



RESIDENTIAL SITE PLAN APPLICATION (townhouses, apts., etc.)
City of Rochester, New Hampshire

Date: NOVEMBER 21, 2022 [office use only. fee paid _____ amount \$ _____ date paid _____]

Property information

Tax map #: 210; Lot #'s: 64; Zoning district: Highway Commercial & Residential 1

Property address/location: Flat Rock Bridge Rd

Name of project (if applicable): _____

Size of site: 7.7 acres; overlay zoning district(s)? Wetlands overlay

Property owner

Name (include name of individual): Knox Marsh Development LLC

Mailing address: 242 Central Ave., Dover, NH 03820

Telephone #: 603-742-2121 Fax #: _____

Applicant/developer (if different from property owner)

Name (include name of individual): Knox Marsh Development LLC, Robert Baldwin Managing Member

Mailing address: 242 Central Ave., Dover, NH 03820

Telephone #: 603-742-2121 Fax #: robert@centralfallsrealty.com

Engineer/designer

Name (include name of individual): Kenneth A. Berry, PE, LLS
Christopher R. Berry, Project Manager

Mailing address: 335 Second Crown Point Rd. Barrington, NH 03825

Telephone #: 332-2863 Fax #: 335-4623

Email address: crberry@metrocast.net Professional license #: 805
K.Berry@BerrySurveying.com 14243

Proposed use

The applicant is not bound by information on bedrooms and ownership arrangement unless that is a condition of approval.

Total number of proposed dwelling units: 16; number of existing dwelling units: 0

Proposed bedrooms/unit: 2; total number of proposed bedrooms: 32

(continued Residential Site Plan application Tax Map: 210 Lot: 64)

New building(s)? 4 addition(s)/modifications to existing building(s)? 0

Townhouses/rowhouses: X flats: duplexes: freestanding detached units:

Proposed ownership - leasehold: X fee simple conveyance: condominiums: X

Utility information

City water? yes X no ; How far is City water from the site? AT THE SITE

City sewer? yes no X; How far is City sewer from the site? 1,480

If City water, what are the estimated total daily needs? 4800 gallons per day

Where will stormwater be discharged? Multiple rain gardens (3)

Other information

parking spaces: existing: 0 total proposed: 37; Are there pertinent covenants? No

Describe existing conditions/use (vacant land?): Vacant Land

Check any that are proposed: variance ; special exception ; conditional use

Wetlands: Is any fill proposed? NO; area to be filled: N/A; buffer impact? NO

Proposed <i>post-development</i> disposition of site (should total 100%)		
	Square footage	% overall site
Building footprint(s) – give for each building	8,960	2.63%
Parking and vehicle circulation	23,620	7%
Planted/landscaped areas (excluding drainage)	10,500	3.1%
Natural/undisturbed areas (excluding wetlands)	222,833	65.87%
Wetlands	49,088	14.51%
Other – drainage structures, outside storage, etc.	23,297	6.89%

Comments

Please feel free to add any comments, additional information, or requests for waivers here:

See Waiver Requests

(continued Residential Site Plan application Tax Map: 210 Lot: 64)

Submission of application

This application must be signed by the property owner, applicant/developer (if different from property owner), and/or the agent.

I (we) hereby submit this Site Plan application to the City of Rochester Planning Board pursuant to the City of Rochester Site Plan Regulations and attest that to the best of my knowledge all of the information on this application form and in the accompanying application materials and documentation is true and accurate. As applicant/developer (if different from property owner)/as agent, I attest that I am duly authorized to act in this capacity.

Signature of property owner: 

Date: 11-21-22

Signature of applicant/developer: _____

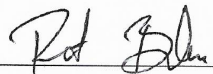
Date: _____

Signature of agent: 

Date: 11-21-22

Authorization to enter subject property

I hereby authorize members of the Rochester Planning Board, Zoning Board of Adjustment, Conservation Commission, Planning Department, and other pertinent City departments, boards and agencies to enter my property for the purpose of evaluating this application including performing any appropriate inspections during the application phase, review phase, post-approval phase, construction phase, and occupancy phase. This authorization applies specifically to those particular individuals legitimately involved in evaluating, reviewing, or inspecting this specific application/project. It is understood that these individuals must use all reasonable care, courtesy, and diligence when entering the property.

