

BDC COPY

Bedford Design Consultants Inc.**ENGINEERS AND SURVEYORS**

592 Harvey Road, Manchester, NH 03103

Telephone: (603) 622-5533 Fax: (603) 622-4740

www.bedforddesign.com

LETTER OF TRANSMITTAL

TO:

Seth Creighton, AICP
 Planning & Zoning Director
 City of Franklin
 316 Central St
 Franklin, NH 03235

DATE: 11-16-22

JOB #: 1662-01

ATTENTION: SETH CREIGHTON

RE:

Dillon Site Plan
 Commerce Drive
 Map 102 Lot 403-3

WE ARE SENDING YOU ☒ ATTACHED ☐ UNDER SEPARATE COVER VIA: _____ THE FOLLOWING ITEMS:

☐ SHOP DRAWINGS ☒ APPLICATION ☒ PLANS ☐ SAMPLES ☐ SPECIFICATIONS
☐ COPY OF LETTER ☐ CHANGE ORDER ☐ _____

COPIES	DATE	NO.	DESCRIPTION
16	11-16-22	-	22X34 Plan Set
1	11-16-22	-	Narrative
1	11-16-22	-	Abutters List & Labels
1	11-16-22	-	Application
1	11-15-22	-	Fee Check
1	11-16-22	-	I&M Manual & SWMP, Drainage Report
1	11-16-22	-	Waiver Request & Letter
1	09-22-22	-	Letter of Authorization
1	11-16-22	-	Traffic Letter

THESE ARE TRANSMITTED (AS CHECKED BELOW):

☐ FOR APPROVAL ☐ APPROVED AS SUBMITTED ☐ RESUBMIT: _____ COPIES FOR APPROVAL
☐ FOR YOUR USE ☐ APPROVED AS NOTED ☐ SUBMIT: _____ COPIES FOR DISTRIBUTION
☐ AS REQUESTED ☐ RETURNED FOR CORRECTIONS ☐ RETURN: _____ CORRECTED PRINTS
☒ FOR REVIEW AND COMMENT ☐ _____
☐ FOR BIDS DUE: _____ ☐ PRINTS RETURNED AFTER LOAN TO US

REMARKS:

Seth,

Attached are plans for the proposed light manufacturing facility on
 Commerce Drive. Please let me know if you have any questions.

Thanks,

COPY TO:
 OWNER

SIGNED:

Katherine A. Weiss, PLA, ASLA

Bedford Design Consultants, Inc.

20928

DATE	INVOICE NO.	COMMENT	AMOUNT	NET AMOUNT
11/15/2022	1662-01	Site Plan Submittal Fee		327.00
DATE 11/15/22	VENDOR City of Franklin		TOTAL	327.00

20928



Bedford Design Consultants, Inc.

592 Harvey Road
Manchester, NH 03103
(603) 622-5533

Boston, MA 02110
easternbank.com
1-800-EASTERN



53-179/113

Three Hundred Twenty Seven and no/100

DATE 11/15/22 20928 AMOUNT \$327.00

PAY TO THE ORDER OF CITY OF FRANKLIN FRANKLIN NH



AUTHORIZED SIGNATURE

⑈020928⑈ ⑆011301798⑆ 1010060600⑈

**CITY OF FRANKLIN
SITE PLAN REVIEW APPLICATION**

Location of Proposed Development: Commerce Drive New Map #: _____
Parcel ID (Map/Lot #): 102/403-3 Zoning of Parcel: Industrial

Applicant

Name: Dillon's Custom Cabinetry
Address: 116 Duke's County Ave
City/State/Zip: Oak Bluffs, MA 02577
Phone: 508-939-0469
Email: ryan@dilloncreations.com

Owner of Record

Name: DC Realty, LLC
Address: 21 Kendrick Road
City/State/Zip: Franklin, NH 03235
Phone: 508-939-0469
Email: ryan@dilloncreations.com

Applicant's Agent/Engineer

Name: Bedford Design Consultants, Inc.
Address: 592 Harvey Road
City/State/Zip: Manchester, NH 03103
Phone: 603-622-5533
Email: Katiew@bedforddesign.com

Other (if Applicable)

Name: _____
Address: _____
City/State/Zip: _____
Phone: _____
Email: _____

Development Proposal, Please explain: We are proposing a 19,600 s.f. light manufacturing building for custom cabinetry with associated parking, circulation, and drainage.

Information:

Number of Proposed Buildings/Units: 1
Frontage on What Road(s): Commerce Drive

Services Available: **Sewer** Municipal ☒ Septic ☐ **Water** Municipal ☒ Well ☐
Non-Municipal Services Proposed/Available, Explain: underground gas tank

Site in Acres 4.16 acres Developable Acres 3.80 acres

Are waiver's requested, and if so, please fill out attached Waiver Request sheet: ☒ Yes ☐ No

Zoning Board Approvals Granted: ☐ Variance ☐ Special Exception ☐ Other ☒ None

Please Explain: _____

Dates Granted: _____

Does this submission represent an amended plan: ☐ Yes ☒ No

Date approval Granted: _____

Conditions of Approval: _____

Was a conceptual plan submitted to the Planning Board: ☐ Yes ☒ No

Date approval Granted: _____

Conditions of Approval: _____

Signature of Applicant: Katiew

Date: 11/16/22

Application Fee: \$250.00

Abutters Notices: \$7.00 per abutter

For Office Use Only

Deadline Date: _____ Actual Date Submitted: _____

Meeting Date: _____

Amount Due Application: \$ 250.00

Amount Due Abutters: \$ 77.00 Total Number of Abutters: 11 abutters @ \$7

Total Due: \$ 327.00

Amount Paid: \$ _____ How Paid: ☐ Cash ☐ Check # _____

Date Paid _____

Is the following information attached to this application:

- ☐ Abutter's List, complete with Name, Address, City, State, Zip and Map/Lot #;
- ☐ 16 Paper Prints of the Plan (4 Department Review Sheets/12 Member Sheets);
- ☐ Letter of Authorization from the Owner of Record; and,
- ☐ Waiver's List and explanation.

What Supportive Documentation was submitted: _____

Hearing Dates:	Outcome:

***Bedford Design Consultants* Inc.**
ENGINEERS AND SURVEYORS

592 Harvey Road Manchester, NH 03103
Telephone: (603) 622-5533 • www.bedforddesign.com

November 16, 2022

Franklin Planning Board
316 Central St
Franklin, NH 03235

RE: Dillon Site Plan
Commerce Drive
Map 102 Lot 403-3

Members of the Board,

Bedford Design is pleased to submit this application for a light manufacturing cabinet making facility on Commerce Drive. The site is 4.16 acres and is located south of the Blackfly Canoes Property. The site is flat except for a steep embankment in the east down to the wetland areas.

We are proposing a 19,600 s.f. metal building with garage and man doors along 3 sides. 25 parking spaces are proposed for employees. The site has a one-way traffic flow to minimize pavement width and control traffic including deliveries and pickups. A dumpster is located to the rear of the site. There will be a sign on the door and directional signs at the entrance and exit. Trees are proposed along the frontage and at the main entrance of the building along with various trees and shrubs.

The site will have underground gas and electric. It will be served by municipal water and sewer. We will be required to obtain a sewer discharge permit from NHDES and are requesting a waiver from the sight distance regulations for the 400' of sight distance to the north of the exit. Drainage will consist of overland sheet flow into a bio-retention basin and then a detention pond.

If you have any questions, please feel free to contact us at 603-622-5533.

Sincerely,

Bedford Design Consultants, Inc.

Katherine A. Weiss, PLA, ASLA
Project Manager

SITE PLAN APPLICATION
REQUEST FOR WAIVER
(Sec. 402-6 C)

WAIVER PROCEDURE

The board may, for good cause, waive requirements as to the site plan and supporting data.

DATE: November 16, 2022

Planning Board
City of Franklin
316 Central Street
Franklin, New Hampshire 03235

RE: Request for Waiver/Sit PI
Tax Map/Lot # 102/403-3


Dear Board Members:

As applicant for the above, a waiver is requested of the following site plan review requirements:

ITEM	SECTION	REASON FOR WAIVER
<i>Sight Distance</i>	<i>149-6: B</i>	<i>Sight Dist. Reduction</i> <i>See attached letter</i>
		<i>7</i>

Thank you for your consideration.

Sincerely,


Applicant's Name *Katherine Weiss*
Bedford Design

Bedford Design Consultants Inc.
ENGINEERS AND SURVEYORS

592 Harvey Road Manchester, NH 03103
Telephone: (603) 622-5533 • www.bedforddesign.com

November 16, 2022

Franklin Planning Board
316 Central St
Franklin, NH 03235

RE: Waiver Request for Sight Distance Section 149-6.B
Dillon Site Plan
Commerce Drive
Map 102 Lot 403-3

Members of the Board,

Bedford Design is submitting a waiver to the sight distance requirements. We have located the development to the north of the property and the proposed exit near the center of the property to allow for future development on the south of the lot. Because of this, the driveway is located at a curve in Commerce Drive. Sight distance to the left can be obtained by cutting trees. To the north, the sight distance goes through the abutting Blackfly Canoe's property and is obstructed by trees.

The sight distance to the north is only needed for left turns. The sight distance plan shows that 263' of sight distance can be obtained without affecting the abutter. Our project does not anticipate any left turns out of the site because the street is a dead end and only one parcel remains undeveloped.

If you have any questions, please feel free to contact us at 603-622-5533.

Sincerely,

Bedford Design Consultants, Inc.



Katherine A. Weiss, PLA, ASLA
Project Manager



CITY OF FRANKLIN, NEW HAMPSHIRE
"The Three Rivers City"

Planning and Zoning
316 Central Street
Franklin New Hampshire 03235

Phone: (603) 934-2341
City Hall Main Line: (603) 934-3900
Fax: (603) 934-7413

ABUTTERS LIST

Applicant information:

Printed Name: Dillon's Custom Cabinetry Contact Telephone: 508-939-0469
Address: 116 Duke's County Ave, Oak Bluffs, MA 02557

Owner/Agent Information

(\$6.50 per abutter including owner and agent- fees go up as Postage is raised)

Map	Lot	Name	Address
102	403-3	DC Realty, LLC.	21 Kendrick Rd, Franklin, NH 03235

Abutter(s) Information

Map	Lot	Name	Address
102	402	Franklin Commons Realty Group, LLC.	70 Industrial Park Dr Suite 7, Franklin, NH 03235
102	403	Boscawen Office Rentals, LLC.	220 Lake Shore Drive, Franklin, NH 03235
103	403-2	Yvan D. & Rose Cote	518 North Road, Franklin, NH 03235
102	403-1	Blackfly Canoes, LLC.	33 Victor Huckins Road, New Hampton, NH 03256
101	9-3	Franklin Commons Condo Association	70 Industrial Park Dr Unit 6, Franklin, NH 03235
		Robert J. Baskerville, PE, Bedford Design	592 Harvey Rd, Manchester, NH 03103
		Craig Francisco, LLS, Bedford Design	592 Harvey Rd, Manchester, NH 03103
		Katherine A. Weiss, PLA, Bedford Design	592 Harvey Rd, Manchester, NH 03103
		Luke Hurley, CWS, Gove Environmental Services, LLC	8 Continental Dr, Bldg 2, Unit H, Exeter, NH 03833
		Dillon's Custom Cabinetry	116 Dukes County Ave, Oak Bluffs, MA 02557

(If needed please attach an additional sheet.)

I, the undersigned Katherine Weiss, certify that to the best of my knowledge the above is an accurate and complete abutters list.

11-16-22

Applicant Signature

Date

672:3 Abutter. – "Abutter" means any person whose property is located in New Hampshire and adjoins or is directly across the street or stream from the land under consideration by the local land use board. For purposes of receiving testimony only, and not for purposes of notification, the term "abutter" shall include any person who is able to demonstrate that his land will be directly affected by the proposal under consideration. For purposes of receipt of notification by a municipality of a local land use board hearing, in the case of an abutting property being under a condominium or other collective form of ownership, the term abutter means the officers of the collective or association, as defined in RSA 356-B:3, XXIII. For purposes of receipt of notification by a municipality of a local land use board hearing, in the case of an abutting property being under a manufactured housing park form of ownership as defined in RSA 205-A:1, II, the term "abutter" includes the manufactured housing park owner and the tenants who own manufactured housing which adjoins or is directly across the street or stream from the land under consideration by the local land use board.

Black Fly Canoes, LLC
33 Victor Huckins Road
New Hampton, NH 03256

DC Realty, LLC
21 Kendrick Rd.
Franklin, NH 03235

Franklin Commons Condo. Association
70 Industrial Park Drive, Unit 6
Franklin, NH 03235

Yvan D. & Rose Cote
518 North Road
Franklin, NH 03235

Robert J. Baskerville, P.E.
C/O Bedford Design Consultants, Inc.
592 Harvey Road
Manchester, NH 03103

Craig A. Francisco, LLS
C/O Bedford Design Consultants, Inc.
592 Harvey Road
Manchester, NH 03103

Katherine A. Weiss, PLA
C/O Bedford Design Consultants, Inc.
592 Harvey Road
Manchester, NH 03103

Luke Hurley, CWS
C/O Gove Environmental Services, Inc.
8 Continental Drive, Bldg. 2, Unit H
Exeter, NH 03833

Dillon's Custom Cabinetry
116 Duke's County Ave
Oak Bluffs, MA 02557

Franklin Commons Realty Group, LLC
70 Industrial Park Drive, Suite 7
Franklin, NH 03235

Black Fly Canoes, LLC
33 Victor Huckins Road
New Hampton, NH 03256

DC Realty, LLC
21 Kendrick Rd.
Franklin, NH 03235

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Franklin Commons Realty Group, LLC
70 Industrial Park Drive, Suite 7
Franklin, NH 03235

Utilisez le gabarit Avery 5160
Allez à avery.ca/gabaris

Boscawen Office Rentals, LLC
220 Lake Shore Drive
Franklin, NH 03235

Repliez à la hachure afin de révéler le rebord Pop-up
Étiquettes d'adresse Easy Peel

Boscawen Office Rentals, LLC
220 Lake Shore Drive
Franklin, NH 03235

Pat: avery.com/patents

Boscawen Office Rentals, LLC
220 Lake Shore Drive
Franklin, NH 03235

Go to avery.com/templates
Use Avery Template 5160

Easy Peel Address Labels
Bend along line to expose Pop-up Edge

5160

AVERY

Authorization

I give permission for employees and subcontractors of **Bedford Design Consultants, Inc.** to:

- 1 RD
Initial Here Enter on the property as their work requires. I understand that said employees and subcontractors will disturb the site as little as possible.
- 2 RD
Initial Here Act on my behalf in the preparation and submission of plans to state, municipal and federal agencies as required
- 3 RD
Initial Here Represent me at any meeting or hearing outlined in the contract with BDC
- 4 RD
Initial Here Sign Municipal and State applications on my behalf.

Owner Name:

Ryan Dillon

Owner Signature:

[Signature]

Property Location:

Commerce Drive, Franklin, NH

Map 403 Lot 3

Date:

9/22/22

Bedford Design Consultants Inc.

ENGINEERS AND SURVEYORS

592 Harvey Road Manchester, NH 03103
Telephone: (603) 622-5533 • www.bedforddesign.com

November 16, 2022

Seth Creighton, Planner
City of Franklin
316 Central St
Franklin, NH 03235

RE: Dillon Site Plan
Commerce Drive
Map 102 Lot 403-3

Mr. Creighton

Bedford Design has supplied this traffic letter to show the estimated volumes for the Dillon Site Plan. For this letter we have chosen Land Use Code 140 for Manufacturing using square footage of the proposed building. The proposed building is 19,600 s.f. and attached are the proposed trip for the weekday totals, as well as morning and evening peak hours. A total of 93 trips per day with 16 trips in the morning and evening peak hours.

If you have any questions, please don't hesitate to call us at 603-622-5533.

Sincerely,

Bedford Design Consultants, Inc.

Robert J. Baskerville, PE
President

19,600 SF Manufacturing - (Land Use 140)

	<u>Rate/1000 GFA</u>	<u>Total Trips</u>		<u>Entering Site</u>		<u>Exiting Site</u>
<u>Weekday</u>	4.75	93	50%	46.5	50%	46.5
<u>AM Peak Hour</u>	0.80	16	73%	12	27%	4
<u>PM Peak Hour</u>	0.80	16	42%	7	58%	9

Manufacturing (140)

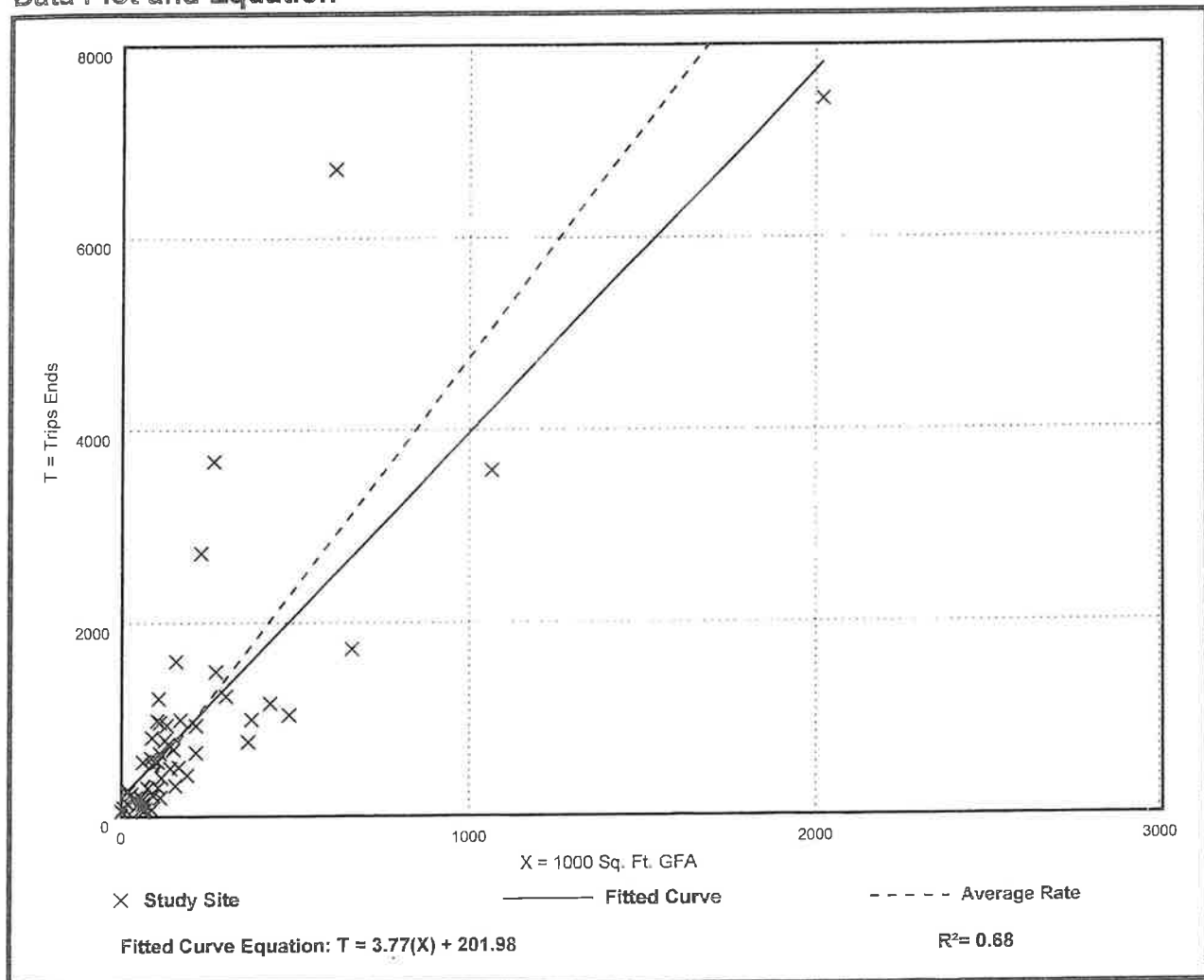
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 53
Avg. 1000 Sq. Ft. GFA: 208
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
4.75	0.83 - 49.50	3.20

Data Plot and Equation



Manufacturing (140)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

AM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 62

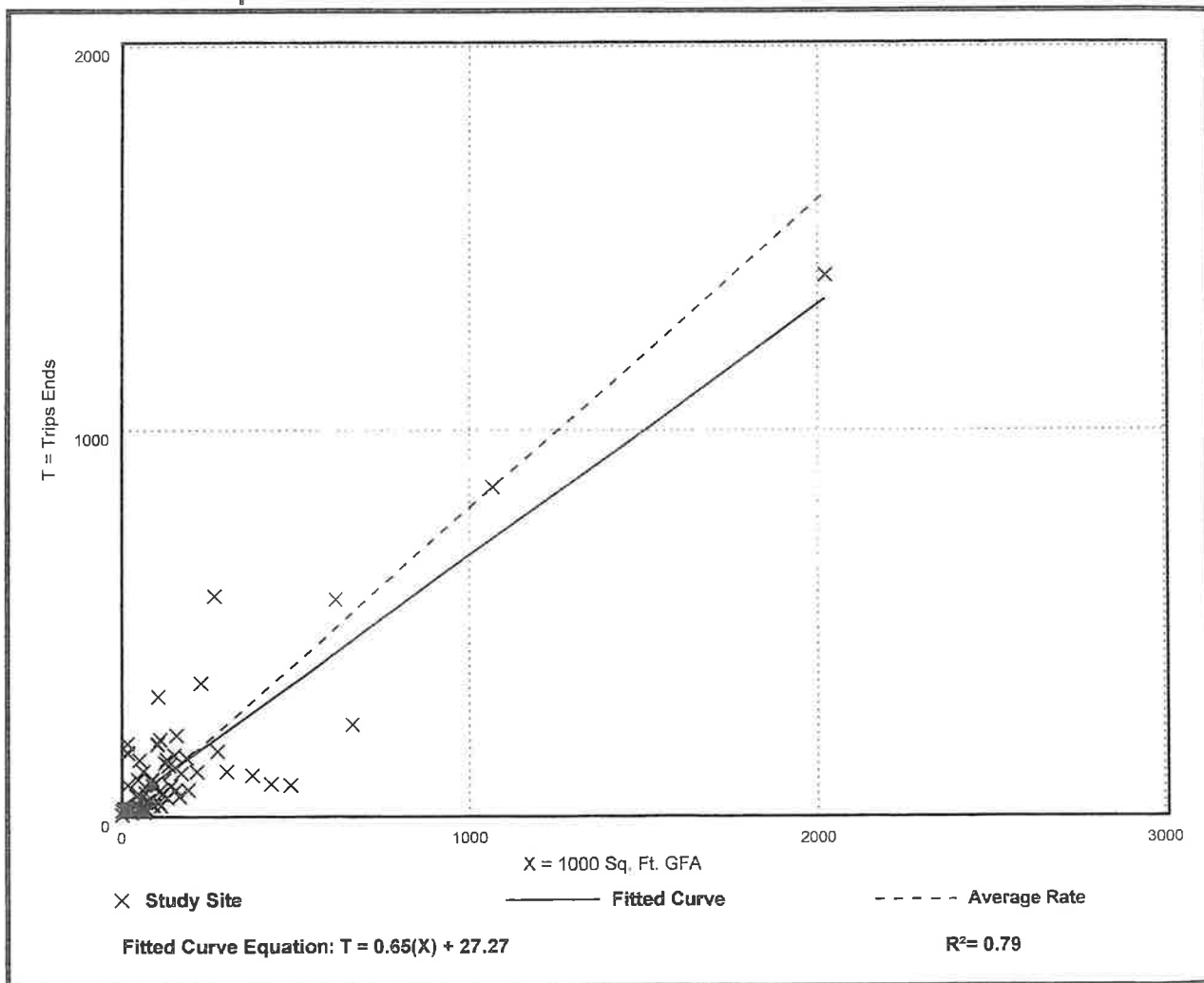
Avg. 1000 Sq. Ft. GFA: 178

Directional Distribution: 73% entering, 27% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.80	0.17 - 11.93	0.87

Data Plot and Equation



Manufacturing (140)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

PM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 62

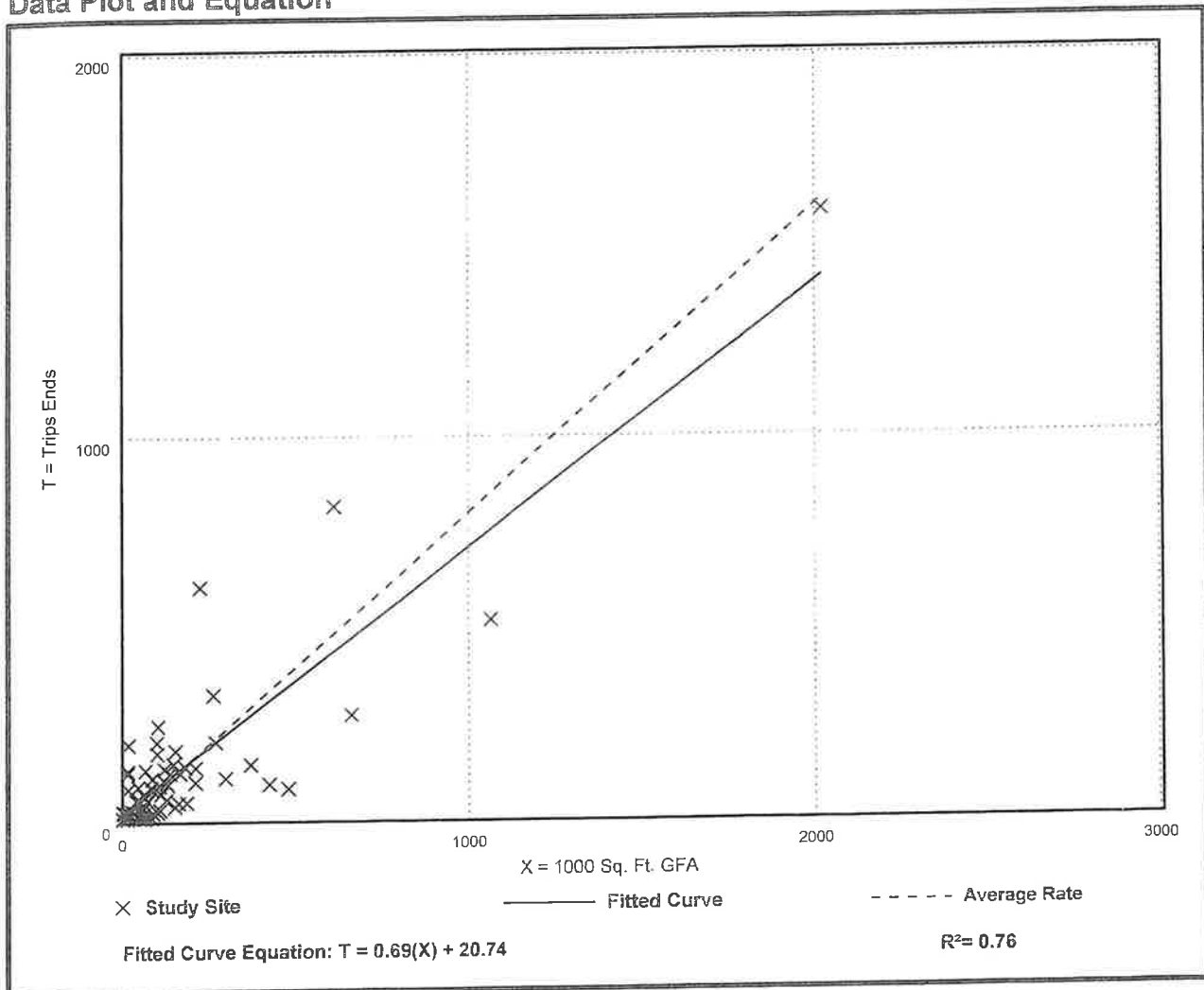
Avg. 1000 Sq. Ft. GFA: 180

Directional Distribution: 42% entering, 58% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.80	0.15 - 11.37	0.82

Data Plot and Equation



***Bedford Design Consultants* Inc.**
ENGINEERS AND SURVEYORS

592 Harvey Road Manchester, NH 03103
Telephone: (603) 622-5533 • www.bedforddesign.com

Drainage Computations

ON LOT:

Map 102 Lot 403-3
Commerce Drive
Franklin, New Hampshire

PREPARED FOR:

Ryan Dillon
Dillon's Custom Cabinetry
116 Dukes County Ave
Oack Bluffs, MA 02557

PREPARED BY:

Bedford Design Consultants, Inc.

592 Harvey Road
Manchester, NH 03103
(603) 622-5533
www.bedforddesign.com

November 16, 2022
BDC Project # 1662-01



"I Certify that the stormwater management system has been designed so that there will be no adverse impacts or effects on any open or closed, public or private, drainage facilities located downstream from the proposed project"


Robert J. Baskerville, P.E.
President

Table of Contents

- Introduction
- Design Criteria
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- Pre-Development Drainage Diagram
- Pre-Development Area & Soil Listing
- Pre-Development Node listing: 2 & 10-year
- Pre-Development Full Drainage Summary 25-year
- Post-Development Drainage Diagram
- Post-Development Area & Soil Listing
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- BMP Worksheets
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Introduction

Bedford Design Consultants, Inc., has prepared a stormwater drainage report for Dillon's Custom Cabinetry in Franklin, NH. The project site consists of 4± acres of land on Route Commerce Drive in an Industrial Area. The property is bounded wetlands to east, commerce drive to the west, the Blackfly Canoe property to the north, and the commerce drive drainage basin to the south. The ground cover on the existing parcel is entirely wooded. The proposed development will consist of construction of a 19,600 s.f. footprint Manufacturing Facility with parking, circulation, and drainage and utilities. This report is meant to provide a complete drainage analysis for the Dillon Site Plan meeting the current City of Franklin's drainage regulations.

The construction activities will include but not be limited to:

1. Installation and Maintenance of temporary and permanent Erosion Control Measures.
2. Clearing and grubbing of the building site
3. Construction of the parking areas, access drives, and building pad sites
4. Construction of permanent drainage infrastructure
5. Construction of sewer system, underground electric, and waterlines
6. Construction of the metal building
7. Stabilization and clean-up of disturbed areas associated with construction activities.

Design Criteria

The HydroCad version 10

- Individual drainage areas were identified and are shown on the enclosed drainage plans.
- The size of each drainage area was determined. Type of land cover was also established to determine the appropriate SCS Runoff Curve Number (RCN).
- The HydroCad computer program was used to determine the Pre and Post hydrographs and time of travel for all on-site drainage areas for the 2, 10, 25 and 100-year storm frequency's

Pre-Development

The site is approximately 4.16 acres and entirely wooded. The underlying soils are all Group A. The site has three drainage exist points. One exits to the north onto the blackfly property, on exits to the east to the wetlands, and the last one exits to the roadside swale along commerce drive.

Post-Development

We are proposing a 19,600 s.f. footprint for the building with 25 parking spaces, a dumpster, and landscaping and lighting, and drainage requirements. Portions of the site will still flow to the existing exit points. Pavement and roof water will be collected in swales and sent to a sediment forebay, then a bioretention pond, and then a detention pond. From there, water will leave through an outlet structure and outlet near the wetlands to the east. The detention pond is designed to hold the entirety of a 50-year storm with a foot of freeboard. The Group A soils will allow for all storms to be infiltrated into the ground.

Test pits have been completed and information are located on the detail sheets and in this report.

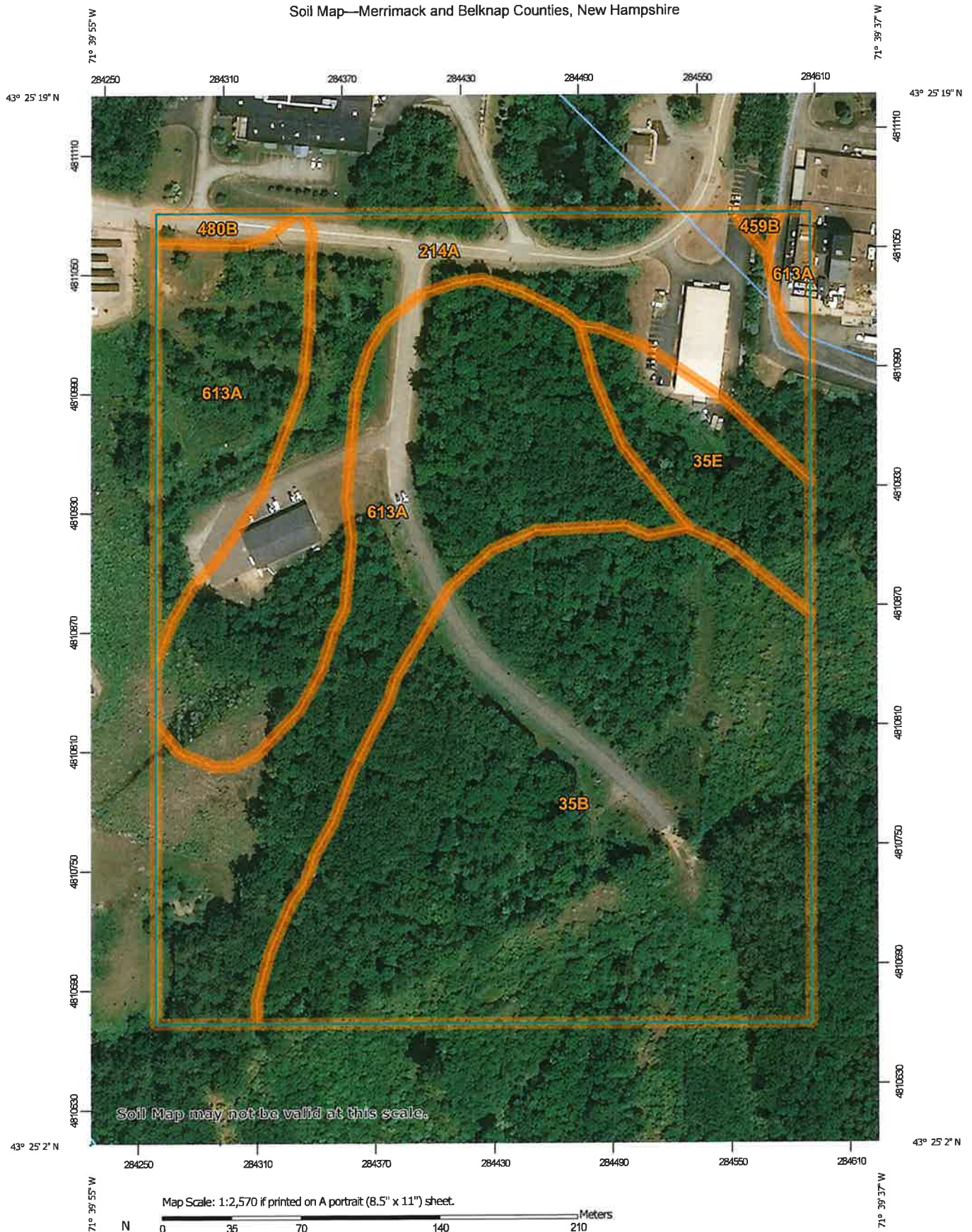
Summary Table - Off-Site Flows

Location	2-Yr Storm		10-Yr Storm		25-Yr Storm	
	Ex (cfs)	Dev (cfs)	Ex (cfs)	Dev (cfs)	Ex (cfs)	Dev (cfs)
S10(R2)	0.00	0.00	0.00	0.00	0.00	0.00
S20	0.05	0.00	0.00	0.00	0.00	0.00
S30	0.00	0.00	0.00	0.00	0.00	0.00
Total CFS	0.00	0.00	0.00	0.00	0.00	0.00

Conclusion

Stormwater from developed areas is held entirely within the detention pond including the 50-year storm event where it will be infiltrated. If needed, an overflow outlet structure and emergency spillway are designed. All water is treated on site. Post-Development calculations do not exceed Pre-Development flows.

Soil Map—Merrimack and Belknap Counties, New Hampshire



Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

3/22/2022
Page 1 of 3

Soil Map—Merrimack and Belknap Counties, New Hampshire

MAP LEGEND

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

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Merrimack and Belknap Counties, New Hampshire
Survey Area Data: Version 27, Aug 31, 2021

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

Date(s) aerial images were photographed: May 31, 2019—Aug 29, 2019

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres In AOI	Percent of AOI
35B	Champlain loamy fine sand, 3 to 8 percent slopes	13.8	41.3%
35E	Champlain loamy fine sand, 15 to 60 percent slopes	1.8	5.4%
214A	Naumburg loamy sand, 0 to 5 percent slopes	6.8	20.2%
459B	Metacomet fine sandy loam, 3 to 8 percent slopes, very stony	0.1	0.2%
480B	Millsite-Woodstock-Henniker complex, 3 to 8 percent slopes, very stony	0.2	0.7%
613A	Croghan loamy fine sand, 0 to 8 percent slopes, wooded	10.8	32.1%
Totals for Area of Interest		33.5	100.0%

Merrimack and Belknap Counties, New Hampshire

35B—Champlain loamy fine sand, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 9dnd

Elevation: 250 to 2,940 feet

Mean annual precipitation: 40 to 50 inches

Mean annual air temperature: 37 to 46 degrees F

Frost-free period: 90 to 135 days

Farmland classification: Farmland of local importance

Map Unit Composition

Champlain and similar soils: 75 percent

Minor components: 25 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Champlain

Setting

Landform: Terraces

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Sandy outwash derived mainly from granite, gneiss and schist

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material

H1 - 1 to 6 inches: loamy fine sand

H2 - 6 to 22 inches: loamy fine sand

H3 - 22 to 65 inches: loamy fine sand

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Somewhat excessively drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): High
(1.98 to 5.95 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3s

Hydrologic Soil Group: A

Ecological site: F144BY601ME - Dry Sand

Hydric soil rating: No

Minor Components

Croghan

Percent of map unit: 10 percent
Landform: Terraces
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Naumburg

Percent of map unit: 5 percent
Landform: Depressions
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: Yes

Boscawen

Percent of map unit: 5 percent
Landform: Terraces
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Adams

Percent of map unit: 3 percent
Landform: Outwash terraces
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Groveton

Percent of map unit: 2 percent
Landform: Terraces
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Data Source Information

Soil Survey Area: Merrimack and Belknap Counties, New Hampshire
Survey Area Data: Version 28, Sep 6, 2022

Merrimack and Belknap Counties, New Hampshire

35E—Champlain loamy fine sand, 15 to 60 percent slopes

Map Unit Setting

National map unit symbol: 9dnb
Elevation: 250 to 2,940 feet
Mean annual precipitation: 40 to 50 inches
Mean annual air temperature: 37 to 46 degrees F
Frost-free period: 90 to 135 days
Farmland classification: Not prime farmland

Map Unit Composition

Champlain and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Champlain

Setting

Landform: Terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy outwash derived mainly from granite, gneiss and schist

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material
H1 - 1 to 6 inches: loamy fine sand
H2 - 6 to 22 inches: loamy fine sand
H3 - 22 to 65 inches: loamy fine sand

Properties and qualities

Slope: 15 to 60 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: F144BY601ME - Dry Sand
Hydric soil rating: No

Minor Components

Boscawen

Percent of map unit: 5 percent

Landform: Terraces

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: No

Croghan

Percent of map unit: 5 percent

Landform: Terraces

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: No

Adams

Percent of map unit: 5 percent

Landform: Outwash terraces

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: No

Data Source Information

Soil Survey Area: Merrimack and Belknap Counties, New Hampshire

Survey Area Data: Version 28, Sep 6, 2022

Merrimack and Belknap Counties, New Hampshire

613A—Croghan loamy fine sand, 0 to 8 percent slopes, wooded

Map Unit Setting

National map unit symbol: 2wqp0

Elevation: 150 to 2,300 feet

Mean annual precipitation: 40 to 55 inches

Mean annual air temperature: 37 to 46 degrees F

Frost-free period: 90 to 135 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Croghan and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Croghan

Setting

Landform: Outwash deltas, marine terraces

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope, base slope

Down-slope shape: Linear

Across-slope shape: Convex

Parent material: Sandy glaciofluvial deposits

Typical profile

Oa - 0 to 4 inches: highly decomposed plant material

E - 4 to 6 inches: loamy fine sand

Bs - 6 to 17 inches: loamy fine sand

BC - 17 to 30 inches: fine sand

C - 30 to 65 inches: sand

Properties and qualities

Slope: 0 to 8 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water

(Ksat): Moderately high to high (1.42 to 14.17 in/hr)

Depth to water table: About 18 to 30 inches

Frequency of flooding: None

Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: Low (about 4.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: A
Ecological site: F144BY602ME - Sandy Toeslope
Hydric soil rating: No

Minor Components

Adams

Percent of map unit: 5 percent
Landform: Outwash deltas, marine terraces
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Colton

Percent of map unit: 5 percent
Landform: Outwash deltas, marine terraces
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Naumburg

Percent of map unit: 3 percent
Landform: Outwash deltas, marine terraces
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Nicholville

Percent of map unit: 2 percent
Landform: Outwash deltas, marine terraces
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Side slope, base slope
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Data Source Information

Soil Survey Area: Merrimack and Belknap Counties, New Hampshire
Survey Area Data: Version 28, Sep 6, 2022

TEST PIT INFORMATION

TEST PIT NO. 5 - ELEVATION 405.5

0-4", 10-YR, 3/2, FINE SANDY LOAM, MASSIVE, FRIABLE
4-18", 10-YR 5/6, FINE SANDY LOAM, GRANULAR, FRIABLE
18-30", 2.5-YR 6/6, FINE LOAMY SAND, COARSE GRANULAR, FRIABLE
30-40", 2.5-YR 7/8, FINE LOAMY SANE, WEAK GRANULAR, FRIABLE
40-76", 10-YR 7/2, SANDY CLAY, PLATY, FRIABLE

ESHWT @ 38" (ELEVATION 402.4)
RESTRICTIVE LAYER @ 40"
PERC. RATE = 4 MIN. PER INCH



TEST PIT NO. 6 - ELEVATION 404.0

0-2", 10-YR 3/2, FINE SANDY LOAM, MASSIVE, FRIABLE
2-60", 10-YR 6/8, FINE LOAMY SAND, GRANULAR, FRIABLE
60-84", 10-YR 6/3, FINE SANDY LOAM, BLOCKY, FRIABLE

ESHWT @ 60" (ELEVATION 399.0)
EST. PERC. RATE = 4 MIN. PER INCH

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	71.663 degrees West
Latitude	43.420 degrees North
Elevation	0 feet
Date/Time	Wed, 23 Mar 2022 11:11:06 -0400

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.26	0.40	0.50	0.65	0.81	1.02	1yr	0.70	0.96	1.18	1.48	1.85	2.32	2.57	1yr	2.06	2.47	2.87	3.54	4.07	1yr
2yr	0.32	0.49	0.61	0.80	1.00	1.26	2yr	0.87	1.15	1.45	1.79	2.22	2.73	3.06	2yr	2.42	2.95	3.42	4.09	4.68	2yr
5yr	0.38	0.58	0.73	0.98	1.26	1.58	5yr	1.08	1.47	1.83	2.26	2.77	3.39	3.86	5yr	3.00	3.71	4.29	5.05	5.75	5yr
10yr	0.42	0.67	0.84	1.15	1.49	1.90	10yr	1.29	1.76	2.19	2.70	3.30	3.99	4.60	10yr	3.53	4.42	5.10	5.92	6.71	10yr
25yr	0.51	0.80	1.02	1.41	1.87	2.39	25yr	1.61	2.25	2.76	3.40	4.13	4.96	5.80	25yr	4.39	5.58	6.41	7.31	8.25	25yr
50yr	0.58	0.92	1.18	1.65	2.22	2.85	50yr	1.92	2.71	3.30	4.06	4.90	5.84	6.92	50yr	5.17	6.66	7.63	8.58	9.64	50yr
100yr	0.66	1.06	1.37	1.94	2.64	3.41	100yr	2.28	3.26	3.96	4.85	5.82	6.89	8.26	100yr	6.10	7.95	9.08	10.08	11.28	100yr
200yr	0.75	1.22	1.58	2.27	3.14	4.08	200yr	2.71	3.93	4.73	5.78	6.91	8.13	9.87	200yr	7.20	9.49	10.80	11.84	13.19	200yr
500yr	0.91	1.49	1.95	2.82	3.95	5.14	500yr	3.41	5.04	5.97	7.27	8.66	10.13	12.48	500yr	8.97	12.00	13.61	14.65	16.24	500yr

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.23	0.36	0.43	0.58	0.72	0.87	1yr	0.62	0.85	0.96	1.32	1.59	2.14	2.38	1yr	1.89	2.28	2.70	3.30	3.83	1yr
2yr	0.31	0.47	0.58	0.79	0.97	1.14	2yr	0.84	1.12	1.30	1.69	2.18	2.67	2.99	2yr	2.36	2.87	3.33	3.99	4.55	2yr
5yr	0.34	0.53	0.66	0.90	1.15	1.36	5yr	0.99	1.33	1.56	2.00	2.58	3.20	3.59	5yr	2.83	3.45	4.02	4.73	5.36	5yr
10yr	0.38	0.58	0.72	1.01	1.30	1.53	10yr	1.13	1.49	1.73	2.22	2.88	3.69	4.10	10yr	3.27	3.95	4.63	5.37	6.04	10yr
25yr	0.43	0.66	0.82	1.17	1.54	1.82	25yr	1.33	1.78	2.05	2.56	3.38	4.46	4.89	25yr	3.95	4.71	5.61	6.36	7.10	25yr
50yr	0.48	0.73	0.91	1.31	1.76	2.07	50yr	1.52	2.03	2.33	2.85	3.79	5.18	5.57	50yr	4.58	5.36	6.49	7.22	8.02	50yr
100yr	0.53	0.80	1.00	1.45	1.99	2.36	100yr	1.71	2.31	2.63	3.18	4.27	6.00	6.38	100yr	5.31	6.13	7.52	8.18	9.03	100yr
200yr	0.59	0.88	1.12	1.62	2.25	2.68	200yr	1.95	2.62	2.97	3.54	4.80	7.00	7.33	200yr	6.20	7.05	8.72	9.31	10.18	200yr
500yr	0.68	1.00	1.29	1.88	2.67	3.16	500yr	2.31	3.09	3.47	4.07	5.63	8.59	8.83	500yr	7.60	8.49	10.63	11.04	11.87	500yr

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.29	0.45	0.55	0.73	0.90	1.08	1yr	0.78	1.06	1.21	1.53	1.91	2.49	2.74	1yr	2.20	2.63	3.02	3.83	4.35	1yr
2yr	0.33	0.51	0.63	0.86	1.06	1.24	2yr	0.91	1.22	1.40	1.81	2.32	2.81	3.19	2yr	2.48	3.06	3.54	4.22	4.84	2yr
5yr	0.40	0.62	0.77	1.06	1.35	1.65	5yr	1.16	1.61	1.86	2.37	2.99	3.58	4.10	5yr	3.17	3.94	4.61	5.35	6.16	5yr
10yr	0.49	0.75	0.93	1.30	1.68	2.01	10yr	1.45	1.97	2.21	2.78	3.48	4.30	4.99	10yr	3.81	4.80	5.64	6.42	7.39	10yr
25yr	0.64	0.98	1.22	1.74	2.28	2.71	25yr	1.97	2.65	2.93	3.58	4.42	5.48	6.49	25yr	4.85	6.24	7.37	8.19	9.45	25yr
50yr	0.79	1.20	1.49	2.15	2.89	3.41	50yr	2.49	3.34	3.64	4.34	5.31	6.58	7.93	50yr	5.82	7.62	9.01	9.84	11.40	50yr
100yr	0.97	1.47	1.84	2.66	3.65	4.29	100yr	3.15	4.20	4.51	5.25	6.36	7.87	9.67	100yr	6.97	9.30	11.03	11.83	13.76	100yr
200yr	1.19	1.80	2.28	3.30	4.60	5.41	200yr	3.97	5.29	5.60	6.38	7.64	9.45	11.81	200yr	8.36	11.35	13.49	14.24	16.62	200yr
500yr	1.59	2.36	3.04	4.41	6.27	7.37	500yr	5.41	7.20	7.48	8.24	9.74	11.97	15.37	500yr	10.59	14.78	17.60	18.20	21.35	500yr

I+M
Mannel

Long Term Maintenance Plan

Inspection & Maintenance (I&M) Manual for Storm Water Best Management Practices

Dillon Site Plan
Commerce Drive
Map 102 Lot 403-3
11-15-22
BDC Job # 1662.01

The purpose of this Inspection and Maintenance manual is to assist the responsible parties for maintaining and understanding the functions of the storm water best management practices.

