Specific Soil Mapping Standards for NH and VT".
3. This map has been prepared to comply with soil mapping requirements of RSA 485-A:17 and NH DES Env-Wq 1500, Alteration of Terrain.
4. See accompanying narrative report for methodology, map symbol legend, and interpretations.
5. The site specific soil survey was produced 5-17-22, and was prepared by John P. Hayes III, CSS#087. The property that is subject of the soil survey is located on the west side of Venture Drive and on the southwest side of Quality Way, in Dover NH.

SSSM SYMBOL	SOIL MAP UNT NAME	HSG	ALPHA SLOPE SYMBOL
32	BUXTON	C	A 0-3%
63	CHARLTON (VERY STONY)	B	B 3-8%
111	GLOUCESTER (VERY STONY)	A	C 8-15%
233	SCANTIC	D	D 15-25%
338	ELMWOOD (VERY STONY)	C	E 25-50%
500	UDORTHENTS LOAMY	C	F >50%

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)

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NO.	REVISION	APP'D	DATE

DATE: 6-16-22
SCALE: 1"=30'
DRAWN BY: GMS
DESIGN BY: SRD
APPROVED BY:SJH
PROJECT NO:21094
FILE: SSSM.DWG

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

SITE SPECIFIC SOIL MAP

APPLICANT:
WEAVE FILTRATION LLC
100 TRI CITY ROAD
UNIT 117
SOMERSWORTH, NH 03878

PROJECT:
WEAVE FILTRATION
QUALITY WAY
DOVER, NH

21

Test Pit: A **Date:** 6/7/2022

Depth (in)	Color	Texture	Structure	Consistence	Redox Features	Notes
0-2	10 YR 3/3	Fine Sandy Loam	Massive	Friabls	None	
2-38	10 YR 4/6	Loamy Sand	Massive	Friable	None	
38-72	10 YR 4/4	Loamy Sand	Massive	Friable	None	Roots few,fine @ 43"

Seasonal High Water (in): 72
Observed Water (in): 72"+
Restrictive Layer (in): None
Bedrock/Refusal (in): None

Soil Series: Gloucester
NHDES Soil Group: A
Hydrologic Soil Group: 1

Percolation Test
Depth Perc Test: NA
Inches Per Hour: NA

Notes:

Test Pit: B **Date:** 6/7/2022

Depth (in)	Color	Texture	Structure	Consistence	Redox Features	Notes
0-3	10 YR 3/3	Fine Sandy Loam	Massive	Friable		Woods
3-30	10 YR 4/6	Loamy Sand	Massive	Friable	15% Cobbles	Roots few,fine @ 29"
30-90	10 YR 4/3	Silt Loam	Blocky	Firm	30"+ 5YR 4/4	

Seasonal High Water (in): 30
Observed Water (in): 90"
Restrictive Layer (in): None
Bedrock/Refusal (in): None

Soil Series: Elmwood
NHDES Soil Group: C
Hydrologic Soil Group: 3

Percolation Test
Depth Perc Test: NA
Inches Per Hour: NA

Notes:

NEW HAMPSHIRE Designer of Subsurface Disposal Systems * * * Douglas J. LaRosa No. 849 Department of Environmental Services

Test Pit: C **Date:** 6/7/2022

Depth (in)	Color	Texture	Structure	Consistence	Redox Features	Notes
0-5	10 YR 3/3	Fine Sandy Loam	Massive	Friable		
5-18	10 YR 5/6	Loamy Sand	Massive	Friable		Roots Many Fine@17"
18-84	5 Y 4/4	Silt Loam	Platy	Firm	5 YR 4/4	

Seasonal High Water (in): 18"
Observed Water (in): None
Restrictive Layer (in): None
Bedrock/Refusal (in): None

Soil Series: Buxton
NHDES Soil Group: 3
Hydrologic Soil Group: C

Percolation Test
Depth Perc Test: NA
Inches Per Hour: NA

Notes:

Test Pit: D **Date:** 6/7/2022

Depth (in)	Color	Texture	Structure	Consistence	Redox Features	Notes
0-5	10 YR 3/3	Fine Sandy Loam	Massive	Friable		
5-23	10 YR 5/6	Loamy Sand & Gravel	Single Grain	Granular		Roots Many Fine @22"
23-88	10 YR 4/6	Medium Sand & Gravel	Single Grain	Loose	24" 10YR 4/4	

Seasonal High Water (in): 18"
Observed Water (in): None
Restrictive Layer (in): None
Bedrock/Refusal (in): None

Soil Series: Buxton
NHDES Soil Group: 3
Hydrologic Soil Group: C

Percolation Test
Depth Perc Test: NA
Inches Per Hour: NA

Notes:

NEW HAMPSHIRE Designer of Subsurface Disposal Systems * * * Douglas J. LaRosa No. 849 Department of Environmental Services

Test Pit: E **Date:** 6/7/2022

Depth (in)	Color	Texture	Structure	Consistence	Redox Features	Notes
0-4	10 YR 3/3	Fine Sandy Loam	Massive	Friable		
4-22	10 YR 6/6	Medium Sand	Granular	Friable		Roots few,fine @ 22"
22-84	5Y 4/4	Silt Loam	Single Grain	Loose	23" 5YR 4/4	

Seasonal High Water (in): 22"
Observed Water (in): 84"
Restrictive Layer (in): None
Bedrock/Refusal (in): None

Soil Series: Buxton
NHDES Soil Group: 3
Hydrologic Soil Group: C

Percolation Test
Depth Perc Test: NA
Inches Per Hour: NA

Notes:

NEW HAMPSHIRE Designer of Subsurface Disposal Systems * * * Douglas J. LaRosa No. 849 Department of Environmental Services

Stormwater Infiltration Testing Log

6/7/2022

Project Name: Weave Filtration **Date:** 6/7/2022
Project Address: Quality Way **Weather:** Sunny, 81°
Testing Company: Civilworks NE **Tester's Name:** Guillermo M. Sepulveda
Phone Number: (603) 749-0443 **Email Address:** gsepulveda@civilworksne.com

Test Number: 1 **Test Pit/Boring Hole Number:** BH1 **Test Method:** Borehole Infiltration Test
Test Depth (feet): 4 **Surface Elevation (feet):** 164 **Instrument Diameter (inches):** 4

Soil Characterization (See Test Pit Logs)

Depth (inches):	Soil Texture:	Limiting Layers Type and Depth (feet):

Presoak (Presoaked on 6/6/2022)

Time:	Time Interval (HRS):	Measurement, (inches):	Drop in water level, (inches):
8:30AM	0	24	0
8:30AM	24	0	24

Infiltration Testing

Time 1:	Time 2:	Measurement, (inches):	Drop in water level, (inches):	Infiltration rate (inches per hour):	Remarks:
12:38PM		24			Start
	1:38PM		24	24	
1:56PM		24			
	2:56PM		23	23	
3:16PM		24			
	4:16PM		23	23	
4:18PM		24			
	5:18PM		22.5	22.5	Finish

Stabilized Infiltration Testing Rate (inches per hour): 22.5 Using Trial 4

Notes:
Proposed parking lot area

Stormwater Infiltration Testing Log

6/7/2022

Project Name: Weave Filtration **Date:** 6/7/2022
Project Address: Quality Way **Weather:** Sunny, 81°
Testing Company: Civilworks NE **Tester's Name:** Guillermo M. Sepulveda
Phone Number: (603) 749-0443 **Email Address:** gsepulveda@civilworksne.com

Test Number: 2 **Test Pit/Boring Hole Number:** BH2 **Test Method:** Borehole Infiltration Test
Test Depth (feet): 1.5 **Surface Elevation (feet):** 164 **Instrument Diameter (inches):** 4

Soil Characterization (See Test Pit Logs)

Depth (inches):	Soil Texture:	Limiting Layers Type and Depth (feet):

Presoak (Presoaked on 6/6/2022)

Time:	Time Interval (HRS):	Measurement, (inches):	Drop in water level, (inches):
8:36AM	0	24	0
8:36AM	24	0	24

Infiltration Testing

Time 1:	Time 2:	Measurement, (inches):	Drop in water level, (inches):	Infiltration rate (inches per hour):	Remarks:
12:41PM		24			Start
	1:11PM		24	48	
1:12PM		24			
	1:50PM		24	37.89	
1:57PM		24			
	2:38PM		24	35.12	
2:39PM		24			
	3:21PM		24	34.29	Finish

Stabilized Infiltration Testing Rate (inches per hour): 34.29 Using Trial 4

Notes:
Proposed parking lot area

Stormwater Infiltration Testing Log

6/7/2022

Project Name: Weave Filtration **Date:** 6/7/2022
Project Address: Quality Way **Weather:** Sunny, 81°
Testing Company: Civilworks NE **Tester's Name:** Guillermo M. Sepulveda
Phone Number: (603) 749-0443 **Email Address:** gsepulveda@civilworksne.com

Test Number: 3 **Test Pit/Boring Hole Number:** BH3 **Test Method:** Borehole Infiltration Test
Test Depth (feet): 3 **Surface Elevation (feet):** 164.5 **Instrument Diameter (inches):** 4

Soil Characterization (See Test Pit Logs)

Depth (inches):	Soil Texture:	Limiting Layers Type and Depth (feet):

Presoak (Presoaked on 6/6/2022)

Time:	Time Interval (HRS):	Measurement, (inches):	Drop in water level, (inches):
8:39AM	0	24	0
8:39AM	24	0	24

Infiltration Testing

Time:	Time Interval HR	Measurement, (inches):	Drop in water level, (inches):	Infiltration rate (inches per hour):	Remarks:
12:44PM		24			Start
	1:20PM		24	40	
1:21PM		24			
	2:07PM		24	31.3	
2:07PM		24			
	2:51PM		24	32.73	
2:52PM		24			
	3:38PM		24	31.3	Finish

Stabilized Infiltration Testing Rate (inches per hour): 31.3 Using Trial 4

Notes:
Proposed office area

Stormwater Infiltration Testing Log

6/7/2022

Project Name: Weave Filtration **Date:** 6/7/2022
Project Address: Quality Way **Weather:** Sunny, 81°
Testing Company: Civilworks NE **Tester's Name:** Guillermo M. Sepulveda
Phone Number: (603) 749-0443 **Email Address:** gsepulveda@civilworksne.com

Test Number: 4 **Test Pit/Boring Hole Number:** BH4 **Test Method:** Borehole Infiltration Test
Test Depth (feet): 1 **Surface Elevation (feet):** 164.5 **Instrument Diameter (inches):** 4

Soil Characterization (See Test Pit Logs)

Depth (inches):	Soil Texture:	Limiting Layers Type and Depth (feet):

Presoak (Presoaked on 6/6/2022)

Time:	Time Interval (HRS):	Measurement, (inches):	Drop in water level, (inches):
8:43AM	0	24	0
8:43AM	24	0	24

Infiltration Testing

Time:	Time Interval HR	Measurement, (inches):	Drop in water level, (inches):	Infiltration rate (inches per hour):	Remarks:
12:45PM		24			Start
	1:03PM		24	80	
1:06PM		24			
	1:33PM		24	53.33	
1:59PM		24			
	2:28PM		24	49.66	
2:32PM		24			
	3:02PM		24	48	
3:19PM		24			
	3:52PM		24	43.64	Finish

Stabilized Infiltration Testing Rate (inches per hour): 43.64 Using Trial 4

Notes:
Proposed office area

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PLANNING FILE NO.: P22_

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

NO.	REVISION	APP'D	DATE

DATE: 6-16-22
SCALE: AS SHOWN
DRAWN BY: SRD
DESIGN BY: SRD
APPROVED BY:JH
PROJECT NO: 21094
FILE: SITE.DWG

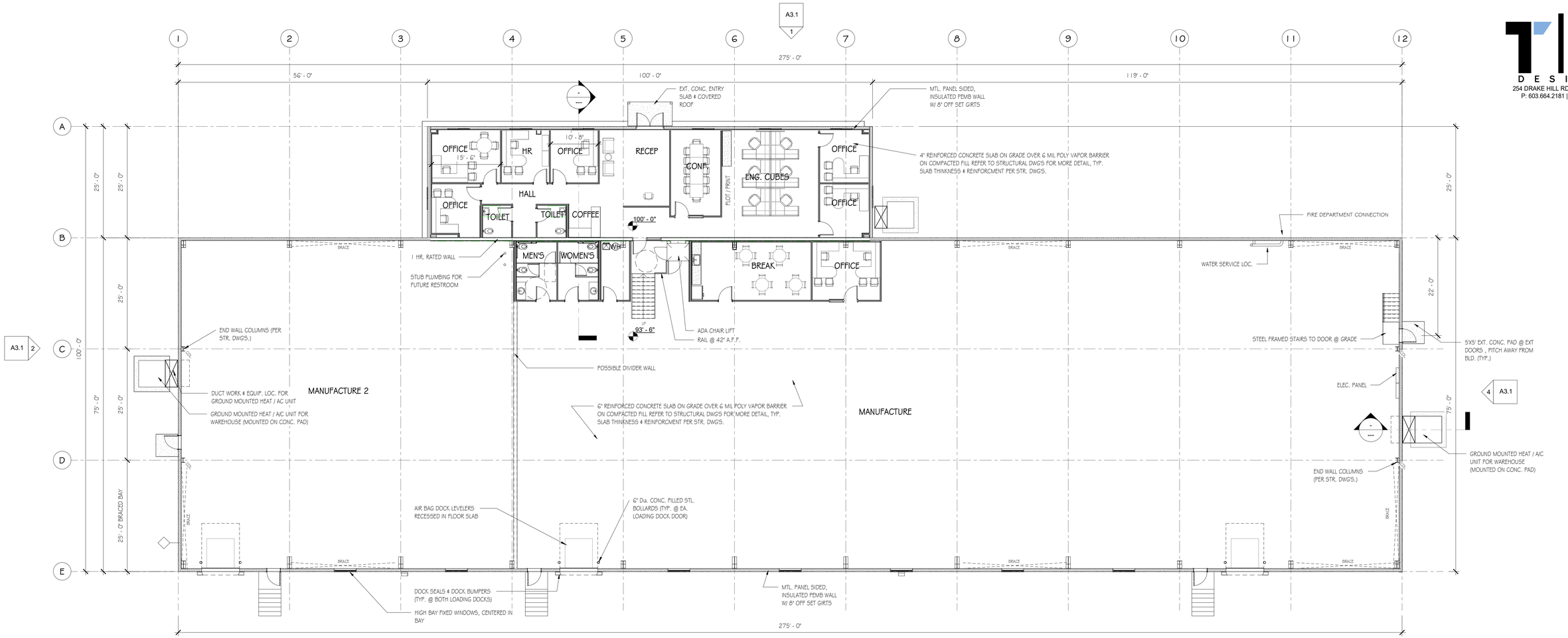
APPLICANT:
WEAVE FILTRATION LLC
100 TRI CITY ROAD
UNIT 117
SOMERSWORTH, NH 03878

PROJECT:
WEAVE FILTRATION
QUALITY WAY
DOVER, NH

TEST PIT LOGS

22

TW DESIGNS LLC
254 DRAKE HILL RD. STRAFFORD, NH
P: 603.664.2181 | F: 603.664.9508



1 FLOOR PLAN
3/32" = 1'-0"

No.	Description	Date

Revision Schedule

Project Info:

Weave Filtration

Quality Way
Dover, NH

Sheet Status:

Latest Release:
Issued For: Planning Board Set
Org. Issue Date: n.f.c.

JOB NO: 20025
DRAFTED: JMT
CHECKED: JMT

SCALE: 3/32" = 1'-0"

Sheet Title:
FLOOR PLAN

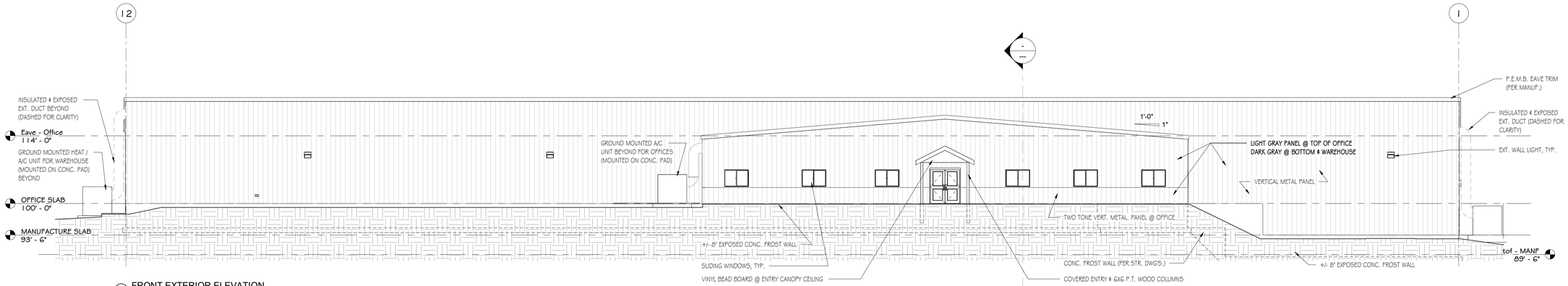
Sheet Number:
A1.1

PLANNING BOARD SET
6/15/2022

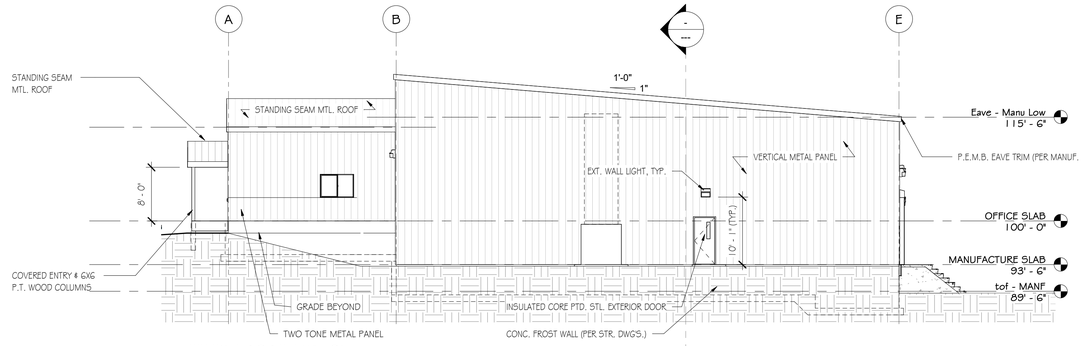
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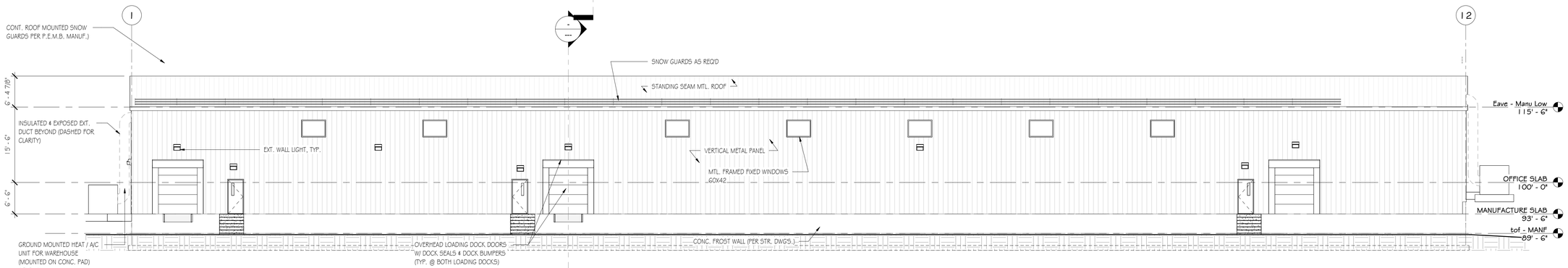
TW DESIGNS LLC
254 DRAKE HILL RD. STRAFFORD, NH
P: 603.664.2181 | F: 603.664.9508



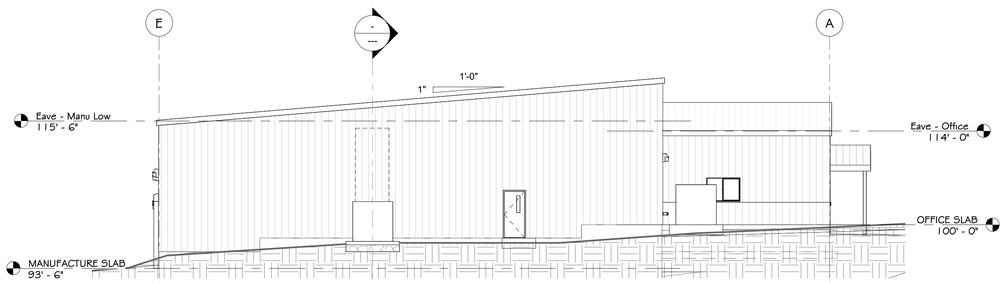
1 FRONT EXTERIOR ELEVATION
3/32" = 1'-0"



2 LEFT EXTERIOR ELEVATION
3/32" = 1'-0"



3 REAR EXTERIOR ELEVATION
3/32" = 1'-0"



4 RIGHT EXTERIOR ELEVATION1
3/32" = 1'-0"

PLANNING BOARD SET
6/15/2022

No.	Description	Date

Revision Schedule

Project Info:

Weave Filtration

Quality Way
Dover, NH

Sheet Status:

Latest Release:
Issued For: Planning Board Set
Org. Issue Date: n.f.c.

JOB NO.: 20025
DRAFTED: JMT
CHECKED: JMT

SCALE: 3/32" = 1'-0"

Sheet Title:

EXTERIOR ELEVATIONS

Sheet Number:

A3.1

Printed on: 6/15/2022

T:\3.Projects\22014-Weave Filtration\22014-a.rvt



TW DESIGNS

Street View
Weave Filtration

R1

06/15/22

Legend

DECIDUOUS TREE PLANTING (INCLUDING ON A SLOPE), SEE 1/L2.0 & 2/L2.0

DECIDUOUS MULTI-STEMMED TREE PLANTING, SEE 3/L2.0

SHRUB PLANTING, SEE 4/L2.0

LAWN — LAWN SEED MIX (ALL DISTURBED AREAS SHOWN WITHOUT A HATCH), SEE 5/L2.0

WET MEADOW / POND SEED MIX, SEE 6/L2.0

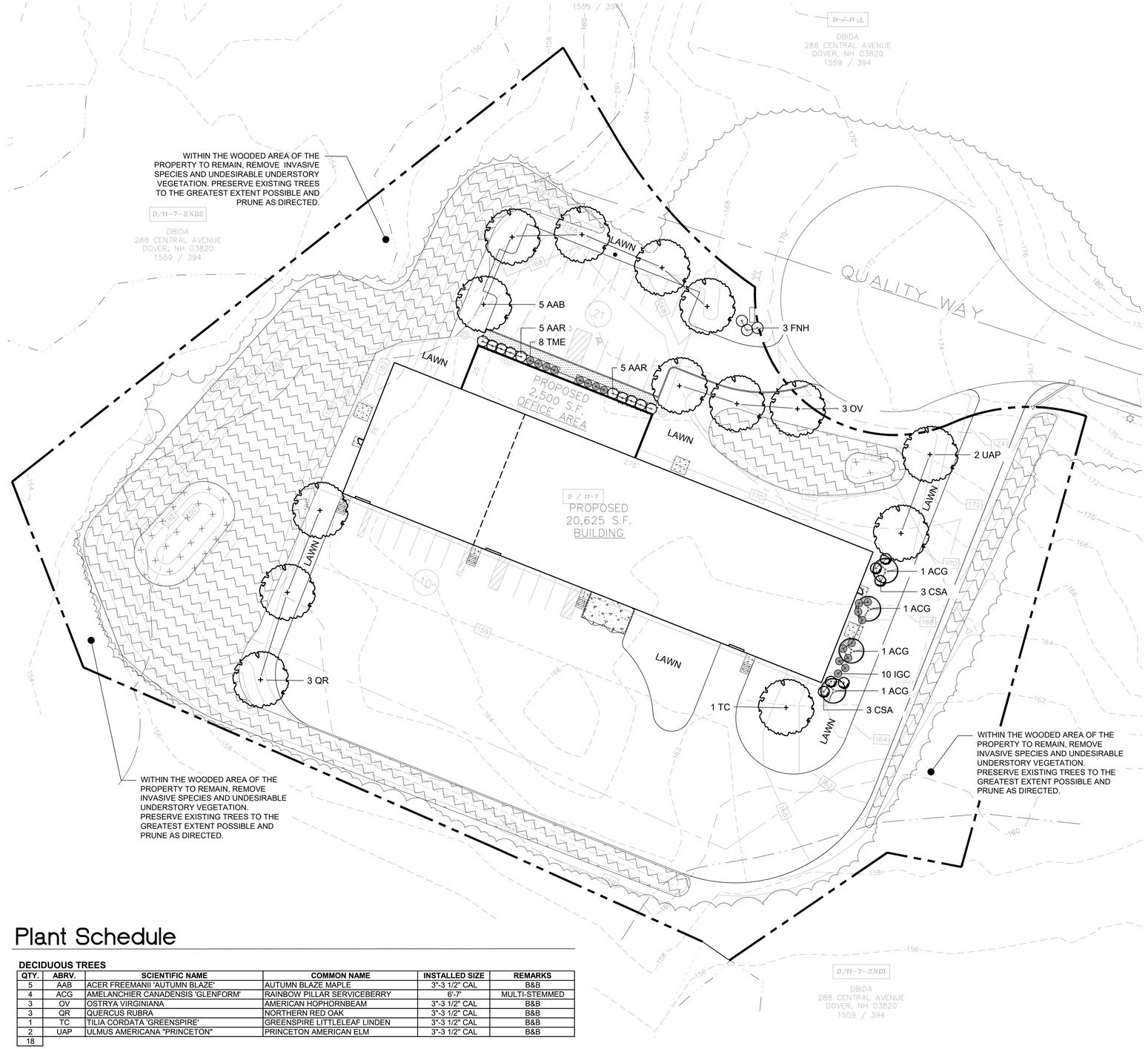
DRY SITE RESTORATION SEED MIX, SEE 7/L2.0

GENERAL NOTES:

1. SEE CIVIL DRAWINGS FOR INFORMATION NOT DEPICTED ON THE LANDSCAPE DRAWINGS.
2. PLANT LOCATIONS SHOWN ON THE PLANTING PLAN ARE SUBJECT TO FIELD MODIFICATION TO ACCOMMODATE EXISTING CONDITIONS. FIELD ADJUSTMENTS SHALL BE COORDINATED WITH THE LANDSCAPE ARCHITECT.
3. SEE SHEET L2.0 FOR LANDSCAPE DETAILS.
4. CONTACT DIGSAFE PRIOR TO BEGINNING WORK.

PLANTING NOTES:

1. PLEASE REVIEW AND BECOME FULLY ACQUAINTED WITH THESE NOTES, CONSTRUCTION DETAILS, AND THE PLANTING PLAN.
2. THE CONTRACTOR SHALL LOCATE AND VERIFY ALL EXISTING AND NEW UTILITY LINE LOCATIONS PRIOR TO PLANTING, AND SHALL REPORT ANY CONFLICT TO THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE.
3. ALL PLANT MATERIAL SHALL CONFORM TO THE GUIDELINES ESTABLISHED BY THE "AMERICAN STANDARD FOR NURSERY STOCK" PUBLISHED BY THE AMERICAN SOCIETY OF NURSERY MEN, INC. LATEST EDITION.
4. THE CONTRACTOR SHALL STAKE THE LOCATION OF ALL THE PROPOSED PLANT MATERIAL FOR APPROVAL BY THE LANDSCAPE ARCHITECT PRIOR TO PLANTING. NO PLANTS SHALL BE PLANTED BEFORE THE ACCEPTANCE OF ROUGH GRADING. THE BASE OF THE FLARE OF THE TREE TRUNK SHALL BE EXPOSED, IF NECESSARY, AND PLACED 2" ABOVE FINISH GRADE.
5. ANY PROPOSED SUBSTITUTIONS OF PLANT SPECIES WILL BE PLANTS WITH EQUIVALENT OVERALL FORM, HEIGHT, BRANCHING HABIT, FLOWER COLOR, LEAF COLOR, FRUIT COLOR, AND TIME OF BLOOM, AS APPROVED BY THE LANDSCAPE ARCHITECT.
6. EXISTING LOAM: STOCKPILING OF EXISTING LOAM IS SPECIFIED ELSEWHERE. REMOVE CLAY LUMPS, BRUSH, LITTER, ROOTS, STONES 1" AND LARGER, AND OTHER FOREIGN MATERIALS.
7. ADDITIONAL LOAM: IF STOCKPILED LOAM QUANTITY IS INSUFFICIENT, PROVIDE LOAM, WHICH IS A "FINE SANDY LOAM", OR A "SANDY LOAM" DETERMINED BY MECHANICAL ANALYSIS AND BASED ON THE "U.S.D.A. CLASSIFICATION SYSTEM." IT SHALL BE OF UNIFORM COMPOSITION, WITHOUT ADMIXTURE OF SUBSOIL. LOAM SHALL HAVE AN ACIDITY RANGE OF PH 5.8 TO PH 7.0 AND SHALL CONTAIN NOT LESS THAN 4% NOR MORE THAN 10% ORGANIC MATTER AS DETERMINED BY THE LOSS OF IGNITION OF OVEN-DRIED SAMPLES. PROVIDE LOAM WHICH IS FERTILE, FRIABLE, NATURAL LOAM FREE FROM SUBSOIL, CLAY LUMPS, BRUSH, LITTER, ROOTS, STONES 1" AND LARGER, AND ANY FOREIGN MATERIALS.
8. PINE MULCH: PROVIDE PARTIALLY DECOMPOSED MINIMUM SIX MONTH AGED FINELY SHREDDED PINE BARK MULCH WITH DARK BROWN COLOR AND FREE OF WEEDS, EXCESSIVE FINE PARTICLES, STRINGY MATERIAL, AND CHUNKS OF WOOD THICKER THAN ¼". PROVIDE BARK MULCH APPROVED BY THE LANDSCAPE ARCHITECT. APPLY TACKIFIED MULCH TO ALL SEEDED AREAS.
9. ALL PLANTS SHALL BE PLUM VERTICALLY AFTER SETTLING.
10. ALL PLANT MATERIAL SHALL BE MULCHED AFTER PLANTING.
11. LESS OTHERWISE INDICATED, DICTATED BY CONDITIONS AT THE SITE, AND DIRECTED BY LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE, BACKFILL SHALL CONSIST OF UNAMENDED SOIL EXCAVATED FROM THE PLANTING PIT. BACKFILL IN 3-4" LAYERS AND CONSOLIDATE EACH LAYER WITH WATER TO ELIMINATE VOIDS AND ARE POCKETS BEFORE PLACING SUBSEQUENT LAYERS. CONTINUE UNTIL BACKFILL HAS REACHED FINISHED GRADE. WATER THOROUGHLY WHEN EXCAVATION IS BACK FILLED AND CONTINUE WATERING UNTIL SATURATED. IF EXISTING UNAMENDED SOIL IS NOT ACCEPTED, PROVIDE PLANTING SOIL MIXTURE CONSISTING OF 7 PARTS LOAM AND 1 PART HUMUS. MIX QUANTITY OF FERTILIZER AND SOIL AMENDMENTS AS RECOMMENDED BY SOIL ANALYSIS AND APPROVED BY THE LANDSCAPE ARCHITECT.
12. WATERING: FLOOD ALL PLANTS WITH WATER TWICE WITHIN THE FIRST 24 HOURS AFTER PLANTING.
13. LOAMING: LOOSEN SUBGRADE AND EXISTING LOAM AREAS BY DISCING OR ROTOTILLING TO MINIMUM DEPTH OF 6". REMOVE STONES GREATER THAN 2" AND ALL RUBBISH AND DEBRIS. PLACE LOAM IN TWO EQUAL LIFTS MIXING FIRST APPLICATION INTO LOOSENED SUBGRADE THEN PLACE SECOND LIFT TO BRING LOAM AFTER SETTLING AND COMPACTING TO THE LINES AND GRADES SHOWN IN THE CONTRACT DOCUMENTS, 6" DEEP MINIMUM. DO NOT HANDLE LOAM OR SUBSOIL IF IT IS WET OR FROZEN.
14. AFTER LOAM HAS BEEN SPREAD, IT SHALL BE CAREFULLY PREPARED BY SCARIFYING AND HAND RAKING. ALL LARGE STIFF CLODS, LUMPS, BRUSH, ROOTS, STUMPS, LITTER AND FOREIGN MATTER, AND STONES OVER ONE INCH IN DIAMETER SHALL BE REMOVED FROM THE LOAM. LOAM SHALL ALSO BE FREE OF SMALLER STONES IN EXCESSIVE QUANTITIES AS DETERMINED BY THE LANDSCAPE ARCHITECT.
15. FINE GRADING: SET SUFFICIENT GRADE STAKES FOR CHECKING THE FINISHED GRADES. STAKES MUST BE SET AT THE BOTTOM AND TOP OF SLOPES. GRADES SHALL BE ESTABLISHED THAT ARE ACCURATE TO 1/10TH OF A FOOT EITHER WAY. CONNECT CONTOURS AND SPOT ELEVATIONS WITH AN EVEN SLOPE. ALL GRADING WILL INSURE DRAINAGE AWAY FROM STRUCTURES.
16. FINE GRADE LAWN AREAS TO SMOOTH, FREE DRAINING, EVEN SURFACES WITH FINE TEXTURE. ROLL, RAKE AND DRAW LAWN AREAS TO FLATTEN RIDGES AND FILL DEPRESSIONS, EXCEPT AT SELECT AREAS SHOW ON THE DRAWINGS. CONTROL MOISTURE CONTENT TO MAINTAIN OPTIMUM CONDITIONS, BUT DO NOT CREATE A MUDDY CONDITION.
17. ROLLING - TYPICAL: ROLL THE ENTIRE AREA WITH A HAND ROLLER WEIGHTING NOT MORE THAN 100 POUNDS. DURING THE ROLLING, ALL DEPRESSIONS CAUSED BY SETTLEMENT OF ROLLING SHALL BE FILLED WITH ADDITIONAL LOAM AND THE SURFACE SHALL BE REGARDED AND ROLLED UNTIL PRESENTING A SMOOTH AND EVEN FINISH TO THE REQUIRED GRADE OR TO THE SHAPES AND CONFIGURATIONS AS SHOWN ON THE DETAILS.
18. THE SILT FENCE SHALL BE LIMIT OF SEEDING UNLESS OTHERWISE INDICATED ON THE DRAWINGS. ALL AREAS DISTURBED OUTSIDE THE LIMIT OF WORK SHALL BE SEEDED AS INDICATED ON THE DRAWINGS.
19. IN CASE OF DISCREPANCIES BETWEEN THE QUANTITIES SHOWN ON THE PLANT SCHEDULE AND THE QUANTITIES SHOWN ON THE PLANTING PLAN, THE QUANTITIES ON THE PLANTING PLAN SHALL BE PROVIDED BY THE CONTRACTOR.



Plant Schedule

DECIDUOUS TREES

QTY.	ABRV.	SCIENTIFIC NAME	COMMON NAME	INSTALLED SIZE	REMARKS
5	AAB	ACER FREEMANII 'AUTUMN BLAZE'	AUTUMN BLAZE MAPLE	3"-3 1/2" CAL	B&B
4	ACG	AMELANCHIER CANADENSIS 'GLENFORM'	RAINBOW PILLAR SERVICEBERRY	6'-7'	MULTI-STEMMED
3	OV	OSTRYA VIRGINIANA	AMERICAN HOPHORNBEAM	3"-3 1/2" CAL	B&B
3	QR	QUERCUS RUBRA	NORTHERN RED OAK	3"-3 1/2" CAL	B&B
1	TC	TILIA CORDATA 'GREENSPIRE'	GREENSPIRE LITTLELEAF LINDEN	3"-3 1/2" CAL	B&B
2	UAP	ULMUS AMERICANA "PRINCETON"	PRINCETON AMERICAN ELM	3"-3 1/2" CAL	B&B
18					

SHRUBS

10	AAR	AMELANCHIER ALNIFOLIA REGENT	REGENT SERVICEBERRY	18" - 24" HT	CONTAINER
6	CSA	CORNUS SERICEA 'ARCTIC FIRE'	ARCTIC FIRE RED OSIER DOGWOOD	2 1/2'-3' HT	CONTAINER
3	FNH	FORSYTHIA 'NH GOLD'	NH GOLD FORSYTHIA	2'-2 1/2' HT	CONTAINER
10	IGC	ILEX GLABRA 'COMPACTA'	COMPACT INKBERRY	2'-2 1/2' HT	CONTAINER
8	TME	TAXUS MEDIA 'EVER-LOW'	EVER-LOW YEW	2 1/2'-3' SPD	CONTAINER
37					

DRAWING SUBMITTED FOR CITY REVIEW

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Newmarket, NH | Portland, ME | 603.772.0590 | www.FeWood.com

WEAVE FILTRATION

QUALITY WAY
DOVER, NEW HAMPSHIRE

SHEET TITLE

LANDSCAPE PLAN

REVISION LOG

REV#	DATE	DESCRIPTION

PROJECT NO.	22036.0
DESIGN BY	J. HYLAND / K.OSGOOD
DRAWN BY	K.OSGOOD
CHECKED BY	J. HYLAND
DATE	JUNE 16, 2022
SCALE	

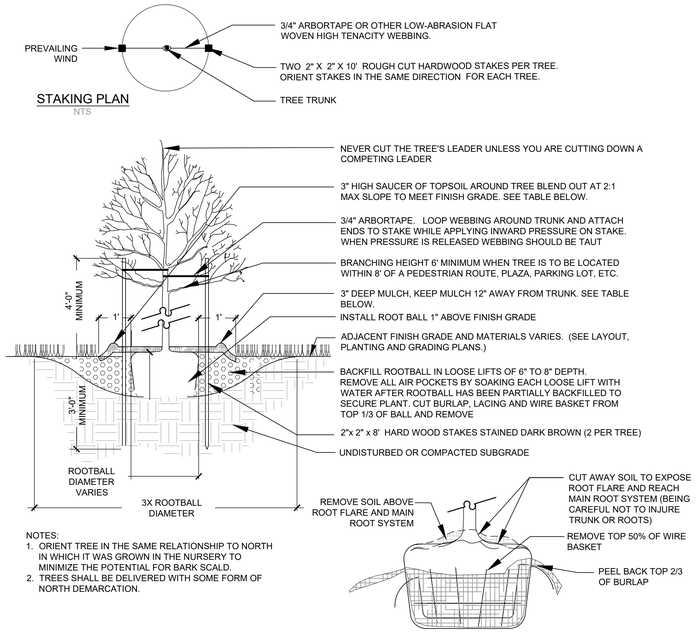
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SEAL



L1.0

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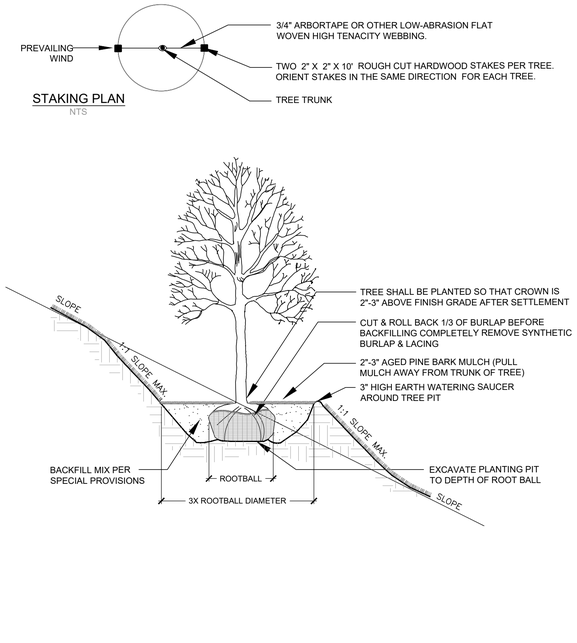


Deciduous Tree Planting

Not to Scale

©IRONWOOD 2022

1 L2.0

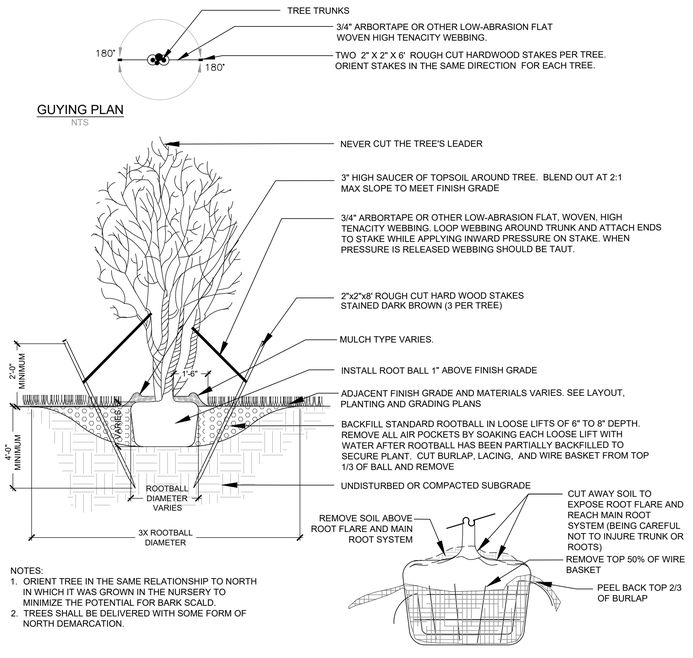


Deciduous Tree Planting: on Slope

Not to Scale

©IRONWOOD 2022

2 L2.0

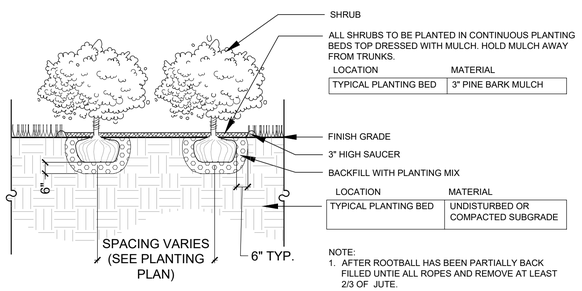


Deciduous Multi-Stemmed Tree Planting

Not to Scale

©IRONWOOD 2022

3 L2.0



LOCATION	MATERIAL
TYPICAL PLANTING BED	3" PINE BARK MULCH

LOCATION	MATERIAL
TYPICAL PLANTING BED	UNDISTURBED OR COMPACTED SUBGRADE

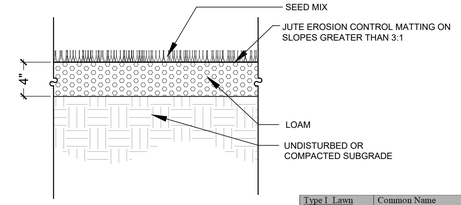
NOTE:
1. AFTER ROOTBALL HAS BEEN PARTIALLY BACK FILLED UNTIE ALL ROPES AND REMOVE AT LEAST 2/3 OF JUTE.

Shrub Planting

Not to Scale

©IRONWOOD 2022

4 L2.0



NOTE:
1. LOAM ALL DISTURBED AREAS.
2. PRIOR TO SEEDING THE LAWN SEED MIX PROPERLY PREPARE THE SEED BED.

Type I Lawn Percent by weight	Common Name	Scientific Name
40%	Celmfine, Rebel II or Tribute Tall Fescue	
15%	Pulmer II Perennial Ryegrass	
10%	Jamestown Chewings Fescue	
10%	Reliant Hard Fescue	
10%	Bridsfoot Trefoil	*Arvenis* variety
5%	Switchgrass	
5%	White Clover	
5%	Redtop	*Streaker* variety

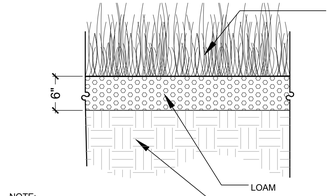
Apply at a rate of 265/lbs/acre

Lawn Seed Mix

Not to Scale

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5 L2.0



NOTE:
1. LOAM ALL DISTURBED AREAS.
2. PRIOR TO SEEDING THE WET MEADOW SEED MIX PROPERLY PREPARE THE SEED BED.
3. INSTALL JUTE MATTING ON POND SIDE SLOPES GREATER THAN 3:1.
4. 4. FOLLOW MFG INSTRUCTIONS FOR SEEDING. AVAILABLE AT NEW ENGLAND WETLAND PLANTS, MA: WWW.NEWP.COM APPROVED EQUAL MAY BE SUBSTITUTED
5. SQUARE FOOTAGE: 4114 (PER PLAN)

Botanical Name	Common Name
Carex lurida	Lurid Sedge
Carex scoparia	Blunt Broom Sedge
Verbena hastata	Blue Vervain
Carex lupulina	Hop Sedge
Scirpus atrovirens	Green Bulrush
Panicum rigidulum	Redtop Panic Grass
Deschampsia cespitosa	Tufted Hairgrass
Bidens aristosa	Tickseed Sunflower/Bur Marigold
Eleocharis palustris	Creeping Spike Rush
Juncus effusus	Soft Rush
Carex crinita	Fringed Sedge
Mimulus ringens	Square Stemmed Monkey Flower
Aster puniceus	Swamp Aster
Eupatorium perfoliatum	Boneset
Glyceria canadensis	Rattlesnake Grass
Asclepias incarnata	Swamp Milkweed
Helenium autumnale	Common Sneezeweed
Penthorum sedoides	Ditch Stonecrop

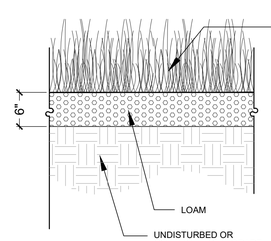
Apply at rate of 23 lbs/acre. New England Wildflower Mix available at New England Wetland Plants, Ma: www.newp.com . Approved equal may be substituted.

Wet Meadow / Pond Seed Mix

Not to Scale

©IRONWOOD 2022

6 L2.0



New England Erosion Control/Restoration Mix for Dry Sites

Botanical Name	Common Name	Indicator
Elymus canadensis	Canada Wild Rye	FACU+
Festuca rubra	Red Fescue	FACU
Lolium multiflorum	Annual Ryegrass	
Lolium perenne	Perrenial Ryegrass	
Schizachyrium scoparium	Little Bluestem	FACU
Panicum virgatum	Switch Grass	FAC
Sorghastrum nutans	Indian Grass	UPL

NOTE:
1. LOAM ALL DISTURBED AREAS.
2. PRIOR TO SEEDING THE EROSION CONTROL SEED MIX, PROPERLY PREPARE THE SEED BED.
3. INSTALL JUTE MATTING ON SLOPES GREATER THAN 3:1.
4. FOLLOW MFG INSTRUCTIONS FOR SEEDING. AVAILABLE AT NEW ENGLAND WETLAND PLANTS, MA: WWW.NEWP.COM. APPROVED EQUAL MAY BE SUBSTITUTED.
5. SQUARE FOOTAGE: 27,140 (PER PLAN)

Dry Site Restoration Seed Mix

Not to Scale

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7 L2.0

DRAWING SUBMITTED FOR CITY REVIEW

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WEAVE FILTRATION

QUALITY WAY
DOVER, NEW HAMPSHIRE

SHEET TITLE

LANDSCAPE DETAILS

REVISION LOG

REV#	DATE	DESCRIPTION
-	-	-

PROJECT NO.	22036.0
DESIGN BY	J. HYLAND / K.OSGOOD
DRAWN BY	K.OSGOOD
CHECKED BY	J. HYLAND
DATE	JUNE 16, 2022
SCALE	AS NOTED

SEAL



L2.0

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S:\22036.0 - Weave Filtration\Drawings\ID-LP-220615.dwg, JRH 6/15/2022 2:53:27 PM

DRAINAGE ANALYSIS

WEAVE FILTRATION
TAX MAP D, LOT 11-7

Quality Way
Dover, New Hampshire
Strafford County

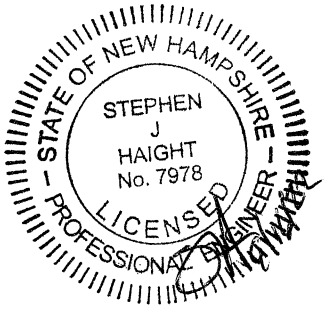
June 2022

Prepared For:

WEAVE FILTRATION
100 Tri City Road, Unit 117
Somersworth, NH 03878

Prepared By:

Civilworks NE
PO Box 1166
181 Watson Road
Dover, NH 03820



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  - Node Listing – 10-yr
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1.0 INTRODUCTION

This is a hydrologic analysis of the subject parcel located on Quality Way in Dover, NH. The 3.49± acre lot is identified as Tax Map D, Lot 11-7. The site is undeveloped, and the groundcover primarily consists of wooded vegetation with grassed areas along the edge of the Quality Way cul-de-sac. The parcel is bifurcated by a knoll that runs south, from Quality Way, and continues down the approximate middle of the site. The parcel slopes mildly to the south along the knoll and slopes more steeply, away from the knoll, to the east and west. The site drains overland with discharge occurring to the east, west, and south. All drainage from the site discharges to a large inter-connected wetland that eventually drains to Reyners Brook, which is located approximately 750' to the west of the site. The site is bound by Quality Way to the northeast and commercial/industrial lots to the south, east, and west.

The project proposes 128,900± sf of disturbance including the construction of a 23,125 sf commercial building, corresponding site improvements including site grading, paved parking and loading areas, as well as stormwater quality and detention drainage improvements.

To effectively analyze the pre development conditions, the 3.7± acre watershed has been subdivided into four (4) watersheds and incorporates offsite areas that drain directly onsite and that will be incorporated into the proposed onsite drainage improvements. These points of discharge are identified as Watershed A, B, C, & D.

The post development analysis has been divided into ten (10) sub-catchments that discharge to the same points of analysis developed for the pre-development model. Sub-catchments model the areas of the site that are directed through proposed drainage structures, conveyances, and water quality practices. Stormwater conveyance consists of overland flow, a swale, a pipe, a closed drainage system, and roof drains. The project proposes a wet extended detention pond and porous pavement to meet water quality criteria and stone outlet aprons for channel protection. The analysis shows that with the mitigation measures proposed the development of this site will have negligible 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 and sub-catchment areas were delineated using wetland data provided by Damon E. Burt, Wetland Scientist (CWS) #163 on June 6, 2022, and 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 which references the Strafford County, New Hampshire Soil Survey Area, Version 22, August 31, 2021, and a site specific soils map prepared by John P. Hayes III (CSS) #087 on May 17, 2022. The site specific soil survey also provides a high intensity soil survey conversion as well. The soil drainage classifications used for this analysis are Class A, B, C, and D.

Hydrologic Drainage Class A:

SSSS	Slopes	Map Name
111	A, B, C, D	Gloucester very stony

Hydrologic Drainage Class B:

SSSS	Slopes	Map Name
63	B, C	Charlton Very Stony

Hydrologic Drainage Class C:

SSSS	Slopes	Map Name
32	B	Buxton
338	A, B, C	Elmwood very stony
500	B	Udorthents loamy

Hydrologic Drainage Class D:

SSSS	Slopes	Map Name
233	A, B	Scantic

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 3.60", 5.42", 6.85", and 8.18" rainfall depths respectively. The rain fall data has been peaked by 15% in accordance with NH DES Alteration of Terrain requirements as the site is located within the Coastal Region.

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 CONDTIONS

For purposes of this analysis the subject parcel was analyzed with four points of discharge.