Signature of property owner: 

Date: 11-21-22

Site Plan Checklist (residential and nonresidential)

****To be filled out by applicant/agent (with notes to be inserted by staff)***

See regulations for other specific requirements

City of Rochester Planning & Development Department

Project Name: Oldenburg Drive Map: 210 Lot: 64 Date: 11-21-22

Applicant/agent: Christopher R. Berry of BS&E Signature: 

(Staff review by: _____ Date: _____)

General items

	Yes	No	N/A	Waiver Requested	Comments
<u>4</u> sets completed application	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Total application fee	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
<u>4</u> sets letters of intent	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
<u>3</u> sets of full-size plans	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
<u>2</u> sets of 11 X 17 reductions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Completed abutters list	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Copy of existing covenants, easements, deed restrictions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

Plan Information

Basic information including:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
• Title sheet					
• Name of Project					
• Date					
• North arrow					
• Scale					
• Legend					
• Revision block					
• Vicinity sketch -not less than 1" = 1,000'					
Name and address of developer/applicant	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Name, stamp, and NH license # of land survey, engineer, and/or architect	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
City tax map & lot #'s	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Notation on plans: "For more information about this site plan contact...."	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

General items Continued

	Yes	No	N/A	Waiver Requested	Comments
Approval block (for signature by staff attesting to Planning Board approval)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
References to neighboring plans and subdivisions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Surveyed property lines including: <ul style="list-style-type: none">• existing and proposed bearings• existing and proposed distances• pins, stakes, bounds• monuments• benchmarks	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Include error of closure statement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Information on abutting properties: <ul style="list-style-type: none">• owner name• owner address• tax map and lot #• square footage of lots• approximate building footprints• use	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

Zoning

Zoning designations of subject tract and in vicinity of tract	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Zoning requirements for district: <ul style="list-style-type: none">• frontage• lot dimensions/density• all setbacks• lot coverage	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Zoning overlay districts	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

Existing Topographic Features:

Contour lines a (not to exceed two-foot Intervals, except on steep slopes) and spot elevations	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Soil types and boundaries	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Soil test pit locations, profiles, and Depth to water table and ledge	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Percolation test locations and results	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

Existing Topographic Features Continued:**Waiver**

	Yes	No	N/A	Requested	Comments
Water features (ponds, streams)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Wetlands including name of certified Wetlands scientist who delineated	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Statement whether located in flood area, And if so, 100 year flood elevation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Delineation of trees and open areas	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Overview of types of trees and vegetation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Stone walls and archaeological features	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Locations of trails and paths	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Other natural/cultural resources (productive farmland, habitats, scenic views, historic structures, etc)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

Building Information

Existing buildings/structures including square footage and use	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
Proposed building/structures including <ul style="list-style-type: none"> • square footage • first floor elevation • use • # bedrooms per unit if residential 	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Elevation drawing of proposed buildings and structures as follows: <ul style="list-style-type: none"> • Showing all four sides • Drawn to scale with dimensions • Showing exterior materials • Showing exterior colors 	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>ADDITIONAL SHEETS</u>

Circulation and Parking Plans

Existing and proposed driveways and access points including: <ul style="list-style-type: none"> • Width of opening • Turning radii • Cross section of driveway 	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Curbing & edge treatment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Traffic control devices, if appropriate:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

Circulation and Parking Plans Continued:

Waiver

	Yes	No	N/A	Requested	Comments
Number of parking spaces	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
<ul style="list-style-type: none"> • required by ordinance • proposed 					
Parking layout and dimensions of spaces	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Handicap spaces	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
Loading area	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
Pedestrian circulation plan (including existing sidewalks in vicinity, if any)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Bicycle rack, if appropriate	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Buffers, landscaping & screening	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Snow storage areas/plan	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

Utilities

Show all pertinent existing and proposed profiles, elevations, materials, sizes, and details