Party Responsible for Reporting, Inspection, & Maintenance after construction:

Ryan Dillon
Dillon's Custom Cabinetry
116 Duke's County Ave
Oak Bluffs, MA 02557
ryan@dilloncreations.com
50-939-0469

Stormwater BMPs on site

Pre-Treatment Areas:

Sediment Forebay

Treatment Areas:

Bio-Retention Basin

Infiltration Areas:

Detention Pond

Recommended Maintenance for specific BMPs

Sediment Forebay

- Inspect at least annually
- Conduct periodic mowing of embankments (generally 2x per year) to control growth of woody vegetation.
- Remove debris from outlet structure at least once annually.
- Remove and dispose of accumulated sediment based on inspection.
- Install and maintain a staff gage or other measuring device, to indicate depth of sediment accumulation and level at which clean-out is required.

Bio-Retention Basin

- Systems should be inspected at least twice annually and following any rainfall event exceeding 2.5 inches in a 24-hour period, with maintenance or rehabilitation conducted as warranted by such inspection.
- Pretreatment measures should be inspected at least twice annually, and cleaned of accumulated sediment as warranted by inspection, but no less than once annually.
- Trash and debris should be removed at each inspection.
- At least once annually, system should be inspected for drawdown time. If bioretention system does not drain within 72 hours following a rainfall event, then a qualified professional should assess the condition of the facility to determine measures required to restore filtration function or infiltration function (as applicable), including but not limited to removal of accumulated sediments or reconstruction of the filter media.
- Vegetation should be inspected at least annually, and maintained in healthy condition, including pruning, removal, and replacement of dead or diseased vegetation, and removal of invasive species.

Detention Basin

- Inspect twice a year and remove debris from inlet and outlet areas
- Check outlet annually and repair any eroded areas or misplaced gravel.
- Inspect infiltration components at least twice annually and following any rainfall event exceeding 2.5 inches in a 24-hour period, with maintenance and rehabilitation conducted as warranted by such inspection.

- Inspect pre-treatment measures a least twice annually, and remove accumulated sediment as warranted by inspection, but no less than twice annually.
- Mow embankments at least once a year and remove woody vegetation from embankments.
- If the system does not drain within 72 hours following a rainfall event, then a qualified professional should assess the condition of the facility to determine measures required to restore infiltration function, including but not limited to removal of accumulated sediments or reconstruction of the infiltration trench.

Removal of Non-Native Invasive Plants

During maintenance activities, check for the presence of invasive plants. Non-native invasive plants crowd out natives in natural and managed landscapes. 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. Remove and dispose of all invasive plant materials in accordance with "Methods for Disposing Non-Native Invasive Plants" published by the University of New Hampshire Cooperative Extension.

http://extension.unh.edu/resources/files/resource000988_rep1720.pdf

Inspection & Maintenance (I&M) Log

[illegible]

Inspection Checklist

(Make additional copies for each inspection)

(All inspections should be kept in a log book in date order from oldest to newest inspection)

Date: _____

Best Management Practice	Minimum Frequency	Date Performed	Comments and Location	Cleaning/Repair Needed?	Date of Cleaning/Repair	Performed By
Sediment Forebay	Twice Annually			Yes/No		
Bio-Retention Basin	After 2.5" Storm Event Or Twice Annually (whichever is greater)					
Detention Basin	After 2.5" Storm Event Or Annually (whichever is greater)			Yes/No		
Outlet Protection (Riprap Areas 1-5)	Twice Annually			Yes/No		

PRE

2 + 10-YR



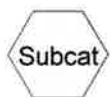
TO NORTH



TO EAST



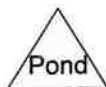
TO ROAD



Subcat



Reach



Pond



Link

Routing Diagram for 1662-01 Pre

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1662-01 Pre

Prepared by Bedford Design Consultants, Inc

Printed 11/15/2022

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.260	39	>75% Grass cover, Good, HSG A (S30)
4.240	30	Woods, Good, HSG A (S10, S20, S30)
4.500	31	TOTAL AREA

1662-01 Pre

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
4.500	HSG A	S10, S20, S30
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.000	Other	
4.500		TOTAL AREA

1662-01 Pre*Type III 24-hr 2-yr Rainfall=2.73"*

Prepared by Bedford Design Consultants, Inc

Printed 11/15/2022

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Time span=5.00-24.00 hrs, dt=0.05 hrs, 381 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment S10: TO EASTRunoff Area=2.840 ac 0.00% Impervious Runoff Depth=0.00"
Flow Length=459' Tc=22.1 min CN=30 Runoff=0.00 cfs 0.000 af**Subcatchment S20: TO NORTH**Runoff Area=0.810 ac 0.00% Impervious Runoff Depth=0.00"
Flow Length=308' Tc=22.0 min CN=30 Runoff=0.00 cfs 0.000 af**Subcatchment S30: TO ROAD**Runoff Area=0.850 ac 0.00% Impervious Runoff Depth=0.00"
Flow Length=675' Slope=0.0100 '/' Tc=14.5 min CN=33 Runoff=0.00 cfs 0.000 af**Total Runoff Area = 4.500 ac Runoff Volume = 0.000 af Average Runoff Depth = 0.00"**
100.00% Pervious = 4.500 ac 0.00% Impervious = 0.000 ac

1662-01 Pre*Type III 24-hr 10 YR Rainfall=3.99"*

Prepared by Bedford Design Consultants, Inc

Printed 11/15/2022

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Time span=5.00-24.00 hrs, dt=0.05 hrs, 381 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment S10: TO EAST

Runoff Area=2.840 ac 0.00% Impervious Runoff Depth=0.00"
Flow Length=459' Tc=22.1 min CN=30 Runoff=0.00 cfs 0.000 af

Subcatchment S20: TO NORTH

Runoff Area=0.810 ac 0.00% Impervious Runoff Depth=0.00"
Flow Length=308' Tc=22.0 min CN=30 Runoff=0.00 cfs 0.000 af

Subcatchment S30: TO ROAD

Runoff Area=0.850 ac 0.00% Impervious Runoff Depth=0.00"
Flow Length=675' Slope=0.0100 '/' Tc=14.5 min CN=33 Runoff=0.00 cfs 0.000 af

Total Runoff Area = 4.500 ac Runoff Volume = 0.000 af Average Runoff Depth = 0.00"
100.00% Pervious = 4.500 ac 0.00% Impervious = 0.000 ac

PRE
25-12

1662-01 Pre

Prepared by Bedford Design Consultants, Inc

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Type III 24-hr 25 YR Rainfall=4.96"

Printed 11/15/2022

Summary for Subcatchment S10: TO EAST

Runoff = 0.00 cfs @ 24.00 hrs, Volume= 0.001 af, Depth> 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR Rainfall=4.96"

Area (ac)	CN	Description
2.840	30	Woods, Good, HSG A
2.840		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.9	50	0.0180	0.06		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.73"
7.1	287	0.0180	0.67		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
0.6	87	0.2300	2.40		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
0.5	35	0.0600	1.22		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
22.1	459	Total			

Summary for Subcatchment S20: TO NORTH

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

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR Rainfall=4.96"

Area (ac)	CN	Description
0.810	30	Woods, Good, HSG A
0.810		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.4	50	0.0200	0.06		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.73"
8.6	258	0.0100	0.50		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
22.0	308	Total			

Summary for Subcatchment S30: TO ROAD

Runoff = 0.00 cfs @ 17.14 hrs, Volume= 0.003 af, Depth> 0.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR Rainfall=4.96"

1662-01 Pre

Type III 24-hr 25 YR Rainfall=4.96"

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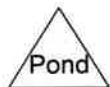
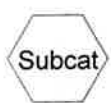
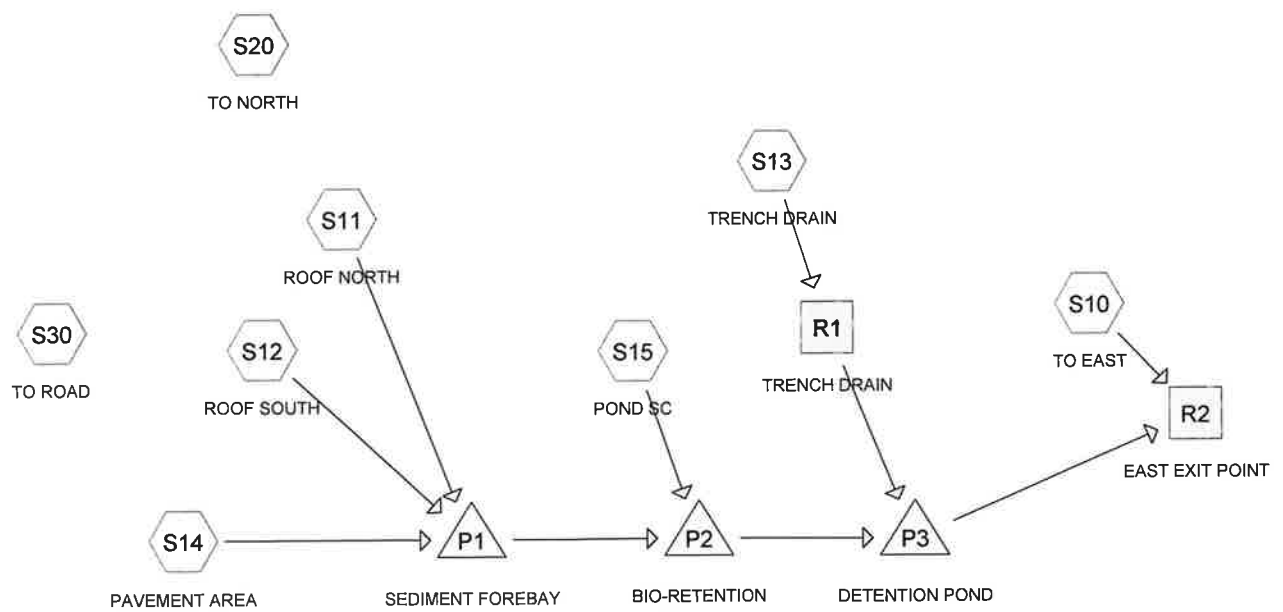
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Area (ac)	CN	Description
0.590	30	Woods, Good, HSG A
0.260	39	>75% Grass cover, Good, HSG A
0.850	33	Weighted Average
0.850		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.7	50	0.0100	0.07		Sheet Flow, Grass: Dense n= 0.240 P2= 2.73"
2.8	625	0.0100	3.73	29.88	Parabolic Channel, W=12.00' D=1.00' Area=8.0 sf Perim=12.2' n= 0.030 Earth, dense weeds
14.5	675	Total			

Post

2+10-7/2



Routing Diagram for 1662-01 POST
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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.800	39	>75% Grass cover, Good, HSG A (S14, S20, S30)
0.250	30	Brush, Good, HSG A (S15)
0.700	98	Paved parking, HSG A (S14, S30)
0.480	98	Roofs, HSG A (S11, S12, S13)
2.270	30	Woods, Good, HSG A (S10, S14, S20, S30)
4.500	49	TOTAL AREA

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
4.500	HSG A	S10, S11, S12, S13, S14, S15, S20, S30
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.000	Other	
4.500		TOTAL AREA

1662-01 POST

Type III 24-hr 2 YR Rainfall=2.73"

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Time span=0.75-20.00 hrs, dt=0.05 hrs, 386 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment S10: TO EAST	Runoff Area=1.850 ac 0.00% Impervious Runoff Depth=0.00" Flow Length=459' Tc=22.1 min CN=30 Runoff=0.00 cfs 0.000 af
Subcatchment S11: ROOF NORTH	Runoff Area=0.220 ac 100.00% Impervious Runoff Depth>2.38" Tc=5.0 min CN=98 Runoff=0.58 cfs 0.044 af
Subcatchment S12: ROOF SOUTH	Runoff Area=0.240 ac 100.00% Impervious Runoff Depth>2.38" Tc=5.0 min CN=98 Runoff=0.64 cfs 0.048 af
Subcatchment S13: TRENCH DRAIN	Runoff Area=0.020 ac 100.00% Impervious Runoff Depth>2.38" Tc=5.0 min CN=98 Runoff=0.05 cfs 0.004 af
Subcatchment S14: PAVEMENT AREA	Runoff Area=1.050 ac 61.90% Impervious Runoff Depth>0.72" Flow Length=453' Tc=5.0 min CN=75 Runoff=0.90 cfs 0.063 af
Subcatchment S15: POND SC	Runoff Area=0.250 ac 0.00% Impervious Runoff Depth=0.00" Flow Length=44' Slope=0.0600 '/' Tc=5.2 min CN=30 Runoff=0.00 cfs 0.000 af
Subcatchment S20: TO NORTH	Runoff Area=0.140 ac 0.00% Impervious Runoff Depth=0.00" Flow Length=44' Slope=0.3400 '/' Tc=5.0 min CN=34 Runoff=0.00 cfs 0.000 af
Subcatchment S30: TO ROAD	Runoff Area=0.730 ac 6.85% Impervious Runoff Depth=0.00" Flow Length=620' Tc=11.5 min CN=39 Runoff=0.00 cfs 0.000 af
Reach R1: TRENCH DRAIN	Avg. Flow Depth=0.10' Max Vel=1.82 fps Inflow=0.05 cfs 0.004 af 6.0" Round Pipe n=0.009 L=120.0' S=0.0050 '/' Capacity=0.57 cfs Outflow=0.05 cfs 0.004 af
Reach R2: EAST EXIT POINT	Inflow=0.00 cfs 0.000 af Outflow=0.00 cfs 0.000 af
Pond P1: SEDIMENT FOREBAY	Peak Elev=405.14' Storage=1,424 cf Inflow=2.10 cfs 0.154 af Discarded=0.06 cfs 0.045 af Primary=2.02 cfs 0.080 af Outflow=2.08 cfs 0.126 af
Pond P2: BIO-RETENTION	Peak Elev=403.35' Storage=1,896 cf Inflow=2.02 cfs 0.080 af Discarded=0.18 cfs 0.080 af Primary=0.00 cfs 0.000 af Outflow=0.18 cfs 0.080 af
Pond P3: DETENTION POND	Peak Elev=400.01' Storage=27 cf Inflow=0.05 cfs 0.004 af Discarded=0.03 cfs 0.004 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.004 af
Total Runoff Area = 4.500 ac Runoff Volume = 0.158 af Average Runoff Depth = 0.42" 73.78% Pervious = 3.320 ac 26.22% Impervious = 1.180 ac	

1662-01 POST

Type III 24-hr 10 YR Rainfall=3.99"

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Time span=0.75-20.00 hrs, dt=0.05 hrs, 386 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment S10: TO EAST	Runoff Area=1.850 ac 0.00% Impervious Runoff Depth=0.00" Flow Length=459' Tc=22.1 min CN=30 Runoff=0.00 cfs 0.000 af
Subcatchment S11: ROOF NORTH	Runoff Area=0.220 ac 100.00% Impervious Runoff Depth>3.58" Tc=5.0 min CN=98 Runoff=0.86 cfs 0.066 af
Subcatchment S12: ROOF SOUTH	Runoff Area=0.240 ac 100.00% Impervious Runoff Depth>3.58" Tc=5.0 min CN=98 Runoff=0.94 cfs 0.072 af
Subcatchment S13: TRENCH DRAIN	Runoff Area=0.020 ac 100.00% Impervious Runoff Depth>3.58" Tc=5.0 min CN=98 Runoff=0.08 cfs 0.006 af
Subcatchment S14: PAVEMENT AREA	Runoff Area=1.050 ac 61.90% Impervious Runoff Depth>1.53" Flow Length=453' Tc=5.0 min CN=75 Runoff=2.02 cfs 0.134 af
Subcatchment S15: POND SC	Runoff Area=0.250 ac 0.00% Impervious Runoff Depth=0.00" Flow Length=44' Slope=0.0600 '/' Tc=5.2 min CN=30 Runoff=0.00 cfs 0.000 af
Subcatchment S20: TO NORTH	Runoff Area=0.140 ac 0.00% Impervious Runoff Depth=0.00" Flow Length=44' Slope=0.3400 '/' Tc=5.0 min CN=34 Runoff=0.00 cfs 0.000 af
Subcatchment S30: TO ROAD	Runoff Area=0.730 ac 6.85% Impervious Runoff Depth>0.03" Flow Length=620' Tc=11.5 min CN=39 Runoff=0.00 cfs 0.002 af
Reach R1: TRENCH DRAIN	Avg. Flow Depth=0.12' Max Vel=2.03 fps Inflow=0.08 cfs 0.006 af 6.0" Round Pipe n=0.009 L=120.0' S=0.0050 '/' Capacity=0.57 cfs Outflow=0.07 cfs 0.006 af
Reach R2: EAST EXIT POINT	Inflow=0.00 cfs 0.000 af Outflow=0.00 cfs 0.000 af
Pond P1: SEDIMENT FOREBAY	Peak Elev=405.21' Storage=1,510 cf Inflow=3.79 cfs 0.271 af Discarded=0.06 cfs 0.051 af Primary=3.73 cfs 0.191 af Outflow=3.79 cfs 0.242 af
Pond P2: BIO-RETENTION	Peak Elev=403.58' Storage=2,807 cf Inflow=3.73 cfs 0.191 af Discarded=0.18 cfs 0.119 af Primary=1.99 cfs 0.071 af Outflow=2.17 cfs 0.190 af
Pond P3: DETENTION POND	Peak Elev=401.15' Storage=2,526 cf Inflow=2.03 cfs 0.077 af Discarded=0.12 cfs 0.071 af Primary=0.00 cfs 0.000 af Outflow=0.12 cfs 0.071 af
Total Runoff Area = 4.500 ac Runoff Volume = 0.279 af Average Runoff Depth = 0.74" 73.78% Pervious = 3.320 ac 26.22% Impervious = 1.180 ac	

POST

25-YR

1662-01 POST

Type III 24-hr 25 YR Rainfall=4.96"

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Time span=0.75-20.00 hrs, dt=0.05 hrs, 386 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment S10: TO EAST	Runoff Area=1.850 ac 0.00% Impervious Runoff Depth>0.00" Flow Length=459' Tc=22.1 min CN=30 Runoff=0.00 cfs 0.000 af
Subcatchment S11: ROOF NORTH	Runoff Area=0.220 ac 100.00% Impervious Runoff Depth>4.51" Tc=5.0 min CN=98 Runoff=1.07 cfs 0.083 af
Subcatchment S12: ROOF SOUTH	Runoff Area=0.240 ac 100.00% Impervious Runoff Depth>4.51" Tc=5.0 min CN=98 Runoff=1.17 cfs 0.090 af
Subcatchment S13: TRENCH DRAIN	Runoff Area=0.020 ac 100.00% Impervious Runoff Depth>4.51" Tc=5.0 min CN=98 Runoff=0.10 cfs 0.008 af
Subcatchment S14: PAVEMENT AREA	Runoff Area=1.050 ac 61.90% Impervious Runoff Depth>2.24" Flow Length=453' Tc=5.0 min CN=75 Runoff=2.97 cfs 0.196 af
Subcatchment S15: POND SC	Runoff Area=0.250 ac 0.00% Impervious Runoff Depth>0.00" Flow Length=44' Slope=0.0600 '/' Tc=5.2 min CN=30 Runoff=0.00 cfs 0.000 af
Subcatchment S20: TO NORTH	Runoff Area=0.140 ac 0.00% Impervious Runoff Depth>0.04" Flow Length=44' Slope=0.3400 '/' Tc=5.0 min CN=34 Runoff=0.00 cfs 0.000 af
Subcatchment S30: TO ROAD	Runoff Area=0.730 ac 6.85% Impervious Runoff Depth>0.15" Flow Length=620' Tc=11.5 min CN=39 Runoff=0.02 cfs 0.009 af
Reach R1: TRENCH DRAIN	Avg. Flow Depth=0.14' Max Vel=2.17 fps Inflow=0.10 cfs 0.008 af 6.0" Round Pipe n=0.009 L=120.0' S=0.0050 '/' Capacity=0.57 cfs Outflow=0.09 cfs 0.008 af
Reach R2: EAST EXIT POINT	Inflow=0.00 cfs 0.000 af Outflow=0.00 cfs 0.000 af
Pond P1: SEDIMENT FOREBAY	Peak Elev=405.25' Storage=1,573 cf Inflow=5.19 cfs 0.369 af Discarded=0.06 cfs 0.054 af Primary=5.13 cfs 0.285 af Outflow=5.19 cfs 0.340 af
Pond P2: BIO-RETENTION	Peak Elev=403.68' Storage=3,187 cf Inflow=5.13 cfs 0.285 af Discarded=0.19 cfs 0.129 af Primary=4.07 cfs 0.143 af Outflow=4.26 cfs 0.271 af
Pond P3: DETENTION POND	Peak Elev=402.06' Storage=5,159 cf Inflow=4.15 cfs 0.150 af Discarded=0.15 cfs 0.092 af Primary=0.00 cfs 0.000 af Outflow=0.15 cfs 0.092 af
Total Runoff Area = 4.500 ac Runoff Volume = 0.386 af Average Runoff Depth = 1.03"	
73.78% Pervious = 3.320 ac 26.22% Impervious = 1.180 ac	

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Type III 24-hr 25 YR Rainfall=4.96"

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Summary for Subcatchment S10: TO EAST

Runoff = 0.00 cfs @ 20.00 hrs, Volume= 0.000 af, Depth> 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.75-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR Rainfall=4.96"

Area (ac)	CN	Description
1.850	30	Woods, Good, HSG A
1.850		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.9	50	0.0180	0.06		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.74"
7.1	287	0.0180	0.67		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
0.6	87	0.2300	2.40		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
0.5	35	0.0600	1.22		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
22.1	459	Total			

Summary for Subcatchment S11: ROOF NORTH

Runoff = 1.07 cfs @ 12.07 hrs, Volume= 0.083 af, Depth> 4.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.75-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR Rainfall=4.96"

Area (ac)	CN	Description
0.220	98	Roofs, HSG A
0.220		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Tc = 5 MIN MIN

Summary for Subcatchment S12: ROOF SOUTH

Runoff = 1.17 cfs @ 12.07 hrs, Volume= 0.090 af, Depth> 4.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.75-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR Rainfall=4.96"

Area (ac)	CN	Description
0.240	98	Roofs, HSG A
0.240		100.00% Impervious Area

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Type III 24-hr 25 YR Rainfall=4.96"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Tc = 5 MIN MIN

Summary for Subcatchment S13: TRENCH DRAIN

Runoff = 0.10 cfs @ 12.07 hrs, Volume= 0.008 af, Depth> 4.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.75-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR Rainfall=4.96"

Area (ac)	CN	Description
0.020	98	Roofs, HSG A
0.020		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Tc = 5 MIN MIN

Summary for Subcatchment S14: PAVEMENT AREA

Runoff = 2.97 cfs @ 12.08 hrs, Volume= 0.196 af, Depth> 2.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.75-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR Rainfall=4.96"

Area (ac)	CN	Description
0.360	39	>75% Grass cover, Good, HSG A
0.040	30	Woods, Good, HSG A
0.650	98	Paved parking, HSG A
1.050	75	Weighted Average
0.400		38.10% Pervious Area
0.650		61.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	50	0.0100	0.84		Sheet Flow, Smooth surfaces n= 0.011 P2= 2.74"
0.9	108	0.0100	2.03		Shallow Concentrated Flow, Paved Kv= 20.3 fps
1.0	295	0.0060	4.82	38.57	Parabolic Channel, W=12.00' D=1.00' Area=8.0 sf Perim=12.2' n= 0.018 Earth, clean & straight
2.1					Direct Entry, 5 MIN MIN
5.0	453	Total			

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Type III 24-hr 25 YR Rainfall=4.96"

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Summary for Subcatchment S15: POND SC

Runoff = 0.00 cfs @ 20.00 hrs, Volume= 0.000 af, Depth> 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.75-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR Rainfall=4.96"

Area (ac)	CN	Description
0.250	30	Brush, Good, HSG A
0.250		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.2	44	0.0600	0.14		Sheet Flow, Grass: Dense n= 0.240 P2= 2.74"

Summary for Subcatchment S20: TO NORTH

Runoff = 0.00 cfs @ 15.54 hrs, Volume= 0.000 af, Depth> 0.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.75-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR Rainfall=4.96"

Area (ac)	CN	Description
0.080	30	Woods, Good, HSG A
0.060	39	>75% Grass cover, Good, HSG A
0.140	34	Weighted Average
0.140		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	44	0.3400	0.19		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.74"
1.1					Direct Entry, 5 MIN MIN
5.0	44	Total			

Summary for Subcatchment S30: TO ROAD

Runoff = 0.02 cfs @ 12.58 hrs, Volume= 0.009 af, Depth> 0.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.75-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR Rainfall=4.96"

Area (ac)	CN	Description
0.300	30	Woods, Good, HSG A
0.380	39	>75% Grass cover, Good, HSG A
0.050	98	Paved parking, HSG A
0.730	39	Weighted Average
0.680		93.15% Pervious Area
0.050		6.85% Impervious Area

1662-01 POST

Type III 24-hr 25 YR Rainfall=4.96"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.9	10	0.0100	0.03		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.74"
4.2	14	0.0100	0.06		Sheet Flow, Grass: Dense n= 0.240 P2= 2.74"
0.1	57	0.0180	8.79	6.90	Pipe Channel, 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.009 PVC, smooth interior
0.3	70	0.0100	3.73	29.88	Parabolic Channel, W=12.00' D=1.00' Area=8.0 sf Perim=12.2' n= 0.030 Earth, dense weeds
0.3	82	0.0060	5.08	3.99	Pipe Channel, 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.009 PVC, smooth interior
1.7	387	0.0100	3.73	29.88	Parabolic Channel, W=12.00' D=1.00' Area=8.0 sf Perim=12.2' n= 0.030 Earth, dense weeds
11.5	620	Total			

Summary for Reach R1: TRENCH DRAIN

Inflow Area = 0.020 ac, 100.00% Impervious, Inflow Depth > 4.51" for 25 YR event
 Inflow = 0.10 cfs @ 12.07 hrs, Volume= 0.008 af
 Outflow = 0.09 cfs @ 12.10 hrs, Volume= 0.008 af, Atten= 4%, Lag= 1.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.75-20.00 hrs, dt= 0.05 hrs

Max. Velocity= 2.17 fps, Min. Travel Time= 0.9 min

Avg. Velocity= 0.75 fps, Avg. Travel Time= 2.7 min

Peak Storage= 5 cf @ 12.09 hrs

Average Depth at Peak Storage= 0.14'

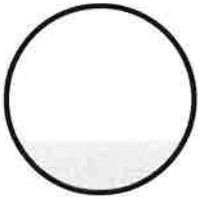
Bank-Full Depth= 0.50' Flow Area= 0.2 sf, Capacity= 0.57 cfs

6.0" Round Pipe

n= 0.009 PVC, smooth interior

Length= 120.0' Slope= 0.0050 '/'

Inlet Invert= 401.75', Outlet Invert= 401.15'



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Type III 24-hr 25 YR Rainfall=4.96"

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Summary for Reach R2: EAST EXIT POINT

Inflow Area = 3.630 ac, 31.13% Impervious, Inflow Depth > 0.00" for 25 YR event
 Inflow = 0.00 cfs @ 20.00 hrs, Volume= 0.000 af
 Outflow = 0.00 cfs @ 20.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.75-20.00 hrs, dt= 0.05 hrs

Summary for Pond P1: SEDIMENT FOREBAY

Inflow Area = 1.510 ac, 73.51% Impervious, Inflow Depth > 2.93" for 25 YR event
 Inflow = 5.19 cfs @ 12.08 hrs, Volume= 0.369 af
 Outflow = 5.19 cfs @ 12.09 hrs, Volume= 0.340 af, Atten= 0%, Lag= 1.0 min
 Discarded = 0.06 cfs @ 12.09 hrs, Volume= 0.054 af
 Primary = 5.13 cfs @ 12.09 hrs, Volume= 0.285 af

Routing by Stor-Ind method, Time Span= 0.75-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 405.25' @ 12.09 hrs Surf.Area= 1,336 sf Storage= 1,573 cf
 Flood Elev= 405.80' Surf.Area= 1,974 sf Storage= 2,472 cf

Plug-Flow detention time= 47.9 min calculated for 0.340 af (92% of inflow)
 Center-of-Mass det. time= 19.3 min (780.3 - 761.0)

Volume	Invert	Avail.Storage	Storage Description
#1	403.00'	2,893 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)
403.00	269	75.0	0	0	269
404.00	614	106.0	430	430	725
405.00	1,082	128.0	837	1,267	1,151
406.00	2,239	192.0	1,626	2,893	2,788

Device	Routing	Invert	Outlet Devices
#1	Primary	405.00'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28) Head (feet) 0.00 0.80 Width (feet) 12.00 14.00
#2	Discarded	403.00'	1.980 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.06 cfs @ 12.09 hrs HW=405.25' (Free Discharge)
 ↑ **2=Exfiltration** (Exfiltration Controls 0.06 cfs)

Primary OutFlow Max=5.02 cfs @ 12.09 hrs HW=405.25' (Free Discharge)
 ↑ **1=Custom Weir/Orifice** (Weir Controls 5.02 cfs @ 1.63 fps)

1662-01 POST

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Type III 24-hr 25 YR Rainfall=4.96"

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Summary for Pond P2: BIO-RETENTION

Inflow Area = 1.760 ac, 63.07% Impervious, Inflow Depth > 1.95" for 25 YR event
 Inflow = 5.13 cfs @ 12.09 hrs, Volume= 0.285 af
 Outflow = 4.26 cfs @ 12.15 hrs, Volume= 0.271 af, Atten= 17%, Lag= 3.7 min
 Discarded = 0.19 cfs @ 12.15 hrs, Volume= 0.129 af
 Primary = 4.07 cfs @ 12.15 hrs, Volume= 0.143 af

Routing by Stor-Ind method, Time Span= 0.75-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 403.68' @ 12.15 hrs Surf.Area= 4,106 sf Storage= 3,187 cf
 Flood Elev= 405.00' Surf.Area= 4,634 sf Storage= 6,810 cf

Plug-Flow detention time= 74.1 min calculated for 0.271 af (95% of inflow)
 Center-of-Mass det. time= 58.2 min (837.6 - 779.3)

Volume	Invert	Avail.Storage	Storage Description
#1	402.83'	6,810 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)
402.83	3,429	225.0	0	0	3,429
404.00	4,380	250.0	4,557	4,557	4,414
404.50	4,634	256.0	2,253	6,810	4,687

Device	Routing	Invert	Outlet Devices
#1	Primary	403.43'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28) Head (feet) 0.00 1.57 Width (feet) 10.00 12.00
#2	Discarded	402.83'	1.980 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.19 cfs @ 12.15 hrs HW=403.67' (Free Discharge)
 ↑2=Exfiltration (Exfiltration Controls 0.19 cfs)

Primary OutFlow Max=4.02 cfs @ 12.15 hrs HW=403.67' (Free Discharge)
 ↑1=Custom Weir/Orifice (Weir Controls 4.02 cfs @ 1.62 fps)

Summary for Pond P3: DETENTION POND

Inflow Area = 1.780 ac, 63.48% Impervious, Inflow Depth > 1.01" for 25 YR event
 Inflow = 4.15 cfs @ 12.15 hrs, Volume= 0.150 af
 Outflow = 0.15 cfs @ 13.78 hrs, Volume= 0.092 af, Atten= 96%, Lag= 97.5 min
 Discarded = 0.15 cfs @ 13.78 hrs, Volume= 0.092 af
 Primary = 0.00 cfs @ 0.75 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.75-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 402.06' @ 13.78 hrs Surf.Area= 3,233 sf Storage= 5,159 cf
 Flood Elev= 404.00' Surf.Area= 4,905 sf Storage= 12,982 cf

Plug-Flow detention time= 216.4 min calculated for 0.092 af (61% of inflow)
 Center-of-Mass det. time= 194.2 min (945.1 - 750.8)

1662-01 POST

Type III 24-hr 25 YR Rainfall=4.96"

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Volume	Invert	Avail.Storage	Storage Description
#1	400.00'	12,982 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)
400.00	1,833	202.0	0	0	1,833
404.00	4,905	300.0	12,982	12,982	5,875

Device	Routing	Invert	Outlet Devices
#1	Discarded	400.00'	1.980 in/hr Exfiltration over Surface area
#2	Primary	402.90'	24.0" x 24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 2	400.00'	12.0" Round Culvert L= 30.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 400.00' / 399.70' S= 0.0100 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Discarded OutFlow Max=0.15 cfs @ 13.78 hrs HW=402.06' (Free Discharge)

↑1=Exfiltration (Exfiltration Controls 0.15 cfs)

Primary OutFlow Max=0.00 cfs @ 0.75 hrs HW=400.00' (Free Discharge)

↑2=Orifice/Grate (Controls 0.00 cfs)

↑3=Culvert (Controls 0.00 cfs)

50+ 100-YR
POND 3

1662-01 POST

Type III 24-hr 50 YR Rainfall=5.84"

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Summary for Pond P3: DETENTION POND

Inflow Area = 1.780 ac, 63.48% Impervious, Inflow Depth > 1.51" for 50 YR event
 Inflow = 5.63 cfs @ 12.13 hrs, Volume= 0.224 af
 Outflow = 0.18 cfs @ 14.06 hrs, Volume= 0.111 af, Atten= 97%, Lag= 115.7 min
 Discarded = 0.18 cfs @ 14.06 hrs, Volume= 0.111 af
 Primary = 0.00 cfs @ 0.75 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.75-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 402.80' @ 14.06 hrs Surf.Area= 3,831 sf Storage= 7,770 cf
 Flood Elev= 404.00' Surf.Area= 4,905 sf Storage= 12,982 cf

Plug-Flow detention time= 222.8 min calculated for 0.111 af (50% of inflow)
 Center-of-Mass det. time= 193.5 min (946.3 - 752.8)

Volume	Invert	Avail.Storage	Storage Description
#1	400.00'	12,982 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)
400.00	1,833	202.0	0	0	1,833
404.00	4,905	300.0	12,982	12,982	5,875

Device	Routing	Invert	Outlet Devices
#1	Discarded	400.00'	1.980 in/hr Exfiltration over Surface area
#2	Primary	402.90'	24.0" x 24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 2	400.00'	12.0" Round Culvert L= 30.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 400.00' / 399.70' S= 0.0100 ' / Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Discarded OutFlow Max=0.18 cfs @ 14.06 hrs HW=402.80' (Free Discharge)

↑ **1=Exfiltration** (Exfiltration Controls 0.18 cfs)

Primary OutFlow Max=0.00 cfs @ 0.75 hrs HW=400.00' (Free Discharge)

↑ **2=Orifice/Grate** (Controls 0.00 cfs)

↑ **3=Culvert** (Controls 0.00 cfs)

1662-01 POST

Type II 24-hr 100 YR Rainfall=6.89"

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Summary for Pond P3: DETENTION POND

Inflow Area = 1.780 ac, 63.48% Impervious, Inflow Depth > 2.14" for 100 YR event
 Inflow = 11.02 cfs @ 12.00 hrs, Volume= 0.318 af
 Outflow = 1.62 cfs @ 12.27 hrs, Volume= 0.198 af, Atten= 85%, Lag= 16.5 min
 Discarded = 0.19 cfs @ 12.27 hrs, Volume= 0.117 af
 Primary = 1.43 cfs @ 12.27 hrs, Volume= 0.081 af

Routing by Stor-Ind method, Time Span= 0.75-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 403.13' @ 12.27 hrs Surf.Area= 4,110 sf Storage= 9,061 cf
 Flood Elev= 404.00' Surf.Area= 4,905 sf Storage= 12,982 cf

Plug-Flow detention time= 147.3 min calculated for 0.198 af (62% of inflow)
 Center-of-Mass det. time= 126.2 min (863.5 - 737.3)

Volume	Invert	Avail.Storage	Storage Description
#1	400.00'	12,982 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)
400.00	1,833	202.0	0	0	1,833
404.00	4,905	300.0	12,982	12,982	5,875

Device	Routing	Invert	Outlet Devices
#1	Discarded	400.00'	1.980 in/hr Exfiltration over Surface area
#2	Primary	402.90'	24.0" x 24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 2	400.00'	12.0" Round Culvert L= 30.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 400.00' / 399.70' S= 0.0100 '/ Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Discarded OutFlow Max=0.19 cfs @ 12.27 hrs HW=403.13' (Free Discharge)

↑ **1=Exfiltration** (Exfiltration Controls 0.19 cfs)

Primary OutFlow Max=1.42 cfs @ 12.27 hrs HW=403.13' (Free Discharge)

↑ **2=Orifice/Grate** (Passes 1.42 cfs of 2.82 cfs potential flow)

↑ **3=Culvert** (Inlet Controls 1.42 cfs @ 1.81 fps)

BMP WSHITS



Groundwater Recharge Volume (GRV) Calculation

1.11	ac	Area of HSG A soil that was replaced by impervious cover	0.40"
	ac	Area of HSG B soil that was replaced by impervious cover	0.25"
	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"
0.40	inches	Rd = weighted groundwater recharge depth	
0.444	ac-in	GRV = AI * Rd	
1,612	cf	GRV conversion (ac-in x 43,560 sf/ac x 1 ft/12")	

Provide calculations below showing that the project meets the groundwater recharge requirements (Env-Wq 1507.04):

BIO-RETENTION RECHARGE VOLUME = 2,198 c.f. at elevation 403.43

Detention Pond also infiltrates entire 50-year storm event.