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)**			
Point of Analysis	**2-yr**	**2-yr**	**10-yr**	**25-yr**	**50-yr**
A	0.017	0.1	0.3	0.4	0.5
B	0.058	0.4	0.8	1.2	1.5
C	0.018	0.1	0.3	0.4	0.6
D	0.127	0.8	1.5	2.1	2.7

2.3 DEVELOPED CONDITIONS

The post development watershed was analyzed utilizing the same summing points as the pre development analysis.

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

Watershed	**Post-Development Volume (af)**	**Pre Development Peak Flows (cfs)**			
Point of Analysis	**2-yr**	**2-yr**	**10-yr**	**25-yr**	**50-yr**
A	0.018	0.1	0.3	0.4	0.5
B	0.490	0.4	0.8	1.2	1.5
C	0.003	0.0	0.1	0.1	0.2
D	0.050	0.4	0.7	0.9	1.2

2.4 HYDROLOGIC COMPARISON

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

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)**			
Point of Analysis	**2-yr**	**2-yr**	**10-yr**	**25-yr**	**50-yr**
A	0.017/**0.018**	0.1/**0.1**	0.3/**0.3**	0.4/**0.4**	0.5/**0.5**
B	0.058/**0.490**	0.4/**0.4**	0.8/**0.8**	1.2/**1.2**	1.5/**1.5**
C	0.018/**0.003**	0.1/**0.0**	0.3/**0.1**	0.4/**0.1**	0.6/**0.2**
D	0.127/**0.050**	0.8/**0.4**	1.5/**0.7**	2.1/**0.9**	2.7/**1.2**

2.5 STORMWATER DESIGN

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

2.5.1 Stormwater Best Management Practices

The project incorporates an extended detention wet pond and porous pavement to mitigate flow and water quality from the proposed development. Pre-treatment for the wet pond includes a grassed swale, a sediment forebay, and a deep sump catch basin.

2.5.2 Groundwater Recharge

The project utilizes porous pavement to treat and infiltrate stormwater from the parking lot. Infiltration rates were determined in accordance with NH DES Env-Wq 1504.14. The design infiltration rate, after applying a factor of safety, is 5 inches per hour. The project provides 1,960 cf of infiltration during a 2-year storm event.

2.5.3 Pollutant Removal

The site stormwater design captures 100% of the proposed onsite impervious area (68,650± sf) as well as 6,140± sf of stormwater runoff from Quality Way and directs it to best management practices that provide pollutant removal. The project incorporates the following practices and associated pollutant removal efficacies as identified in the New Hampshire Stormwater Management Manual Volume 1, Appendix E:

	TSS	TN	TP
Wet Extended Detention Pond:	80%	55%	68%
Permeable Pavement (>75' from water):	90%	60%	65%

The pollutant removal meets or exceeds The City of Dover's, Site Review Regulations.

2.5.4 Outlet Protection

BMP's, conveyance structures, and outlet protection have been sized to convey the 50-year, 24 hour storm event. All proposed rip-rap applications shall consist of min. d50 = 6" stone with a stone layer thickness of 12" (min) on a filter fabric layer over a 6" thick (min) gravel base. See the plan set for rip-rap locations and the drainage details for additional information.

APPENDIX A

HYDROLOGIC CALCULATIONS

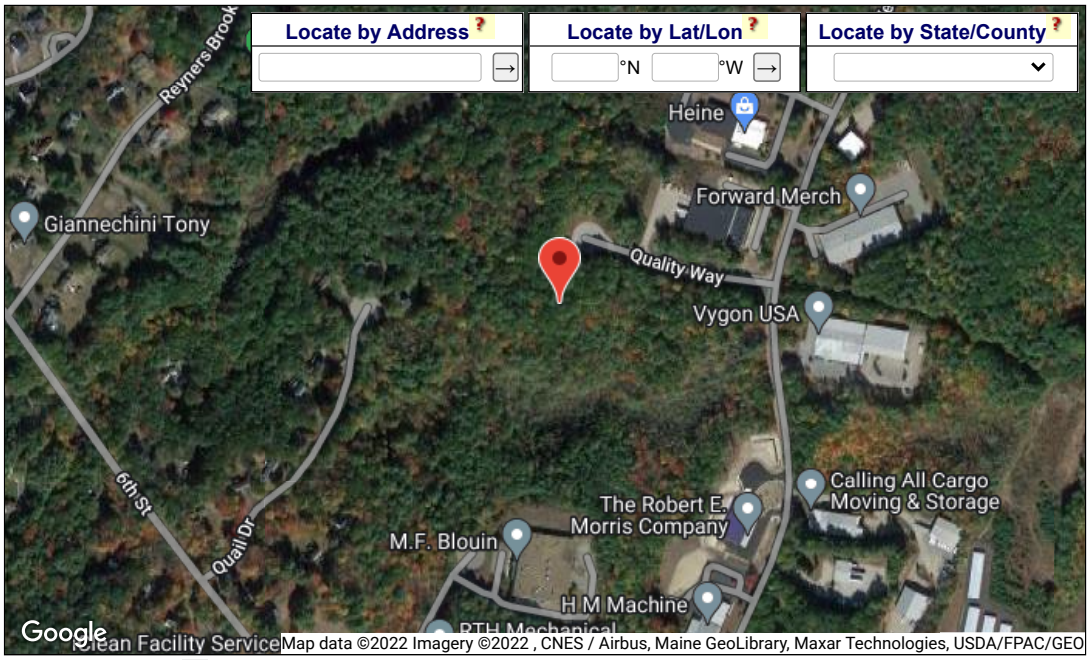
About this Project **Data & Products** **Daily Monitoring** **Documentation**

Select Product

- Extreme Precipitation Tables - HTML
- Extreme Precipitation Tables - Text/CSV
- Partial Duration Series - by Point
- Partial Duration Series - by Station
- Distribution Curves - Graphical
- Distribution Curves - Text/TBL
- Intensity Frequency Duration Graphs
- Precipitation Frequency Duration Graphs
- GIS Data Files
- Regional/State Maps

Select Location *Double-click the map to place a marker, or enter address or latitude/longitude.*

Locate by Address | Locate by Lat/Lon (°N °W) | Locate by State/County



Select Options

Smoothing	Delivery
Yes	Popup

Submit

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This project is a joint collaboration between:

Northeast Regional Climate Center (NRCC) Cornell University

Natural Resources Conservation Service (NRCS) USDA 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.

Smoothing	Yes
State	New Hampshire
Location	
Longitude	70.913 degrees West
Latitude	43.223 degrees North
Elevation	0 feet
Date/Time	Fri, 13 May 2022 11:51:56 -0400

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day		+15%
1yr	0.26	0.40	0.50	0.65	0.81	1.03	**1yr**	0.70	0.98	1.20	1.54	1.99	~~2.59~~	2.86	**1yr**	2.29	2.75	3.15	3.88	4.44	**1yr**	2.98
2yr	0.32	0.49	0.61	0.80	1.01	1.28	**2yr**	0.87	1.17	1.50	1.91	2.44	~~3.13~~	3.49	**2yr**	2.77	3.36	3.85	4.59	5.22	**2yr**	3.60
5yr	0.37	0.57	0.72	0.96	1.23	1.58	**5yr**	1.06	1.44	1.85	2.38	3.06	3.95	4.47	**5yr**	3.50	4.30	4.92	5.78	6.54	**5yr**	
10yr	0.40	0.63	0.80	1.09	1.42	1.85	**10yr**	1.22	1.69	2.18	2.82	3.64	~~4.71~~	5.39	**10yr**	4.17	5.18	5.93	6.90	7.75	**10yr**	5.42
25yr	0.46	0.74	0.94	1.30	1.72	2.27	**25yr**	1.49	2.09	2.69	3.52	4.58	~~5.96~~	6.91	**25yr**	5.27	6.64	7.58	8.71	9.72	**25yr**	6.85
50yr	0.52	0.83	1.06	1.48	2.00	2.66	**50yr**	1.73	2.45	3.18	4.17	5.46	~~7.11~~	8.34	**50yr**	6.29	8.02	9.14	10.40	11.54	**50yr**	8.18
100yr	0.58	0.94	1.21	1.71	2.32	3.12	**100yr**	2.01	2.88	3.74	4.94	6.49	~~8.49~~	10.07	**100yr**	7.52	9.68	11.02	12.42	13.71	**100yr**	9.76
200yr	0.64	1.05	1.36	1.96	2.71	3.67	**200yr**	2.33	3.39	4.42	5.87	7.74	10.15	12.16	**200yr**	8.98	11.70	13.29	14.83	16.29	**200yr**	
500yr	0.76	1.25	1.63	2.36	3.31	4.54	**500yr**	2.86	4.21	5.50	7.35	9.74	12.85	15.62	**500yr**	11.37	15.02	17.03	18.78	20.48	**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	1.54	2.05	2.46	**1yr**	1.82	2.36	2.94	3.42	4.10	**1yr**
2yr	0.31	0.49	0.60	0.81	1.00	1.18	**2yr**	0.86	1.15	1.36	1.82	2.35	3.05	3.39	**2yr**	2.70	3.26	3.74	4.46	5.08	**2yr**
5yr	0.35	0.54	0.67	0.91	1.16	1.40	**5yr**	1.00	1.37	1.61	2.14	2.77	3.69	4.11	**5yr**	3.26	3.95	4.59	5.39	6.09	**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	4.24	4.77	**10yr**	3.75	4.58	5.30	6.21	6.97	**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	5.08	5.76	**25yr**	4.50	5.54	6.47	7.50	8.35	**25yr**
50yr	0.48	0.73	0.91	1.31	1.77	2.19	**50yr**	1.52	2.14	2.36	3.20	4.08	5.83	6.64	**50yr**	5.16	6.39	7.51	8.63	9.55	**50yr**
100yr	0.54	0.81	1.02	1.47	2.02	2.51	**100yr**	1.74	2.45	2.65	3.58	4.55	6.69	7.65	**100yr**	5.92	7.35	8.72	9.94	10.90	**100yr**
200yr	0.60	0.90	1.14	1.65	2.30	2.87	**200yr**	1.98	2.81	2.96	4.02	5.07	7.66	8.80	**200yr**	6.78	8.46	10.12	11.45	12.46	**200yr**
500yr	0.70	1.04	1.33	1.94	2.75	3.46	**500yr**	2.38	3.39	3.44	4.67	5.87	9.13	10.59	**500yr**	8.08	10.18	12.32	13.81	14.81	**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	2.82	3.07	**1yr**	2.49	2.95	3.37	4.17	4.74	**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	3.24	3.61	**2yr**	2.86	3.47	3.98	4.73	5.39	**2yr**
5yr	0.39	0.60	0.75	1.03	1.31	1.58	**5yr**	1.13	1.54	1.85	2.49	3.19	4.21	4.83	**5yr**	3.73	4.64	5.27	6.20	6.96	**5yr**
10yr	0.46	0.70	0.87	1.21	1.57	1.91	**10yr**	1.35	1.87	2.22	3.03	3.84	5.18	6.02	**10yr**	4.58	5.79	6.63	7.60	8.47	**10yr**
25yr	0.55	0.84	1.05	1.50	1.97	2.46	**25yr**	1.70	2.41	2.87	3.94	4.94	6.81	8.08	**25yr**	6.03	7.77	8.86	10.01	11.03	**25yr**
50yr	0.64	0.97	1.21	1.75	2.35	2.97	**50yr**	2.03	2.90	3.48	4.80	5.99	8.37	10.12	**50yr**	7.41	9.73	11.07	12.30	13.48	**50yr**
100yr	0.75	1.13	1.41	2.04	2.80	3.58	**100yr**	2.42	3.50	4.22	5.87	7.28	10.30	12.68	**100yr**	9.12	12.19	13.81	15.14	16.48	**100yr**
200yr	0.87	1.30	1.65	2.39	3.33	4.34	**200yr**	2.88	4.24	5.13	7.18	8.84	12.71	15.90	**200yr**	11.25	15.29	17.25	18.63	20.18	**200yr**
500yr	1.06	1.58	2.03	2.95	4.19	5.56	**500yr**	3.62	5.44	6.62	9.38	11.45	16.80	21.45	**500yr**	14.87	20.62	23.17	24.55	26.40	**500yr**

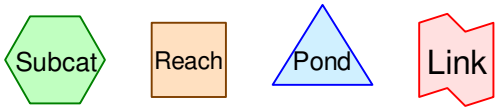
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A-1

EXISTING WATERSHEDS



A B C D



Routing Diagram for 21094 - Pre
Prepared by {enter your company name here}, Printed 6/14/2022
HydroCAD® 10.10-5a s/n 03240 © 2020 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.089	39	>75% Grass cover, Good, HSG A (A, D)
0.134	74	>75% Grass cover, Good, HSG C (A, D)
0.141	98	Paved roads w/curbs & sewers, HSG A (A, D)
1.327	30	Woods, Good, HSG A (A, B, C, D)
0.262	55	Woods, Good, HSG B (C, D)
1.699	70	Woods, Good, HSG C (A, B, C, D)
0.045	77	Woods, Good, HSG D (A, B)
3.696	**55**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
1.556	HSG A	A, B, C, D
0.262	HSG B	C, D
1.833	HSG C	A, B, C, D
0.045	HSG D	A, B
0.000	Other	
3.696		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.089	0.000	0.134	0.000	0.000	0.223	>75% Grass cover, Good	A, D
0.141	0.000	0.000	0.000	0.000	0.141	Paved roads w/curbs & sewers	A, D
1.327	0.262	1.699	0.045	0.000	3.332	Woods, Good	A, B, C, D
1.556	**0.262**	**1.833**	**0.045**	**0.000**	**3.696**	**TOTAL AREA**	

A – 1

NODE LISTING – 2-YR

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

Subcatchment A: A Runoff Area=9,177 sf 4.28% Impervious Runoff Depth=1.00"
Flow Length=166' Tc=12.6 min CN=WQ Runoff=0.1 cfs 0.017 af

Subcatchment B: B Runoff Area=46,225 sf 0.00% Impervious Runoff Depth=0.65"
Flow Length=232' Tc=17.0 min CN=WQ Runoff=0.4 cfs 0.058 af

Subcatchment C: C Runoff Area=29,169 sf 0.00% Impervious Runoff Depth=0.31"
Flow Length=235' Tc=19.3 min CN=WQ Runoff=0.1 cfs 0.018 af

Subcatchment D: D Runoff Area=76,422 sf 7.50% Impervious Runoff Depth=0.87"
Flow Length=374' Tc=20.7 min CN=WQ Runoff=0.8 cfs 0.127 af

Total Runoff Area = 3.696 ac Runoff Volume = 0.220 af Average Runoff Depth = 0.71"
96.19% Pervious = 3.555 ac 3.81% Impervious = 0.141 ac

A – 1

NODE LISTING – 10-YR

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

Subcatchment A: A Runoff Area=9,177 sf 4.28% Impervious Runoff Depth=2.07"
Flow Length=166' Tc=12.6 min CN=WQ Runoff=0.3 cfs 0.036 af

Subcatchment B: B Runoff Area=46,225 sf 0.00% Impervious Runoff Depth=1.43"
Flow Length=232' Tc=17.0 min CN=WQ Runoff=0.8 cfs 0.127 af

Subcatchment C: C Runoff Area=29,169 sf 0.00% Impervious Runoff Depth=0.83"
Flow Length=235' Tc=19.3 min CN=WQ Runoff=0.3 cfs 0.047 af

Subcatchment D: D Runoff Area=76,422 sf 7.50% Impervious Runoff Depth=1.75"
Flow Length=374' Tc=20.7 min CN=WQ Runoff=1.5 cfs 0.256 af

Total Runoff Area = 3.696 ac Runoff Volume = 0.466 af Average Runoff Depth = 1.51"
96.19% Pervious = 3.555 ac 3.81% Impervious = 0.141 ac

A – 1

10-YR STORM SUMMARY

Summary for Subcatchment A: A

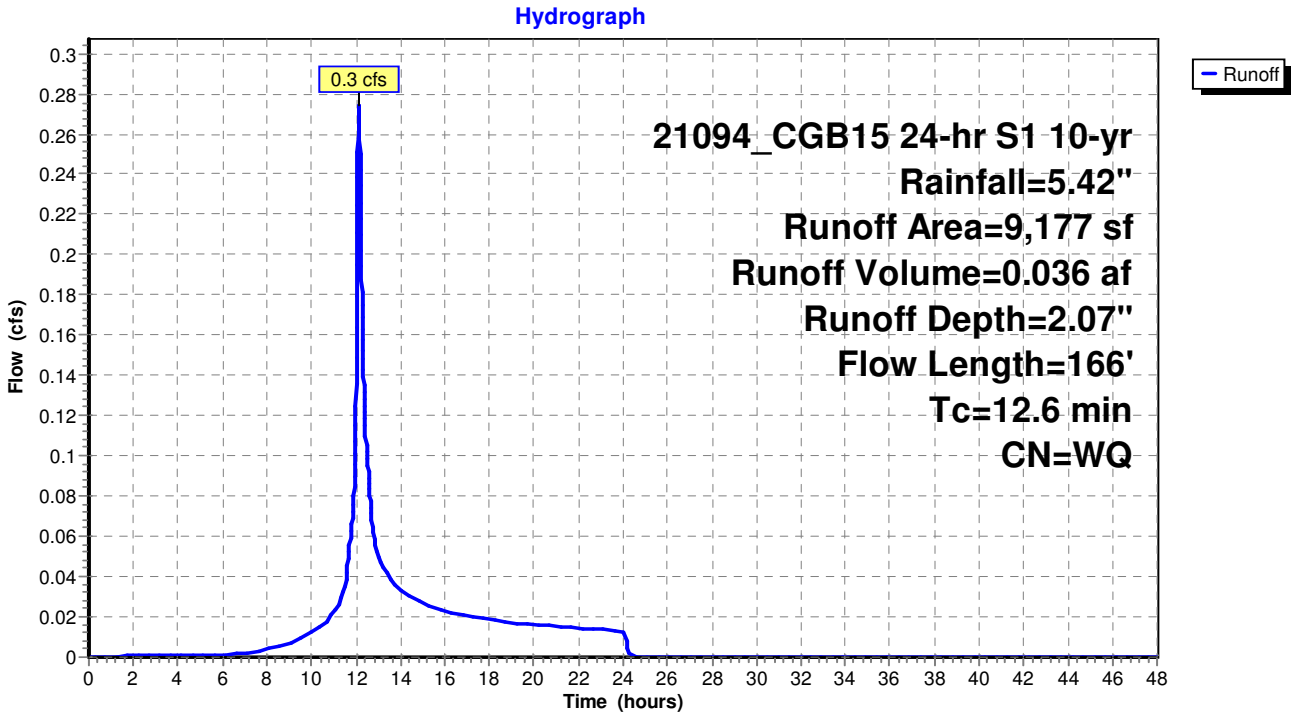
Runoff = 0.3 cfs @ 12.13 hrs, Volume= 0.036 af, Depth= 2.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
21094_CGB15 24-hr S1 10-yr Rainfall=5.42"

Area (sf)	CN	Description
1,747	30	Woods, Good, HSG A
206	39	>75% Grass cover, Good, HSG A
393	98	Paved roads w/curbs & sewers, HSG A
4,742	70	Woods, Good, HSG C
2,051	74	>75% Grass cover, Good, HSG C
38	77	Woods, Good, HSG D
9,177		Weighted Average
8,784		95.72% Pervious Area
393		4.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.4	58	0.0430	0.15		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.60"
5.4	42	0.0950	0.13		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.60"
0.8	66	0.0760	1.38		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
12.6	166	Total			

Subcatchment A: A



Summary for Subcatchment B: B

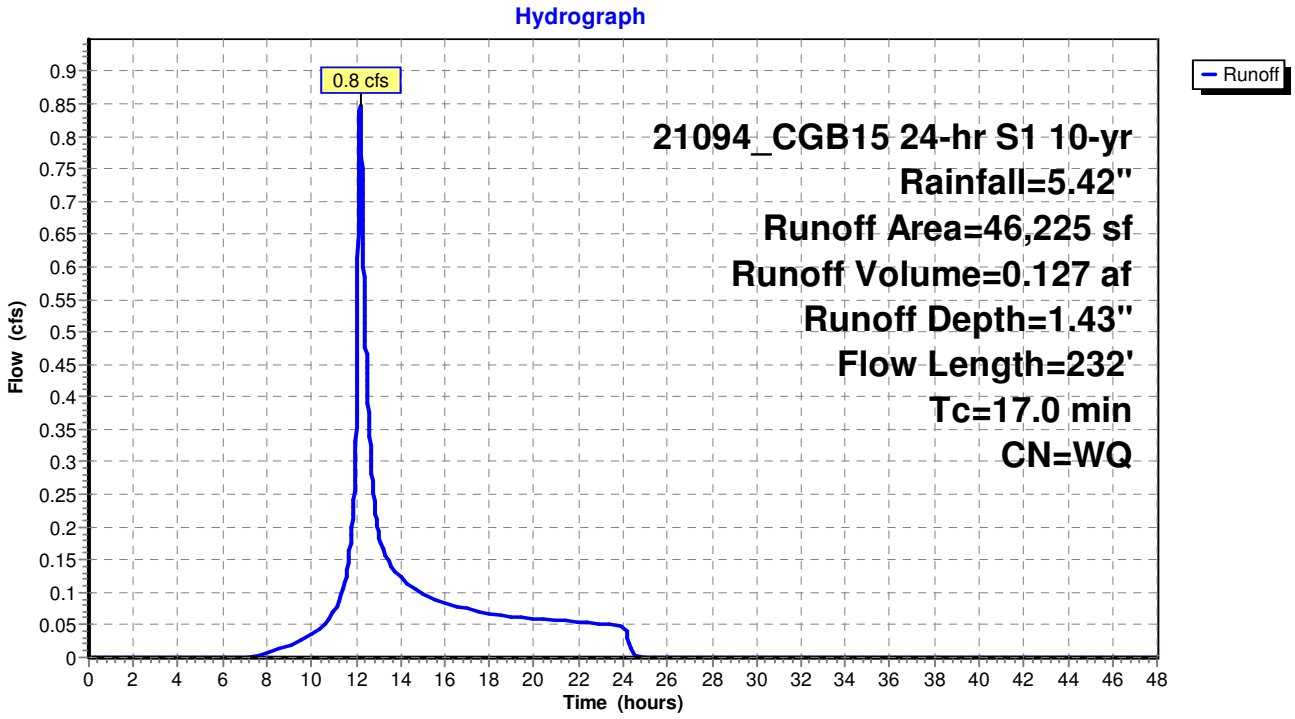
Runoff = 0.8 cfs @ 12.19 hrs, Volume= 0.127 af, Depth= 1.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
21094_CGB15 24-hr S1 10-yr Rainfall=5.42"

Area (sf)	CN	Description
18,753	30	Woods, Good, HSG A
25,547	70	Woods, Good, HSG C
1,925	77	Woods, Good, HSG D
46,225		Weighted Average
46,225		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.3	100	0.0400	0.11		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.60"
1.7	132	0.0640	1.26		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
17.0	232	Total			

Subcatchment B: B



Summary for Subcatchment C: C

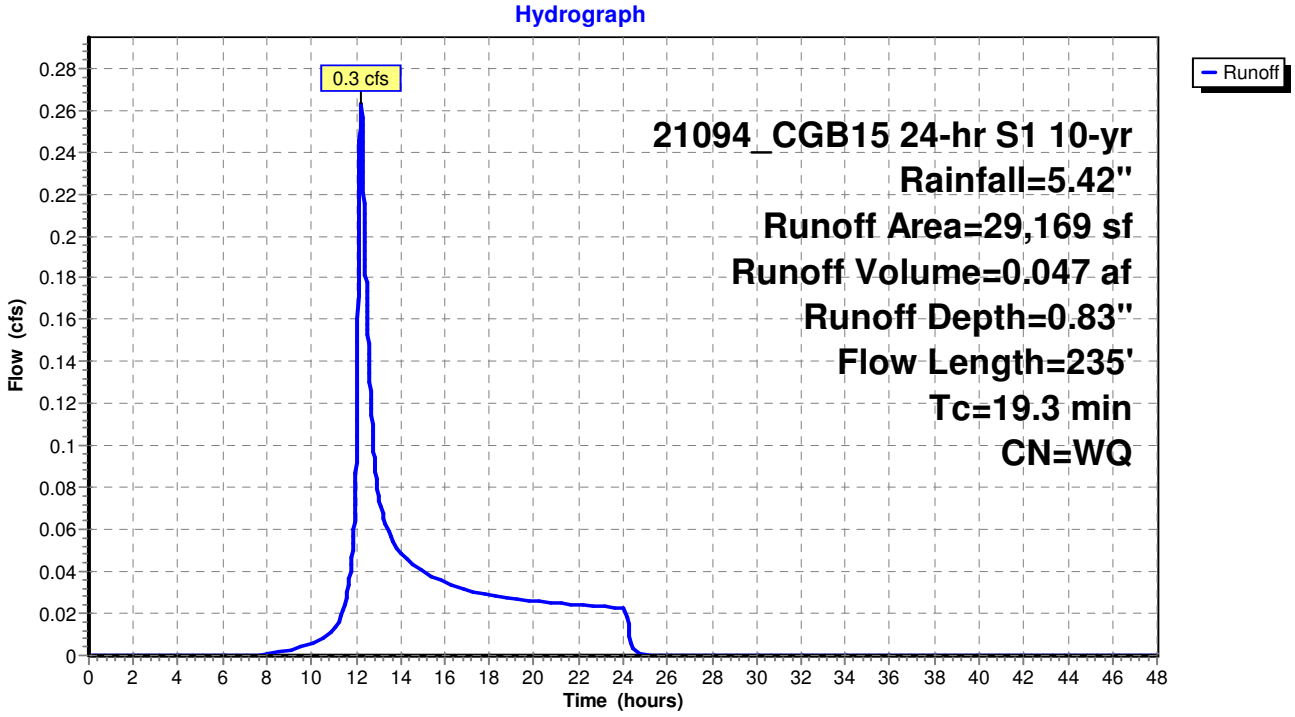
Runoff = 0.3 cfs @ 12.24 hrs, Volume= 0.047 af, Depth= 0.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
21094_CGB15 24-hr S1 10-yr Rainfall=5.42"

Area (sf)	CN	Description
13,699	30	Woods, Good, HSG A
10,696	55	Woods, Good, HSG B
4,774	70	Woods, Good, HSG C
29,169		Weighted Average
29,169		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.2	100	0.0300	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.60"
2.1	135	0.0460	1.07		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
19.3	235	Total			

Subcatchment C: C



Summary for Subcatchment D: D

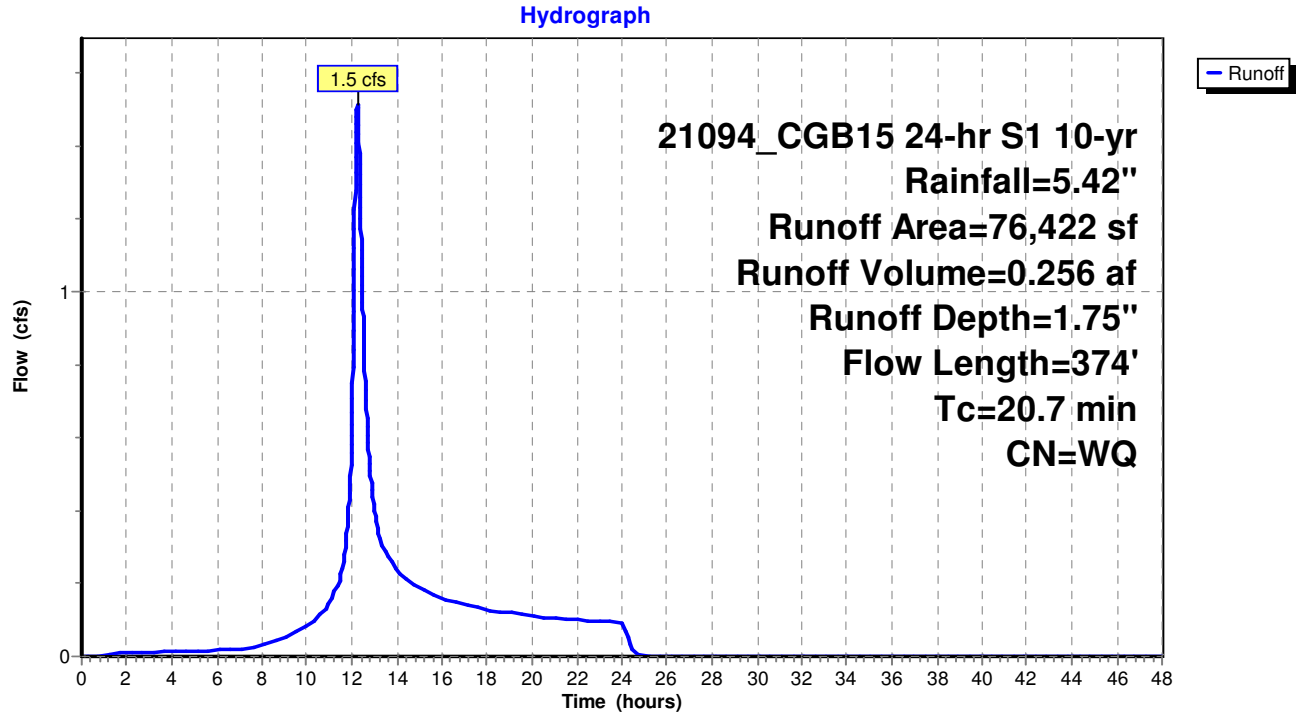
Runoff = 1.5 cfs @ 12.24 hrs, Volume= 0.256 af, Depth= 1.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
21094_CGB15 24-hr S1 10-yr Rainfall=5.42"

Area (sf)	CN	Description
23,586	30	Woods, Good, HSG A
3,676	39	>75% Grass cover, Good, HSG A
5,735	98	Paved roads w/curbs & sewers, HSG A
702	55	Woods, Good, HSG B
38,935	70	Woods, Good, HSG C
3,788	74	>75% Grass cover, Good, HSG C
76,422		Weighted Average
70,687		92.50% Pervious Area
5,735		7.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.3	100	0.0400	0.11		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.60"
5.4	274	0.0290	0.85		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
20.7	374	Total			

Subcatchment D: D



A – 1

NODE LISTING – 25-YR

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

Subcatchment A: A Runoff Area=9,177 sf 4.28% Impervious Runoff Depth=3.03"
Flow Length=166' Tc=12.6 min CN=WQ Runoff=0.4 cfs 0.053 af

Subcatchment B: B Runoff Area=46,225 sf 0.00% Impervious Runoff Depth=2.18"
Flow Length=232' Tc=17.0 min CN=WQ Runoff=1.2 cfs 0.193 af

Subcatchment C: C Runoff Area=29,169 sf 0.00% Impervious Runoff Depth=1.40"
Flow Length=235' Tc=19.3 min CN=WQ Runoff=0.4 cfs 0.078 af

Subcatchment D: D Runoff Area=76,422 sf 7.50% Impervious Runoff Depth=2.58"
Flow Length=374' Tc=20.7 min CN=WQ Runoff=2.1 cfs 0.377 af

Total Runoff Area = 3.696 ac Runoff Volume = 0.702 af Average Runoff Depth = 2.28"
96.19% Pervious = 3.555 ac 3.81% Impervious = 0.141 ac

A – 1

NODE LISTING – 50-YR

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

Subcatchment A: A Runoff Area=9,177 sf 4.28% Impervious Runoff Depth=4.00"
Flow Length=166' Tc=12.6 min CN=WQ Runoff=0.5 cfs 0.070 af

Subcatchment B: B Runoff Area=46,225 sf 0.00% Impervious Runoff Depth=2.97"
Flow Length=232' Tc=17.0 min CN=WQ Runoff=1.5 cfs 0.262 af

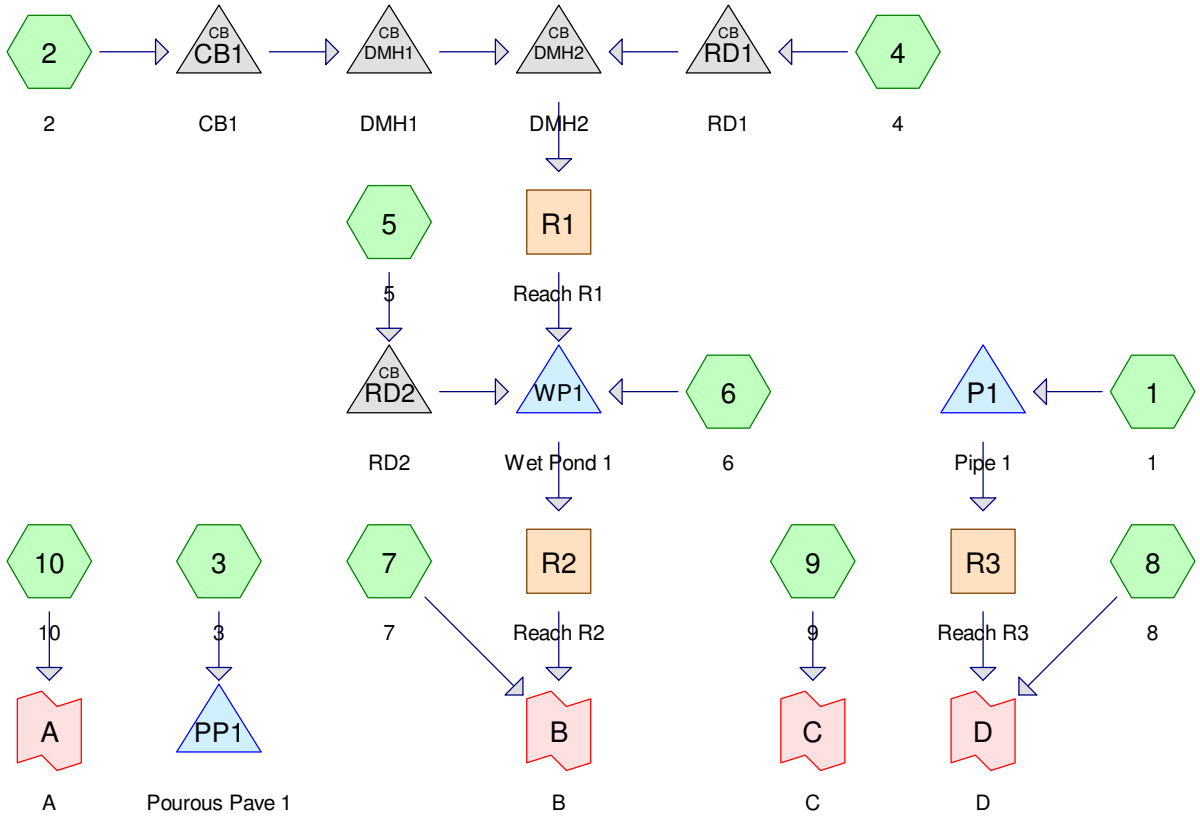
Subcatchment C: C Runoff Area=29,169 sf 0.00% Impervious Runoff Depth=2.04"
Flow Length=235' Tc=19.3 min CN=WQ Runoff=0.6 cfs 0.114 af

Subcatchment D: D Runoff Area=76,422 sf 7.50% Impervious Runoff Depth=3.43"
Flow Length=374' Tc=20.7 min CN=WQ Runoff=2.7 cfs 0.501 af

Total Runoff Area = 3.696 ac Runoff Volume = 0.948 af Average Runoff Depth = 3.08"
96.19% Pervious = 3.555 ac 3.81% Impervious = 0.141 ac

A-2

DEVELOPED WATERSHEDS



Subcat Reach Pond Link

Routing Diagram for 21094 - Post

Prepared by {enter your company name here}, Printed 6/14/2022

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.448	39	>75% Grass cover, Good, HSG A (1, 3, 6, 7, 8, 10)
0.121	61	>75% Grass cover, Good, HSG B (6, 8, 9)
0.882	74	>75% Grass cover, Good, HSG C (1, 6, 7, 8, 9, 10)
0.687	98	Paved roads w/curbs & sewers, HSG A (1, 2, 3, 6, 10)
0.119	98	Paved roads w/curbs & sewers, HSG B (6)
0.381	98	Paved roads w/curbs & sewers, HSG C (2, 3, 6)
0.376	98	Roofs, HSG A (4, 5)
0.154	98	Roofs, HSG C (5)
0.045	30	Woods, Good, HSG A (8, 10)
0.022	55	Woods, Good, HSG B (8, 9)
0.416	70	Woods, Good, HSG C (7, 8, 9, 10)
0.045	77	Woods, Good, HSG D (7, 10)

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
1.556	HSG A	1, 2, 3, 4, 5, 6, 7, 8, 10
0.262	HSG B	6, 8, 9
1.833	HSG C	1, 2, 3, 5, 6, 7, 8, 9, 10
0.045	HSG D	7, 10
0.000	Other	

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.448	0.121	0.882	0.000	0.000	1.452	>75% Grass cover, Good	1, 3, 6, 7, 8, 9, 10
0.687	0.119	0.381	0.000	0.000	1.186	Paved roads w/curbs & sewers	1, 2, 3, 6, 10
0.376	0.000	0.154	0.000	0.000	0.531	Roofs	4, 5
0.045	0.022	0.416	0.045	0.000	0.527	Woods, Good	7, 8, 9, 10

A – 2

NODE LISTING – 2-YR

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

Subcatchment 1: 1 Runoff Area=13,486 sf 18.91% Impervious Runoff Depth=1.00"
Flow Length=163' Tc=12.4 min CN=WQ Runoff=0.2 cfs 0.026 af

Subcatchment 2: 2 Runoff Area=4,072 sf 100.00% Impervious Runoff Depth=3.37"
Flow Length=193' Slope=0.0420 '/' Tc=1.2 min CN=WQ Runoff=0.3 cfs 0.026 af

Subcatchment 3: 3 Runoff Area=7,445 sf 93.98% Impervious Runoff Depth=3.16"
Flow Length=65' Tc=1.9 min CN=WQ Runoff=0.6 cfs 0.045 af

Subcatchment 4: 4 Runoff Area=2,500 sf 100.00% Impervious Runoff Depth=3.37"
Flow Length=25' Tc=2.0 min CN=98 Runoff=0.2 cfs 0.016 af

Subcatchment 5: 5 Runoff Area=20,625 sf 100.00% Impervious Runoff Depth=3.37"
Flow Length=75' Tc=2.0 min CN=WQ Runoff=1.6 cfs 0.133 af

Subcatchment 6: 6 Runoff Area=68,408 sf 54.86% Impervious Runoff Depth=2.31"
Flow Length=420' Tc=13.3 min CN=WQ Runoff=2.4 cfs 0.302 af

Subcatchment 7: 7 Runoff Area=17,245 sf 0.00% Impervious Runoff Depth=1.03"
Flow Length=70' Tc=11.8 min CN=WQ Runoff=0.3 cfs 0.034 af

Subcatchment 8: 8 Runoff Area=14,921 sf 0.00% Impervious Runoff Depth=0.86"
Flow Length=189' Tc=13.9 min CN=WQ Runoff=0.2 cfs 0.025 af

Subcatchment 9: 9 Runoff Area=2,403 sf 0.00% Impervious Runoff Depth=0.75"
Flow Length=21' Slope=0.1070 '/' Tc=2.9 min CN=WQ Runoff=0.0 cfs 0.003 af

Subcatchment 10: 10 Runoff Area=9,889 sf 5.22% Impervious Runoff Depth=0.95"
Flow Length=208' Tc=12.0 min CN=WQ Runoff=0.1 cfs 0.018 af

Reach R1: Reach R1 Avg. Flow Depth=0.15' Max Vel=0.47 fps Inflow=0.5 cfs 0.042 af
n=0.069 L=10.0' S=0.0100 '/' Capacity=6.9 cfs Outflow=0.5 cfs 0.042 af

Reach R2: Reach R2 Avg. Flow Depth=0.12' Max Vel=0.26 fps Inflow=0.2 cfs 0.456 af
n=0.069 L=11.0' S=0.0045 '/' Capacity=4.6 cfs Outflow=0.2 cfs 0.456 af

Reach R3: Reach R3 Avg. Flow Depth=0.12' Max Vel=0.72 fps Inflow=0.2 cfs 0.026 af
n=0.080 L=133.0' S=0.0451 '/' Capacity=19.7 cfs Outflow=0.2 cfs 0.026 af

Pond CB1: CB1 Peak Elev=163.86' Inflow=0.3 cfs 0.026 af
15.0" Round Culvert n=0.012 L=45.0' S=0.0111 '/' Outflow=0.3 cfs 0.026 af

Pond DMH1: DMH1 Peak Elev=163.26' Inflow=0.3 cfs 0.026 af
15.0" Round Culvert n=0.012 L=110.0' S=0.0091 '/' Outflow=0.3 cfs 0.026 af

Pond DMH2: DMH2 Peak Elev=160.34' Inflow=0.5 cfs 0.042 af
15.0" Round Culvert n=0.012 L=50.0' S=0.0400 '/' Outflow=0.5 cfs 0.042 af

Pond P1: Pipe 1 Peak Elev=165.70' Storage=38 cf Inflow=0.2 cfs 0.026 af
15.0" Round Culvert n=0.012 L=92.0' S=0.0109 '/' Outflow=0.2 cfs 0.026 af

Pond PP1: Pourous Pave 1 Peak Elev=164.69' Storage=130 cf Inflow=0.6 cfs 0.045 af
Outflow=0.2 cfs 0.045 af

Pond RD1: RD1 Peak Elev=162.73' Inflow=0.2 cfs 0.016 af
15.0" Round Culvert n=0.012 L=10.0' S=0.0500 '/' Outflow=0.2 cfs 0.016 af

Pond RD2: RD2 Peak Elev=157.37' Inflow=1.6 cfs 0.133 af
12.0" Round Culvert n=0.012 L=300.0' S=0.0033 '/' Outflow=1.6 cfs 0.133 af

Pond WP1: Wet Pond 1 Peak Elev=156.08' Storage=15,501 cf Inflow=3.4 cfs 0.477 af
Outflow=0.2 cfs 0.456 af

Link A: A Inflow=0.1 cfs 0.018 af
Primary=0.1 cfs 0.018 af

Link B: B Inflow=0.4 cfs 0.490 af
Primary=0.4 cfs 0.490 af

Link C: C Inflow=0.0 cfs 0.003 af
Primary=0.0 cfs 0.003 af

Link D: D Inflow=0.4 cfs 0.050 af
Primary=0.4 cfs 0.050 af

Total Runoff Area = 3.696 ac Runoff Volume = 0.628 af Average Runoff Depth = 2.04"
53.54% Pervious = 1.979 ac 46.46% Impervious = 1.717 ac

A – 2

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-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1: 1 Runoff Area=13,486 sf 18.91% Impervious Runoff Depth=1.87"
Flow Length=163' Tc=12.4 min CN=WQ Runoff=0.3 cfs 0.048 af

Subcatchment 2: 2 Runoff Area=4,072 sf 100.00% Impervious Runoff Depth=5.18"
Flow Length=193' Slope=0.0420 '/' Tc=1.2 min CN=WQ Runoff=0.4 cfs 0.040 af

Subcatchment 3: 3 Runoff Area=7,445 sf 93.98% Impervious Runoff Depth=4.89"
Flow Length=65' Tc=1.9 min CN=WQ Runoff=0.7 cfs 0.070 af

Subcatchment 4: 4 Runoff Area=2,500 sf 100.00% Impervious Runoff Depth=5.18"
Flow Length=25' Tc=2.0 min CN=98 Runoff=0.3 cfs 0.025 af

Subcatchment 5: 5 Runoff Area=20,625 sf 100.00% Impervious Runoff Depth=5.18"
Flow Length=75' Tc=2.0 min CN=WQ Runoff=2.1 cfs 0.204 af

Subcatchment 6: 6 Runoff Area=68,408 sf 54.86% Impervious Runoff Depth=3.84"
Flow Length=420' Tc=13.3 min CN=WQ Runoff=3.5 cfs 0.502 af

Subcatchment 7: 7 Runoff Area=17,245 sf 0.00% Impervious Runoff Depth=2.21"
Flow Length=70' Tc=11.8 min CN=WQ Runoff=0.6 cfs 0.073 af

Subcatchment 8: 8 Runoff Area=14,921 sf 0.00% Impervious Runoff Depth=1.89"
Flow Length=189' Tc=13.9 min CN=WQ Runoff=0.4 cfs 0.054 af

Subcatchment 9: 9 Runoff Area=2,403 sf 0.00% Impervious Runoff Depth=1.81"
Flow Length=21' Slope=0.1070 '/' Tc=2.9 min CN=WQ Runoff=0.1 cfs 0.008 af

Subcatchment 10: 10 Runoff Area=9,889 sf 5.22% Impervious Runoff Depth=1.98"
Flow Length=208' Tc=12.0 min CN=WQ Runoff=0.3 cfs 0.038 af

Reach R1: Reach R1 Avg. Flow Depth=0.17' Max Vel=0.51 fps Inflow=0.7 cfs 0.065 af
n=0.069 L=10.0' S=0.0100 '/' Capacity=6.9 cfs Outflow=0.7 cfs 0.065 af

Reach R2: Reach R2 Avg. Flow Depth=0.17' Max Vel=0.34 fps Inflow=0.5 cfs 0.751 af
n=0.069 L=11.0' S=0.0045 '/' Capacity=4.6 cfs Outflow=0.5 cfs 0.751 af

Reach R3: Reach R3 Avg. Flow Depth=0.14' Max Vel=0.83 fps Inflow=0.3 cfs 0.048 af
n=0.080 L=133.0' S=0.0451 '/' Capacity=19.7 cfs Outflow=0.3 cfs 0.048 af

Pond CB1: CB1 Peak Elev=163.90' Inflow=0.4 cfs 0.040 af
15.0" Round Culvert n=0.012 L=45.0' S=0.0111 '/' Outflow=0.4 cfs 0.040 af

Pond DMH1: DMH1 Peak Elev=163.30' Inflow=0.4 cfs 0.040 af
15.0" Round Culvert n=0.012 L=110.0' S=0.0091 '/' Outflow=0.4 cfs 0.040 af

Pond DMH2: DMH2 Peak Elev=160.39' Inflow=0.7 cfs 0.065 af
15.0" Round Culvert n=0.012 L=50.0' S=0.0400 '/' Outflow=0.7 cfs 0.065 af

Pond P1: Pipe 1 Peak Elev=165.76' Storage=50 cf Inflow=0.3 cfs 0.048 af
15.0" Round Culvert n=0.012 L=92.0' S=0.0109 '/' Outflow=0.3 cfs 0.048 af

Pond PP1: Pourous Pave 1 Peak Elev=164.85' Storage=232 cf Inflow=0.7 cfs 0.070 af
Outflow=0.2 cfs 0.070 af

Pond RD1: RD1 Peak Elev=162.76' Inflow=0.3 cfs 0.025 af
15.0" Round Culvert n=0.012 L=10.0' S=0.0500 '/' Outflow=0.3 cfs 0.025 af

Pond RD2: RD2 Peak Elev=157.56' Inflow=2.1 cfs 0.204 af
12.0" Round Culvert n=0.012 L=300.0' S=0.0033 '/' Outflow=2.1 cfs 0.204 af

Pond WP1: Wet Pond 1 Peak Elev=156.56' Storage=20,896 cf Inflow=4.7 cfs 0.772 af
Outflow=0.5 cfs 0.751 af

Link A: A Inflow=0.3 cfs 0.038 af
Primary=0.3 cfs 0.038 af

Link B: B Inflow=0.8 cfs 0.824 af
Primary=0.8 cfs 0.824 af

Link C: C Inflow=0.1 cfs 0.008 af
Primary=0.1 cfs 0.008 af

Link D: D Inflow=0.7 cfs 0.102 af
Primary=0.7 cfs 0.102 af

Total Runoff Area = 3.696 ac Runoff Volume = 1.063 af Average Runoff Depth = 3.45"
53.54% Pervious = 1.979 ac 46.46% Impervious = 1.717 ac

A – 2

10-YR STORM SUMMARY

Summary for Subcatchment 1: 1

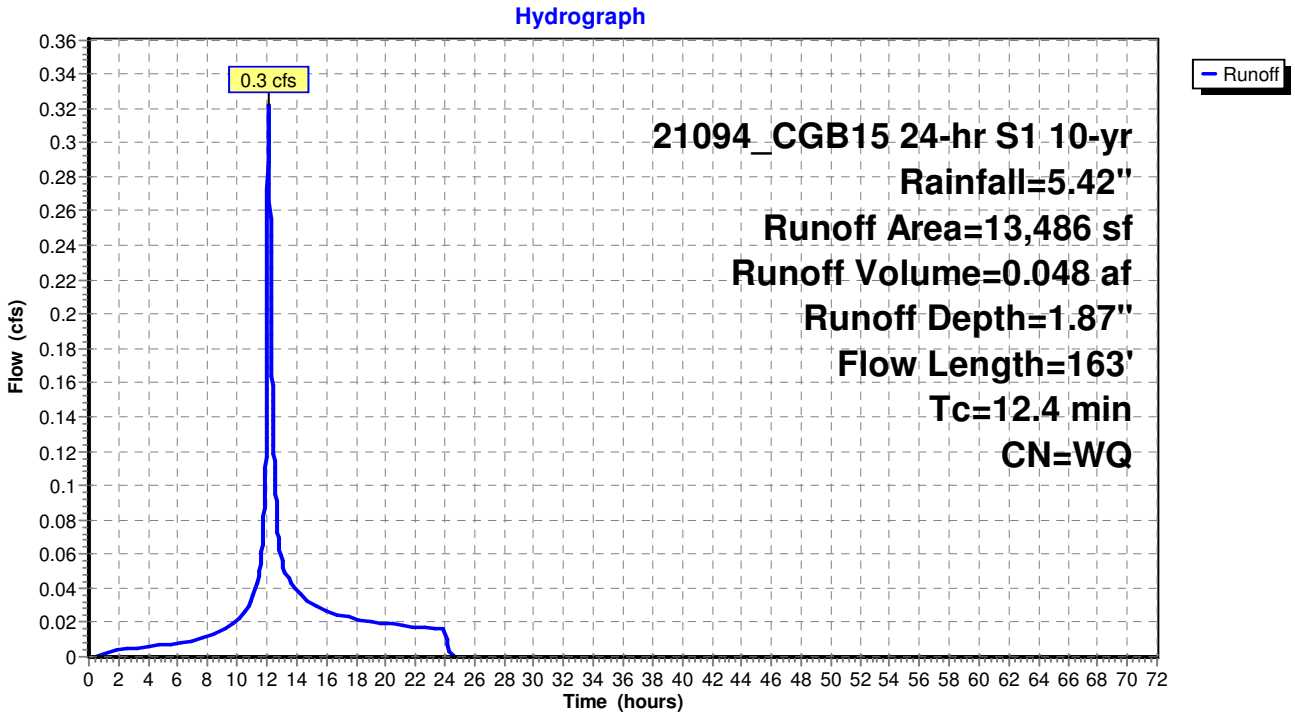
Runoff = 0.3 cfs @ 12.12 hrs, Volume= 0.048 af, Depth= 1.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
21094_CGB15 24-hr S1 10-yr Rainfall=5.42"

Area (sf)	CN	Description
7,297	39	>75% Grass cover, Good, HSG A
2,550	98	Paved roads w/curbs & sewers, HSG A
3,639	74	>75% Grass cover, Good, HSG C
13,486		Weighted Average
10,936		81.09% Pervious Area
2,550		18.91% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.4	100	0.0300	0.15		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.60"
1.0	63	0.0240	1.08		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
12.4	163	Total			