Water lines/well (with protective radius)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Sewer lines/septic and leaching areas	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Pump stations	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Stormwater management system: pipes, culverts,, catch basins detention/ retention basins, swales, rip rap, etc.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Fire hydrant location(s) and details	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Electric, telephone, cable TV (underground or overhead)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Gas lines	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Fire alarm connections	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>NOTE ON GENERAL NOTES</u>
Treatment of solid waste (dumpsters?)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Handling of oil, grease, chemicals hazardous materials/waste	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____

Landscaping Plan

Waiver

	Yes	No	N/A	Requested	Comments
Demarcation of limits of construction, clear delineation of vegetation to be saved, and strategy for protecting vegetation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Proposed ground cover, shrubbery, and trees including: <ul style="list-style-type: none"> • botanical and common names • locations and spacing • total number of each species • size at installation 	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Planting plan (size of holes, depth of planting, soil amendments, etc.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Irrigation: system? soaker hose? Manual? underground, etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>NO IRRIGATION PROPOSED</u>
Protection of landscaping from vehicles (Curb stops, berm, railroad ties, etc)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>PLACED OFF THE EDGES</u> <u>OR IN LOW/ NO TRAFFIC AREAS</u>
Specification all finished ground surfaces and edges (greenspace, mulch, asphalt, concrete, etc.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Fencing/screening	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>SCREENING PROPOSED FOR</u> <u>ABUTTING LANDS</u>
<u>Signage</u>					
Location and type of signs: <ul style="list-style-type: none"> • Attached to building • Freestanding • Directional, if appropriate 	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
Dimensions of signs: <ul style="list-style-type: none"> • Height • Area • Setback 	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
Elevation drawings with colors & materials	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Type of Illumination, if proposed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>LIGHTING PLAN</u> <u>LAMPS ARE NOW MORE</u> <u>RESIDENTIAL</u>

Outdoor Lighting

Waiver

	Yes	No	N/A	Requested	Comments
Locations	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Height of fixtures	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Wattage	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Type of light (high pressure sodium, etc)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Design/cut sheets of fixtures	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Illumination study, if appropriate	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

Other Elements

Traffic study, if appropriate	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Drainage study with calculations, storm Water impact analysis, and mitigation plan	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Grading plan (including finish grades)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Earth being removed from site(in cubic yards)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NO REMOVAL _____
Erosion and sedimentation plan	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Proposed covenants, easements, And deed restrictions, if any	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
Fiscal impact study, if requested	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

Additional Comments:



BERRY SURVEYING & ENGINEERING

335 Second Crown Point Road
Barrington, NH 03825
Phone: (603) 332-2863
Fax: (603) 335-4623
www.BerrySurveying.Com

November 21, 2022

City of Rochester Planning Board
Attention Senior Planner Ryan O'Connor
33 Wakefield Street
Rochester, NH 03867

RE: Proposed Site Plan (16 Units)
Land off Flack Rock Bridge Road
Rochester, NH
Owner: Knox Marsh Development LLC
16 Unit Townhouse Style Development
Waiver Requests

Pursuant to the City of Rochester Site Plan Regulations, Berry Surveying & Engineering (BS&E) on behalf of the Trust, requests the City of Rochester Planning Board waive the following project specific items:

- Article III, Section 5 (E) Parking Lots (11) Foundation Planting Buffer
- Article III, Section 6 (E) Standards (6) Mounting Heights
- Article III, Section 15 (D) Electrical Utilities (1)

Mr. Chairman and Members of the Rochester Planning Board,

1. Identification of Waiver Request & Explanation.

Article III, Section 5 (E) (11) calls for a foundation planting buffer between the building and any parking lot or driveway situated on the front or side of the building. There is no foundation planting buffer proposed in the front of the building, as each unit has a garage.

2. Waiver Justification:

- a. Granting the waiver will properly carry out the purpose and intent of the regulations.**

Although we are not proposing a planting buffer, we have proposed a tree island between units in the parking area, which will meet the intent of having an attractive landscaped area in front of the buildings.

- b. Strict conformity to the regulations would pose an unnecessary hardship to the applicant.**

Strict conformity would require placing a planting buffer in front of the buildings, rendering the garages useless.