INFILTRATION PRACTICE CRITERIA (Env-Wq 1508.06)

Type/Node Name: **Bio Retention Basin**

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

YES	Have you reviewed Env-Wq 1508.06(a) to ensure that infiltration is allowed?	
1.51 ac	A = Area draining to the practice	
1.11 ac	A _I = Impervious area draining to the practice	
0.74 decimal	I = percent impervious area draining to the practice, in decimal form	
0.71 unitless	R _v = Runoff coefficient = 0.05 + (0.9 x I)	
1.07 ac-in	WQV = 1" x R _v x A	
3,900 cf	WQV conversion (ac-in x 43,560 sf/ac x 1 ft/12")	
975 cf	25% x WQV (check calc for sediment forebay volume)	
SED. FOREBAY	Method of pretreatment? (not required for clean or roof runoff)	
1,267 cf	V _{SED} = sediment forebay volume, if used for pretreatment	← ≥ 25%WQV
2,198 cf	V = volume ¹ (attach a stage-storage table)	← ≥ WQV
3,902 sf	A _{SA} = surface area of the bottom of the pond	
1.98 iph	K _{sat} _{DESIGN} = design infiltration rate ²	
6.1 hours	T _{DRAIN} = drain time = V / (A _{SA} * I _{DESIGN})	← ≤ 72-hrs
402.83 feet	E _{BTM} = elevation of the bottom of the basin	
399.00 feet	E _{SHWT} = elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
feet	E _{ROCK} = elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
3.83 feet	D _{SHWT} = separation from SHWT	← ≥ * ³
402.8 feet	D _{ROCK} = separation from bedrock	← ≥ * ³
ft	D _{amend} = Depth of amended soil, if applicable due high infiltration rate	← ≥ 24"
ft	D _T = depth of trench, if trench proposed	← 4 - 10 ft
Yes/No	If a trench or underground system is proposed, observation well provided ⁴	
	If a trench is proposed, material in trench	
filter media	If a basin is proposed, basin floor material	
yes Yes/No	If a basin is proposed, the perimeter should be curvilinear, basin floor shall be flat.	
3.0 :1	If a basin is proposed, pond side slopes	← ≥ 3:1
ft	Peak elevation of the 10-year storm event (infiltration can be used in analysis)	
ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
405.00 ft	Elevation of the top of the practice (if a basin, this is the elevation of the berm)	
-	10 peak elevation ≤ Elevation of the top of the trench? ²	← yes
-	If a basin is proposed, 50-year peak elevation ≤ Elevation of berm?	← yes

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

Designer's Notes:

1662-01 POST

Type III 24-hr ONE INCH Rainfall=1.00"

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Summary for Pond P2: BIO-RETENTION *

Inflow Area = 1.760 ac, 63.07% Impervious, Inflow Depth = 0.00" for ONE INCH event
 Inflow = 0.00 cfs @ 0.75 hrs, Volume= 0.000 af
 Outflow = 0.00 cfs @ 0.75 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
 Discarded = 0.00 cfs @ 0.75 hrs, Volume= 0.000 af
 Primary = 0.00 cfs @ 0.75 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.75-20.00 hrs, dt= 0.05 hrs

Peak Elev= 402.83' @ 0.75 hrs Surf.Area= 3,429 sf Storage= 0 cf

Flood Elev= 405.00' Surf.Area= 4,634 sf Storage= 6,810 cf

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

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

Volume	Invert	Avail.Storage	Storage Description
#1	402.83'	6,810 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)
402.83	3,429	225.0	0	0	3,429
404.00	4,380	250.0	4,557	4,557	4,414
404.50	4,634	256.0	2,253	6,810	4,687

Device	Routing	Invert	Outlet Devices
#1	Primary	403.43'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28) Head (feet) 0.00 1.57 Width (feet) 10.00 12.00
#2	Discarded	402.83'	1.980 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.00 cfs @ 0.75 hrs HW=402.83' (Free Discharge)

↑2=Exfiltration (Passes 0.00 cfs of 0.16 cfs potential flow)

Primary OutFlow Max=0.00 cfs @ 0.75 hrs HW=402.83' (Free Discharge)

↑1=Custom Weir/Orifice (Controls 0.00 cfs)

1662-01 POST

Type III 24-hr ONE INCH Rainfall=1.00"

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Stage-Area-Storage for Pond P2: BIO-RETENTION *

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
402.83	3,429	0
402.88	3,467	172
402.93	3,506	347
402.98	3,544	523
403.03	3,583	701
403.08	3,622	881
403.13	3,662	1,063
403.18	3,701	1,247
403.23	3,741	1,434
403.28	3,781	1,622
403.33	3,821	1,812
403.38	3,862	2,004
403.43	3,902	2,198
403.48	3,943	2,394
403.53	3,984	2,592
403.58	4,025	2,792
403.63	4,067	2,995
403.68	4,108	3,199
403.73	4,150	3,405
403.78	4,192	3,614
403.83	4,235	3,825
403.88	4,277	4,038
403.93	4,320	4,252
403.98	4,363	4,470
404.03	4,395	4,689
404.08	4,420	4,909
404.13	4,445	5,131
404.18	4,471	5,353
404.23	4,496	5,578
404.28	4,521	5,803
404.33	4,547	6,030
404.38	4,572	6,258
404.43	4,598	6,487
404.48	4,624	6,718
404.53	4,634	6,810
404.58	4,634	6,810
404.63	4,634	6,810
404.68	4,634	6,810
404.73	4,634	6,810
404.78	4,634	6,810
404.83	4,634	6,810
404.88	4,634	6,810
404.93	4,634	6,810
404.98	4,634	6,810

1662-01 POST

Type III 24-hr ONE INCH Rainfall=1.00"

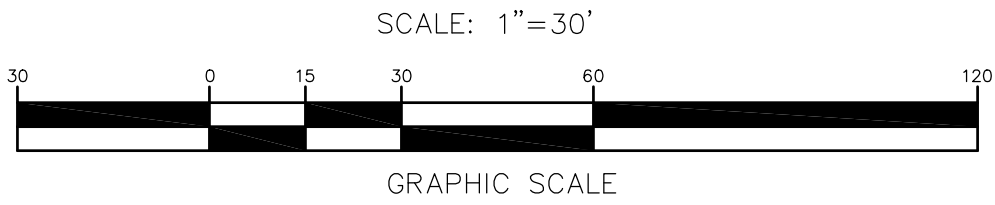
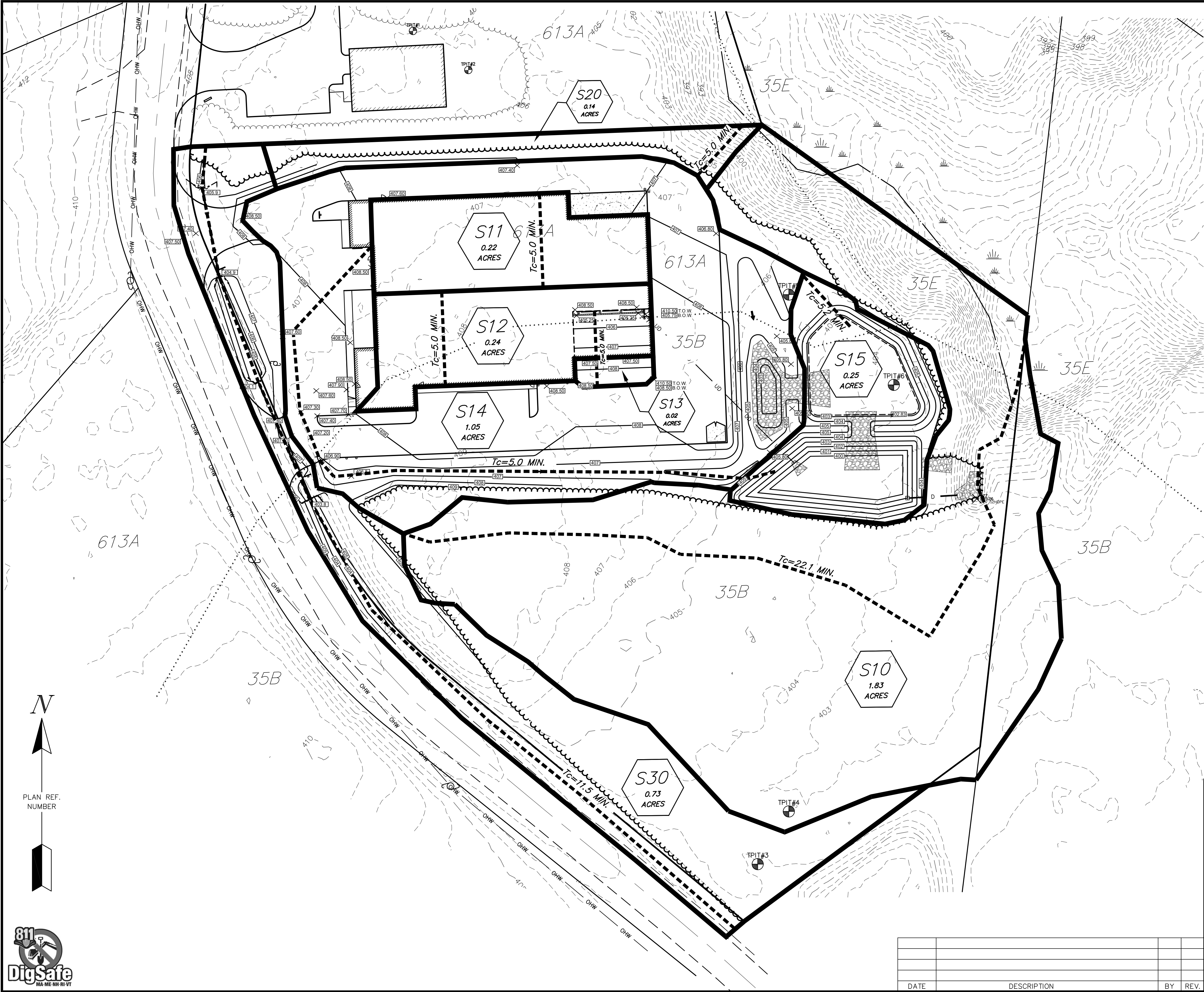
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Stage-Area-Storage for Pond P1: SEDIMENT FOREBAY ✖

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
403.00	269	0	405.60	1,726	2,102
403.05	283	14	405.65	1,787	2,190
403.10	297	28	405.70	1,848	2,281
403.15	312	44	405.75	1,911	2,374
403.20	327	59	405.80	1,974	2,472
403.25	342	76	405.85	2,039	2,572
403.30	358	94	405.90	2,105	2,676
403.35	374	112	405.95	2,171	2,782
403.40	390	131	406.00	2,239	2,893
403.45	407	151			
403.50	424	172			
403.55	441	193			
403.60	459	216			
403.65	477	239			
403.70	496	264			
403.75	515	289			
403.80	534	315			
403.85	553	342			
403.90	573	370			
403.95	593	400			
404.00	614	430			
404.05	634	461			
404.10	655	493			
404.15	676	527			
404.20	697	561			
404.25	719	596			
404.30	741	633			
404.35	763	670			
404.40	785	709			
404.45	808	749			
404.50	832	790			
404.55	855	832			
404.60	879	875			
404.65	903	920			
404.70	928	966			
404.75	953	1,013			
404.80	978	1,061			
404.85	1,003	1,110			
404.90	1,029	1,161			
404.95	1,055	1,213			
405.00	1,082	1,267			
405.05	1,130	1,322			
405.10	1,179	1,380			
405.15	1,229	1,440			
405.20	1,280	1,503			
405.25	1,332	1,568			
405.30	1,385	1,636			
405.35	1,440	1,707			
405.40	1,495	1,780			
405.45	1,551	1,856			
405.50	1,608	1,935			
405.55	1,667	2,017			



TAX MAP 102 LOT 403-3

POST-DRAINAGE PLAN
DILLON SITE PLAN

LOCATED AT:
COMMERCE DRIVE
FRANKLIN, NEW HAMPSHIRE
PREPARED FOR: DILLON'S CUSTOM CABINETRY
116 DUKES COUNTY AVE
OAK BLUFFS, MA 02557
PROPERTY OWNER: DC REALTY, LLC
21 KENDRICK RD
FRANKLIN, NH 03235

SCALE: 1" = 30' NOVEMBER 15, 2022 SHEET 2 OF 2

DESIGN:	DRAWN:	CHECKED:	FB:	PG:	1662-01
KAW	KAW	RJB	###	###	

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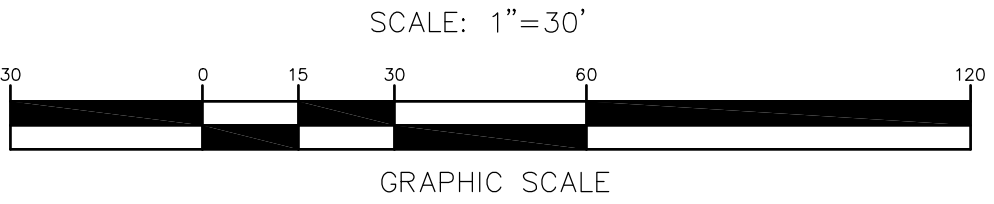
PLAN REF.
NUMBER



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DATE	DESCRIPTION	BY	REV.

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TAX MAP 102 LOT 403-3

PRE-DRAINAGE PLAN
DILLON SITE PLAN

LOCATED AT:
COMMERCE DRIVE
FRANKLIN, NEW HAMPSHIRE
PREPARED FOR: DILLON'S CUSTOM CABINETRY
116 DUKES COUNTY AVE
OAK BLUFFS, MA 02557
PROPERTY OWNER: DC REALTY, LLC
21 KENDRICK RD
FRANKLIN, NH 03235

SCALE: 1" = 30' NOVEMBER 15, 2022 SHEET 1 OF 2

DESIGN:	DRAWN:	CHECKED:	FB:	PG:	1662-01
KAW	KAW	RJB	###	###	

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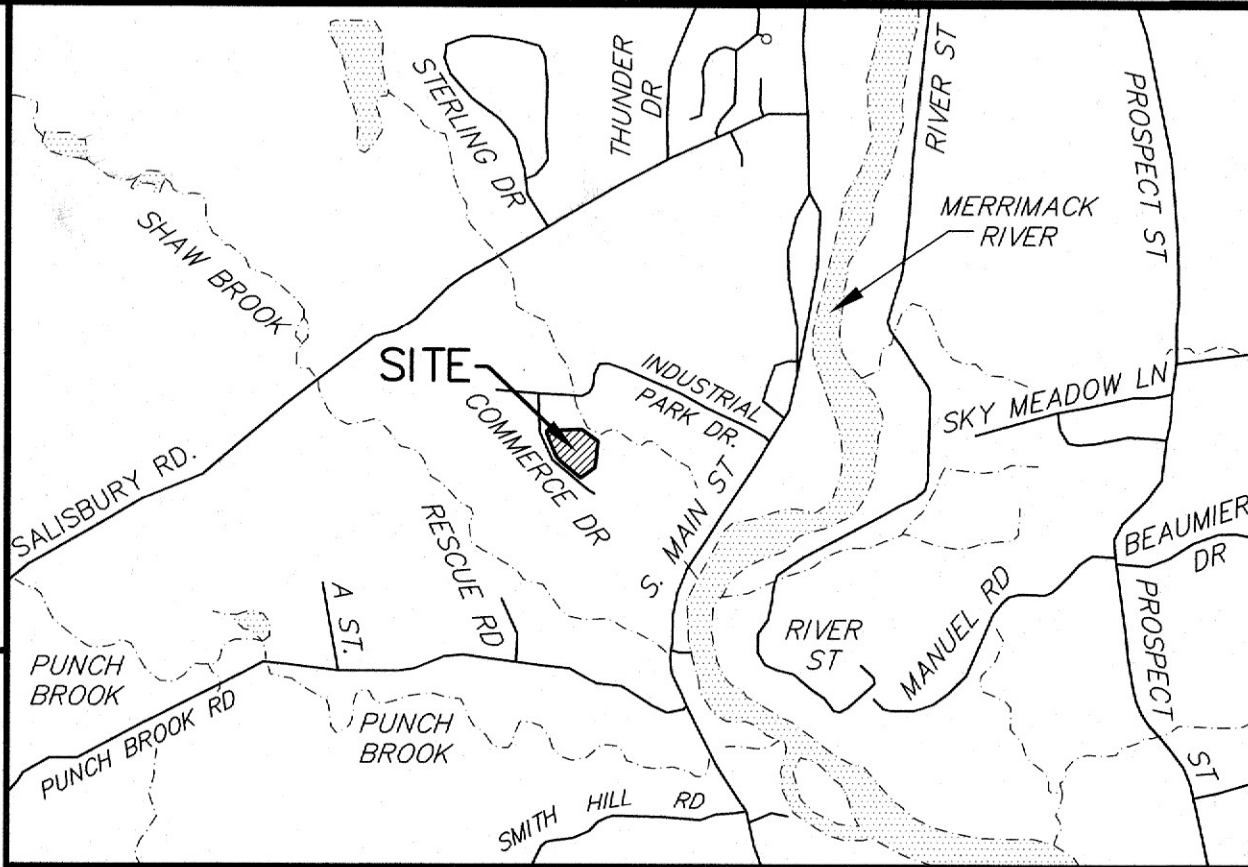


DATE	DESCRIPTION	BY	REV.

DILLON SITE PLAN

COMMERCE DRIVE
FRANKLIN, NEW HAMPSHIRE

PLAN INDEX	SHEET NO
COVER SHEET	1
EXISTING CONDITIONS PLAN	2
SITE PLAN	3
GRADING & UTILITIES PLAN	4
LANDSCAPE & LIGHTING PLAN	5
SEWER PROFILE	6
ARCHITECTURAL PLANS	7
SIGHT DISTANCE PLAN	8
CONSTRUCTION DETAILS	9-12

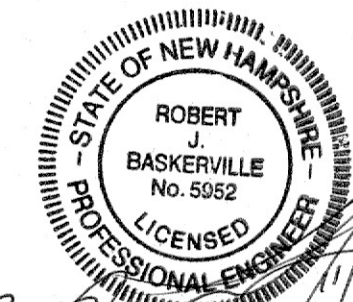


LOCUS MAP
SCALE: 1" = 2000'

NOTES:

- THE PURPOSE OF THIS PLAN IS TO SHOW A PROPOSED 19,600 S.F. CABINET MANUFACTURING FACILITY WITH PARKING, CIRCULATION, AND DRAINAGE DESIGN.
- OWNER OF RECORD:
TAX MAP 102 LOT 403-3
DC REALTY, LLC
21 KENDRICK ROAD
FRANKLIN, NH 03235
BOOK 3804 PAGE 116
- TOTAL AREA: 4.16 ACRES
- PARCEL IS ZONED INDUSTRIAL (I-1)
- DIMENSIONAL REQUIREMENTS

MIN. FRONTAGE	80'
MIN. LOT SIZE	40,000 S.F.
FRONT BUILDING SETBACK	20'
SIDE BUILDING SETBACK	15'
REAR BUILDING SETBACK	20'
WETLAND SETBACK	NONE
MAX. BUILDING HEIGHT	35'
- THE SITE WILL BE SERVED BY MUNICIPAL SEWER AND WATER.
- PARKING CALCULATIONS:
INDUSTRIAL (CLOSEST TO MANUFACTURING USE)
2 SPACES PER 3 EMPLOYEES PER SHIFT
36 EMPLOYEES PER SHIFT / 3 = 12 x 2 SPACES = 24 REQUIRED
25 PROPOSED
- THE SUBJECT PROPERTY IS NOT LOCATED IN THE 100-YR FLOOD PLAIN AS PER THE FLOOD INSURANCE RATE MAP, MERRIMACK COUNTY #33013C0166E, EFFECTIVE DATE MARCH 19, 2010.
- TOPOGRAPHY WAS GENERATED FROM LIDAR DOWNLOADED FROM NH GRANIT.
- WETLANDS WERE DELINEATED BY LUKE HURLEY, C.W.S. OF GOVE ENVIRONMENTAL SERVICES, LLC IN MARCH OF 2022.
- BEDFORD DESIGN DID NOT PERFORM ANY FIELD SURVEY OR BOUNDARY SURVEY ON THE SUBJECT LOT. THIS PLAN WAS A RESULT OF THE REFERENCE PLANS.
- A WAIVER HAS BEEN REQUESTED FROM SECTION 149-6.B OF THE SIGHT DISTANCE REQUIREMENT.
- ALL LANDSCAPING SHOWN ON THE PLANS SHALL BE MAINTAINED AND ANY DEAD OR DYEING VEGETATION SHALL BE REPLACED IN A TIMELY MANNER AS LONG AS THIS SITE PLAN REMAINS VALID.
- SNOW SHALL BE MOVED SO THAT THE PARKING LOT AND SURROUNDING CIRCULATION CAN BE UTILIZED.
- THE BUILDING SHALL HAVE A SPRINKLER SYSTEM.
- SEE THE EXISTING CONDITIONS PLAN FOR PLAN REFERENCES.
- A NHDES SEWER DISCHARGE PERMIT IS REQUIRED FOR THIS PROJECT.



TAX MAP 102 LOT 403-3

COVER SHEET
DILLON SITE PLAN

LOCATED AT:

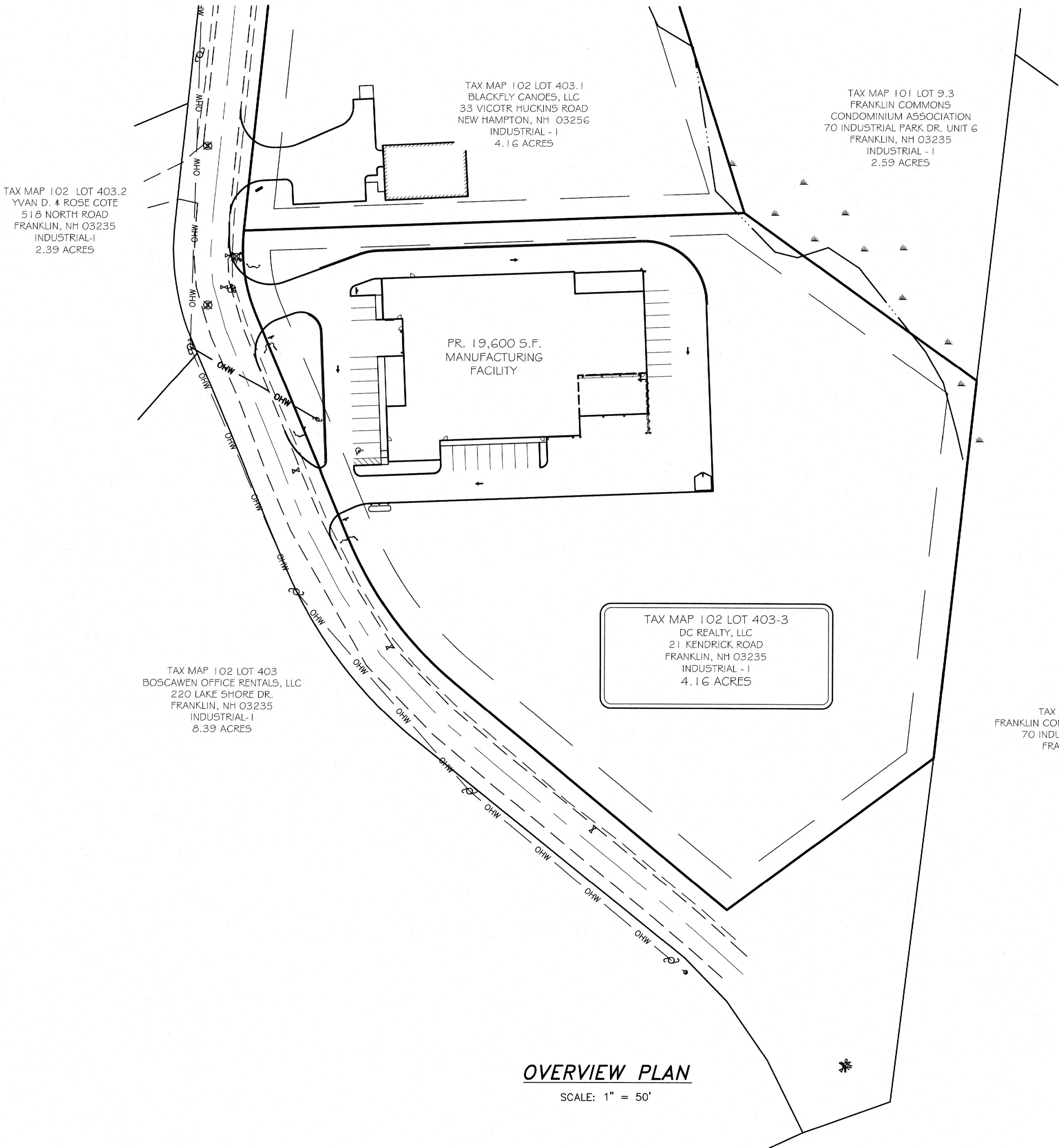
COMMERCE DRIVE
FRANKLIN, NEW HAMPSHIRE

PREPARED FOR:
DILLON'S CUSTOM CABINETRY
116 DUKES COUNTY AVE
OAK BLUFFS, MA 02557

PROPERTY OWNER:
DC REALTY, LLC
21 KENDRICK RD
FRANKLIN, NH 03235

SCALE: 1" = 50'	NOVEMBER 15, 2022	SHEET 1 OF 12
DESIGN: KAW	DRAWN: KAW	CHECKED: RJB
FB: ###	PG: ###	1662-01

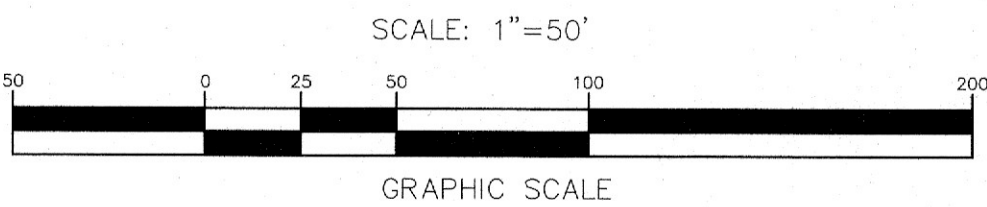
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ENGINEERS AND SURVEYORS
592 Harvey Road, Manchester, NH 03103
Telephone: (603) 622-5533
www.bedforddesign.com



OVERVIEW PLAN
SCALE: 1" = 50'

OWNER'S SIGNATURE
NAME Kpttucklen DATE 11/16/22
See authorization sheet.

APPROVED BY THE CITY OF FRANKLIN PLANNING BOARD
CHAIR _____ DATE _____
VICE-CHAIR _____ DATE _____



DATE	DESCRIPTION	BY	REV.



PLAN REF.
NUMBER



PLAN REFERENCES:

- "BOUNDARY LINE ADJUSTMENT BETWEEN TAX MAP 102 LOT 403-1 F.I.P. EXPANSION, LLC AND TAX MAP 102 LOT 403-3 F.I.P. EXPANSION, LLC COMMERCE DRIVE FRANKLIN, NEW HAMPSHIRE MERRIMACK COUNTY" PREPARED BY DETZEL LAND SERVICES, DATED DECEMBER 2020, MCRD PLAN NO 202100005879.
- "TAX MAP 102, LOT 403 SUBDIVISION PLAN FOR EXPANSION, LLC INDUSTRIAL PARK DRIVE FRANKLIN, NEW HAMPSHIRE MERRIMACK COUNTY" PREPARED BY LEPENE ENGINEERING & SURVEYING, DATED JUNE 2006 REVISED AUGUST 2006, MCRD PAN #18134.
- "CORRECTIVE PLAN ORIGINAL PLAN RECORDED AS PLAN #202100005879 TITLED: "BOUNDARY LINE ADJUSTMENT" BETWEEN TAX MAP 102 LOT 403-01 F.I.P. EXPANSION, LLC AND TAX MAP 02 LOT 403-03 F.I.P. EXPANSION, LLC COMMERCE DRIVE FRANKLIN, NEW HAMPSHIRE MERRIMACK COUNTY" PREPARED BY DETZEL LAND SERVICES LAST REVISED JANUARY 2022, MCRD PLAN 202200002081.

TAX MAP 102 LOT 403.2
YVAN D. & ROSE COTE
518 NORTH ROAD
FRANKLIN, NH 03235
ZONED: INDUSTRIAL-1
BOOK 2959 PAGE 1361

TAX MAP 102 LOT 403.1
BLACKFLY CANOES, LLC
33 VICOTR HUCKINS ROAD
NEW HAMPTON, NH 03256
ZONED: INDUSTRIAL -1
BOOK 3727 PAGE 2594

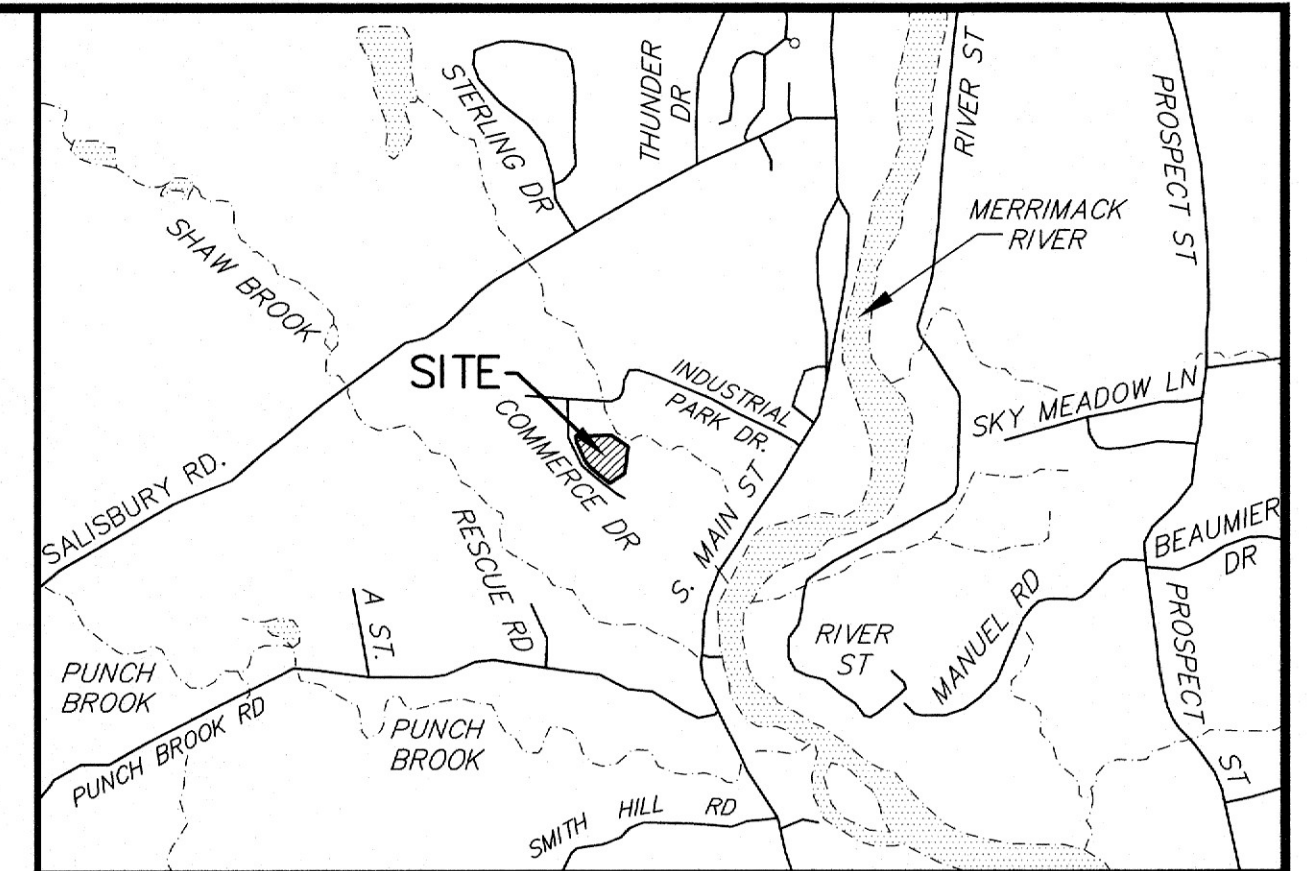
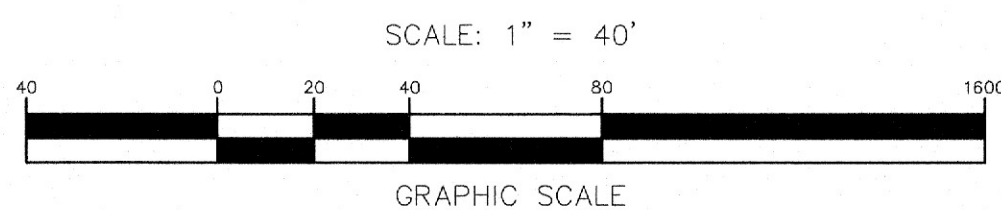
TAX MAP 101 LOT 9.3
FRANKLIN COMMONS
CONDOMINIUM ASSOCIATION
70 INDUSTRIAL PARK DR. UNIT 6
FRANKLIN, NH 03235
ZONED: INDUSTRIAL -1
BOOK 2867 PAGE 48

TAX MAP 102 LOT 403
BOSCAWEN OFFICE RENTALS, LLC
220 LAKE SHORE DR.
FRANKLIN, NH 03235
ZONED: INDUSTRIAL-1
BOOK 3026 PAGE 1672

TAX MAP 102 LOT 402
FRANKLIN COMMONS REALTY GROUP, LLC
70 INDUSTRIAL DRIVE SUITE 7
FRANKLIN, NH 03235
ZONED: INDUSTRIAL -1
BOOK 3444 PAGE 750

LEGEND

- BOUNDARY/PROPERTY LINE
ABUTTING PROPERTY LINE
BUILDING SETBACK LINE
EXISTING ROAD/DRIVEWAY/WALKWAY
EXISTING CONTOUR
EXISTING OVERHEAD WIRES
EXISTING WATER LINES
EXISTING SEWER LINES
EDGE OF JURISDICTIONAL WETLANDS
REBAR FOUND
STONE BOUND FOUND
TELEPHONE POLE
TEST PIT LOCATION
SEWER MANHOLE
EXISTING HYDRANT
EXISTING WATER SHUTOFF
EXISTING WATER GATE
GUY WIRE
WETLANDS
BENCHMARK
25%+ SLOPES



LOCUS MAP
SCALE: 1" = 2000'

NOTES:

- OWNER OF RECORD:
TAX MAP 102 LOT 403-3
DC REALTY, LLC
21 KENDRICK ROAD
FRANKLIN, NH 03235
BOOK 3804 PAGE 116
- THE PURPOSE OF THIS PLAN IS TO SHOW THE EXISTING CONDITIONS ON TAX MAP 102 LOT 403-3
- LOT SIZE: 4.16 ACRES PER PLAN REFERENCE NO. 3
- THE PARCEL IS ZONED INDUSTRIAL
- DIMENSIONAL REQUIREMENTS
MINIMUM LOT SIZE 40,000 SF
MINIMUM FRONTAGE 80 FT
FRONT SETBACK 20 FT
SIDE SETBACK 15 FT
REAR SETBACK 20 FEET
- THE SITE WILL BE SERVICED BY MUNICIPAL WATER AND SEWER.
- THE BOUNDARY SHOWN WAS COPIED FROM PLAN REFERENCE NO. 3. BEDFORD DESIGN CONSULTANTS, INC. DID NOT PERFORM A BOUNDARY SURVEY.
- THE SUBJECT PROPERTY IS NOT LOCATED IN THE 100-YEAR FLOOD PLAIN PER THE FLOOD INSURANCE RATE MAP, MERRIMACK COUNTY #33013C01866, EFFECTIVE DATE MARCH 19, 2010.
- TOPOGRAPHY WAS GENERATED FROM LIDAR INFORMATION OBTAINED FROM NH GRANIT

WETLAND CERTIFICATION

WETLANDS WERE DELINEATED BY LUKE HURLEY OF GOVE ENVIRONMENTAL SERVICES, INC. IN MARCH 2022 UTILIZING THE FOLLOWING STANDARDS:

- REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHEASTAL AND NORTHEAST REGION, (VERSION 2.0) JANUARY 2012, U.S. ARMY CORPS OF ENGINEERS.
- FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, A GUIDE FOR IDENTIFYING AND DELINEATING HYDRIC SOILS, VERSION 8.2, UNITED STATES DEPARTMENT OF AGRICULTURE (2018).
- NEW ENGLAND HYDRIC SOILS TECHNICAL COMMITTEE, 2020 VERSION 4, FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND, NEW ENGLAND INTERSTATE WATER POLLUTION CONTROL COMMISSION, LOWELL, MA.
- NATIONAL WETLAND PLANT LIST, VERSION 3.2 (2016).

SURVEYOR CERTIFICATION

"I HEREBY CERTIFY THAT THIS SURVEY AND PLAT WERE PREPARED BY ME OR THOSE UNDER MY DIRECT SUPERVISION."

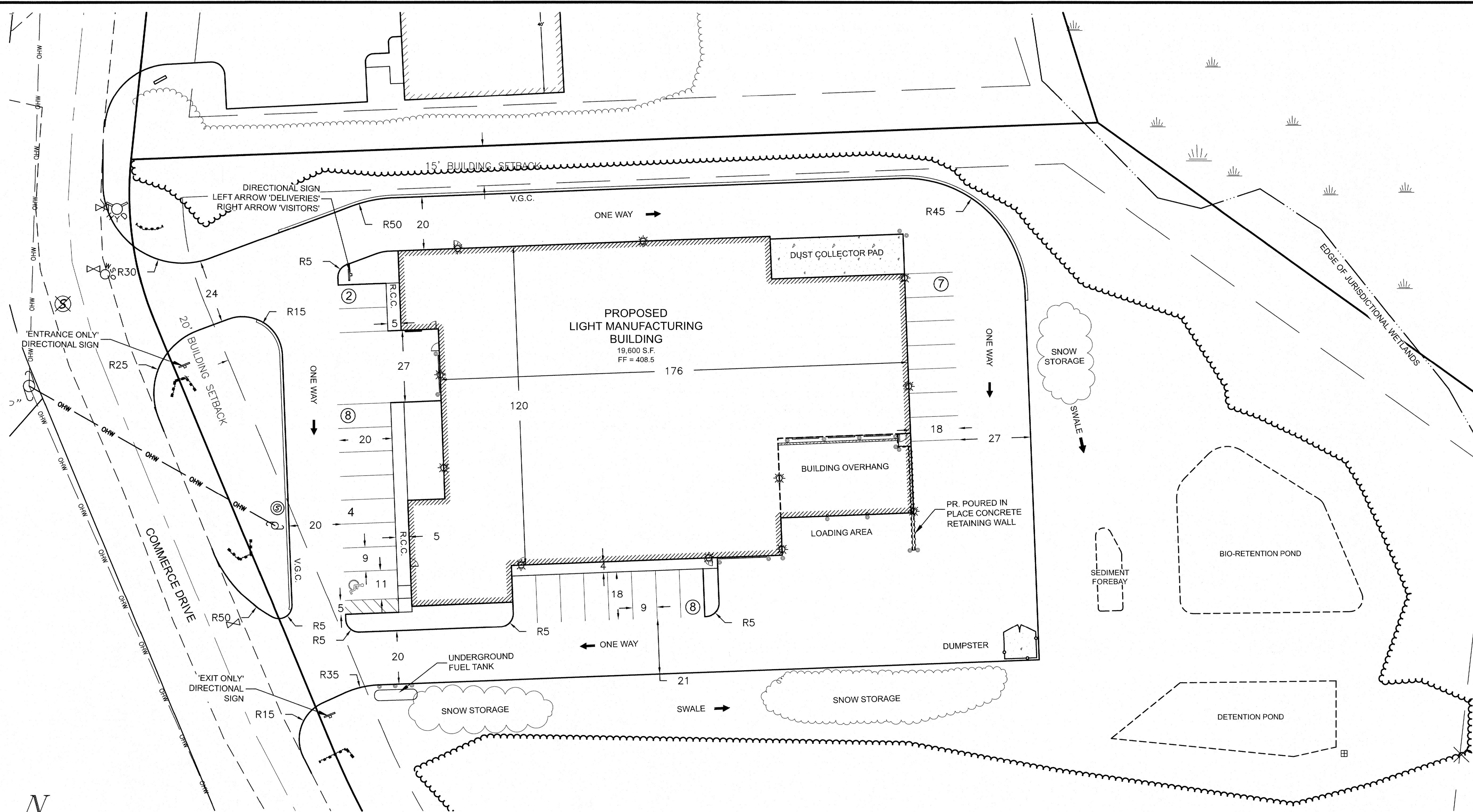
"I HEREBY CERTIFY THAT THIS PLAN IS THE RESULT OF AN ACTUAL FIELD SURVEY MADE ON THE GROUND AND HAS AN ERROR OF CLOSURE OF GREATER ACCURACY THAN ONE PART IN TEN THOUSAND (1:10,000)."

11-16-22
DATE

TAX MAP 102 LOT 403-3				
EXISTING CONDITIONS PLAN DILLON'S CUSTOM CABINETRY LOCATED AT: COMMERCE DRIVE FRANKLIN, NEW HAMPSHIRE PREPARED FOR: DILLON'S CUSTOM CABINETRY 116 DUKES COUNTY AVE OAK BLUFFS, MA 02557				
PROPERTY OWNER: DC REALTY, LLC 21 KENDRICK RD FRANKLIN, NH 03235				
SCALE: 1" = 40'		NOVEMBER 2, 2022		SHEET 2 OF 12
DESIGN: C.A.F.	DRAWN: M.K.H.	CHECKED: C.A.F.	FB: 644	PG: 87
1662-01				
Bedford Design Consultants Inc. ENGINEERS AND SURVEYORS 592 Harvey Road, Manchester, NH 03103 Telephone: (603) 622-5533 www.bedforddesign.com				

DATE	DESCRIPTION	BY	REV.

G:\PROJECT\1662001 DILLON\DWG\1662-01-CV.DWG

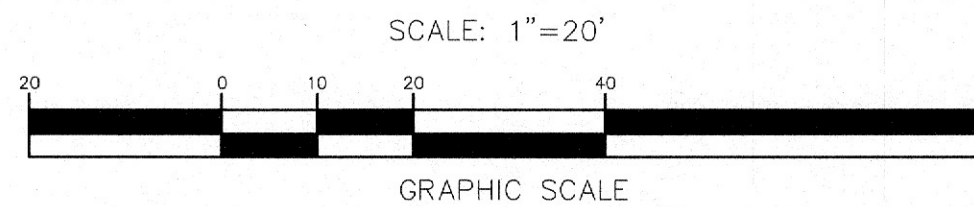
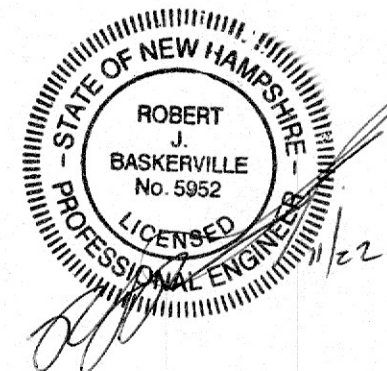


LEGEND

- 290 PROPOSED CONTOUR
- 290 EXISTING CONTOUR
- 430.3 PROPOSED SPOT GRADE
- 282.6x EXISTING SPOT GRADE
- EDGE OF JURISDICTIONAL WETLANDS
- WETLAND SYMBOL
- WETLAND BUFFER
- PROPOSED TREE LINE
- EXISTING TREE LINE
- EXISTING ROADWAY
- PROPOSED BITUMINOUS CURBING
- PROPOSED DRIVEWAY
- 2+00 PROFILE STATION NUMBERING
- ABUTTING PROPERTY LINE
- PROPERTY LINE
- BUILDING SETBACK LINE
- UD PROPOSED UNDERDRAIN
- GAS PROPOSED GAS LINE
- GAS EXISTING GAS LINE
- W PROPOSED WATER LINE
- W EXISTING WATER LINE
- UGE PROPOSED UNDERGROUND ELECTRIC
- E EXISTING UNDERGROUND ELECTRIC
- S PROPOSED SEWER LINE
- S EXISTING SEWER LINE
- D PROPOSED DRAIN LINE
- D EXISTING DRAIN LINE
- OHW EXISTING OVERHEAD WIRES
- OHW PROPOSED OVERHEAD WIRES
- EXISTING CATCH BASIN
- EXISTING HYDRANT
- EXISTING UTILITY POLE
- EXISTING GUY WIRE
- EXISTING WATER SHUTOFF
- PROPOSED WATER SHUTOFF
- PROPOSED PROPANE TANK
- EXISTING GATE VALVE
- PROPOSED GATE VALVE
- PROPOSED LIGHT
- PROPOSED CANOPY
- SEWER MANHOLE
- DRAIN MANHOLE
- # OF PARKING SPACES
- PROPOSED BUILDING
- PROPOSED CONCRETE
- TEST PIT
- R.C.C. REINFORCED CONCRETE CURB
- V.G.C. VERTICAL GRANITE CURB
- PROPOSED BOLLARD
- PROPOSED RETAINING WALL



PLAN REF.
NUMBER



SCALE: 1"=20'

GRAPHIC SCALE

TAX MAP 102 LOT 403-3

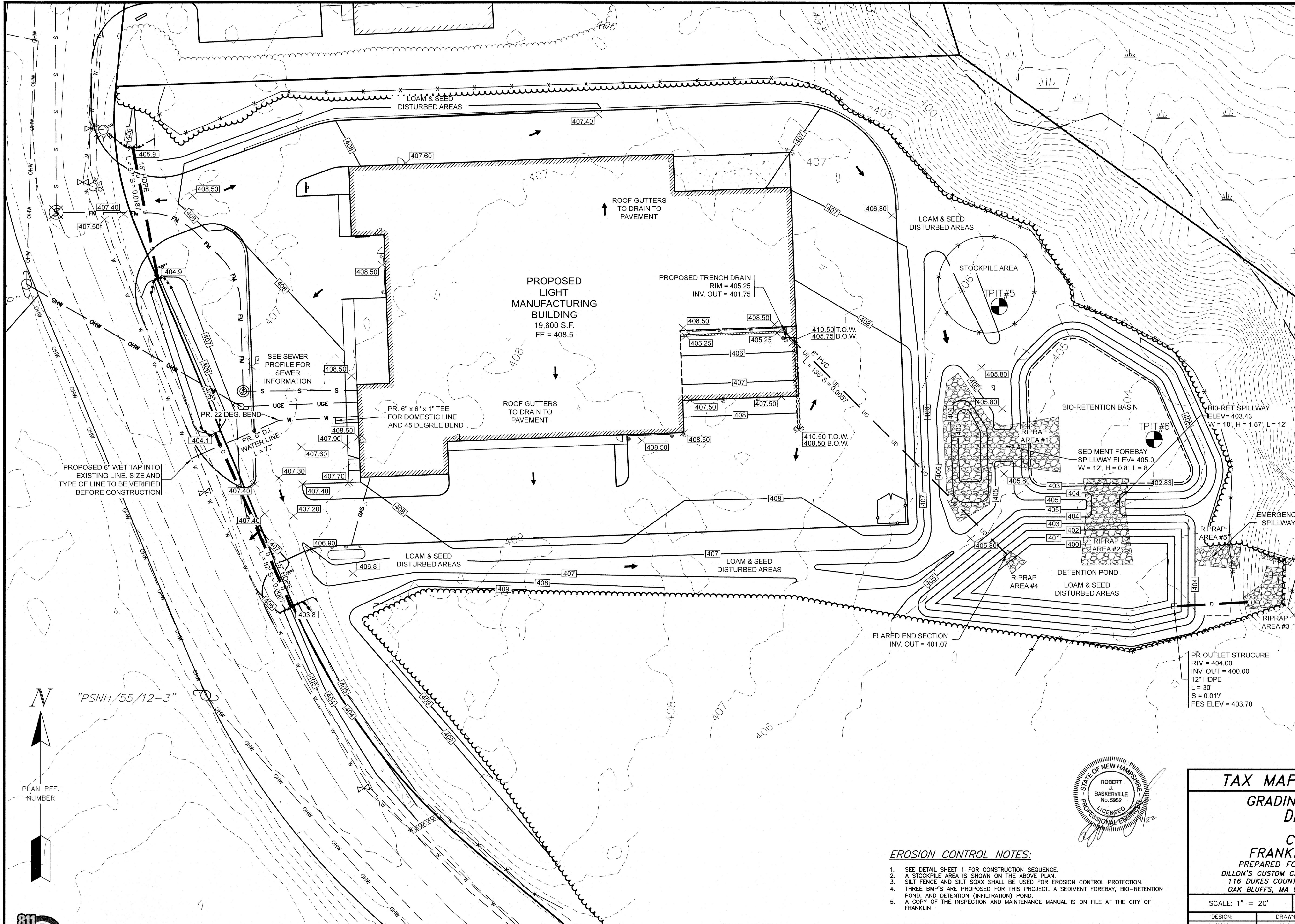
SITE & LANDSCAPE PLAN DILLON SITE PLAN LOCATED AT:

FRANKLIN, NEW HAMPSHIRE
PREPARED FOR: DILLON'S CUSTOM CABINETRY
116 DUKES COUNTY AVE
OAK BLUFFS, MA 02557
PROPERTY OWNER: DC REALTY, LLC
21 KENDRICK RD
FRANKLIN, NH 03235

SCALE: 1" = 20' NOVEMBER 15, 2022 SHEET 3 OF 12
DESIGN: KAW DRAWN: KAW CHECKED: RJB FB: ### PG: ### 1662-01

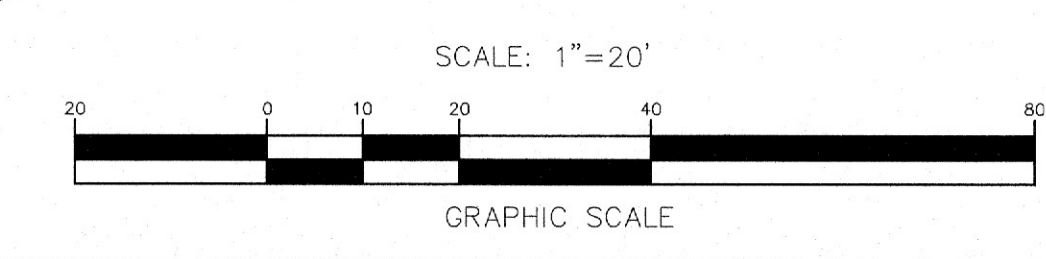
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DATE	DESCRIPTION	BY	REV.