Subcatchment 1: 1



Summary for Subcatchment 2: 2

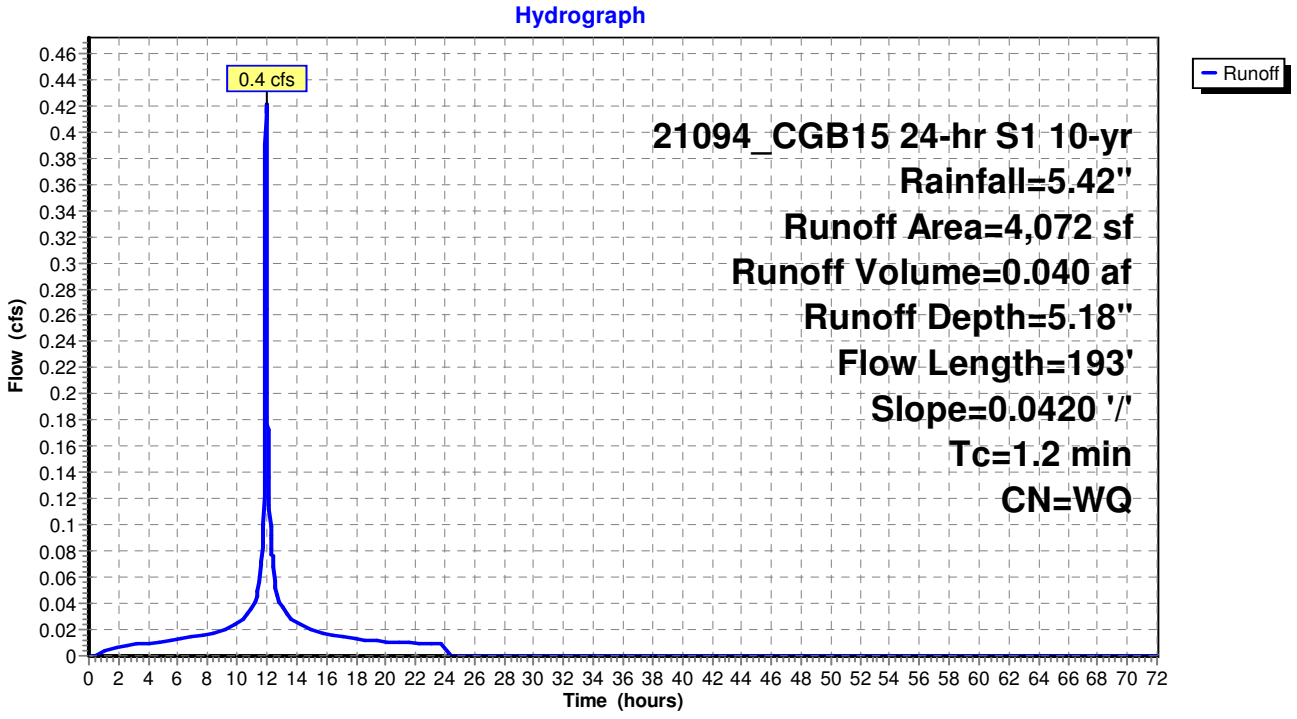
Runoff = 0.4 cfs @ 11.99 hrs, Volume= 0.040 af, Depth= 5.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
21094_CGB15 24-hr S1 10-yr Rainfall=5.42"

Area (sf)	CN	Description
3,046	98	Paved roads w/curbs & sewers, HSG A
1,026	98	Paved roads w/curbs & sewers, HSG C
4,072		Weighted Average
4,072		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	193	0.0420	4.16		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.8	193	Total, Increased to minimum Tc = 1.2 min			

Subcatchment 2: 2



Summary for Subcatchment 3: 3

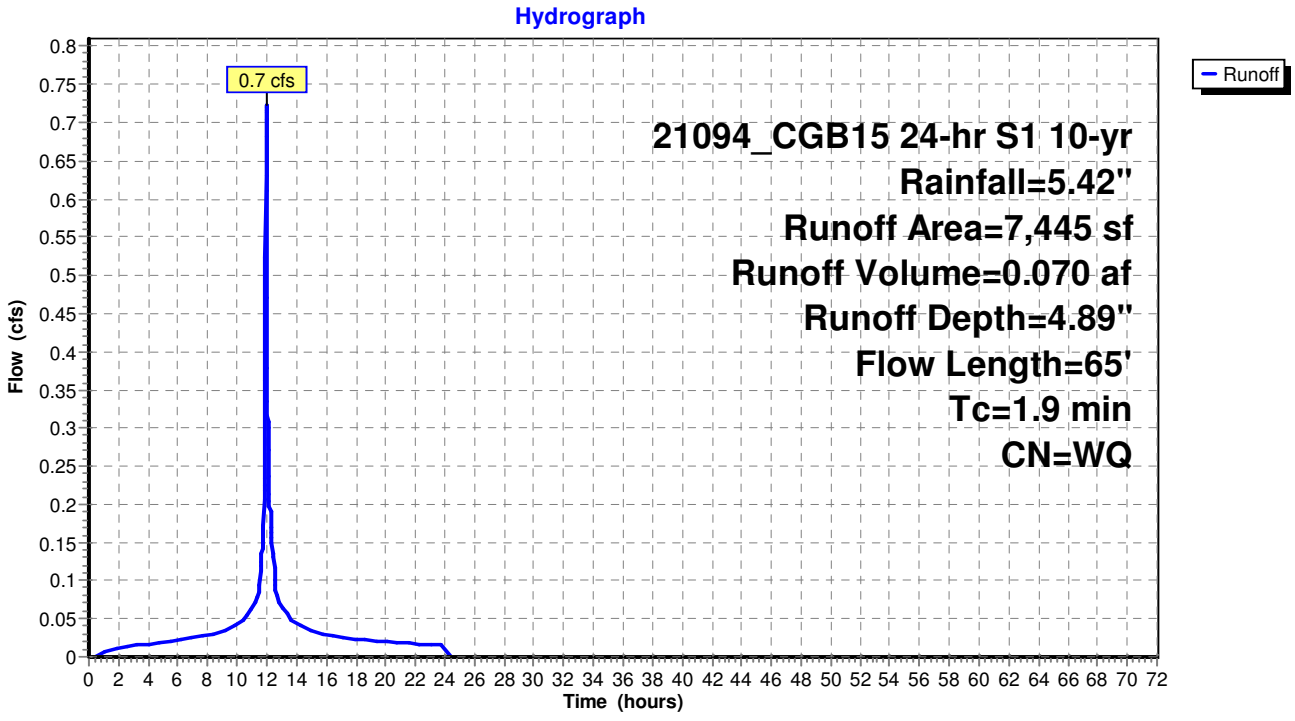
Runoff = 0.7 cfs @ 12.00 hrs, Volume= 0.070 af, Depth= 4.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
21094_CGB15 24-hr S1 10-yr Rainfall=5.42"

Area (sf)	CN	Description
448	39	>75% Grass cover, Good, HSG A
4,308	98	Paved roads w/curbs & sewers, HSG A
2,689	98	Paved roads w/curbs & sewers, HSG C
7,445		Weighted Average
448		6.02% Pervious Area
6,997		93.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	5	0.0100	0.05		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.60"
0.3	60	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.9	65	Total			

Subcatchment 3: 3



Summary for Subcatchment 4: 4

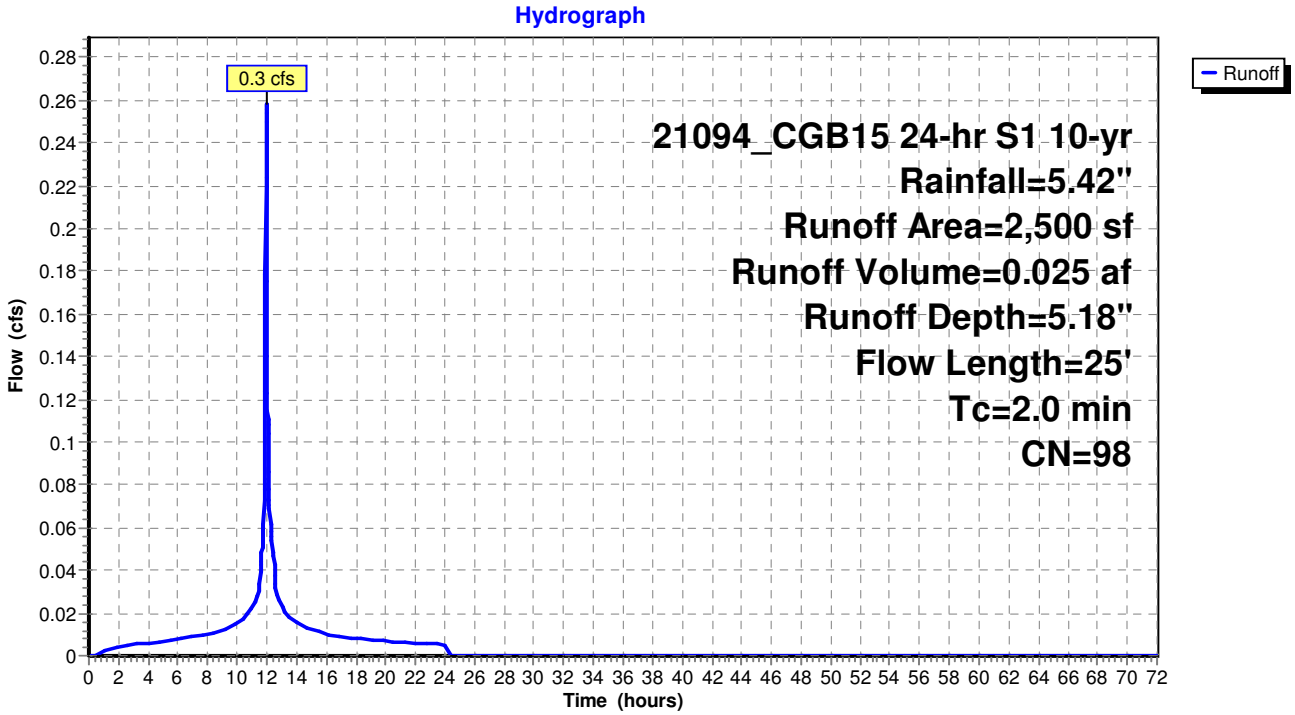
Runoff = 0.3 cfs @ 12.00 hrs, Volume= 0.025 af, Depth= 5.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
21094_CGB15 24-hr S1 10-yr Rainfall=5.42"

Area (sf)	CN	Description
2,500	98	Roofs, HSG A
2,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	25		0.21		**Direct Entry, Roof**

Subcatchment 4: 4



Summary for Subcatchment 5: 5

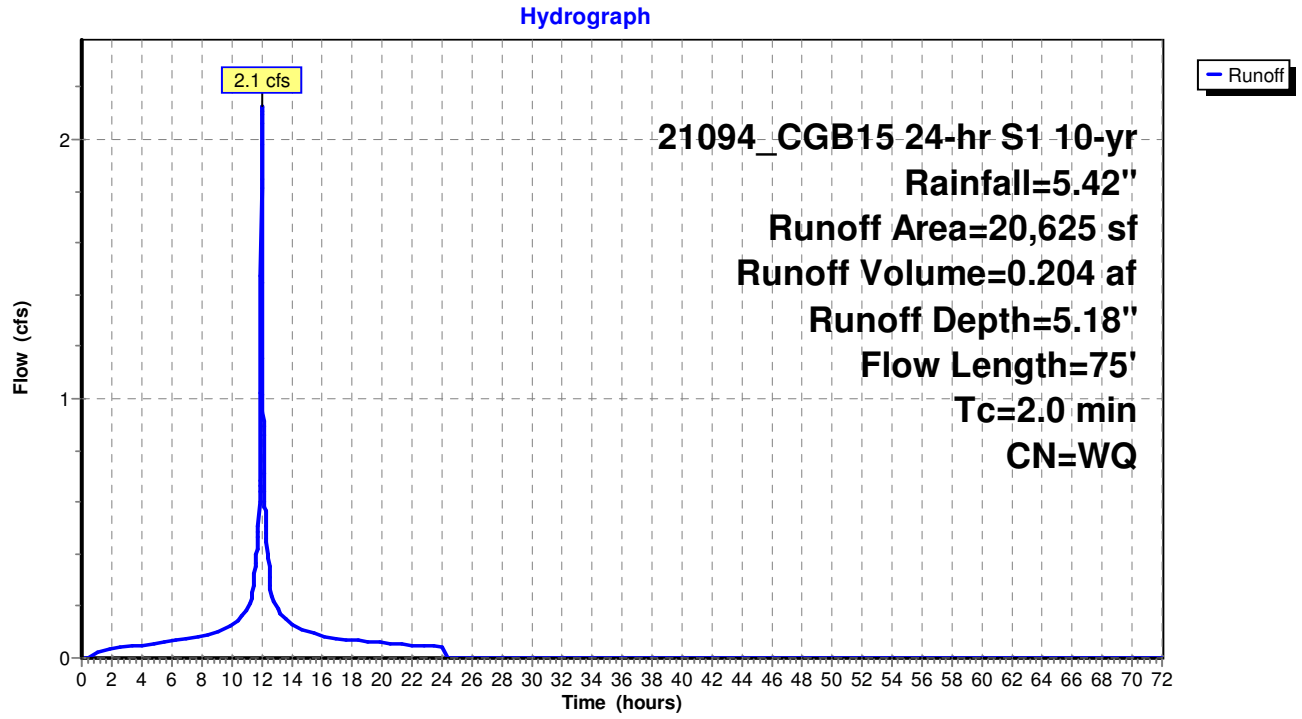
Runoff = 2.1 cfs @ 12.00 hrs, Volume= 0.204 af, Depth= 5.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
21094_CGB15 24-hr S1 10-yr Rainfall=5.42"

Area (sf)	CN	Description
13,895	98	Roofs, HSG A
6,730	98	Roofs, HSG C
20,625		Weighted Average
20,625		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	75		0.63		**Direct Entry, Roof**

Subcatchment 5: 5



Summary for Subcatchment 6: 6

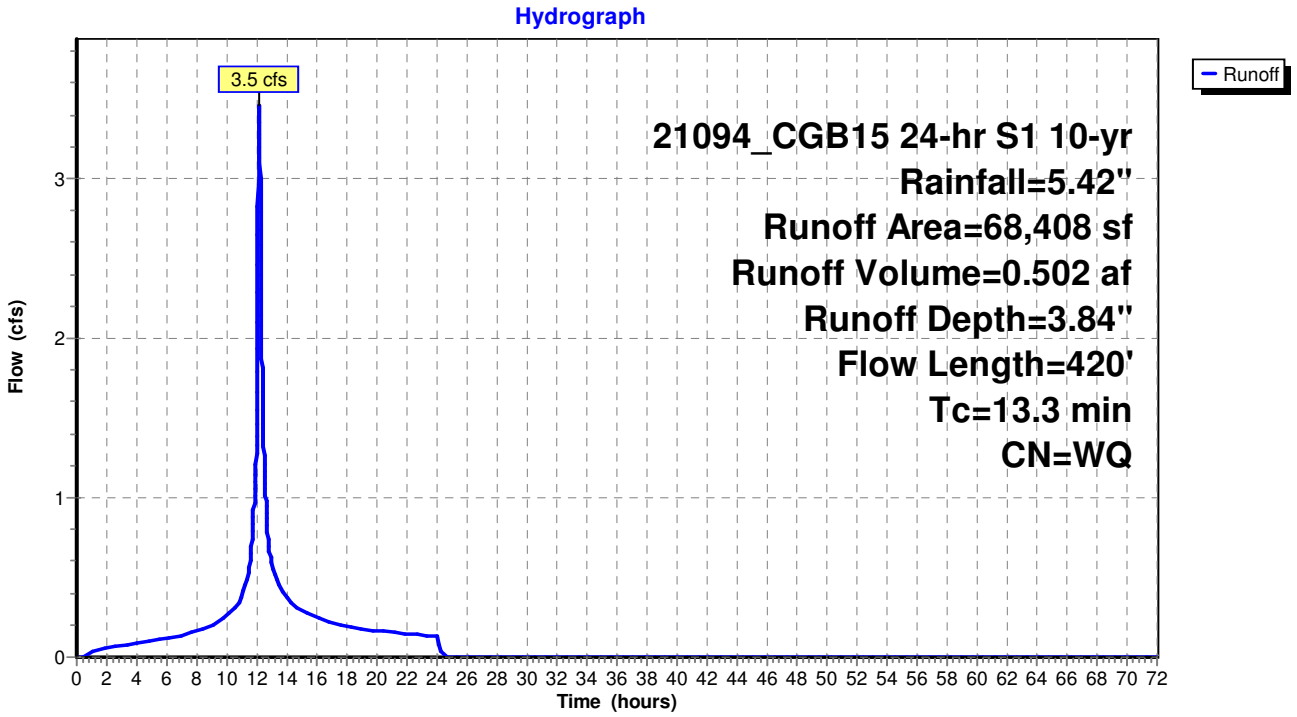
Runoff = 3.5 cfs @ 12.13 hrs, Volume= 0.502 af, Depth= 3.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
21094_CGB15 24-hr S1 10-yr Rainfall=5.42"

Area (sf)	CN	Description
4,306	39	>75% Grass cover, Good, HSG A
19,497	98	Paved roads w/curbs & sewers, HSG A
4,634	61	>75% Grass cover, Good, HSG B
5,173	98	Paved roads w/curbs & sewers, HSG B
21,937	74	>75% Grass cover, Good, HSG C
12,861	98	Paved roads w/curbs & sewers, HSG C
68,408		Weighted Average
30,877		45.14% Pervious Area
37,531		54.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.9	53	0.0120	0.09		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.60"
0.5	70	0.0120	2.22		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.9	297	0.0130	1.71		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
13.3	420	Total			

Subcatchment 6: 6



Summary for Subcatchment 7: 7

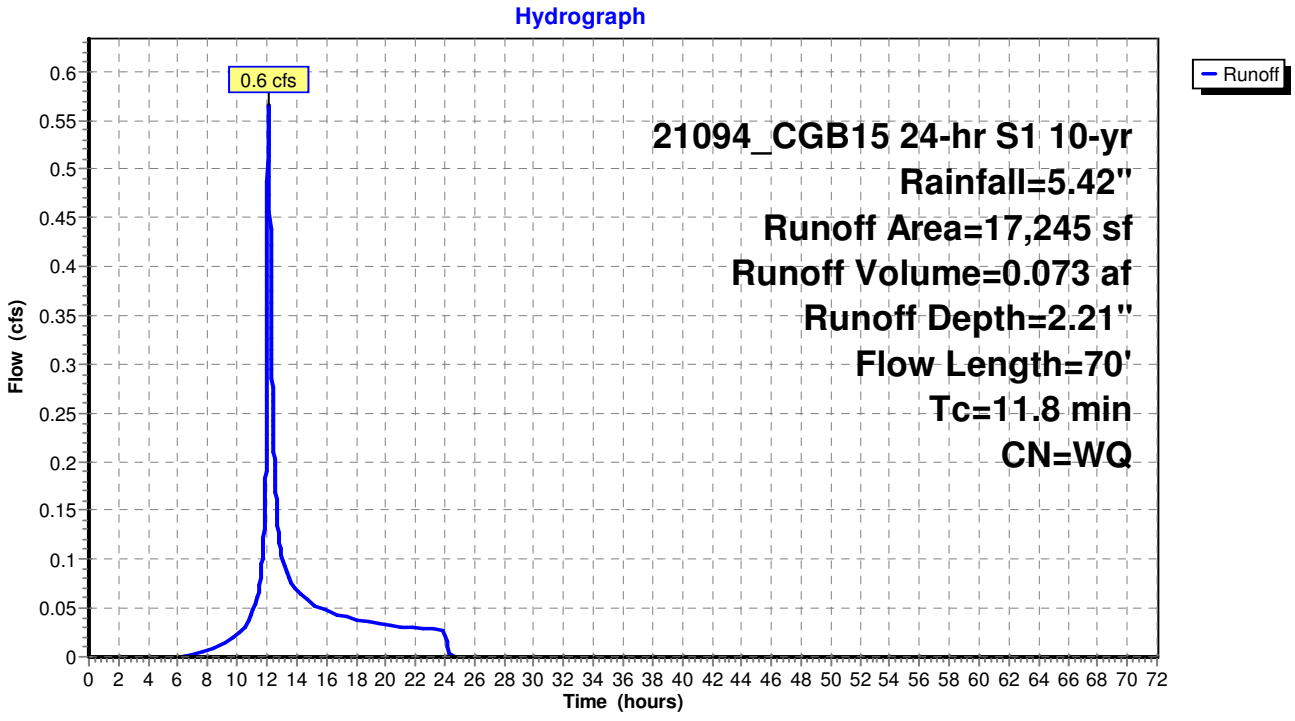
Runoff = 0.6 cfs @ 12.11 hrs, Volume= 0.073 af, Depth= 2.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
21094_CGB15 24-hr S1 10-yr Rainfall=5.42"

Area (sf)	CN	Description
2,732	39	>75% Grass cover, Good, HSG A
7,099	70	Woods, Good, HSG C
5,489	74	>75% Grass cover, Good, HSG C
1,925	77	Woods, Good, HSG D
17,245		Weighted Average
17,245		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	17	0.2300	0.23		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.60"
10.6	53	0.0280	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.60"
11.8	70	Total			

Subcatchment 7: 7



Summary for Subcatchment 8: 8

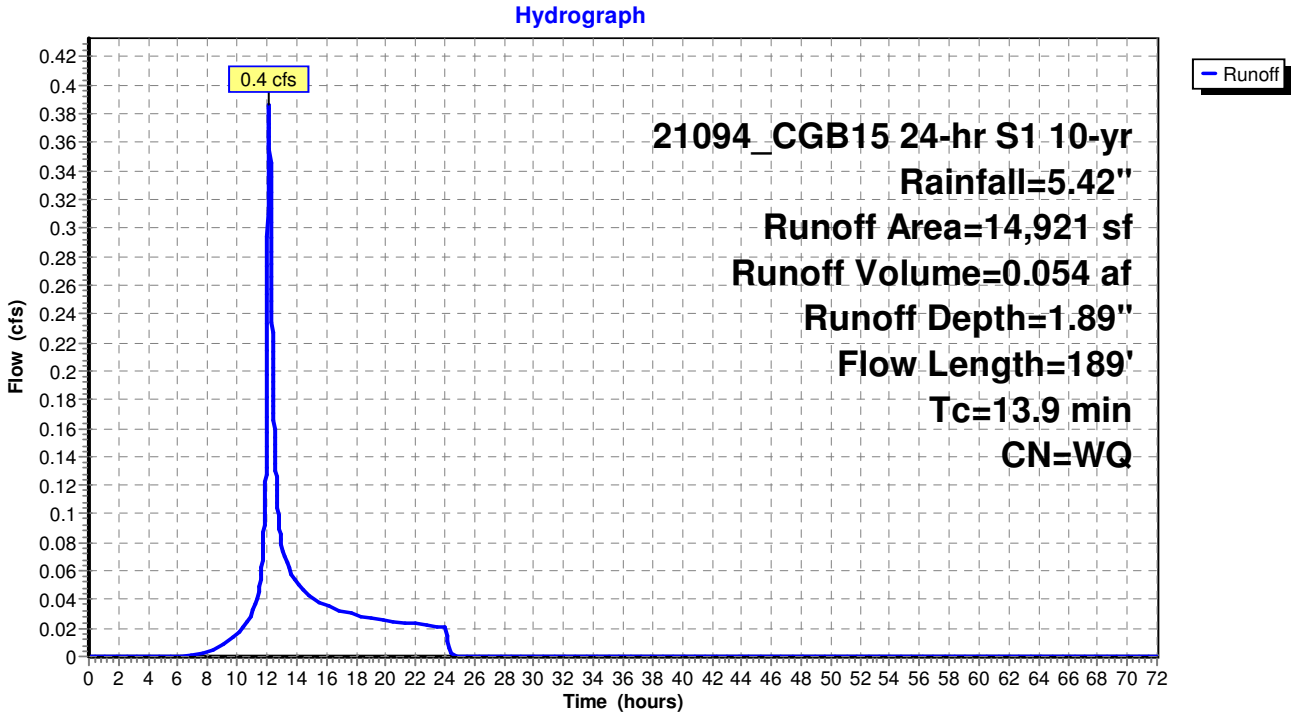
Runoff = 0.4 cfs @ 12.15 hrs, Volume= 0.054 af, Depth= 1.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
21094_CGB15 24-hr S1 10-yr Rainfall=5.42"

Area (sf)	CN	Description
1,201	30	Woods, Good, HSG A
2,699	39	>75% Grass cover, Good, HSG A
59	55	Woods, Good, HSG B
29	61	>75% Grass cover, Good, HSG B
6,429	70	Woods, Good, HSG C
4,504	74	>75% Grass cover, Good, HSG C
14,921		Weighted Average
14,921		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	100	0.0700	0.14		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.60"
1.6	89	0.0340	0.92		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
13.9	189	Total			

Subcatchment 8: 8



Summary for Subcatchment 9: 9

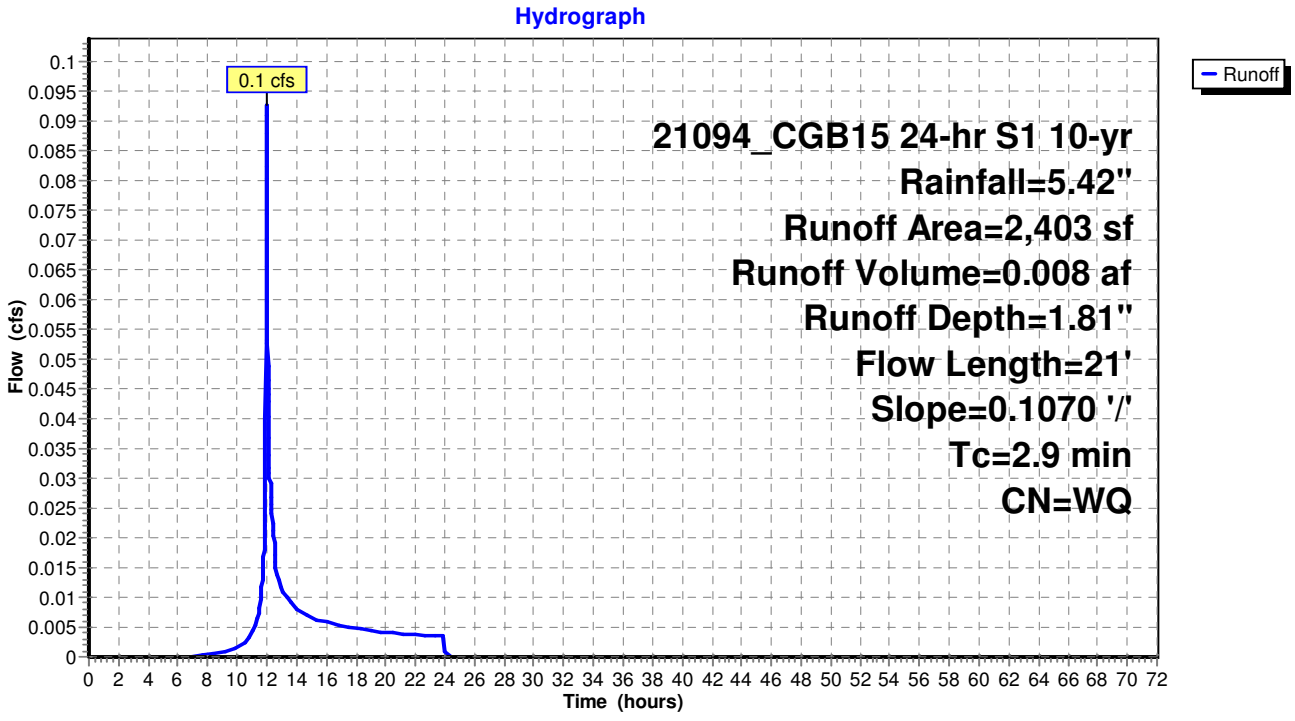
Runoff = 0.1 cfs @ 12.01 hrs, Volume= 0.008 af, Depth= 1.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
21094_CGB15 24-hr S1 10-yr Rainfall=5.42"

Area (sf)	CN	Description
885	55	Woods, Good, HSG B
618	61	>75% Grass cover, Good, HSG B
394	70	Woods, Good, HSG C
506	74	>75% Grass cover, Good, HSG C
2,403		Weighted Average
2,403		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	10	0.1070	0.15		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.60"
1.8	11	0.1070	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.60"
2.9	21	Total			

Subcatchment 9: 9



Summary for Subcatchment 10: 10

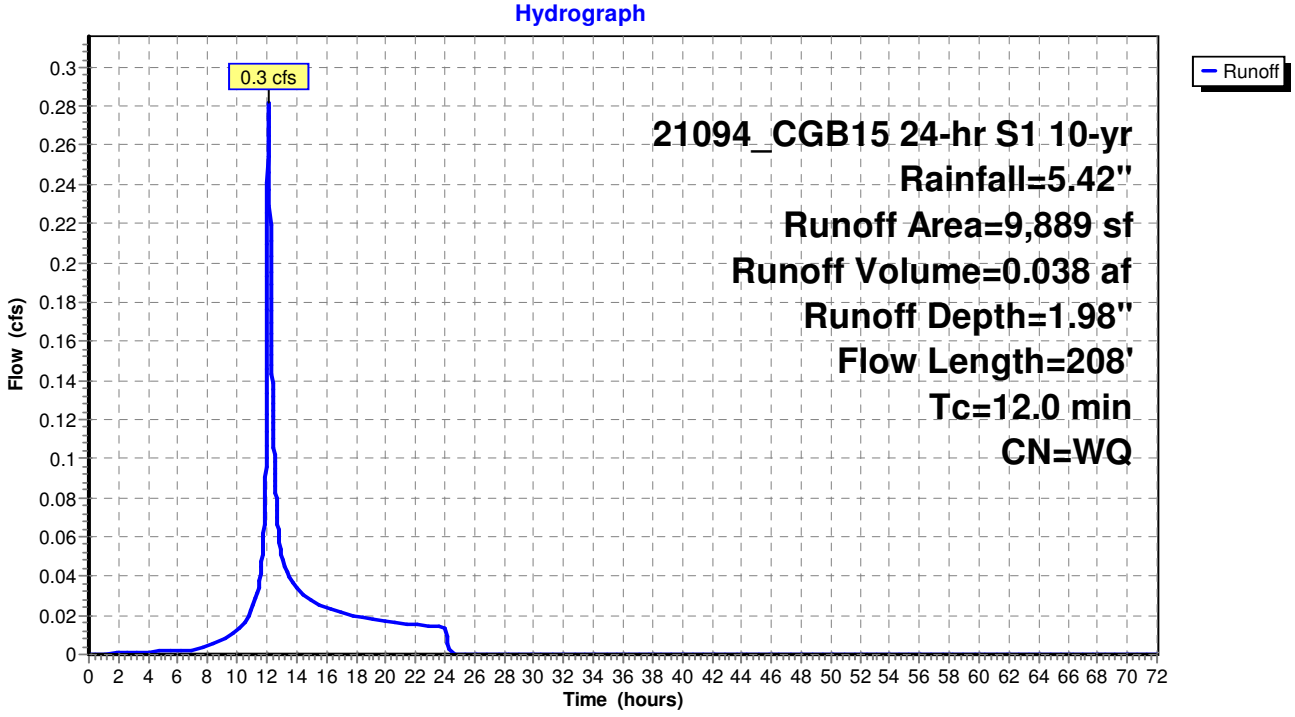
Runoff = 0.3 cfs @ 12.12 hrs, Volume= 0.038 af, Depth= 1.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
21094_CGB15 24-hr S1 10-yr Rainfall=5.42"

Area (sf)	CN	Description
762	30	Woods, Good, HSG A
2,036	39	>75% Grass cover, Good, HSG A
516	98	Paved roads w/curbs & sewers, HSG A
4,181	70	Woods, Good, HSG C
2,356	74	>75% Grass cover, Good, HSG C
38	77	Woods, Good, HSG D
9,889		Weighted Average
9,373		94.78% Pervious Area
516		5.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	100	0.0350	0.15		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.60"
1.2	108	0.0870	1.47		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
12.0	208	Total			

Subcatchment 10: 10



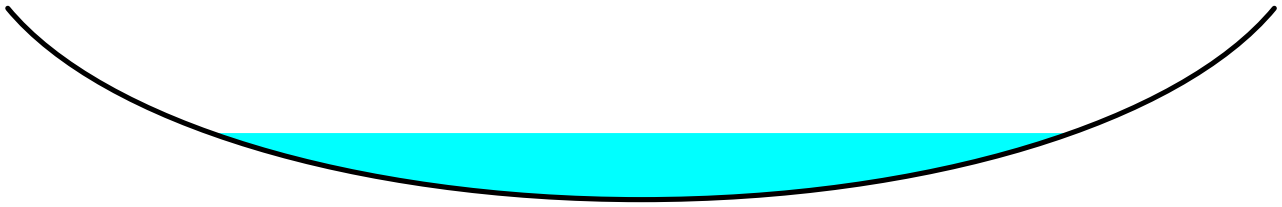
Summary for Reach R1: Reach R1

Inflow Area = 0.151 ac,100.00% Impervious, Inflow Depth = 5.18" for 10-yr event
Inflow = 0.7 cfs @ 12.00 hrs, Volume= 0.065 af
Outflow = 0.7 cfs @ 12.00 hrs, Volume= 0.065 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 0.51 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 0.18 fps, Avg. Travel Time= 0.9 min

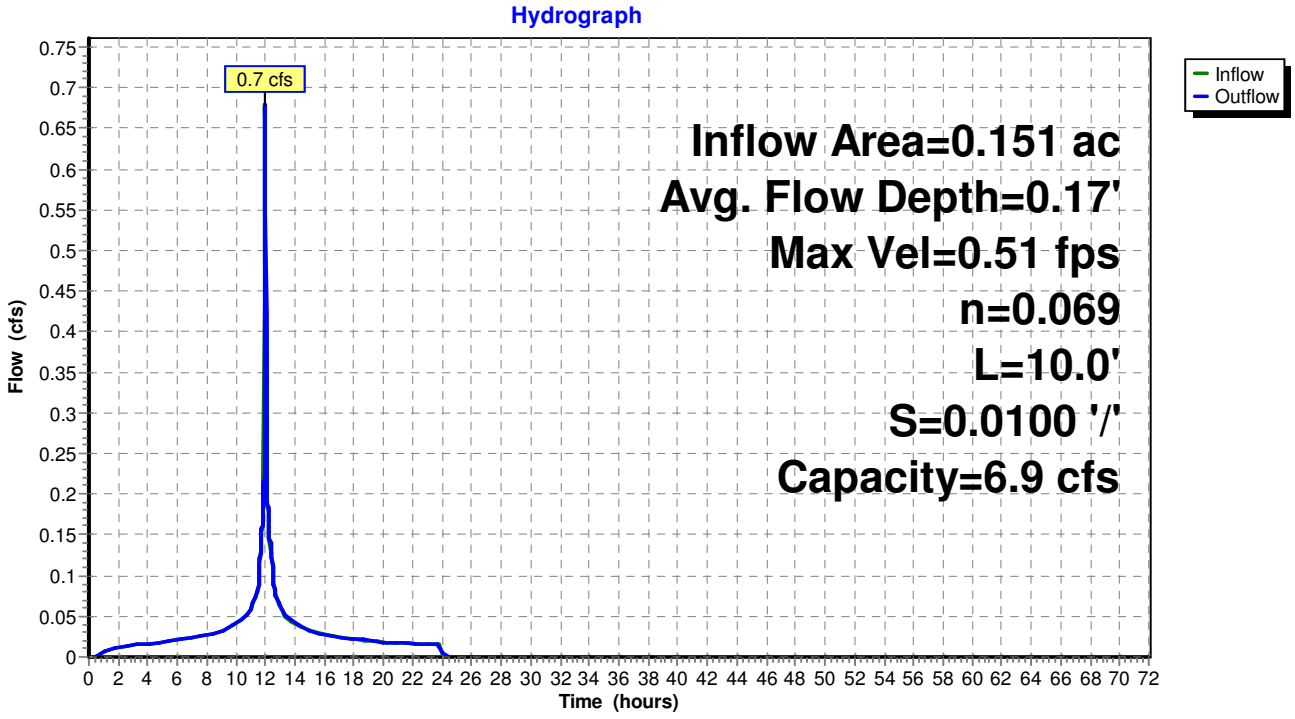
Peak Storage= 13 cf @ 12.00 hrs
Average Depth at Peak Storage= 0.17' , Surface Width= 11.71'
Bank-Full Depth= 0.50' Flow Area= 6.7 sf, Capacity= 6.9 cfs

20.00' x 0.50' deep Parabolic Channel, n= 0.069 Riprap, 6-inch
Length= 10.0' Slope= 0.0100 '/'
Inlet Invert= 158.00', Outlet Invert= 157.90'



‡

Reach R1: Reach R1



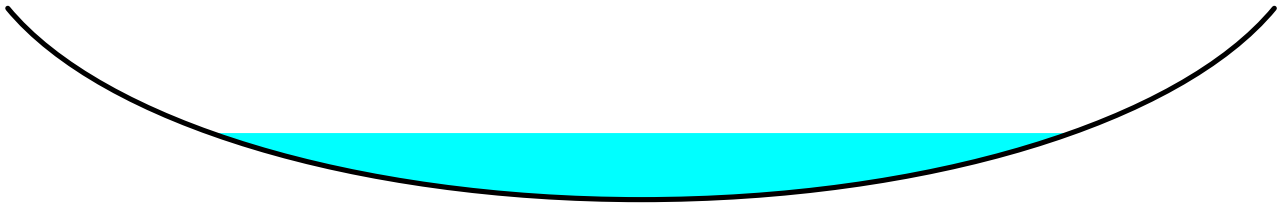
Summary for Reach R2: Reach R2

Inflow Area = 2.195 ac, 67.70% Impervious, Inflow Depth > 4.11" for 10-yr event
Inflow = 0.5 cfs @ 14.55 hrs, Volume= 0.751 af
Outflow = 0.5 cfs @ 14.56 hrs, Volume= 0.751 af, Atten= 0%, Lag= 0.4 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 0.34 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 0.19 fps, Avg. Travel Time= 0.9 min

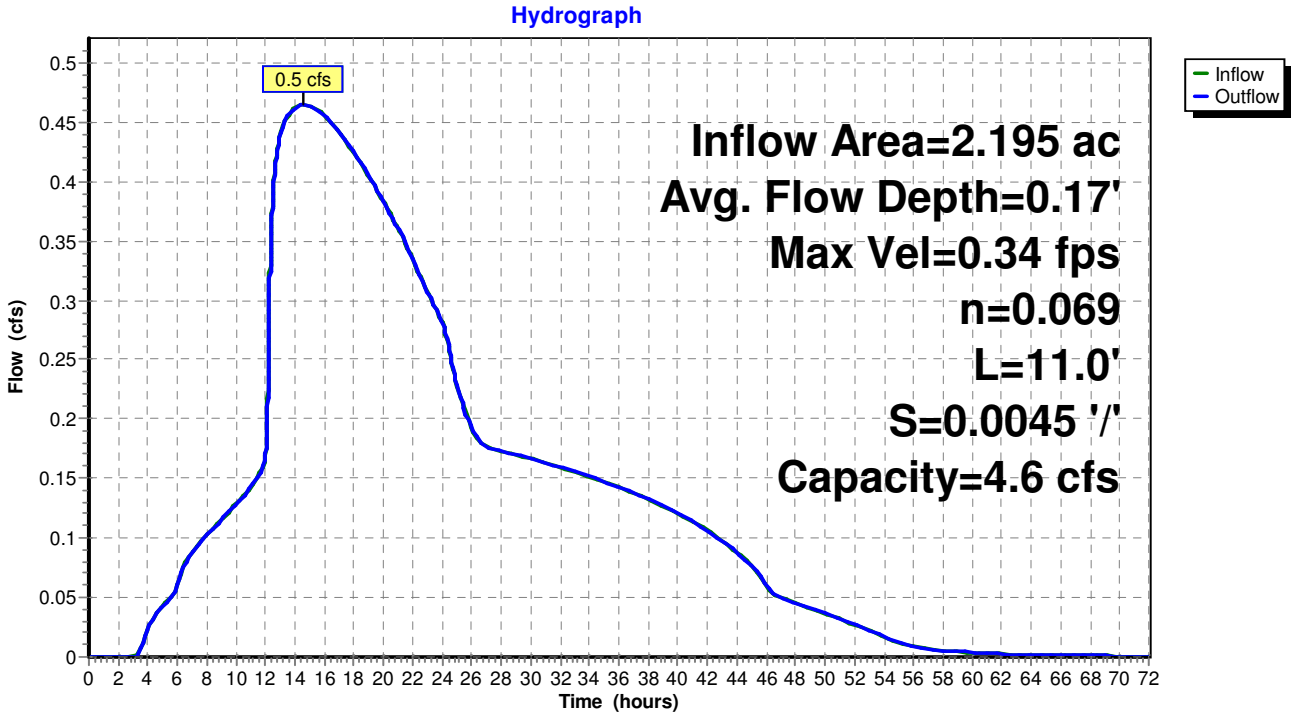
Peak Storage= 15 cf @ 14.56 hrs
Average Depth at Peak Storage= 0.17' , Surface Width= 11.75'
Bank-Full Depth= 0.50' Flow Area= 6.7 sf, Capacity= 4.6 cfs

20.00' x 0.50' deep Parabolic Channel, n= 0.069 Riprap, 6-inch
Length= 11.0' Slope= 0.0045 '/'
Inlet Invert= 153.50', Outlet Invert= 153.45'



‡

Reach R2: Reach R2



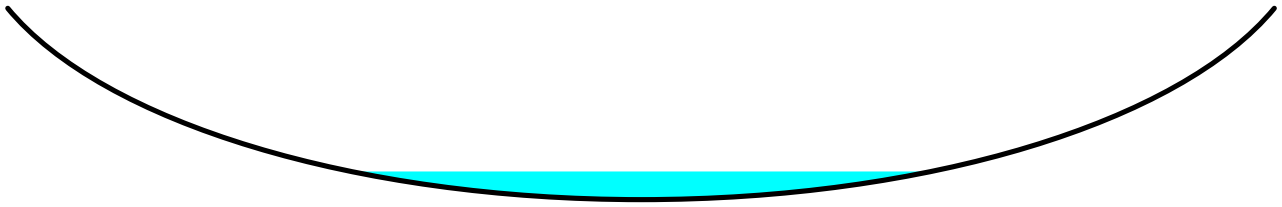
Summary for Reach R3: Reach R3

Inflow Area = 0.310 ac, 18.91% Impervious, Inflow Depth = 1.87" for 10-yr event
Inflow = 0.3 cfs @ 12.15 hrs, Volume= 0.048 af
Outflow = 0.3 cfs @ 12.18 hrs, Volume= 0.048 af, Atten= 4%, Lag= 2.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 0.83 fps, Min. Travel Time= 2.7 min
Avg. Velocity = 0.31 fps, Avg. Travel Time= 7.2 min

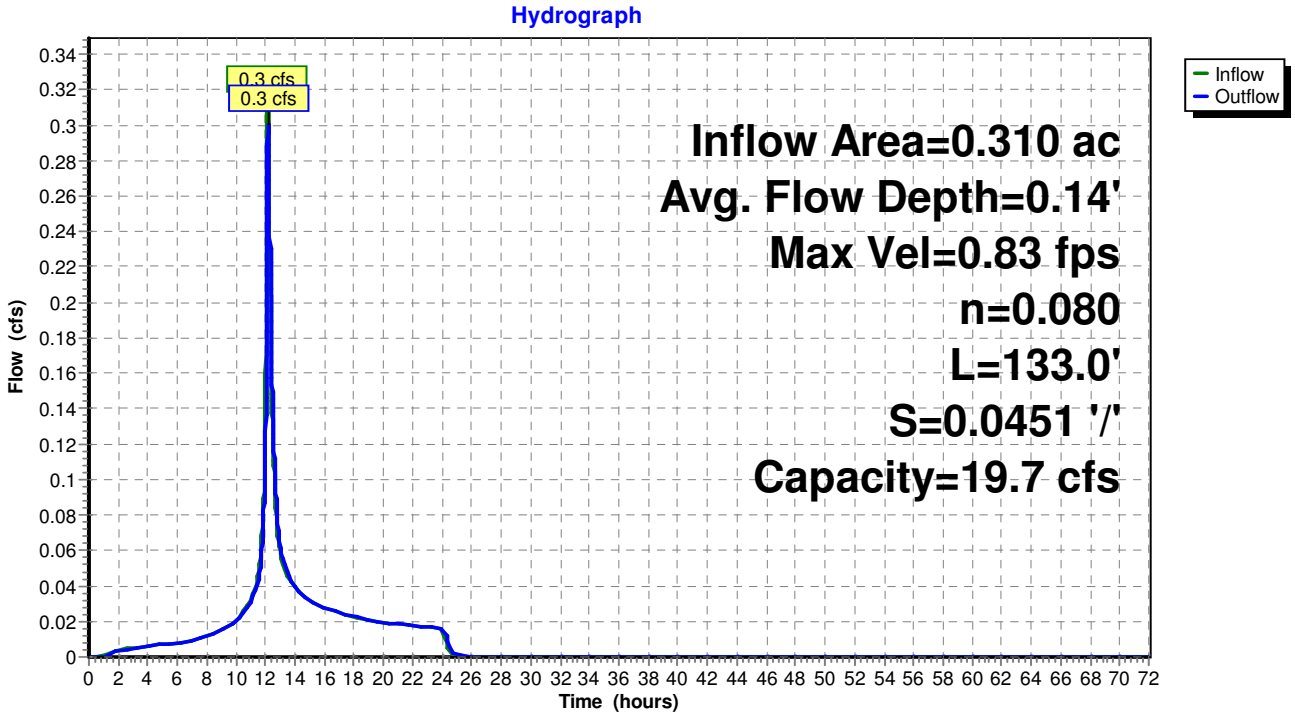
Peak Storage= 48 cf @ 12.18 hrs
Average Depth at Peak Storage= 0.14' , Surface Width= 3.79'
Bank-Full Depth= 1.00' Flow Area= 6.7 sf, Capacity= 19.7 cfs

10.00' x 1.00' deep Parabolic Channel, n= 0.080 Earth, long dense weeds
Length= 133.0' Slope= 0.0451 '/'
Inlet Invert= 164.50', Outlet Invert= 158.50'



‡

Reach R3: Reach R3



Summary for Pond CB1: CB1

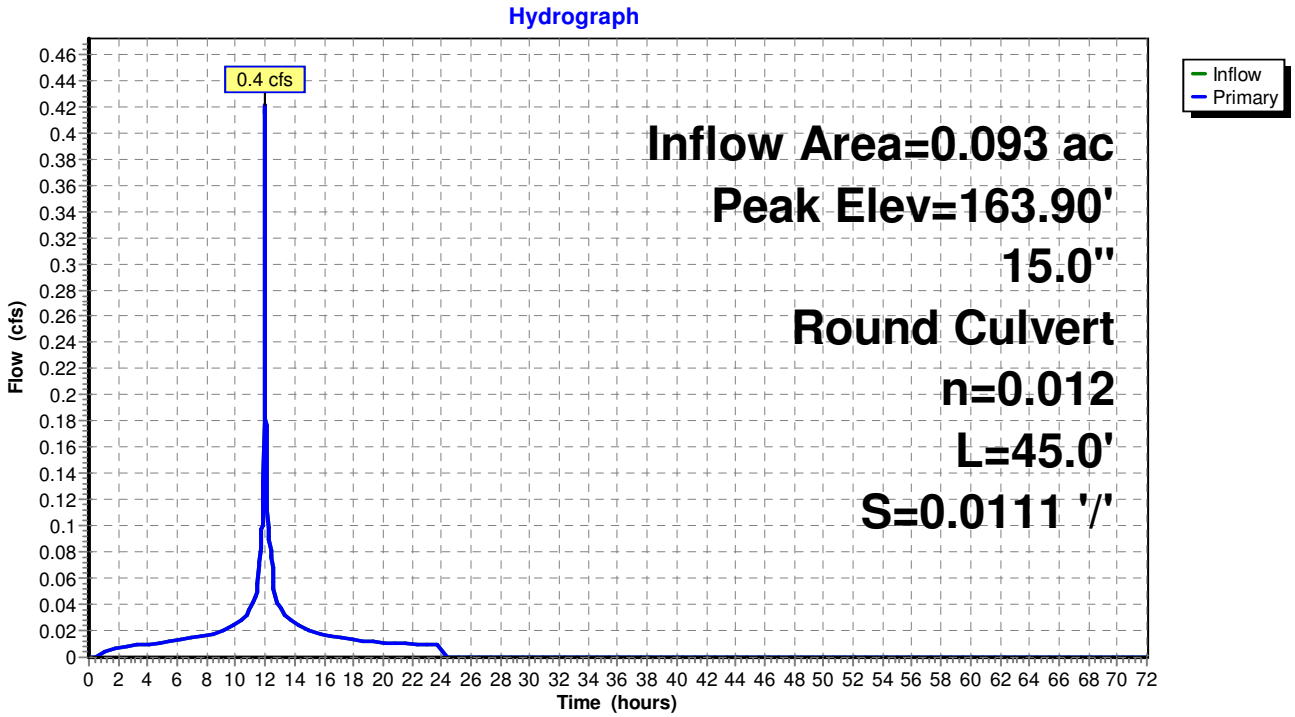
Inflow Area = 0.093 ac,100.00% Impervious, Inflow Depth = 5.18" for 10-yr event
Inflow = 0.4 cfs @ 11.99 hrs, Volume= 0.040 af
Outflow = 0.4 cfs @ 11.99 hrs, Volume= 0.040 af, Atten= 0%, Lag= 0.0 min
Primary = 0.4 cfs @ 11.99 hrs, Volume= 0.040 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 163.90' @ 11.99 hrs
Flood Elev= 167.85'

Device	Routing	Invert	Outlet Devices
#1	Primary	163.60'	**15.0" Round Culvert** L= 45.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 163.60' / 163.10' S= 0.0111 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

Primary OutFlow Max=0.4 cfs @ 11.99 hrs HW=163.90' TW=163.30' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 0.4 cfs @ 1.86 fps)