1. Identification of Waiver Request & Explanation.

Article III, Section 6 (E) (6) limits the mounting height of light fixtures to 15 feet. We have proposed lighting mounted at 18 feet.

2. Waiver Justification:

- a. Granting the waiver will properly carry out the purpose and intent of the regulations.**

The intent of the regulation is to ensure a consistent look, and to ensure no light is projected on to abutting properties. The lighting elements and mounting heights were both chosen to for these reasons. There will be no light bleeding over the property lines, and the mounting height is consistent with other lighting in the abutting commercial zone.

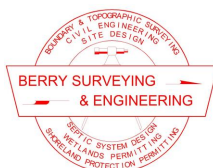
- b. Strict conformity to the regulations would pose an unnecessary hardship to the applicant.**

The lights were chosen and placed to achieve a specific uniformity ratio, and to match the regulations as noted above. In order to match that uniformity ratio under strict compliance, it would require a different type of light than is consistent in the nearby commercial zone while also ensuring no light bleeds on to abutting properties.

1. Identification of Waiver Request & Explanation.

Article III, Section 15 (D) (1) requires all electric utilities to be underground. We are proposing overhead utilities across Flat Rock Bridge Road to a drop pole, where electric will be carried underground.

2. Waiver Justification:



BERRY SURVEYING & ENGINEERING
335 Second Crown Pt. Rd., Barrington, NH 03825
(603) 332-2863 / (603) 335-4623 FAX
www.BerrySurveying.Com

- a. **Granting the waiver will properly carry out the purpose and intent of the regulations.**

By granting the waiver, all electric utilities on site will still be installed underground, per regulations.

- b. **Strict conformity to the regulations would pose an unnecessary hardship to the applicant.**

Strict conformity would require the developer to install underground electric under Flat Rock Bridge Road, at a much higher expense than carrying the existing overhead lines across the street to a drop pole.

Thank you for your time and attention to this matter and we hope you look favorably upon the request.

Respectfully Submitted,

BERRY SURVEYING & ENGINEERING



Christopher R. Berry
Principal, President



BERRY SURVEYING & ENGINEERING

335 Second Crown Pt. Rd., Barrington, NH 03825

(603) 332-2863 / (603) 335-4623 FAX

www.BerrySurveying.Com



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City of Rochester Planning Department
Attention: Ryan O'Connor Senior Planner
33 Wakefield Street
Rochester, NH 03867

November 21, 2022

RE: Traffic Count & Generation
Flat Rock Bridge Road
16 Townhouse Residential Units

Mr. Chairman and Members of the Rochester Planning Board,

Pursuant to the Planning Department's request, Berry Surveying & Engineering (BS&E) has prepared a brief traffic assessment for the above mentioned project. The scope of this analysis is to provide the existing roadway trip counts and speeds, and provide a trip end analysis for the proposed Residential Site Plan under a full build out analysis for year 2023.

Proposal & Introduction:

The proposal is to construct 16 Townhouse Style Residential units off from a private road.

The purpose of this analysis is to determine the maximum number of trips coming to and leaving from the proposed site during certain peak periods of the day and week. The following will be discussed as part of the analysis and is typical for a project of this size pursuant to the Institute of Traffic Engineers (ITE) manual.

- Existing Traffic Counts
- Trip Generation

Existing Traffic:

Utilizing the ATR data provided as part of the Cumberland Farms application on the corner of Milton Road and Flat Rock Bridge Road, the following information was derived.

Existing Pass by Trips at the proposed entrance. AM 7:00-9:00 PM 4:00-6:00

AM Peak (South Bound)	AM Peak (North Bound)	PM Peak (South Bound)	PM Peak (North Bound)
100 82%	22 18%	88 40.75%	128 59.25%

Though the above data is outdated by many years, there are no surrounding forces that would have changed the directional distribution seen on Flat Rock Bridge Road. No further counts have been conducted by SRPC or NHDOT since this time.

Trip Generation:

The 11th Edition ITE Trip Generation Manual was used to determine the volume of trips, as well as the percentage of entrance-to-exit traffic experienced at the AM & PM Peak hour between 7 and 9 AM and 4 and 6 PM. Land Use (230) Residential Condominium/Townhouse were used in deriving the trip generation for the project development.