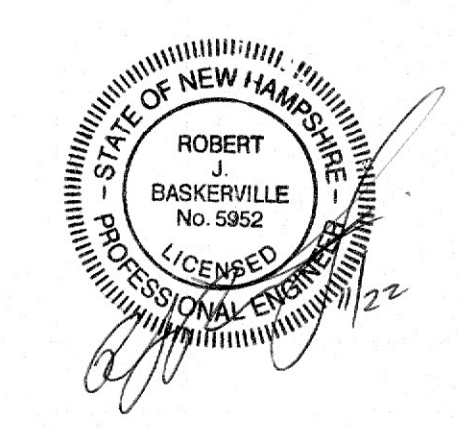


- LEGEND**
- 290 PROPOSED CONTOUR
 - 290 EXISTING CONTOUR
 - 430.3 PROPOSED SPOT GRADE
 - 282.6x EXISTING SPOT GRADE
 - EDGE OF JURISDICTIONAL WETLANDS
 - WETLAND SYMBOL
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 - PROPOSED TREE LINE
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 - EXISTING UTILITY POLE
 - EXISTING GUY WIRE
 - EXISTING WATER SHUTOFF
 - PROPOSED WATER SHUTOFF
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 - # OF PARKING SPACES
 - PROPOSED BUILDING
 - PROPOSED CONCRETE
 - PROPOSED SILT FENCE
 - TEST PIT
 - PROPOSED SILT SOXX
 - PROPOSED BOLLARD
 - PROPOSED RETAINING WALL

N
"PSNH/55/12-3"
PLAN REF. NUMBER



- EROSION CONTROL NOTES:**
- SEE DETAIL SHEET 1 FOR CONSTRUCTION SEQUENCE.
 - A STOCKPILE AREA IS SHOWN ON THE ABOVE PLAN.
 - SILT FENCE AND SILT SOXX SHALL BE USED FOR EROSION CONTROL PROTECTION.
 - THREE BMP'S ARE PROPOSED FOR THIS PROJECT. A SEDIMENT FOREBAY, BIO-RETENTION POND, AND DETENTION (INFILTRATION) POND.
 - A COPY OF THE INSPECTION AND MAINTENANCE MANUAL IS ON FILE AT THE CITY OF FRANKLIN



TAX MAP 102 LOT 403-3

GRADING & UTILITIES PLAN
DILLON SITE PLAN

LOCATED AT:
COMMERCE DRIVE
FRANKLIN, NEW HAMPSHIRE

PREPARED FOR:
DILLON'S CUSTOM CABINETRY
116 DUKES COUNTY AVE
OAK BLUFFS, MA 02557

PROPERTY OWNER:
DC REALTY, LLC
21 KENDRICK RD
FRANKLIN, NH 03235

SCALE: 1" = 20'

DESIGN: KAW
DRAWN: KAW
CHECKED: RJB
FB: ###
PG: ###
1662-01

NOVEMBER 15, 2022

SHEET 4 OF 12

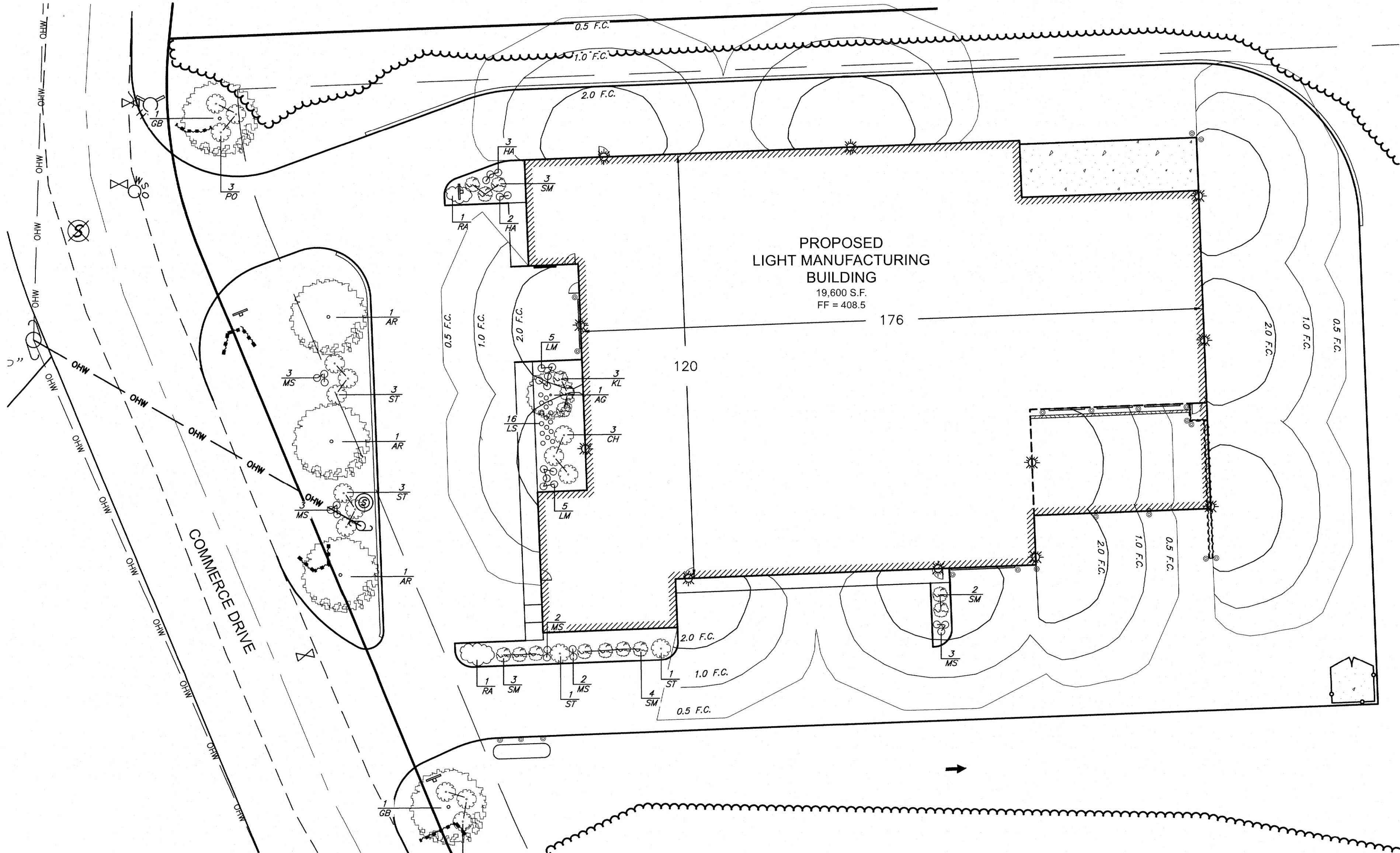
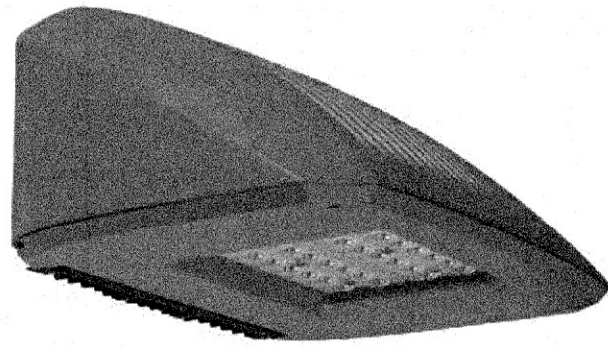
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G:\PROJECT\1662001 DILLON\DWG\1662-01-CV.DWG

Luminaire Schedule						
Qty	Label	Arrangement	Lumens	Input Watts	LLF	BUG Rating
2		SINGLE	6076	52	0.850	B1-U0-G2
Description						
GARDCO 121-32L-530-WW-G4-4-UNV-FINISH / WALL MOUNTED @ 15FT AFG TO BOF						

LIGHTING NOTES

WALL MOUNTED LIGHT HEIGHT IS 15 FEET. WALL UNIT IS
IDA DARK SKY COMPLIANT.



PLANT SCHEDULE

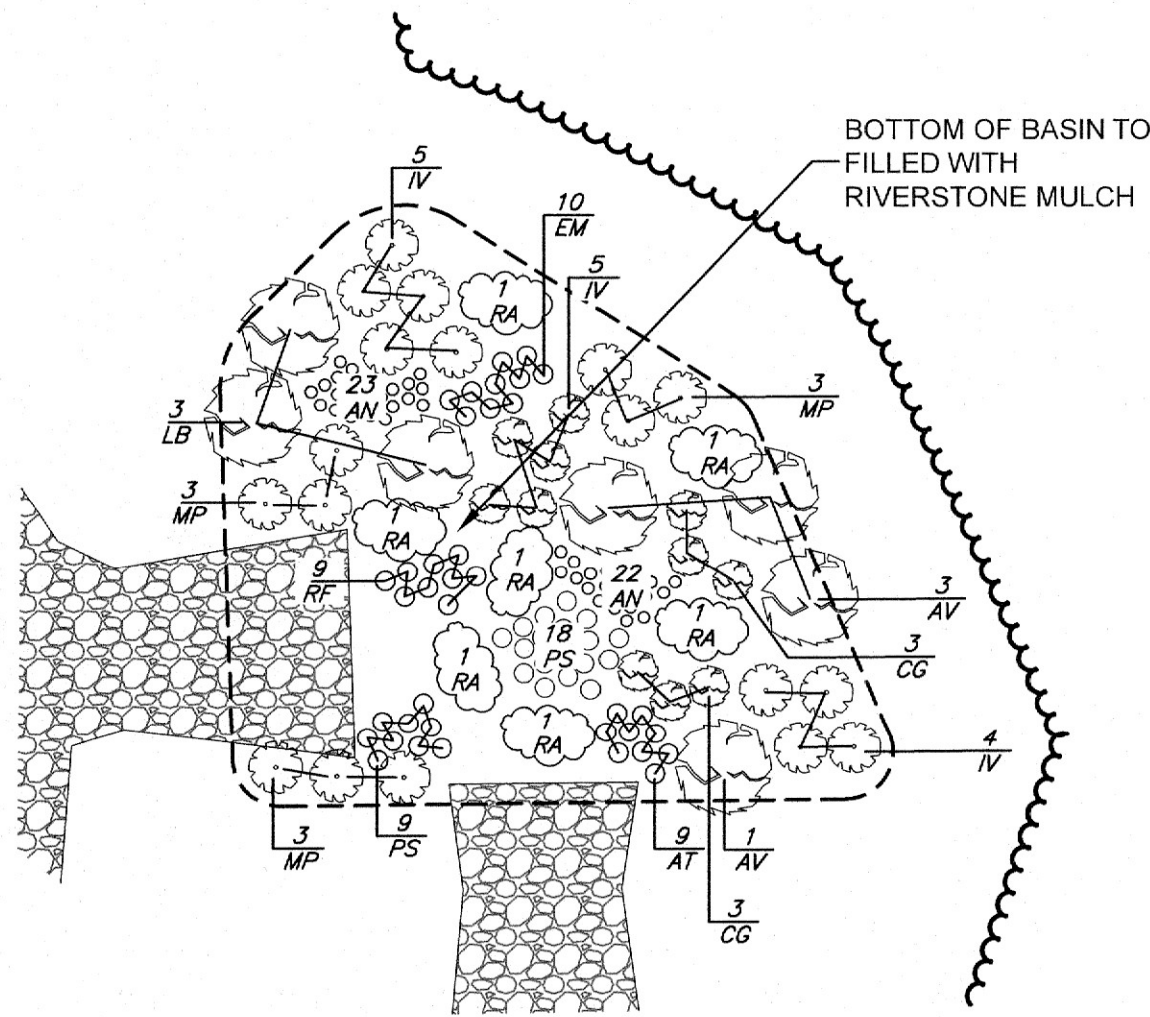
SYMBOL	QTY.	LATIN NAME	COMMON NAME	MATURE HEIGHT	PLANT SELECTION SIZE
DECIDUOUS & EVERGREEN TREES					
AG	1	ACER GINNALA 'FLAME'	FLAME AMUR MAPLE	15'-20' H&W	2" CAL.
AR	3	ACER RUBRUM 'SUN VALLEY'	SUN VALLEY MAPLE	30'-40'H X 20'-30'W	2" CAL.
CH	3	CEPHALOTAXUS HARRINGTONIA 'FASTIGIATED'	FASTIGIATE JAPANESE PLUM YEW	8'-10'H X 6'-8'W	#10 CONTAINER
GB	2	GINKGO BILOBA 'MAGYEAR'	MAGYEAR MAIDENHAIR TREE	30'-40'H X 20'-30'W	2" CAL.
SHRUBS					
KL	3	KALMIA LATIFOLIA 'CAROL'	CAROL MOUNTAIN LAUREL	5'-6' H&W	#6 CONTAINER
PO	3	PHYSCARPUS OPULIFOLIUS 'SUMMER WINE'	SUMMER WINE BLACK NINEBARK	5'-6' H&W	#3 CONTAINER
RA	2	RHUS AROMATICA 'GROW LOW'	GROW LOW SUMAC	12'-24"H X 6'-8'W	#5 CONTAINER
RL	3	RHODODENDRON 'LANDMARK'	LANDMARK RHODODENDRON	5'-6' H&W	#5 CONTAINER
ST	8	SYRINGA X TINKERBELLE	TINKERBELLE LILAC	5'-6' H&W	#3 CONTAINER
SM	12	SPIRAEA x MEDIA 'DOUBLE PLAY BLUE KAZOO'	DOUBLE PLAY BLUE KAZOO SPIRAEA	2'-3' H&W	#5 CONTAINER
PERENNIALS					
HA	5	HOSTA 'ABIQUA DRINKING GOURD'	ABIQUA DRINKING GOURD PLANTAIN LILY	18" H&W	#2 CONTAINER
LM	10	LIRIOPE MUSCARI 'BIG BLUE'	BIG BLUE LILYTURF	18" H&W	#1 CONTAINER
LS	16	LAMium 'SHELL PINK'	SHELL PINK DEAD NETTLE	8" H&W	#1 CONTAINER
MS	13	MISCANTHUS SINENSIS 'LITTLE KITTEN'	LITTLE KITTEN GRASS	24" H&W	#1 CONTAINER

LANDSCAPE NOTES

- PLANTS CAN BE FOUND AT MILLICAN NURSERIES IN CHICHESTER, NH.
- PLANT STOCK SHALL MEET THE AMERICAN NURSERY STANDARDS AND SHALL BE PLANTED IN ACCORDANCE WITH THEIR GUIDELINES AS WELL AS THE TOWN OF BEDFORD'S REGULATIONS.
- ANY CHANGES TO THE APPROVED PLANTING PLAN MUST BE APPROVED BY THE LANDSCAPE ARCHITECT IN WRITING.

BIO-RETENTION NOTES

- SOIL MIXTURE FOR BIO-RETENTION MUST BE OF THE HIGHEST QUALITY. DO NOT USE LEFTOVER SOIL TO FILL IN THE BIO-RETENTION PONDS. THE BIO-RETENTION AREA SHALL CONTAIN A PLANTING SOIL MIXTURE OF 50% SAND, 15% LEAF COMPOST (FULLY COMPOSTED NOT ROTTED LEAVES WITH 15% WOOD CHIPS), AND 20% SANDY LOAM. SANDY LOAM SHALL BE LOAMY SAND, OF UNIFORM COMPOSITION, CONTAINING NO MORE THAN 5% CLAY, FREE OF STONES, STUMPS, ROOTS OR SIMILAR OBJECTS GREATER THAN ONE INCH, BRUSH OR ANY OTHER MATERIAL OR SUBSTANCE WHICH MAY BE HARMFUL TO PLANT GROWTH, OR A HINDRANCE TO PLANT GROWTH AND MAINTENANCE. THE TOP SOIL SHALL BE FREE OF PLANTS OR PLANT PARTS OF BERMUDA GRASS, QUACK GRASS, JOHNSON GRASS, MUGWORT, NUTSEDGE, POISON IVY OR CANADIAN THISTLE. IT SHALL NOT CONTAIN TOXIC SUBSTANCES HARMFUL TO PLANT GROWTH.
- TOPSOIL SHALL MEET THE FOLLOWING CRITERIA:
pH RANGE: 5.0-7.0
ORGANIC MATTER: GREATER THAN 1.5
MAGNESIUM: 100+ UNITS
PHOSPHORUS: 150+ UNITS
POTASSIUM: 120+ UNITS
SOLUBLE SALTS: NOT TO EXCEED 900 PPM/0.9 MMHOS/CM (SOIL)
* 3,000 PPM/2.5 MMHOS/CM (ORGANIC MIX)
- DURING CONSTRUCTION DO NOT RUN HEAVY MACHINERY OVER BIO-RETENTION OR INFILTRATION SITES. COMPACTION WILL CAUSE THEM TO BECOME INEFFECTIVE. ONCE THE BOTTOM LEVEL OF BASIN IS EXCAVATED, TILL THE SOIL WITH A ROTARY TILLER TO RESTORE INFILTRATION RATES, FOLLOWED BY A PASS BY LEVELING DRAG.
- BASINS ARE DESIGNED TO HOLD A ONE INCH RAIN STORM AND OUTLET ANY LARGER STORMS.
- BIO-RETENTION BASINS SHALL BE CONSTRUCTED AFTER ALL SITE WORK IS COMPLETE. THEY SHALL BE STABILIZED BEFORE DIRECTING RUNOFF TO THEM.
- BIO-RETENTION SLOPES SHALL BE PROTECTED WITH JUTE MATTING.
- GROUNDCOVERS SHALL BE PLACED THEIR MATURE WIDTH APART ON CENTER SEE DETAIL ON DETAIL SHEETS.
- NO PLANT SUBSTITUTIONS MAY BE MADE FOR ANY BIORETENTION PLANTS WITHOUT WRITTEN PERMISSION FROM BEDFORD DESIGN CONSULTANTS, INC.
- RIVERSTONE MULCH ALL AREAS WITH EXPOSED SOIL UNTIL GROUNDCOVERS ARE ESTABLISHED.
- SEE DETAIL SHEETS FOR THE BIORETENTION DETAIL.

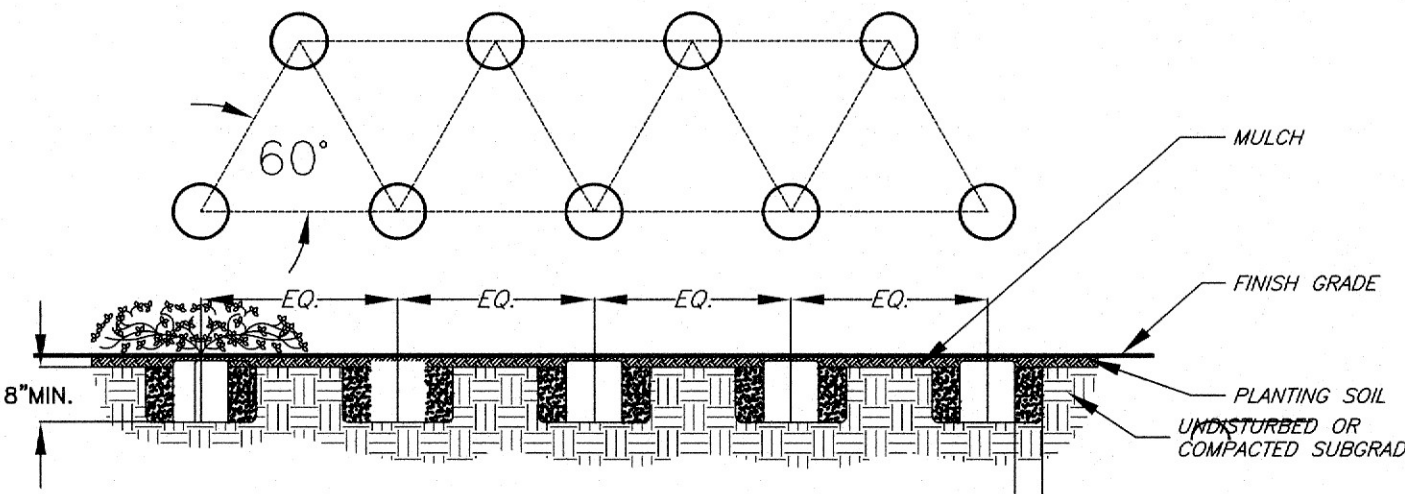
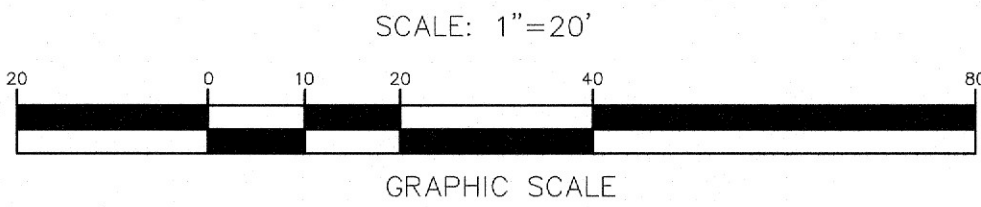


BIO-RETENTION PLAN

SCALE: 1" = 20'

BIO-RETENTION PLANT SCHEDULE

SYMBOL	QTY.	LATIN NAME	COMMON NAME	MATURE HEIGHT	PLANT SELECTION SIZE
SHRUBS					
AV	4	AZALEA VISCOSUM 'PINK MIST'	PINK SWAMP AZALEA	8'-10' H & 6'-8'W	#5 CONTAINER
CG	6	CLETHRA ALNIFOLIA 'HUMMINGBIRD'	HUMMINGBIRD SUMMERSWEET	3'-4' H&W	#5 CONTAINER
RA	10	RHUS AROMATICA 'GROW LOW'	GROW LOW SUMAC	18"-24"H & 6'-8'W	#5 CONTAINER
MP	9	MYRICA PENNSYLVANICA	NORTHERN BAYBERRY	6'-8' H&W	#5 CONTAINER
IV	14	ILEX VERTICILLATA 'JIM DANDY'	JIM DANDY WINTERBERRY	5'-6'H & 6'-8'W	#3 CONTAINER
LB	3	LINDERA BENZOIN	SPICEBUSH	8'-10' H&W	5'-6" B&B
PERENNIALS					
AN	45	SYMPHYOTRICHUM NOVAE-ANGLIAE	NEW ENGLAND ASTER	18" H&W	#1 CONTAINER
AT	9	ASCLEPIAS TUBEROSA	BUTTERFLY WEED	2' H	1 QUART
EM	10	EUROTORIUM 'LITTLE JOE'	LITTLE JOE JOE-PYE-WEED	3'-4' H	#2 CONTAINER
RF	9	RUDEBECKIA FULGIDA 'GOLDSTRUM'	BLACK EYED SUSAN	2' H	#2 CONTAINER
GRASSES					
PS	27	PANICUM VIRGATUM 'SHENANDOAH'	SHENANDOAH SWITCH GRASS	3'-4' H	#2 CONTAINER



TYPICAL GROUNDCOVER/PERENNIAL PLANTING DETAIL

NOT TO SCALE

NOTE:
SPACING SHALL BE THE PLANT'S MATURE WIDTH ON CENTER

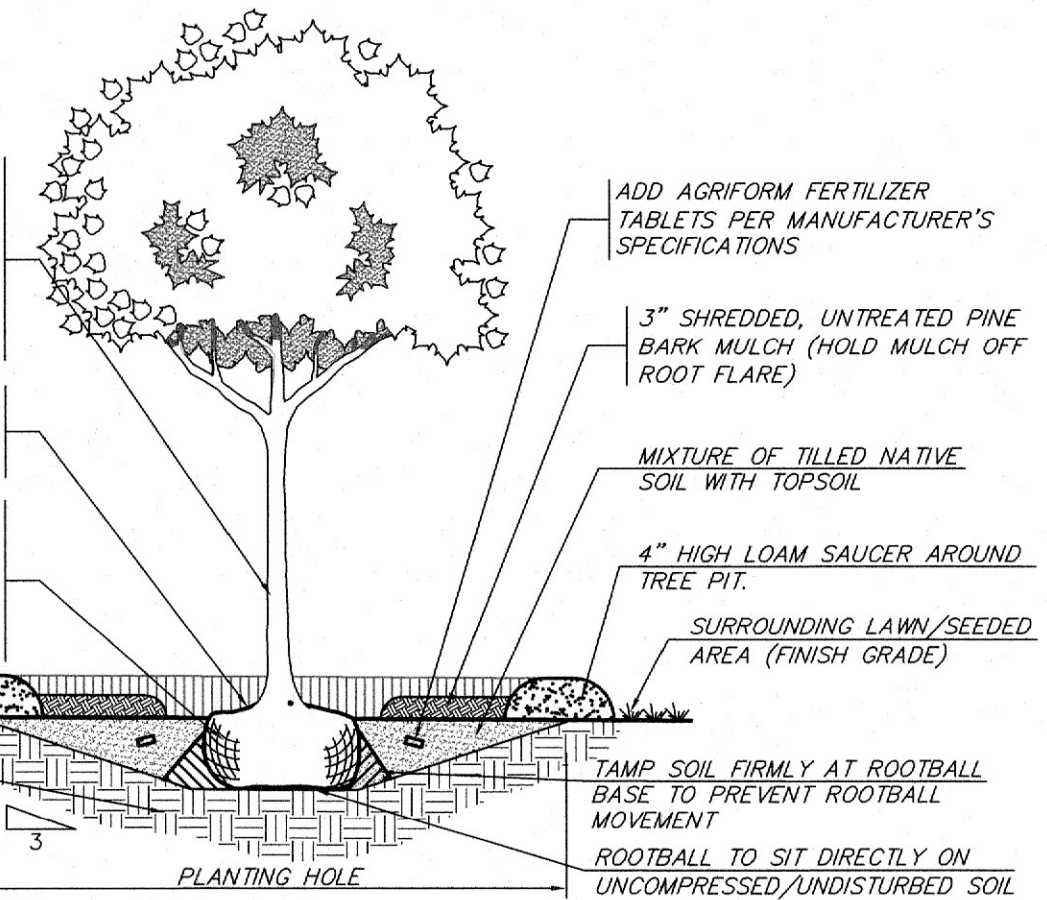


FOR ALL FALL PLANTING, WRAP WITH 3" WIDE BLACK SPUN BOND POLYPROPYLENE SPECIFICALLY MANUFACTURED FOR TREE WRAPPING AND TO RESIST INSECT INFESTATION. WRAP TRUNK TO 2ND LOWEST BRANCH. REMOVE WRAP DURING THE FOLLOWING SPRING SEASON.

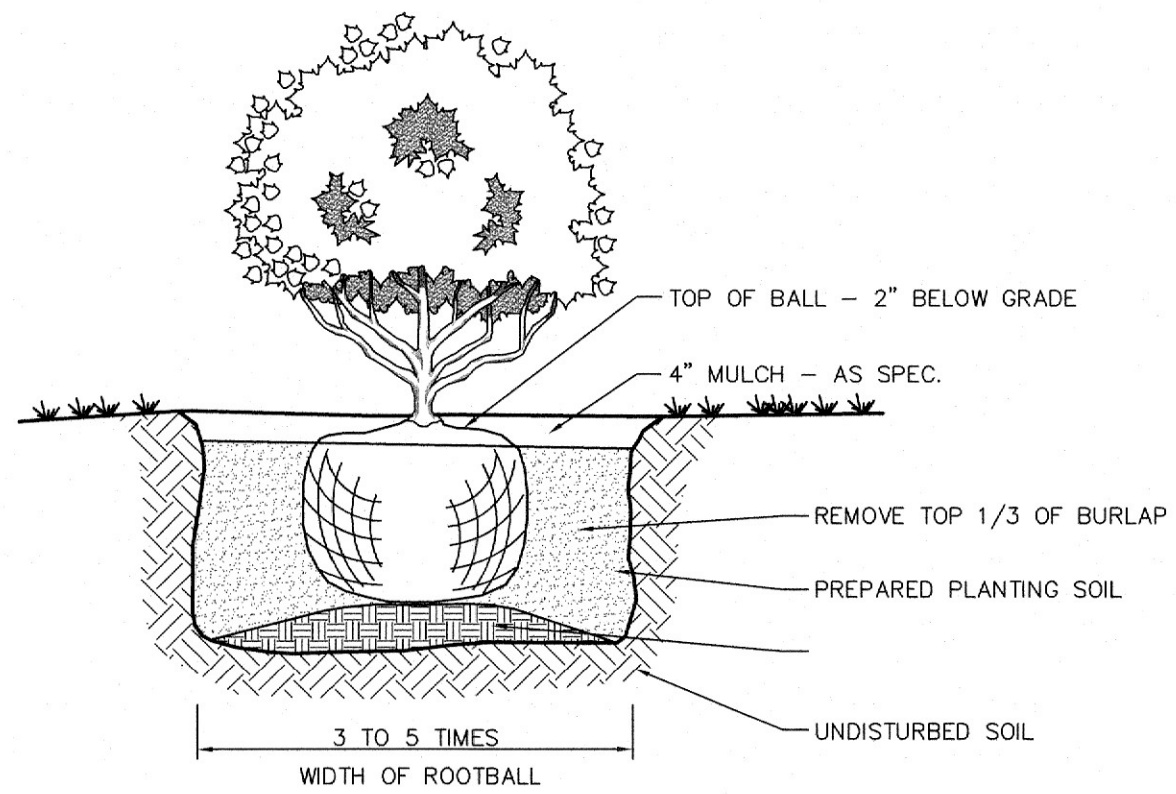
TREE SHALL BE PLANTED 2" ABOVE SURROUNDING GRADE. TREE SHALL BE PLUMB AFTER SETTLEMENT.

ROLL BURLAP BACK FROM TOP 1/3 OF ROOTBALL BEFORE BACKFILLING. UNTIE ROPE FROM TRUNK. REMOVE TOP 8-16" OF WIRE BASKET ONCE THE ROOTBALL IS STABLE IN THE PLANTING HOLE.

UNDISTURBED SUBGRADE



DECIDUOUS TREE PLANTING



SHRUB PLANTING DETAIL

NOT TO SCALE

TAX MAP 102 LOT 403-3

SITE & LANDSCAPE PLAN
DILLON SITE PLAN
LOCATED AT:

FRANKLIN, NEW HAMPSHIRE
PREPARED FOR:
DILLON'S CUSTOM CABINETRY
116 DUKES COUNTY AVE
OAK BLUFFS, MA 02557
PROPERTY OWNER:
DC REALTY, LLC
21 KENDRICK RD
FRANKLIN, NH 03235

SCALE: 1" = 20' NOVEMBER 15, 2022 SHEET 5 OF 12

DESIGN: KAW DRAWN: KAW CHECKED: RJB FB: ### PG: ### 1662-01

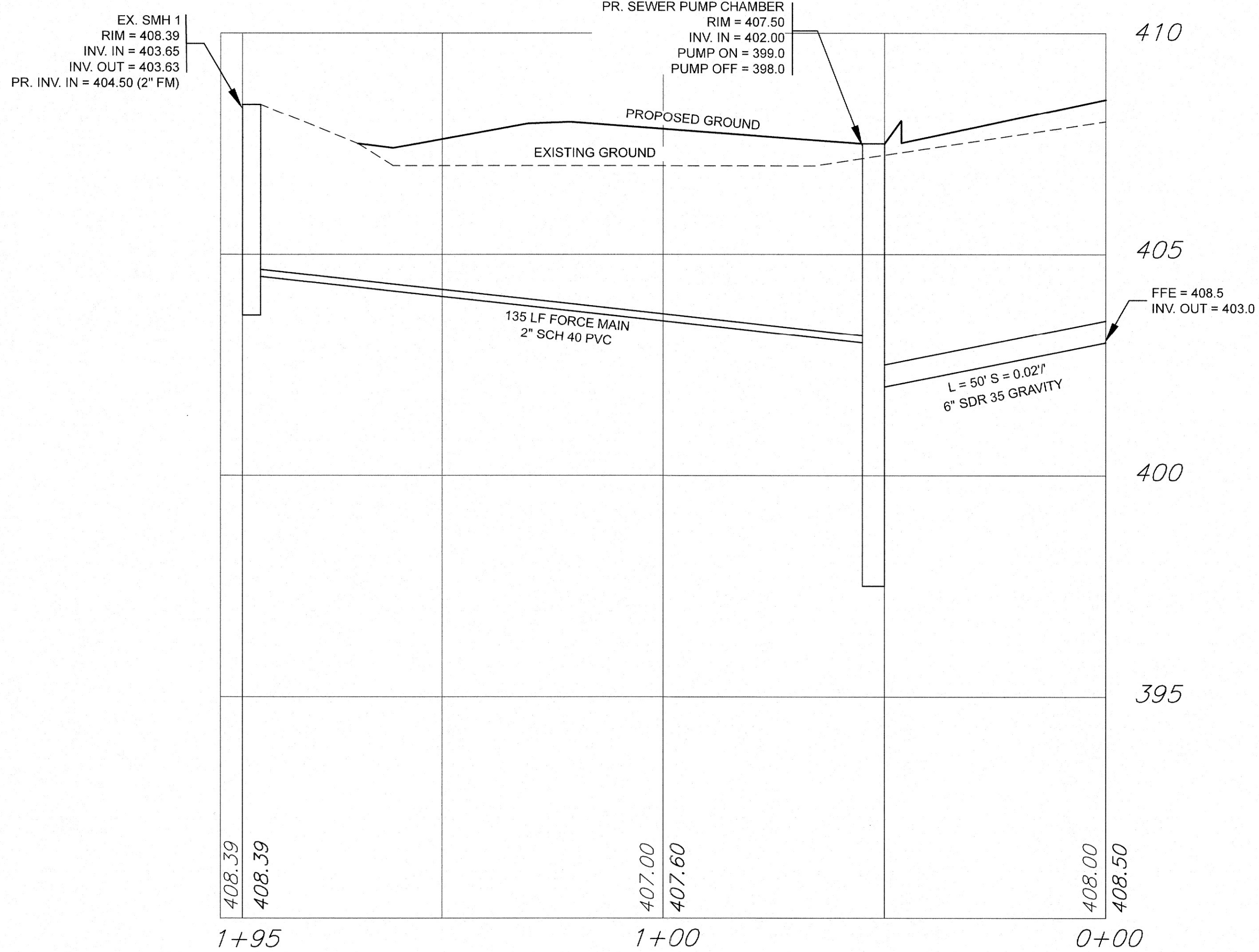
Bedford Design Consultants, Inc.
ENGINEERS AND SURVEYORS
592 Harvey Road, Manchester, NH 03103
Telephone: (603) 622-5533
www.bedforddesign.com



G:\PROJECT\1662001 DILLON\DWG\1662-01-CV.DWG

LEGEND

- 290 — PROPOSED CONTOUR
- 290 --- EXISTING CONTOUR
- 430.3 PROPOSED SPOT GRADE
- 282.6x EXISTING SPOT GRADE
- EDGE OF JURISDICTIONAL WETLANDS
- WETLAND SYMBOL
- WETLAND BUFFER
- PROPOSED TREE LINE
- EXISTING TREE LINE
- EXISTING ROADWAY
- PROPOSED BITUMINOUS CURBING
- PROPOSED DRIVEWAY
- 2+00 PROFILE STATION NUMBERS
- ABUTTING PROPERTY LINE
- PROPERTY LINE
- BUILDING SETBACK LINE
- UD PROPOSED UNDERDRAIN
- GAS PROPOSED GAS LINE
- GAS EXISTING GAS LINE
- W PROPOSED WATER LINE
- W EXISTING WATER LINE
- UGE PROPOSED UNDERGROUND ELECTRIC
- E EXISTING UNDERGROUND ELECTRIC
- S PROPOSED SEWER LINE
- S EXISTING SEWER LINE
- D PROPOSED DRAIN LINE
- D EXISTING DRAIN LINE
- OHW EXISTING OVERHEAD WIRES
- OHW PROPOSED OVERHEAD WIRES
- EXISTING CATCH BASIN
- EXISTING HYDRANT
- EXISTING UTILITY POLE
- EXISTING GUY WIRE
- EXISTING WATER SHUTOFF
- PROPOSED WATER SHUTOFF
- PROPOSED PROPANE TANK
- EXISTING GATE VALVE
- PROPOSED GATE VALVE
- EXISTING LIGHT POLE
- PROPOSED LIGHT POLE
- PROPOSED DECK
- SEWER MANHOLE
- DRAIN MANHOLE
- # OF PARKING SPACES
- PROPOSED BUILDING
- PROPOSED CONCRETE
- PROPOSED SILT FENCE
- TEST PIT

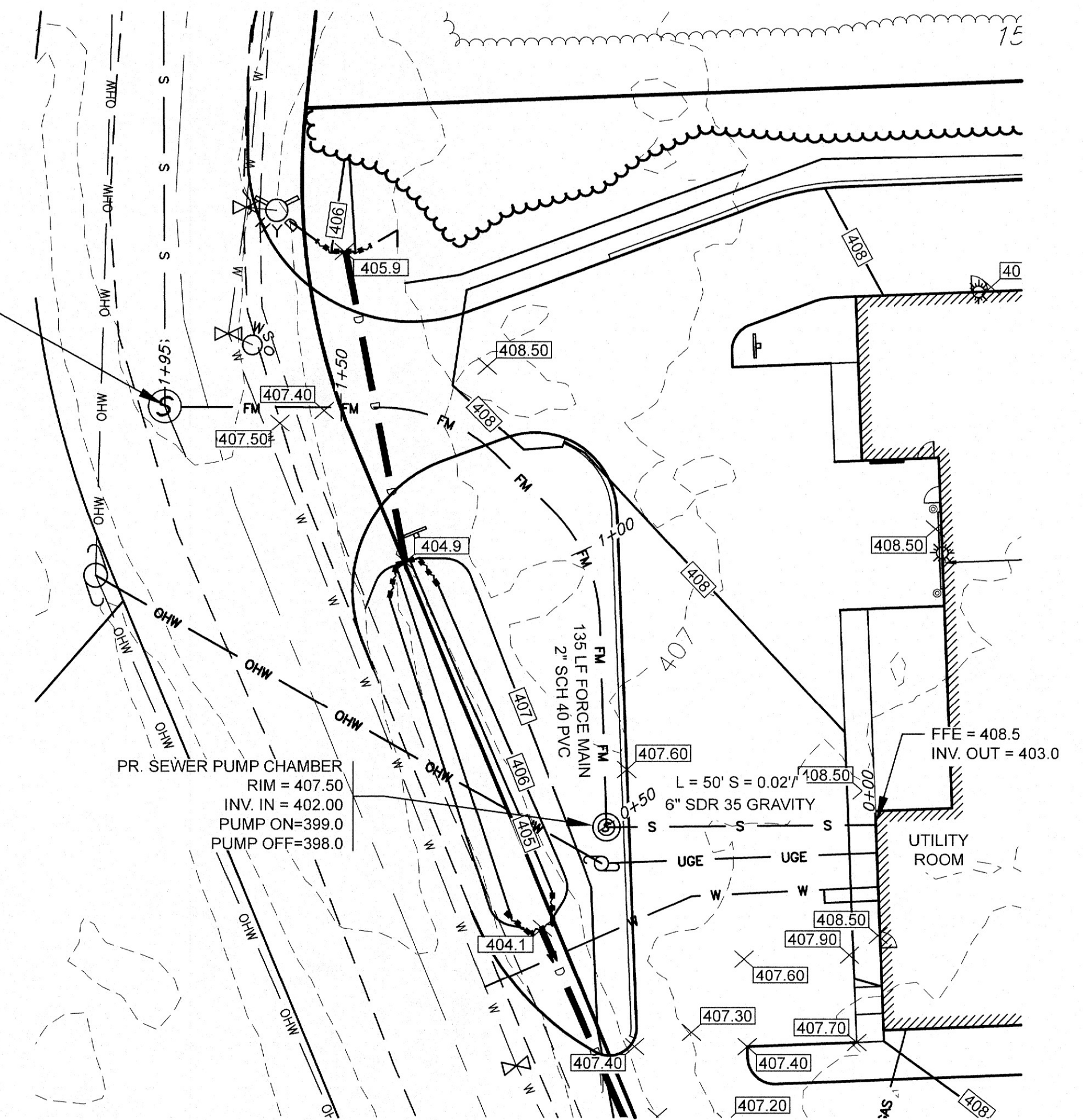


SEWER PROFILE

HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 2'

EX. SMH 1
RIM = 408.39
INV. IN = 403.65
INV. OUT = 403.63
PR. INV. IN = 404.50 (2" FM)