Pond CB1: CB1



Summary for Pond DMH1: DMH1

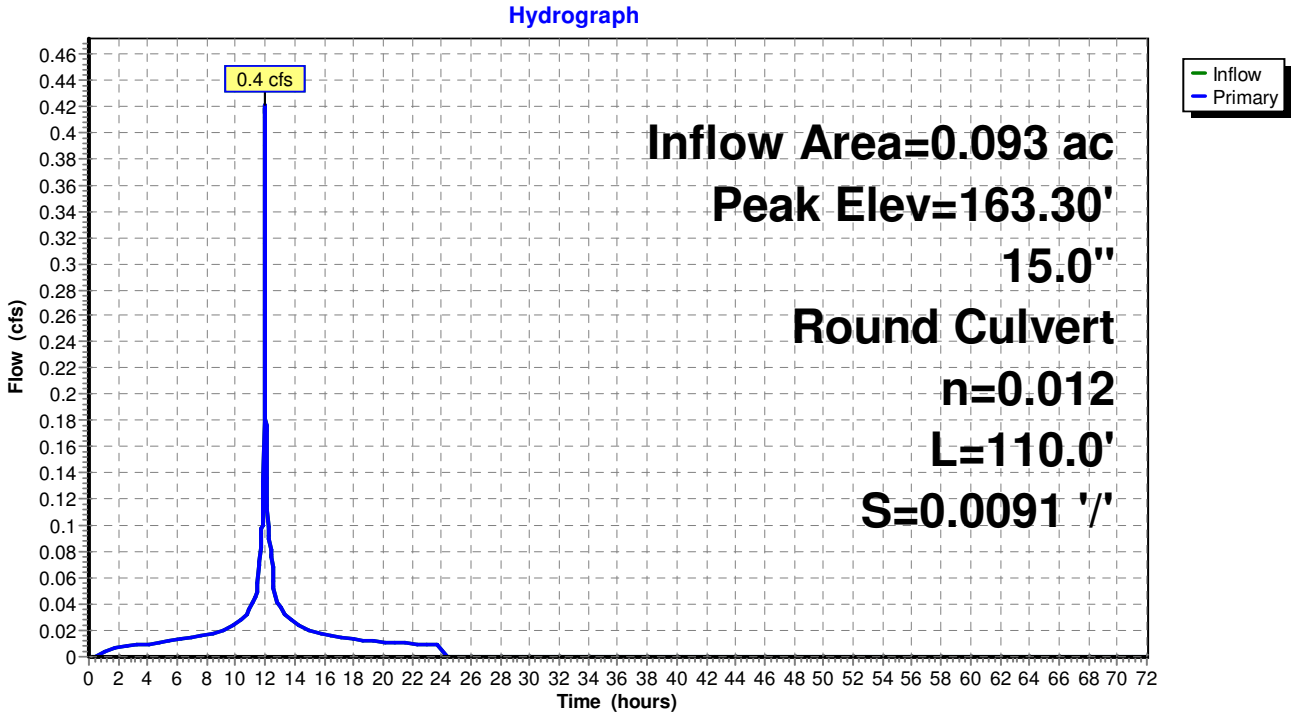
Inflow Area = 0.093 ac,100.00% Impervious, Inflow Depth = 5.18" for 10-yr event
Inflow = 0.4 cfs @ 11.99 hrs, Volume= 0.040 af
Outflow = 0.4 cfs @ 11.99 hrs, Volume= 0.040 af, Atten= 0%, Lag= 0.0 min
Primary = 0.4 cfs @ 11.99 hrs, Volume= 0.040 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 163.30' @ 11.99 hrs
Flood Elev= 169.10'

Device	Routing	Invert	Outlet Devices
#1	Primary	163.00'	**15.0" Round Culvert** L= 110.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 163.00' / 162.00' S= 0.0091 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

Primary OutFlow Max=0.4 cfs @ 11.99 hrs HW=163.30' TW=160.39' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.4 cfs @ 1.86 fps)

Pond DMH1: DMH1



Summary for Pond DMH2: DMH2

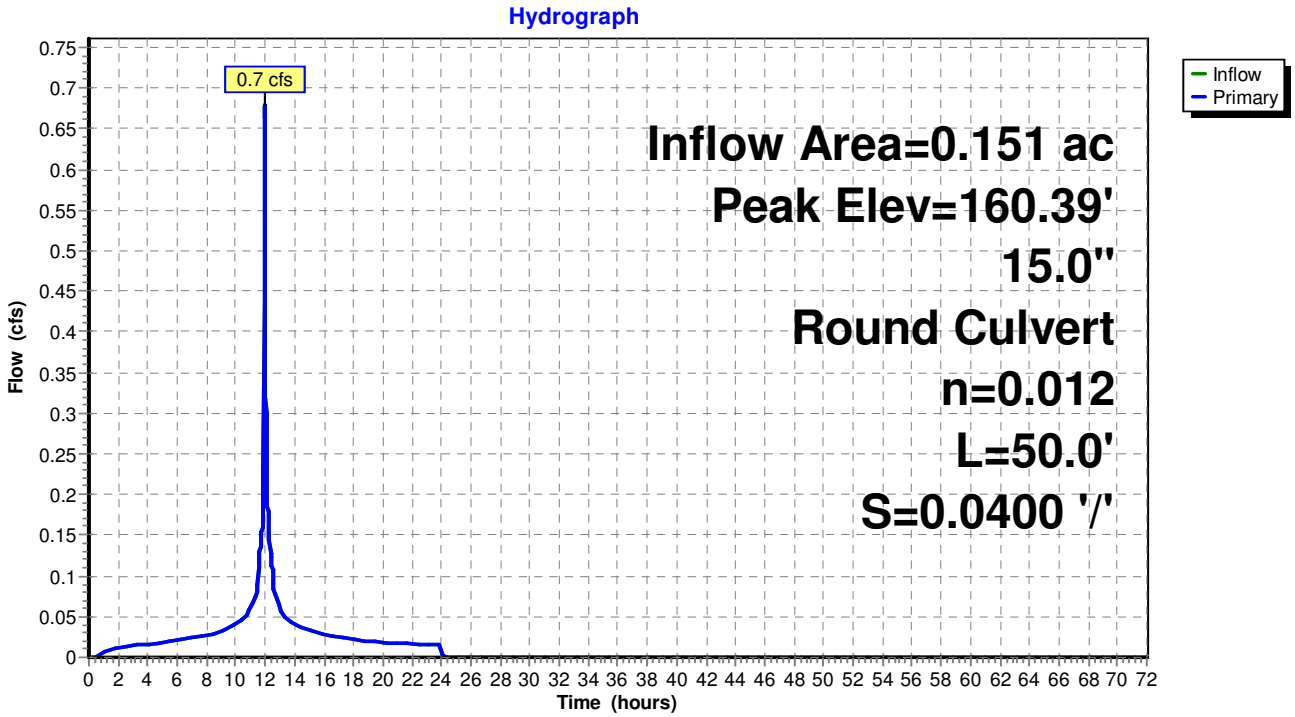
Inflow Area = 0.151 ac,100.00% Impervious, Inflow Depth = 5.18" for 10-yr event
Inflow = 0.7 cfs @ 12.00 hrs, Volume= 0.065 af
Outflow = 0.7 cfs @ 12.00 hrs, Volume= 0.065 af, Atten= 0%, Lag= 0.0 min
Primary = 0.7 cfs @ 12.00 hrs, Volume= 0.065 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 160.39' @ 12.00 hrs
Flood Elev= 168.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	160.00'	**15.0" Round Culvert** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 160.00' / 158.00' S= 0.0400 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

Primary OutFlow Max=0.7 cfs @ 12.00 hrs HW=160.39' TW=158.17' (Dynamic Tailwater)
↑**1=Culvert** (Inlet Controls 0.7 cfs @ 2.11 fps)

Pond DMH2: DMH2



Summary for Pond P1: Pipe 1

Inflow Area = 0.310 ac, 18.91% Impervious, Inflow Depth = 1.87" for 10-yr event
Inflow = 0.3 cfs @ 12.12 hrs, Volume= 0.048 af
Outflow = 0.3 cfs @ 12.15 hrs, Volume= 0.048 af, Atten= 3%, Lag= 1.8 min
Primary = 0.3 cfs @ 12.15 hrs, Volume= 0.048 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 165.76' @ 12.15 hrs Surf.Area= 240 sf Storage= 50 cf
Flood Elev= 168.00' Surf.Area= 3,506 sf Storage= 4,546 cf

Plug-Flow detention time= 7.3 min calculated for 0.048 af (100% of inflow)
Center-of-Mass det. time= 7.4 min (840.7 - 833.3)

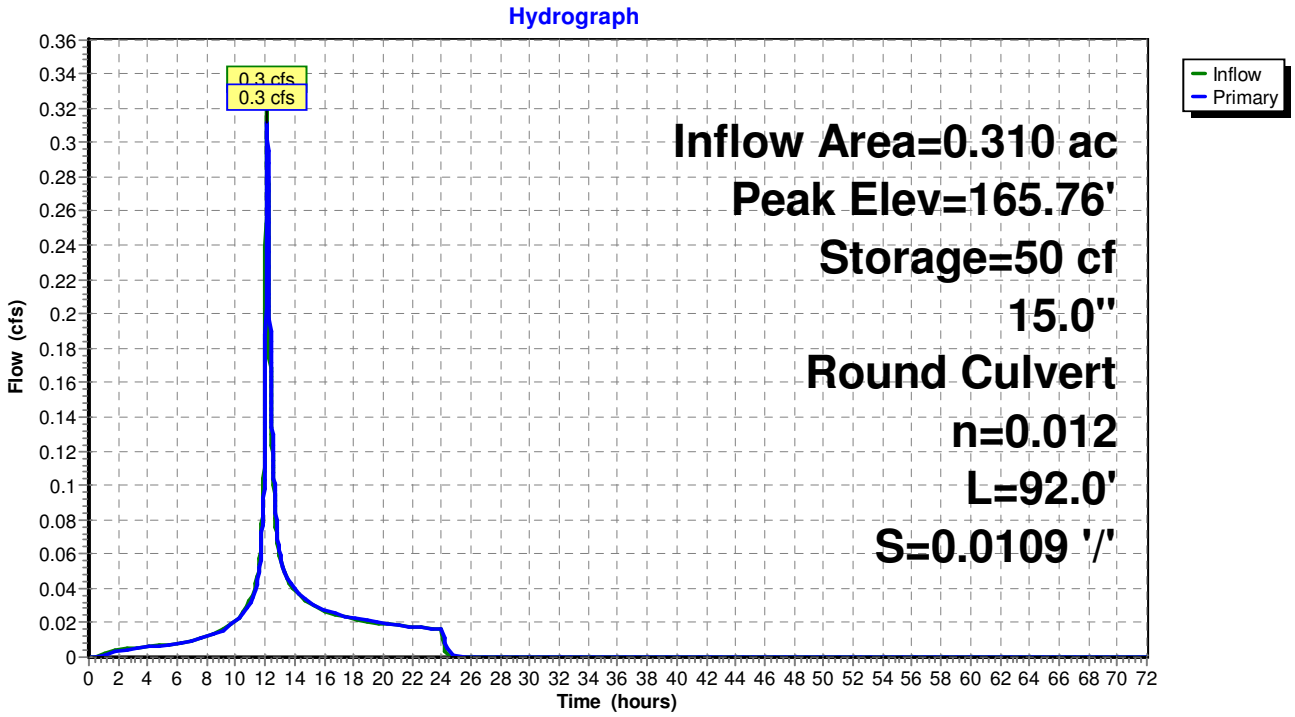
Volume	Invert	Avail.Storage	Storage Description
#1	165.50'	4,546 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
165.50	154	52.2	0	0	154
166.00	339	71.1	120	120	342
167.00	2,700	259.1	1,332	1,452	5,285
168.00	3,506	278.0	3,094	4,546	6,136

Device	Routing	Invert	Outlet Devices
#1	Primary	165.50'	**15.0" Round Culvert** L= 92.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 165.50' / 164.50' S= 0.0109 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

Primary OutFlow Max=0.3 cfs @ 12.15 hrs HW=165.76' TW=164.64' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.3 cfs @ 1.72 fps)

Pond P1: Pipe 1



Summary for Pond PP1: Pourous Pave 1

Inflow Area = 0.171 ac, 93.98% Impervious, Inflow Depth = 4.89" for 10-yr event
Inflow = 0.7 cfs @ 12.00 hrs, Volume= 0.070 af
Outflow = 0.2 cfs @ 11.93 hrs, Volume= 0.070 af, Atten= 71%, Lag= 0.0 min
Discarded = 0.2 cfs @ 11.93 hrs, Volume= 0.070 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 164.85' @ 12.15 hrs Surf.Area= 1,782 sf Storage= 232 cf
Flood Elev= 166.73' Surf.Area= 1,782 sf Storage= 668 cf

Plug-Flow detention time= 3.2 min calculated for 0.070 af (100% of inflow)
Center-of-Mass det. time= 3.2 min (749.6 - 746.4)

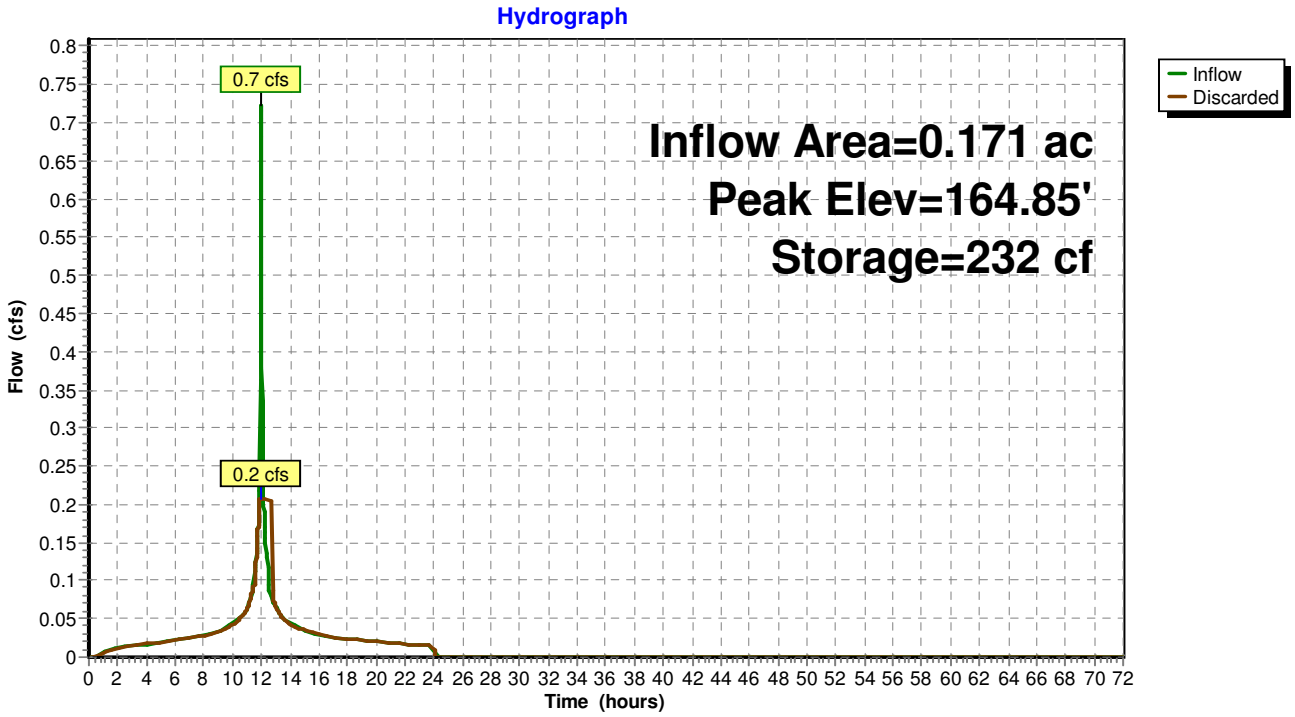
Volume	Invert	Avail.Storage	Storage Description
#1	164.48'	966 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
164.48	1,782	234.0	0.0	0	0	1,782
164.98	1,782	234.0	35.0	312	312	1,899
165.23	1,782	234.0	20.0	89	401	1,958
166.73	1,782	234.0	10.0	267	668	2,309
167.07	1,782	234.0	20.0	121	789	2,388
167.40	1,782	234.0	30.0	176	966	2,465

Device	Routing	Invert	Outlet Devices
#1	Discarded	164.48'	**5.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'

Discarded OutFlow Max=0.2 cfs @ 11.93 hrs HW=164.52' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.2 cfs)

Pond PP1: Pourous Pave 1



Summary for Pond RD1: RD1

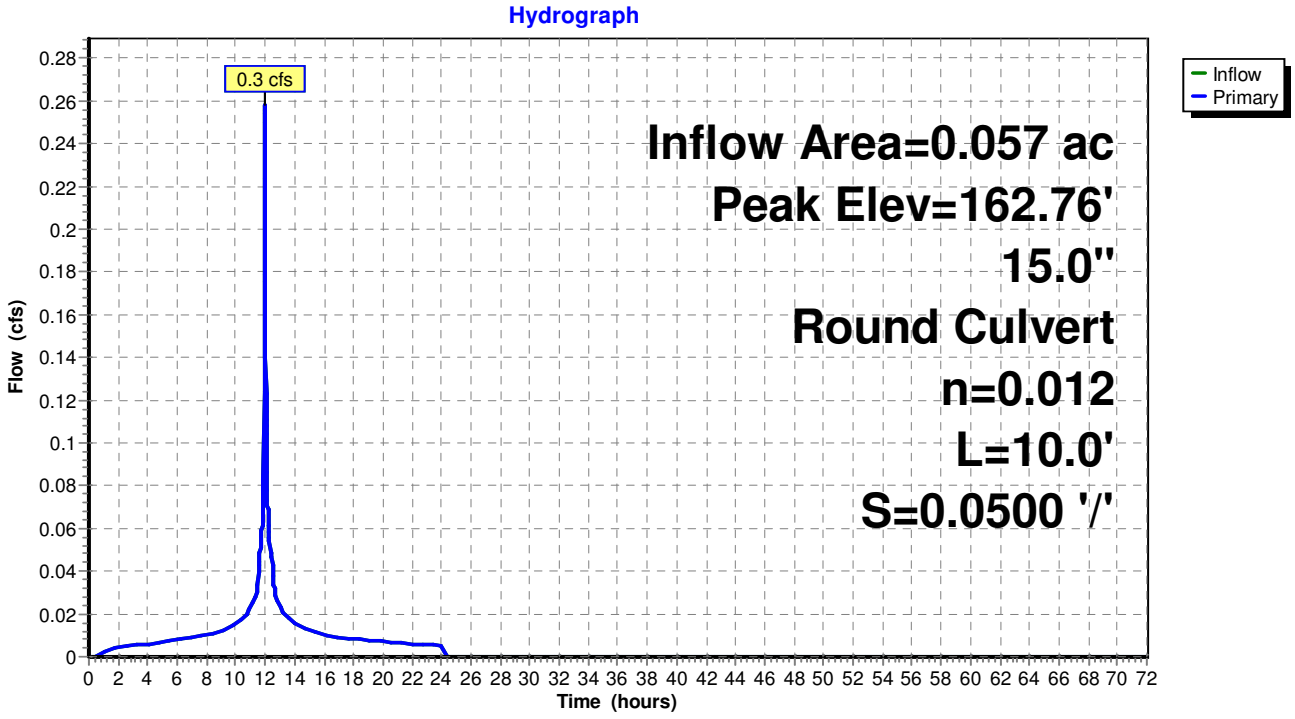
Inflow Area = 0.057 ac,100.00% Impervious, Inflow Depth = 5.18" for 10-yr event
Inflow = 0.3 cfs @ 12.00 hrs, Volume= 0.025 af
Outflow = 0.3 cfs @ 12.00 hrs, Volume= 0.025 af, Atten= 0%, Lag= 0.0 min
Primary = 0.3 cfs @ 12.00 hrs, Volume= 0.025 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 162.76' @ 12.00 hrs
Flood Elev= 169.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	162.50'	**15.0" Round Culvert** L= 10.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 162.50' / 162.00' S= 0.0500 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

Primary OutFlow Max=0.3 cfs @ 12.00 hrs HW=162.76' TW=160.39' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.3 cfs @ 1.38 fps)

Pond RD1: RD1



Summary for Pond RD2: RD2

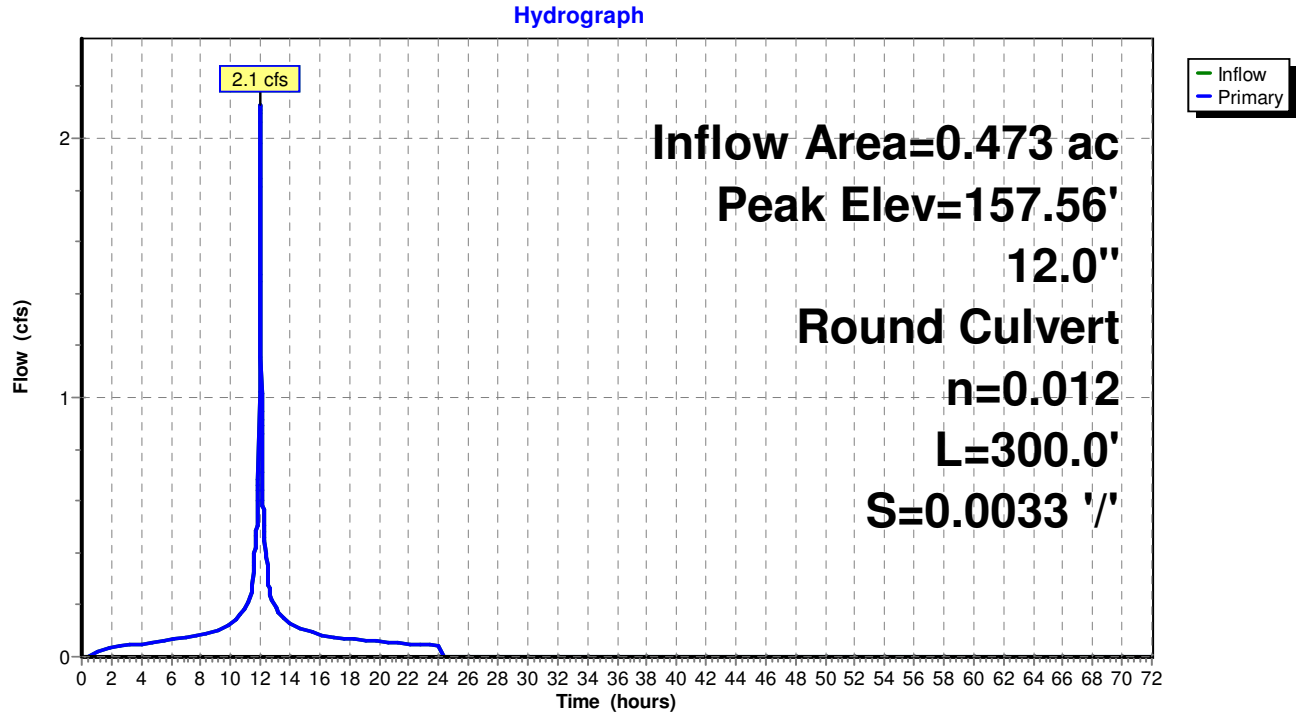
Inflow Area = 0.473 ac,100.00% Impervious, Inflow Depth = 5.18" for 10-yr event
Inflow = 2.1 cfs @ 12.00 hrs, Volume= 0.204 af
Outflow = 2.1 cfs @ 12.00 hrs, Volume= 0.204 af, Atten= 0%, Lag= 0.0 min
Primary = 2.1 cfs @ 12.00 hrs, Volume= 0.204 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 157.56' @ 12.00 hrs
Flood Elev= 159.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	156.50'	**12.0" Round Culvert** L= 300.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 156.50' / 155.50' S= 0.0033 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=2.1 cfs @ 12.00 hrs HW=157.56' TW=155.91' (Dynamic Tailwater)
1=Culvert (Barrel Controls 2.1 cfs @ 3.18 fps)

Pond RD2: RD2



Summary for Pond WP1: Wet Pond 1

Inflow Area = 2.195 ac, 67.70% Impervious, Inflow Depth = 4.22" for 10-yr event
Inflow = 4.7 cfs @ 12.01 hrs, Volume= 0.772 af
Outflow = 0.5 cfs @ 14.55 hrs, Volume= 0.751 af, Atten= 90%, Lag= 152.6 min
Primary = 0.5 cfs @ 14.55 hrs, Volume= 0.751 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 153.50' Surf.Area= 1,675 sf Storage= 3,365 cf
Peak Elev= 156.56' @ 14.55 hrs Surf.Area= 12,748 sf Storage= 20,896 cf (17,531 cf above start)

Plug-Flow detention time= 816.9 min calculated for 0.674 af (87% of inflow)
Center-of-Mass det. time= 645.1 min (1,420.4 - 775.3)

Volume	Invert	Avail.Storage	Storage Description
#1	154.00'	675 cf	**Sediment Forebay (Irregular)** Listed below (Recalc)
#2	150.00'	41,428 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)
		42,103 cf	Total Available Storage

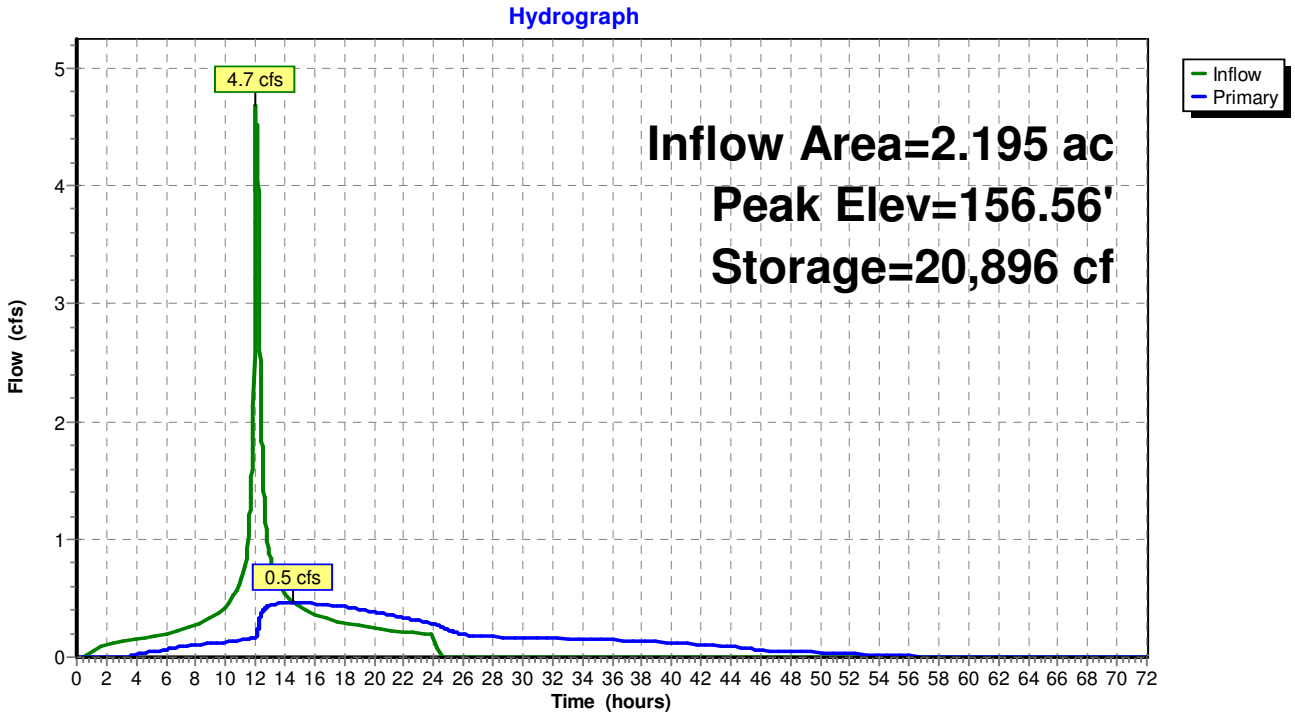
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
154.00	140	50.4	0	0	140
156.00	586	92.8	675	675	644

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
150.00	375	90.8	0	0	375
152.00	1,033	128.5	1,354	1,354	1,069
153.50	1,675	156.8	2,012	3,365	1,746
154.00	1,917	166.2	897	4,263	2,000
154.50	2,174	175.6	1,022	5,285	2,270
156.00	10,398	444.6	8,663	13,948	15,554
158.00	17,379	1,016.7	27,480	41,428	82,098

Device	Routing	Invert	Outlet Devices
#1	Primary	153.90'	**15.0" Round Culvert** L= 24.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 153.90' / 153.50' S= 0.0167 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf
#2	Device 1	154.00'	**1.5" W x 1.5" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	154.50'	**1.5" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	156.00'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Device 1	157.25'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.5 cfs @ 14.55 hrs HW=156.56' TW=153.67' (Dynamic Tailwater)
- **1=Culvert** (Passes 0.4 cfs of 8.4 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 0.1 cfs @ 7.60 fps)
  - **4=Orifice/Grate** (Orifice Controls 0.3 cfs @ 3.01 fps)
  - **5=Orifice/Grate** (Controls 0.0 cfs)
- **3=Orifice/Grate** (Orifice Controls 0.1 cfs @ 6.80 fps)

Pond WP1: Wet Pond 1

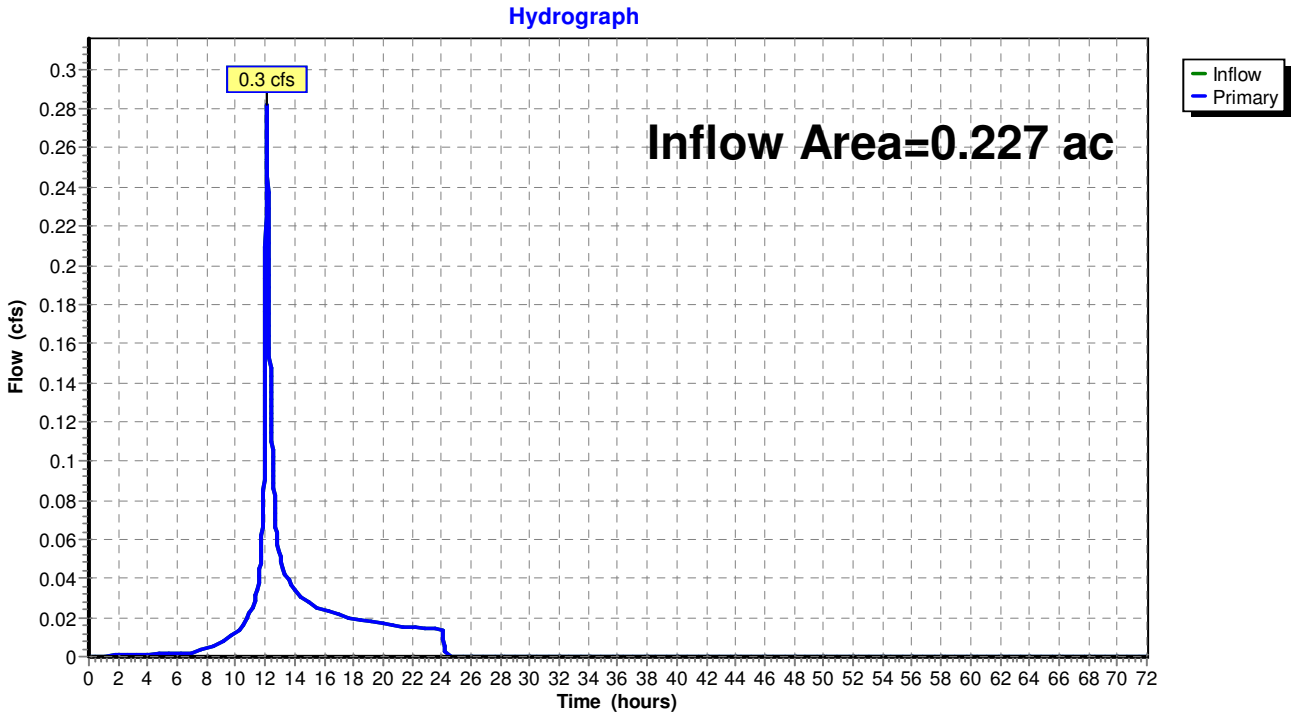


Summary for Link A: A

Inflow Area = 0.227 ac, 5.22% Impervious, Inflow Depth = 1.98" for 10-yr event
Inflow = 0.3 cfs @ 12.12 hrs, Volume= 0.038 af
Primary = 0.3 cfs @ 12.12 hrs, Volume= 0.038 af, Atten= 0%, Lag= 0.0 min

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

Link A: A

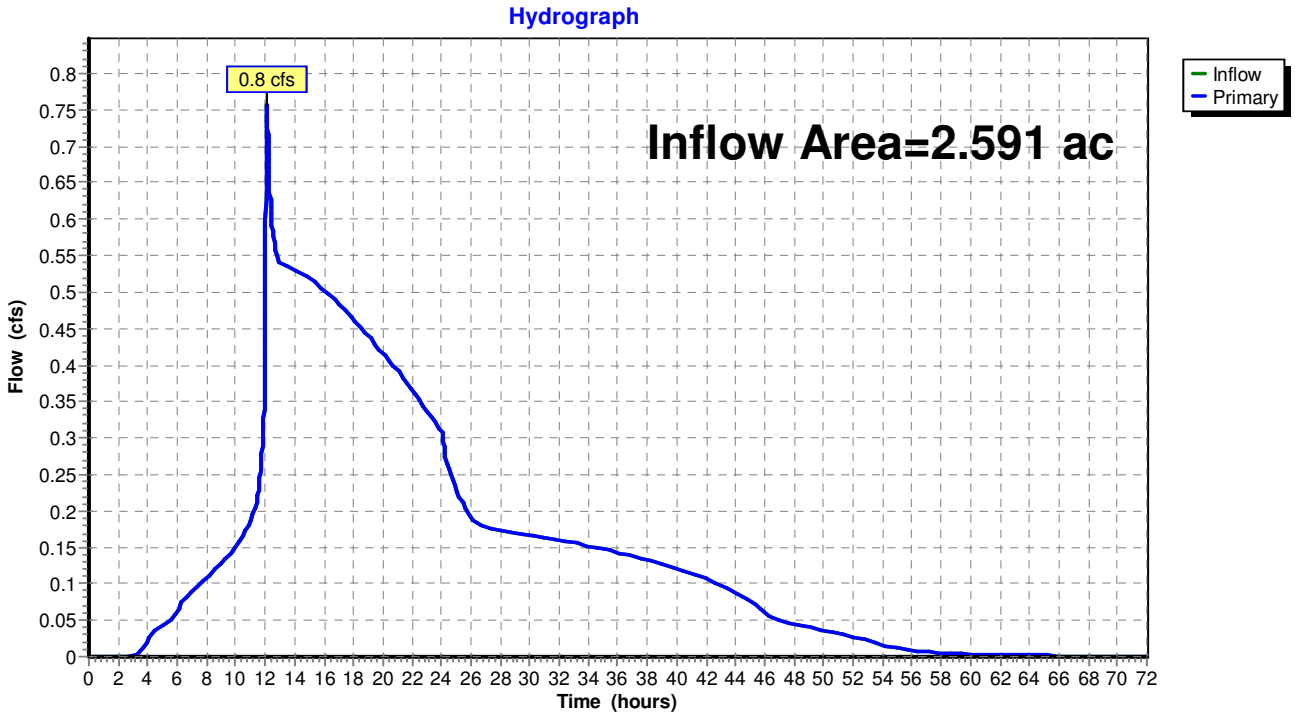


Summary for Link B: B

Inflow Area = 2.591 ac, 57.36% Impervious, Inflow Depth > 3.82" for 10-yr event
Inflow = 0.8 cfs @ 12.13 hrs, Volume= 0.824 af
Primary = 0.8 cfs @ 12.13 hrs, Volume= 0.824 af, Atten= 0%, Lag= 0.0 min

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

Link B: B

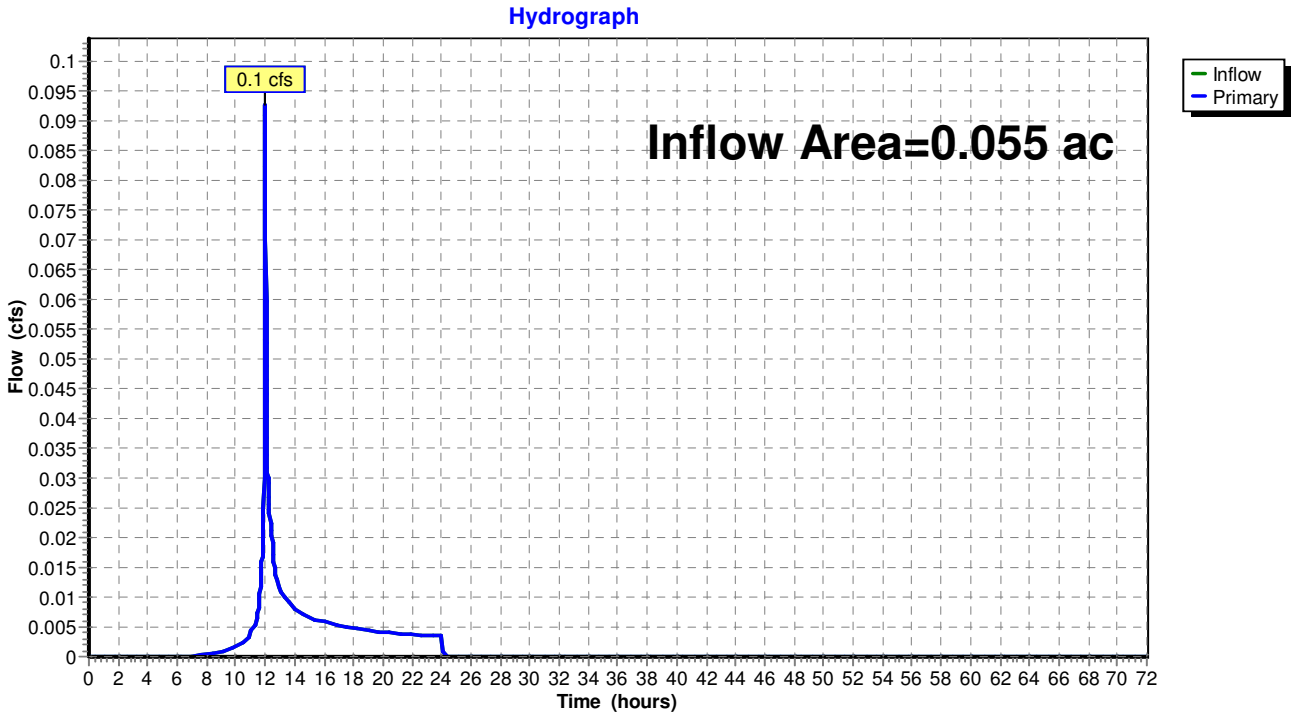


Summary for Link C: C

Inflow Area = 0.055 ac, 0.00% Impervious, Inflow Depth = 1.81" for 10-yr event
Inflow = 0.1 cfs @ 12.01 hrs, Volume= 0.008 af
Primary = 0.1 cfs @ 12.01 hrs, Volume= 0.008 af, Atten= 0%, Lag= 0.0 min

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

Link C: C

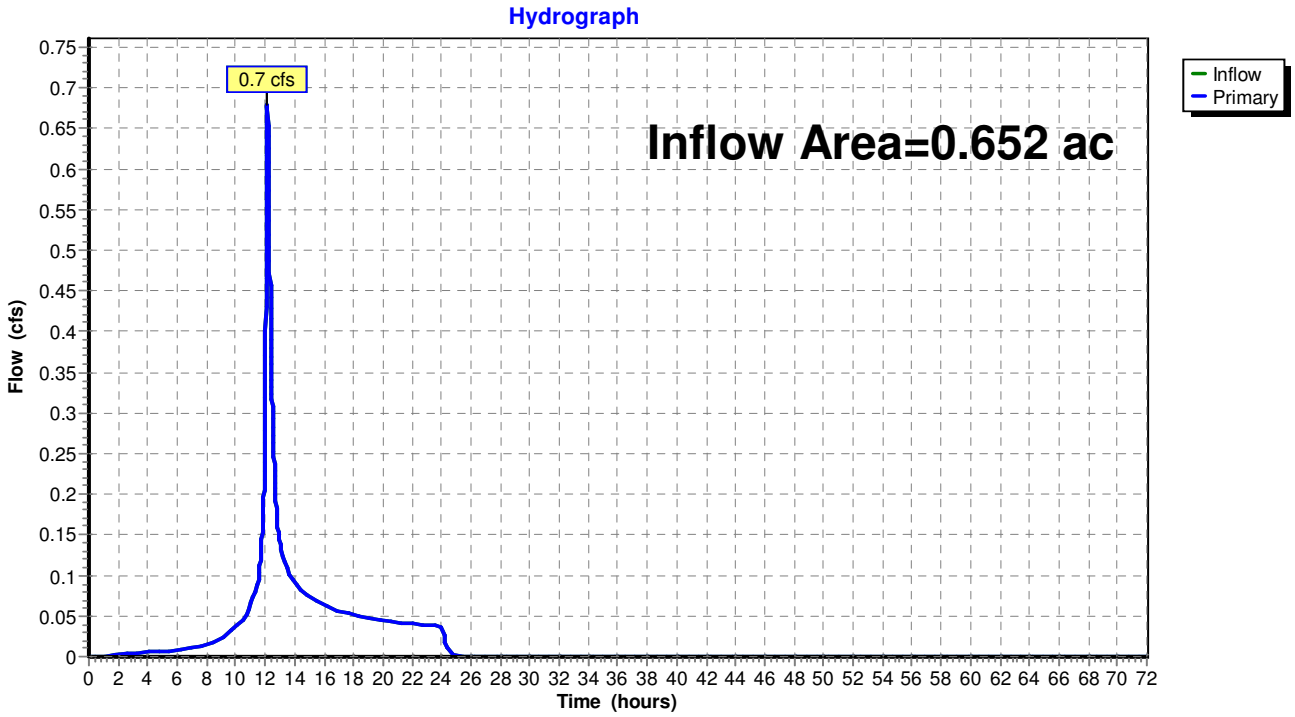


Summary for Link D: D

Inflow Area = 0.652 ac, 8.98% Impervious, Inflow Depth = 1.88" for 10-yr event
Inflow = 0.7 cfs @ 12.16 hrs, Volume= 0.102 af
Primary = 0.7 cfs @ 12.16 hrs, Volume= 0.102 af, Atten= 0%, Lag= 0.0 min

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

Link D: D



A – 2

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-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1: 1 Runoff Area=13,486 sf 18.91% Impervious Runoff Depth=2.69"
Flow Length=163' Tc=12.4 min CN=WQ Runoff=0.4 cfs 0.069 af

Subcatchment 2: 2 Runoff Area=4,072 sf 100.00% Impervious Runoff Depth=6.61"
Flow Length=193' Slope=0.0420 '/' Tc=1.2 min CN=WQ Runoff=0.5 cfs 0.052 af

Subcatchment 3: 3 Runoff Area=7,445 sf 93.98% Impervious Runoff Depth=6.26"
Flow Length=65' Tc=1.9 min CN=WQ Runoff=0.9 cfs 0.089 af

Subcatchment 4: 4 Runoff Area=2,500 sf 100.00% Impervious Runoff Depth=6.61"
Flow Length=25' Tc=2.0 min CN=98 Runoff=0.3 cfs 0.032 af

Subcatchment 5: 5 Runoff Area=20,625 sf 100.00% Impervious Runoff Depth=6.61"
Flow Length=75' Tc=2.0 min CN=WQ Runoff=2.5 cfs 0.261 af

Subcatchment 6: 6 Runoff Area=68,408 sf 54.86% Impervious Runoff Depth=5.10"
Flow Length=420' Tc=13.3 min CN=WQ Runoff=4.3 cfs 0.668 af

Subcatchment 7: 7 Runoff Area=17,245 sf 0.00% Impervious Runoff Depth=3.27"
Flow Length=70' Tc=11.8 min CN=WQ Runoff=0.8 cfs 0.108 af

Subcatchment 8: 8 Runoff Area=14,921 sf 0.00% Impervious Runoff Depth=2.84"
Flow Length=189' Tc=13.9 min CN=WQ Runoff=0.5 cfs 0.081 af

Subcatchment 9: 9 Runoff Area=2,403 sf 0.00% Impervious Runoff Depth=2.81"
Flow Length=21' Slope=0.1070 '/' Tc=2.9 min CN=WQ Runoff=0.1 cfs 0.013 af

Subcatchment 10: 10 Runoff Area=9,889 sf 5.22% Impervious Runoff Depth=2.93"
Flow Length=208' Tc=12.0 min CN=WQ Runoff=0.4 cfs 0.055 af

Reach R1: Reach R1 Avg. Flow Depth=0.18' Max Vel=0.53 fps Inflow=0.8 cfs 0.083 af
n=0.069 L=10.0' S=0.0100 '/' Capacity=6.9 cfs Outflow=0.8 cfs 0.083 af

Reach R2: Reach R2 Avg. Flow Depth=0.19' Max Vel=0.37 fps Inflow=0.6 cfs 0.990 af
n=0.069 L=11.0' S=0.0045 '/' Capacity=4.6 cfs Outflow=0.6 cfs 0.990 af

Reach R3: Reach R3 Avg. Flow Depth=0.16' Max Vel=0.90 fps Inflow=0.4 cfs 0.069 af
n=0.080 L=133.0' S=0.0451 '/' Capacity=19.7 cfs Outflow=0.4 cfs 0.069 af

Pond CB1: CB1 Peak Elev=163.93' Inflow=0.5 cfs 0.052 af
15.0" Round Culvert n=0.012 L=45.0' S=0.0111 '/' Outflow=0.5 cfs 0.052 af

Pond DMH1: DMH1 Peak Elev=163.33' Inflow=0.5 cfs 0.052 af
15.0" Round Culvert n=0.012 L=110.0' S=0.0091 '/' Outflow=0.5 cfs 0.052 af

Pond DMH2: DMH2 Peak Elev=160.42' Inflow=0.8 cfs 0.083 af
15.0" Round Culvert n=0.012 L=50.0' S=0.0400 '/' Outflow=0.8 cfs 0.083 af

Pond P1: Pipe 1 Peak Elev=165.80' Storage=60 cf Inflow=0.4 cfs 0.069 af
15.0" Round Culvert n=0.012 L=92.0' S=0.0109 '/' Outflow=0.4 cfs 0.069 af

Pond PP1: Pourous Pave 1 Peak Elev=165.05' Storage=335 cf Inflow=0.9 cfs 0.089 af
Outflow=0.2 cfs 0.089 af

Pond RD1: RD1 Peak Elev=162.79' Inflow=0.3 cfs 0.032 af
15.0" Round Culvert n=0.012 L=10.0' S=0.0500 '/' Outflow=0.3 cfs 0.032 af

Pond RD2: RD2 Peak Elev=158.07' Inflow=2.5 cfs 0.261 af
12.0" Round Culvert n=0.012 L=300.0' S=0.0033 '/' Outflow=2.5 cfs 0.261 af

Pond WP1: Wet Pond 1 Peak Elev=156.97' Storage=26,196 cf Inflow=5.7 cfs 1.012 af
Outflow=0.6 cfs 0.990 af

Link A: A Inflow=0.4 cfs 0.055 af
Primary=0.4 cfs 0.055 af

Link B: B Inflow=1.2 cfs 1.098 af
Primary=1.2 cfs 1.098 af

Link C: C Inflow=0.1 cfs 0.013 af
Primary=0.1 cfs 0.013 af

Link D: D Inflow=0.9 cfs 0.151 af
Primary=0.9 cfs 0.151 af

Total Runoff Area = 3.696 ac Runoff Volume = 1.428 af Average Runoff Depth = 4.64"
53.54% Pervious = 1.979 ac 46.46% Impervious = 1.717 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-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1: 1 Runoff Area=13,486 sf 18.91% Impervious Runoff Depth=3.54"
Flow Length=163' Tc=12.4 min CN=WQ Runoff=0.6 cfs 0.091 af

Subcatchment 2: 2 Runoff Area=4,072 sf 100.00% Impervious Runoff Depth=7.94"
Flow Length=193' Slope=0.0420 '/' Tc=1.2 min CN=WQ Runoff=0.6 cfs 0.062 af

Subcatchment 3: 3 Runoff Area=7,445 sf 93.98% Impervious Runoff Depth=7.54"
Flow Length=65' Tc=1.9 min CN=WQ Runoff=1.0 cfs 0.107 af

Subcatchment 4: 4 Runoff Area=2,500 sf 100.00% Impervious Runoff Depth=7.94"
Flow Length=25' Tc=2.0 min CN=98 Runoff=0.3 cfs 0.038 af

Subcatchment 5: 5 Runoff Area=20,625 sf 100.00% Impervious Runoff Depth=7.94"
Flow Length=75' Tc=2.0 min CN=WQ Runoff=2.9 cfs 0.313 af

Subcatchment 6: 6 Runoff Area=68,408 sf 54.86% Impervious Runoff Depth=6.31"
Flow Length=420' Tc=13.3 min CN=WQ Runoff=5.2 cfs 0.825 af

Subcatchment 7: 7 Runoff Area=17,245 sf 0.00% Impervious Runoff Depth=4.32"
Flow Length=70' Tc=11.8 min CN=WQ Runoff=1.0 cfs 0.143 af

Subcatchment 8: 8 Runoff Area=14,921 sf 0.00% Impervious Runoff Depth=3.80"
Flow Length=189' Tc=13.9 min CN=WQ Runoff=0.7 cfs 0.109 af

Subcatchment 9: 9 Runoff Area=2,403 sf 0.00% Impervious Runoff Depth=3.82"
Flow Length=21' Slope=0.1070 '/' Tc=2.9 min CN=WQ Runoff=0.2 cfs 0.018 af

Subcatchment 10: 10 Runoff Area=9,889 sf 5.22% Impervious Runoff Depth=3.89"
Flow Length=208' Tc=12.0 min CN=WQ Runoff=0.5 cfs 0.074 af

Reach R1: Reach R1 Avg. Flow Depth=0.20' Max Vel=0.56 fps Inflow=0.9 cfs 0.100 af
n=0.069 L=10.0' S=0.0100 '/' Capacity=6.9 cfs Outflow=0.9 cfs 0.100 af

Reach R2: Reach R2 Avg. Flow Depth=0.24' Max Vel=0.43 fps Inflow=1.0 cfs 1.217 af
n=0.069 L=11.0' S=0.0045 '/' Capacity=4.6 cfs Outflow=1.0 cfs 1.217 af

Reach R3: Reach R3 Avg. Flow Depth=0.19' Max Vel=0.98 fps Inflow=0.5 cfs 0.091 af
n=0.080 L=133.0' S=0.0451 '/' Capacity=19.7 cfs Outflow=0.5 cfs 0.091 af

Pond CB1: CB1 Peak Elev=163.95' Inflow=0.6 cfs 0.062 af
15.0" Round Culvert n=0.012 L=45.0' S=0.0111 '/' Outflow=0.6 cfs 0.062 af

Pond DMH1: DMH1 Peak Elev=163.35' Inflow=0.6 cfs 0.062 af
15.0" Round Culvert n=0.012 L=110.0' S=0.0091 '/' Outflow=0.6 cfs 0.062 af

Pond DMH2: DMH2 Peak Elev=160.45' Inflow=0.9 cfs 0.100 af
15.0" Round Culvert n=0.012 L=50.0' S=0.0400 '/' Outflow=0.9 cfs 0.100 af

Pond P1: Pipe 1 Peak Elev=165.84' Storage=73 cf Inflow=0.6 cfs 0.091 af
15.0" Round Culvert n=0.012 L=92.0' S=0.0109 '/' Outflow=0.5 cfs 0.091 af

Pond PP1: Pourous Pave 1 Peak Elev=165.56' Storage=459 cf Inflow=1.0 cfs 0.107 af
Outflow=0.2 cfs 0.107 af

Pond RD1: RD1 Peak Elev=162.81' Inflow=0.3 cfs 0.038 af
15.0" Round Culvert n=0.012 L=10.0' S=0.0500 '/' Outflow=0.3 cfs 0.038 af

Pond RD2: RD2 Peak Elev=158.58' Inflow=2.9 cfs 0.313 af
12.0" Round Culvert n=0.012 L=300.0' S=0.0033 '/' Outflow=2.9 cfs 0.313 af

Pond WP1: Wet Pond 1 Peak Elev=157.28' Storage=30,605 cf Inflow=6.7 cfs 1.239 af
Outflow=1.0 cfs 1.217 af

Link A: A Inflow=0.5 cfs 0.074 af
Primary=0.5 cfs 0.074 af

Link B: B Inflow=1.5 cfs 1.360 af
Primary=1.5 cfs 1.360 af

Link C: C Inflow=0.2 cfs 0.018 af
Primary=0.2 cfs 0.018 af

Link D: D Inflow=1.2 cfs 0.200 af
Primary=1.2 cfs 0.200 af

Total Runoff Area = 3.696 ac Runoff Volume = 1.780 af Average Runoff Depth = 5.78"
53.54% Pervious = 1.979 ac 46.46% Impervious = 1.717 ac

APPENDIX B

DESIGN

B – 1

STORMWATER BEST MANAGEMENT PRACTICES

STORMWATER POND DESIGN CRITERIA

Env-Wq 1508.03

Type/Node Name: **Wet Pond 1 (WP1)**

Enter the type of stormwater pond (e.g., Wet Pond) and the node name in the drainage analysis, if applicable.