Residential Condominium/Townhouse Trip Generation:

Residential Condominium/Townhouse Peak Hour of Adjacent Street Traffic Peak Hour of Generator AM Weekday

Total Trips	24% Entering	76% Exiting
6	1	5

Residential Condominium/Townhouse Peak Hour of Adjacent Street Traffic Peak Hour of Generator PM Weekday

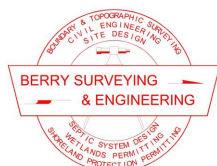
Total Trips	63% Entering	37% Exiting
8	5T	3T

Enter-Exit / Left-Right AM 7:00-9:00

South Exit	North Exit (Left turn)	South Entrance (Left Turn)	North Entrance
4	1	0	1

Enter-Exit / Left-Right AM 4:00-6:00

South Exit	North Exit (Left turn)	South Entrance (Left Turn)	North Entrance
2	1	2	3

**BERRY SURVEYING & ENGINEERING**

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www.BerrySurveying.Com

Conclusion:

It is concluded that this project generates a very low number of trips to the driveway entrance during the peak hours analyzed. Traffic generated primarily travels to and from the southerly direction, the major highway access, with little traffic directed towards the Salmon Falls intersection. Left turns into the project site during PM peak limited, and will see minimal delay in entering the project site.

Respectfully Submitted,

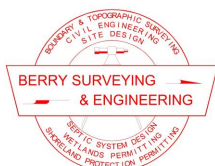
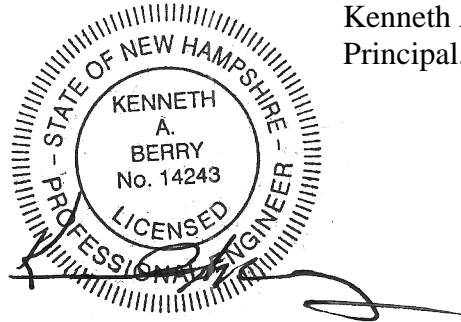
BERRY SURVEYING & ENGINEERING



Christopher R. Berry SIT
Principal, President



Kenneth A. Berry, PE, LLS, CPESC
Principal, VP-Technical Operations



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City of Rochester
Planning & Development
Attn: Mr. Ryan O'Connor, Senior Planner
33 Wakefield Street
Rochester, NH 03867

November 21, 2022

Re: 16 Unit Residential Site Plan
Knox Marsh Development LLC
Flat Rock Bridge Road
Tax Map 210, Lot 64

Mr. O'Connor,

On behalf of the land owner and the applicant, Knox Marsh Development LLC, Berry Surveying & Engineering (BS&E) is submitting a 16 Unit Residential Site Plan Application for Tax Map 210, Lot 64, off Flat Rock Bridge Road. The project is located in both the Residential-1 (R1) Zone and the Highway Commercial (HC) Zone.

This is a re-submission of a previously approved project previously approved under the name Anna Fazekas Trust. At that time the trustee of the trust, Ervin Fazekas, undertook multiple land planning actions on this parcel as well as others which now immediately abut the subject parcel. A brief history:

- In 2012 there was a lot line adjustment / subdivision undertaken adjacent to 85 Milton Road which created the lot which Family Dollar constructed on, now known as 87 Milton Road, owned by Packy's Investment Properties LLC.
- In 2015 work on the remaining land was undertaken. At that time there was a parcel on Milton Road, multiple parcels off from and behind Flat Rock Bridge Road, and a frontage lot on Flat Rock Bridge Road.
- A proposal was developed to merge all of the parcels, and create by subdivision a commercial lot on Milton Road, a Subdivision Road off Flat Rock Bridge Road to create additional single family lots in the R1 Zone, and lots in the HC zone to create a dense multi-family development on the remainder of the parcel. Due to the lack of sewer in the immediate area, and concerns over higher ground water tables, the Planning Board requested the prior owner to either review bringing sewer to the project site from the Salmon Falls Road sewer project, or reducing the scope of the project.