PLEASE SEE
DETAIL SHEET
FOR PUMP
STATION DETAIL

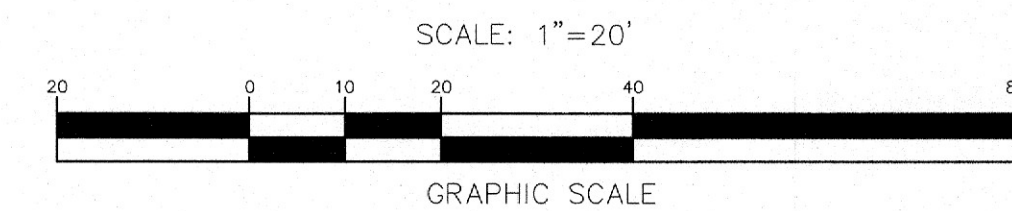
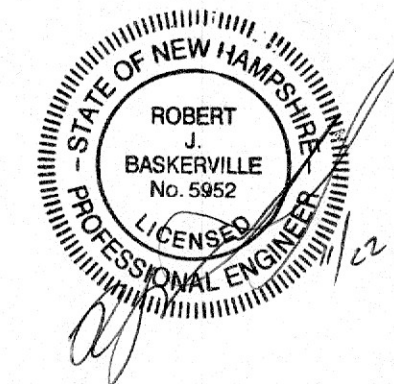


SEWER PLAN

SCALE: 1" = 20'

N

PLAN REF.
NUMBER



TAX MAP 102 LOT 403-3

SEWER PLAN & PROFILE DILLON SITE PLAN

LOCATED AT:

COMMERCE DRIVE
FRANKLIN, NEW HAMPSHIRE

PREPARED FOR:
DILLON'S CUSTOM CABINETRY
116 DUKES COUNTY AVE
OAK BLUFFS, MA 02557

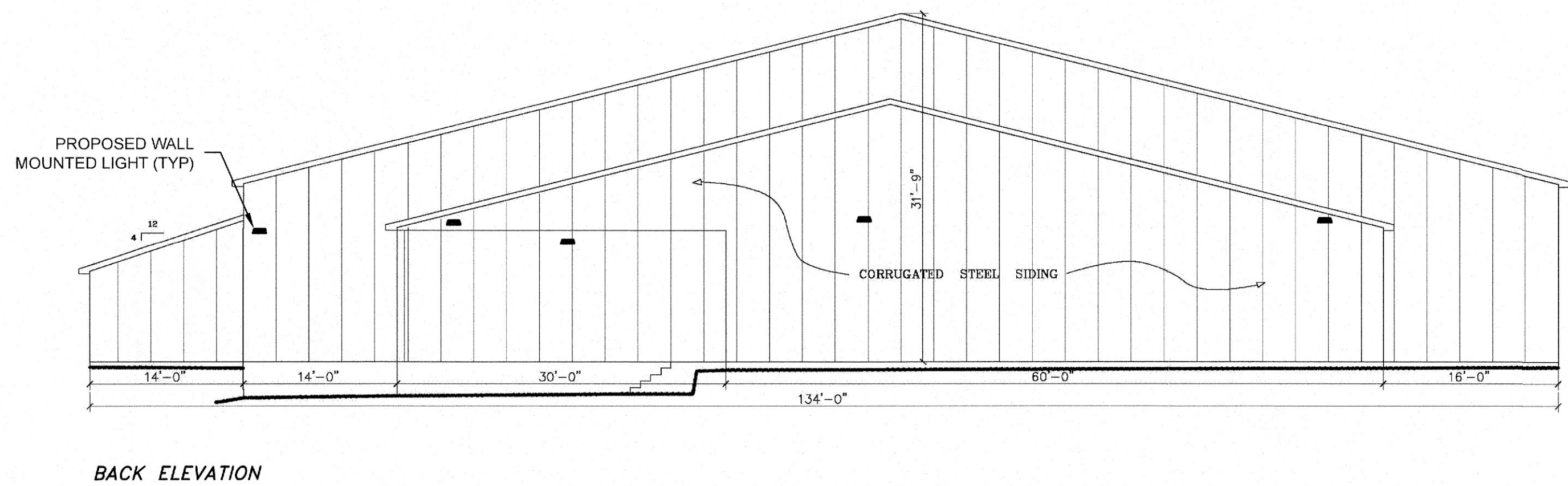
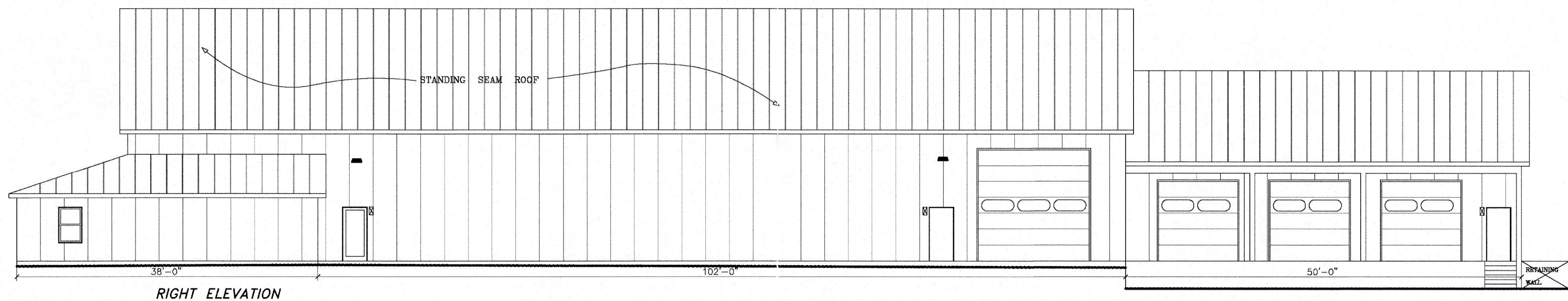
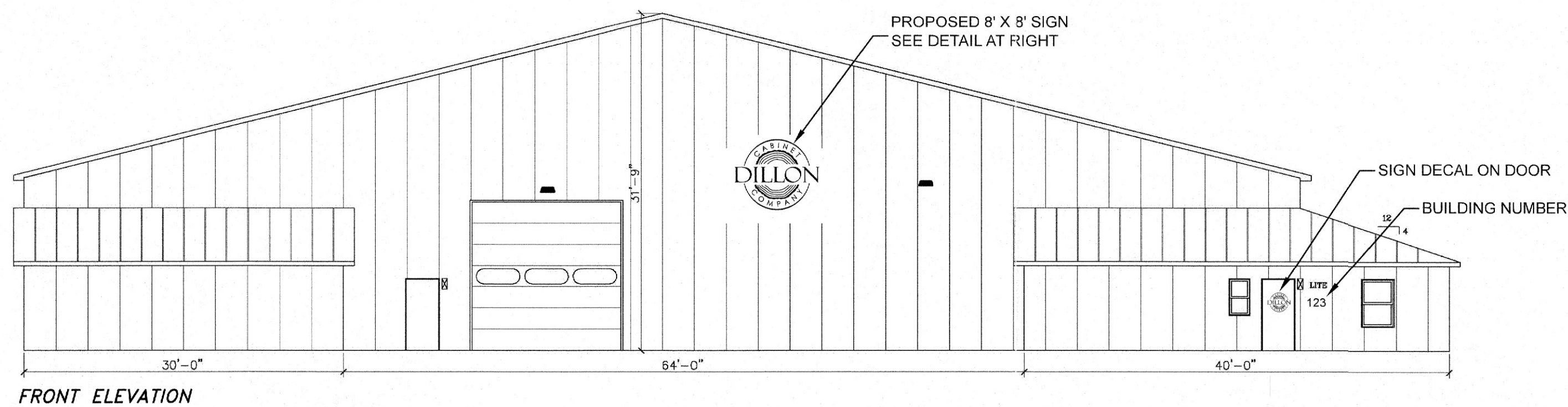
PROPERTY OWNER:
DC REALTY, LLC
21 KENDRICK RD
FRANKLIN, NH 03235

SCALE: 1" = 20' NOVEMBER 15, 2022 SHEET 6 OF 12

DESIGN: KAW	DRAWN: KAW	CHECKED: RJB	FB: ###	PG: ###	1662-01
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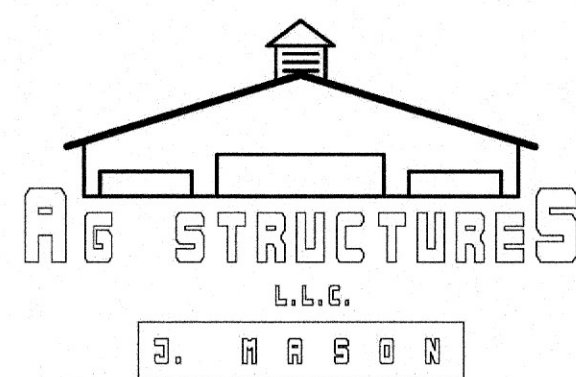




PROPOSED SIGN

SIGN NOTES

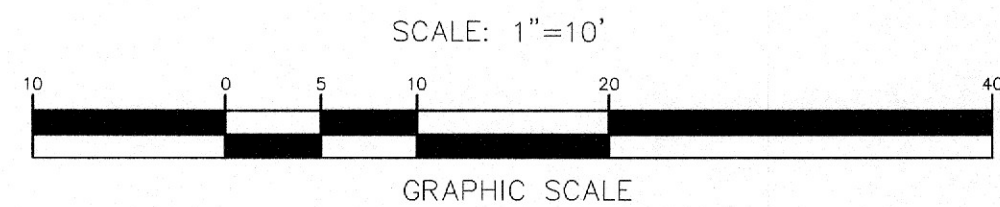
1. THE PROPOSED SIGN SHALL BE 8' X 8' FOR A TOTAL OF 64 S.F.
2. INDUSTRIAL ZONE SIGN REQUIREMENTS:
2 S.F. PER 1 LF OF PRINCIPAL STRUCTURE = 2 S.F. X 134' LF = 268 S.F. ALLOWED
= 64 S.F. PROPOSED



96 OLD TURNPIKE RD.
SALISBURY, N.H.
603-648-2888
WWW.AGSTRUCTURES.COM

DILLIONS CREATIONS

THESE PLANS ARE THE PROPERTY OF AG STRUCTURES, LLC
AND SHALL NOT BE REPRODUCED OR DUPLICATED BY ANY FORMAT.
USE IS LIMITED TO THE CONDITIONS PROVIDED BY WRITTEN CONTRACT ONLY.



DATE	DESCRIPTION	BY	REV.

TAX MAP 102 LOT 403-3

ARCHITECTURAL PLAN
DILLON SITE PLAN

LOCATED AT:

COMMERCE DRIVE
FRANKLIN, NEW HAMPSHIRE

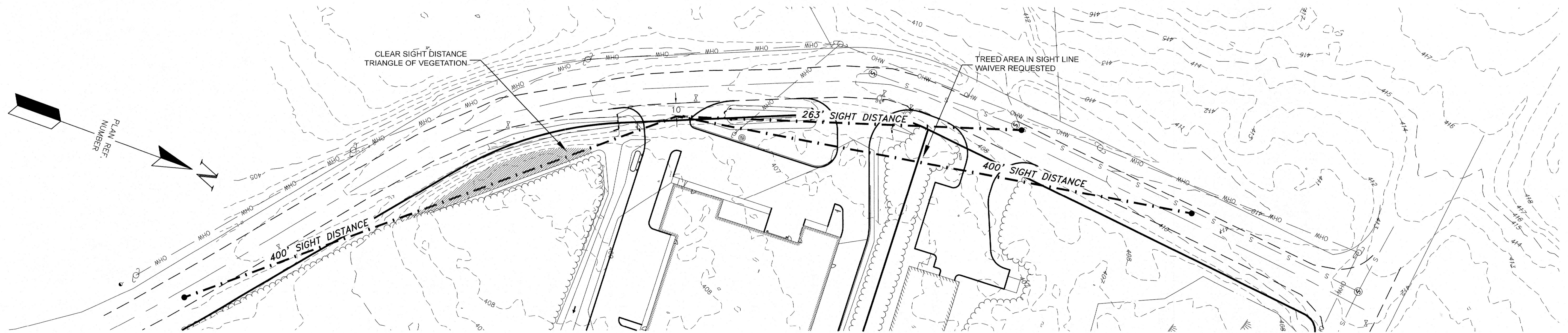
PREPARED FOR:
DILLON'S CUSTOM CABINETRY
116 DUKES COUNTY AVE
OAK BLUFFS, MA 02557

PROPERTY OWNER:
DC REALTY, LLC
21 KENDRICK RD
FRANKLIN, NH 03235

SCALE: 1" = 10'	NOVEMBER 15, 2022	SHEET 7 OF 12
DESIGN: KAW	DRAWN: KAW	CHECKED: RJB

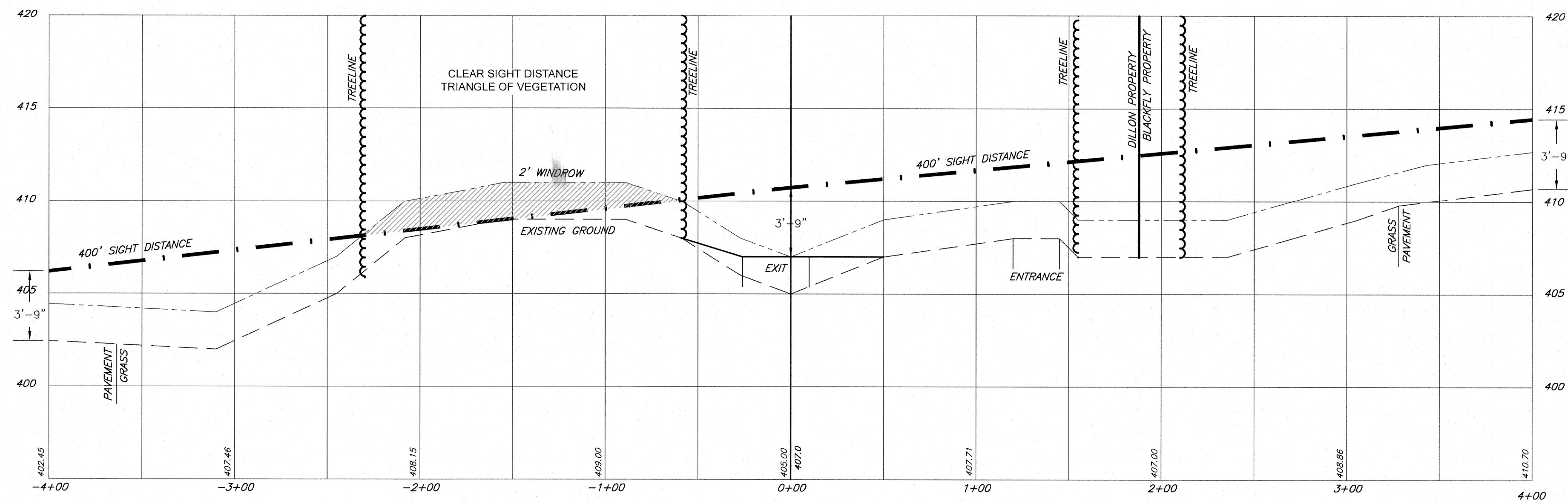
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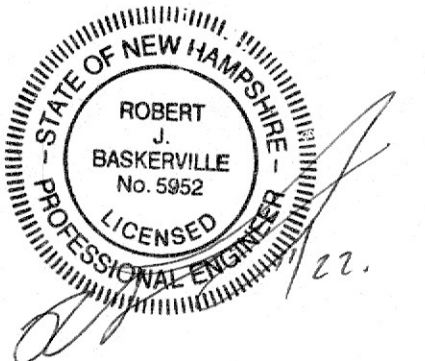
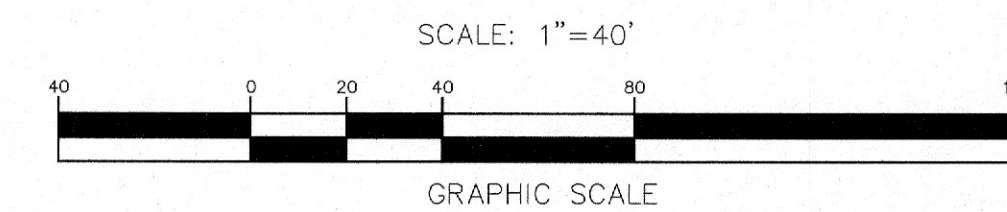
SIGHT DISTANCE PLAN

SCALE: 1" = 40'



SIGHT DISTANCE PROFILE

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'



TAX MAP 102 LOT 403-3

**SIGHT DISTANCE PLAN
DILLON SITE PLAN**

LOCATED AT:
**COMMERCE DRIVE
FRANKLIN, NEW HAMPSHIRE**
PREPARED FOR: **DILLON'S CUSTOM CABINETRY**
116 DUKES COUNTY AVE
OAK BLUFFS, MA 02557
PROPERTY OWNER: **DC REALTY, LLC**
21 KENDRICK RD
FRANKLIN, NH 03235

SCALE: 1" = 40' NOVEMBER 15, 2022 SHEET 8 OF 12
DESIGN: KAW DRAWN: KAW CHECKED: RJB FB: ### PG: ### 1662-01

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DATE	DESCRIPTION	BY	REV.



GENERAL CONSTRUCTION NOTES:

1. BOTH THE CONTRACTOR AND OWNER NEED TO SUBMIT A SEPARATE "NOTICE OF INTENT" TO BE COVERED BY THE N.H.D.E.S. GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES.
2. A MANDATORY PRECONSTRUCTION MEETING SHALL BE HELD WITH THE TOWN, CONTRACTOR, OWNER, AND ALL UTILITY REPRESENTATIVES PRIOR TO CONSTRUCTION. NO WORK SHALL BEGIN UNTIL APPROVAL BY THE TOWN HAS BEEN OBTAINED.
3. ALL CONSTRUCTION MATERIALS AND METHODS OF CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE APPROPRIATE SECTION OF THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS (LATEST EDITION) AND LOCAL REGULATIONS.
4. ANY SUBSTITUTIONS OF MATERIALS SHALL BE APPROVED BY THE ENGINEER IN WRITING.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED LOCAL AND STATE CONSTRUCTION PERMITS PRIOR TO BEGINNING WORK.
6. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES BETWEEN THESE DRAWINGS AND ACTUAL FIELD CONDITIONS PRIOR TO BEGINNING CONSTRUCTION.
7. SHOULD GROUND WATER OR UNSUITABLE MATERIALS BE ENCOUNTERED DURING CONSTRUCTION, THE ENGINEER SHALL BE CONTACTED IMMEDIATELY FOR DETERMINATION OF POSSIBLE CONSTRUCTION DESIGN CHANGES SUCH AS (BUT NOT LIMITED TO) UNDERDRAINS OR ALIGNMENT AND GRADE CHANGES.
8. CLEARING THE SITE SHALL INCLUDE THE REMOVAL AND DISPOSAL OF DOWN TIMBER, RUBBISH AND DEBRIS FOUND EXISTING WITHIN THE AREAS TO BE CLEARED. CLEARING SHALL NOT TAKE PLACE UNTIL THE CONTRACTOR HAS DETERMINED FROM THE OWNER WHICH TREES ARE TO BE SAVED WITHIN THE CLEARING LIMITS.
9. PAVEMENT OF THE DRIVEWAY SHALL CONSIST OF A HOT BITUMINOUS LAYER, A CRUSHED GRAVEL LAYER AND A GRAVEL SUBBASE LAYER.
- A. BITUMINOUS TYPE F WEARING AND TYPE B BASE COURSES SHALL BE CONSTRUCTED PER N.H.D.O.T. SPECIFICATION 401 CONSTRUCTION REQUIREMENTS.
- B. GRAVEL SHALL MEET THE REQUIREMENTS OF N.H.D.O.T. 304.2.
- C. THE CRUSHED GRAVEL SHALL MEET THE REQUIREMENTS OF N.H.D.O.T. 304.3.
- D. REFER TO THE TYPICAL CROSS SECTION DETAIL FOR DIMENSIONS.
9. COMPACTION OF BACKFILL:
- A. GRASSED AREAS: EMBANKMENT FILL AREAS SHALL CONSIST OF COMMON FILL PLACED IN 12 INCH LIFTS AND COMPACTED TO 90%.
- B. ROADWAYS: THE COMPACTION REQUIREMENTS FOR MATERIALS PLACED AS BACKFILL, SUBGRADE, BASE COURSE AND PAVEMENT SHALL BE AS SPECIFIED FOR EACH SEPARATE ITEM IN THE N.H.D.O.T. "STANDARD SPECIFICATIONS" FOR ROAD AND BRIDGE CONSTRUCTION.
10. CATCH BASINS AND MANHOLES SHALL BE PRE-CAST REINFORCED CONCRETE DESIGNED BY AN ENGINEER REGISTERED IN THE STATE OF NEW HAMPSHIRE AND ABLE TO WITHSTAND LOADINGS OF 8 TONS (H=20 LOADING).
11. TRENCH CONSTRUCTION WILL CONFORM WITH SECTION 603.3.1. OF THE N.H.D.O.T. STANDARD SPECIFICATIONS (LATEST EDITION).
12. 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 ONE FOOT FROM THE OUTSIDE DIAMETER OF THE PIPE TO A DEPTH SIX INCHES BELOW THE INVERT OF THE PIPE. WOOD SHEETING SHALL BE CUT OFF AND LEFT IN PLACE TO AN ELEVATION NOT LESS THAN ONE FOOT ABOVE THE TOP OF THE PIPE, BUT NOT GREATER THAN THREE FEET BELOW THE FINISHED GRADE.
13. TRENCH BEDDING SHALL CONFORM WITH SECTION 603.3.2. OF THE STANDARD SPECIFICATIONS (LATEST EDITION). FIRST CLASS BEDDING WILL BE REQUIRED FOR ALL PIPES 48" OR MORE IN DIAMETER OR SPAN.
14. BACKFILL MATERIAL FOR TRENCHES WILL CONFORM WITH SECTION 603.3.5. OF THE STANDARD SPECIFICATIONS (LATEST EDITION) AND IN ADDITION, SHALL EXCLUDE DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTE, TOP SOIL, ALL WET OR SOFT MUCK, PEAT OR CLAY, ALL EXCAVATED LEDGE MATERIAL, ALL ROCKS OVER SIX 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 MATERIAL.
15. COMPACTION OF TRENCH BACKFILL AND PIPE BEDDING SHALL BE SIX INCH LIFTS FOR BEDDING AND BACKFILL TO A PLANE ONE FOOT ABOVE THE PIPE AND IN 12 INCH LIFTS THEREAFTER BY AN APPROVED MECHANICAL COMPACTOR.
16. SHOULD FROZEN MATERIAL BE ENCOUNTERED, IT SHALL NOT BE PLACED IN THE BACKFILL NOR SHALL BACKFILL BE PLACED UPON FROZEN MATERIAL.
17. THE DISTURBED AREA SHALL BE KEPT TO A MINIMUM. DISTURBED AREAS REMAINING IDLE FOR MORE THAN 30 DAYS SHALL BE STABILIZED.
18. ALL SEEDED AREAS SHALL BE MULCHED WITHIN 24 HOURS AFTER SEEDING. A GOOD QUALITY OF STRAW MULCH SHOULD BE USED AND APPLIED AT THE RATE OF 2 TONS PER ACRE.
19. BASIN FLOORS IN THE INFILTRATION BASINS ARE TO BE DEEPLY TILLED TO RESTORE INFILTRATION RATES, FOLLOWED BY A PASS WITH A LEVELING DRAG PRIOR TO FINAL SEEDING. STORMWATER FLOWS SHALL NOT BE DIRECTED TO THE INFILTRATION BASINS, SWALES, OR DITCHES UNTIL ALL CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.
20. ALL SLOPES GREATER THAN 3:1 MUST BE MATTED WITH NORTH AMERICAN GREEN S150BN EROSION CONTROL BLANKETING.
21. THE PROJECT SHALL BE MANAGED TO MEET THE REQUIREMENTS OF AND INTENT OF RSA 430:51-57 AND Agr 3800 RELATIVE TO INVASIVE SPECIES; AND FUGITIVE DUST IS TO BE CONTROLLED IN ACCORDANCE WITH Env-v 1000.
22. THE CITY OF FRANKLIN RESERVES THE RIGHT TO REQUIRE THAT ADDITIONAL EROSION CONTROL MEASURES BE INSTALLED DURING CONSTRUCTION BASED ON FIELD OBSERVATIONS/INSPECTIONS.

FUELING AND MAINTENANCE OF CONSTRUCTION EQUIPMENT

- A. IF ANY CONSTRUCTION EQUIPMENT, INCLUDING BUT NOT LIMITED TO EARTHMOVING, EXCAVATION, AND BORING EQUIPMENT, WILL BE FUELED FROM A TANK TRUCK OR OTHER CONTAINER THAT IS MOVED AROUND THE SITE, THE FOLLOWING SHALL APPLY:
1. PORTABLE CONTAINMENT EQUIPMENT THAT IS SIZED TO CONTAIN THE MOST LIKELY VOLUME OF FUEL TO BE SPILLED DURING A FUEL TRANSFER SHALL BE USED WHERE THE MOST LIKELY VOLUME TO BE SPILLED IS DETERMINED BASED ON THE FUEL TRANSFER RATE, THE AMOUNT OF FUEL BEING TRANSFERRED, THE DISTANCE BETWEEN THE HOSE NOZZLE AND PUMP SHUT OFF SWITCH, AND THE RESPONSE TIME OF PERSONNEL AND EQUIPMENT AVAILABLE AT THE FACILITY.
2. THE CONTAINMENT EQUIPMENT SHALL BE POSITIONED TO CATCH ANY FUEL SPILLS DUE TO OVERRILLING THE EQUIPMENT AND ANY OTHER SPILLS THAT MIGHT OCCUR AT OR NEAR THE FUEL FILLER PORT TO THAT EQUIPMENT.
3. THE TYPE OF CONTAINMENT EQUIPMENT USED AND ITS POSITIONING AND USE SHALL ACCOUNT FOR ALL OF THE DRIP POINTS ASSOCIATED WITH THE FUEL FILLING PORT AND THE HOSE FROM THE FUEL DELIVERY TRUCK; AND
4. PERSONNEL SHALL NOT LEAVE THE IMMEDIATE AREA WHILE FUEL IS BEING TRANSFERRED, TO ENSURE THAT ANY SPILLS WILL BE OF LIMITED VOLUME.
- B. IF THE SITE WILL HAVE A FIXED LOCATION FOR FUELING CONSTRUCTION EQUIPMENT, THE FOLLOWING SHALL APPLY:
1. ALL FUEL CONTAINERS, INCLUDING BUT NOT LIMITED TO SKID-MOUNTED TANKS, DRUMS, AND FIVE GALLON CANS, SHALL HAVE SECONDARY CONTAINMENT THAT:
- a. IS CAPABLE OF CONTAINING 110% OF THE VOLUME OF THE LARGEST FUEL STORAGE CONTAINER; AND
- b. HAS AN IMPERVIOUS FLOOR;
2. SECONDARY CONTAINMENT FOR TANKS MAY COMPRISE A METAL, PLASTIC, POLYMER OR PRECAST CONCRETE VAULT PROVIDING 110 PERCENT OF THE VOLUME OF THE LARGEST FUEL STORAGE CONTAINER;
3. FOR FUEL CONTAINERS, SECONDARY CONTAINMENT MAY COMPRISE CONTAINMENT PALLETS;
4. THE AREA WHERE FUEL IS TRANSFERRED SHALL BE A FLAT, IMPERVIOUS AREA THAT:
- a. IS ADJACENT TO THE FUEL CONTAINER(S); AND
- b. EXTENDS BEYOND THE FULL REACH, OR LENGTH, OF THE FUEL HOSE; AND
5. SECONDARY CONTAINMENT AREAS MAY BE IN THE FORM OF A BASIN THAT IS:
- a. SLOPED DOWN TO A CENTRAL LOW POINT OR BERMED ALONG THE PERIMETER;
- b. LINED WITH A CONTINUOUS SHEET OF 20 MIL OR THICKER POLYMER MATERIAL OR APPROPRIATE GEOMEMBRANE LINER; AND
- c. BACKFILLED WITH AT LEAST 6 INCHES OF SAND

CONSTRUCTION SEQUENCE:

1. A MANDATORY PRECONSTRUCTION MEETING SHALL BE HELD WITH THE TOWN, CONTRACTOR, OWNER, AND ALL UTILITY REPRESENTATIVES PRIOR TO CONSTRUCTION. NO WORK SHALL BEGIN UNTIL APPROVAL BY THE HIGHWAY DEPARTMENT HAS BEEN OBTAINED.
2. CLEAR AREA FOR CONSTRUCTION ENTRANCE AND INSTALL STABILIZED CONSTRUCTION ENTRANCES AS SHOWN ON THESE PLANS.
3. CUT AND CLEAR TREES IN CONSTRUCTION AREAS ONLY.
4. INSTALL EROSION CONTROL MIX BERM
5. REMOVE STUMPS FROM SITE FOR SITE GRADING (CUT AND/OR FILL) TO SUBGRADE. STABILIZE AREAS WITH BASE GRAVEL WITHIN SIX WEEKS OF REMOVING STUMPS.
6. THE MAXIMUM UNSTABILIZED AREA SHALL BE LIMITED TO THE MINIMUM AREA PRACTICABLE FOR SITE CONSTRUCTION. A WAIVER HAS BEEN REQUESTED FROM ENV-WQ 1506.03 TO DISTURB GREATER THAN 5 ACRES OF LAND AT ONE TIME. SEE EROSION CONTROL NOTES FOR MORE INFORMATION. NO AREA SHALL BE LEFT UNSTABILIZED MORE THAN 6 WEEKS. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS HAPPENED:
- A. BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
- B. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
- C. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP-RAP HAS BEEN INSTALLED; OR
- D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
7. CONSTRUCT TEMPORARY AND PERMANENT SEDIMENT, EROSION AND DETENTION CONTROL FACILITIES AS PER THE NOTES IN THESE DRAWINGS. EROSION, SEDIMENT, AND DETENTION MEASURES SHALL BE INSTALLED PRIOR TO ANY EARTH MOVING OPERATION.
- A. SILT FENCE:
- B. RIP RAP LINED SWALES
- C. RIP RAP APRONS AT CULVERT OUTLETS
- D. TREATMENT SWALES
- E. DETENTION PONDS
8. ALL DITCHES/SWALES/BASINS SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
9. IF, DURING CONSTRUCTION, IT BECOMES APPARENT THAT ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES ARE REQUIRED TO STOP OR REDUCE EROSION AND SEDIMENTATION, THE CONTRACTOR SHALL BE RESPONSIBLE TO INSTALL THE NECESSARY EROSION AND SEDIMENT CONTROL MEASURES.
10. BASIN FLOORS IN THE INFILTRATION BASINS ARE TO BE DEEPLY TILLED TO RESTORE INFILTRATION RATES, FOLLOWED BY A PASS WITH A LEVELING DRAG PRIOR TO FINAL SEEDING. STORMWATER FLOWS SHALL NOT BE DIRECTED TO THE INFILTRATION BASINS, SWALES, OR DITCHES UNTIL ALL CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.
11. FINISH CLEARING AND GRUBBING.
12. CONSTRUCT TEMPORARY CULVERTS AND DRAINAGE CHANNELS, AS NECESSARY.
13. CONSTRUCT CONSTRUCTION ENTRANCE FOR ACCESS TO DESIRED CONSTRUCTION AREAS.
14. BEGIN CONSTRUCTION OF UTILITIES AND STORM DRAINAGE AS NECESSARY.
15. MODIFY EROSION CONTROL MEASURES.
16. BEGIN PERMANENT AND TEMPORARY INSTALLATION OF SEED AND MULCH. ALL CUT AND FILL SLOPES SHALL BE STABILIZED.
17. DAILY, OR AS REQUIRED, CONSTRUCT TEMPORARY BERMS, DRAIN DITCHES, SILT FENCES, SEDIMENT TRAPS, ETC., MULCH AND SEED AS NECESSARY.
18. PAVE ALL PARKING AREAS AS SPECIFIED ON THE PLAN.
19. INSPECT AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION. ALL EROSION AND SEDIMENT CONTROLS NEED TO BE INSPECTED WEEKLY AND AFTER EVERY 0.5" OF RAINFALL.
20. COMPLETE PERMANENT SEEDING AND LANDSCAPING.
21. ALL DISTURBED AREAS SHALL BE PERMANENTLY STABILIZED WITHIN 72 HOURS OF FINISH GRADING. MAXIMUM EXPOSURE LENGTH FOR ALL DISTURBED AREAS IS 30 DAYS.
22. REMOVE TEMPORARY EROSION CONTROL MEASURES AFTER SEEDED AREAS HAVE ESTABLISHED THEMSELVES AND SITE IMPROVEMENTS ARE COMPLETED.

SITE MAINTENANCE AND INSPECTION PROGRAM

A. INSPECTIONS

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF ALL TEMPORARY AND PERMANENT EROSION CONTROL MEASURES THROUGHOUT THE DURATION OF THE CONSTRUCTION PROJECT. MAINTENANCE PRACTICES SHALL INCLUDE, BUT ARE NOT LIMITED TO

1. CLEANING OF CATCH BASINS TWICE PER YEAR OR MORE FREQUENTLY AS DICTATED BY WEEKLY INSPECTIONS AND/OR AFTER 0.5" RAINFALL EVENTS.
2. CLEANING OF SEDIMENT OR DEBRIS FROM STORM WATER MANAGEMENT AREA INLETS TWICE PER YEAR OR MORE FREQUENTLY AS DICTATED BY WEEKLY INSPECTIONS AND/OR AFTER 0.5" RAINFALL EVENTS.
3. WEEKLY SITE INSPECTIONS TO DETERMINE/IMPLEMENT NECESSARY REPAIR AND MAINTENANCE ACTIVITIES.
4. REMOVAL OF SEDIMENT BUILDUP ALONG SILT FENCES, STRAW BALE BARRIERS, GRASS SWALES, AND TREATMENT BASIN INLETS. REMOVE SEDIMENT BUILDUP IN BOTTOM OF TREATMENT BASINS SUCH THAT ALL OUTLETS ARE KEPT FREE FROM SEDIMENT AND DEBRIS.
5. INSPECTION/RECONSTRUCTION OF THE STABILIZED CONSTRUCTION ENTRANCE.
6. TREATMENT OF NON-POINT SOURCE DISCHARGES SUCH AS WATER LINE INSTALLATION FLUSH WATER OR GROUNDWATER FROM DEWATERING ACTIVITIES. THESE FLOWS SHOULD BE DIRECTED TO A TEMPORARY SEDIMENTATION BASIN OR CONSTRUCTED STORM WATER MANAGEMENT AREA WITH WATER QUALITY SKIMMER OUTLETS.
7. SWEEP PAVED PARKING LOTS AND DRIVES REGULARLY TO MINIMIZE SEDIMENT ACCUMULATION.

B. GOOD HOUSEKEEPING PRACTICES

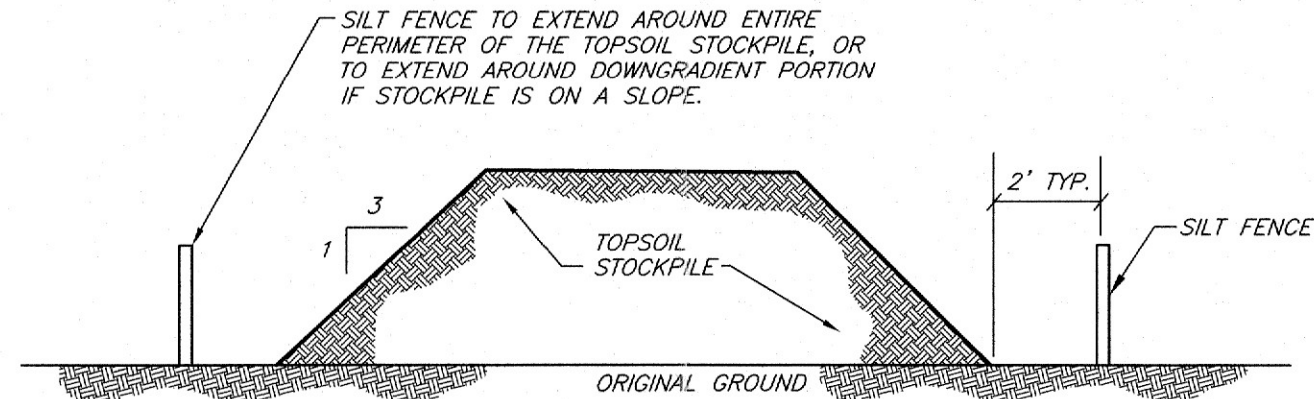
THE CONTRACTOR SHALL EMPLOY MEASURES AND PRACTICES TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS TO STORM WATER RUNOFF. THE CONTRACTOR SHALL USE CARE IN THE HANDLING, USE AND DISPOSAL OF MATERIALS SUCH AS PETROLEUM PRODUCTS, FERTILIZERS AND PAINTS TO ENSURE THAT THE RISK ASSOCIATED WITH THE USE OF THESE PRODUCTS IS MINIMIZED. THE FOLLOWING PRACTICES SHALL BE FOLLOWED DURING THE CONSTRUCTION OF THIS PROJECT.

1. AN EFFORT SHALL BE MADE TO STORE ONLY ENOUGH PRODUCT REQUIRED FOR THIS SPECIFIC SITE.
2. ALL MATERIALS STORED ON SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER SUITABLE ENCLOSURE.
3. PRODUCTS SHALL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THEIR ORIGINAL LABELS.
4. WHENEVER POSSIBLE, ALL OF THE PRODUCT SHALL BE USED BEFORE DISPOSING OF THE CONTAINER.
5. THE MANUFACTURER'S RECOMMENDATIONS SHALL BE FOLLOWED IN REGARD TO THE PROPER USE AND DISPOSAL OF ALL PRODUCTS.
6. THE CONTRACTOR SHALL INSPECT DAILY TO ENSURE THE PROPER USE AND DISPOSAL OF ALL MATERIALS ON SITE.

C. SPILL PREVENTION AND CLEANUP PRACTICES

THE CONTRACTOR/OPERATOR SHALL BE RESPONSIBLE FOR THE SAFE HANDLING, USE AND DISPOSAL PROGRAM OF ALL HAZARDOUS MATERIALS FOR THE DURATION OF THIS PROJECT AND SHALL HAVE A SPECIFIC SPILL PREVENTION AND CLEANUP PROTOCOL FOR ALL HAZARDOUS MATERIALS, INCLUDING, BUT NOT LIMITED TO:

1. MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED AND SITE PERSONNEL WILL BE MADE AWARE OF THESE PROCEDURES AND THE LOCATION OF THE CLEANUP SUPPLIES.
2. MATERIALS THAT ARE NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ON SITE. EQUIPMENT AND MATERIAL WILL INCLUDE, BUT NOT BE LIMITED TO, BROOMS, DUSTPANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST, AND PLASTIC/METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE.
3. ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.
4. THE SPILL AREA SHALL BE KEPT WELL ISOLATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.
5. SPILLS OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF THE SIZE.
6. THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM REOCCURRING, AND HOW TO CLEAN UP THE SPILL IF THERE IS ANOTHER ONE. A DESCRIPTION OF THE SPILL, WHAT CAUSED IT, AND THE CLEANUP MEASURES WILL ALSO BE INCLUDED.



NOTES:

1. AN ON-SITE DRAINAGE SWALE SHALL BE LOCATED BETWEEN THE TOPSOIL STOCKPILE AND OFF-SITE PROPERTY.
2. REFERENCE IS MADE TO SILT FENCE DETAIL FOR MATERIALS AND INSTALLATION METHODS.
3. IF THE STOCKPILE IS TO REMAIN FOR MORE THAN 14 DAYS, IT SHALL BE STABILIZED WITH EROSION CONTROL MATTING OR SEEDED WITHIN 7 DAYS OF COMPLETION TO MINIMIZE EROSION.
4. INSPECTION OF SILT FENCES SHALL BE AT LEAST ONCE PER WEEK AND AFTER RAINFALL EVENTS IN EXCESS OF 0.5 INCHES. REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
5. SEDIMENT TRAPPED BY THE FENCES SHALL BE REMOVED AND PROPERLY DISPOSED OF WHENEVER SIGNIFICANT ACCUMULATION OCCURS.
6. SILT FENCES SHALL BE MAINTAINED IN PLACE UNTIL TOPSOIL STOCKPILE HAS BEEN ELIMINATED AND SHALL BE REMOVED ONLY WHEN DIRECTED BY THE TOWN.

TEMPORARY STOCKPILE DETAIL

NOT TO SCALE

GENERAL EROSION CONTROL NOTES:

1. PERMETER CONTROLS MUST BE INSTALLED PRIOR TO EARTH MOVING OPERATIONS;
2. STORMWATER TREATMENT PONDS AND DRAINAGE SWALES MUST BE INSTALLED BEFORE ROUGH GRADING THE SITE;
3. RUNOFF MUST BE DIRECTED TO TEMPORARY PRACTICES UNTIL STORMWATER BMPs ARE STABILIZED;
4. BASINS, DITCHES AND SWALES MUST BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM;
5. ROADWAYS AND PARKING AREAS MUST BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE;
6. CUT AND FILL SLOPES MUST BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE;
7. ALL AREAS OF UNSTABILIZED SOIL MUST BE STABILIZED AS SOON AS PRACTICABLE BUT NO LATER THAN 45 DAYS OF INITIAL DISTURBANCE;
8. EROSION CONTROL PRACTICES MUST BE INSPECTED AT LEAST WEEKLY AND AFTER EVERY RAIN EVENT OF 0.5 INCH OR MORE;
9. IN AREAS THAT WILL NOT BE PAVED, STABLE MEANS THAT:
- a. A MINIMUM OF 85% VEGETATIVE COVER HAS BEEN ESTABLISHED;
- b. A MINIMUM OF 3 INCHES OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED;
- c. EROSION CONTROL BLANKETS HAVE BEEN INSTALLED IN ACCORDANCE WITH ENV-WQ 1506.03; AND
10. IN AREAS TO BE PAVED, STABLE MEANS THAT BASE COURSE GRAVELS MEETING THE REQUIREMENTS OF MHDOT STANDARD FOR ROAD AND BRIDGE CONSTRUCTION, 2016, ITEM 304.2 HAVE BEEN INSTALLED.

TEMPORARY SEDIMENT TRAP. TEMPORARY SEDIMENT TRAPS SHALL COMPLY WITH THE FOLLOWING:

- (A) THE TRAP SHALL BE INSTALLED AS CLOSE TO THE DISTURBED AREA OR SOURCE OF SEDIMENT AS POSSIBLE;
- (B) THE MAXIMUM CONTRIBUTING DRAINAGE AREA TO THE TRAP SHALL BE LESS THAN 5 ACRES;
- (C) THE MINIMUM VOLUME OF THE TRAP SHALL BE 3,600 CUBIC FEET OF STORAGE FOR EACH ACRE OF DRAINAGE AREA;
- (D) THE SIDE SLOPES OF THE TRAP SHALL BE 3:1 OR FLATTER, AND SHALL BE STABILIZED IMMEDIATELY AFTER THEIR CONSTRUCTION;
- (E) THE OUTLET OF THE TRAP SHALL BE A MINIMUM OF ONE FOOT BELOW THE CREST OF THE TRAP AND SHALL DISCHARGE TO A STABILIZED AREA;
- (F) THE TRAP SHALL BE CLEARED WHEN 50 PERCENT OF THE ORIGINAL VOLUME IS FILLED; AND
- (G) THE MATERIALS REMOVED FROM THE TRAP SHALL BE PROPERLY DISPOSED OF AND STABILIZED.