2.20	ac	A = Area draining to the practice	
1.49	ac	A_I = Impervious area draining to the practice	
0.68	decimal	I = Percent impervious area draining to the practice, in decimal form	
0.66	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
1.45	ac-in	WQV= 1" x Rv x A	
5,253	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
525	cf	10% x WQV (check calc for sediment forebay and micropool volume)	
2,627	cf	50% x WQV (check calc for extended detention volume)	
675	cf	V_{SED} = Sediment forebay volume	**≥ 10%WQV**
3,365	cf	V_{PP} = Permanent pool volume (volume below the lowest invert of the outlet structure) Attach stage-storage table.	
yes	cf	Extended Detention?[1]	**≤ 50% WQV**
1,888		V_{ED} = Volume of extended detention (if "yes" is given in box above)	
154.50		E_{ED} = Elevation of WQV if "yes" is given in box above[2]	
0.04	cfs	$2Q_{avg}$ = 2* V_{ED} / 24 hrs * (1hr / 3600 sec) (used to check against Q_{EDmax} below)	
0.04	cfs	Q_{EDmax} = Discharge at the E_{ED} (attach stage-discharge table)	**< $2Q_{avg}$**
26.23	hours	T_{ED} = Drawdown time of extended detention = $2V_{ED}/Q_{EDmax}$	**≥ 24-hrs**
3.00	:1	Pond side slopes	**≥3:1**
154.75	ft	Elevation of seasonal high water table	
154.00	ft	Elevation of lowest pond outlet	
149.75	ft	Max floor = Maximum elevation of pond bottom (ft)	
146.00	ft	Minimum floor (to maintain depth at less than 8')	**≤ 8 ft**
150.00	ft	Elevation of pond floor[3]	**≤ Max floor and > Min floor**
240.00	ft	Length of the flow path between the inlet and outlet at mid-depth	
70.00	ft	Average width ([average of the top width + average bottom width]/2)	
3.43	:1	Length to average width ratio	**≥ 3:1**
Yes	Yes/No	Is the perimeter curvilinear.	**← Yes**
Yes	Yes/No	Are the inlet and outlet located as far apart as possible.	**← Yes**
No	Yes/No	Is there a manually-controlled drain to dewater the pond over a 24hr period?	
If no state why:		The pond will be pumped if necessary	
Grate		What mechanism is proposed to prevent the outlet structure from clogging (applicable for orifices/weirs with a dimension of <6")?	
157.28	ft	Peak elevation of the 50-year storm event	
158.25	ft	Berm elevation of the pond	
YES		50 peak elevation ≤ the berm elevation?	**←yes**

1. If the entire WQV is stored in the perm. pool, there is no extended det., and the following five lines do not apply.

2. This is the elevation of WQV **if** the hydrologic analysis is set up to include the permanent pool storage in the node description.

3. If the pond floor elevation is above the max floor elev., a hydrologic budget must be submitted to demonstrate that a minimum depth of 3 feet can be maintained. (First check whether a revised "lowest pond outlet" elev. will resolve the issue.)

Designer's Notes:

Summary for Pond WP1: Wet Pond 1

Inflow Area = 2.195 ac, 67.70% Impervious, Inflow Depth = 6.77" for 50-yr event
Inflow = 6.7 cfs @ 12.11 hrs, Volume= 1.239 af
Outflow = 1.0 cfs @ 13.63 hrs, Volume= 1.217 af, Atten= 86%, Lag= 91.3 min
Primary = 1.0 cfs @ 13.63 hrs, Volume= 1.217 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 153.50' Surf.Area= 1,675 sf Storage= 3,365 cf
Peak Elev= 157.28' @ 13.63 hrs Surf.Area= 15,252 sf Storage= 30,605 cf (27,239 cf above start)

Plug-Flow detention time= 742.5 min calculated for 1.140 af (92% of inflow)
Center-of-Mass det. time= 629.2 min (1,399.4 - 770.3)

Volume	Invert	Avail.Storage	Storage Description
#1	154.00'	675 cf	**Sediment Forebay (Irregular)** Listed below (Recalc)
#2	150.00'	41,428 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)
		42,103 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
154.00	140	50.4	0	0	140
156.00	586	92.8	675	675	644

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
150.00	375	90.8	0	0	375
152.00	1,033	128.5	1,354	1,354	1,069
153.50	1,675	156.8	2,012	3,365	1,746
154.00	1,917	166.2	897	4,263	2,000
154.50	2,174	175.6	1,022	5,285	2,270
156.00	10,398	444.6	8,663	13,948	15,554
158.00	17,379	1,016.7	27,480	41,428	82,098

Device	Routing	Invert	Outlet Devices
#1	Primary	153.90'	**15.0" Round Culvert** L= 24.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 153.90' / 153.50' S= 0.0167 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf
#2	Device 1	154.00'	**1.5" W x 1.5" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	154.50'	**1.5" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	156.00'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Device 1	157.25'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.0 cfs @ 13.63 hrs HW=157.28' TW=153.74' (Dynamic Tailwater)
- **1=Culvert** (Passes 0.9 cfs of 9.8 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 0.1 cfs @ 8.64 fps)
  - **4=Orifice/Grate** (Orifice Controls 0.4 cfs @ 5.08 fps)
  - **5=Orifice/Grate** (Weir Controls 0.3 cfs @ 0.58 fps)
- **3=Orifice/Grate** (Orifice Controls 0.1 cfs @ 7.94 fps)

Stage-Discharge for Pond WP1: Wet Pond 1

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
150.00	0.0	155.40	0.1
150.10	0.0	155.50	0.1
150.20	0.0	155.60	0.2
150.30	0.0	155.70	0.2
150.40	0.0	155.80	0.2
150.50	0.0	155.90	0.2
150.60	0.0	156.00	0.2
150.70	0.0	156.10	0.2
150.80	0.0	156.20	0.3
150.90	0.0	156.30	0.3
151.00	0.0	156.40	0.4
151.10	0.0	156.50	0.4
151.20	0.0	156.60	0.5
151.30	0.0	156.70	0.5
151.40	0.0	156.80	0.5
151.50	0.0	156.90	0.6
151.60	0.0	157.00	0.6
151.70	0.0	157.10	0.6
151.80	0.0	157.20	0.7
151.90	0.0	157.30	1.3
152.00	0.0	157.40	3.7
152.10	0.0	157.50	7.3
152.20	0.0	157.60	10.5
152.30	0.0	157.70	10.6
152.40	0.0	157.80	10.8
152.50	0.0	157.90	11.0
152.60	0.0	158.00	**11.1**
152.70	0.0		
152.80	0.0		
152.90	0.0		
153.00	0.0		
153.10	0.0		
153.20	0.0		
153.30	0.0		
153.40	0.0		
153.50	0.0		
153.60	0.0		
153.70	0.0		
153.80	0.0		
153.90	0.0		
154.00	0.0		
154.10	0.0		
154.20	0.0		
154.30	0.0		
154.40	0.0		
154.50	0.0		
154.60	0.1		
154.70	0.1		
154.80	0.1		
154.90	0.1		
155.00	0.1		
155.10	0.1		
155.20	0.1		
155.30	0.1		

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

FILTRATION PRACTICE DESIGN CRITERIA (Env-Wq 1508.07)

Type/Node Name: **Porous Pavement 1 (PP1)**

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

Yes		Check if you reviewed the restrictions on unlined systems outlined in Env-Wq 1508.07(a).	
0.17	ac	A = Area draining to the practice	
0.16	ac	A_I = Impervious area draining to the practice	
0.94	decimal	I = Percent impervious area draining to the practice, in decimal form	
0.90	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
0.15	ac-in	WQV= 1" x Rv x A	
556	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
139	cf	25% x WQV (check calc for sediment forebay volume)	
417	cf	75% x WQV (check calc for surface sand filter volume)	
N/A		Method of Pretreatment? (not required for clean or roof runoff)	
-	cf	V_{SED} = Sediment forebay volume, if used for pretreatment	**≥ 25%WQV**
Calculate time to drain if system IS NOT underdrained:			
1,782	sf	A_{SA} = Surface area of the practice	
5.00	iph	$Ksat_{DESIGN}$ = Design infiltration rate[1]	
		If Ksat (prior to factor of safety) is < 0.50 iph, has an underdrain been provided?	
No	Yes/No	(Use the calculations below)	
0.7	hours	T_{DRAIN} = Drain time = V / (A_{SA} * I_{DESIGN})	**≤ 72-hrs**
Calculate time to drain if system IS underdrained:			
	ft	E_{WQV} = Elevation of WQV (attach stage-storage table)	
	cfs	Q_{WQV} = Discharge at the E_{WQV} (attach stage-discharge table)	
-	hours	T_{DRAIN} = Drain time = 2WQV/Q_{WQV}	**≤ 72-hrs**
165.23	feet	E_{FC} = Elevation of the bottom of the filter course material[2]	
-	feet	E_{UD} = Invert elevation of the underdrain (UD), if applicable	
161.70	feet	E_{SHWT} = Elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
161.70	feet	E_{ROCK} = Elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
165.23	feet	$D_{FC\ to\ UD}$ = Depth to UD from the bottom of the filter course	**≥ 1'**
3.53	feet	$D_{FC\ to\ ROCK}$ = Depth to bedrock from the bottom of the filter course	**≥ 1'**
3.53	feet	$D_{FC\ to\ SHWT}$ = Depth to SHWT from the bottom of the filter course	**≥ 1'**
165.56	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
166.73	ft	Elevation of the top of the practice	
YES		50 peak elevation ≤ Elevation of the top of the practice	**← yes**
If a surface sand filter or underground sand filter is proposed:			
YES	ac	Drainage Area check.	**< 10 ac**
	cf	V = Volume of storage[3] (attach a stage-storage table)	**≥ 75%WQV**
	inches	D_{FC} = Filter course thickness	**18", or 24" if within GPA**
Sheet		Note what sheet in the plan set contains the filter course specification.	
	Yes/No	Access grate provided?	**← yes**

If a bioretention area is proposed:			
YES	ac	Drainage Area no larger than 5 ac?	**← yes**
	cf	V = Volume of storage[3] (attach a stage-storage table)	**≥ WQV**
	inches	D_{FC} = Filter course thickness	**18", or 24" if within GPA**
Sheet		Note what sheet in the plan set contains the filter course specification	
	:1	Pond side slopes	**≥ 3:1**
Sheet		Note what sheet in the plan set contains the planting plans and surface cover	
If porous pavement is proposed:			
Asphalt		Type of pavement proposed (Concrete? Asphalt? Pavers? Etc.)	
0.0	acres	A_{SA} = Surface area of the pervious pavement	
4.2	:1	Ratio of the contributing area to the pervious surface area	**≤ 5:1**
18.0	inches	D_{FC} = Filter course thickness	**12", or 18" if within GPA mod. 304.1 (see spec)**
Sheet	13	Note what sheet in the plan set contains the filter course spec.	

1. Rate of the limiting layer (either the filter course or the underlying soil). $Ksat_{design}$ includes factor of safey. See Env-Wq 1504.14 for guidance on determining the infiltration rate.

2. See lines 34, 40 and 48 for required depths of filter media.

3. Volume without depending on infiltration. The volume includes the storage above the filter (but below the invert of the outlet stucture, if any), the filter media voids, and the pretreatment area. The storage above the filter media shall not include the volume above the outlet structure, if any.

Designer's Notes:

Summary for Pond PP1: Pourous Pave 1

Inflow Area = 0.171 ac, 93.98% Impervious, Inflow Depth = 7.54" for 50-yr event
Inflow = 1.0 cfs @ 12.00 hrs, Volume= 0.107 af
Outflow = 0.2 cfs @ 11.81 hrs, Volume= 0.107 af, Atten= 79%, Lag= 0.0 min
Discarded = 0.2 cfs @ 11.81 hrs, Volume= 0.107 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 165.56' @ 12.33 hrs Surf.Area= 1,782 sf Storage= 459 cf
Flood Elev= 166.73' Surf.Area= 1,782 sf Storage= 668 cf

Plug-Flow detention time= 7.1 min calculated for 0.107 af (100% of inflow)
Center-of-Mass det. time= 7.1 min (747.8 - 740.8)

Volume	Invert	Avail.Storage	Storage Description
#1	164.48'	966 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
164.48	1,782	234.0	0.0	0	0	1,782
164.98	1,782	234.0	35.0	312	312	1,899
165.23	1,782	234.0	20.0	89	401	1,958
166.73	1,782	234.0	10.0	267	668	2,309
167.07	1,782	234.0	20.0	121	789	2,388
167.40	1,782	234.0	30.0	176	966	2,465

Device	Routing	Invert	Outlet Devices
#1	Discarded	164.48'	**5.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'

Discarded OutFlow Max=0.2 cfs @ 11.81 hrs HW=164.51' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.2 cfs)

Stage-Discharge for Pond PP1: Pourous Pave 1

Elevation (feet)	Discarded (cfs)
164.48	**0.0**
164.58	**0.2**
164.68	0.2
164.78	0.2
164.88	0.2
164.98	0.2
165.08	0.2
165.18	0.2
165.28	0.2
165.38	0.2
165.48	0.2
165.58	0.2
165.68	0.2
165.78	0.2
165.88	0.2
165.98	0.2
166.08	0.2
166.18	0.2
166.28	0.2
166.38	0.2
166.48	0.2
166.58	0.2
166.68	0.2
166.78	0.2
166.88	0.2
166.98	0.2
167.08	0.2
167.18	0.2
167.28	0.2
167.38	0.2

B – 2

GROUNDWATER RECHARGE

GROUNDWATER RECHARGE VOLULME (GRV) CALCULATION (Env-Wq 1507.04)

0.92	ac	Area of HSG A soil that was replaced by impervious cover	0.40"
0.12	ac	Area of HSG B soil that was replaced by impervious cover	0.25"
0.54	ac	Area of HSG C soil that was replaced by impervious cover	0.10"
-	ac	Area of HSG D soil or impervious cover that was replaced by impervious cover	0.0"
0.29	inches	Rd = Weighted groundwater recharge depth	
0.4521	ac-in	GRV = AI * Rd	
1,641	cf	GRV conversion (ac-in x 43,560 sf/ac x 1ft/12”)	

Provide calculations below showing that the project meets the groundwater recharge requirements (Env-Wq 1507.04):

Porous Pavement Area 1 (PP1) provides 0.045 af (~1,960 cf) of infiltration.

Summary for Pond PP1: Pourous Pave 1

Inflow Area = 0.171 ac, 93.98% Impervious, Inflow Depth = 3.16" for 2-yr event
Inflow = 0.6 cfs @ 12.00 hrs, Volume= 0.045 af
Outflow = 0.2 cfs @ 11.94 hrs, Volume= 0.045 af, Atten= 63%, Lag= 0.0 min
Discarded = 0.2 cfs @ 11.94 hrs, Volume= 0.045 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 164.69' @ 12.11 hrs Surf.Area= 1,782 sf Storage= 130 cf
Flood Elev= 166.73' Surf.Area= 1,782 sf Storage= 668 cf

Plug-Flow detention time= 1.8 min calculated for 0.045 af (100% of inflow)
Center-of-Mass det. time= 1.8 min (755.9 - 754.2)

Volume	Invert	Avail.Storage	Storage Description
#1	164.48'	966 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
164.48	1,782	234.0	0.0	0	0	1,782
164.98	1,782	234.0	35.0	312	312	1,899
165.23	1,782	234.0	20.0	89	401	1,958
166.73	1,782	234.0	10.0	267	668	2,309
167.07	1,782	234.0	20.0	121	789	2,388
167.40	1,782	234.0	30.0	176	966	2,465

Device	Routing	Invert	Outlet Devices
#1	Discarded	164.48'	**5.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'

Discarded OutFlow Max=0.2 cfs @ 11.94 hrs HW=164.51' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.2 cfs)

B – 3

OUTLET PROTECTION

OUTLET PROTECTION DESIGN CALCS

NON DEFINED CHANNEL

Job #: 21094
Date: 6/16/2022
Structure: Outlet from DMH2

Variables:

Q= Discharge from the pipe (cfs)
$D_{0=}$ Diameter of the pipe (ft)
Tw= Tailwater depth above the invert of the pipe (ft)
La= Apron length
w_1= Apron width at pipe outlet
w_2= Apron width at downstream end of apron

Input:		
Outlet elev:	158	
Tailwater elev:	158.2	
Tw:	0.2	
Q:	0.9	
D_0:	1.25	

Apron Dimensions

w_1=	**4**	(ft)
w_2=	**14**	(ft)
La=	**10**	(ft)

Apron Length:

Tw > .5D_0	Tw < .5D_0
La: 10.682	La: 9.909

Apron Width:

Tw > .5D_0	Tw < .5D_0
w_2: 8.02	w_2: 13.66

w_1: 3.75

w_1=	3.75
w_2=	13.6591776
La=	9.90917764

RipRap Sizing

d_{50}=	0.07	(ft)
d_{50}=	0.83	(in)

RipRap Gradation

Stone Size			% of Weight Smaller Then the Given Size
0.10	TO	0.14	100
0.09	TO	0.13	85
0.07	TO	0.10	50
0.02	TO	0.03	15

Minimum Depth of Rock= 0.21 (ft)

Summary for Pond DMH2: DMH2

Inflow Area = 0.151 ac,100.00% Impervious, Inflow Depth = 7.94" for 50-yr event
Inflow = 0.9 cfs @ 12.00 hrs, Volume= 0.100 af
Outflow = 0.9 cfs @ 12.00 hrs, Volume= 0.100 af, Atten= 0%, Lag= 0.0 min
Primary = 0.9 cfs @ 12.00 hrs, Volume= 0.100 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 160.45' @ 12.00 hrs
Flood Elev= 168.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	160.00'	**15.0" Round Culvert** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 160.00' / 158.00' S= 0.0400 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

Primary OutFlow Max=0.9 cfs @ 12.00 hrs HW=160.45' TW=158.20' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 0.9 cfs @ 2.29 fps)

OUTLET PROTECTION DESIGN CALCS

NON DEFINED CHANNEL

Job #: 21094
Date: 6/16/2022
Structure: Outlet from RD2

Variables:

Q= Discharge from the pipe (cfs)
$D_{0=}$ Diameter of the pipe (ft)
Tw= Tailwater depth above the invert of the pipe (ft)
La= Apron length
w_1= Apron width at pipe outlet
w_2= Apron width at downstream end of apron

Input:

Outlet elev:	155.5
Tailwater elev:	156.53
Tw:	1.03
Q:	2.9
D_0:	1

Apron Dimensions

w_1=	**3**	(ft)
w_2=	**10**	(ft)
La=	**16**	(ft)

Apron Length:

Tw > .5D_0	Tw < .5D_0
La: 15.700	La: 12.220

Apron Width:

Tw > .5D_0	Tw < .5D_0
w_2: 9.28	w_2: 15.22

w_1: 3

w_1=	3.00
w_2=	9.28
La=	15.7

RipRap Sizing

d_{50}=	0.08	(ft)
d_{50}=	0.96	(in)

RipRap Gradation

Stone Size			% of Weight Smaller Then the Given Size
0.12	TO	0.16	100
0.10	TO	0.14	85
0.08	TO	0.12	50
0.02	TO	0.04	15

Minimum Depth of Rock= 0.24 (ft)

Summary for Pond RD2: RD2

Inflow Area = 0.473 ac,100.00% Impervious, Inflow Depth = 7.94" for 50-yr event
Inflow = 2.9 cfs @ 12.00 hrs, Volume= 0.313 af
Outflow = 2.9 cfs @ 12.00 hrs, Volume= 0.313 af, Atten= 0%, Lag= 0.0 min
Primary = 2.9 cfs @ 12.00 hrs, Volume= 0.313 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 158.58' @ 12.00 hrs
Flood Elev= 159.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	156.50'	**12.0" Round Culvert** L= 300.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 156.50' / 155.50' S= 0.0033 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=2.9 cfs @ 12.00 hrs HW=158.58' TW=156.53' (Dynamic Tailwater)
1=Culvert (Outlet Controls 2.9 cfs @ 3.65 fps)

OUTLET PROTECTION DESIGN CALCS

DEFINED CHANNEL

Job #: 21094
Date: 6/16/2022
Structure: Outlet from P1

Variables:

Q= Discharge from the pipe (cfs)
$D_{0=}$ Diameter of outlet pipe (ft)
D= Width of channel (ft)
z= Channel side slope (H:V ft/ft)
Tw= Tailwater depth above the invert of the pipe (ft)
La= Apron length
w_1= Apron width at pipe outlet
w_2= Apron width at downstream end of apron

Input:	
Outlet elev:	164.5
Tailwater elev:	164.69
Tw:	0.19
Q:	0.5
D_0:	1.25
D:	4
z:	3

Apron Dimensions

w_1=	**12**	(ft)
w_2=	**4**	(ft)
La=	**10**	(ft)

Apron Length:

$Tw > .5D_0$	$Tw < .5D_0$
La: 9.823	La: 9.394

Apron Width:

w_2: 4

w_1: 11.5

w_1=	11.50
w_2=	4.00
La=	9.39398758

RipRap Sizing

d_{50}=	0.03	(ft)
d_{50}=	0.40	(in)

RipRap Gradation

Stone Size			% of Weight Smaller Then the Given Size
0.05	TO	0.07	100
0.04	TO	0.06	85
0.03	TO	0.05	50
0.01	TO	0.02	15

Minimum Depth of Rock= 0.10 (ft)

Summary for Pond P1: Pipe 1

Inflow Area = 0.310 ac, 18.91% Impervious, Inflow Depth = 3.54" for 50-yr event
Inflow = 0.6 cfs @ 12.12 hrs, Volume= 0.091 af
Outflow = 0.5 cfs @ 12.15 hrs, Volume= 0.091 af, Atten= 2%, Lag= 1.6 min
Primary = 0.5 cfs @ 12.15 hrs, Volume= 0.091 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 165.84' @ 12.15 hrs Surf.Area= 274 sf Storage= 73 cf
Flood Elev= 168.00' Surf.Area= 3,506 sf Storage= 4,546 cf

Plug-Flow detention time= 5.4 min calculated for 0.091 af (100% of inflow)
Center-of-Mass det. time= 5.5 min (843.6 - 838.2)

Volume	Invert	Avail.Storage	Storage Description
#1	165.50'	4,546 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)
165.50	154	52.2	0	0	154
166.00	339	71.1	120	120	342
167.00	2,700	259.1	1,332	1,452	5,285
168.00	3,506	278.0	3,094	4,546	6,136

Device	Routing	Invert	Outlet Devices
#1	Primary	165.50'	**15.0" Round Culvert** L= 92.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 165.50' / 164.50' S= 0.0109 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

Primary OutFlow Max=0.5 cfs @ 12.15 hrs HW=165.84' TW=164.69' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 0.5 cfs @ 2.00 fps)

OUTLET PROTECTION DESIGN CALCS

DEFINED CHANNEL

Job #: 21094
Date: 6/16/2022
Structure: Outlet from WP1

Variables:

Q= Discharge from the pipe (cfs)
$D_{0=}$ Diameter of outlet pipe (ft)
D= Width of channel (ft)
z= Channel side slope (H:V ft/ft)
Tw= Tailwater depth above the invert of the pipe (ft)
La= Apron length
w_1= Apron width at pipe outlet
w_2= Apron width at downstream end of apron

Input:

Outlet elev:	153.5
Tailwater elev:	153.74
Tw:	0.24
Q:	1
D_0:	1.25
D:	3
z:	3

Apron Dimensions

w_1=	**11**	(ft)
w_2=	**3**	(ft)
La=	**11**	(ft)

Apron Length:

$Tw > .5D_0$	$Tw < .5D_0$
La: 10.897	La: 10.038

Apron Width:

w_2: 3

w_1: 10.5

w_1=	10.50
w_2=	3.00
La=	10.0379752

RipRap Sizing

d_{50}=	0.07	(ft)
d_{50}=	0.80	(in)

RipRap Gradation

Stone Size			% of Weight Smaller Then the Given Size
0.10	TO	0.13	100
0.09	TO	0.12	85
0.07	TO	0.10	50
0.02	TO	0.03	15

Minimum Depth of Rock= 0.20 (ft)

Summary for Pond WP1: Wet Pond 1

Inflow Area = 2.195 ac, 67.70% Impervious, Inflow Depth = 6.77" for 50-yr event
Inflow = 6.7 cfs @ 12.11 hrs, Volume= 1.239 af
Outflow = 1.0 cfs @ 13.63 hrs, Volume= 1.217 af, Atten= 86%, Lag= 91.3 min
Primary = 1.0 cfs @ 13.63 hrs, Volume= 1.217 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 153.50' Surf.Area= 1,675 sf Storage= 3,365 cf
Peak Elev= 157.28' @ 13.63 hrs Surf.Area= 15,252 sf Storage= 30,605 cf (27,239 cf above start)

Plug-Flow detention time= 742.5 min calculated for 1.140 af (92% of inflow)
Center-of-Mass det. time= 629.2 min (1,399.4 - 770.3)

Volume	Invert	Avail.Storage	Storage Description
#1	154.00'	675 cf	**Sediment Forebay (Irregular)** Listed below (Recalc)
#2	150.00'	41,428 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)
		42,103 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
154.00	140	50.4	0	0	140
156.00	586	92.8	675	675	644

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
150.00	375	90.8	0	0	375
152.00	1,033	128.5	1,354	1,354	1,069
153.50	1,675	156.8	2,012	3,365	1,746
154.00	1,917	166.2	897	4,263	2,000
154.50	2,174	175.6	1,022	5,285	2,270
156.00	10,398	444.6	8,663	13,948	15,554
158.00	17,379	1,016.7	27,480	41,428	82,098

Device	Routing	Invert	Outlet Devices
#1	Primary	153.90'	**15.0" Round Culvert** L= 24.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 153.90' / 153.50' S= 0.0167 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf
#2	Device 1	154.00'	**1.5" W x 1.5" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	154.50'	**1.5" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	156.00'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Device 1	157.25'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

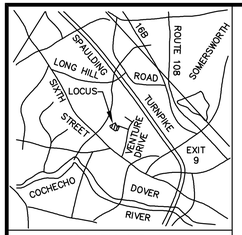
Primary OutFlow Max=1.0 cfs @ 13.63 hrs HW=157.28' TW=153.74' (Dynamic Tailwater)
- **1=Culvert** (Passes 0.9 cfs of 9.8 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 0.1 cfs @ 8.64 fps)
  - **4=Orifice/Grate** (Orifice Controls 0.4 cfs @ 5.08 fps)
  - **5=Orifice/Grate** (Weir Controls 0.3 cfs @ 0.58 fps)
- **3=Orifice/Grate** (Orifice Controls 0.1 cfs @ 7.94 fps)

APPENDIX C

WATERSHED PLANS

C – 1

PRE-DEVELOPMENT CONDITIONS



LOCATION PLAN
(NO SCALE)

PRE-DEVELOPMENT WATERSHED CHARACTERISTICS

SUBCATCHMENT DESIGNATION	AREA (ACRES)	LONGEST FLOW PATH (FEET)	Tc (MIN)
1	0.21	166	12.6
2	1.06	232	17.0
3	0.67	235	19.3
4	1.75	374	20.7

DISCHARGE PT. A

DISCHARGE PT. B

DISCHARGE PT. C

DISCHARGE PT. D

QUALITY WAY

F.E.S. #4

CB #4

LEGEND:

- EX 2' CONTOUR
- EX 10' CONTOUR
- EDGE OF PAVEMENT
- EDGE OF WETLAND
- EXISTING TREELINE
- SUBCATCHMENT BOUNDARY
- LONGEST FLOW PATH WITH DIRECTION OF FLOW
- (A) SUBCATCHMENT DESIGNATION

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILE NO.: P22-

NO.	REVISION	APP'D	DATE

DATE: 6-16-22
SCALE: 1"=30'
DRAWN BY: SRD
DESIGN BY: SRD
APPROVED BY:JH
PROJECT NO:21094
FILE: DRN

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

PRE-DEVELOPMENT WATERSHED PLAN

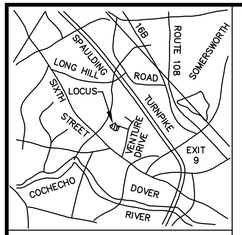
PROJECT:
WEAVE FILTRATION
QUALITY WAY
DOVER, NH

APPLICANT:
WEAVE FILTRATION LLC
100 TRI CITY ROAD
UNIT 117
SOMERSWORTH, NH 03878

WS-1

C – 2

POST-DEVELOPMENT CONDITIONS



LOCATION PLAN
(NO SCALE)

POST-DEVELOPMENT WATERSHED CHARACTERISTICS

SUBCATCHMENT DESIGNATION	AREA (ACRES)	LONGEST FLOW PATH (FEET)	Tc (MIN)
1	0.31	163	12.4
2	0.09	193	1.2
3	0.17	65	1.9
4	0.06	25	2.0
5	0.47	75	2.0
6	1.57	420	13.3
7	0.40	70	11.8
8	0.34	189	13.9
9	0.06	21	2.9
10	0.23	208	12.0

DISCHARGE PT. A
DISCHARGE PT. B
DISCHARGE PT. C
DISCHARGE PT. D
REACH R1
REACH R2
REACH R3
WET POND 1
DMH1
DMH2
RD1
RD2
CB1
CB #4
POROUS PAVEMENT 1
PROPOSED 2,500 S.F. OFFICE AREA
PROPOSED 20,625 S.F. BUILDING
PROPOSED PIPE 1
QUALITY WAY
PD
RD
100'
25'
75'
275'

LEGEND:

- EX 2' CONTOUR
- EX 10' CONTOUR
- **PROPOSED BUILDING**
- EDGE OF PAVEMENT
- **PROPOSED EDGE OF PAVEMENT**
- EDGE OF WETLAND/ SOIL DELINEATION
- EXISTING TREELINE
- **PROPOSED TREELINE**
- **SUBCATCHMENT BOUNDARY**
- **LONGEST FLOW PATH WITH DIRECTION OF FLOW**
- (1) **SUBCATCHMENT DESIGNATION**

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILE NO.: P22-

NO.	REVISION	APP'D	DATE

DATE: 6-16-22
SCALE: 1"=30'
DRAWN BY: SRD
DESIGN BY: SRD
APPROVED BY:JH
PROJECT NO: 21094
FILE: DRN

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

POST-DEVELOPMENT WATERSHED PLAN

APPLICANT:
WEAVE FILTRATION LLC
100 TRI CITY ROAD
UNIT 117
SOMERSWORTH, NH 03878

PROJECT:
WEAVE FILTRATION
QUALITY WAY
DOVER, NH

WS-2

CHRISTOPHER G. PARKER, AICP
Assistant City Manager
Planning & Strategic Initiatives
c.parker@dover.nh.gov

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

City of Dover, New Hampshire

DEPARTMENT OF PLANNING AND COMMUNITY DEVELOPMENT

INSTRUCTIONS TO APPLICANTS TO THE DOVER PLANNING BOARD

IMPORTANT: PLEASE READ ALL INSTRUCTIONS CAREFULLY BEFORE FILLING OUT ATTACHED APPLICATION.
INCOMPLETE APPLICATIONS WILL NOT BE ACCEPTED FOR REVIEW.

Dear Applicant:

This will serve to briefly inform you regarding the process to have the Dover Planning Board (the Board) review a land use application. Please refer to the NH Statutes on Land Use and Regulation the Dover Code, and our Developer's Handbook for more specific information.

The Board primarily reviews 5 types of applications:

1. **Site Plans** - A site plan is a professionally rendered drawing which delineates the proposed development of a site. This plan is required for non-residential development, creation of multi-family residential structures, and for extensions of parking lots and alteration of an acre or more of land. These plans require meeting with the Technical Review Committee before Planning Board review.

2. **Subdivisions** - A subdivision is the division of the lot, tract, or parcel of land into two (2) or more lots, plats, sites or other divisions of land for the purpose, whether immediate or future, of sale, rent, lease or building development. It includes re-subdivision and, when appropriate to the context, relates to the process of subdividing or to the land or territory subdivided. Major subdivision plans (4+) require meeting with the Technical Review Committee before Planning Board review.

3. **Lot Line Adjustments** - A lot line adjustment alters the size of two (2) or more lots, but does not create a new buildable lot.

4. **Conditional Use Permits** - A conditional use permit is required for any alteration of wetlands, wetland buffers or work within the City's conservation district. Additionally, a conditional use permit could be issued as to offer relief in the Central Business District, for plans in the Residential Mixed Use Overlay District, or parking relief. Environmental Conditional Use Permits are acted on after Conservation Commission review.

5. **Excavation Permits** – NH RSA Chapter 155-E grants municipalities the authority to regulate earth excavations within their borders. This authority rests with the Planning Board.

The Board cannot and will not review applications that do not meet zoning requirements. **Please review the need to apply to the Zoning Board of Adjustment prior to applying to the Board.**

Professional agents will prepare your application; however, you may represent yourself or authorize, in writing, someone else to represent you before the Planning Board.

In most cases, 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, and a PDF, need to be provided, along with payment of plan review fees. These meetings occur on Thursday, and materials and payment must be submitted three (3) weeks prior to meeting. Meetings are scheduled, upon receipt of completed applications with the full checklist and payment.

The next step would be to provide, two weeks prior to Planning Board, the final plan sets (three (3) full size and twelve (12) half size (11x 17), folded, copies of the plan), and 15 copies, and a PDF, of all supporting materials, including response to TRC comments. Please print all materials on both sides of paper.

For projects not appearing before the Technical Review Committee, Plan Review Fees are due along with three (3) full size and twelve (12) half size (11x17), folded, copies of the plan set and 15 copies, plus a PDF, of plans and materials, 3 weeks prior to the Planning Board meeting. Please print all materials on both sides of paper.

Staff will generate an abutter list, and Abutter/Notice Fees will be invoiced. They are due 28 hours prior to Planning Board. If they are not paid, the application will not be heard.

Once an item is placed upon an agenda the following process is used:

- The Board will hold a public hearing on your application at a regularly scheduled meeting
    - Typically the second or fourth Tuesday of the Month.
- Public notice of the hearing will be posted at the City Clerk's office and the Planning Department office and printed in the newspaper.
- Certified letters will be mailed to you and to all abutters at least ten days before the date of the hearing.
- 28 hours prior to the meeting, abutter/notice fees must be paid
- At the meeting
    - Staff will introduce your project
    - You and all other parties will be invited to appear in person or by agent or counsel to present your application.
        - Your project will be pre-loaded onto a laptop for review by the Board and public
    - The Board may ask clarifying questions
    - The Board will vote to accept jurisdiction on the application
    - If accepted:
        - The Board will hold a public hearing
        - The Board may ask additional questions
        - The Board will deliberate on your application
            - Typically decisions are made the night of the presentation, but an application may be tabled
        - After deliberation, a decision will be made.
            - You will be sent a notice of the decision.

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: Storage Barn, LLC. Telephone # 603-396-1635

Address of Applicant: 385 Sixth Street, Dover, NH, 03820

E-Mail Address: jsmith@windsorbrook.com

Name of Property Owner (*if different from applicant*): TSB Properties LLC Telephone # 603-396-1637

Address of Property Owner: 385 Sixth Street, Dover, NH, 03820

PROPERTY INFORMATION

Address of Property: Production Drive

Assessor's Map # D Lot(s) # 12-2

Zoning District(s) IT Overlay District(s) CM Conservation Overlay

Size of Parcel: 184,682 sq. ft. 4.24 ac. Property Deed: Book 4545 Page: 961

Existing Use of Property: Vacant

SITE PLAN INFORMATION

Describe Proposed Use: 12,000 SF of self storage building and associated infrastructure

Area of Parcel to be Developed: 76,707 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 0

Highway Access (check where applicable): x City Street ____ State Highway

Number of Employees Total: 0 In Maximum Shift: 0

Disposition of Parcel:

Building Footprint 12,000 sq. ft.

Total Building Area 12,000 sq. ft.

Paved Area 26,280 sq. ft.

Building Setbacks:

Front Yard 52 ft.

Rear Yard 57 ft.

Side Yard: Right 571 ft. Left 83 ft.

City Water? _x_ Yes ___ No How far is city water from the property? Production Drive

City Sewer? ___ Yes _x_ No How far is city sewer from the property? Production Drive

TRANSFER OF DEVELOPMENT RIGHTS INFORMATION

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

□ Residential □ Residential (reduced size) ☒ Industrial | □ Purchase □ Land Preservation

Relief sought (Check All That Apply):

□ Lot Size □ Frontage ☒ Setback □ 30' Buffer □ Increase by _____ units

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

_____

_____

_____

BUILDING INFORMATION

Type of Building to be Built: Steel & Concrete with Metal Siding

Height of Building: 11'-4" Finished Floor Elevation: varies; 175.0 High, 170.6 Low

Number of Seats (where applicable) N/A

Estimated value of construction: $350,000 Refuse removal: Public / Private (circle one)

WAIVER REQUESTS

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

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

_____

_____

_____

_____

_____

_____

_____

SURVEYOR INFORMATION

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

Address 24 Chestnut Street, Dover, NH 03820 Telephone #: 603-742-0911

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

ENGINEER INFORMATION

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

Address PO Box 1166 Dover, NH 03821 Telephone #: 603-749-0443

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

ARCHITECT INFORMATION

Name of Architect and Company (Licensed in N.H.) John W. Tuttle, AIA - TW Design

Address 254 Drake Hill Road Strafford, NH 03884 Telephone #: 603-664-2181

Professional License #: NH Licensed Architect #4015 E-mail address: john@tw-designs.com

LANDSCAPE ARCHITECT INFORMATION

Name of Landscape Architect and Company (Licensed in N.H.) Jefferey R. Hyland IronwoodDesign Group, LLC.

Address PO Box 873 Newmarket, NH 03857 Telephone #: 603-772-0590

Professional License #: NH Landscape Architect #0026 E-mail address: jhyland@fewood.com

Wetland

~~SOIL~~ SCIENTIST INFORMATION

Wetland

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

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

Professional License #: NH CWS #163 E-mail address: frenvironmental@gmail.com

CONSERVATION EASEMENT HOLDER N/A

Name of Easement Holder: _____ Telephone #_____

Address Easement Holder: _____

SIGNATURES

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

Signature of Property Owner: Jessica Smith Date: 6/15/22

Signature of Applicant (*if different from owner*): Jessica Smith Date: 6/15/22

Signature of Agent: [illegible] Date: 6/15/22

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: Jessica Smith Date: 6/15/22

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: Jessica Smith Date: 6/15/22

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

CERTIFICATION OF FEES

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

Signature of Property Owner: Jessica Smith Date: 6/15/22

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

CITY OF DOVER SITE REVIEW
LIST OF ABUTTERS

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

Owner:

TAX MAP	LOT #	PROPERTY OWNER	MAILING ADDRESS
D	12-2	TSB Properties LLC.	385 Sixth Street, Dover NH 03820

Applicant (if different from owner):

APPLICANT NAME	APPLICANT COMPANY	MAILING ADDRESS
Jessica Smith	TSB Properties LLC.	385 Sixth Street, Dover NH 03820

Surveyor and/or Engineer/Professional Agent:

NAME	COMPANY	MAILING ADDRESS
Stephen J. Haight, P.E.	Civilworks New England	PO Box 1166 Dover, NH 03821
Kevin M. McEneaney, LLS.	McEneaney Survey Associates	24 Chestnut Street Dover, NH 03820

Conservation Easement Holder:

TAX MAP	LOT #	NAME OF EASEMENT HOLDER	MAILING ADDRESS

PLANNING BOARD FEE SCHEDULE/INVOICE

(Revised July 1, 2021)

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

A. Plan Review Fees

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

- ☐ SUBDIVISION Application fee $200.00 + $150.00 x # _____ new lots created = $_____
- ☐ LOT LINE ADJUSTMENT Application fee $200.00 + $100.00 X # ___ of lots involved = $_____
- ☐ TRANSFER OF DEVELOPMENT RIGHTS Application fee $200.00 = $_____
- ☐ SITE REVIEW – RESIDENTIAL Application fee $200.00+ $100.00 x # __ per dwelling unit =$_____
- ☒ SITE REVIEW – NON-RESIDENTIAL Application fee $200.00 + (not to exceed $10,000)
  - New construction $.15 sq. ft. x # 12,000 sq. ft.= $ 1,800
  - Additions (new floor space) $.10 per sq. ft. x # _____sq. ft.= $_____
- ☐ MOTEL/HOTEL $35.00 x # ___ per lodging unit= $_____
- ☐ CHANGE OF USE Application fee $200.00 + (not to exceed $5,000)
  - Existing floor spaces $.10 per sq. ft. x # _____ sq. ft. = $_____
- ☒ CONDITIONAL USE PERMIT Application fee $200.00 x # 1 per Application = $ 200.00
- ☐ GRAVEL PIT/ EXCAVATIONS
  - Application fee $50.00= $_____
  - Permit fee $75.00= $_____
- ☐ EXTENSIONS/AMENDMENTS/WAIVERS FOR AN APPROVED PLAN Application fee $200.00 = $_____
- ☐ REQUEST FOR REZONING Application fee $200.00 = $_____
- ☐ DRIVEWAY WAIVER Application fee $200.00 = $_____

2. TOTAL IMPERVIOUS PAVED AREA (for new development, roadways or additions to existing parking lots, (not to exceed $10,000)) Application fee of $200.00 is N/A if it is part of a Site Review or Subdivision Plan. $200.00 + $.07 per sq. ft. x # 26,280 sq. ft. = $ 1839.60

SUBTOTAL PLAN REVIEW FEE (A) = $ 3839.60

AND

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

- ☒ Applicant & Owner, engineer, architect, LLS, LLA and/or soil scientist
  - Certified letters fee # 5 of x $8.00= $ 40
- ☒ Certified letters fee: # of abutters 6 X $8.00= $ 48
- ☐ First Class Mail fee (for individual owner of units within a condominium or other collective form of ownership): # of abutters _____ X $1.00= $_____
- ☒ Creating/Printing Abutter Labels in triplicate per sheet 1 x $10.00= $ 10

C. Foster's newspaper public notice fee $100.00 x # 2 applications = $ 200

SUBTOTAL NOTICE FEE (B & C) = $ 298

TOTAL INVOICE AMOUNT (A, B & C) = $ 4,137.60

PLAN REVIEW FEE COLLECTED/PAID = $ _____

BALANCE DUE = $ _____

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

City of Dover, New Hampshire
SITE PLAN REVIEW SUBMISSION CHECKLIST

[Revision Date: June 4, 2019]

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

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

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

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

APPLICANT: The Storage Barn LLC. File Number: _____

PROJECT TITLE: Site Plan for The Storage Barn LLC.

PROPERTY LOCATION: Production Drive Tax Map: D Lot: 12-2

	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		
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_____

CITY OF DOVER PLANNING DEPARTMENT
Revised August 10, 2020

APPLICANT: _____ FILE NUMBER: _____

List of Common Site Plan Notes

The following list of commonly required notes is intended to be used as a guide to applicants and should not be construed as a comprehensive note requirement list for all projects. A preapplication conference with the Planning Department is suggested to help determine the actual notes that may be required.

1. The intent of this plan is to *(describe the purpose of the plan).*

2. Owners of Record are: Name
   Street address
   Municipality, State, Zip Code
   _____
   Authorized Signature

3. The parcel(*s*) is (*are*) shown as Lot No. _____, Map ____ of the City of Dover Tax Assessor's Maps.

4. The subject parcel(s) contains ____ acres or _____ sq. ft. area of land.

5. Title reference for the project parcel(*s*) is the Strafford County Registry of Deeds, Book No. ___, Page No. ___.

6. Reference Plans: (*List all reference plans and their SCRD #)*

7. All applicable right-of-way, conservation, slope, construction, power line, cross travel, or other easements shall be referenced in a note.

8. Zoning dimensional and density requirements are as follows:

   Required: Provided:

   a. Zoning district _____ sub-district _____
   b. Minimum lot size: _____ acres (sq. ft.)
   c. Minimum lot frontage: _____ ft.
   d. Minimum yard setbacks/build-to-lines:
      Front _____ft.
      Side _____ft.
      Rear _____ft.
      Abut-a-street _____ ft.
   e. Maximum/minimum lot coverage _____ %
   f. Minimum/maximum bldg. height _____ ft./stories

   This property falls within the following zoning overlay districts: *(List districts)*

9. 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.

10. Property line information has been obtained from a survey performed by *(surveyor)* on (*date*) with an error not greater than 1 in 10,000 (*or has been obtained from* _____ *Plan, prepared by (surveyor)*).

11. Subject parcel is (*is not*) located within a Federally designated flood hazard area (Community panel number 33017C0xxxD, Effective Date: September 30, 2015).

12. Wetlands were delineated by _____, Certified Wetlands Scientist, Certification Number ____, in accordance with Chapter 170-27.1 of the Zoning Ordinance, on _____, 20___.

13. As-built plans of the subdivision 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 if a street is proposed for City acceptance. 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.

14. The installation of electric power, cable television and telephone lines shall be underground throughout the site for which development is proposed.

15. The subject parcel(s) is (are) served by municipal water and sewer (*or is served by on-site well and septic system*).

16. 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.

17. All erosion control notes shall include provisions for construction sequencing, temporary erosion control measures, and permanent standards such as loam spread rate for disturbed areas, rates of lime, type and rates for fertilizer, and seed and mulch mixture with rates of application.

18. The limits of construction disturbance that are located in or within the 50 ft. of Conservation and Wetland Districts shall be staked, flagged and clearly identified prior any earth disturbing activity occurs.

19. All treatment swales to be constructed shall have sod bottoms.

20. 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.

21. 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.

22. Site Construction hours shall be limited to Monday-Friday 7 AM-6 PM, Saturday and Sunday 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 Assistant City Manager.

23. Building addresses (including apt/unit numbers if applicable) shall be assigned by the Building Official at the time of issuance of a building permit.

24. The proposed use for the site (structure) is _____. (More specific uses are encouraged, such as single family, duplex, multi-family, restaurant, hotel, doctor's office, etc. Should more than one use be proposed, an indication of the percentage of each use is suggested.)

25. The following federal and state permits have been issued for the subject property: (*List permit type, number and date of issuance.)*

26. Commercial vehicle route during construction shall conform to Dover City Code or be coordinated with the Community Services Director.

27. Any retaining wall taller than four feet (4') requires issuance of a building permit from Inspection Services.

28. Any fence taller than seven feet (7') requires the issuance of a building permit from Inspection Services.

29. Applicant shall complete Land Use Development Tracking Form, most recently revised version, utilizing the online Pollution Tracking and Accounting Pilot Project (PTAPP) portal. https://www.unh.edu/unhsc/ptapp

30. 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.

31. 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.

32. The maximum parking space calculation is _____ (broken down) and ____ spaces are provided.

33. Exterior lighting shall be cut-off type fixtures per Chapter 153-14-E and shall provide lighting directed on-site only.

34. Topographic survey performed by _____ on *(dates)*.

35. Elevations are based on U.S.G.S. NVD 1988 datum. (**or** Elevations depicted are based on information obtained from the City Engineer's Office and was derived from coordinates for control stations _____ and _____. These coordinates have not been adjusted to 1983 datum).

36. A security system shall be installed as required by Chapter 45, Article I, section 45-2 of the Code of the City of Dover. (*If a business establishment or multi-family dwelling contained in a new, altered or repaired structure*)

37. Approved backflow preventers shall be provided for both fire and domestic water lines.

38. The (*existing or proposed*) structure shall be served by a sprinkler system as required by Chapter 81- 30 of the Code of the City of Dover and the adopted State of NH Building and Fire Codes.

39. 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.

40. 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.

41. The site layout is designed in compliance with applicable accessibility regulations. The proposed structure will be also be designed in accordance with applicable accessibility regulations. (i.e. IBC, ANSI-117.1) and NH RSA 155-A:5.

REMARKS:

Ref: Storage Barn, LLC
Site Plan
Tax Map D, Lot 12-2
14 Huckins Road, Madbury, NH 03823

Re: Letter of Authorization

I, **Storage Barn, LLC,** of 385 Sixth Street, Dover NH, 03820, do hereby authorize Civilworks New England, to pursue State and local permits as it applies to the development of land owned by TSB Properties, LLC, located at Production Drive, Dover, NH, Tax Map D, Lot 12-2.

Authorized Signatory Jessica Smith

Date 6/22/22

City of Dover, New Hampshire
CONDITIONAL USE PERMIT APPLICATION

[Revision Date: October 19, 2020]

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

APPLICANT AND OWNER INFORMATION

Name of Applicant: Storage Barn, LLC. Telephone #603-396-1635

Address of Applicant: 385 Sixth Street, Dover, NH 03820

E-Mail Address: jsmith@windsorbrook.com

Name of Property Owner (if different from applicant): TSB Properties LLC. Telephone #603-396-1637

Address of Property Owner: 385 Sixth Street, Dover, NH 03820

PROPERTY INFORMATION

Assessor's Map # D Lot(s) # 12-2

Address of Property: Production Drive

Zoning District(s) IT Overlay District(s) Conservation

Existing Use of Property: Vacant

CONDITIONAL USE PERMIT INFORMATION

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

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

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

This application is to request a Conditional Use Permit to allow 11,901 sf of impact to the wetland buffer impact. There will be no direct impact to the wetlands.