- In 2016 BS&E on behalf of the owner started final land surveying, wetlands and soil mapping on the project site and developed a plan for 16 residential units off from a private road known as Oldenburg Drive and a lot line revision with the frontage lot on Milton Road, now known as 89 Milton Road, to create a lot for commercial use and development along the corridor.
- After meeting with the Planning Board under a Design Review and subsequently a formal application as well as meetings with the abutting land owners, the Planning Board approved the 16-unit project and creation of the commercial lot on Milton Road.
- The former owner did not meet the requirements for Active and Substantial Construction, and the approval lapsed.
- The former owner sold the land to the current owner / applicant in early 2022, who proposed some minor changes in building foot prints and some changes in the architectural design. These changes are reflected in the current submission for re-approval.

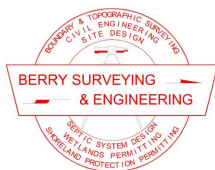
Existing Conditions:

As noted above the site was surveyed in 2016 with the wetlands mapped by Peter Spear CWS, and at the time soils were delineated by Stoney Ridge Environmental. As part of this submission the site was reviewed again by Peter Spear CWS with no changes noted in the wetland boundary, however a known encroachment was observed within the former wetland boundary by the now abutting land owner at 89 Milton Road. Soils were reviewed for compliance with current design standards by John P. Hayes, CSS. No changes in the soils mapping were required. Much of Flat Rock Bridge Road, the abutting subdivision to the north, and Milton Road drain down to the wetland found in the northeast corner of the project site. The underlying soil in the area is sandy, and highly transmissive which allows for existing stormwater on the site, and that which comes onto the site to infiltrate in the wetland.

As noted above, the site is divided by the zone line between R1 and HC. The two front lots on Milton Road were developed for commercial uses in the HC Zone. There are other existing commercial uses in the HC Zone along Milton Road. The remaining abutting land is developed as single family residential and multi-family housing.

Proposed Conditions:

As was previously reviewed by the TRG and approved by the Planning Board, the application is to construct 16 residential units in four, 4-unit buildings. These buildings are proposed to be smaller townhouse units, with a single car garage and front entrance / stoop. Two parking spaces are proposed in-front of each unit as well as a



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small landscape island for perennial ornamental grasses. The applicant has made the units slightly smaller than previously approved, which has opened up the separation between the units. The applicant is also proposing a design that is more vibrant and contains more character than was previously approved.

The site design proposes a private roadway/ driveway with adequate turn around. The entrance will contain a bus stop and the road is designed with an at grade walkway. The entrance is specifically designed across the street from an abutting driveway and garage structure to ensure they are not primarily focused into the abutting house. The buildings are required to be set in the HC zone, so a sweeping design was used to gain access to that section of the land. The road position and open design was specifically designed to allow for the infiltration rain gardens as designed and to create as much separation with the maximum number of abutting land owners. The proposed buildings are set as close to the other higher intensity uses along Milton Road, and as far from the single family uses as practical. This is balanced with separations from natural wetland resources and local buffers. Though the buildings are not "due" south, they are generally set in the south eastern direction to achieve some solar efficiency.

The site is serviced by municipal water and on-site sewage disposal. The units are proposed as 2-bedroom units. The units are proposed to gravity into tanks located at the front of each pod of units, and then gravity to a pump chamber which lifts to the effluent disposal field. The project is fed by an 8" water line and each building contains both a domestic and fire suppression line. The current design contemplates natural gas in the neighborhood.

Due to the higher ground water tables and a lack of discharge point for existing stormwater, the project is design to capture and re-infiltrated treated stormwater through infiltration rain gardens. This is done in three separate areas and is done in a sprawling format to increate the footprint and area in which the water is infiltration to better simulate the existing natural recharge. There is no additional rate or volume discharged to the central contained wetland.

During the prior approval process, BS&E worked with members of the planning department and the abutting land owners at the time to ensure buffering was considered in key areas of the site. Fences are proposed where owners requested and vegetation buffering is proposed in other key areas. The site is designed with a diverse vegetation which includes both over and understory. Though the UNH stormwater manual currently allows for grass lined rain gardens, we are currently proposing to keep the original design which includes ground coverings and perimeter plantings in keeping with the original landscape intent. These areas as designed provide habitat for bird species and pollinators which is important in an urbanizing area.