CONSTRUCTION DEWATERING. DEWATERING SHALL COMPLY WITH THE FOLLOWING:

- (A) THE DISCHARGE SHALL BE STOPPED IMMEDIATELY IF THE RECEIVING AREA SHOWS ANY SIGN OF INSTABILITY OR EROSION;
- (B) ALL CHANNELS, SWALES, AND DITCHES DUG FOR DISCHARGING WATER FROM THE EXCAVATED AREA SHALL BE STABLE PRIOR TO DIRECTING DISCHARGE TO THEM;
- (C) IF A CONSTRUCTION EQUIPMENT BUCKET IS USED, IT SHALL EMPTY THE MATERIAL TO A STABLE AREA;
- (D) NO DEWATERING SHALL OCCUR DURING PERIODS OF INTENSE, HEAVY RAIN;
- (E) FLOW TO THE SEDIMENT REMOVAL STRUCTURE SHALL NOT EXCEED THE STRUCTURE'S CAPACITY TO SETTLE AND FILTER FLOW OR ITS VOLUME CAPACITY; AND
- (F) WHEREVER POSSIBLE, THE DISCHARGE FROM THE SEDIMENT REMOVAL STRUCTURE SHALL DRAIN TO A WELL-VEGETATED AREA, MINIMIZING THE
- (G) DISTANCE TO THE NEAREST WATER RESOURCE AND MINIMIZING THE SLOPE OF THE BUFFER AREA

TEMPORARY STORMWATER DIVERSION. TEMPORARY STORMWATER DIVERSION SHALL COMPLY WITH THE FOLLOWING:

- (A) WHEN NECESSARY TO MINIMIZE RELEASE OF SEDIMENT-LADEN RUNOFF PRIOR TO STABILIZATION OF THE SITE THE PERMANENT STORMWATER MANAGEMENT SYSTEM COMPONENTS, SEDIMENT-LADEN WATER SHALL BE DIVERTED AND STORED IN TEMPORARY DIVERSION PRACTICES SUCH AS SEDIMENT BASINS OR TRENCHES;
- (B) SUBJECT TO (C), BELOW, TEMPORARY DIVERSION PRACTICES SHALL BE STABILIZED PRIOR TO RECEIVING RUNOFF;
- (C) TEMPORARY DIVERSION CHANNELS WITH A GRADE OF 2 PERCENT OR GREATER SHALL BE STABILIZED, HOWEVER CHANNELS WITH A SLOPE OF LESS THAN 2% SHALL BE STABILIZED ONLY IF EROSION IS OBSERVED;
- (D) THE AREA DRAINING TO EACH TEMPORARY DIVERSION PRACTICE SHALL BE LESS THAN 5 ACRES;
- (E) TEMPORARY DIVERSION CHANNELS SHALL CONVEY, AND TEMPORARY BASINS AND TRENCHES SHALL CONTAIN, THE 2-YEAR, 24 HOUR DESIGN STORM WITHOUT OVERTOPPING THE BANKS;
- (F) THE BED SLOPE OF DIVERSION CHANNELS SHALL HAVE A POSITIVE GRADE TO ASSURE DRAINAGE;
- (G) WHERE DIVERSIONS CARRY CONCENTRATED FLOWS, ENERGY DISSIPATION METHODS SHALL BE IMPLEMENTED TO DISPERSE FLOW INTO AREAS DOWNSTREAM OF THE DISTURBED AREA;
- (H) IF EROSION OF DIVERSION PRACTICES OCCURS DURING CONSTRUCTION, CORRECTIVE ACTION SHALL BE TAKEN TO STABILIZE THE BASIN, CHANNEL, AND BERM; AND
- (I) DIVERSION BASINS AND TRENCHES SHALL BE CLEARED OF SEDIMENT WHENEVER SEDIMENT ACCUMULATES.

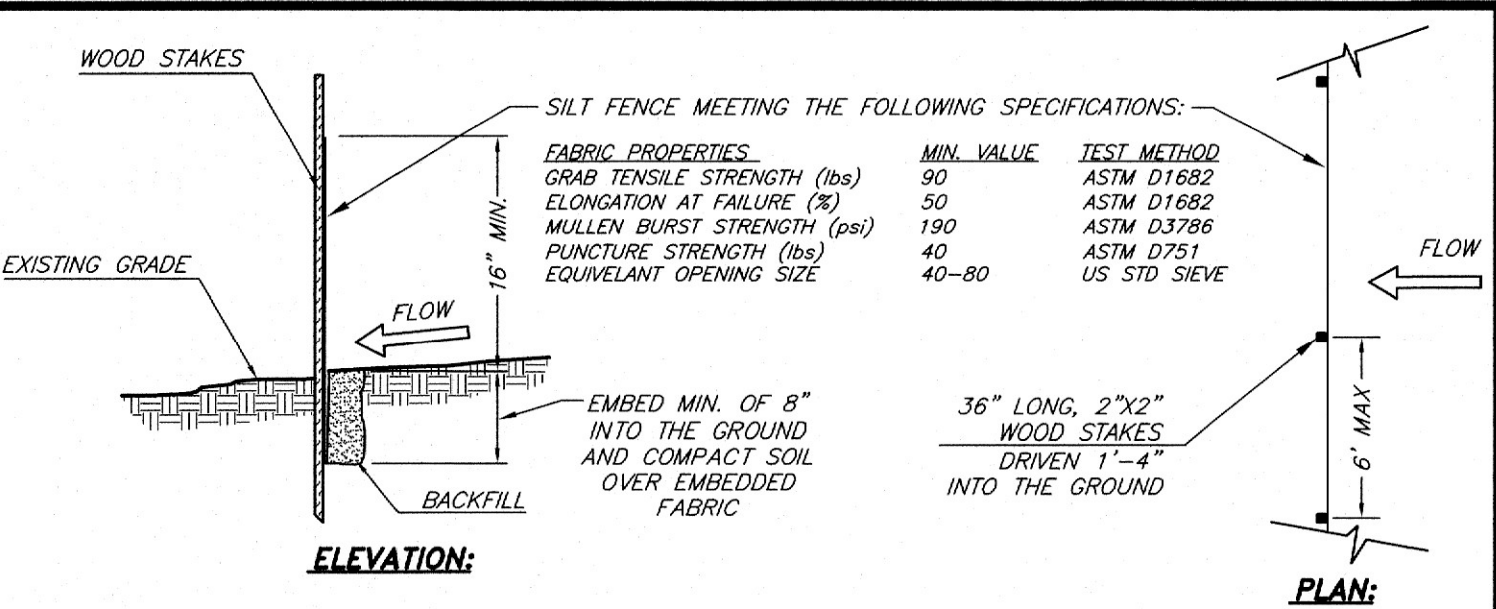
SEEDING/MULCHING OF DISTURBED AREAS

TEMPORARY AND PERMANENT MULCHING. MULCHING SHALL COMPLY WITH THE FOLLOWING:

- (A) HAY AND STRAW MULCHES SHALL BE ANCHORED WITH MULCH NETTING OR TACKIFIER SO THAT THEY ARE NOT BLOWN AWAY BY WIND OR WASHED AWAY BY FLOODING WATER;
- (B) MULCH MATERIALS SHALL BE SELECTED BASED UPON SOILS, SLOPE, FLOW CONDITIONS, AND TIME OF YEAR;
- (C) HAY OR STRAW MULCH SHALL BE APPLIED AT A RATE OF 1.5 TO 2 TONS PER ACRE, EQUIVALENT TO 70 TO 90 POUNDS PER 1,000 SQUARE FEET;
- (D) WOOD CHIPS OR GROUND BARK SHALL BE APPLIED AT 2 TO 6 INCHES DEEP AT A RATE OF 10 TO 20 TONS PER ACRE, EQUIVALENT TO 460 TO 920 POUNDS PER 1,000 SQUARE FEET;
- (E) JUTE AND FIBROUS MATS AND WOOD EXCELISOR SHALL BE INSTALLED ACCORDING TO THE APPLICABLE MANUFACTURER'S INSTRUCTIONS; AND
- (F) EROSION CONTROL MIX SHALL:
- (1) MEET THE CRITERIA OF ENV-WQ 1506.05(B); AND
- (2) BE PLACED AT A THICKNESS OF 2 INCHES OR MORE.

VEGETATION. VEGETATING DISTURBED AREAS SHALL BE COMPLETED ONLY AS SPECIFIED BELOW:

- A. ALL ESSENTIAL GRADING AND TEMPORARY STRUCTURES, SUCH AS DIVERSIONS, DAMS, DITCHES, AND DRAINS NEEDED TO PREVENT GULLYING AND REDUCE SILTATION, SHOULD BE COMPLETED PRIOR TO SEEDING.
- B. STONES AND TRASH SHALL BE REMOVED FROM THE AREA TO BE SEEDDED SO AS NOT TO INTERFERE WITH THE SEEDING;
- C. TILL THE SOIL TO A DEPTH OF ABOUT FOUR (4) INCHES TO PREPARE A SEEDBED AND MIX FERTILIZER INTO THE SOIL. THE SEEDBED SHOULD BE LEFT IN A FIRM AND SMOOTH CONDITION. THE LAST TILLAGE OPERATION SHOULD BE PERFORMED ACROSS THE SLOPE WHEREVER PRACTICAL
- D. ON SLOPES 4:1 OR STEEPER, FINAL PREPARATION OF THE AREA TO BE SEEDDED SHALL INCLUDE CREATING GROOVES IN THE SOIL PERPENDICULAR TO THE DIRECTION OF THE SLOPE TO CATCH SEED AND REDUCE RUNOFF;
- E. IF NEEDED TO ENSURE GROWTH, FERTILIZER OR OTHER ORGANIC SOIL AMENDMENTS SHALL BE APPLIED DURING THE GROWING SEASON;
- F. FERTILIZER APPLIED TO ANY AREA WITHIN 100 FEET OF ANY RIVER, STREAM, POND, OR LAKE SHALL BE LOW PHOSPHATE, SLOW RELEASE NITROGEN FERTILIZER ONLY;
- G. FERTILIZER APPLIED TO ANY AREA THAT IS SUBJECT TO RSA 483-B, THE COMPREHENSIVE WATER QUALITY PROTECTION ACT (ACT), SHALL MEET OR BE MORE PROTECTIVE OF WATER QUALITY THAN THE MINIMUM STANDARDS OF THE ACT;
- H. ALL SEEDDED AREAS SHALL BE FERTILIZED, FERTILIZATION SHALL BE AT THE EQUIVALENT OF 500 LBS. PER ACRE OF 10-20-20 FERTILIZER.
- I. ALL GRADED AREAS SHALL BE SEEDDED WITH:
1. TALL FESCUE: 20 POUNDS PER ACRE
2. CREEPING RED FESCUE: 20 POUNDS PER ACRE
3. BIRDFOOT TREFOIL: 8 POUNDS PER ACRE
4. TOTAL 48 POUNDS PER ACRE LIVE SEED
- J. SEED SHOULD BE SPREAD UNIFORMLY BY THE METHOD MOST APPROPRIATE FOR THE SITE. METHODS INCLUDE BROADCASTING, DRILLING, AND HYDROSEEDING. WHERE BROADCASTING IS USED, COVER SEED WITH 0.25 IN. OF SOIL OR LESS, BY CULTIPACKING OR RAKING.
- K. RUNOFF SHALL BE DIVERTED FROM THE SEEDDED AREA;
- L. SUBJECT TO (N) BELOW, SEEDING SHALL OCCUR PRIOR TO SEPTEMBER 15TH OF THE YEAR IN WHICH THE AREA BEING SEEDDED WAS DISTURBED;
- M. AREAS SEEDDED BETWEEN MAY 15TH TO AUGUST 15TH SHALL BE COVERED WITH HAY OR STRAW MULCH MEETING THE CRITERIA OF ENV-WQ 1506.01(A) THROUGH (C); AND
- N. IF VEGETATED GROWTH COVERING AT LEAST 85% OF THE DISTURBED AREA IS NOT ACHIEVED PRIOR TO OCTOBER 15TH, ONE OR MORE ADDITIONAL EROSION CONTROL METHODS SHALL BE IMPLEMENTED.

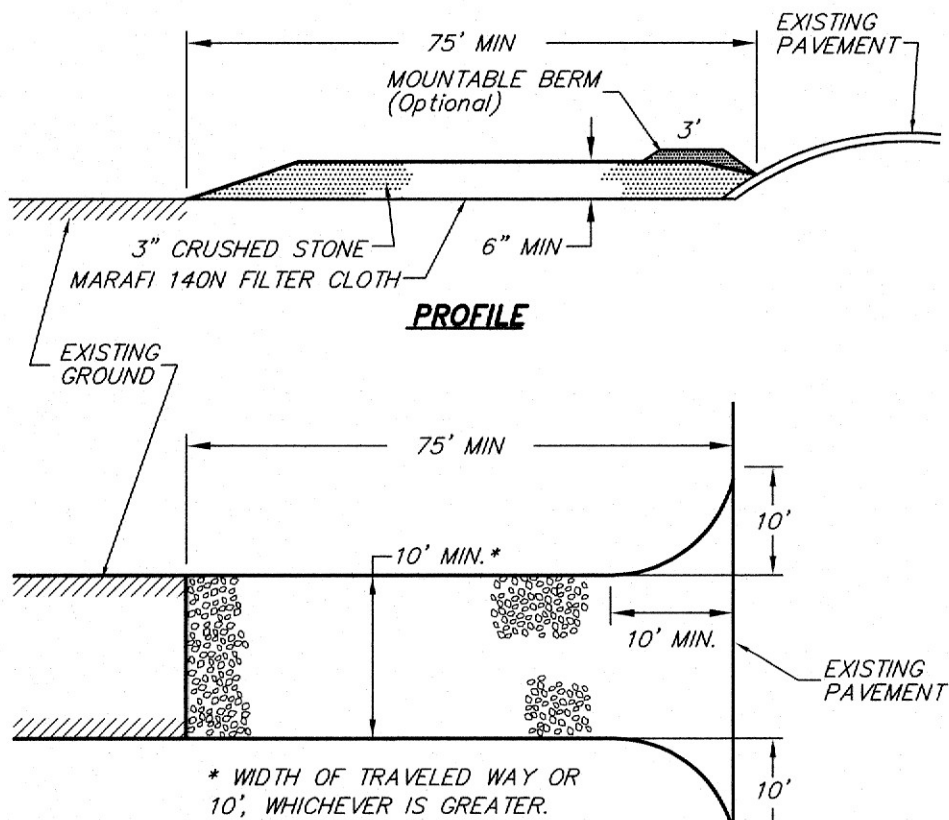


CONSTRUCTION NOTES:

- A. FENCES SHALL BE USED IN AREAS WHERE EROSION WILL OCCUR ONLY IN THE FORM OF SHEET EROSION AND THERE IS NO CONCENTRATION OF WATER IN A CHANNEL OR OTHER DRAINAGE WAY ABOVE THE FENCE.
- B. THE MAXIMUM CONTRIBUTING DRAINAGE AREA ABOVE THE FENCE SHALL BE LESS THAN 1/4-ACRE PER 100 LINEAR FEET OF FENCE.
- C. THE MAXIMUM LENGTH OF THE SLOPE ABOVE THE FENCE SHALL BE 100 FEET;
- D. THE MAXIMUM SLOPE OF THE AREA ABOVE THE FENCE SHALL BE 2:1;
- E. FENCES SHALL BE INSTALLED AS FOLLOWS:
1. FENCES SHALL FOLLOW THE CONTOUR OF THE LAND AS CLOSELY AS POSSIBLE;
2. THE ENDS OF THE FENCE SHALL BE FLARED UP-SLOPE;
3. THE BASE OF THE FENCE SHALL BE:
- a. FOLDED SUCH THAT NOT LESS THAN 4 INCHES OF THE FENCE IS PLACED ALONG THE BOTTOM OF A TRENCH THAT IS EXCAVATED AT LEAST 4 INCHES DEEP INTO THE GROUND, WITH THE SOIL COMPACTED OVER THE EMBEDDED FABRIC; OR
- b. IF SITE CONDITIONS INCLUDE FROZEN GROUND, LEDGE, OR THE PRESENCE OF HEAVY ROOTS, EMBEDDED IN A MINIMUM THICKNESS OF 8 INCHES OF 1/4-INCH STONE;
4. SUPPORT POSTS SHALL BE SIZED AND ANCHORED ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS; AND
5. ADJOINING SECTIONS OF THE FENCE SHALL BE OVERLAPPED BY 6 INCHES, FOLDED AND STAPLED TO A SUPPORT POST;
- F. FENCES SHALL BE INSPECTED AND MAINTAINED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL, ANY REPAIRS THAT ARE REQUIRED SHALL BE MADE IMMEDIATELY; AND
- G. SEDIMENT THAT ACCUMULATES AT THE FENCE SHALL BE REMOVED WITH SUFFICIENT FREQUENCY TO PREVENT THE DEPTH OF THE SEDIMENT FROM REACHING ONE-THIRD THE HEIGHT OF THE FENCE.
- H. INSTALL FENCE PER MANUFACTURER'S SPECIFICATIONS;
- I. IF THE FABRIC ON THE SILT FENCE SHOULD DECOMPOSE OR BECOME INEFFECTIVE DURING THE LIFE OF THE FENCE, THE FABRIC SHALL BE PROMPTLY REPLACED.
- J. SEDIMENT DEPOSITS THAT ARE REMOVED OR LEFT IN PLACE AFTER THE BARRIER HAS BEEN DISMANTLED SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED USING THE APPROPRIATE VEGETATIVE BMP.

SILT FENCE DETAIL:

NOT TO SCALE



PLAN VIEW

NOT TO SCALE

STABILIZED CONSTRUCTION EXIT:

NOT TO SCALE

MAINTENANCE NOTES:

MUD AND SOIL PARTICLES WILL EVENTUALLY CLOG THE VOIDS IN THE GRAVEL AND THE EFFECTIVENESS OF THE GRAVEL PAD WILL NOT BE SATISFACTORY. WHEN THIS OCCURS, THE PAD SHOULD BE TOPDRESSED WITH NEW STONE. COMPLETE REPLACEMENT OF THE PAD MAY BE NECESSARY WHEN THE PAD BECOMES COMPLETELY CLOGGED.

IF WASHING FACILITIES ARE USED, THE SEDIMENT TRAPS SHOULD BE CLEANED OUT AS OFTEN AS NECESSARY TO ASSURE THAT ADEQUATE TRAPPING EFFICIENCY AND STORAGE VOLUME IS AVAILABLE. VEGETATIVE FILTER STRIPS SHOULD BE MAINTAINED TO INSURE A VIGOROUS STAND OF VEGETATION AT ALL TIMES.

CONSTRUCTION SPECIFICATION

- (A) THE MINIMUM STONE USED SHALL BE 3-INCH CRUSHED STONE;
- (B) THE MINIMUM LENGTH OF THE PAD SHALL BE 75 FEET, EXCEPT THAT THE MINIMUM LENGTH MAY BE REDUCED TO 50 FEET IF A 3'-HIGH BERM IS INSTALLED AT THE ENTRANCE OF THE PROJECT SITE;
- (C) THE PAD SHALL EXTEND THE FULL WIDTH OF THE CONSTRUCTION ACCESS ROAD OR 10 FEET, WHICHEVER IS GREATER;
- (D) THE PAD SHALL SLOPE AWAY FROM THE EXISTING ROADWAY;
- (E) THE PAD SHALL BE AT LEAST 6 INCHES THICK;
- (F) A GEOTEXTILE FILTER FABRIC SHALL BE PLACED BETWEEN THE STONE PAD AND THE EARTH SURFACE BELOW THE PAD; AND
- (G) THE PAD SHALL BE MAINTAINED OR REPLACED WHEN MUD AND SOIL PARTICLES CLOG THE VOIDS IN THE STONE SUCH THAT MUD AND SOIL PARTICLES ARE TRACKED OFF-SITE. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOW OF SEDIMENT INTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOPDRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, WASHED, OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED PROMPTLY.
- (H) ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.



TAX MAP 102 LOT 403-3

DETAIL SHEET 1
DILLON SITE PLAN

LOCATED AT:

COMMERCE DRIVE
FRANKLIN, NEW HAMPSHIRE

PREPARED FOR:
DILLON'S CUSTOM CABINETRY
116 DUKES COUNTY AVE
OAK BLUFFS, MA 02557

PROPERTY OWNER:
DC REALTY, LLC
21 KENDRICK RD
FRANKLIN, NH 03235

SCALE: AS NOTED NOVEMBER 15, 2022 SHEET 9 OF 12

DESIGN:	DRAWN:	CHECKED:	FB:	PG:	
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Bedford Design Consultants Inc.

ENGINEERS AND SURVEYORS

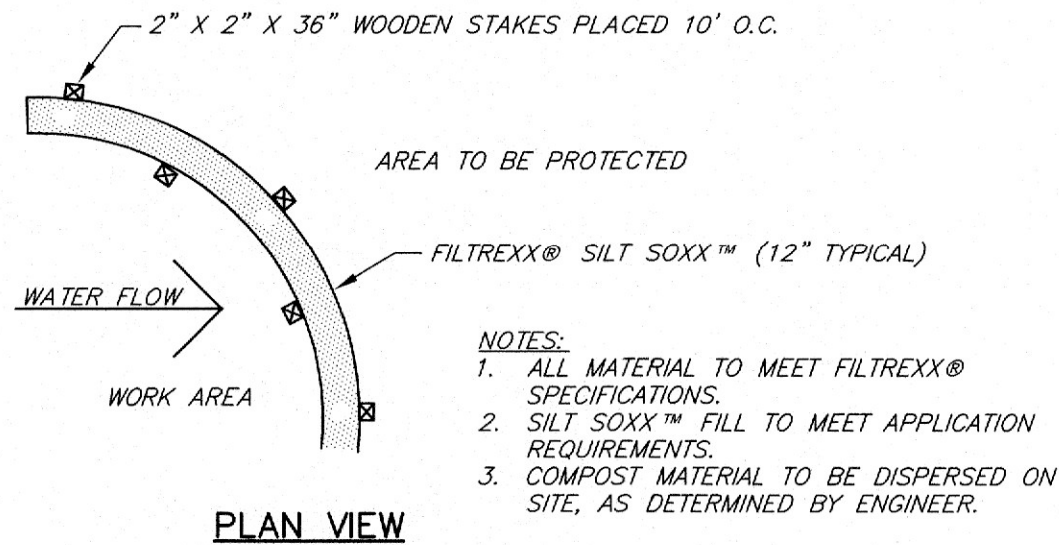
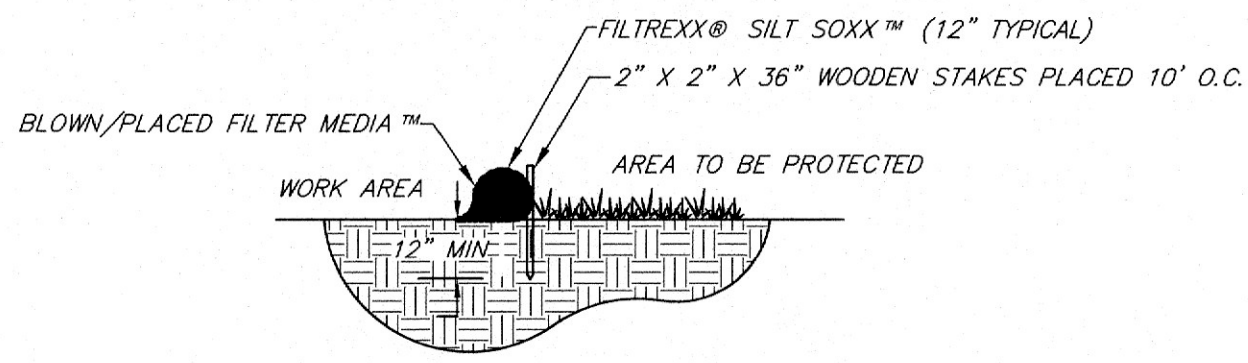
592 Harvey Road, Manchester, NH 03103

Telephone: (603) 622-5533

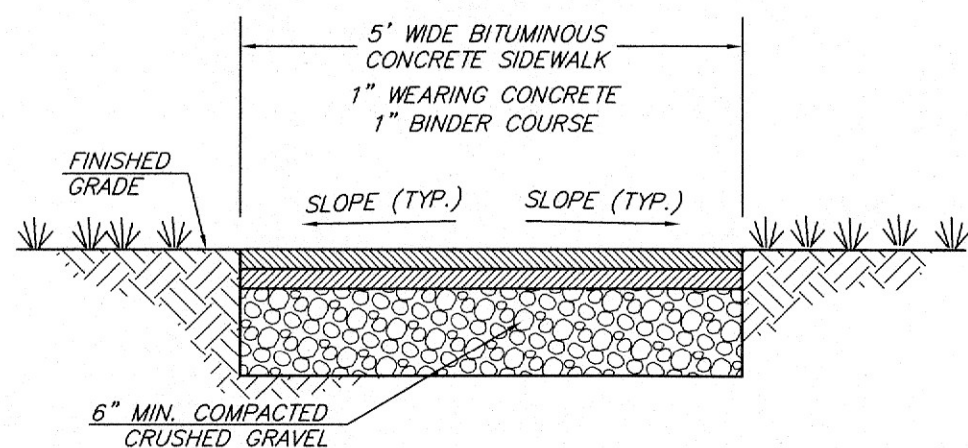
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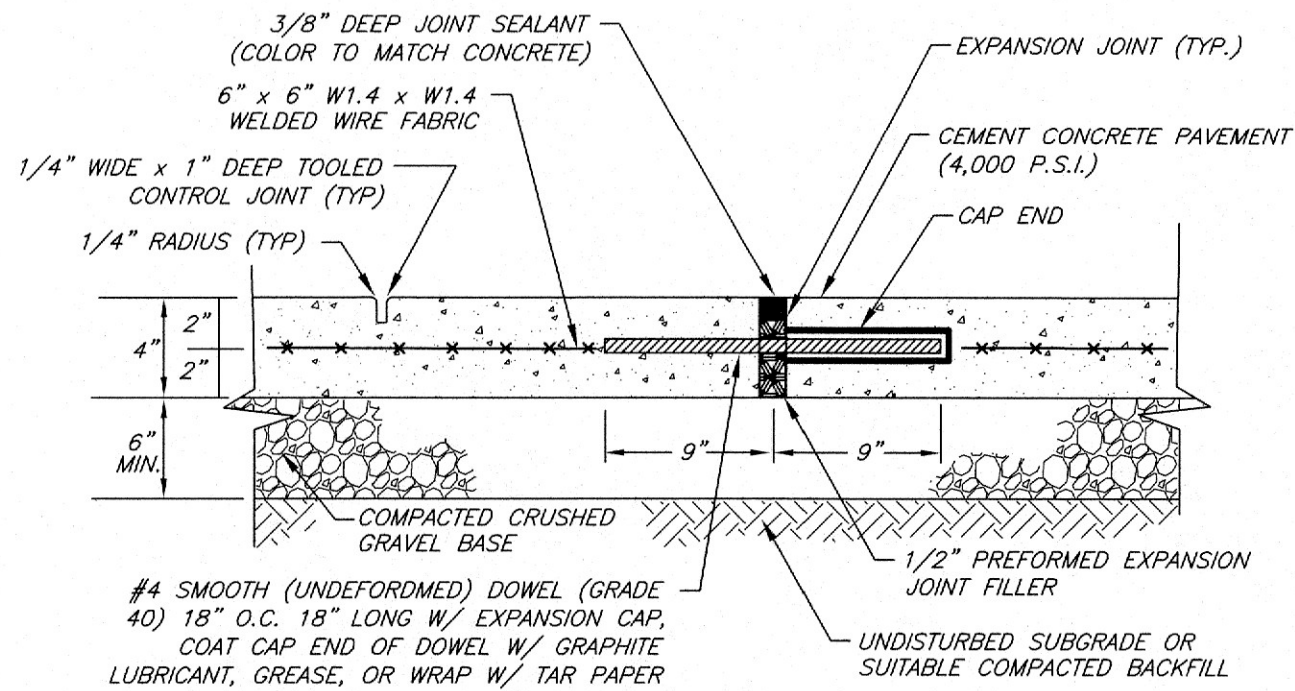




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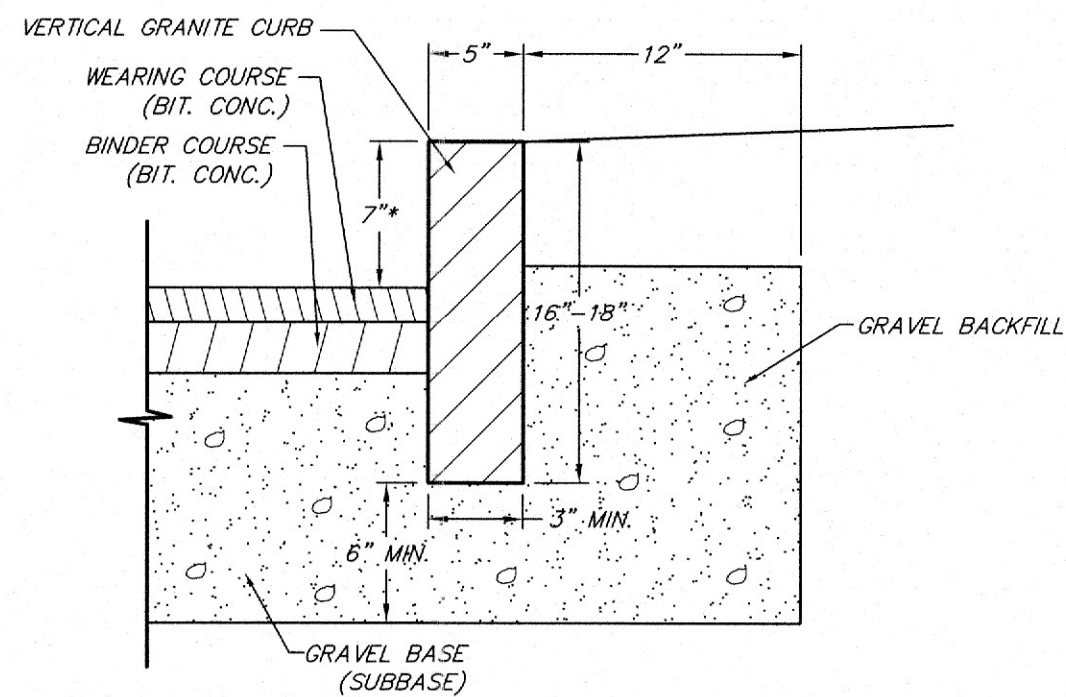


BITUMINOUS SIDEWALK DETAIL
NOT TO SCALE



- NOTES:
1. CROSS SLOPE OF SIDEWALK TO BE AS SPECIFIED ON THE PLAN.
 2. MAINTAIN 2" CLEARANCE (TYP) BETWEEN ALL CONCRETE EDGES AND WIRE FABRIC OR DOWEL.
 3. CONTROL JOINTS TO BE LOCATED 5-FEET ON CENTER.
 4. EXPANSION JOINTS TO BE LOCATED 25-FEET ON CENTER.
 5. ALL CONCRETE TO BE 4,000 PSI NHDOT CLASS AA.

REINFORCED CONCRETE SIDEWALK DETAIL
NOT TO SCALE

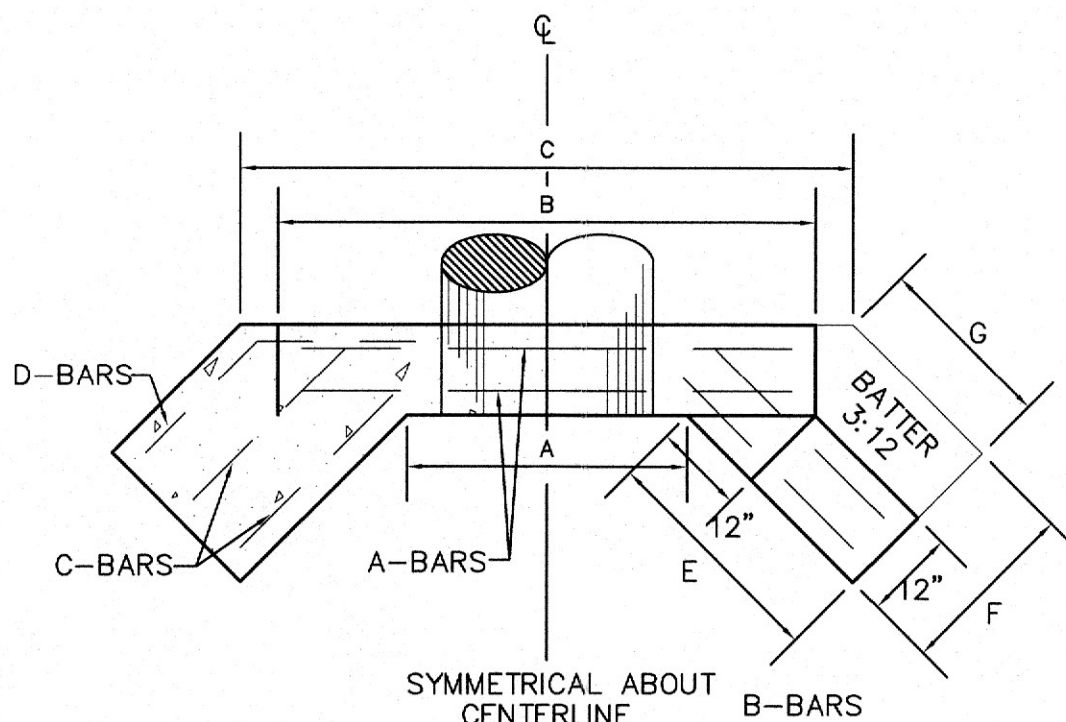


- NOTES:
1. MINIMUM LENGTH OF STRAIGHT CURB STONES = 3'
 2. MAXIMUM LENGTH OF STRAIGHT CURB STONES = 10'
 3. MINIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVE = SEE CHART
 4. ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH

- ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH

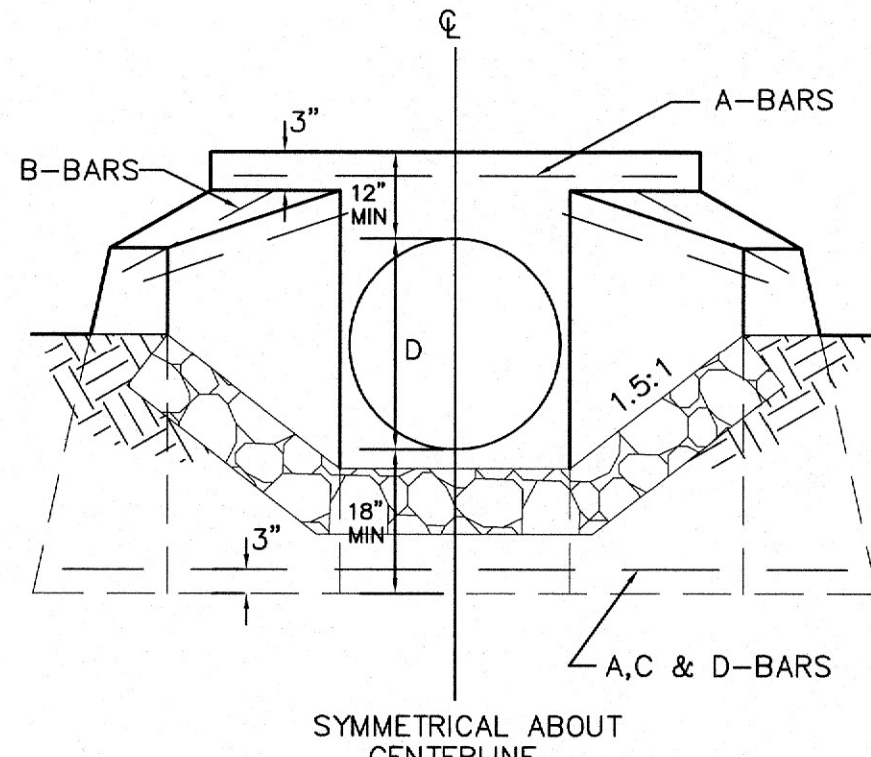
- * 2" AT DRIVEWAYS AND 0" AT SIDEWALK RAMPS

VERTICAL GRANITE CURB DETAIL
NOT TO SCALE

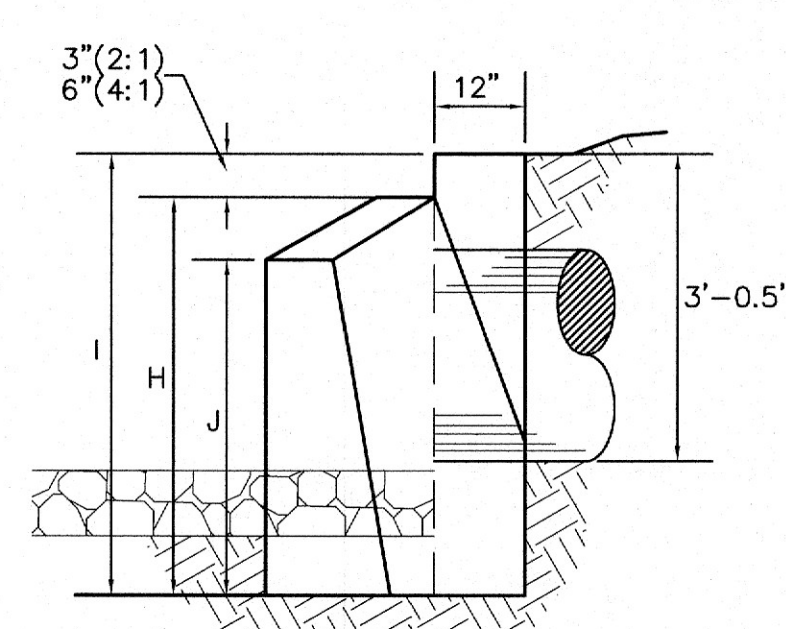


HALF PLAN OF BOTTOM STEEL

HALF PLAN OF TOP STEEL



END ELEVATION

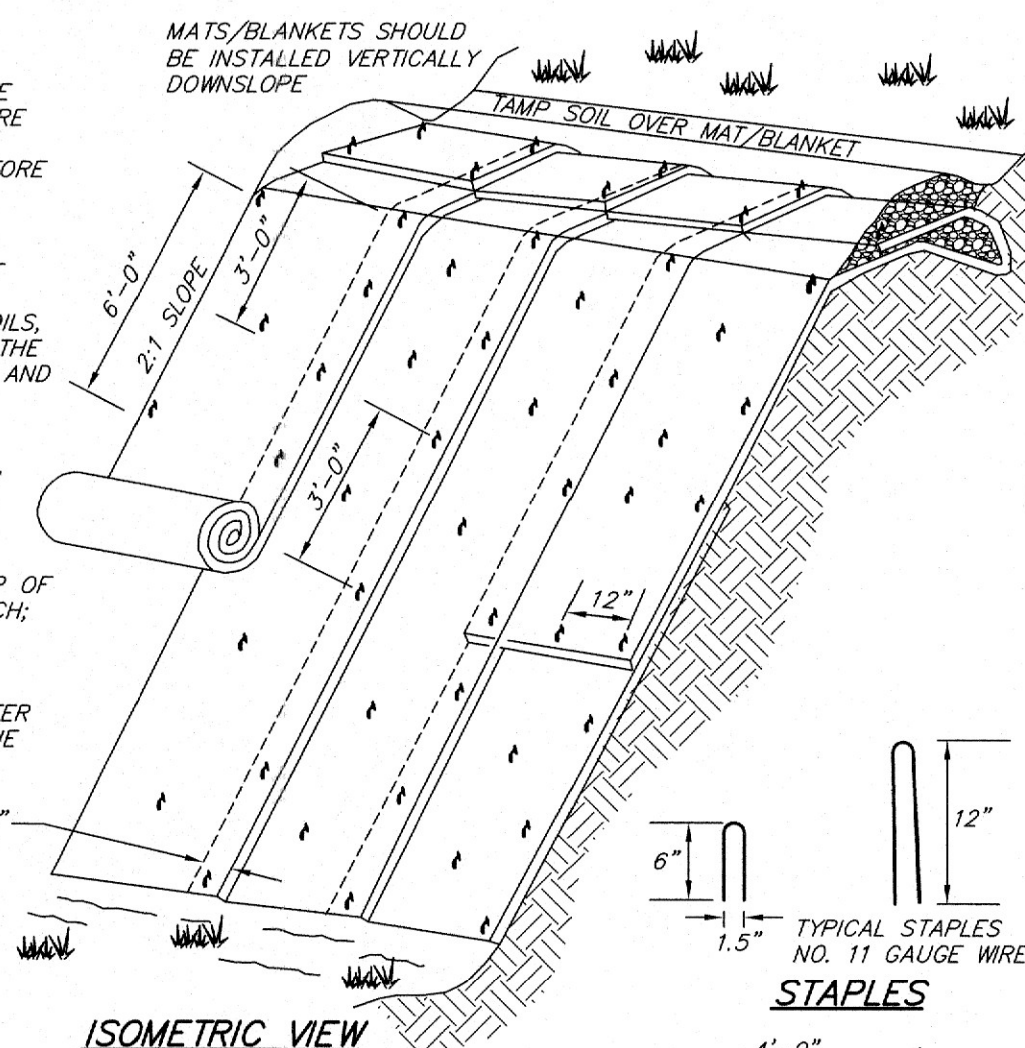


SIDE ELEVATION

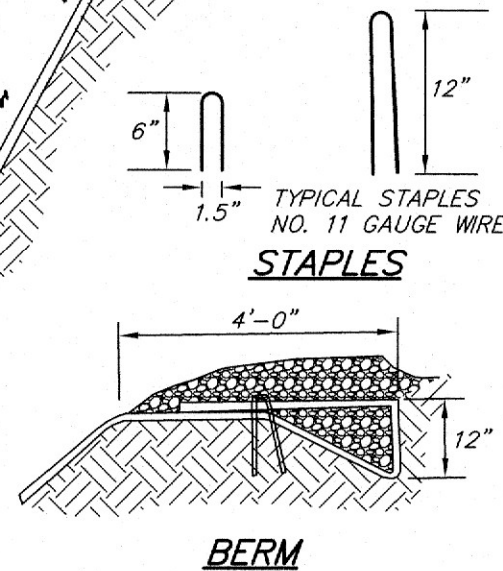
DIMENSIONS										REINFORCING STEEL					
A	B	C	E	F	G	H	I	J	SIZE	LENGTH					
2'-3"	5'-1"	6'-0"	2'-5"	1'-11"	1'-9"	4'-6"	4'-0"	3'-6"	1/2" DIA.	A BARS	B BARS	C BARS	D BARS	D-BARS	
										4'-9"	2'-7"	2'-5"	3'-11"	2'-4"	1'-7"

2:1 SLOPE

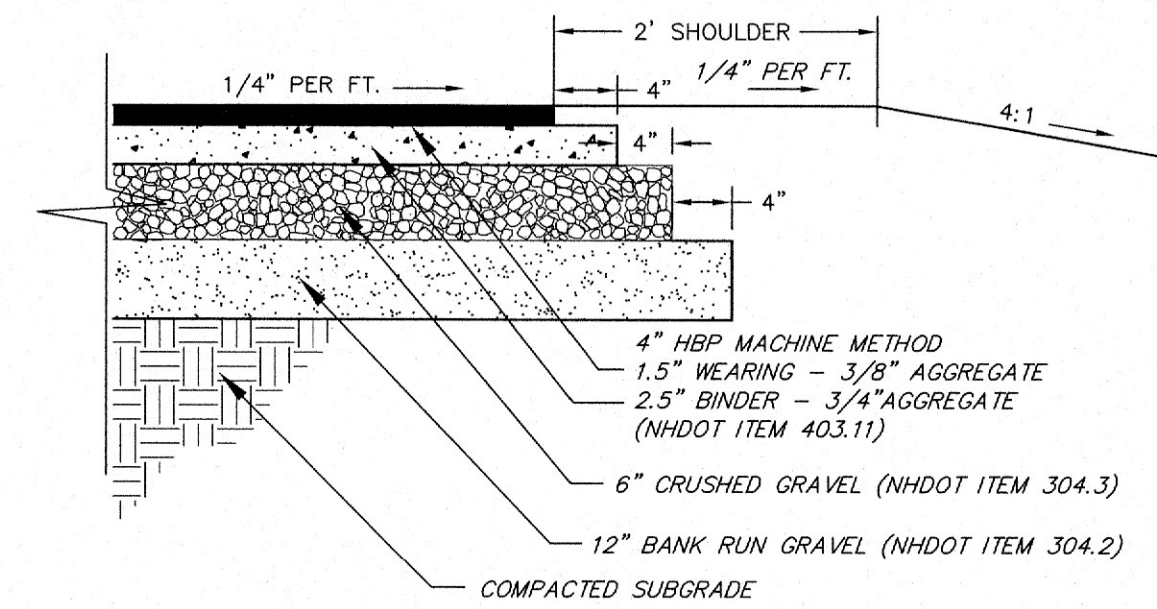
- NOTES:
1. STONES AND TRASH SHALL BE REMOVED FROM THE AREA TO BE SEEDING SO AS NOT TO INTERFERE WITH SEEDING; AND
 2. APPLY PERMANENT SEEDING BEFORE PLACING BLANKETS, AND
 3. BLANKETS SHALL BE:
 - a. PLACED WITHIN 24 HOURS AFTER SOWING SEED IN THE AREA BEING COVERED;
 - b. LAID LOOSELY OVER THE SOILS, MAINTAINING CONTACT WITH THE SOIL, AND NOT STRETCHED; AND
 - c. INSTALLED PER THE MANUFACTURER'S SPECIFICATIONS AND THE FOLLOWING, EVEN IF NOT IN THE MANUFACTURER'S INSTRUCTIONS:
 - d. BLANKETS SHALL BE ANCHORED AT THE TOP OF THE SLOPE IN A TRENCH; AND
 - e. BLANKETS SHALL BE UNROLLED IN THE DIRECTION OF THE WATER FLOW, OVERLAPPING THE EDGES AND STAPLING.