List Any Associated State or Federal Permits That Have Been or Will Be Applied For and Indicate Their Status: none

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

Address PO Box 1166 Dover, NH 03821 Telephone #: 603-749-0443

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

SIGNATURES

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

Signature of Property Owner: Jessica Smith Date: 6/15/22

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

Signature of Agent: SJH Date: 6/15/22

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: Jessica Smith Date: 6/15/22

CITY OF DOVER CONDITIONAL USE
LIST OF ABUTTERS

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

Owner:

TAX MAP	LOT #	PROPERTY OWNER	MAILING ADDRESS
D	12-2	TSB Properties LLC.	385 Sixth Street, Dover NH 03820

Applicant (if different from owner):

APPLICANT NAME	APPLICANT COMPANY	MAILING ADDRESS
Jessica Smith	TSB Properties LLC.	385 Sixth Street, Dover NH 03820

Surveyor and/or Engineer/Professional Agent:

NAME	COMPANY	MAILING ADDRESS
Stephen J. Haight, P.E.	Civilworks New England	PO Box 1166 Dover, NH 03821
Kevin M. McEneaney, LLS.	McEneaney Survey Associates	24 Chestnut Street Dover, NH 03820

Conservation Easement Holder:

TAX MAP	LOT #	NAME OF EASEMENT HOLDER	MAILING ADDRESS

PLANNING BOARD FEE SCHEDULE/INVOICE

(Revised July 1, 2021)

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

A. Plan Review Fees

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

- ☐ SUBDIVISION Application fee $200.00 + $150.00 x # _____ new lots created = $_____
- ☐ LOT LINE ADJUSTMENT Application fee $200.00 + $100.00 X # ___ of lots involved = $_____
- ☐ TRANSFER OF DEVELOPMENT RIGHTS Application fee $200.00 = $_____
- ☐ SITE REVIEW – RESIDENTIAL Application fee $200.00+ $100.00 x # __ per dwelling unit =$_____
- ☐ SITE REVIEW – NON-RESIDENTIAL Application fee $200.00 + (not to exceed $10,000)
  - New construction $.15 sq. ft. x # _____ sq. ft.= $_____
  - Additions (new floor space) $.10 per sq. ft. x # _____sq. ft.= $_____
- ☐ MOTEL/HOTEL $35.00 x # ___ per lodging unit= $_____
- ☐ CHANGE OF USE Application fee $200.00 + (not to exceed $5,000)
  - Existing floor spaces $.10 per sq. ft. x # _____ sq. ft. = $_____
- ☒ CONDITIONAL USE PERMIT Application fee $200.00 x # _____ per Application = $ 200
- ☐ GRAVEL PIT/ EXCAVATIONS
  - Application fee $50.00= $_____
  - Permit fee $75.00= $_____
- ☐ EXTENSIONS/AMENDMENTS/WAIVERS FOR AN APPROVED PLAN Application fee $200.00 = $_____
- ☐ REQUEST FOR REZONING Application fee $200.00 = $_____
- ☐ DRIVEWAY WAIVER Application fee $200.00 = $_____

2. TOTAL IMPERVIOUS PAVED AREA (for new development, roadways or additions to existing parking lots, (not to exceed $10,000)) Application fee of $200.00 is N/A if it is part of a Site Review or Subdivision Plan. $200.00 + $.07 per sq. ft. x # _____ sq. ft. = $_____

SUBTOTAL PLAN REVIEW FEE (A) = $ 200

AND

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

- ☐ Applicant & Owner, engineer, architect, LLS, LLA and/or soil scientist
  - Certified letters fee # _____ of x $8.00= $_____
- ☐ Certified letters fee: # of abutters _____ X $8.00= $_____
- ☐ First Class Mail fee (for individual owner of units within a condominium or other collective form of ownership): # of abutters _____ X $1.00= $_____
- ☐ Creating/Printing Abutter Labels in triplicate per sheet _____ x $10.00= $_____

C. Foster's newspaper public notice fee $100.00 x # _____ applications = $_____

SUBTOTAL NOTICE FEE (B & C) = $_____

TOTAL INVOICE AMOUNT (A, B & C) = $_____

PLAN REVIEW FEE COLLECTED/PAID = $ _____

BALANCE DUE = $ _____

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

PROJECT NARRATIVE

for

STORAGE BARN, LLC.

Site Plan

Production Drive

Tax Map D, Lot 12-2

June 2022

PROJECT OVERVIEW & SITE CHARACTERISTICS

The project parcel is shown on Tax Map D as Lot 12-2, is located within the IT District and consists of 4.24 acres, currently undeveloped. The project applicant is proposing (5) buildings totaling 12,000 sf storage unit buildings with associated infrastructure. The lot is currently owned by TSB Properties.

Utilities are currently located in Production Drive.

The proposed site will include underground electric service, and associated drainage improvements. A portion of the grading and drainage work is proposed within the 50' wetland buffer with impacts of 11,901 sf. (See Conditional Use Permit application). There are no proposed impacts to any wetlands.

The project site consists of the following general improvements:

- Construction of +/- 12,000 sf storage facility with truck access.
- Construction of on-site stormwater detention and treatment system, grading, and other drainage requirements.
- On site utility construction.
- Construction of (1) new entrances on Production Drive.
- Stabilize remaining areas with loam and seed.

DRIVEWAY AND PARKING LOT

The facility will have a 24' wide driveway entrance and the site access will be 30' wide to accommodate delivery trucks and emergency vehicles access. Lighting for the proposed building will be per the Lighting Plan and will be LED fixtures that are dark sky compliant.

For the proposed storage facility, per the City of Dover, no parking is proposed.

WETLAND SETBACK IMPACT TYPE

The project work requires a conditional use permit from the City of Dover. Approximately 11,901 sf of the wetland buffer will be impacted. The project does not impact bogs, marshes, sand

dunes, tidal wetlands, cedar swamps, undisturbed tidal buffer zone, or involve any work within 50 feet of a salt marsh. The project is not located within 100 feet of prime wetlands.

DRAINAGE

The parcel is located at the west side of Production Drive. The proposed development will be surrounded by other commercial properties within a previously established industrial park. The watershed of the parcel includes the project site. On site soils are Scantic Silt Loam, and Hollis Charlton fine sandy. Scantic series soils classified as ScB C, Hollis-Charlton series soils classified as HcB/HcC C.

The proposed development of the site includes the construction of (5) buildings totaling 12,000 sf. The project also includes the installation of utility and drainage, including on-site stormwater detention and treatment systems. The post development watershed is modeled utilizing the same points of analysis as the predevelopment watershed, allowing direct comparison of the peak runoff between the pre and post developed conditions (see drainage report).

UTILITIES

The proposed project will connect to City of Dover water, and Eversource for electricity. Water, and electric lines are currently located within Production Drive. Building connections will be made per the City's Community Services Utility Division and Fire Department requirements and standards.

Michael Menary

From: Mavrogeorge, Kenneth <K.Mavrogeorge@dover.nh.gov>
Sent: Friday, June 3, 2022 3:11 PM
To: Michael Menary
Cc: Douglas LaRosa; Boulanger, Bill; DeGrace, Amelia
Subject: RE: CNE 21001-The Storage Barn - Production Drive, Dover, NH 03820 Tax Map D, Lot 12-1/ 12-2

Michael,

We have no concerns with the addition of a hydrant at this location.

Ken

Ken Mavrogeorge, PE
City Engineer
City of Dover, NH
271 Mast Rd.
Dover, NH 03820-4169
e: k.mavrogeorge@dover.nh.gov
p: 603.516.6454 | c: 603.534.8865
f: 603.516.6463

Dover: First in New Hampshire, First with you!
http://www.dover.nh.gov

From: Michael Menary <MMenary@civilworksne.com>
Sent: Thursday, June 2, 2022 12:33 PM
To: Mavrogeorge, Kenneth <K.Mavrogeorge@dover.nh.gov>
Cc: Douglas LaRosa <dlarosa@civilworksne.com>
Subject: CNE 21001-The Storage Barn - Production Drive, Dover, NH 03820 Tax Map D, Lot 12-1/ 12-2

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

Hello Kenneth,

As previously stated, The Storage Barn is proposing to construct a commercial self-storage unit buildings on Production Drive on both Lots 12-1 and 12-2.

For both sites; there is no water service, no sprinklers, and no sewer service.

We are proposing fire hydrants on either site which will need water service. Attached are draft utility plans for lot 12-2 and draft site plan for lot 12-1 to give a better location and project intent.

Please advise on the availability of water to the site. If you have any questions do not hesitate to contact me directly.

Thank you for your time

Michael Menary
Staff Engineer
Civilworks New England, PLLC.

181 Watson Road
P.O. Box 1166
Dover, New Hampshire 03821
O: (603) 749-0443
C: (973) 907-0370

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

This electronic message and any attachments may contain information that is confidential and/or legally privileged in accordance with NH RSA 91-A and other applicable laws or regulations. It is intended only for the use of the person and/or entity identified as recipient(s) in the message. If you are not an intended recipient of this message, please notify the sender immediately and delete the material. Do not print, deliver, distribute or copy this message, and do not disclose its contents or take any action in reliance on the information it contains unless authorized to do so. Thank you.

EVERSOURCE ENERGY

June 3, 2022

1700 Lafayette Road
Portsmouth, NH 03801

Michael J Busby
603-436-7708 x555-5678
michael.busby@eversource.com

Douglas LaRosa
Civilworks NE
181 Watson Road
Dover, NH 03820

Dear Jessica Smith:

I am responding to your request to confirm the availability of electric service for the proposed Production Drive Lot 12-2 project being constructed for/by Windsor Brook Property Advisors.

The proposed project consists of a 5 x 1-story building with 0 residential units approximately 12,000 s/f of retail/office space at the ground level and parking below grade. The proposed development will be constructed along Production Drive.

The developer will be responsible for the installation of all underground facilities and infrastructure required to service the new building. The service will be as shown on attached marked up Utility Plan 9. The proposed building service will be fed from existing underground electric as depicted on utility plan 9. The developer will work with Eversource to obtain all necessary easements and licenses for the proposed underground 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 “Utility Plan” dated 6/9/2022, 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, 603-436-7708 Ext. 555-5678

Respectfully.

Michael J. Busby, PE
NH Eastern Regional Engineering and Design Manager, Eversource

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

Stormwater Management System Inspection & Maintenance Plan

For

THE STORAGE BARN LLC.
MAP D, LOT 12-2

Production Drive
Dover, New Hampshire
Strafford County

June 16, 2022

Prepared For:

STORAGE BARN, LLC.
385 Sixth Street
Dover, New Hampshire 03820

Prepared By:

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

Introduction

Civilworks NE, has prepared the following Stormwater Management System Inspection & Maintenance Plan for **The Storage Barn LLC., Dover, NH**. 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 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 while at the same time ensuring the recharge of groundwater resources through continued infiltration.

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 NH DES Salt Application Certification.

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

Owner

TSB Properties, LLC.
Jessica Smith
385 Sixth Street
Dover, New Hampshire 03820

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

Contact / Responsible Party

TSB Properties, LLC.
Jessica Smith
385 Sixth Street
Dover, New Hampshire 03820

Phone: 603-396-1635
Email: jsmith@winsorbrook.com

The contact information for the Contact / Responsible Party shall be kept current; transfer shall be documented to NH DES in writing.

Management Company

Jessica Smith
385 Sixth Street
Dover, New Hampshire 03820

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

Inspection Schedule / Record Retention

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

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 and to recharge the underlying groundwater resources. As a result, its design includes the following elements:

- Pipe/Culverts
- Wet Ponds
- Energy Dissipation Structures (Rip Rap)
- Catch Basins
- Pavement
- Litter / Trash Removal

Structure callouts in ( ) correlate to 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 and to effectively recharge the underlying groundwater resources.

PIPES/CULVERTS:

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

WET PONDS:

- Inspect at least once per year.
- Periodic mowing to control vegetation growth.
- Remove any woody vegetation.
- Remove any debris from pond and outlet structure.
- Remove accumulated sediment.

ENERGY DISSIPATION STRUCTURES (RIP RAP): As Applicable

- 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.

CATCH BASIN(S):

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

PAVEMENT:

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

LITTER / TRASH REMOVAL:

- Routinely patrol site for litter pick up.

DE-ICING AGENTS

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

- Recommend using a certified Winter Operator (Green SnowPro Trained) for applying de-icing agents.
- Monitor weather and apply de-icing agents based on weather conditions and temperatures.

ANTI-ICING AND SALT MINIMIZATION

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

Inspection & Maintenance Table

System Component / BMP	Minimum Inspection Frequency	Minimum Inspection Requirements	Maintenance / Cleanout Threshold
Pipes/Culverts	Annually	• Check for sediment accumulation and clogging	≥ 2 in. sediment depth
Wet Ponds	Annually	• Check for sediment accumulation • Check for woody vegetation growth • Check for debris	Remove/Dispose of accordingly Mow twice per year Remove/Dispose of accordingly
Energy Dissipation (ED) Structures (RipRap)	Annually	• Check for displaced stones • Check for woody vegetation	Replace immediately Remove annually
Outlet Structure(s)	Annually	• Inspect once per year • Inspect for clogging and sediment accumulation. • Remove all debris immediately and sediment accumulations ≥ 2 inches	≥ 2 in. sediment Remove immediately
Catch Basins	Annually	• Check for sediment accumulation • Check for floatable contaminants	≥ 1 ft. sediment depth Remove all floatables
Pavement • Sanding • Salt Applications • Sweep/Vacuum • Trash/Debris	Limit use As Req. 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 Req. Sweep/Vacuum as needed Remove when noticed
Litter / Trash Removal	Periodically	• Check for litter and trash	Remove when noticed

Inspection & Maintenance Checklist/Log

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

Stormwater Management System's Inspection & Maintenance Log

Date of Inspection/Maintenance: _____ Inspector: _____

System Component / BMP	Cleaning / Repair Needed (List Items / Comments)	Date of Cleaning/Repair	Performed By

Deicing Salt Quantity Use Log

Date	Amount of Material Applied	Comments

Landscape Best Management Practices
Operations and Maintenance Plan

The Storage Barn LLC.
Production Drive
Dover, NH 03821

Prepared for
Civil Works New England
181 Watson Road
Dover, NH 03821
July 31, 2021

Prepared by
Ironwood Design Group, LLC
Exeter, New Hampshire 03833

Ironwood
Landscape Architecture • Planning

Landscape Maintenance

The landscape enhancements proposed for the American Durafilm 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 plants are becoming established. Anyone involved in the upkeep of the facility should become familiar with the site design, installed plant materials, and design features.

Identified below are the required minimum maintenance tasks.

Weekly Tasks

1. Prune back any vegetation overhanging curbs or sidewalks.
2. Remove litter from plants bed.
3. Remove any broken or fallen branches from trees.
4. Remove sucker growth from tree trunks.
5. Remove weeds larger than 2 inches high or wide from plant beds. Weeds 2 inches and larger 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.**
6. Any invasive species seedlings observed should be removed and disposed of properly.
7. Replace any bark mulch that has been washed out of plant beds. Smooth mulch layer if it has been disturbed.
8. Check plants for signs of stress, pests or disease.
9. Notify Owner for authorization to replace dead plants at the appropriate time (see annual tasks, September).
10. If a significant decline in plant health is attributed to an insect pest, **apply an organic product and/or process** to control the pest.
11. Water any plants that are dry and stressed.
12. Identify other tasks listed on the Annual and Monthly checklist of tasks.

Annual Tasks

Early Spring

1. Prune any winter damage on trees, and in particular look for damaged branches that interfere with public safety. Trees adjacent to pedestrian sidewalks shall have branches pruned to 6-foot height.
2. Trim any perennial foliage left in the fall for winter interest to within six inches of the ground.
3. Gently prune shrubs at appropriate time of year based on species, for shape and form. **Do not shear**.
4. Add new mulch to plant beds where the mulch depth has been reduced to less than 2 inches. Mulch depth shall not exceed two inches. Mulch is not required where shrubs or groundcover completely hide the soil surface from view.

June, July, August

No additional tasks.

September

1. Inventory all plant materials, including an exact count of all shrubs and trees.
2. Replace dead or missing plants.

October

No additional tasks.

November

1. Remove leaves from lawn areas and planting beds.
2. Remove perennial vegetation that has died back for the season.
3. Apply “WILT-PRUF” to broadleaf evergreens, according to label instructions, to protect shrubs from winter die back.
4. Prior to the first hard freeze, disconnect the garden hose from the building hose bib.

December

1. Prune any tree branches that interfere with public safety.
2. Prune street trees yearly to encourage strong growth the following growing season. Trees adjacent to pedestrian sidewalks shall have branches pruned to 6-foot height.

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

TRAFFIC ASSESMENT MEMORANDUM

INTRODUCTION

Civilworks New England has prepared this traffic-assessment memorandum (TAM). This TAM regards The Storage Barn located on Production Drive in the City of Dover, New Hampshire.

This TAM includes:

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

This TAM concludes that:

- relevant sight distances at the Production Drive/proposed driveway intersections will be adequate
- The proposed project is not anticipated to add significant new traffic to the area

EXISTING SITE DESCRIPTION

The site:

- is along the westerly side of Production Drive
- has an area of about 4.29 acres
- is presently wooded, vacant land
- Tax Map D, Lot 12-2

PROPOSED PROJECT DESCRIPTION

The project will provide:

- five self-storage unit buildings; building #1 is 3,200sf, building #2 is 4,000 sf, building #3/#4/#5 is 1,600 sf

- total gross floor area of 12,000 sf
- one unsignalized driveway intersecting the west side of Production Drive

ROAD DESCRIPTION

Production Drive:

- is under the jurisdiction of the City
- is a 850 ft ± long local industrial street with a cul de sac
- Production Drive is oriented about north-south
- at the south end, intersects with Sixth Street, a local street serving the City
- includes a relatively straight horizontal alignment
- has minor vertical grades
- has bituminous concrete pavement in overall good condition
- has one travel lane per direction, with 30ft. wide pavement
- has unmarked pavement
- has a posted speed limit of 30 miles per hour
- has sloped granite curb encompassing the entire road
- has a bituminous concrete sidewalk that is on the easterly side of the road
- includes utility services
- currently has two industrial/ office buildings; 17 Production Drive, 27 Production Drive

PUBLIC TRANSIT

Collaborative Alliance for Seacoast Transportation (COAST) Route 33 provides service along nearby Venture Drive. Service is on non-holiday weekdays. The nearest stop to the site is on Sixth Street in-between Production Drive and Venture Drive 1,090 ft. (0.2 mi) from the site. Route 33 connects with:

- central Dover, to the southeast
- the Dover Transportation Center, to the southeast
- the New Hampshire Department of Transportation Park and Ride facility near Indian Brook Drive and Spaulding Turnpike interchange 9, to the east
- the Strafford County Complex, to the west

SIGHT DISTANCES

The American Association of State Highway and Transportation Officials (AASHTO) has established authoritative policy for sight distances at intersections with no signal in terms of:

- stopping sight distance (SSD)

Production Drive services traffic from the abutters on the easterly side of the street: 17 Production Drive (RTH Mechanical Contractors), and 27 Production Drive (GM Nameplate Co). This proposed development will access from the westerly side of Production Drive. Due to very low traffic volume, and the short length (850ft.±) of Production Drive, there will be an adequate sight distance looking south down Production Drive.

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 information for light industrial, Land Use Code 151, based on floor area.[2] Table 1 shows calculated vehicle trip ends due to the proposed development as:

Table 1. Calculated Trip generation.

	Vehicle-Trips*		
Time Period	Total	In	Out
Weekday Daily	18	9	9
Weekday AM-Street-Peak Hour	2	1	1
Weekday PM-Street-Peak Hour	2	1	1
Saturday Daily	22	11	11
Saturday Site-Peak Hour	2	1	1

* ITE, *Trip Generation Manual*, Mini Warehouse, Land Use Code 151, 12,000-sf floor area.

- weekday daily, 18 (total of in and out)
- weekday AM-street-peak hour, 2 (1 in and 1 out)

[1] ITE, *Trip Generation Manual,* 10th edition (Washington DC, September 2017).

[2] ITE, *Trip Generation Manual,* Volume 2, Data, Industrial (Land Uses 100-199), pages 1 to 19.

- weekday PM-street-peak hour, 2 (1 in and 1 out)
- Saturday Daily, 22 (total of in and out)
- Saturday Site-Peak Hour, 2 (1 in and 1 out)

TRIP DISTRIBUTION/ASSIGNMENT

Calculated trip generation is so low that area traffic operations are not sensitive to trip distribution/assignment. Vehicle-trips to and from the east may predominate largely due to connections with central Dover and the Spaulding Turnpike. All trips access the site from Sixth Street via Production Drive.

POTENTIAL TRAFFIC IMPACTS

The calculations show less than 100 peak-hour primary vehicle-trips, due to the proposed project. More specifically, tabulated peak-hour trip generation is:

- 2 vehicle-trips
- split entering versus exiting the site

Therefore, the proposed project is not anticipated to add significant new traffic to the Sixth Street or Venture Drive.

CONCLUSION

In conclusion:

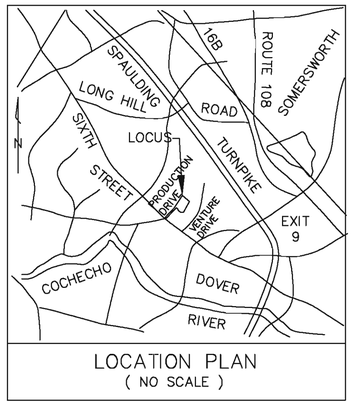
- sight distances at the Production Drive/proposed driveway intersections will be adequate
- the proposed project is not anticipated to add significant new traffic to the area

CIVILWORKS NEW ENGLAND

Sincerely,

_____
Stephen J. Haight, PE

cc. The Storage Barn



LOCATION PLAN
(NO SCALE)

SITE PLAN
FOR
THE STORAGE BARN LLC.

TAX MAP D, LOT 12-2

PRODUCTION DRIVE

DOVER, NH

JUNE 16, 2022

The Storage Barn

OWNER

TSB PROPERTIES LLC.
385 SIXTH STREET
DOVER, NH 03820

_____ DATE

SITE CIVIL ENGINEER

CIVILWORKS NEW ENGLAND
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 681
24 CHESTNUT STREET
DOVER, NH 03820
(603) 742–0911

WETLAND SCIENTIST

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

ARCHITECT

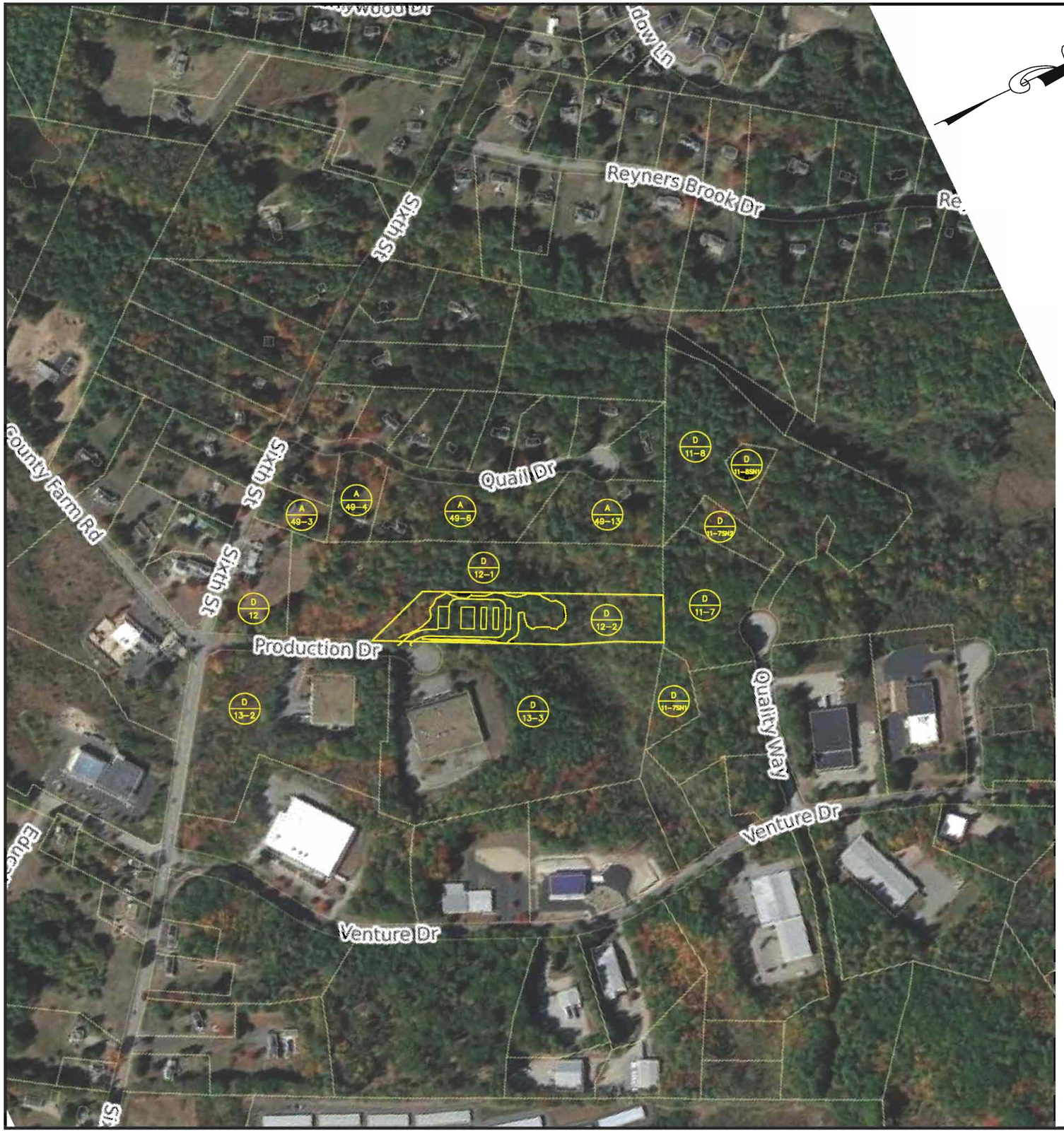
JOHN W. TUTTLE, AIA
TW DESIGNS
254 DRAKE HILL ROAD
STRAFFORD, NH 03884
(603) 664–2181

LANDSCAPE ARCHITECT

JEFFREY R. HYLAND
IRONWOOD DESIGN GROUP, LLC.
PO BOX 873
NEWMARKET, NH 03857
(603) 772–0590

SHEET INDEX	SHEET
COVER SHEET	1
NEIGHBORHOOD PLAN	2
SUBDIVISION PLAN SCRD #12433 (BY MCENEANEY SURVEY)	3
TOPOGRAPHIC SUBDIVISION PLAN (BY MCENEANEY SURVEY)	4
NOTE SHEET	5
DEMOLITION PLAN	6
SITE PLAN	7
GRADING, DRAINAGE & EROSION CONTROL PLAN	8
UTILITY PLAN	9
EROSION CONTROL NOTES	10
DETAILS	11 - 15
LIGHTING PLAN	16
LANDSCAPE PLAN - DRAFT	17
DOVER LADDER TRUCK MOVEMENT PLAN	18
BOX TRUCK MOVEMENT PLAN	19
ELEVATION PLAN - DRAFT	EX-E
CONDITIONAL USE PERMIT PLAN	CUP

SIGNATURE BOX



ABUTTERS LIST
(WITHIN 200 FT)

	TAX MAP	LOT NO.	NAME & ADDRESS
D 12-2	D	12-2	TSB PROPERTIES LLC. 385 SIXTH ST. DOVER, NH 03820
D 12-1	D	12-1	TSB PROPERTIES LLC. 385 SIXTH ST. DOVER, NH 03820
D 12	D	12	TSB PROPERTIES LLC. 385 SIXTH ST. DOVER, NH 03820
A 49-3	A	49-3	LANGELLOTTI JODI F &, LANGELLOTTI CHRISTOPHER 453 SIXTH ST DOVER, NH 03820
A 49-4	A	49-4	BROWN NEVIN D &, ROSE EMILY G 7 QUAIL DR DOVER, NH 03820
A 49-6	A	49-6	BANAIAN JACOB C &, BANAIAN KRISTEN 11 QUAIL DR DOVER, NH 03820
A 49-13	A	49-13	PORTER DOUGLAS W &, PORTER YUKARI 29 QUAIL DR DOVER, NH 03820
D 11-8	D	11-8	DOVER BUSINESS & IND DEV AUTHORITY, F/K/A DOVER IND DEV AUTHORITY 288 CENTRAL AVE DOVER, NH 03820
D 11-7	D	11-7	DOVER BUSINESS & IND DEV AUTHORITY, F/K/A DOVER IND DEV AUTHORITY 288 CENTRAL AVE DOVER, NH 03820
D 11-8SN1	D	11-8SN1	DOVER BUSINESS & IND DEV AUTHORITY, F/K/A DOVER IND DEV AUTHORITY 288 CENTRAL AVE DOVER, NH 03820
D 11-7SN2	D	11-7SN2	DOVER BUSINESS & IND DEV AUTHORITY, F/K/A DOVER IND DEV AUTHORITY 288 CENTRAL AVE DOVER, NH 03820
D 11-7SN1	D	11-7SN1	DOVER BUSINESS & IND DEV AUTHORITY, F/K/A DOVER IND DEV AUTHORITY 288 CENTRAL AVE DOVER, NH 03820
D 13-3	D	13-3	SARNIA PROPERTIES INC, 1 HAVEN COURT PORTSMOUTH, NH 03801
D 13-2	D	13-2	ATLANTIC AVENUE REALITY TRUST LLC. 17 PRODUCTION DR DOVER, NH 03820

K / 26 — TAX MAP / LOT NUMBER

GRAPHIC SCALE
200 0 100 200 400 800
(IN FEET)

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

NO.	REVISION	APP'D	DATE

DATE: 6-16-22
SCALE: NOTES
DRAWN BY: MJM
DESIGN BY: MJM
APPROVED BY:SJH
PROJECT NO:21001
FILE: 21001-SITE

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

STATE OF NEW HAMPSHIRE
STEPHEN J HAIGHT No. 7978 LICENSED PROFESSIONAL ENGINEER

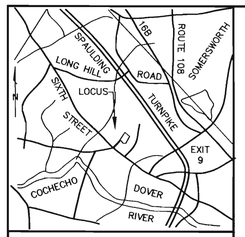
NEIGHBORHOOD PLAN

TSB PROPERTIES, LLC.
385 SIXTH STREET
DOVER, NH 03820

THE STORAGE BARN
PRODUCTION DRIVE
MAP D, LOT 12-2
DOVER, NH 03820

2

Plan# 12433 06/30/2021 02:07:35 PM
Page 1 of 1
Register of Deeds, Strafford County
LCHIP STA181731 25.00



LOCATION PLAN
(NO SCALE)

No.	Bearing	Distance
L1	N37°29'45"W	25.98'
L2	N44°57'47"W	99.56'
L3	N24°09'52"E	29.37'
L4	N23°27'05"E	29.39'
L5	N21°01'25"E	69.29'
L6	N28°55'19"E	83.16'
L7	S67°25'51"E	65.22'
L8	S26°08'42"W	39.11'
L9	S67°25'51"E	53.85'

NH STATE PLANE
NAD 83 - GPS OBS.

REFERENCE PLANS:

1.) AMENDED SUBDIVISION AND LOT LINE ADJUSTMENT PLAN PREPARED FOR GEORGE J. FOSTER & Co., INC. AND DOVER BUSINESS AND INDUSTRIAL DEVELOPMENT AUTHORITY, TAX MAP D, LOT Nos. 9A & 11–1, VENTURE DRIVE AND QUALITY WAY, DOVER, STRAFFORD COUNTY, NEW HAMPSHIRE. SCALE: 1" = 100'; DATED: FEBRUARY 14, 2006, REVISED THROUGH 5/3/06; BY: McENEANEY SURVEY ASSOCIATES, INC. RECORDED S.C.R.D. PLAN 85–99 & 85–100.

2.) SUBDIVISION OF LAND PREPARED FOR DOVER INDUSTRIAL DEVELOPMENT AUTHORITY, TAX MAP H, LOT No. 11–1, VENTURE DRIVE, DOVER, STRAFFORD COUNTY, NEW HAMPSHIRE. SCALE: 1" = 100'; DATED: FEBRUARY 28, 2005; BY: McENEANEY SURVEY ASSOCIATES, INC. RECORDED S.C.R.D. PLAN 79–87.

3.) LOT LINE ADJUSTMENT PREPARED FOR DOVER INDUSTRIAL DEVELOPMENT AUTHORITY AND CRAMER FABRICS, INC. SIXTH STREET, VENTURE & PRODUCTION DRIVES, DOVER, NEW HAMPSHIRE. SCALE: 1" = 80'; DATED: JULY 28, 1997; BY: McENEANEY SURVEY ASSOCIATES, INC. RECORDED S.C.R.D. PLAN 50–71.

4.) SUBDIVISION PLAN OF LAND OF QUAIL RUN FOR CLD INVESTMENT PROPERTIES, SIXTH STREET, COUNTY OF STRAFFORD, DOVER, N.H. SCALE: 1" = 50'; DATED: DECEMBER 16, 1988; BY: RICHARD P. MILLETTE AND ASSOCIATES. RECORDED S.C.R.D. PLAN 38–129.

5.) TAX MAP D, LOT 12 – EXISTING CONDITIONS PLAN – 447 SIXTH STREET, DOVER, NEW HAMPSHIRE, COUNTY OF STRAFFORD OWNED BY TSB PROPERTIES, LLC. SCALE: 1" = 60'; DATED: APRIL 18, 2018; BY: TFM MSC. NOT RECORDED.

SIXTH STREET {PUBLIC; VARIABLE WIDTH R.O.W.}

B / 1E
DEBRA A. DUNTON
CHARLENE R. CHANDLER
450 SIXTH STREET
DOVER, NH 03820
2072 / 214

A / 49–3
JODI F. LANGELLOTTI
CHRISTOPHER A. LANGELLOTTI
453 SIXTH STREET
DOVER, NH 03820
4362 / 13

A / 49–4
NEVIN D. BROWN
EMILY G. ROSE
7 QUAIL DRIVE
DOVER, NH 03820
2868 / 649

A / 49–6
JACOB C. BANAIAN
KRISTEN BANAIAN
11 QUAIL DRIVE
DOVER, NH 03820
1839 / 566

A / 49–13
DOUGLAS W. PORTER
YUKARI PORTER
29 QUAIL DRIVE
DOVER, NH 03820
4600 / 780

D / 11–8
DOVER BUSINESS & INDUSTRIAL DEVELOPMENT AUTHORITY
288 CENTRAL AVENUE
DOVER, NH 03820
1559 / 394

B / 1N
ISABELLA'S PLACE LLC
P.O. Box 4241
PORTSMOUTH, NH 03802
4620 / 688

D / 11–7
DOVER BUSINESS & INDUSTRIAL DEVELOPMENT AUTHORITY
288 CENTRAL AVENUE
DOVER, NH 03820
1559 / 394

B / 1
RICHARD MARONE
ADELE MARONE
500 SIXTH STREET
DOVER, NH 03820
4276 / 582

D / 12 REMAINING LAND
PARCEL AREA
90,417 S.F.
2.08 Ac.
(CONTIGUOUS UPLAND 2.00 Ac.)

D / 12–1
PARCEL AREA
337,616 S.F.
7.75 Ac.
(CONTIGUOUS UPLAND 3.81 Ac.)

D / 12–2
PARCEL AREA
184,682 S.F.
4.24 Ac.
(CONTIGUOUS UPLAND 2.43 Ac.)

D / 13–3
SARNIA PROPERTIES, INC.
1 HAVEN COURT
PORTSMOUTH, NH 03801
4850 / 405

D / 13–2
ATLANTIC AVENUE REALTY TRUST, LLC
17 PRODUCTION DRIVE
DOVER, NH 03820
4687 / 882

E / 32
FASTDOGS REALTY, LLC
432 SIXTH STREET
DOVER, NH 03820
3851 / 861

PRODUCTION DRIVE {PUBLIC; 50' WIDE R.O.W.}

ZONE LINE
IT
R–40
BUILDING SETBACK LINE (TYP.)
EXISTING DWELLING #447
75' WELL PROTECTIVE RADIUS
APPROXIMATE LEACH FIELD
WETLAND BUFFER
50'
EDGE OF WETLAND (TYP.)
SEE NOTE 11
DWELLING

N44°37'47"E 149.64'
N44°37'47"E 122.07'
N24°23'10"E 154.61'
N24°35'13"E 114.88'
N27°05'33"E 131.55'
N25°41'40"E 192.94'
N25°30'40"E 355.38'
N26°51'30"E 111.72'
S65°11'22"E 119.60'
S65°43'34"E 123.16'
S25°48'36"W 898.74'
S25°55'25"W 181.73'
S21°20'46"W 180.57'
S26°08'39"W 528.05'
S26°08'39"W 200.00'
S19°26'30"E 262.36'
S27°26'57"W 281.95'
S27°26'57"W 286.07'
N44°55'39"W 336.98'
S62°33'03"E 395.40'

L1 L2 L3 L4 L5 L6 L7 L8 L9

I.P.(fnd) – IRON PIPE FOUND
I.R.(fnd) – IRON ROD FOUND
D.H.(fnd) – DRILL HOLE FOUND
I.R.(tbs) – IRON ROD TO BE SET

S.F. – SQUARE FEET
Ac. – ACRE
(TYP.) – TYPICAL
± – MORE OR LESS
ø – DIAMETER
S.C.R.D. – STRAFFORD COUNTY REGISTRY OF DEEDS
R.O.W. – RIGHT OF WAY
TBM – TEMPORARY BENCHMARK
N – – NORTHING
E – – EASTING
RIM = – RIM ELEVATION
UP – UTILITY POLE
CB – CATCH BASIN
SMH – SEWER MANHOLE
WG – WATER GATE VALVE
WSO – WATER SHUT–OFF (CURB STOP)
CONC. – CONCRETE
F.F. – FINISH FLOOR
W – WELL
+203.7 – EXISTING SPOT GRADE
202 – EXISTING CONTOUR (2 FOOT INTERVAL)
W – WATER SERVICE
S – SEWER SERVICE
PW – PROPOSED WATER SERVICE
PS – PROPOSED SEWER SERVICE
OH E/T – OVERHEAD ELECTRIC / TELEPHONE

I.R.(tbs) N – 264,445.068 E – 1,184,901.071 (SEE NOTE 7)
I.P.(fnd) N – 263,966.927 E – 1,185,086.680 (SEE NOTE 7)

NOTES:

1.) OWNER OF RECORD:
TSB PROPERTIES, LLC
385 SIXTH STREET
DOVER, NEW HAMPSHIRE
S.C.R.D. VOLUME 4545, PAGE 961

OWNER SIGNATURE

2.) D / 12 – DENOTES TAX MAP AND PARCEL NUMBER.

3.) TOTAL PARCEL AREA = 612,715 S.F. / 14.07 Ac.

4.) THE INTENT OF THIS PLAN IS TO DEPICT A SUBDIVISION OF THE SUBJECT PARCEL INTO THREE (3) LOTS AS SHOWN. PARCEL D / 12 IS CURRENTLY SERVED BY WELL AND INDIVIDUAL SUBSURFACE DISPOSAL SYSTEM. ALL THREE (3) LOTS WILL HAVE ACCESS TO MUNICIPAL SEWER AND WATER.

5.) ZONING DISTRICT IS INNOVATIVE TECHNOLOGY (IT)

DIMENSIONAL REQUIREMENTS:

MINIMUM LOT SIZE	= 2 ACRES
MINIMUM 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 MAXIMUM

6.) THE SUBJECT PARCEL IS LOCATED OUTSIDE OF THE 0.2 PERCENT ANNUAL CHANCE FLOODPLAIN AS SHOWN ON FLOOD INSURANCE RATE MAP COMMUNITY NUMBER 330145; PANEL 0310; SUFFIX E; MAP NUMBER 33017C0310E; EFFECTIVE DATE SEPTEMBER 30, 2015.

7.) BASIS OF BEARING IS NH STATE PLANE (NAD83) BASED ON GPS OBSERVATION DATED MARCH 8, 2021.
VERTICAL DATUM IS NH STATE PLANE (NAVD88) BASED ON GPS OBSERVATION DATED MARCH 8, 2021.

8.) PROPERTY LINE INFORMATION HAS BEEN OBTAINED FROM A SURVEY PERFORMED BY MCENEANEY SURVEY ASSOCIATES OF NEW ENGLAND DURING MARCH 2021 AND REFERENCE PLANS WITH AN ERROR NOT GREATER THAN 1 IN 10,000.

9.) AN ACCESS EASEMENT FROM PRODUCTION DRIVE, ACROSS D–12 OR D–12–2, TO BENEFIT PARCEL D–12–1 WILL BE CREATED AT THE TIME PARCEL D–12–1 IS PRESENTED FOR SITE PLAN APPROVAL. THERE WILL BE NO ACCESS THROUGH THE FRONTAGE ON D–12–1.

10.) WETLANDS SHOWN WERE TAKEN FROM REFERENCE PLAN No. 5 AND REVIEWED AND VERIFIED BY DAMON E. BURT, N.H.C.W.S. #163 OF FRAGGLE ROCK ENVIRONMENTAL SERVICES DURING MARCH 2021 IN ACCORDANCE WITH THE 1987 CORPS. OF ENGINEERS WETLANDS DELINEATION MANUAL AND LOCATED BY THIS OFFICE.

11.) THE PARCEL IS SUBJECT TO AN EASEMENT GRANTED TO NEW ENGLAND TELEPHONE AND TELEGRAPH COMPANY DATED FEBRUARY 10, 1984 AND DESCRIBED IN S.C.R.D. VOLUME 1124, PAGE 676.

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

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

APPROVED
DATE 6/22/21
City of Dover, N.H.
PLANNING BOARD
CHAIRMAN/DIRECTOR

NO.	DATE	DESCRIPTION	BY	CHK
		REVISIONS		

21–2340	SUBDIVISION	21–02	20–28
PROJECT NO	TYPE	FIELDBOOK & PAGES	

"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."

SUBDIVISION OF LAND
PREPARED FOR
TSB PROPERTIES, LLC
TAX MAP D, LOT No. 12
447 SIXTH STREET & PRODUCTION DRIVE
CITY of DOVER
COUNTY of STRAFFORD
STATE of NEW HAMPSHIRE

DOVER PLANNING FILE No. P 21–32

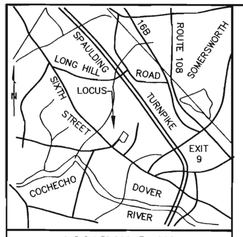
DRAWN BY: RJM	FILE: 2340\DWGS\21–2340R
SCALE: 1" = 60'	DATE: APRIL 15, 2021

60 30 0 30 60 120 180 240

STATE OF NEW HAMPSHIRE LICENSED LAND SURVEYOR No. 661 KEVIN M. McENEANEY SIGNATURE

McEneaney Survey Associates of NEW ENGLAND
P.O. Box 681 – 24 CHESTNUT STREET
DOVER, NH 03820 (603) 742–0911

SURVEYING – PLANNING – CONSULTING



LOCATION PLAN
(NO SCALE)

No.	Bearing	Distance
L1	N37°29'45"W	25.98'
L2	N44°57'47"W	99.56'
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L4	N23°27'05"E	29.39'
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L6	N28°55'19"E	83.16'
L7	S67°25'51"E	65.22'
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L9	S67°25'51"E	53.85'

NH STATE PLANE
NAD 83 - GPS OBS.

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450 SIXTH STREET
DOVER, NH 03820
2072 / 214

B / 1N
ISABELLA'S PLACE LLC
P.O. Box 4241
PORTSMOUTH, NH 03802
4620 / 688

B / 1
RICHARD MARONE
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1839 / 566

A / 49-13
DOUGLAS W. PORTER
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29 QUAIL DRIVE
DOVER, NH 03820
4600 / 780

D / 11-8
DOVER BUSINESS & INDUSTRIAL
DEVELOPMENT AUTHORITY
288 CENTRAL AVENUE
DOVER, NH 03820
1559 / 394

D / 11-7
DOVER BUSINESS
& INDUSTRIAL
DEVELOPMENT AUTHORITY
288 CENTRAL AVENUE
DOVER, NH 03820
1559 / 394

D/11-7SNI
DOVER BUSINESS & INDUSTRIAL
DEVELOPMENT AUTHORITY
288 CENTRAL AVENUE
DOVER, NH 03820
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D / 13-2
ATLANTIC AVENUE REALTY TRUST, LLC
17 PRODUCTION DRIVE
DOVER, NH 03820
4687 / 882

D / 13-3
SARNIA PROPERTIES, INC.
1 HAVEN COURT
PORTSMOUTH, NH 03801
4850 / 405

D / 12 REMAINING LAND
PARCEL AREA
90,417 S.F.
2.08 Ac.
(CONTIGUOUS UPLAND = 2.00 Ac.)

D / 12-1
PARCEL AREA
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(CONTIGUOUS UPLAND 3.81 Ac.)

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PARCEL AREA
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(CONTIGUOUS UPLAND/2.43 Ac.)

SIXTH STREET {PUBLIC; VARIABLE WIDTH R.O.W.}
PRODUCTION DRIVE {PUBLIC; 50' WIDE R.O.W.}
COUNTY FARM ROAD
ZONE LINE
R-40
IT
HcC
HcB
Sb
GsC
ScB
BUILDING SETBACK LINE (TYP.)
75' WELL PROTECTIVE RADIUS
EXISTING DWELLING #447
APPROXIMATE LEACH FIELD
WETLAND BUFFER
EDGE OF WETLAND (TYP.)
DWELLING
SEE NOTE 11
N44°37'47"E 149.64'
N44°37'47"E 122.07'
N24°28'10"E 154.61'
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N26°51'30"E 111.72'
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S25°55'25"W 181.73'
S21°20'46"W 180.57'
S26°08'39"W 528.05'
S26°08'39"W 200.00'
S27°26'57"W 281.95'
S27°26'57"W 286.07'
S62°33'03"E 365.40'
S19°26'30"E 268.36'
N44°55'39"W 336.98'

I.R.(tbs) N - 264,445.068 E - 1,184,901.071 (SEE NOTE 7)
I.R.(tbs) N - 263,966.927 E - 1,185,086.680 (SEE NOTE 7)

APPROVED
DATE 6/22/21
City of Dover, N.H.
PLANNING BOARD
CHAIRMAN / DIRECTOR

LEGEND

I.P.(fnd) - IRON PIPE FOUND
I.R.(fnd) - IRON ROD FOUND
D.H.(fnd) - DRILL HOLE FOUND
I.R.(tbs) - IRON ROD TO BE SET

S.F. - SQUARE FEET
Ac. - ACRE
(TYP.) - TYPICAL
± - MORE OR LESS
ø - DIAMETER
S.C.R.D. - STRAFFORD COUNTY REGISTRY OF DEEDS
R.O.W. - RIGHT OF WAY
TBM - TEMPORARY BENCHMARK
N - - NORTHING
E - - EASTING
RIM = - RIM ELEVATION
-o- UP - UTILITY POLE
□ CB - CATCH BASIN
(S) SMH - SEWER MANHOLE
WG - WATER GATE VALVE
WSO - WATER SHUT-OFF (CURB STOP)
CONC. - CONCRETE
F.F. - FINISH FLOOR
(W) - WELL
+203.7 - EXISTING SPOT GRADE
202 - EXISTING CONTOUR (2 FOOT INTERVAL)
W - WATER SERVICE
S - SEWER SERVICE
PW - PROPOSED WATER SERVICE
PS - PROPOSED SEWER SERVICE
OH E/T - OVERHEAD ELECTRIC / TELEPHONE
HcB - SOIL TYPE
SOILS LINE

THE SOIL TYPES ON THE SITE ARE:
GsC GLOUCESTER VERY STONY FINE SANDY LOAM, 8 TO 15 PERCENT SLOPES
HcB HOLLIS-CHARLTON FINE SANDY LOAMS, 3 TO 8 PERCENT SLOPES
HcC HOLLIS-CHARLTON FINE SANDY LOAMS, 8 TO 15 PERCENT SLOPES
Sb SAUGATUCK LOAMY SAND
ScB SCANTIC SILT LOAM, 3 TO 8 PERCENT SLOPES

THE SOURCE FOR THE SOIL TYPE DATA IS USDA SCS SOIL SURVEY OF STRAFFORD COUNTY DATED MARCH 1973 & USDA NRCS WEB SOIL SURVEY
http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

NOTES:

1.) OWNER OF RECORD:
TSB PROPERTIES, LLC
385 SIXTH STREET
DOVER, NEW HAMPSHIRE
S.C.R.D. VOLUME 4545, PAGE 961

James Smith
OWNER SIGNATURE

2.) D / 12 - DENOTES TAX MAP AND PARCEL NUMBER.

3.) TOTAL PARCEL AREA = 612,715 S.F. / 14.07 Ac.

4.) THE INTENT OF THIS PLAN IS TO DEPICT A SUBDIVISION OF THE SUBJECT PARCEL INTO THREE (3) LOTS AS SHOWN. PARCEL D / 12 IS CURRENTLY SERVED BY WELL AND INDIVIDUAL SUBSURFACE DISPOSAL SYSTEM. ALL THREE (3) LOTS WILL HAVE ACCESS TO MUNICIPAL SEWER AND WATER.

5.) ZONING DISTRICT IS INNOVATIVE TECHNOLOGY (IT)

DIMENSIONAL REQUIREMENTS:

MINIMUM LOT SIZE	= 2 ACRES
MINIMUM 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 MAXIMUM

6.) THE SUBJECT PARCEL IS LOCATED OUTSIDE OF THE 0.2 PERCENT ANNUAL CHANCE FLOODPLAIN AS SHOWN ON FLOOD INSURANCE RATE MAP COMMUNITY NUMBER 330145; PANEL 0310; SUFFIX E; MAP NUMBER 33017C0310E; EFFECTIVE DATE SEPTEMBER 30, 2015.

7.) BASIS OF BEARING IS NH STATE PLANE (NAD83) BASED ON GPS OBSERVATION DATED MARCH 8, 2021.
VERTICAL DATUM IS NH STATE PLANE (NAVD88) BASED ON GPS OBSERVATION DATED MARCH 8, 2021.

8.) PROPERTY LINE INFORMATION HAS BEEN OBTAINED FROM A SURVEY PERFORMED BY MCENEANEY SURVEY ASSOCIATES OF NEW ENGLAND DURING MARCH 2021 AND REFERENCE PLANS WITH AN ERROR NOT GREATER THAN 1 IN 10,000.

9.) AN ACCESS EASEMENT FROM PRODUCTION DRIVE, ACROSS D-12 OR D-12-2, TO BENEFIT PARCEL D-12-1 WILL BE CREATED AT THE TIME PARCEL D-12-1 IS PRESENTED FOR SITE PLAN APPROVAL. THERE WILL BE NO ACCESS THROUGH THE FRONTAGE ON D-12-1.

10.) WETLANDS SHOWN WERE TAKEN FROM REFERENCE PLAN No. 5 AND REVIEWED AND VERIFIED BY DAMON E. BURT, N.H.C.W.S. #163 OF FRAGGLE ROCK ENVIRONMENTAL SERVICES DURING MARCH 2021 IN ACCORDANCE WITH THE 1987 CORPS. OF ENGINEERS WETLANDS DELINEATION MANUAL AND LOCATED BY THIS OFFICE.

11.) THE PARCEL IS SUBJECT TO AN EASEMENT GRANTED TO NEW ENGLAND TELEPHONE AND TELEGRAPH COMPANY DATED FEBRUARY 10, 1984 AND DESCRIBED IN S.C.R.D. VOLUME 1124, PAGE 676.

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

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

"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."

NO.	DATE	DESCRIPTION	BY	CHK
		REVISIONS		

21-2340	SUBDIVISION	21-02	20-28
PROJECT NO	TYPE	FIELDBOOK & PAGES	

TOPOGRAPHIC SUBDIVISION PLAN
PREPARED FOR
TSB PROPERTIES, LLC
TAX MAP D, LOT No. 12
447 SIXTH STREET & PRODUCTION DRIVE
CITY of DOVER
COUNTY of STRAFFORD
STATE of NEW HAMPSHIRE

DOVER PLANNING FILE No. P 21-32

DRAWN BY: RJM	FILE: 2340\DWGS\21-2340R
SCALE: 1" = 60'	DATE: APRIL 15, 2021

60 30 0 30 60 120 180 240

STATE OF NEW HAMPSHIRE
No. 661
KEVIN M. McENEANEY
LICENSED LAND SURVEYOR
SIGNATURE

McEneaney Survey Associates of NEW ENGLAND
P.O. Box 681 - 24 CHESTNUT STREET
DOVER, NH 03820 (603) 742-0911

SURVEYING - PLANNING - CONSULTING

GENERAL NOTES:

1. OWNERS OF RECORD:

   TSB PROPERTIES LLC.
   385 SIXTH STREET
   DOVER, NEW HAMPSHIRE 03820
   S.C.R.D. VOLUME 4545 PAGE 961

2. D / 12-2 – DENOTES TAX MAP AND PARCEL NUMBER.
3. ZONING DISTRICT IS IT (INNOVATIVE TECHNOLOGY)
4. DIMENSIONAL REGULATIONS:

	REQUIRED
MINIMUM LOT SIZE	= 2 ACRES
MAXIMUM LOT COVERAGE	= 33 %
MINIMUM FRONTAGE	= 200 FEET
MAXIMUM BUILDING HEIGHT	= 55 FEET
BUILDING SETBACK REQUIREMENTS:	
FRONT	= 50 FEET
ABUT A STREET	= 50 FEET
SIDE SETBACK	= 50 FEET
REAR SETBACK	= 50 FEET
ABUT RESIDENTIAL	= 150 FEET

5. VERTICAL DATUM IS USGS NAVD88. CONTOUR INTERVAL 2 FEET.
6. SUBJECT PARCEL IS NOT LOCATED WITHIN A FEDERALLY DESIGNATED FLOOD HAZARD AREA, COMMUNITY PANEL 33017C0310E, EFFECTIVE DATE: SEPTEMBER 30, 2015.
7. TOPOGRAPHIC SURVEY PERFORMED BY MCENEANEY SURVEY ASSOCIATES ON APRIL 18, 2018.
8. WETLANDS WERE FLAGGED BY DAMON E. BURT, N.H.C.W.S. #163 OF FRAGGLE ROCK ENVIRONMENTAL SERVICES ON MARCH, 2021 AND LOCATED BY MCENEANEY SURVEY ASSOCIATES OF NEW ENGLAND.