EROSION CONTROL BLANKETS SLOPE INSTALLATION



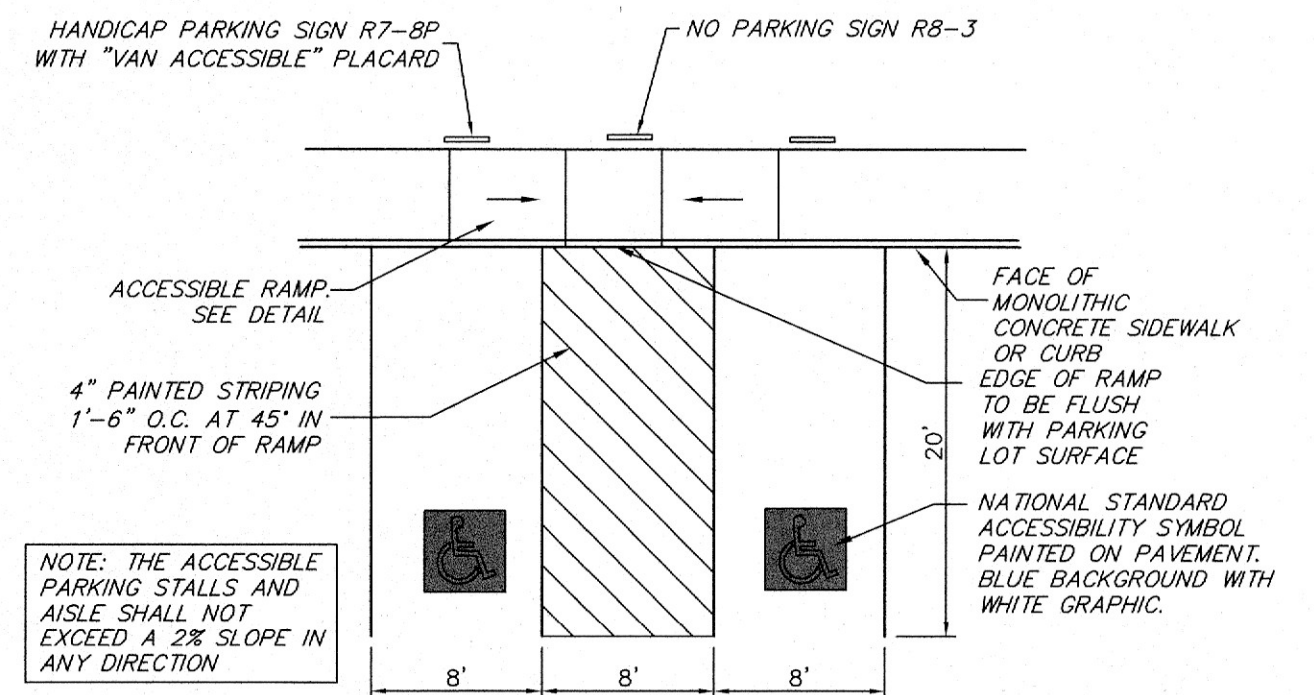
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- NOTES:
1. SECTION NUMBERS REFER TO APPROPRIATE SECTIONS OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION.
 2. SECTION 410 (TACK COAT) WILL APPLY IF MORE THEN 180 CALENDAR DAYS ELAPSE BETWEEN PLACEMENT OF BINDER COARSE AND WEARING COARSE.

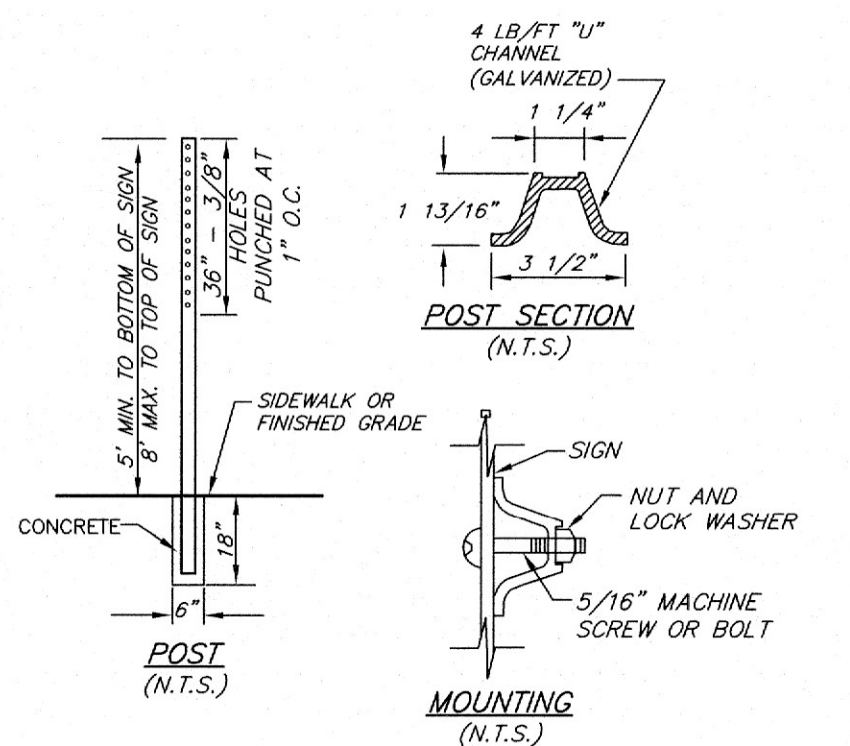
PAVEMENT SECTION DETAIL

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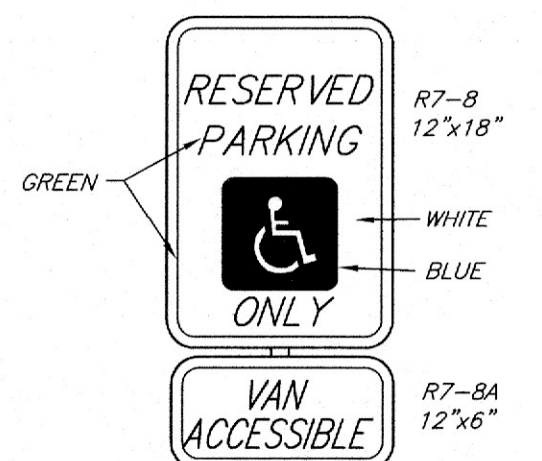
ACCESSIBLE PARKING SPACES

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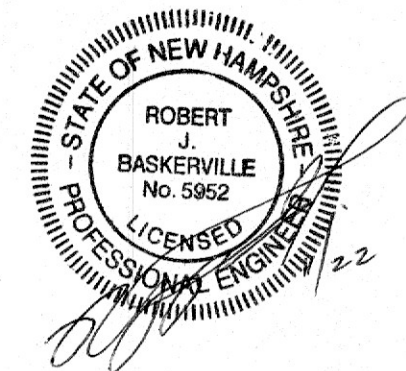
VAN ACCESSIBLE HANDICAP PARKING SIGN DETAIL

NOT TO SCALE



VAN ACCESSIBLE HANDICAP PARKING SIGN DETAIL

NOT TO SCALE



TAX MAP 102 LOT 403-3

**DETAIL SHEET 2
DILLON SITE PLAN**

LOCATED AT:

**COMMERCE DRIVE
FRANKLIN, NEW HAMPSHIRE**

PREPARED FOR:
DILLON'S CUSTOM CABINETRY
116 DUKES COUNTY AVE
OAK BLUFFS, MA 02557

PROPERTY OWNER:
DC REALTY, LLC
21 KENDRICK RD
FRANKLIN, NH 03235

SCALE: AS NOTED NOVEMBER 15, 2022 SHEET 10 OF 12

DESIGN: KAW DRAWN: KAW CHECKED: RJB PG: ### 1662-01

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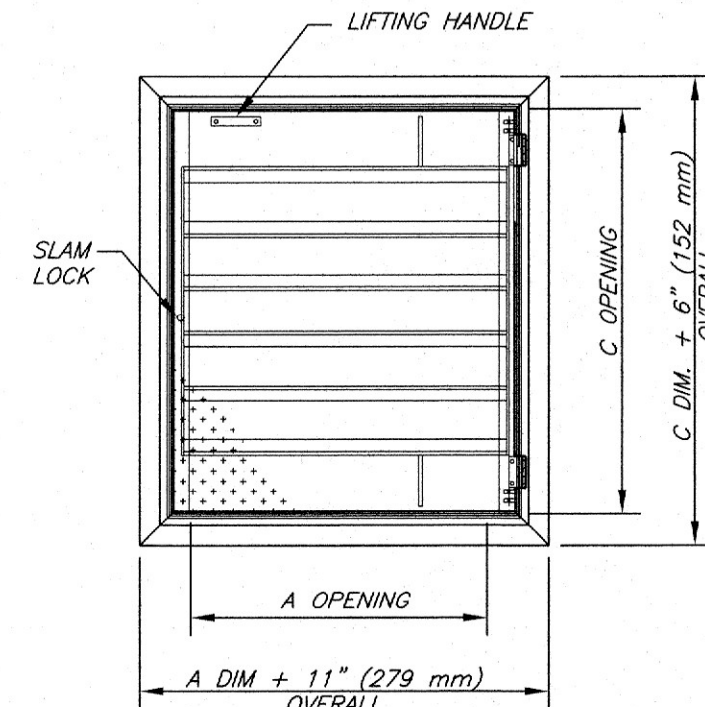
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SERIES H1R ACCESS DOOR

STANDARD FEATURES:

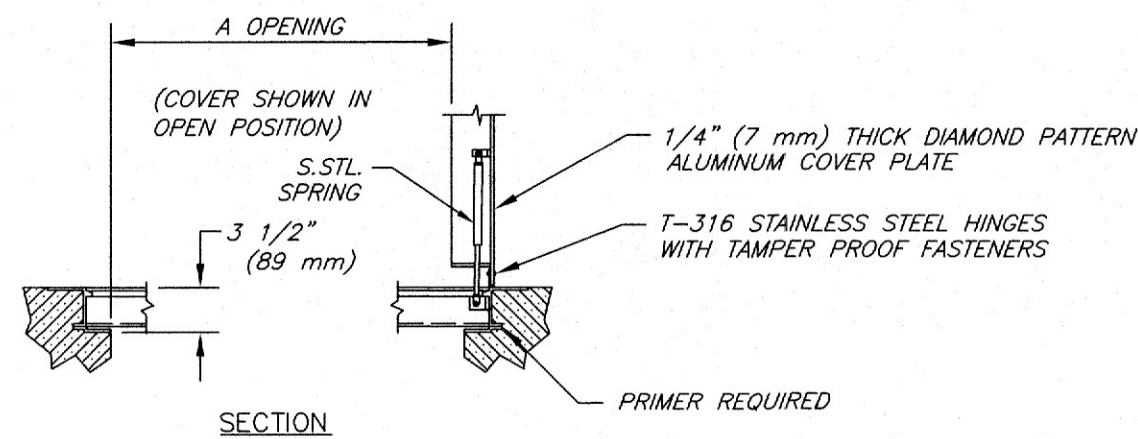
- H2O LOAD RATING (SEE NOTES)
- EXTRUDED ALUMINUM ANGLE FRAME
- SINGLE LEAF CONSTRUCTION
- AUTO-LOCK T-316 STAINLESS STEEL
- HOLD OPEN ARM WITH RELEASE HANDLE
- T-316 STAINLESS STEEL HINGES AND ATTACHING HARDWARE
- T-316 STAINLESS STEEL SLAM LOCK WITH REMOVABLE KEY
- STAINLESS STEEL COMPRESSION SPRING ASSIST
- RECESSED LIFTING HANDLE
- LIFETIME GUARANTEE



STANDARD SIZES				
QTY.	MODEL NO.	A DIM. INCHES (mm)	C DIM. INCHES (mm)	UNIT WT. LBS. (kg)
1	H1R2442	24 (610)	42 (1067)	105 (48)
1	H1R3030	30 (762)	30 (762)	94 (43)

NOTES:

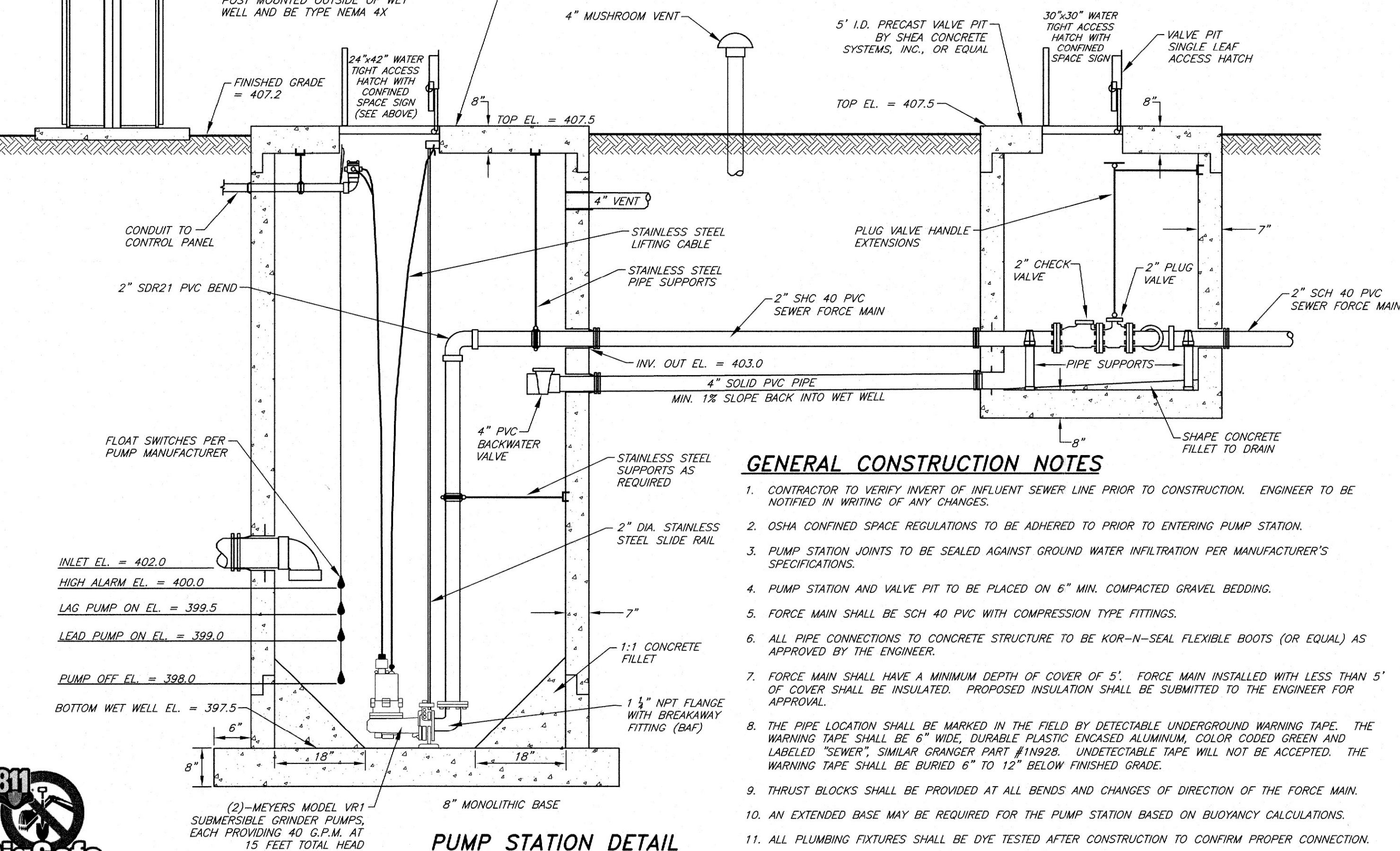
- 1) SUITABLE FOR USE IN OFF STREET LOCATION WHERE NOT SUBJECTED TO HIGH DENSITY TRAFFIC.
- 2) PROVIDE A FULL BED OF CLASS "A" CONCRETE UNDER FRAME AND SUPPORT ANGLES.



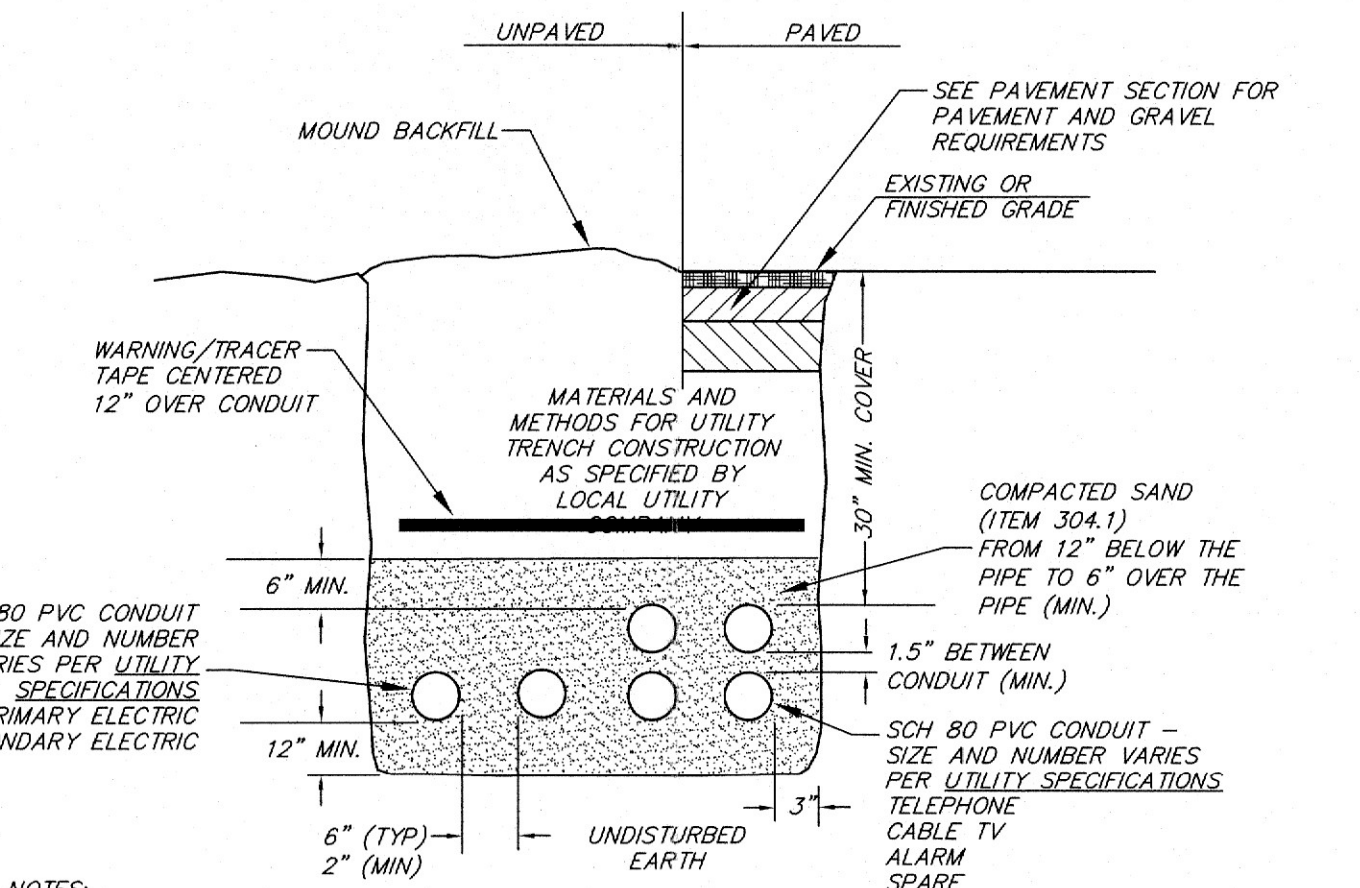
"CONFINED SPACE" SIGN
CAUTION
THIS IS A CONFINED SPACE.
DO NOT ENTER WITHOUT
FOLLOWING OSHA CONFINED
SPACE ACCESS REGULATIONS

DUPLEX PUMP CONTROL PANEL
(SEE SITE PLAN FOR LOCATION)

NOTE:
JUNCTION BOXES FOR LEADS
FROM PUMPS AND FLOATS TO BE
POST MOUNTED OUTSIDE OF WET
WELL AND BE TYPE NEMA 4X



PUMP STATION DETAIL
NOT TO SCALE



NOTES:

1. NO CONDUIT RUN SHALL EXCEED 360 DEGREE IN TOTAL BENDS.
2. A SUITABLE PULLING STRING, CAPABLE OF 200 POUNDS OF PULL, SHALL BE INSTALLED IN THE CONDUIT PRIOR TO INSTALLING THE CONDUIT. THE STRING SHALL BE BLOWN INTO THE CONDUIT AFTER THE RUN IS ASSEMBLED TO AVOID BONDING THE STRING TO THE CONDUIT.
3. ALL CONDUIT INSTALLATIONS MUST CONFORM TO THE CURRENT EDITION OF THE NATIONAL ELECTRIC SAFETY CODE, STATE AND LOCAL CODES AND ORDINANCES, AND WHERE APPLICABLE, THE NATIONAL ELECTRIC CODES.
4. CONTRACTOR SHALL CONFIRM SIZE OF ELECTRICAL CONDUIT MEETS THE MINIMUM SIZE CRITERIA REQUIRED BASED ON THE NATIONAL ELECTRIC CODE FOR THE SIZE OF THE CONDUCTOR WITHIN EACH CONDUIT.

ELECTRICAL/LIGHTING/COMMUNICATIONS
UTILITY TRENCH DETAIL

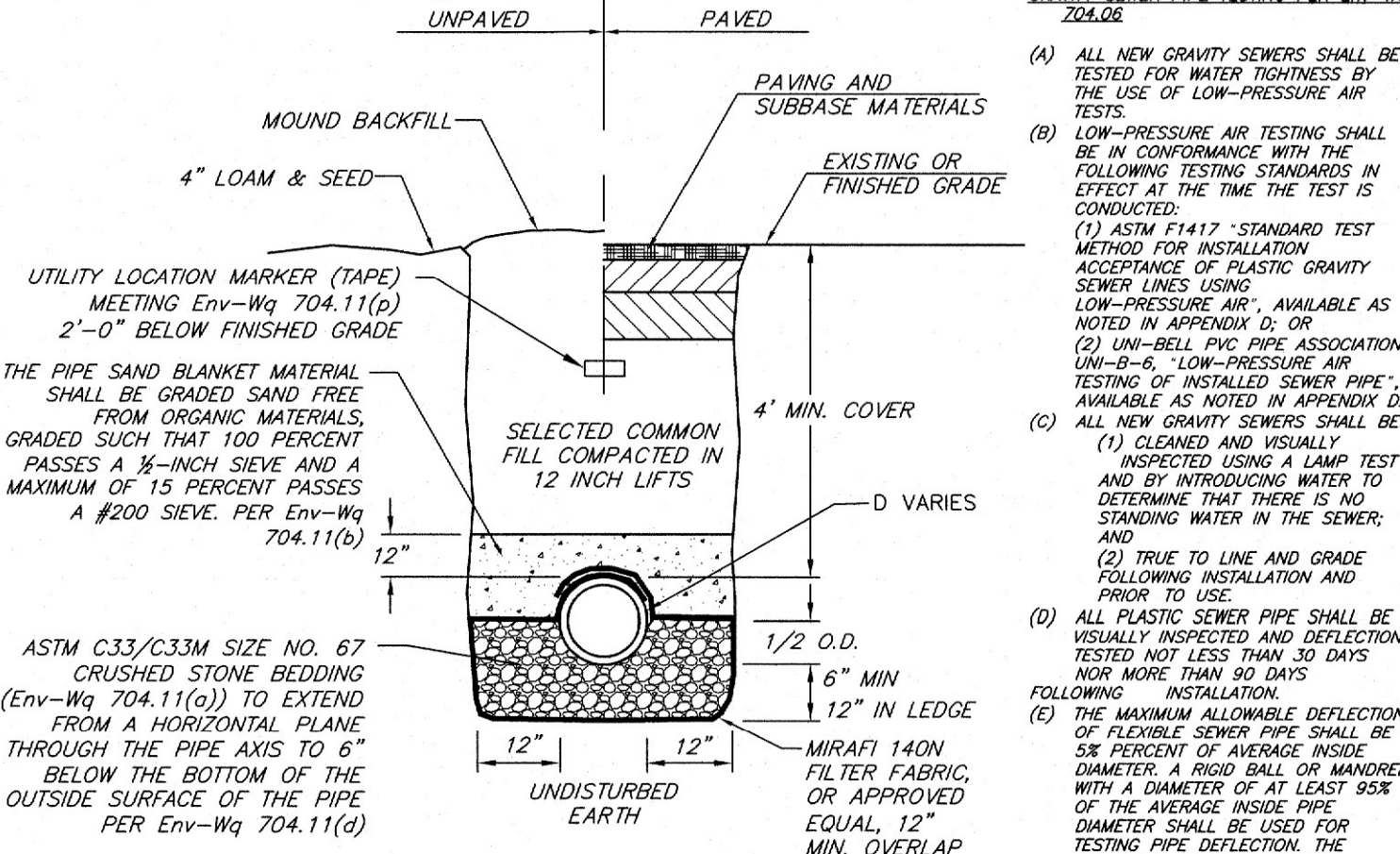
NOT TO SCALE

PUMP SYSTEM SPECIFICATIONS

1. USE PUMP MANUFACTURER'S RECOMMENDED FLOAT SETTINGS TO CONTROL PUMP OPERATION AS FOLLOWS:
 - A. PUMP OFF
 - B. LEAD PUMP ON
 - C. LAG PUMP ON AND ALARM ON
2. PUMP STATION POWER CONTROLS, ALARM, AND VENT LOCATIONS TO BE COORDINATED WITH THE OWNER AND/OR ENGINEER.
3. POWER FOR THE PUMPS AND ALARMS IS TO BE PROVIDED ON SEPARATE CIRCUITS.
4. CONTROL PANEL TO INCLUDE PUMP RUN TIME METERS.
5. CONTRACTOR TO FURNISH OWNER WITH (2) OPERATION AND MAINTENANCE MANUALS PER MANUFACTURERS SPECIFICATIONS.
6. SUBMERSIBLE PUMPS AND ALL OTHER ELECTRICAL SYSTEMS/COMPONENTS IN THE WET WELL SHALL MEET NEC REQUIREMENTS FOR CLASS 1, DIVISION 1 ENVIRONMENT.
7. POWER SOURCE FOR ALARM SYSTEM SHALL BE MAIN LINE POWER WITH AN AUTOMATIC BATTERY BACKUP SYSTEM.
8. OWNER SHALL SUBMIT PUMP STATION O&M MANUAL IN ACCORDANCE WITH ENV-WQ 705.10 TO NHDES WASTEWATER ENGINEERING BUREAU WITHIN 60 DAYS FOLLOWING COMPLETION OF PUMP STATION CONSTRUCTION. THE O&M MANUAL SHALL PROVIDE INFORMATION AND GUIDANCE FOR PUMP STATION OPERATION AND MAINTENANCE.

GENERAL CONSTRUCTION NOTES

1. CONTRACTOR TO VERIFY INVERT OF INFLUENT SEWER LINE PRIOR TO CONSTRUCTION. ENGINEER TO BE NOTIFIED IN WRITING OF ANY CHANGES.
2. OSHA CONFINED SPACE REGULATIONS TO BE ADHERED TO PRIOR TO ENTERING PUMP STATION.
3. PUMP STATION JOINTS TO BE SEALED AGAINST GROUND WATER INFILTRATION PER MANUFACTURER'S SPECIFICATIONS.
4. PUMP STATION AND VALVE PIT TO BE PLACED ON 6" MIN. COMPACTED GRAVEL BEDDING.
5. FORCE MAIN SHALL BE SCH 40 PVC WITH COMPRESSION TYPE FITTINGS.
6. ALL PIPE CONNECTIONS TO CONCRETE STRUCTURE TO BE KOR-N-SEAL FLEXIBLE BOOTS (OR EQUAL) AS APPROVED BY THE ENGINEER.
7. FORCE MAIN SHALL HAVE A MINIMUM DEPTH OF COVER OF 5'. FORCE MAIN INSTALLED WITH LESS THAN 5' OF COVER SHALL BE INSULATED. PROPOSED INSULATION SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
8. THE PIPE LOCATION SHALL BE MARKED IN THE FIELD BY DETECTABLE UNDERGROUND WARNING TAPE. THE WARNING TAPE SHALL BE 6" WIDE, DURABLE PLASTIC ENCASED ALUMINUM, COLOR CODED GREEN AND LABELED "SEWER". SIMILAR GRANGER PART #1N928. UNDETECTABLE TAPE WILL NOT BE ACCEPTED. THE WARNING TAPE SHALL BE BURIED 6" TO 12" BELOW FINISHED GRADE.
9. THRUST BLOCKS SHALL BE PROVIDED AT ALL BENDS AND CHANGES OF DIRECTION OF THE FORCE MAIN.
10. AN EXTENDED BASE MAY BE REQUIRED FOR THE PUMP STATION BASED ON BUOYANCY CALCULATIONS.
11. ALL PLUMBING FIXTURES SHALL BE DYE TESTED AFTER CONSTRUCTION TO CONFIRM PROPER CONNECTION.

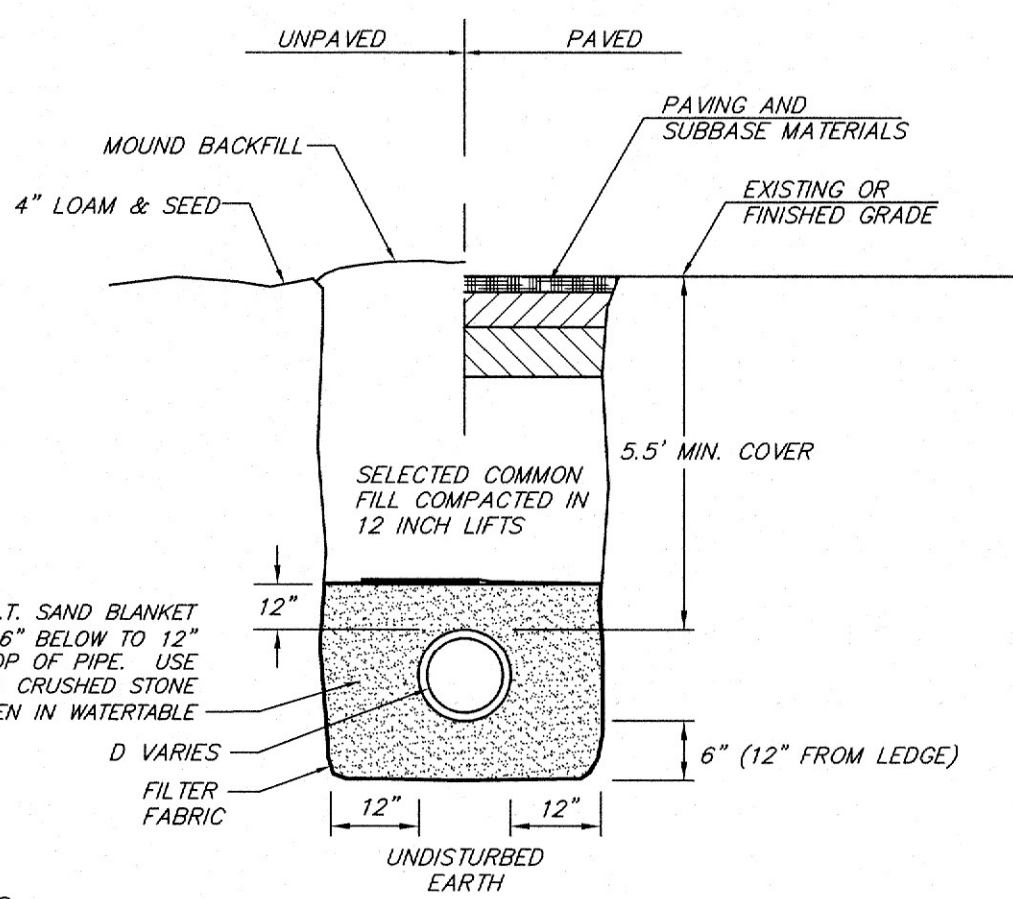


NOTES:

1. MIN. TRENCH WIDTH SHALL BE THE INSIDE PIPE DIAMETER + 24 INCHES. 2. INSTALL 2" RIGID POLYSTYRENE THERMAL INSULATION WITH A MINIMUM "R" VALUE OF 10 AND EXTEND 4' EACH SIDE OF PIPE IF MINIMUM COVER CAN NOT BE ACHIEVED.
- 4' FOR CROSS COUNTRY SANITARY SEWER PIPE
- 6' FOR SANITARY SEWER PIPE UNDER PAVED AREAS
2. INSTALL TRENCH DAMS TO PREVENT GROUNDWATER FLOW ALONG PIPE AS SUBSURFACE CONDITIONS WARRANT.

SEWER MAIN TRENCH DETAIL

NOT TO SCALE



NOTES:

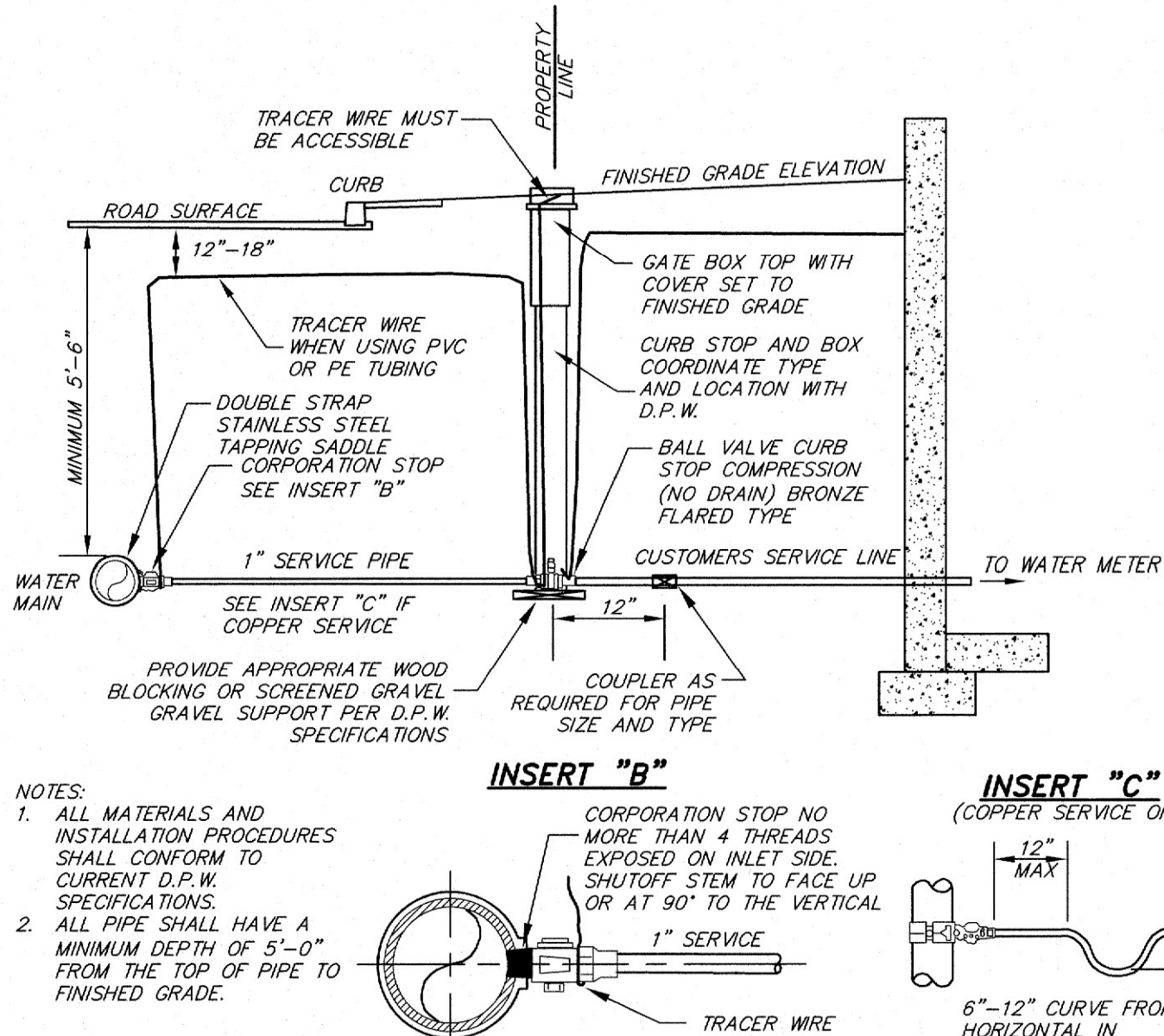
1. ALL MATERIAL AND INSTALLATION PROCEDURES WILL CONFORM TO MANCHESTER WATER WORKS SPECIFICATIONS.
2. ALL PIPE SHOULD HAVE A MINIMUM DEPTH OF 5.5- FEET FROM TOP OF PIPE TO FINISH GRADE.
3. PIPE, FITTINGS, AND HYDRANT BARRELS ARE TO BE WRAPPED IN 8 MIL OF POLYETHYLENE PER A.W.W.A. SPECIFICATIONS.

WATER MAIN TRENCH DETAIL

NOT TO SCALE

GRAVITY SEWER PIPE TESTING PER Env-Wq 704.08

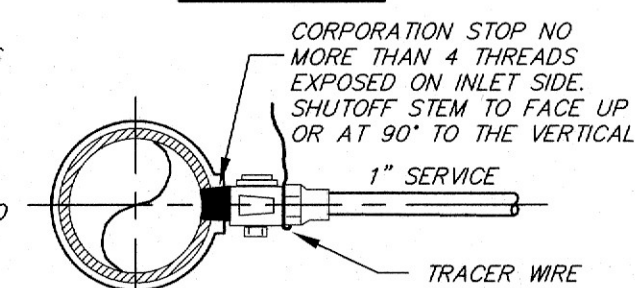
- (A) ALL NEW GRAVITY SEWERS SHALL BE TESTED FOR WATER TIGHTNESS BY THE USE OF LOW-PRESSURE AIR TESTS.
- (B) LOW-PRESSURE AIR TESTING SHALL BE IN CONFORMANCE WITH THE FOLLOWING TESTING STANDARDS IN EFFECT AT THE TIME THE TEST IS CONDUCTED:
 - (1) ASTM F1417 "STANDARD TEST METHOD FOR INSTALLATION ACCEPTANCE OF PLASTIC GRAVITY SEWER LINES USING LOW-PRESSURE AIR", AVAILABLE AS NOTED IN APPENDIX D; OR
 - (2) UNI-BELL PVC PIPE ASSOCIATION UN-B-6, "LOW-PRESSURE AIR TESTING OF INSTALLED SEWER PIPE", AVAILABLE AS NOTED IN APPENDIX D.
- (C) ALL NEW GRAVITY SEWERS SHALL BE:
 - (1) CLEANED AND VISUALLY INSPECTED USING A LAMP TEST AND BY INTRODUCING WATER TO DETERMINE THAT THERE IS NO STANDING WATER IN THE SEWER; AND
 - (2) TRUE TO LINE AND GRADE FOLLOWING INSTALLATION AND PRIOR TO USE.
- (D) ALL PLASTIC SEWER PIPE SHALL BE VISUALLY INSPECTED AND DEFLECTION TESTED NOT LESS THAN 30 DAYS NOR MORE THAN 90 DAYS FOLLOWING INSTALLATION.
- (E) THE MAXIMUM ALLOWABLE DEFLECTION OF FLEXIBLE SEWER PIPE SHALL BE 5% PERCENT OF AVERAGE INSIDE DIAMETER. A RIGID BALL OR MANDREL WITH A DIAMETER OF AT LEAST 95% OF THE AVERAGE INSIDE PIPE DIAMETER SHALL BE USED FOR TESTING PIPE DEFLECTION. THE DEFLECTION TEST SHALL BE CONDUCTED WITHOUT MECHANICAL PULLING DEVICES.
- (F) PVC JOINTS SHALL CONFORM WITH ASTM D3212



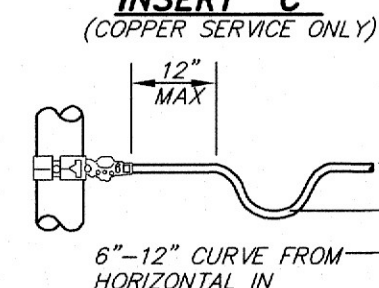
NOTES:

1. ALL MATERIALS AND INSTALLATION PROCEDURES SHALL CONFORM TO CURRENT D.P.W. SPECIFICATIONS.
2. ALL PIPE SHALL HAVE A MINIMUM DEPTH OF 5'-0" FROM THE TOP OF PIPE TO FINISHED GRADE.