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. THE LOCATION OF UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATION IS NOT GUARANTEED BY THE OWNER OR THE ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR EXISTING UTILITIES AND RELOCATE EXISTING UTILITIES REQUIRED TO COMPLETE THE WORK.
9. ALL MATERIALS SCHEDULED TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL DISPOSE OF ALL MATERIALS OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS, ORDINANCES, AND CODES.
10. ALL EROSION CONTROL NOTES SHALL INCLUDE PROVISIONS FOR CONSTRUCTION SEQUENCING, TEMPORARY EROSION CONTROL MEASURES, AND PERMANENT STANDARDS SUCH AS LOAM SPREAD RATE FOR DISTURBED AREAS, RATES OF LIME, TYPE AND RATES FOR FERTILIZER, AND SEED AND MULCH MIXTURE WITH RATES OF APPLICATION.

PERMIT SUMMARY:

1. THE FOLLOWING FEDERAL AND STATE PERMITS HAVE BEEN ISSUED FOR THE SUBJECT PROPERTY:
   EPA NOI CGP(PENDING)
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.

   SUBDIVISION: P21-32 APPROVED 06/30/21 SCRD PLAN #12433
   CONDITIONAL USE PERMIT: N/A
   SITE PLAN: PENDING

WAIVERS GRANTED:

1. N/A

SITE NOTES

1. PROPERTY LINE INFORMATION HAS BEEN OBTAINED FROM A PLAN REFERENCED AND PREPARED BY MCENEANEY SURVEY ASSOCIATES OF NEW ENGLAND, RECORDED AT S.C.R.D. #12433.
2. THE PURPOSE OF THIS PLAN IS TO DEPICT A SELF STORAGE UNIT FACILITY CONSISTING OF THREE (3) 1,604 S.F., ONE (1) 4,000 S.F., AND ONE (1) 3,200 S.F. COMMERCIAL BUILDINGS AND ASSOCIATED DRIVE AND SITE IMPROVEMENTS.
3. EXTERIOR LIGHTING SHALL BE CUT-OFF TYPE FIXTURES PER CHAPTER 153-14-E AND SHALL PROVIDE LIGHTING DIRECTED ON-SITE ONLY.
4. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO APPLICABLE CITY AND STATE CODES.
5. ON-SITE SNOW STORAGE SHALL OCCUR ALONG THE EDGES OF PROPOSED PAVEMENT.
6. ALL CONSTRUCTION LAYOUT SHALL BE DONE BY A LICENSED SURVEYOR UNDER CONTRACT WITH THE CONTRACTOR.
7. SEE DETAILS FOR SIGN LEGENDS.
8. 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.
9. 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.
10. 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.
11. 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.
12. BUILDING ADDRESSES TO BE ASSIGNED BY THE BUILDING OFFICIAL AT THE TIME OF ISSUANCE OF A BUILDING PERMIT.
13. THE SITE LAYOUT IS DESIGNED IN COMPLIANCE WITH APPLICABLE ACCESSIBILITY REGULATIONS AND NH RSA 155-A:5. THE PROPOSED STRUCTURE WILL ALSO BE DESIGNED IN ACCORDANCE WITH APPLICABLE ACCESSIBILITY REGULATIONS.
14. THE SITE SHALL BE MAINTAINED TO PROVIDE ACCESSIBILITY IN ALL WEATHER CONDITIONS.
15. COMMERCIAL VEHICLE ROUTE DURING CONSTRUCTION SHALL CONFORM WITH DOVER CITY CODE OR BE COORDINATED WITH THE COMMUNITY SERVICES DIRECTOR.
16. THE SUBJECT PARCEL(S) IS (ARE) SERVED BY MUNICIPAL WATER AND SEWER.
17. THE LIMITS OF CONSTRUCTION DISTURBANCE THAT ARE LOCATED IN OR WITHIN THE 50 FT. OF CONSERVATION AND WETLAND DISTRICTS SHALL BE STAKED, FLAGGED AND CLEARLY IDENTIFIED PRIOR TO ANY EARTH DISTURBANCE ACTIVITY OCCURRING.
18. AS-BUILT PLANS OF THE SITE SHALL BE SUBMITTED ON PAPER AND IN A DIGITAL FORMAT IN PDF AND AUTOCAD DWG, AUTOCAD DXF OR AN 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.
19. SITE CONSTRUCTION HOURS SHALL BE LIMITED TO MONDAY-FRIDAY 7 AM-6 PM, SATURDAY 9 AM-4 PM. NO CONSTRUCTION SHALL OCCUR ON SUNDAY OR DURING FEDERAL HOLIDAY HOURS. HOURS OF CONSTRUCTION MUST BE DOCUMENTED ON A SITE CONSTRUCTION SIGN ALONG WITH THE CONTACT INFORMATION FOR THE GENERAL CONTRACTOR AND THE SIGN SHALL NOTE THE THE ROADWAY IS PRIVATE. SAID SIGNAGE MUST BE LOCATED AND APPROVED BY THE CITY ENGINEER OR ASSISTANT CITY MANAGER.
20. 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.
21. 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.
22. ANY RETAINING WALL TALLER THAN FOUR FEET (4') REQUIRES ISSUANCE OF A BUILDING PERMIT FROM INSPECTION SERVICES.
23. ANY FENCE TALLER THAN SEVEN FEET (7') REQUIRES THE ISSUANCE OF A BUILDING PERMIT FROM INSPECTION SERVICES.
24. APPLICANT SHALL COMPLETE LAND USE DEVELOPMENT TRACKING FORM, MOST RECENTLY REVISED VERSION, UTILIZING THE ONLINE POLLUTION TRACKING AND ACCOUNTING PILOT PROJECT (PTAPP) PORTAL.
    HTTP://WWW.UNH.EDU/UNHSC/PTAPP.
25. A LETTER OF CREDIT FOR THE COST OF REVEGETATING ALL DISTURBED AREAS ON THE SITE SHALL BE SUBMITTED PRIOR TO ANY EARTH DISTURBING ACTIVITY OCCURS.
26. 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.
27. FIRE DEPARTMENT ACCESS SHALL BE INSTALLED AND MAINTAINED TO SUPPORT THE IMPOSED LOADS OF FIRE APPARATUS IN ALL WEATHER CONDITIONS AT ALL TIMES.
28. REFUSE PICKUP WILL BE BY PRIVATE CONTRACTOR AS NEEDED.
29. SNOW STORAGE WILL BE ACCORDING TO THE OPERATION AND MAINTENANCE PLAN AND WITHIN AREAS AS INDICATED.
30. ALL EXTERIOR DOORS ARE MANUAL AND OPENED FROM THE INTERIOR BY PANIC HARDWARE. ALL EXTERIOR DOORS SHALL COMPLY WITH ADA AND ALL LOCAL BUILDING CODE REQUIREMENTS.

UTILITY NOTES

1. 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.
2. SEE EXISTING CONDITIONS PLAN FOR BENCHMARK INFORMATION.
3. THE INSTALLATION OF ELECTRIC POWER, CABLE TELEVISION AND TELEPHONE LINES SHALL BE UNDERGROUND THROUGHOUT THE SITE FOR WHICH DEVELOPMENT IS PROPOSED. SITE PLANS SHALL SHOW ANY EASEMENTS FOR THESE SERVICES.
4. ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLES.
5. THE SUBJECT PARCEL(S) IS (ARE) SERVED BY MUNICIPAL WATER AND SEWER.
6. SEE GRADING, DRAINAGE & EROSION CONTROL PLAN FOR PROPOSED GRADING AND EROSION CONTROL MEASURES.
7. ALL WATER MAIN INSTALLATIONS SHALL BE CLASS 52, DOUBLE CEMENT LINED DUCTILE IRON PIPE OR TYPE "K" COPPER, OR CITY APPROVED MATERIAL.
8. 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.
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. 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. APPROVED BACKFLOW PREVENTORS SHALL BE PROVIDED FOR BOTH FIRE AND DOMESTIC WATER LINES (IF APPLICABLE).
25. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE CITY AND STATE CODES.
26. A SECURITY ALARM SYSTEM SHALL BE INSTALLED AS REQUIRED BY CHAPTER 58, ARTICLE I, SECTION 58-2 OF THE CODE OF THE CITY OF DOVER.
27. 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.
28. FINAL PLANS FOR TANK LOCATIONS, DISTRIBUTION SYSTEMS, AND CROSS SECTIONS ASSOCIATED WITH THE FUEL BAYS, SHALL BE PROVIDED TO THE CITY OF DOVER ENGINEER PRIOR TO CONSTRUCTION.
29. FIRE SUPPRESSION PLANS SHALL BE PROVIDED TO THE FIRE/INSPECTION DEPARTMENT PRIOR TO INSTALLATION.
30. THE STRUCTURE SHALL BE SERVED BY A SPRINKLER SYSTEM AS REQUIRED UNDER CHAPTER 81-30 OF THE CODE OF THE CITY OF DOVER AND THE ADOPTED STATE OF NEW HAMPSHIRE BUILDING & FIRE CODE.
31. 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.
32. FIRE DEPARTMENT CONNECTIONS SHALL BE LOCATED ON THE STREET SIDE OF THE BUILDING PER NFPA 13.
33. COORDINATE ALL UTILITY WORK WITH APPROPRIATE UTILITY COMPANY.

GRADING NOTES:

1. ALL DRAINAGE WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS FOR CONSTRUCTION OF THE CITY OF DOVER, N.H. AND "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, STATE OF NEW HAMPSHIRE, DEPARTMENT OF TRANSPORTATION", LATEST EDITION. THE MORE STRINGENT SPECIFICATION SHALL APPLY.
2. CONTRACTOR SHALL RETAIN A GEOTECHNICAL ENGINEERING CONSULTANT APPROVED BY THE OWNER, TO CONDUCT COMPACTION TESTING AND FILL GRADATION MONITORING PER THE ABOVE REFERENCED "STANDARD SPECIFICATIONS".
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" SANCTIONED BY THE USDA SCS AND NHDES.
7. TEMPORARY CONSTRUCTION ENTRANCE SHALL BE INSTALLED, UTILIZED AND MAINTAINED UNTIL BASE MATERIALS ARE CONSTRUCTED.
8. CONTRACTOR SHALL PROVIDE A FINISH GRADED SURFACE FREE OF LOW SPOTS AND PONDING AREAS. CRITICAL AREAS INCLUDE BUILDING ENTRANCE AND UNDER RAISED STRUCTURES.
9. DENSITY REQUIREMENTS:

LOCATION	MINIMUM DENSITY
BELOW PAVED OR CONCRETE AREAS	95%
TRENCH BEDDING MATERIAL AND SAND BLANKET BACKFILL	95%
BELOW LOAM AND SEED AREA	90%

   *ALL PERCENTAGES SHALL BE OF THE MAXIMUM DRY DENSITY AT THE OPTIMUM MOISTURE CONTENT AS DETERMINED AND CONTROLLED IN ACCORDANCE WITH AASHTO STANDARD 180, METHOD C. FIELD DENSITY TESTS SHALL BE MADE IN ACCORDANCE WITH AASHTO STANDARD T-191, T-204, OR T-238 AND T-239.

10. SEE GENERAL EROSION CONTROL NOTES ON DETAIL SHEET.
11. 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.
12. INSPECT SILT BARRIERS AFTER EACH RAIN STORM OF 1/4 INCH OR GREATER. REPAIR/MODIFY PROTECTION AS NECESSARY TO MAXIMIZE EFFICIENCY FILTER. REPLACE ALL FILTERS WHEN SEDIMENT IS 1/3 THE STRUCTURE HEIGHT.
13. A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) IS REQUIRED FOR THIS PROJECT. THE SWPPP MUST INCLUDE THE APPROPRIATE BEST MANAGEMENT PRACTICES (BMP'S) TO MINIMIZE THE DISCHARGE OF POLLUTANTS FROM THE SITE. PARTIES RESPONSIBLE FOR DEVELOPING THE SWPPP SHOULD REFER TO THE EPA NPDES CONSTRUCTION GENERAL PERMITS NOTICE OF INTENT FOR A COMPLETE OUTLINE OR REQUIRED ELEMENTS. THESE PLANS AND THE STORMWATER MANAGEMENT SYSTEM INSPECTION & MAINTENANCE PLAN PREPARED FOR THIS PROJECT MAY BE UTILIZED IN FULFILLING THE REQUIREMENTS.
14. ALL TREATMENT SWALES TO BE CONSTRUCTED SHALL HAVE SOD BOTTOMS.
15. LIMIT TREE CLEARING TO ONLY THE EXTENT NECESSARY FOR CONSTRUCTION.
16. PLACARDS SHALL BE INSTALLED ALONG THE EDGE OF WETLAND PRIOR TO CONSTRUCTION (IF APPLICABLE).

LEGEND

I.R. (set) o	– IRON ROD W/ I.D. CAP (SET)
⊙ I.P.	– IRON PIPE
⊡ G.B.	– GRANITE BOUND
o I.R.	– IRON ROD
⊙ I.R.(fnd)	– IRON ROD (FOUND)
D.H.	– DRILL HOLE
S.F.	– SQUARE FEET
Ac.	– ACRE
(TYP.)	– TYPICAL
±	– MORE OR LESS
ø	– DIAMETER
S.C.R.D.	– STRAFFORD COUNTY REGISTRY OF DEEDS
-o- UP	– UTILITY POLE
——·——	– EDGE OF WETLAND
O.A.	– OVERALL
TBR	– TO BE REMOVED
CCB	– CAPE COD BERM
	– TREELINE

R.O.W.	– RIGHT OF WAY
Ⓓ DMH	– DRAIN MANHOLE
▫ CB	– CATCH BASIN
Ⓢ SMH	– SEWER MANHOLE
HYD.	– FIRE HYDRANT
WV	– WATER GATE VALVE
	– TREE
GV	– GAS VALVE
R=5'	– PROPOSED PAVEMENT RADIUS
PW	– PROPOSED WATER
PE	– PROPOSED ELECTRIC
PS	– PROPOSED SEWER
PD	– PROPOSED DRAINAGE
PG	– PROPOSED GAS
55	– PROPOSED FINISH GRADE
55	– PROPOSED SPOT GRADE

UTILITY CONTACTS

WATER: – CITY OF DOVER COMMUNITY SERVICES DEPARTMENT

CONTACT: KENNETH MAVROGEORGE
271 MAST ROAD
DOVER, NH 03820
TEL: (603)-516-6454
EMAIL: K.MAVROGEORGE@DOVER.NH.COM

ELECTRIC: – EVERSOURCE

CONTACT: TREVOR EMMONS
4 OLD DOVER ROAD
ROCHESTER, NH 03867
TEL: (603)-332-4227
EMAIL: TREVOR.EMMONS@EVERSOURCE.COM

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

NO.	REVISION	APP'D	DATE

DATE: 6-16-22
SCALE: NOTES
DRAWN BY: M.M
DESIGN BY: DJL
APPROVED BY:SJH
PROJECT NO:21001
FILE: 21001-SITE

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

STEPHEN J HAIGHT No. 7978 LICENSED PROFESSIONAL ENGINEER – STATE OF NEW HAMPSHIRE

TSB PROPERTIES, LLC.
385 SIXTH STREET
DOVER, NH 03820

THE STORAGE BARN
PRODUCTION DRIVE
MAP D, LOT 12-2
DOVER, NH 03820

NOTES SHEET

LEGEND

I.R. (set) o	– IRON ROD W/ I.D. CAP (SET)
⊙ I.P.	– IRON PIPE
⊡ G.B.	– GRANITE BOUND
o I.R.	– IRON ROD
o I.R.(fnd)	– IRON ROD (FOUND)
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S.F.	– SQUARE FEET
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-o- UP	– UTILITY POLE
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UGE	– PROPOSED UNDERGROUND ELECTRIC
PS	– PROPOSED SEWER
PD	– PROPOSED DRAINAGE
PG	– PROPOSED GAS
55	– PROPOSED FINISH GRADE
55	– PROPOSED SPOT GRADE

D / 12-1

PARCEL AREA

337,616 S.F.

7.75 Ac.

HcB

Sb

50' WETLAND BUFFER

PROPOSED TREELINE

D / 12-2

PARCEL AREA

184,682 S.F.

4.24 Ac.

PROPOSED TREELINE

50' WETLAND BUFFER

LIMIT OF CLEARING

LIMIT OF CLEARING

EOP

LIMIT OF SAWCUT

EOP

EUGE

LIMIT OF CURB REMOVAL

LIMIT OF SAWCUT

SGC

PRODUCTION DRIVE

SGC

SGC

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

DATE: 6-16-22
SCALE: 1"=30'
DRAWN BY: M.M
DESIGN BY: DJL
APPROVED BY:SJH
PROJECT NO: 21001
FILE: 21001-SITE

NO.	REVISION	APP'D	DATE

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

STATE OF NEW HAMPSHIRE
STEPHEN J. HAIGHT
No. 7978
LICENSED PROFESSIONAL ENGINEER

DEMOLITION PLAN

TSB PROPERTIES, LLC.
385 SIXTH STREET
DOVER, NH 03820

THE STORAGE BARN
PRODUCTION DRIVE
MAP D, LOT 12-2
DOVER, NH 03820

6

PARKING CALCULATIONS

	MAX ALLOWED	PROPOSED
SELF-STORAGE FACILITY: 12,000 SF	= 0	0
TOTAL PARKING	= 0	0

LEGEND

I.R. (set) o	– IRON ROD W/ I.D. CAP (SET)
⊙ I.P.	– IRON PIPE
⊡ G.B.	– GRANITE BOUND
o I.R.	– IRON ROD
o I.R.(fnd)	– IRON ROD (FOUND)
D.H.	– DRILL HOLE
S.F.	– SQUARE FEET
Ac.	– ACRE
(TYP.)	– TYPICAL
±	– MORE OR LESS
ø	– DIAMETER
S.C.R.D.	– STRAFFORD COUNTY REGISTRY OF DEEDS
-o- UP	– UTILITY POLE
- - - - -	– EDGE OF WETLAND
O.A.	– OVERALL
TBR	– TO BE REMOVED
VIF	– VERIFY IN FIELD
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	– TREELINE

R.O.W.	– RIGHT OF WAY
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HYD.	– FIRE HYDRANT
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	– TREE
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R=5'	– PROPOSED PAVEMENT RADIUS
PW	– PROPOSED WATER
PE	– PROPOSED ELECTRIC
UGE	– PROPOSED UNDERGROUND ELECTRIC
PS	– PROPOSED SEWER
PD	– PROPOSED DRAINAGE
PG	– PROPOSED GAS
55	– PROPOSED FINISH GRADE
x 55	– PROPOSED SPOT GRADE

D / 12-1

PARCEL AREA

337,616 S.F.

7.75 Ac.

1056
187.06
STA MHS 030921

HcB

Sb

50' WETLAND BUFFER

245' SETBACK TO RESIDENTIAL ZONE (150' REQUIRED)

PROPOSED TREELINE

BUILDING SETBACK LINE

TRANSFORMER PAD

STABILIZED CONSTRUCTION ENTRANCE

CCB START

CCB END

CCB

DOUBLE INLET CATCH BASIN

PROPOSED WOODEN GUARDRAIL

PROPOSED WET POND

SELF STORAGE UNIT BUILDING #1 3,200 S.F.

SELF STORAGE UNIT BUILDING #2 4,000 S.F.

SELF STORAGE UNIT BUILDING #3 1,600 S.F.

SELF STORAGE UNIT BUILDING #4 1,600 S.F.

SELF STORAGE UNIT BUILDING #5 1,600 S.F.

PROPOSED LIGHT

PROPOSED RETAINING WALL

PROPERTY LINE (TYP.)

EOP

EUGE

SGC

PRODUCTION DRIVE

1049
183.39
STA MNF 030921

D / 12-2

PARCEL AREA

184,682 S.F.

4.24 Ac.

149.70

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

NO.	REVISION	APP'D	DATE

DATE: 6-16-22
SCALE: 1"=30'
DRAWN BY: MJM
DESIGN BY: DJL
APPROVED BY:SJH
PROJECT NO: 21001
FILE: 21001-SITE

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

STATE OF NEW HAMPSHIRE
STEPHEN J HAIGHT No. 7978 LICENSED PROFESSIONAL ENGINEER

SITE PLAN

TSB PROPERTIES, LLC.
385 SIXTH STREET
DOVER, NH 03820

THE STORAGE BARN
PRODUCTION DRIVE
MAP D, LOT 12-2
DOVER, NH 03820

7

LEGEND

I.R. (set) o – IRON ROD W/ I.D. CAP (SET)
⊙ I.P. – IRON PIPE
⊡ G.B. – GRANITE BOUND
o I.R. – IRON ROD
o I.R.(fnd) – IRON ROD (FOUND)
D.H. – DRILL HOLE
S.F. – SQUARE FEET
Ac. – ACRE
(TYP.) – TYPICAL
± – MORE OR LESS
ø – DIAMETER
S.C.R.D. – STRAFFORD COUNTY REGISTRY OF DEEDS
-o- UP – UTILITY POLE
– – – – – – – EDGE OF WETLAND
O.A. – OVERALL
TBR – TO BE REMOVED
VIF – VERIFY IN FIELD
CCB – CAPE COD BERM
– TREELINE

R.O.W. – RIGHT OF WAY
DMH – DRAIN MANHOLE
CB – CATCH BASIN
SMH – SEWER MANHOLE
HYD. – FIRE HYDRANT
WV – WATER GATE VALVE
– TREE
GV. – GAS VALVE
R=5' – PROPOSED PAVEMENT RADIUS
PW – PROPOSED WATER
PE – PROPOSED ELECTRIC
UGE – PROPOSED UNDERGROUND ELECTRIC
PS – PROPOSED SEWER
PD – PROPOSED DRAINAGE
PG – PROPOSED GAS
55 – PROPOSED FINISH GRADE
x 55 – PROPOSED SPOT GRADE

AREA OF DISTURBANCE

	PROPOSED
WETLAND BUFFER IMPACT	= 11,009 SF
WETLAND IMPACT	= 0 SF

D / 12-1
PARCEL AREA
337,616 S.F.
7.75 Ac.

HcB
Sb

PROPOSED TREELINE
PROPOSED SILTSOXX
DOUBLE INLET CB #1
RIM: 170
INV. IN: 161.1
INV. OUT: 160.6
INV. OUT: 149.6
PROPOSED OUTLET STRUCTURE
RIM ELEV.: 150.9
6" ORIFICE ELEV.: 149.7
INV. IN: 149.7
D / 12-2
PARCEL AREA
184,682 S.F.
4.24 Ac.
INV. OUT: 151
PROPOSED 10' WIDE X4' LONG SPILLWAY ELEV.: 150.5
TOP OF PERMANENT POOL
FFE=173.00
FFE=172.10
FFE=171.80
FFE=171.10
FFE=170.60
I.O.W.: 180.00
B.O.W.: 178.00
I.O.W.: 182.00
B.O.W.: 175.75
I.O.W.: 182.00
B.O.W.: 172.75
I.O.W.: 180.00
B.O.W.: 172.00
I.O.W.: 174
B.O.W.: 171
DOUBLE INLET CB #2
RIM: 170
INV. OUT: 165.8
EOP
EUGE
SGC
PRODUCTION DRIVE

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

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

NO.	REVISION	APP'D	DATE

DATE: 6-16-22
SCALE: 1"=30'
DRAWN BY: MJM
DESIGN BY: DJL
APPROVED BY:SJH
PROJECT NO: 21001
FILE: 21001-SITE

STATE OF NEW HAMPSHIRE – STEPHEN J. HAIGHT No. 7973 – LICENSED PROFESSIONAL ENGINEER

GRADING, DRAINAGE & EROSION PLAN

TSB PROPERTIES, LLC.
385 SIXTH STREET
DOVER, NH 03820

THE STORAGE BARN
PRODUCTION DRIVE
MAP D, LOT 12-2
DOVER, NH 03820

LEGEND

I.R. (set) o	– IRON ROD W/ I.D. CAP (SET)
⊙ I.P.	– IRON PIPE
⊡ G.B.	– GRANITE BOUND
o I.R.	– IRON ROD
o I.R.(fnd)	– IRON ROD (FOUND)
D.H.	– DRILL HOLE
S.F.	– SQUARE FEET
Ac.	– ACRE
(TYP.)	– TYPICAL
±	– MORE OR LESS
ø	– DIAMETER
S.C.R.D.	– STRAFFORD COUNTY REGISTRY OF DEEDS
-o- UP	– UTILITY POLE
- - - -	– EDGE OF WETLAND
O.A.	– OVERALL
TBR	– TO BE REMOVED
VIF	– VERIFY IN FIELD
CCB	– CAPE COD BERM
	– TREELINE

R.O.W.	– RIGHT OF WAY
Ⓓ DMH	– DRAIN MANHOLE
◘ CB	– CATCH BASIN
Ⓢ SMH	– SEWER MANHOLE
HYD.	– FIRE HYDRANT
WV	– WATER GATE VALVE
	– TREE
GV.	– GAS VALVE
R=5'	– PROPOSED PAVEMENT RADIUS
PW	– PROPOSED WATER
PE	– PROPOSED ELECTRIC
UGE	– PROPOSED UNDERGROUND ELECTRIC
PS	– PROPOSED SEWER
PD	– PROPOSED DRAINAGE
PG	– PROPOSED GAS
55	– PROPOSED FINISH GRADE
x 55	– PROPOSED SPOT GRADE

D / 12-1

PARCEL AREA

337,616 S.F.

7.75 Ac.

HcB

Sb

SELF STORAGE UNIT BUILDING #1 3,200 S.F.

SELF STORAGE UNIT BUILDING #2 4,000 S.F.

SELF STORAGE UNIT BUILDING #3 1,600 S.F.

SELF STORAGE UNIT BUILDING #4 1,600 S.F.

SELF STORAGE UNIT BUILDING #5 1,600 S.F.

PROPOSED LIGHT

DOUBLE INLET CATCH BASIN

PROPOSED WET POND

151

149.70

D / 12-2

PARCEL AREA

184,682 S.F.

4.24 Ac.

PROPOSED TRANSFORMER

UGE

PROPOSED UNDERGROUND ELECTRIC

8" x 6" 90° REDUCER

DOUBLE INLET CATCH BASIN

PW

PROPOSED 8" WATER

PROPOSED HYDRANT

EOP

SGC

TAP EXISTING CLDI W/ STAINLESS STEEL TAPPING SLEEVE

PRODUCTION DRIVE

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

CIVILWORKS NEW ENGLAND

CIVIL & WATERFRONT ENGINEERING

181 Watson Road, PO Box 1166

Dover, New Hampshire 03821

603.749.0443

NO.	REVISION	APP'D	DATE

DATE: 6-16-22

SCALE: 1"=30'

DRAWN BY: MJM

DESIGN BY: DJL

APPROVED BY:SJH

PROJECT NO: 21001

FILE: 21001-SITE

STATE OF NEW HAMPSHIRE – STEPHEN J. HAIGHT No. 7078 LICENSED PROFESSIONAL ENGINEER

UTILITY PLAN

TSB PROPERTIES, LLC.
385 SIXTH STREET
DOVER, NH 03820

THE STORAGE BARN
PRODUCTION DRIVE
MAP D, LOT 12-2
DOVER, NH 03820

9

DESCRIPTION

1. THE PURPOSE OF THIS PLAN IS TO DEPICT A SELF STORAGE UNIT FACILITY CONSISTING OF THREE (3) 1,804 S.F., ONE (1) 4,000 S.F., AND ONE (1) 3,200 S.F. SELF-STORAGE BUILDING, ASSOCIATED DRIVE, AND SITE IMPROVEMENTS.

PROJECT NAME AND LOCATION

THE STORAGE BARN — LATITUDE N43° 13' 15.3"
PRODUCTION DRIVE — LONGITUDE W70° 54' 50.2"
DOVER, NH

DISTURBED AREA

±69,000 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 DEMOLITION.
5. REGRADE SITE TO SUBGRADE.
6. TEMPORARY WATER DIVERSION (SWALES, BASINS) MUST BE USED AS NECCESSARY 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 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 ONE 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.

DEFINITIONS

AN AREA SHALL BE CONSIDERED STABLE OF 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 OTHERWISED 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 IMPOUNDING 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 NECCESSARY.
   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 INTERFERRING 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 NITORGEN 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 FESCUE	20	0.45
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 STABALIZATION 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.

MAINTENACE OF STORMWATER MANAGEMENT FACILITIES

THE PROJECT PROPONENT IS RESPONSIBLE FOR THE MAINTENANCE OF ALL STORMWATER FACILITIES DURING CONSTRUCTION AND THE PORPERTY 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 MATERIAL MANAGEMENT PRACTICES THAT WILL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL SANITARY EXPOSURE OF MATERIALS AND SUBSTANCES DURING CONSTRUCTION TO STORMWATER RUNOFF:
GOOD HOUSEKEEPING:
THE FOLLOWING GOOD HOUSEKEEPING PRACTICES THAT WILL BE FOLLOWED ON SITE DURING 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 MAINTENACE 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 SACKS 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 AND INTENT OF RSA 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 INCLUDES 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.

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

a. ANY PERSON ENGAGED IN ANY ACTIVITY WITHIN THE STATE EMITS FUGITIVE DUST, OTHER THAT 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 SUCH COVERS 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 REQUIRMENTS 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 WHICH 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

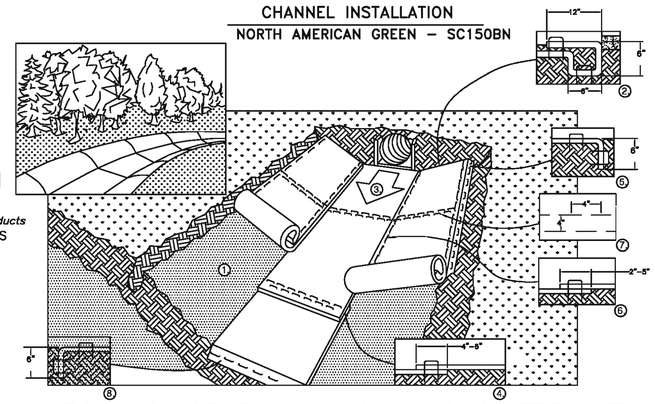
1. ALL PROPOSED POST-DEVELOPMENT VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF
   85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS 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 SLOPES 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 SURFACES SHALL BE PROTECTED WITH A MINIMUM OF 3-INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 403.3, OR IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER SEASON BE CLEARED OF ANY ACCUMULATED SNOW AFTER EACH STORM EVENT.

ENV-WQ 1510: BEST MANAGEMENT PRACTICES FOR BLASTING (IF REQUIRED)

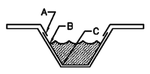
1) ALL ACTIVITIES ASSOCIATED WITH BLASTING NEED TO BE OPTIMIZED TO PREVENT THE RELEASE OF CHEMICALS ASSOCIATED WITH BLASTING ACTIVITIES TO THE ENVIRONMENT.
2) IF MORE THAN 5,000 CY OF ROCK REMOVAL IS REQUIRED DRINKING WATER WELLS MUST BE IDENTIFIED AND LOCATED WITHIN 2000 FEET OF THE PROPOSED BLASTING ACTIVITIES. DEVELOP A GROUNDWATER QUALITY SAMPLING PROGRAM TO MONITOR FOR NITRATE AND NITRITE EITHER IN THE DRINKING WATER SUPPLY WELLS OR IN OTHER WELLS THAT ARE REPRESENTATIVE OF THE DRINKING WATER SUPPLY WELLS IN THE AREA. THE PLAN MUST INCLUDE PRE AND POST BLAST WATER QUALITY MONITORING AND BE APPROVED BY NHDES PRIOR TO INITIATING BLASTING. THE GROUNDWATER SAMPLING PROGRAM MUST BE IMPLEMENTED ONCE APPROVED BY NHDES.
3) THE FOLLOWING BEST MANAGEMENT PROCEDURES FOR BLASTING SHALL BE COMPLIED WITH:
   (1) LOADING PRACTICES. THE FOLLOWING BLASTHOLE LOADING PRACTICES TO MINIMIZE ENVIRONMENTAL EFFECTS SHALL BE FOLLOWED:
      (A) DRILLING LOGS SHALL BE MAINTAINED BY THE DRILLER AND COMMUNICATED DIRECTLY TO THE BLASTER. THE LOGS SHALL INDICATE DEPTHS AND LENGTHS OF

CHANNEL INSTALLATION
NORTH AMERICAN GREEN – SC150BN

NORTH AMERICAN GREEN
EROSION CONTROL *Products Guaranteed* SOLUTIONS



1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE RECP's IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF RECP's EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP's WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF RECP's BACK OVER SEED AND COMPACTED SOIL. SECURE RECP's OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" ACROSS THE WIDTH OF THE RECP's.
3. ROLL CENTER RECP's IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. RECP's WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP's MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. PLACE CONSECUTIVE RECP's END OVER END (SHINGLE STYLE) WITH A 4" – 6" OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER TO SECURE RECP's.
5. FULL LENGTH EDGE OF RECP's AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
6. ADJACENT RECP's MUST BE OVERLAPPED APPROXIMATELY 2" – 5" (DEPENDING ON RECP's TYPE) AND STAPLED.
7. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER OVER ENTIRE WIDTH OF THE CHANNEL.
8. THE TERMINAL END OF THE RECP's MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. NOTE: * IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY ANCHOR THE RECP's.



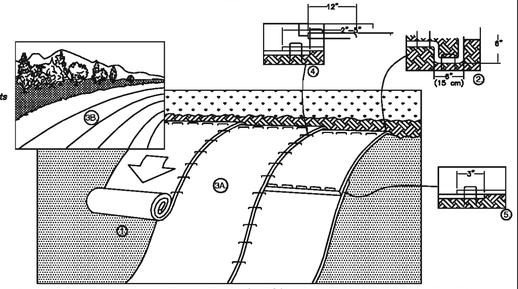
CRITICAL POINTS
A. OVERLAPS AND SEAMS
B. PROJECTED WATER LINE
C. CHANNEL BOTTOM/SIDE SLOPE VERTICES

NOTE:
* HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE.

** IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY ANCHOR THE RECP's.

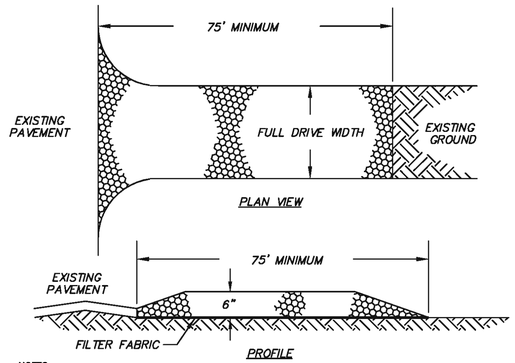
SLOPE INSTALLATION
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NORTH AMERICAN GREEN
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1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP's IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF RECP's EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP's WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP's BACK OVER SEED AND COMPACTED SOIL. SECURE RECP's OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE RECP's.
3. ROLL THE RECP's (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. RECP's WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP's MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM®, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL RECP's MUST BE STAPLED WITH APPROXIMATELY 2" – 5" (5 CM – 12.5 CM) OVERLAP DEPENDING ON RECP's TYPE.
5. CONSECUTIVE RECP's SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5 CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE RECP's WIDTH.
NOTE:
*IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE RECP's.

NOTE: THE USE OF WELDED PLASTIC OR BIODEGRADABLE PLASTIC NETTING OR THREAD IN EROSION CONTROL MATTING IS PROHIBITED. THE USE OF WILDLIFE FRIENDLY ORGANIC MATERIALS IS RECOMMENDED.



NOTES:
1. *SEE EROSION CONTROL NOTES BELOW FOR MATERIAL, INSTALLATION AND MAINTENANCE REQUIREMENTS.*
2. *TO BE INSTALLED AT EACH POINT OF EGRESS FROM THE WORK AREA.*

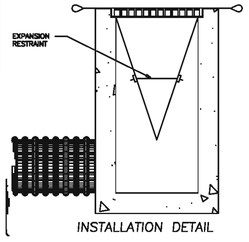
STABILIZED CONSTRUCTION ENTRANCE

1. SPECIFICATIONS
   A. AGGREGATE SIZE: USE THREE (3) INCHES STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
   B. AGGREGATE THICKNESS: NOT LESS THAN SIX (6) INCHES.
   C. WIDTH TEN (10) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH OF POINTS WHERE INGRESS OR EGRESS OCCURS.
   D. LENGTH: AS REQUIRED, BUT NOT LESS THAN SEVENTY-FIVE (75) FEET. PIPING OF SURFACE WATER UNDER ENTRANCE SHALL BE PROVIDED AS REQUIRED.
   E. GEOTEXTILE: TO BE PLACED OVER THE ENTIRE AREA TO BE COVERED WITH AGGREGATE.
   F. CRITERIA FOR GEOTEXTILE: THE FABRICS SHALL BE TREVIA SPUNBOND 1135, MIRAFI 600X OR EQUAL.

2. MAINTENANCE
   THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH AGGREGATE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES, OR WATERWAYS.

STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE



INSTALLATION DETAIL

SILTSACK®
SPECIFICATIONS

NOTE: THE SILTSACK WILL BE MANUFACTURED FROM A WOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS THE FOLLOWING SPECIFICATIONS. AS SUPPLIED BY AH HARRIS OF PORTSMOUTH OR APPROVED EQUAL

REGULAR FLOW SILTSACK®
(FOR AREAS OF LOW TO MODERATE PRECIPITATION AND RUN-OFF)

PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	300 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	120 LBS
MULLEN BURST	ASTM D-3786	600 PSI
TRAPEZOID TEAR	ASTM D-4533	120 LBS
UV RESISTANCE	ASTM D-4355	90 %
APPARENT OPENING SIZE	ASTM D-4751	40 US SIEVE
FLOW RATE	ASTM D-4491	40 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	0.55 SEC -1

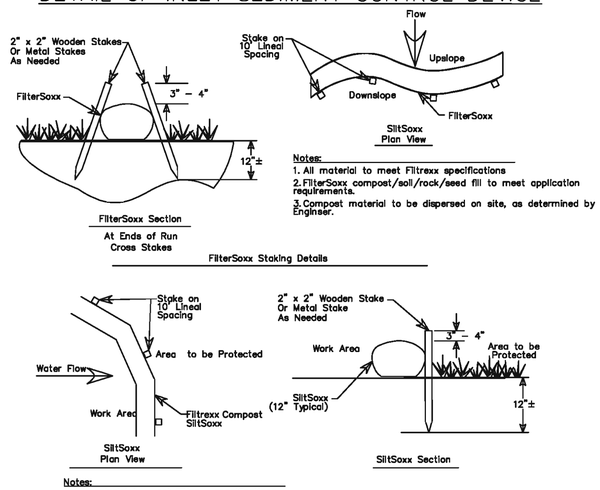
HI-FLOW SILTSACK®
(FOR AREAS OF MODERATE TO HEAVY PRECIPITATION AND RUN-OFF)

PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	265 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	135 LBS
MULLEN BURST	ASTM D-3786	420 PSI
TRAPEZOID TEAR	ASTM D-4533	45 LBS
UV RESISTANCE	ASTM D-4355	90 %
APPARENT OPENING SIZE	ASTM D-4751	20 US SIEVE
FLOW RATE	ASTM D-4491	200 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	1.5 SEC -1

OIL-ABSORBANT SILTSACK®

(FOR AREAS WHERE THERE IS A CONCERN FOR OIL RUN-OFF OR SPILLS)
DEPENDING ON YOUR PARTICULAR APPLICATION, THE SILTSACK® CAN BE MADE FROM EITHER ONE OF THE ABOVE FABRICS WITH AN OIL-ABSORBANT PILLOW INSERT OR, MADE COMPLETELY FROM AN OIL-ABSORBANT SILTSACK®, WITH A WOVEN PILLOW INSERT.

DETAIL OF INLET SEDIMENT CONTROL DEVICE



SILTSOXX DETAILS

NOT TO SCALE

SEEKING REPORTS OF RARE TURTLES

The NH Fish & Game Department is collecting observations of four turtle species:



Blanding's turtle (state endangered)
- Large, dark/black domed shell with lighter speckles
- Distinct yellow throat/chin
- Aquatic but often moves on land



Wood turtle (special concern)
- Sculpted, pyramidal brownish shell
- Orange around neck and limbs
- River/stream turtle spending many months on land



Eastern box turtle (state endangered)
- Small terrestrial turtle with highly domed shell
- Irregular yellow or orange markings over brown/black base



Spotted turtle (state threatened)
- Small, mostly aquatic with black or dark brown with yellow spots.
- Fairly flat shell compared to Blanding's turtle

Report sightings to RAARP@wildlife.nh.gov or 603-271-2461 *Please report promptly, noting specific location and date - Photographs strongly encouraged*

NOTES:
1. *ALL OUTSIDE CONSTRUCTION PERSONNEL SHALL RECEIVE TRAINING IN THE IDENTIFICATION OF RARE TURTLE SPECIES AND MADE AWARE OF THEIR PROTECTED STATUS.*
2. *THE USE OF WELDED PLASTIC OR 'BIODEGRADABLE PLASTIC' NETTING OR THREAD IN EROSION CONTROL MATTING IS PROHIBITED*
3. *THE USE OF EROSION CONTROL BERM, WHITE FILTREXX DEGRADABLE WOVEN SILT SOCK, OR 'WILDLIFE FRIENDLY' WOVEN ORGANIC MATERIAL (E.G. COCO OR JUTE MATTING SUCH AS NORTH AMERICAN GREEN SC150BN OR EQUIVALENT) ARE ACCEPTABLE FOR USE*
4. *IF WOOD, SPOTTED, OR BLANDING'S TURTLES ARE FOUND LAYING EGGS IN THE WORK AREA, PLEASE CONTACT MELISSA DOPERALSKI AT 271-1738 or JOSH MEGYESY AT 271-1125 FOR FURTHER INSTRUCTIONS.*

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

NO.	REVISION	APP'D	DATE

DATE: 6-16-22
SCALE: NOTED
DRAWN BY: MJM
DESIGN BY: MJM
APPROVED BY: SJH
PROJECT NO: 21001
FILE: 21001-SITE

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

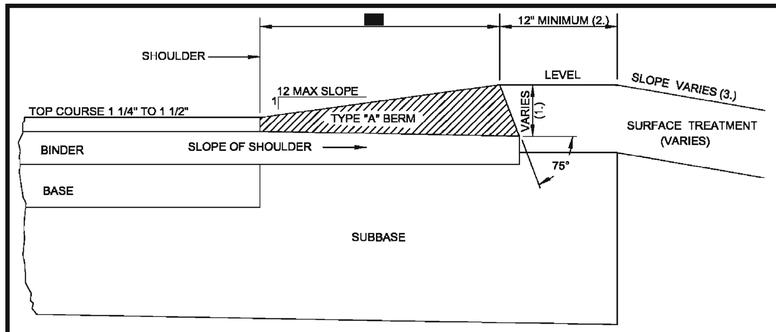
STEPHEN HAIGHT No. 7978 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

DETAIL SHEET

TSB PROPERTIES, LLC.
385 SIXTH STREET
DOVER, NH 03820

THE STORAGE BARN
PRODUCTION DRIVE
MAP D, LOT 12-2
DOVER, NH 03820

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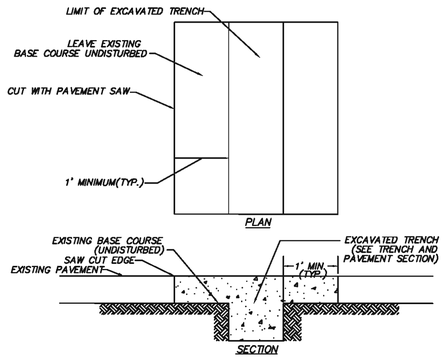
NOTES:

FOR MODIFIED BERM THE SLOPE REMAINS CONSTANT AT 1 (V) TO 12 (H)

1. THIS DIMENSIONS VARIES WITH THE THICKNESS OF THE TOP COURSE AND SLOPE OF BINDER.
2. SEE E401.1.1 FOR TYPICAL SECTION AT GUARDRAIL LOCATIONS.
3. SEE TYPICAL SECTIONS FOR PROJECT.

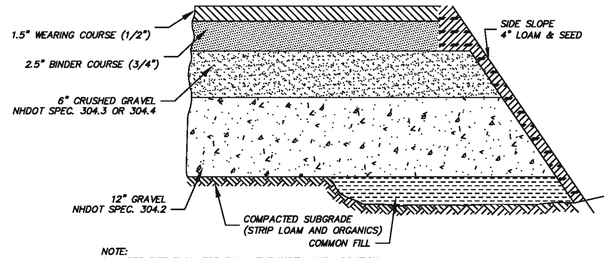
HOT MIX ASPHALT BERM (CAPE COD BERM) DETAIL

NOT TO SCALE



TRENCH PATCH

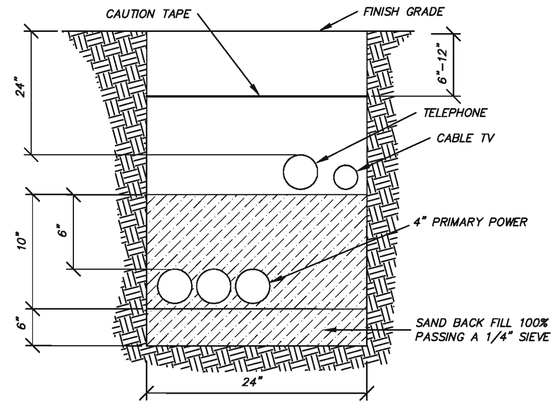
NOT TO SCALE



NOTE:
1. SEE SITE PLAN FOR PAVEMENT WIDTH AND LOCATION.
2. SEE GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR PAVEMENT SLOPE AND CROSS-SLOPE.
3. GEOTEXTILE FABRIC MAYBE REQUIRED UNDER THE ROADWAY AND /OR THE PARKING AREAS AS REQUIRED BY THE ENGINEER BASED UPON SITE CONDITIONS.

TYPICAL PAVEMENT SECTION

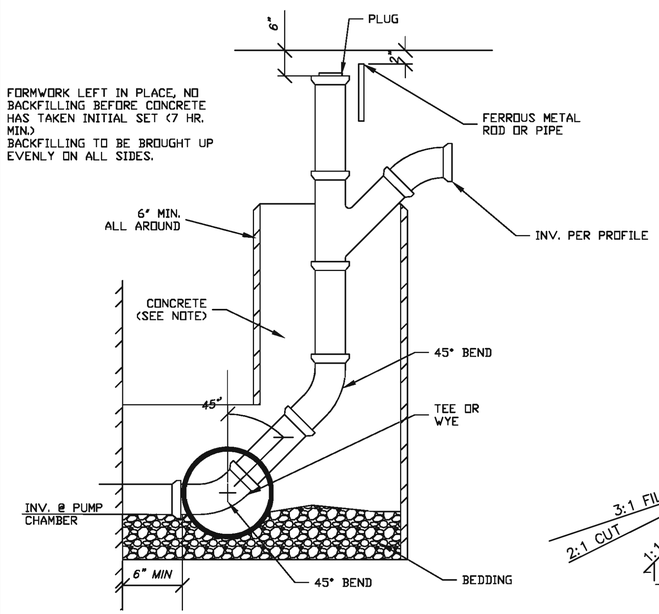
NOT TO SCALE



1. TELEPHONE CONDUIT SHALL BE 3" SCHEDULE 40 PVC, WITH STEEL SWEEPS AT RISER POLE, 90° BENDS AND AT BUILDING.
2. LEAVE PULL ROPE IN ALL CONDUITS FOR CABLE INSTALLATION.
3. FOR COMPLETE SPECIFICATIONS SEE "PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE CONSTRUCTION SPECIFICATIONS FOR UNDERGROUND CONDUIT SYSTEMS".
4. CONTRACTOR SHOULD VERIFY THE NUMBER & SIZE OF CONDUIT WITH THE APPROPRIATE UTILITIES.

UTILITY TRENCH

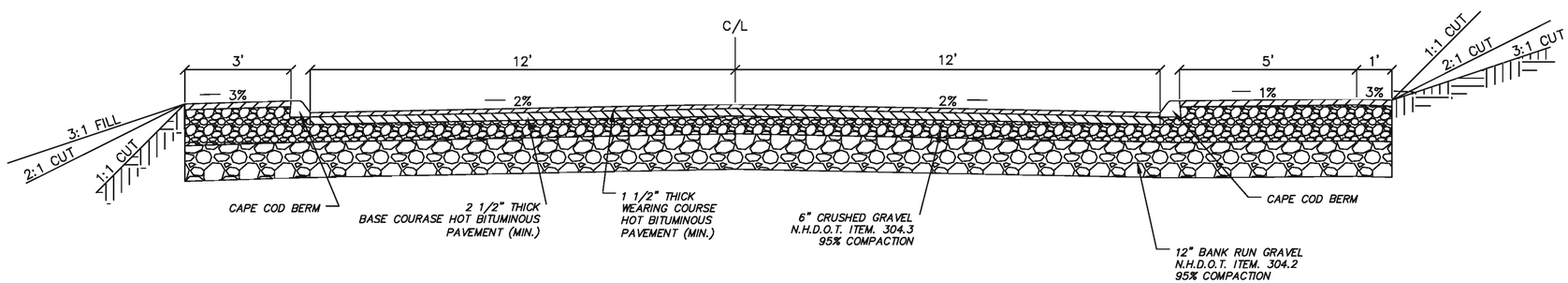
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NOTE: CONCRETE. CONCRETE SHALL CONFORM TO THE REQUIREMENTS FOR CLASS A (3000 PSI) CONCRETE OF THE NEW HAMPSHIRE DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS STANDARD SPECIFICATIONS AS FOLLOWS:
CEMENT- 6.0 BAGS/C.Y. WATER- 5.75 GAL/BAG
AGGREGATE-1 ½" MAX.