INSERT "B"

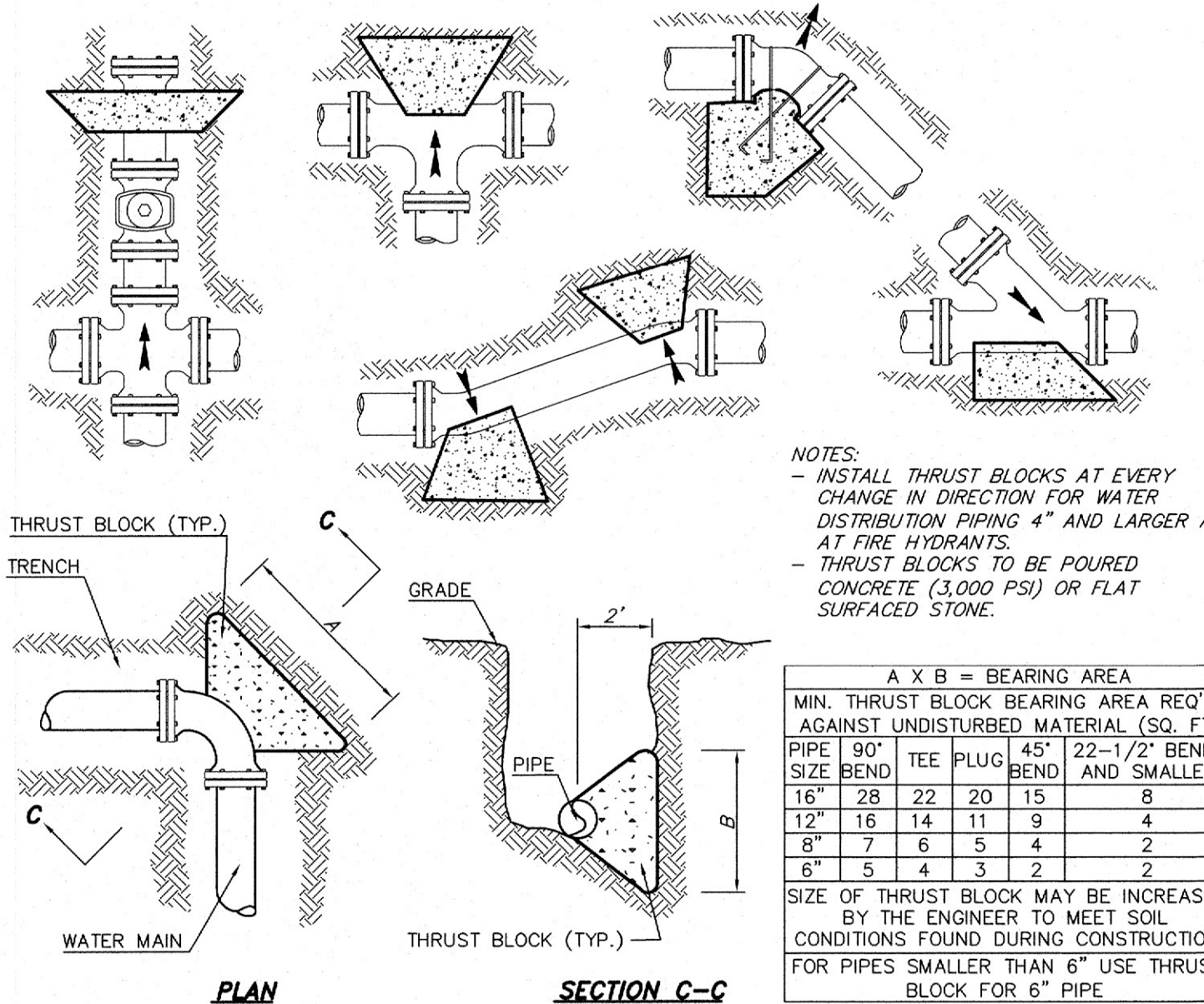


INSERT "C"



TYPICAL 1" SERVICE & VALVE BOX INSTALLATION

NOT TO SCALE



A X B = BEARING AREA				
MIN. THRUST BLOCK BEARING AREA REQ'D. AGAINST UNDISTURBED MATERIAL (SQ. FT.)	PIPE 12" BEND	TEE 45° BEND	PLUG 45° BEND	PIPE 12" BEND AND SMALLER
16"	28	22	20	15
12"	16	14	11	9
8"	7	6	5	4
6"	5	4	3	2

SIZE OF THRUST BLOCK MAY BE INCREASED BY THE ENGINEER TO MEET SOIL CONDITIONS FOUND DURING CONSTRUCTION FOR PIPES SMALLER THAN 6" USE THRUST BLOCK FOR 6" PIPE

TYPICAL THRUST BLOCK DETAIL

NOT TO SCALE

TAX MAP 102 LOT 403-3

DETAIL SHEET 2
DILLON SITE PLAN

LOCATED AT:

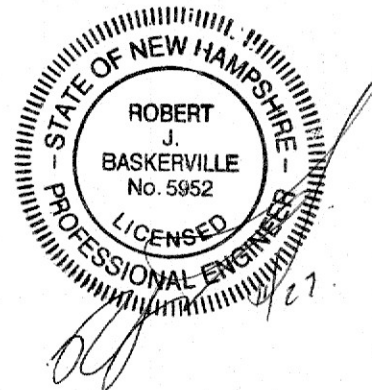
COMMERCE DRIVE
FRANKLIN, NEW HAMPSHIRE

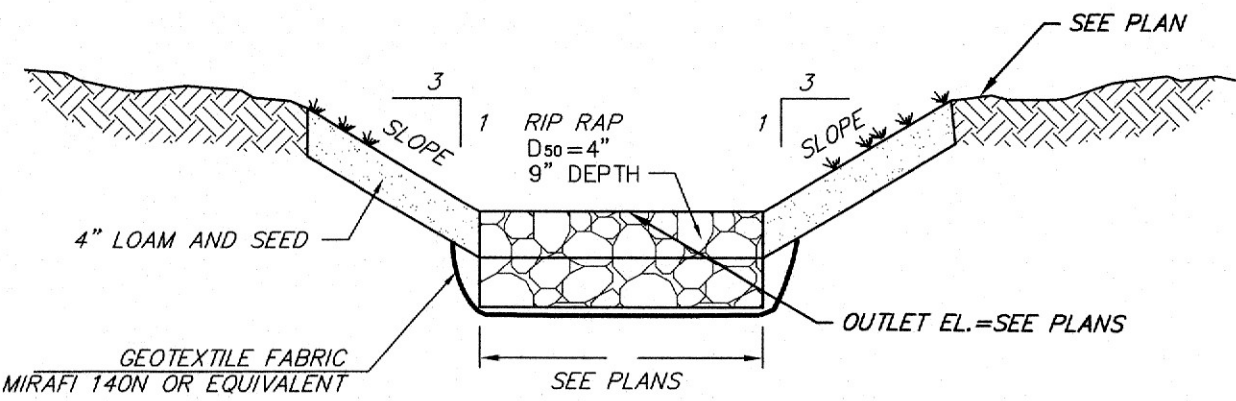
PREPARED FOR:
DILLON'S CUSTOM CABINETRY
116 DUKES COUNTY AVE
OAK BLUFFS, MA 02557

PROPERTY OWNER:
DC REALTY, LLC
21 KENDRICK RD
FRANKLIN, NH 03235

SCALE: AS NOTED	NOVEMBER 15, 2022	SHEET 11 OF 12
DESIGN: KAW	DRAWN: KAW	CHECKED: RJB
		FB: ###
		PG: ###
		1662-01

Bedford Design Consultants Inc.
ENGINEERS AND SURVEYORS
592 Harvey Road, Manchester, NH 03103
Telephone: (603) 622-5533
www.bedforddesign.com





- NOTES:
- WIDTH OF SPILLWAY AND/OR WIDTH OF RIPRAP AS SPECIFIED ON THE PLANS.
 - REFER TO THE MAINTENANCE AND CONSTRUCTION NOTES FOR ROCK RIP-RAP FOR ADDITIONAL DETAILS.

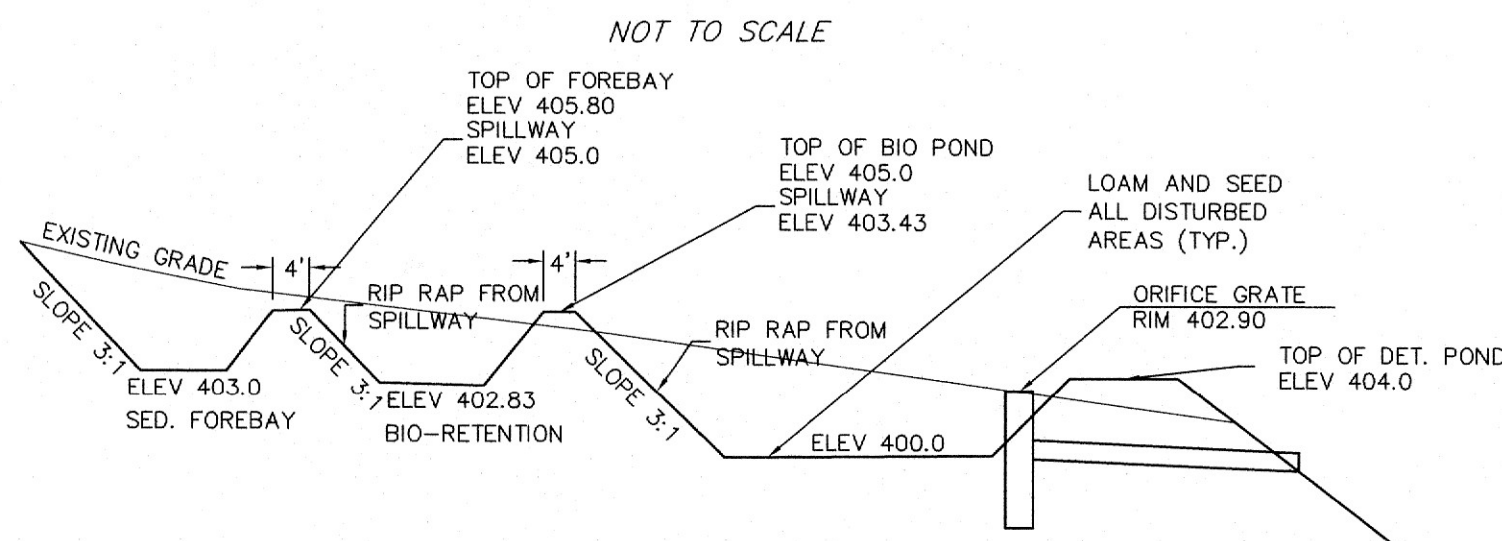
MAINTENANCE

ROCK RIPRAP 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 BEFORE FURTHER DAMAGE CAN TAKE PLACE. WOODY VEGETATION SHOULD BE REMOVED FROM THE ROCK RIPRAP ANNUALLY BECAUSE TREE ROOTS WILL EVENTUALLY DISLODGE THE ROCK RIPRAP. IF THE RIPRAP IS ON A CHANNEL BANK, THE STREAM SHOULD BE KEPT CLEAR OF OBSTRUCTIONS SUCH AS FALLEN TREES, DEBRIS, AND SEDIMENT BARS THAT MAY CHANGE FLOW PATTERNS WHICH COULD DAMAGE OR DISPLACE THE RIPRAP. REPAIRS MUST BE CARRIED OUT IMMEDIATELY TO AVOID ADDITIONAL DAMAGE TO THE RIPRAP.

CONSTRUCTION SPECIFICATIONS

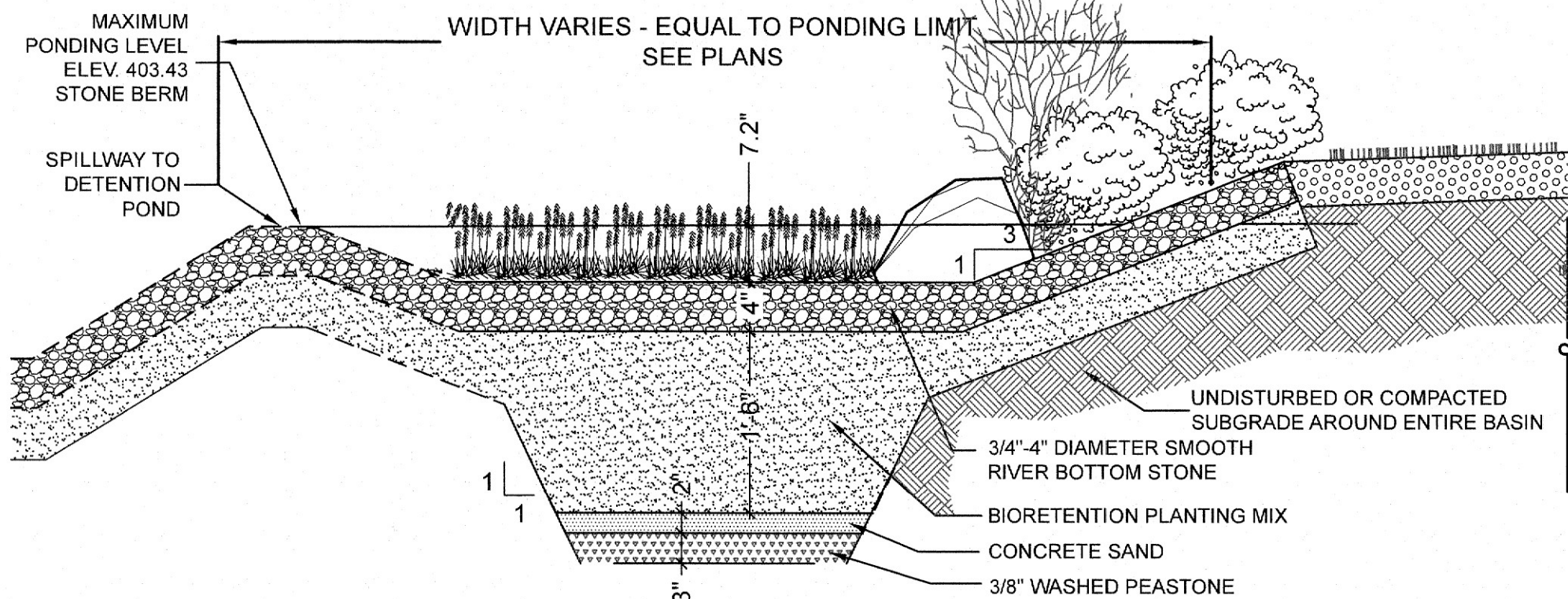
- THE SUBGRADE FOR THE FILTER MATERIAL, GEOTEXTILE FABRIC OR RIPRAP SHALL BE CLEARED AND GRUBBED TO REMOVE ALL ROOTS, VEGETATION, AND DEBRIS AND PREPARED TO THE LINES AND GRADES SHOWN ON THE PLANS.
- THE ROCK AND/OR GRAVEL USED FOR FILTER AND RIPRAP SHALL CONFORM TO THE SPECIFIED GRADATION.
- GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE ROCK RIPRAP BY PLACING A CUSHION OF SAND AND GRAVEL OVER THE FABRIC. 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 REPAIRS OR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 12 INCHES.
- STONE FOR THE RIPRAP 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 PREVENT DISPLACEMENT OF THE UNDERLYING MATERIALS. HAND PLACEMENT MAY BE REQUIRED TO PREVENT DAMAGE TO ANY PERMANENT STRUCTURES.
- STONES FOR RIPRAP SHALL BE ANGULAR OR SUBANGULAR. THE STONES SHOULD BE SHAPED SO THAT THE LEAST DIMENSION OF THE STONE FRAGMENT SHALL BE NOT LESS THAN ONE-THIRD OF THE GREATEST DIMENSION OF THE FRAGMENT. FLAT ROCKS SHALL NOT BE USED FOR RIPRAP.
- VOIDS IN THE ROCK RIPRAP SHOULD BE FILLED WITH SPALLS AND SMALLER ROCKS.

OUTLET SPILLWAY DETAIL FOR FOREBAY, BIO-RETENTION & DETENTION POND



TYPICAL DETENTION POND CROSS-SECTION

NOT TO SCALE



BIORETENTION AREA TYPICAL SECTION

NOT TO SCALE

TEST PIT INFORMATION

TEST PIT NO. 5 - ELEVATION 405.5

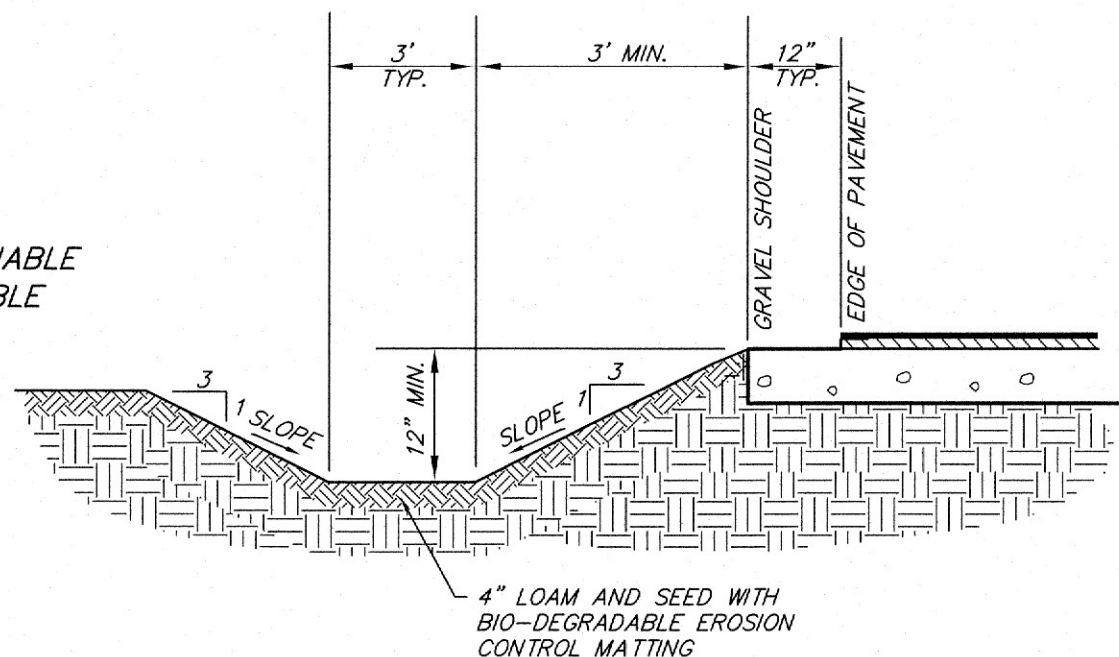
0-4", 10-YR 3/2, FINE SANDY LOAM, MASSIVE, FRIABLE
4-18", 10-YR 5/6, FINE SANDY LOAM, GRANULAR, FRIABLE
18-30", 2.5-YR 6/6, FINE LOAMY SAND, COARSE GRANULAR, FRIABLE
30-40", 2.5-YR 7/8, FINE LOAMY SAND, WEAK GRANULAR, FRIABLE
40-76", 10-YR 7/2, SANDY CLAY, PLATY, FRIABLE

ESHW @ 38" (ELEVATION 402.4)
RESTRICTIVE LAYER @ 40"
PERC. RATE = 4 MIN. PER INCH

TEST PIT NO. 6 - ELEVATION 404.0

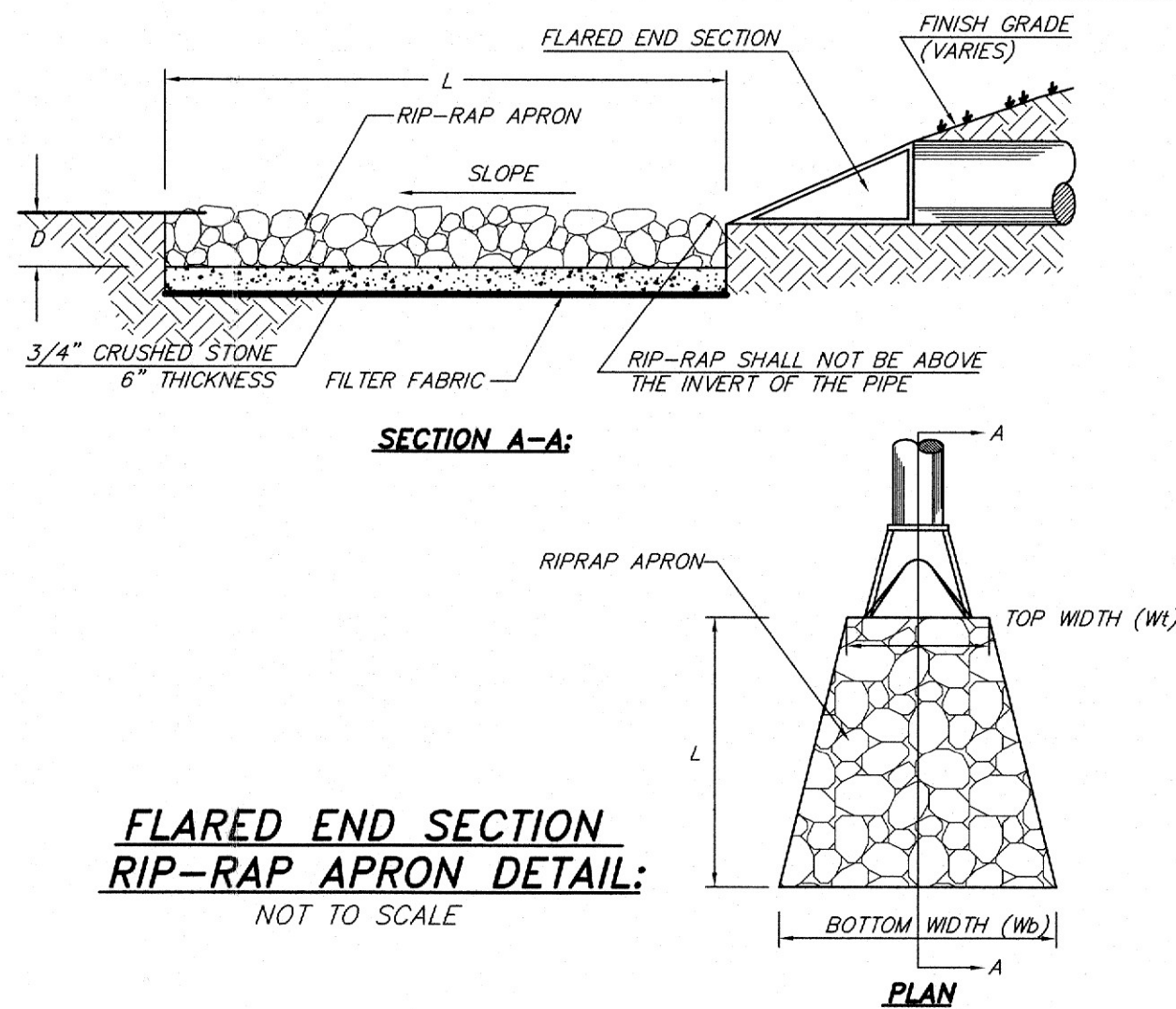
0-2", 10-YR 3/2, FINE SANDY LOAM, MASSIVE, FRIABLE
2-60", 10-YR 6/8, FINE LOAMY SAND, GRANULAR, FRIABLE
60-84", 10-YR 6/3, FINE SANDY LOAM, BLOCKY, FRIABLE

ESHW @ 60" (ELEVATION 399.0)
EST. PERC. RATE = 4 MIN. PER INCH



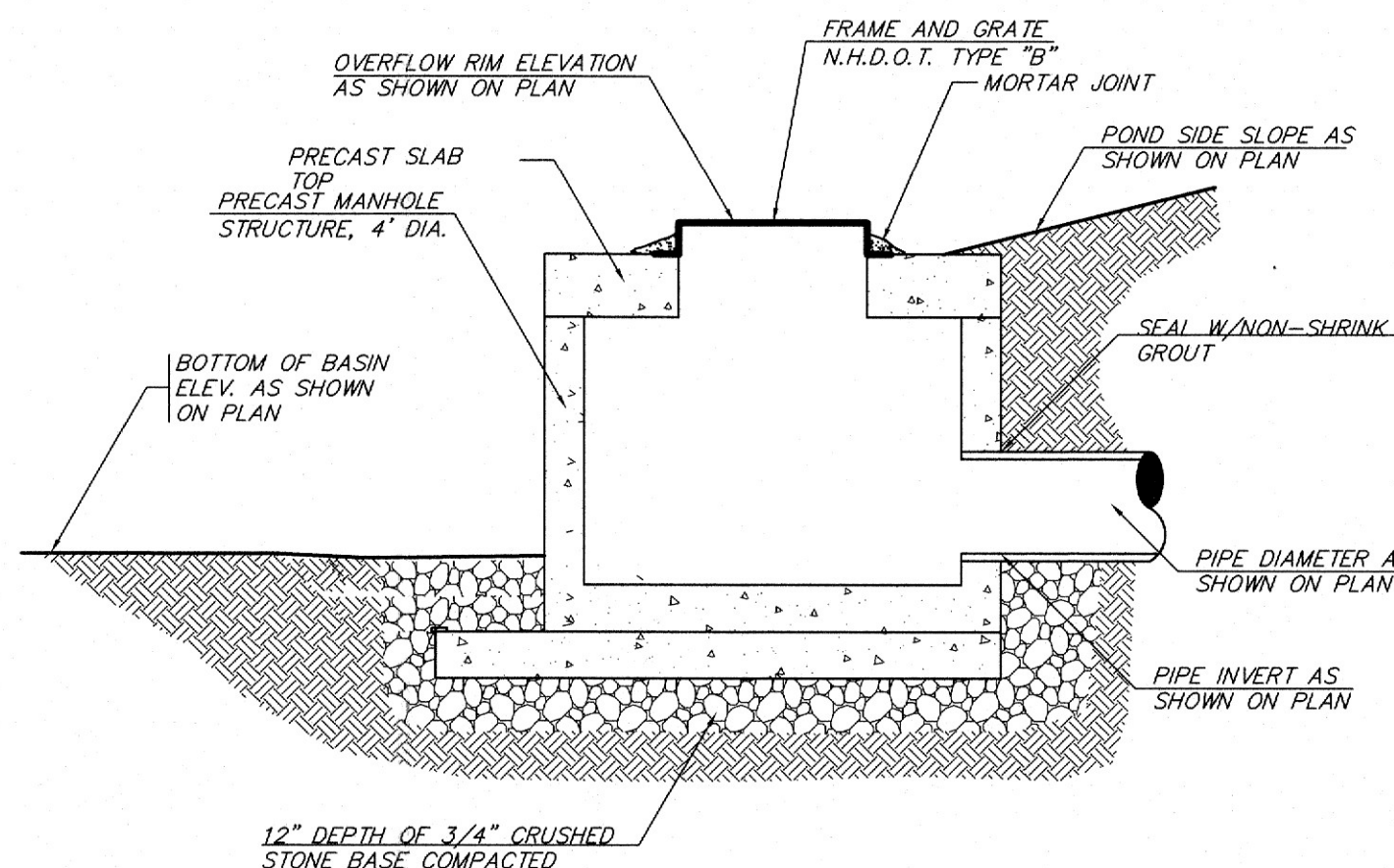
SWALE FOR PARKING RUNOFF

NOT TO SCALE



FLARED END SECTION RIP-RAP APRON DETAIL:

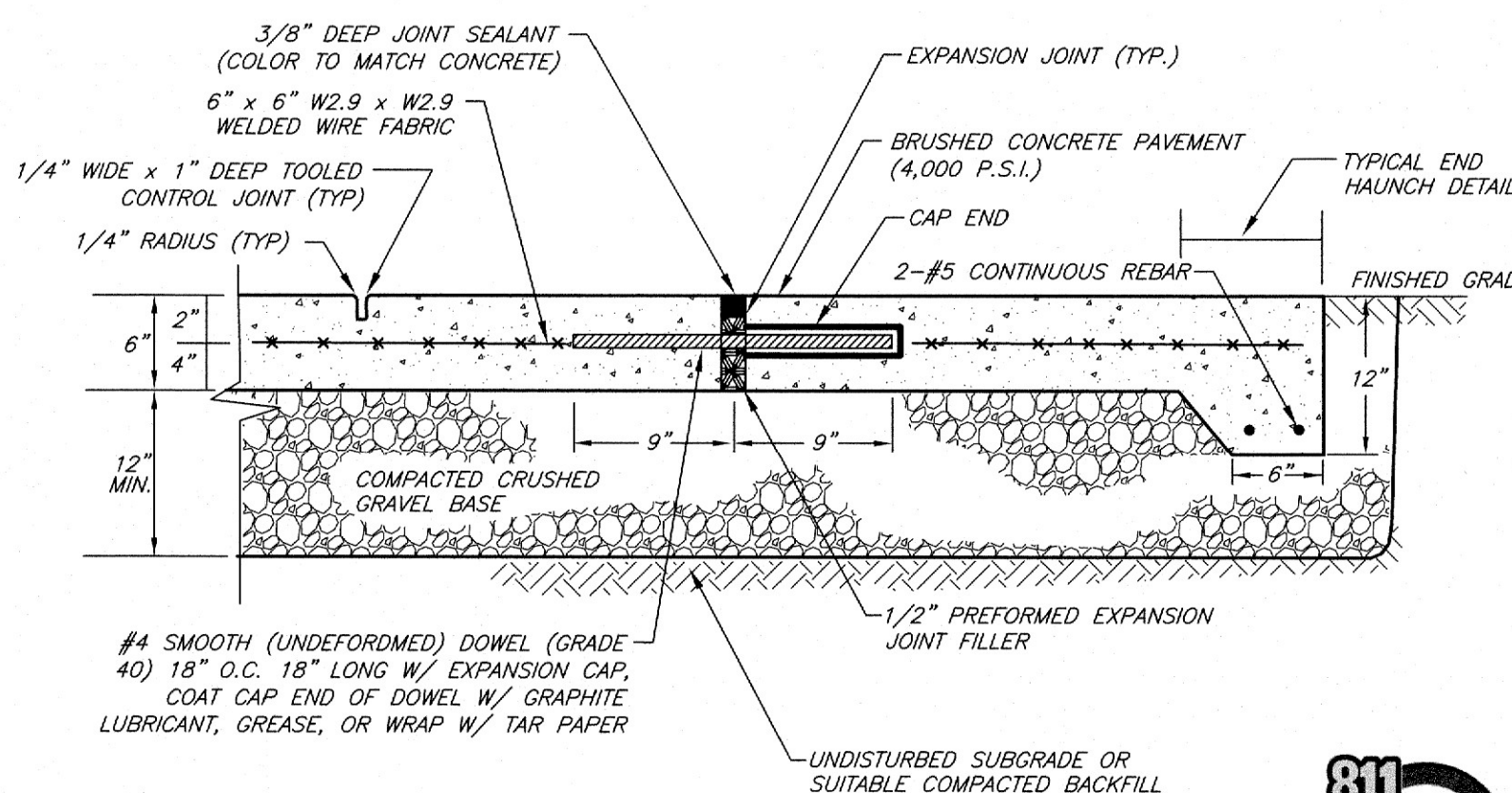
NOT TO SCALE



- NOTES:
- ALL JOINTS TO BE GROUTED OR SEALED
 - CORE RISER WITH SPECIFIED DIAMETER ORIFICE(S) AND ELEVATION(S) AS SHOWN ON PLAN.

DETENTION BASIN OUTLET STRUCTURE DETAIL

NOT TO SCALE



- NOTES:
- CROSS SLOPE OF CONCRETE PAD TO BE AS SPECIFIED ON THE PLAN.
 - MAINTAIN 2" CLEARANCE (TYP) BETWEEN ALL CONCRETE EDGES AND WIRE FABRIC OR DOWEL.
 - CONTROL JOINTS TO BE LOCATED 5-FEET ON CENTER OR AS SHOWN ON ARCHITECTURAL PLANS.
 - EXPANSION JOINTS TO BE LOCATED 25-FEET ON CENTER.
 - WELDED WIRE FABRIC SHALL BE LAPSED A MINIMUM OF 2 WIRE SPACES.
 - ALL CONCRETE TO BE 4,000 PSI NHDOT CLASS AA.

HEAVY DUTY REINFORCED CONCRETE PAD DETAIL FOR DUMPSTER, DUST COLLECTOR & TRENCH DRAIN

NOT TO SCALE

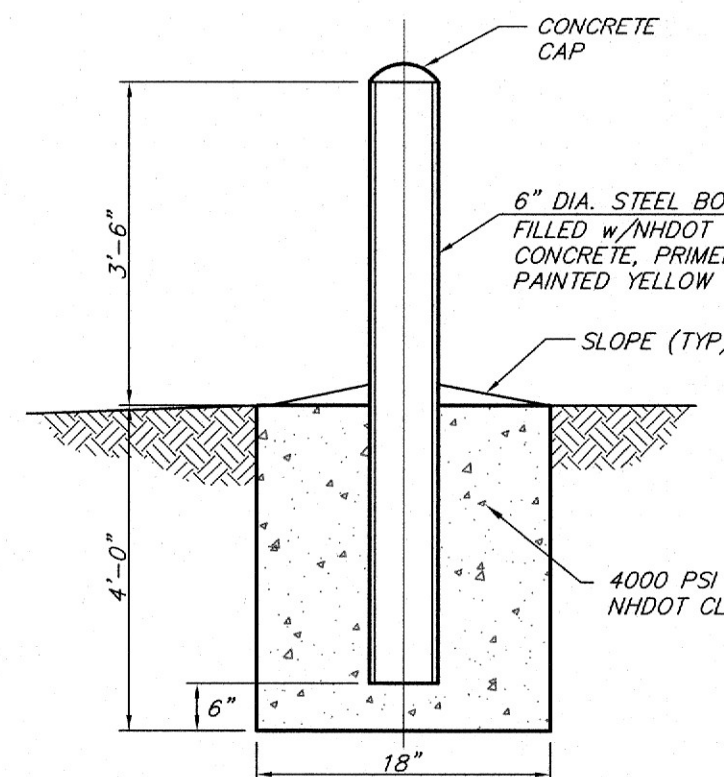
DETENTION / RETENTION POND CONSTRUCTION AND MAINTENANCE NOTES

CONSTRUCTION SPECIFICATIONS FOR DETENTION / RETENTION PONDS

- FOUNDATION PREPARATION
 - THE FOUNDATION 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 SLOPES AND SPILLWAYS. FOUNDATION AREA SHALL BE THOROUGHLY SCARIFIED BEFORE PLACEMENT OF THE MATERIAL. THE SURFACE SHALL HAVE MOISTURE ADDED OR IS SHALL BE COMPACTED IF NECESSARY SO THAT THE FIRST LAYER OF FILL MATERIAL CAN BE COMPACTED AND BONDED TO THE FOUNDATIONS.
 - FOUNDATION AREAS SHALL BE KEPT FREE OF STANDING WATER WHEN FILL IS BEING PLACED ON THEM.
- FILL PLACEMENT
 - THE MATERIAL PLACE IN THE FILL 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.
 - 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.
 - THE PLACING AND SPREADING OF FILL MATERIAL SHALL BE STARTED AT THE LOWEST POINT OF THE FOUNDATION AND THE FILL BROUGHT UP IN HORIZONTAL LAYERS OF SUCH THICKNESS THAT THE REQUIRED COMPACTION CAN BE OBTAINED. THE 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. THE BONDING SURFACE SHALL BE TREATED THE SAME AS THAT SPECIFIED FOR THE FOUNDATION SO AS TO INSURE A GOOD BOND WITH THE NEW FILL.
 - THE DISTRIBUTION AND GRADATION OF MATERIALS SHALL BE SUCH THAT NO LENSES, POCKETS, STREAKS, OR LAYERS OF MATERIAL DIFFER SUBSTANTIALLY IN TEXTURE OF GRADATION FROM THE SURROUNDING MATERIAL. IF IT IS NECESSARY TO USE MATERIALS OF VARYING TEXTURE AND GRADATION, THE MOST IMPERVIOUS MATERIAL SHALL BE PLACED IN THE CENTER AND UPSTREAM PARTS OF THE FILL. IF ZONED FILLS OF SUBSTANTIALLY DIFFERING MATERIALS ARE SPECIFIED, THE ZONES SHALL BE PLACED ACCORDING TO THE LINES AND GRADES SHOWN ON THE DRAWINGS. THE COMPLETE WORK SHALL CONFORM TO THE LINES, GRADES, AND ELEVATIONS SHOWN ON THE DRAWINGS OR AS STAKED IN THE FIELD.
- MOISTURE CONTROL
 - THE MOISTURE CONTENT OF THE FILL MATERIAL SHALL BE ADEQUATE FOR OBTAINING THE REQUIRED COMPACTION THAT IS TOO MET 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
 - CONSTRUCTION EQUIPMENT SHALL BE OPERATED OVER THE AREAS OR EACH LAYER OF FILL TO INSURE THAT THE REQUIRED COMPACTION IS OBTAINED. SPECIAL EQUIPMENT SHALL BE USED IF NEEDED TO OBTAIN THE REQUIRED COMPACTION.
 - IF A MINIMUM REQUIRED DENSITY IS SPECIFIED, EACH LAYER OF FILL SHALL BE COMPACTED AS NECESSARY TO OBTAIN THAT DENSITY.
 - FILL ADJACENT TO STRUCTURES, PIPE CONDUITS, AND ANTISEEP 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.
- PROTECTION
 - A PROTECTIVE COVER OF VEGETATION SHALL BE ESTABLISHED ON ALL EXPOSED SURFACES OF THE EMBANKMENT, SPILLWAY, AND BORROW AREA IF SOIL AND CLIMATIC CONDITIONS PERMIT. IF SOIL OR CLIMATIC CONDITIONS PRECLUDE THE USE OF VEGETATION AND PROTECTION IS NEEDED, NON-VEGETATIVE MEANS, SUCH MULCHES OR GRAVEL, MAY BE USED. IN SOME PLACES, TEMPORARY VEGETATION MAY BE USED UNTIL CONDITIONS PERMIT ESTABLISHMENT OF PERMANENT VEGETATION. THE EMBANKMENT AND SPILLWAY SHALL BE FENCED IF NECESSARY TO PROTECT THE VEGETATION.
 - SEEDBED PREPARATION, SEEDING, FERTILIZING, AND MULCHING SHALL COMPLY WITH THE APPROPRIATE VEGETATIVE BMPs.

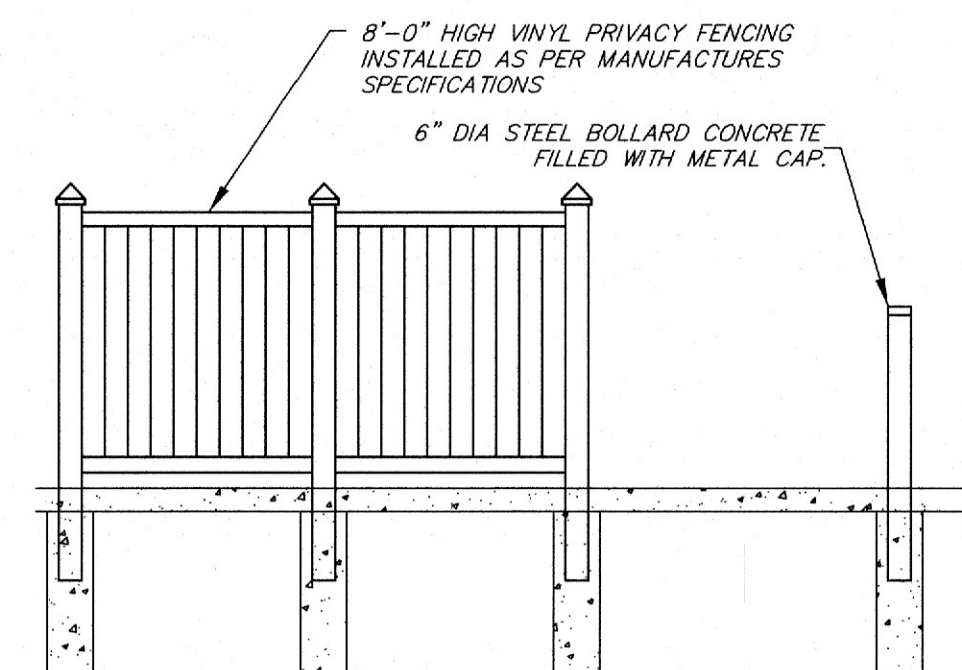
DETENTION / RETENTION POND MAINTENANCE

- THE EMBANKMENT SHOULD BE INSPECTED ANNUALLY TO DETERMINE IF RODENT BURROWS, WET AREAS, OR EROSION OF THE FILL IS TAKING PLACE.
- THE VEGETATED AREAS OF THE STRUCTURE 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 AND SHRUBS SHOULD BE KEPT OFF THE EMBANKMENT AND EMERGENCY SPILLWAY AREAS.
- PIPE INLETS AND SPILLWAY STRUCTURE SHOULD BE INSPECTED ANNUALLY AND AFTER EVERY MAJOR STORM. ACCUMULATED DEBRIS AND SEDIMENT SHOULD BE REMOVED. IF PIPES ARE COATED, THE COATING SHOULD BE CHECKED AND REPAIRED AS NECESSARY.
- PIPE OUTLETS SHOULD BE INSPECTED ANNUALLY AND AFTER EVERY MAJOR STORM. THE CONDITION OF THE PIPES SHOULD BE NOTED AND REPAIRS MADE AS NECESSARY. IF EROSION IS TAKING PLACE THEN MEASURES SHOULD BE TAKEN TO STABILIZE AND PROTECT THE AFFECTED AREA OF THE OUTLET.
- SEDIMENT SHOULD BE CONTINUALLY CHECKED IN THE BASIN. WHEN SEDIMENT ACCUMULATIONS REACH THE PREDETERMINED DESIGN ELEVATION, THEN THE SEDIMENT SHOULD BE REMOVED AND PROPERLY DISPOSED OF.
- ALL PERMANENT IMPOUNDMENTS SHOULD BE INSPECTED BY A QUALIFIED PROFESSIONAL ENGINEER ON A PERIODIC BASIS. IF THERE IS POTENTIAL FOR SIGNIFICANT DAMAGE OR LOSS OF LIFE DOWNSTREAM, THEN THE INSPECTION SHOULD BE CARRIED OUT ANNUALLY. THE DESIGNATED INDIVIDUAL OR GROUP SHOULD ALSO MAKE INSPECTIONS AFTER EVERY MAJOR STORM EVENT.



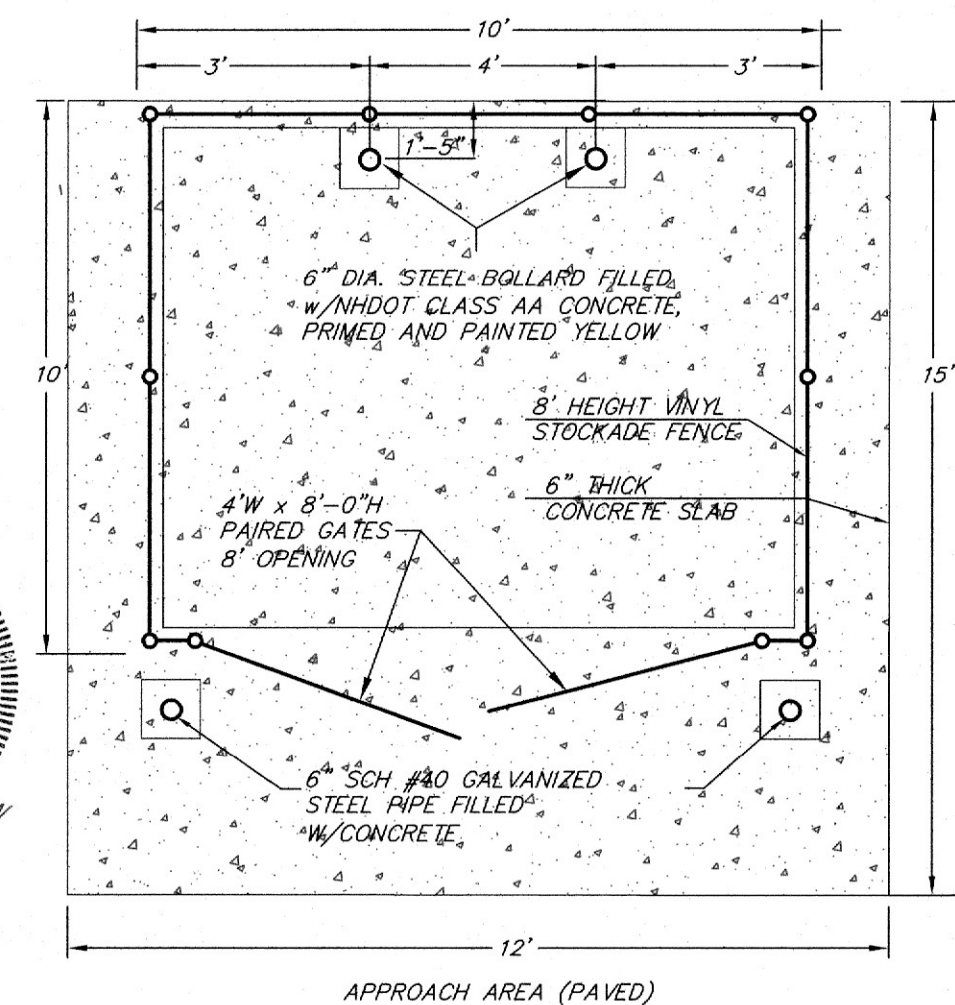
TYPICAL BOLLARD DETAIL

NOT TO SCALE



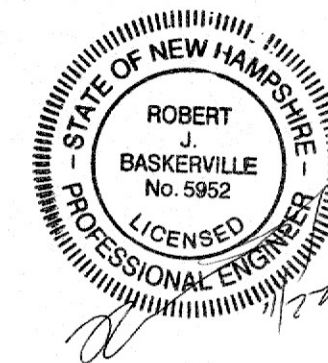
TYPICAL FENCE DETAIL FOR DUMPSTER PAD

NOT TO SCALE



DUMPSTER ENCLOSURE DETAIL

NOT TO SCALE



TAX MAP 102 LOT 403-3

DETAIL SHEET 4 DILLON SITE PLAN

LOCATED AT:

COMMERCE DRIVE
FRANKLIN, NEW HAMPSHIRE

PREPARED FOR:
DILLON'S CUSTOM CABINETRY
116 DUKES COUNTY AVE
OAK BLUFFS, MA 02557

PROPERTY OWNER:
DC REALTY, LLC
21 KENDRICK RD
FRANKLIN, NH 03235

SCALE: AS NOTED	NOVEMBER 15, 2022	SHEET 12 OF 12
DESIGN: KAW	DRAWN: KAW	CHECKED: RJB
		FB: ###
		PG: ###
		1662-01

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