CHIMNEY

NOT TO SCALE



DRIVEWAY CROSS SECTION

NOT TO SCALE

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

NO.	REVISION	APP'D	DATE

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SCALE: NOTES
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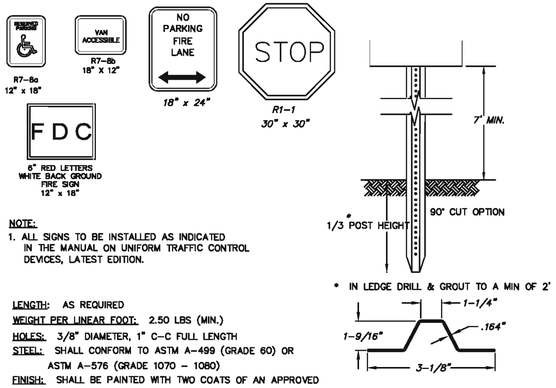
STEPHEN J HAIGHT No. 7978 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

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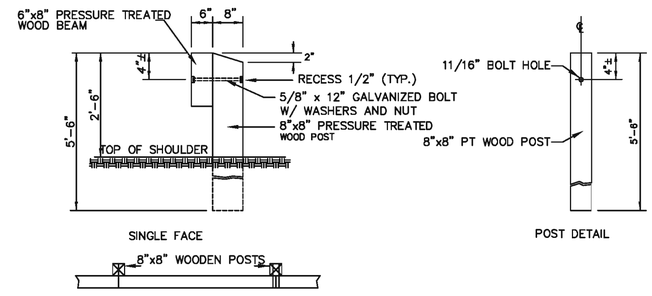


NOTE:
1. ALL SIGNS TO BE INSTALLED AS INDICATED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.

LENGTH: AS REQUIRED
WEIGHT PER LINEAR FOOT: 2.50 LBS (MIN.)
HOLES: 3/8" DIAMETER, 1" C-C FULL LENGTH
STEEL: SHALL CONFORM TO ASTM A-499 (GRADE 60) OR ASTM A-576 (GRADE 1070 - 1080)
FINISH: SHALL BE PAINTED WITH TWO COATS OF AN APPROVED MEDIUM GREEN

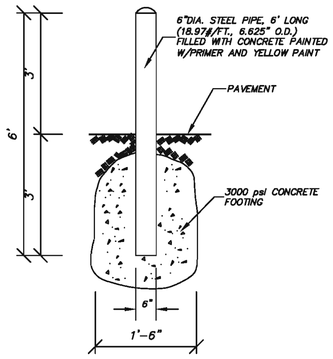
BAKED ON OR AIR DRIED, PAINT OF WEATHER RESISTANT QUALITY.
ALL FABRICATION SHALL BE COMPLETE BEFORE PAINTING.

SIGN LEGEND & SIGN POST
NOT TO SCALE

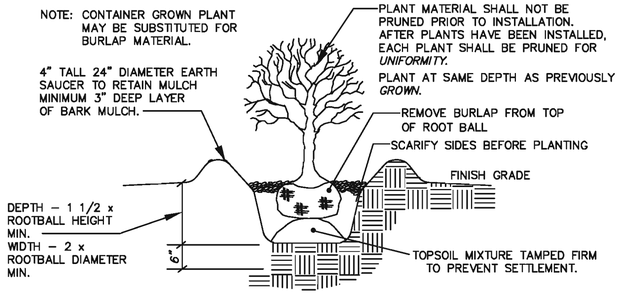


NOTES:
1.) ALL NUTS, BOLTS & WASHERS ARE TO BE GALVANIZED.
2.) ALL SPLICES ARE TO BE MADE AT POSTS.

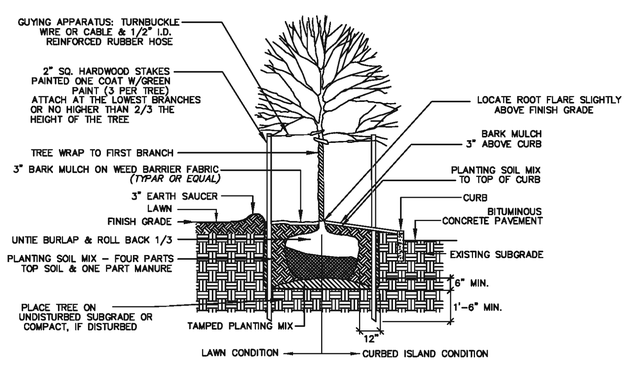
WOODEN GUARD RAIL DETAIL
NOT TO SCALE



BOLLARD DETAIL
NOT TO SCALE

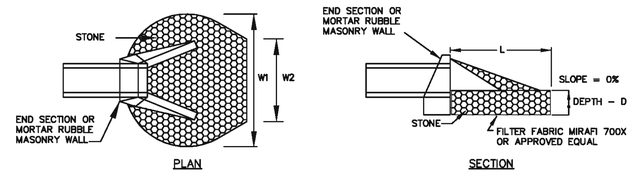


SHRUB PLANTING DETAIL
NOT TO SCALE

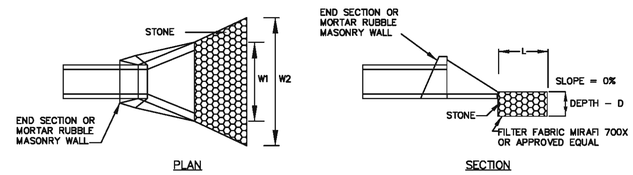


NOTE: PLANT AT SAME DEPTH AS PREVIOUSLY PLANTED OR WITHIN 2" ABOVE

TREE PLANTING DETAIL
(NOT TO SCALE)



STONE APRON OUTLET PROTECTION DETAIL
OUTLET TO DEFINED CHANNEL



STONE APRON OUTLET PROTECTION DETAIL
OUTLET TO FLAT AREA, NON DEFINED CHANNEL

MAINTENANCE

THE OUTLET PROTECTION SHOULD BE CHECKED AT LEAST ANNUALLY AND AFTER EVERY MAJOR STORM. IF THE RIPRAP HAS BEEN DISPLACED, UNDERMINED OR DAMAGED, IT SHOULD BE REPAIRED IMMEDIATELY. THE CHANNEL IMMEDIATELY BELOW THE OUTLET SHOULD BE CHECKED TO SEE THAT EROSION IS NOT OCCURRING. THE DOWNSTREAM CHANNEL SHOULD BE KEPT CLEAR OF OBSTRUCTIONS SUCH AS FALLEN TREES, DEBRIS, AND SEDIMENT THAT COULD CHANGE FLOW PATTERNS AND/OR TAILWATER DEPTHS ON THE PIPES. REPAIRS MUST BE CARRIED OUT IMMEDIATELY TO AVOID ADDITIONAL DAMAGE TO THE OUTLET PROTECTION APRON.

STONE GRADATION

% OF WEIGHT SMALLER THAN THE GIVEN SIZE	SIZE OF STONE
100	1.5 TO 2.0 D50
85	1.3 TO 1.8 D50
50	1.0 TO 1.5 D50
15	0.3 TO 0.5 D50

CONSTRUCTION SPECIFICATIONS

1. THE SUBGRADE FOR THE FILTER MATERIAL, GEOTEXTILE FABRIC, AND RIPRAP SHALL BE PREPARED TO THE LINES AND GRADES SHOWN ON THE PLANS.
2. THE ROCK OR GRAVEL USED FOR FILTER OR RIPRAP SHALL CONFORM TO THE SPECIFIED GRADATION.
3. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE ROCK RIPRAP. DAMAGED AREAS IN THE FABRIC SHALL BE REPAIRED BY PLACING A PIECE OF FABRIC OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL OVERLAPS REQUIRED FOR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 12 INCHES.
4. STONE FOR THE RIP RAP MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT SEGREGATION OF THE STONE SIZES.

OUTLET FROM	W1(ft)	W2(ft)	L(ft)	D (ft)	D50(IN)	CHANNEL TYPE
FES1	2	5	5	1	6	UNDEFINED

RIP RAP OUTLET PROTECTION
NOT TO SCALE

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

NO.	REVISION	APP'D	DATE

DATE: 6-16-22
SCALE: NOTES
DRAWN BY: MJM
DESIGN BY: MJM
APPROVED BY:SJH
PROJECT NO:21001
FILE: 21001-SITE

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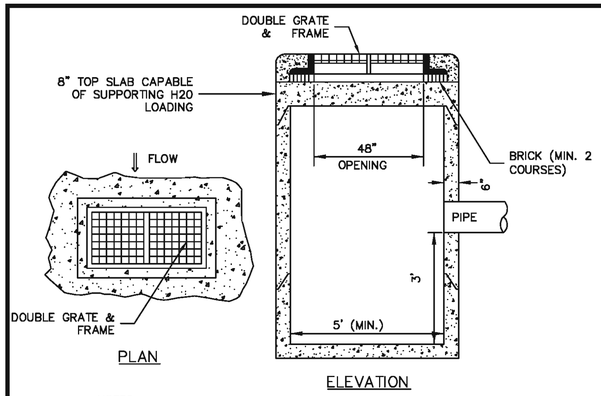
STATE OF NEW HAMPSHIRE
STEPHEN J HAIGHT No. 7979 LICENSED PROFESSIONAL ENGINEER

TSB PROPERTIES, LLC.
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DETAIL SHEET

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NOTES:

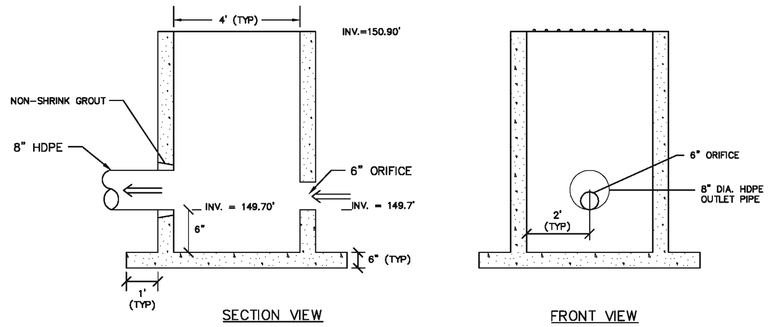
1) GRATES SHALL BE TYPE 'B', FRAMES SHALL HAVE THREE SIDES FLANGED & SECURED TOGETHER

2) TOP SLAB, BASE & RISER SECTIONS SHALL BE MANUFACTURED AND INSTALLED FOR H20 LOADING.

3) CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR REVIEW BY TOWN PRIOR TO CONSTRUCTION.

DOUBLE INLET CATCH BASIN

NOT TO SCALE

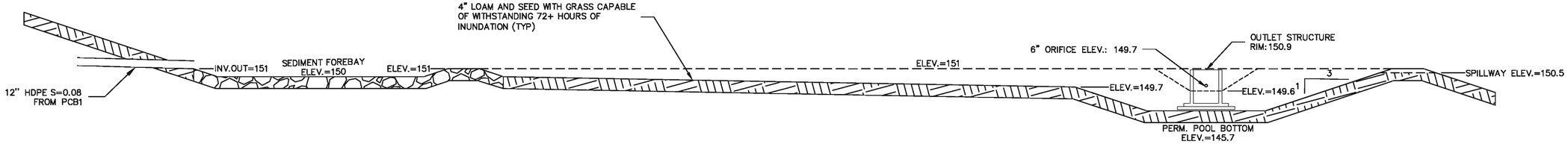


NOTE:

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.
3) SUMPS SHALL NOT BE GREATER THAN 6 INCHES.

OUTLET STRUCTURE WET POND DETAIL

NOT TO SCALE



SECTION

WET POND CONSTRUCTION NOTES

DETENTION AREA EARTH EMBANKMENT:

1 SEE GRADING PLAN FOR BERM WIDTHS.
2 SIDE SLOPES – THREE HORIZONTAL TO ONE VERTICAL (3:1) OR UNLESS OTHERWISE NOTED.
3 FILL MATERIALS SHALL BE FREE OF DETRIMENTAL AMOUNTS OF SOD, ROOTS, FROZEN SOIL, STONES MORE THAN 6 INCHES IN DIAMETER (EXCEPT FOR ROCK FILLS), AND OTHER OBJECTIONABLE MATERIAL.
4 FILL MATERIALS SHALL BE A MIXTURE OF STONES (NOT EXCEEDING 6" IN DIAMETER) AND A FINE SANDY SILT MATERIAL.
5 THE SOIL USED FOR THE SEDIMENT FOREBAY BERM SHALL HAVE A MINIMUM PERCOLATION RATE OF 10 MINUTES AN INCH.
6 SELECTED BACKFILL MATERIAL SHALL BE PLACED AROUND STRUCTURES, PIPE CONDUITS, AND ANTISEEP COLLARS AT ABOUT THE SAME RATE ON ALL SIDES TO PREVENT DAMAGE FROM UNEQUAL LOADING.

DETENTION AREA BERM BASE PREPARATION:

1 THE BASE AREA SHALL BE CLEARED OF TREES, LOGS, STUMPS, ROOTS, BRUSH, BOULDERS, SOD, AND RUBBISH. IF NEEDED TO ESTABLISH VEGETATION, THE TOPSOIL AND SOD SHALL BE STOCKPILED AND SPREAD ON THE COMPLETED BERM. THE BASE AREA SHALL BE THOROUGHLY SCARIFIED BEFORE PLACEMENT OF MATERIAL.
2 REMOVE ALL SOFT ORGANIC MATTER, PEAT, DEBRIS AND FOREIGN MATERIAL TO A DEPTH AS NEEDED (1' MIN) TO REACH AN UNYIELDING BASE OF VIRGIN SOIL.

EXECUTION:

1 FILL MATERIALS SHALL BE PLACED IN HORIZONTAL 12" (MAX.) LIFTS TO FULL WIDTHS AS SHOWN ON THE DESIGN PLAN.
2 FILL MATERIALS SHALL BE FRESHLY PLACED PRIOR TO COMPACTION.
3 ALL FILLS SHALL BE COMPACTED BY MECHANICAL VIBRATORY COMPACTION TO 95% PROCTOR DENSITY.
4 FILL SHALL BE CONSTRUCTED IN CONTINUOUS HORIZONTAL LAYERS EXCEPT WHERE OPENINGS OR SECTIONALIZED FILLS ARE REQUIRED. IN THOSE CASES, THE SLOPE OF THE BONDING SURFACES BETWEEN THE EMBANKMENT IN PLACE AND THE EMBANKMENT TO BE PLACED SHALL NOT BE STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL. PLACE THE MORE IMPERVIOUS SOIL (HIGHER PERCENTAGE PASSING THE #200 SIEVE) IN THE UPSTREAM TWO–THIRDS (2/3) OF THE BERM. THE MORE GRANULAR SOIL MATERIAL SHOULD BE PLACED IN THE REMAINING DOWNSTREAM ONE–THIRD PORTION OF THE BERM.
5 INSTALL ANTI–SEEP COLLARS CONCURRENTLY WITH FILL MATERIAL PLACEMENT.
6 INSTALL CUT–OFF TRENCH CONCURRENTLY WITH FILL MATERIAL PLACEMENT. THE CUT OFF TRENCH SHALL BE LOCATED AT OR SLIGHTLY UPSTREAM OF THE CENTER LINE OF THE BERM. IT SHALL EXTEND UP THE ABUTMENTS AS REQUIRED AND BE DEEP ENOUGH TO EXTEND INTO A RELATIVELY IMPERVIOUS LAYER.
7 THE CUTOFF TRENCH SHALL HAVE A BOTTOM WIDTH ADEQUATE TO ACCOMMODATE THE EQUIPMENT USED FOR EXCAVATION, BACKFILL AND COMPACTION OPERATIONS. CUTOFF TRENCH TO BE EXCAVATED AND BACKFILLED PRIOR TO PLACING PIPE.
8 CUTOFF TRENCH SIDE SLOPES SHALL NOT BE STEEPER THAN ONE HORIZONTAL TO ONE VERTICAL.

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 DETENTION BASINS 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 BURROWS, WET AREAS, OR EROSION OF THE FILL IS TAKING PLACE. IF SUCH ISSUES ARE NOTED THEY SHALL BE RECTIFIED AS SOON AS PRACTICAL.
2 VEGETATION – THE VEGETATED AREAS OF THE BERM SHOULD BE PROTECTED FROM DAMAGE BY FIRE, GRAZING, TRAFFIC, AND DENSE WEED GROWTH. LIME AND FERTILIZER SHOULD BE APPLIED AS NECESSARY AS DETERMINED BY SOIL TESTS. TREES SHOULD BE KEPT OFF THE BERM AREA.
3 INLETS AND OUTLETS – SHOULD BE INSPECTED ANNUALLY AND AFTER EVERY MAJOR STORM. ACCUMULATED DEBRIS AND SEDIMENT SHOULD BE REMOVED.
4 SEDIMENT – SEDIMENT SHOULD BE CONTINUALLY CHECKED IN THE BASIN. WHEN SEDIMENT ACCUMULATIONS REACH THE STRUCTURE INLET ELEVATION 101.5' THEN THE SEDIMENT SHOULD BE REMOVED AND PROPERLY DISPOSED OF.

WET POND

NOT TO SCALE

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

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

NO.	REVISION	APP'D	DATE

DATE: 6-16-22
SCALE: NOTES
DRAWN BY: MJM
DESIGN BY: MJM
APPROVED BY:SJH
PROJECT NO: 21001
FILE: 21001–SITE

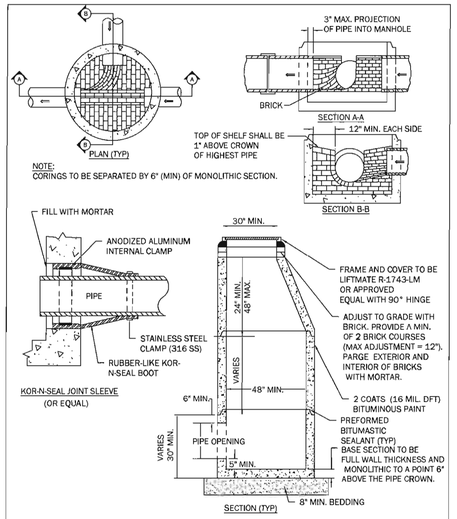
STATE OF NEW HAMPSHIRE – STEPHEN J HAIGHT No. 7978 LICENSED PROFESSIONAL ENGINEER

DETAIL SHEET

TSB PROPERTIES, LLC.
385 SIXTH STREET
DOVER, NH 03820

THE STORAGE BARN
PRODUCTION DRIVE
MAP D, LOT 12–2
DOVER, NH 03820

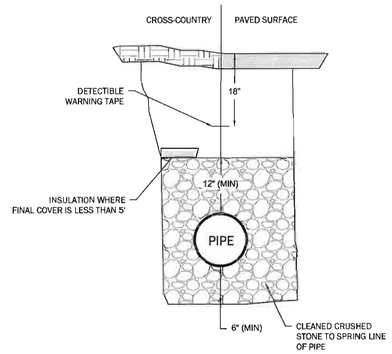
14



CITY OF DOVER - SEWER MANHOLE

NOT TO SCALE

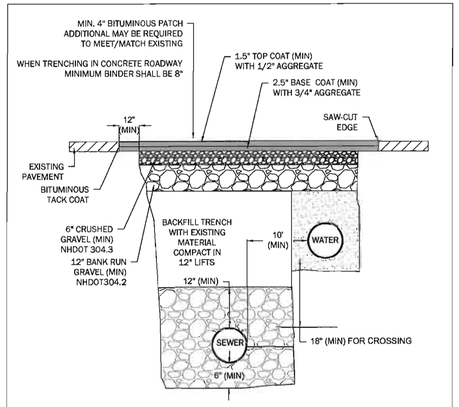
Appendix B Page 12



CITY OF DOVER- TYPICAL SEWER/DRAINLINE TRENCH

NOT TO SCALE

Appendix B Page 13



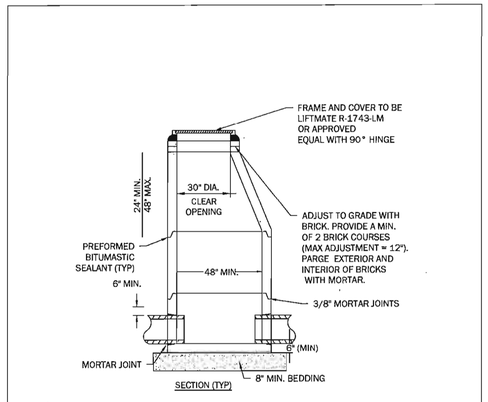
NOTES:

1. TRENCH SHALL BE COMPACTED TO 95% OPTIMUM DENSITY.
2. ALL WORK SHALL COMPLY WITH THE CITY OF DOVER CONSTRUCTION GUIDELINES AND PROCEDURES

CITY OF DOVER - TYPICAL TRENCH DETAIL

NOT TO SCALE

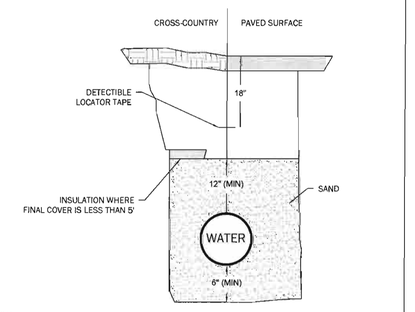
Appendix B Page 3



CITY OF DOVER - DRAIN MANHOLE

NOT TO SCALE

Appendix B Page 17

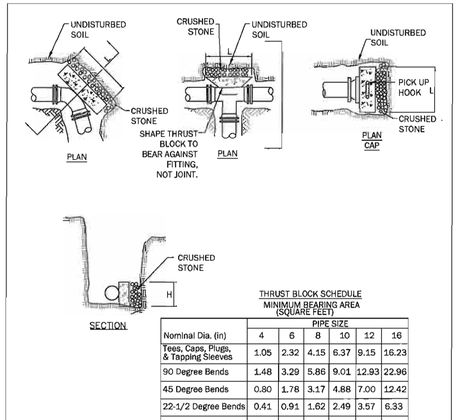


NOTE:

1. ALL WATER LINES 4" OR GREATER SHALL BE DUCTILE IRON WITH AN 8 MIL POLYETHYLENE WRAP. CONTRACTOR MAY FORGO WRAPPING PIPE IF THE DUCTILE IRON PIPE IS ZINC-COATED. TEES AND OTHER CONNECTIONS WILL STILL NEED TO BE WRAPPED.

CITY OF DOVER - WATERLINE TRENCH

NOT TO SCALE



THRUST BLOCK SCHEDULE
MINIMUM BEARING AREA (SQUARE FEET)

	PIPE SIZE					
Nominal Dia. (in)	4	6	8	10	12	16
Tees, Caps, Plugs, & Tapping Sleeves	1.05	2.32	4.15	6.37	9.15	16.23
90 Degree Bends	1.48	3.29	5.86	9.01	12.93	22.96
45 Degree Bends	0.80	1.78	3.17	4.88	7.00	12.42
22-1/2 Degree Bends	0.41	0.91	1.62	2.49	3.57	6.33
11-1/4 Degree Bends	0.21	0.46	0.81	1.25	1.79	3.18

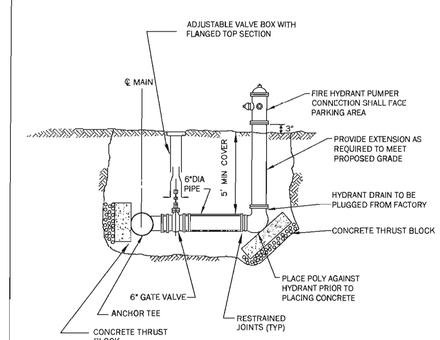
System Pressure: 100 psi
Safety Factor: 1.5
Soil Bearing Capacity: 2,000 psf

THE MINIMUM BEARING AREAS SHOWN IN THE THRUST BLOCK SCHEDULE ARE BASED ON A SYSTEM PRESSURE OF 100 PSI. IF THE SYSTEM PRESSURE IS ABOVE 100 PSI, INCREASE THE NOTED AREAS PROPORTIONAL TO THE ACTUAL SYSTEM PRESSURE. FOR EXAMPLE, IF THE ACTUAL SYSTEM PRESSURE IS 160 PSI, MULTIPLY THE ABOVE VALUES BY 160%.

CITY OF DOVER - PRECAST CONCRETE THRUST BLOCK & ANCHOR

NOT TO SCALE

Appendix B Page 11



NOTES:

1. FIRE HYDRANT TO BE EDDY 2641.
2. HYDRANT TO BE PAINTED RED.
3. HYDRANT SHALL OPEN LEFT.

CITY OF DOVER - HYDRANT

NOT TO SCALE

Appendix B Page 10

SPECIFICATIONS

1. All construction shall conform with the State of New Hampshire Department of Transportation (NHDOT), "Standard Specifications for Road and Bridge Construction"; hereinafter referred to as the "Standard Specifications".
2. Storm drains shall be ADS N12 or approved equal, and shall be jointed with neoprene "O" rings.
3. Catch basins and manholes shall be pre-cast reinforced concrete designed by an engineer registered in New Hampshire, and able to withstand loadings of 8 tons (H20 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 and manholes shall be adjusted to grade with courses of brick. Maximum adjustment to grade shall be 12 inches. Frames shall be set on a full bed of mortar, true to grade and concentric with the masonry. All voids between the top of the structure and the bottom flange of the frame shall be completely filled to make a watertight 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 around its circumference and shall be finished smooth. No visible leakage will be permitted.
6. Invert channels of sewer manholes shall be formed smoothly to the largest pipe radius. Changes in grade shall be formed smoothly and evenly. The floor of the structure outside 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 driven 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, organic matter, top soil, all wet or soft muck, peat or clay, all excavated ledge material, frozen material, all rocks over 6 inches in largest dimension, or any material which, as determined by the Engineer, will not provide sufficient support or maintain the completed construction in a stable condition. Backfill shall not be placed on frozen or previously frozen material.
11. All backfill and bedding compaction shall meet the requirements of AASHO T 99 Method C. Density shall be 95 percent. Compaction shall be 6 inch lifts for bedding and backfill to a plane 1 foot above the pipe and in 12 inch lifts thereafter by an approved mechanical compactor.
12. Should frozen material be encountered, it shall not be placed in the backfill nor shall backfill be placed upon frozen material. Previously frozen material shall be removed as required before new backfill is placed.
13. The Contractor shall be responsible for any damage to frames and grates during and from the time of removal from the existing structure to and during the time of resetting, and shall replace in kind any damaged frames or grates at no additional compensation.
14. All trenches will be covered and debris, including any rejected materials, shall be removed daily. Strict safety precautions shall be maintained at all times.
15. Location of utilities shown on the plans are approximate.
    a) The Contractor shall, 48 hours prior to construction, notify the utility companies and have all utilities in the vicinity of the construction marked in the field.
    b) After the utilities have been located and prior to construction, the Contractor with the Engineer, shall layout the proposed drainage system in the field and rectify any utility conflicts which may be found.
    c) Any conflicts with utilities 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. The Contractor shall contact the Utility Company to repair any damages, however, the Contractor may make appropriate repairs with the Utility Company's permission.
16. Complete shop drawings for pipe, manholes, catch basins, frames, 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.

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NO.	REVISION	DATE	APP'D

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

DATE: 6-16-22
SCALE: NOTED
DRAWN BY: M.M
DESIGN BY: M.M
APPROVED BY:SH
PROJECT NO: 21001
FILE: 21001-SITE

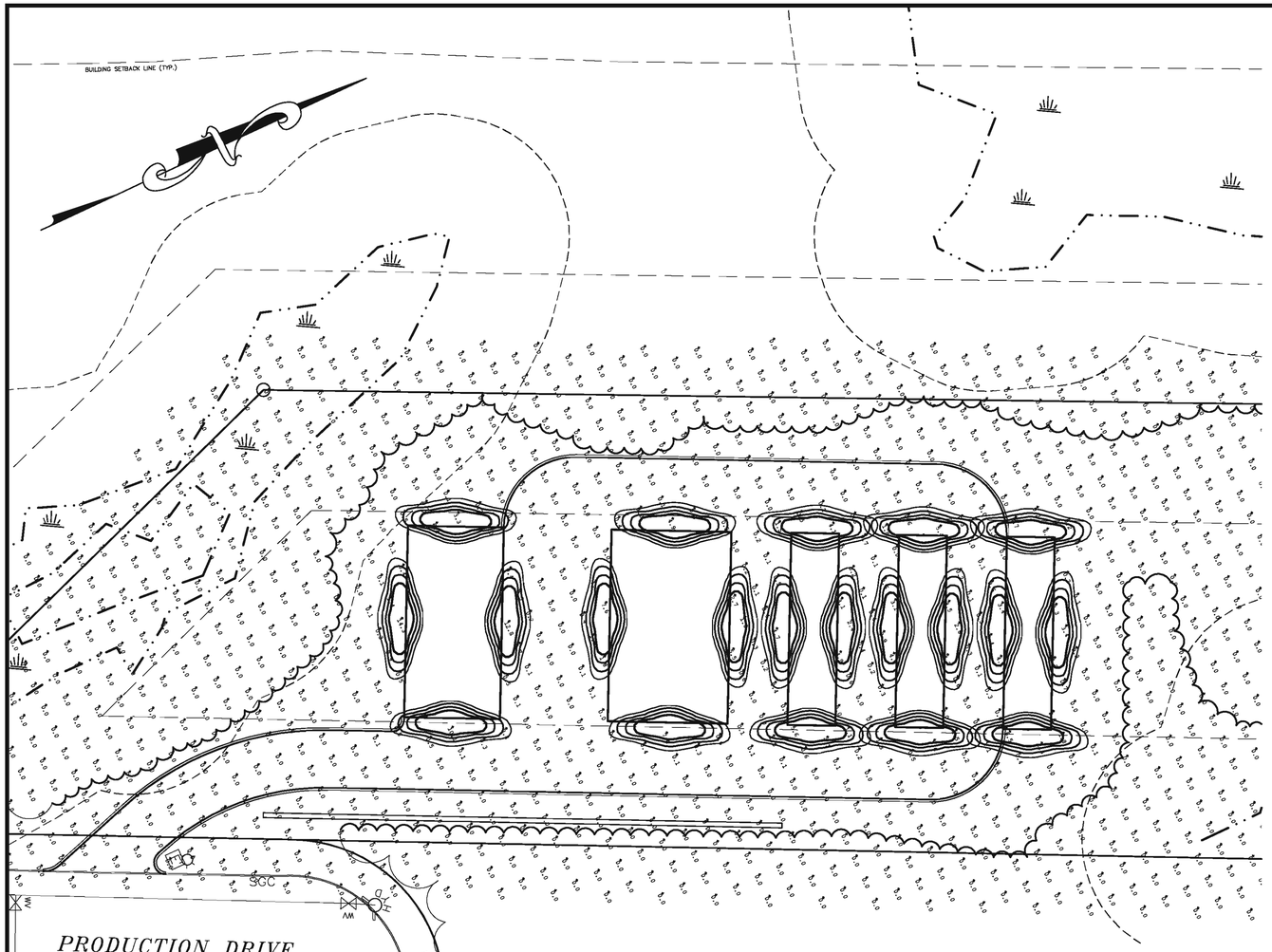
STEPHEN HAIGHT No. 7978 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

TSB PROPERTIES, LLC.
385 SIXTH STREET
DOVER, NH 03820

THE STORAGE BARN
PRODUCTION DRIVE
MAP D, LOT 12-2
DOVER, NH 03820

DETAIL SHEET

15



StatArea_1
PAVED AREAS
Illuminance (Fc)
Average = 0.63
Maximum = 12.8
Minimum = 0.0
Avg/Min Ratio = N.A.
Max/Min Ratio = N.A.

Luminaire Schedule				
Symbol	Qty	Label	Arrangement	Description
⊡	20	W	Single	MERU-LED-AC-DB-PIR / WALL MTD 8' AFG

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)

PRODUCT DESCRIPTION

The MERU Series is an architectural, low-profile outdoor light, offering "normally On" AC and emergency lighting with powerful LED illumination. The housing is fully sealed and gasketed, and has an IP65 rating. Designed for wall mounting with universal K/O pattern in back-plate for easy installation to most standard size junction boxes. Includes a single ½" NPT conduit entry in the top, center of the housing. Illumination provided by 8 high power LEDs which achieve 1,600 lumens in AC and 600 lumens in emergency. LED color at 4000K.

PRODUCT SPECIFICATIONS

CONSTRUCTION

Die cast aluminum housing with superior heat sink • Scratch resistant Polyester powder coat finish • UV resistant polycarbonate lens • Snap-fit housing and mounting plate are held together by four stainless steel clips • Universal mounting pattern molded into the back plate • 1/2" threaded top access for surface conduit installation • Silicone rubber seal with hollow center, shape adaptive design protects the electrical components • Junction box neoprene seal is attached to the back plate for a weather proof installation • Dark Bronze or White textured finish.

ELECTRICAL

Dual voltage 120/277VAC 60Hz input • Solid state charging and switching • Battery low voltage disconnect • AC power indicator and test switch at the bottom of the unit • Standard with Self Diagnostics to monitor proper operation.

LAMPS

Supplied with eight (8) LG SMD 4000K LED'S • L70 > 72,000hours • 17 Watts total (32 Watts with IH option) • 1600 Lumens in AC mode, 600 Lumens in Emergency mode • Full cut-off optics for Dark Sky compliance

BATTERY

Maintenance-free, long-life rechargeable NiCad battery will operate fixture for a minimum of 90 minutes in the event of a power outage • 24 hour recharge after 90 minute discharge.

CODE COMPLIANCE

UL924 • Listed for wet location applications (0°C-50°C) • Optional "IH" cold weather package for (-40°C-50°C) • IP65 Rated • NFPA 101 Life Safety Code compliant • NEC and OSHA compliant • DLC Listed • RoHS Compliant

WARRANTY

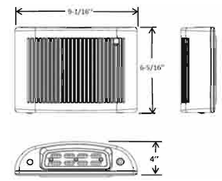
5-year warranty. Product specifications subject to change without notice.

INSTALLATION

MOUNTING

Suitable for indoor or outdoor wall mounting on junction box, or with surface conduit using the supplied 1/2" threaded top access • Mounting plate has molded universal mounting pattern for simple mounting over junction box.





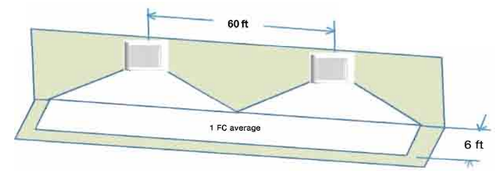
ACEM Model (NiCad Battery Backup)

Integral photocell: Unit operates as a dusk to dawn luminaire and in the event of a power failure as an emergency light.
Remote Switched: The integral photocell can be defeated to allow remote switching for normal operation. In the event of a power failure unit operates as an emergency light.

ORDERING INFORMATION

model	operation mode	housing color	options
MERU-LED	ACEM = General & Emergency Lighting	DB = Dark Bronze	*Self-Diagnostics & Photocell (Included Standard)*
	AC = General Lighting	WH = White	IH = Internal Heater
		BK = Black	PIR = Passive Infra-Red Motion Sensor
Ordering Example: MERU-ACEM-DB		NK = Nickel	

PHOTOMETRICS



Note: Meets Life Safety Code standard minimum illuminance of 0.1 FC and average illuminance of 1.0 FC.
Illustration shown is a guideline for corridor center-to-center with 9 ft mounting height and Minimum 80-50-20 reflectance values.

Mounting Height	Center to center distance
7.2ft	45ft
9ft	60ft
10ft	65ft



SELF DIAGNOSTICS

Included Self Diagnostic



Full self-test self-diagnostic system is standard in every unit, performs a monthly test as well as continuously monitoring all functions to ensure reliability; a manual test may be initiated at any time

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NO.	REVISION	APP'D	DATE

DATE: 6-16-22
SCALE: 1"=30'
DRAWN BY: MJM
DESIGN BY: CHARRON
APPROVED BY:SJH
PROJECT NO: 21001
FILE: 21001-SITE

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

STATE OF NEW HAMPSHIRE
STEPHEN HAIGHT No. 7978 LICENSED PROFESSIONAL ENGINEER

LIGHTING PLAN

TSB PROPERTIES, LLC.
385 SIXTH STREET
DOVER, NH 03820

THE STORAGE BARN
PRODUCTION DRIVE
MAP D, LOT 12-2
DOVER, NH 03820

16

LEGEND

I.R. (set) o	– IRON ROD W/ I.D. CAP (SET)
⊙ I.P.	– IRON PIPE
⊡ G.B.	– GRANITE BOUND
o I.R.	– IRON ROD
o I.R.(fnd)	– IRON ROD (FOUND)
D.H.	– DRILL HOLE
S.F.	– SQUARE FEET
Ac.	– ACRE
(TYP.)	– TYPICAL
±	– MORE OR LESS
ø	– DIAMETER
S.C.R.D.	– STRAFFORD COUNTY REGISTRY OF DEEDS
-o- UP	– UTILITY POLE
- - - -	– EDGE OF WETLAND
O.A.	– OVERALL
TBR	– TO BE REMOVED
VIF	– VERIFY IN FIELD
CCB	– CAPE COD BERM
	– TREELINE

R.O.W.	– RIGHT OF WAY
(D) DMH	– DRAIN MANHOLE
◻ CB	– CATCH BASIN
(S) SMH	– SEWER MANHOLE
HYD.	– FIRE HYDRANT
WV	– WATER GATE VALVE
	– TREE
GV.	– GAS VALVE
R=5'	– PROPOSED PAVEMENT RADIUS
PW	– PROPOSED WATER
PE	– PROPOSED ELECTRIC
UGE	– PROPOSED UNDERGROUND ELECTRIC
PS	– PROPOSED SEWER
PD	– PROPOSED DRAINAGE
PG	– PROPOSED GAS
55	– PROPOSED FINISH GRADE
55	– PROPOSED SPOT GRADE

PARCEL AREA
337,616 S.F.
7.75 Ac.

SELF STORAGE UNIT BUILDING #1 3,200 S.F.
SELF STORAGE UNIT BUILDING #2 4,000 S.F.
SELF STORAGE UNIT BUILDING #3 1,600 S.F.
SELF STORAGE UNIT BUILDING #4 1,600 S.F.
SELF STORAGE UNIT BUILDING #5 1,600 S.F.

R=30' 40' 45' 50' 30' 25' 20' 20' 20' R=30'
80' 80' 80' 80' 80'
R=5' 24' 30' 25' R=30'
R=124' R=100'
EOP R=10' R=5' SGC
RED MAPLE(5) 30FT O.C.
FORSYTHIA IN-BETWEEN
EOP
EUGE
PRODUCTION DRIVE
SGC SGC
PROPOSED RETAINING WALL

D / 12-2
PARCEL AREA
184,682 S.F.
4.24 Ac.

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NO.	REVISION	APP'D	DATE

DATE: 6-3-22
SCALE: 1"=30'
DRAWN BY: MJM
DESIGN BY: DJL
APPROVED BY:SJH
PROJECT NO: 21001
FILE: 21001-SITE

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

STATE OF NEW HAMPSHIRE – STEPHEN J HAIGHT No. 7978 LICENSED PROFESSIONAL ENGINEER

PRELIMINARY LANDSCAPE

TSB PROPERTIES, LLC.
386 SIXTH STREET
DOVER, NH 03820

THE STORAGE BARN
PRODUCTION DRIVE
MAP D, LOT 12-2
DOVER, NH 03820

17

LEGEND

I.R. (set) o	– IRON ROD W/ I.D. CAP (SET)
⊙ I.P.	– IRON PIPE
⊡ G.B.	– GRANITE BOUND
o I.R.	– IRON ROD
o I.R.(fnd)	– IRON ROD (FOUND)
D.H.	– DRILL HOLE
S.F.	– SQUARE FEET
Ac.	– ACRE
(TYP.)	– TYPICAL
±	– MORE OR LESS
ø	– DIAMETER
S.C.R.D.	– STRAFFORD COUNTY REGISTRY OF DEEDS
-o- UP	– UTILITY POLE
- - - -	– EDGE OF WETLAND
O.A.	– OVERALL
TBR	– TO BE REMOVED
VIF	– VERIFY IN FIELD
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	– TREELINE

R.O.W.	– RIGHT OF WAY
Ⓓ DMH	– DRAIN MANHOLE
◘ CB	– CATCH BASIN
Ⓢ SMH	– SEWER MANHOLE
HYD.	– FIRE HYDRANT
WV	– WATER GATE VALVE
	– TREE
GV.	– GAS VALVE
R=5'	– PROPOSED PAVEMENT RADIUS
PW	– PROPOSED WATER
PE	– PROPOSED ELECTRIC
UGE	– PROPOSED UNDERGROUND ELECTRIC
PS	– PROPOSED SEWER
PD	– PROPOSED DRAINAGE
PG	– PROPOSED GAS
55	– PROPOSED FINISH GRADE
x 55	– PROPOSED SPOT GRADE

D / 12-1

PARCEL AREA

337,616 S.F.

7.75 Ac.

D / 12-

PARCEL A

184,682

4.24 A

SELF STORAGE UNIT BUILDING #1 3,200 S.F.

SELF STORAGE UNIT BUILDING #2 4,000 S.F.

SELF STORAGE UNIT BUILDING #3 1,600 S.F.

SELF STORAGE UNIT BUILDING #4 1,600 S.F.

SELF STORAGE UNIT BUILDING #5 1,600 S.F.

40' 80' 45' 50' 80' 25' 20' 80' 25' 20' 80' 20' 80'

R=30' R=30' 30' 30' 24' R=5' R=5' R=30' 25'

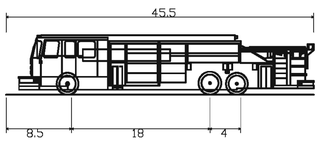
R=125' R=100' R=10' R=5'

EOP EOP EUGE SGC SGC SGC

Dover Ladder

PRODUCTION DRIVE

PROPOSED RETAINING WALL



Dover Ladder	
Overall Length	45.500ft
Overall Width	8.500ft
Overall Body Height	1.488ft
Min Body Ground Clearance	1.488ft
Track Width	8.500ft
Lock-to-lock time	6.00s
Max Wheel Angle	44.00°

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)

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CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
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603.749.0443

NO.	REVISION	APP'D	DATE

DATE: 6-16-22
SCALE: 1"=30'
DRAWN BY: MJM
DESIGN BY: MJM
APPROVED BY:SJH
PROJECT NO: 21001
FILE: 21001-SITE

STATE OF NEW HAMPSHIRE – STEPHEN J. HAIGHT No. 7978 LICENSED PROFESSIONAL ENGINEER

DOVER LADDER TRUCK MOVEMENT PLAN

TSB PROPERTIES, LLC.
385 SIXTH STREET
DOVER, NH 03820

THE STORAGE BARN
PRODUCTION DRIVE
MAP D, LOT 12-2
DOVER, NH 03820

18

LEGEND

I.R. (set) o	– IRON ROD W/ I.D. CAP (SET)
⊙ I.P.	– IRON PIPE
⊡ G.B.	– GRANITE BOUND
o I.R.	– IRON ROD
o I.R.(fnd)	– IRON ROD (FOUND)
D.H.	– DRILL HOLE
S.F.	– SQUARE FEET
Ac.	– ACRE
(TYP.)	– TYPICAL
±	– MORE OR LESS
ø	– DIAMETER
S.C.R.D.	– STRAFFORD COUNTY REGISTRY OF DEEDS
-o- UP	– UTILITY POLE
- - - -	– EDGE OF WETLAND
O.A.	– OVERALL
TBR	– TO BE REMOVED
VIF	– VERIFY IN FIELD
CCB	– CAPE COD BERM
	– TREELINE

R.O.W.	– RIGHT OF WAY
(D) DMH	– DRAIN MANHOLE
CB	– CATCH BASIN
(S) SMH	– SEWER MANHOLE
HYD.	– FIRE HYDRANT
WV	– WATER GATE VALVE
	– TREE
GV.	– GAS VALVE
R=5'	– PROPOSED PAVEMENT RADIUS
PW	– PROPOSED WATER
PE	– PROPOSED ELECTRIC
UGE	– PROPOSED UNDERGROUND ELECTRIC
PS	– PROPOSED SEWER
PD	– PROPOSED DRAINAGE
PG	– PROPOSED GAS
55	– PROPOSED FINISH GRADE
x 55	– PROPOSED SPOT GRADE

D / 12-1

PARCEL AREA

337,616 S.F.

7.75 Ac.

D / 12-2

PARCEL AREA

184,682 S.F.

4.24 Ac.

SELF STORAGE UNIT BUILDING #1 3,200 S.F.

SELF STORAGE UNIT BUILDING #2 4,000 S.F.

SELF STORAGE UNIT BUILDING #3 1,600 S.F.

SELF STORAGE UNIT BUILDING #4 1,600 S.F.

SELF STORAGE UNIT BUILDING #5 1,600 S.F.

PROPOSED RETAINING WALL

PRODUCTION DRIVE

EOP

EUGE

SGC

R=30'

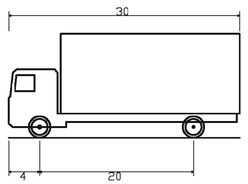
R=5'

R=10'

R=125'

R=100'

SU-30 - Single Unit Truck



Overall Length	30.000ft
Overall Width	8.000ft
Overall Body Height	13.500ft
Min Body Ground Clearance	1.367ft
Track Width	8.000ft
Lock-to-lock time	5.00s
Max Steering Angle (Virtual)	31.80°

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

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

NO.	REVISION	APP'D	DATE

DATE: 6-16-22
SCALE: 1"=30'
DRAWN BY: MJM
DESIGN BY: MJM
APPROVED BY:SJH
PROJECT NO: 21001
FILE: 21001-SITE

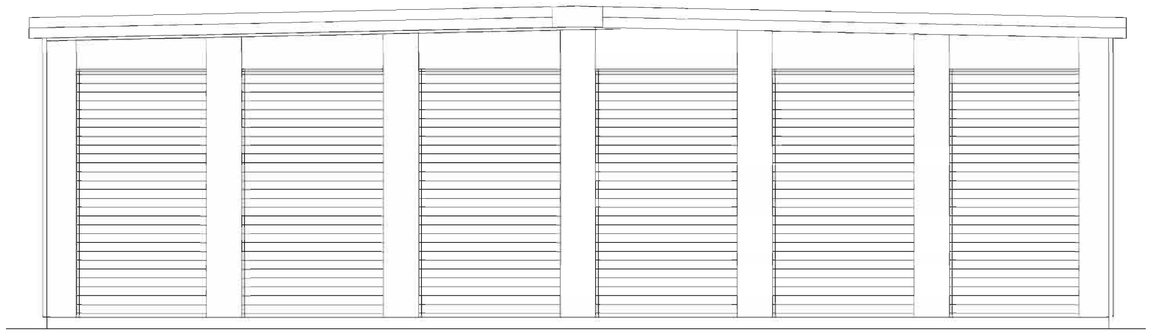
STATE OF NEW HAMPSHIRE – STEPHEN J HAIGHT No. 7978 LICENSED PROFESSIONAL ENGINEER

BOX TRUCK MOVEMENT PLAN

TSB PROPERTIES, LLC.
385 SIXTH STREET
DOVER, NH 03820

THE STORAGE BARN
PRODUCTION DRIVE
MAP D, LOT 12-2
DOVER, NH 03820

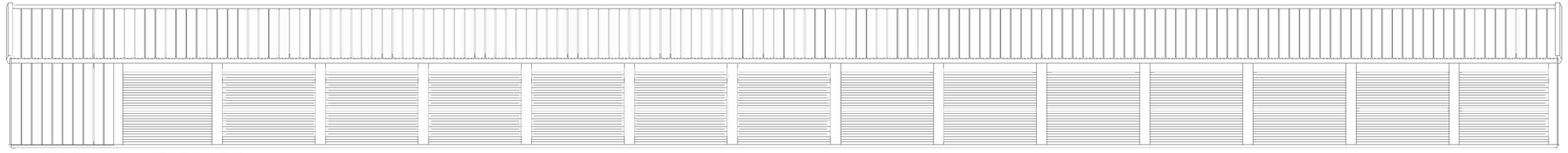
19



END WALL ELEVATION







SIDE WALL ELEVATION

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

NO.	REVISION	APP'D	DATE

DATE: 6-3-22
SCALE: 1"=30'
DRAWN BY: MJM
DESIGN BY: DJL
APPROVED BY:SJH
PROJECT NO:21001
FILE: 21001-SITE

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

STEPHEN J. HAIGHT No. 7978 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

DRAFT ELEVATION PLAN

TSB PROPERTIES, LLC.
385 SIXTH STREET
DOVER, NH 03820

THE STORAGE BARN
PRODUCTION DRIVE
MAP D, LOT 12-2
DOVER, NH 03820

EX-E

LEGEND

I.R. (set) o	– IRON ROD W/ I.D. CAP (SET)
⊙ I.P.	– IRON PIPE
⊡ G.B.	– GRANITE BOUND
o I.R.	– IRON ROD
o I.R.(fnd)	– IRON ROD (FOUND)
D.H.	– DRILL HOLE
S.F.	– SQUARE FEET
Ac.	– ACRE
(TYP.)	– TYPICAL
±	– MORE OR LESS
ø	– DIAMETER
S.C.R.D.	– STRAFFORD COUNTY REGISTRY OF DEEDS
-o- UP	– UTILITY POLE
- - - -	– EDGE OF WETLAND
O.A.	– OVERALL
TBR	– TO BE REMOVED
VIF	– VERIFY IN FIELD
CCB	– CAPE COD BERM
	– TREELINE

R.O.W.	– RIGHT OF WAY
DMH	– DRAIN MANHOLE
CB	– CATCH BASIN
SMH	– SEWER MANHOLE
HYD.	– FIRE HYDRANT
WV	– WATER GATE VALVE
	– TREE
GV.	– GAS VALVE
R=5'	– PROPOSED PAVEMENT RADIUS
PW	– PROPOSED WATER
PE	– PROPOSED ELECTRIC
UGE	– PROPOSED UNDERGROUND ELECTRIC
PS	– PROPOSED SEWER
PD	– PROPOSED DRAINAGE
PG	– PROPOSED GAS
55	– PROPOSED FINISH GRADE
55	– PROPOSED SPOT GRADE

AREA OF DISTURBANCE

	PROPOSED
WETLAND BUFFER IMPACT	= 11,009 SF
WETLAND IMPACT	= 0 SF

D / 12-1
PARCEL AREA
337,616 S.F.
7.75 Ac.

D / 12-2
PARCEL AREA
184,682 S.F.
4.24 Ac.

HcB
Sb

50' WETLAND BUFFER
245' SETBACK TO RESIDENTIAL ZONE (150' REQUIRED)
① BUFFER IMPACT: 1908 SF
PROPOSED CONSERVATION PLACARD (TYP.)
BUILDING SETBACK LINE
PROPOSED TREELINE
SELF STORAGE UNIT BUILDING #1 3,200 S.F.
SELF STORAGE UNIT BUILDING #2 4,000 S.F.
SELF STORAGE UNIT BUILDING #3 1,600 S.F.
SELF STORAGE UNIT BUILDING #4 1,600 S.F.
② BUFFER IMPACT: 680 SF
③ BUFFER IMPACT: 8366 SF
④ BUFFER IMPACT: 55 SF
50' WETLAND BUFFER
PROPERTY LINE (TYP.)
EOP
EUGE
SGC
PRODUCTION DRIVE

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)

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NO.	REVISION	APP'D	DATE

DATE: 6-16-22
SCALE: 1"=30'
DRAWN BY: MJM
DESIGN BY: DJL
APPROVED BY:SJH
PROJECT NO: 21001
FILE: 21001-SITE

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

STEPHEN J HAIGHT No. 7973 LICENSED PROFESSIONAL ENGINEER – STATE OF NEW HAMPSHIRE

CONDITIONAL USE PERMIT PLAN

TSB PROPERTIES, LLC.
385 SIXTH STREET
DOVER, NH 03820

THE STORAGE BARN
PRODUCTION DRIVE
MAP D, LOT 12-2
DOVER, NH 03820

CUP