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Lighting onsite is proposed to be low and residential in nature. All lamps are full cut off and dark-sky compliant and have residential architectural features. Low lighting is proposed at the rear of the site so as not to disrupt the natural processes within the wetland system with no light proposed to leave the development sight.

The project proposes three waivers which were considered during the prior approval. Those requests are included in a separate narrative. There are no conditional use permits required for this project and the project has been updated to meet the standards of Chapter 218. The prior project met the standards of the former Chapter 50.

Thank you for your time and attention to this matter.

BERRY SURVEYING & ENGINEERING



Christopher R. Berry
Principal, President



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PROPOSED MAJOR SITE PLAN
FOR
KNOX MARSH DEVELOPMENT, LLC
FLAT ROCK BRIDGE ROAD & MILTON ROAD
ROCHESTER, NH
TAX MAP 210, LOT 64

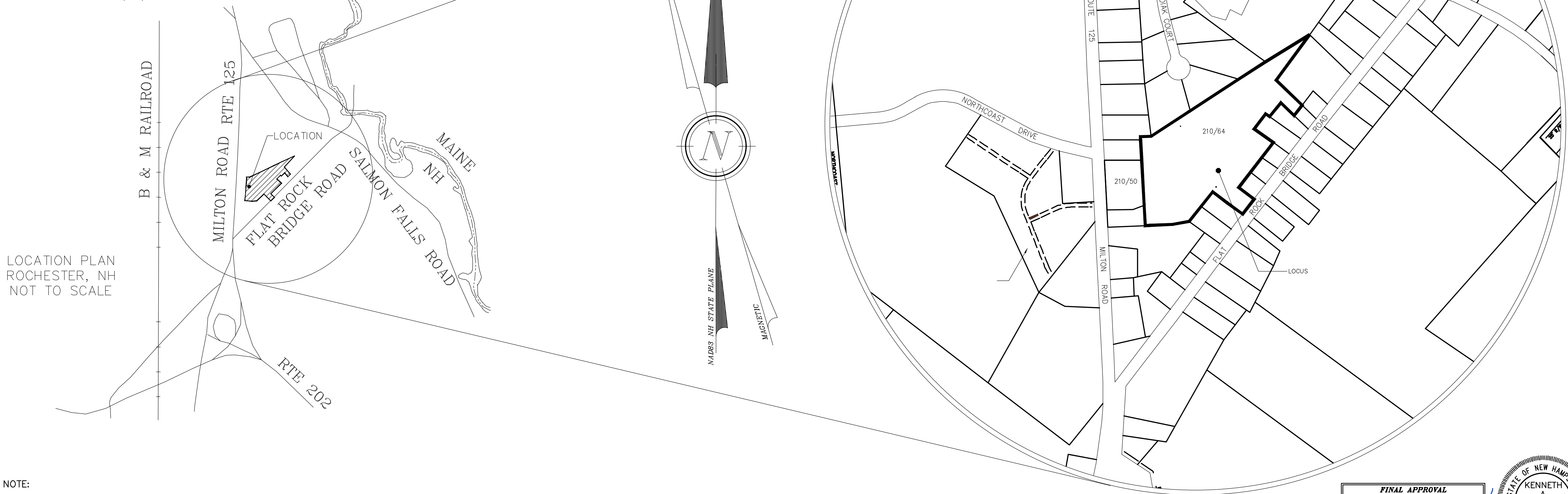
SURVEYOR OF RECORD: KENNETH A. BERRY, PE, LLS
CPSWQ, CPESC, CESSWI
BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825
(603) 332-2863

ENGINEER OF RECORD: KENNETH A. BERRY, PE, LLS
CPSWQ, CPESC, CESSWI
BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825
(603) 332-2863

WETLAND SCIENTIST OF RECORD: PETER SPEAR, CWS, CSS
95 SILVER LAKE ROAD
TILTON, NH 03276
(603) 729-0214

SOILS SCIENTIST OF RECORD: JOHN P. HAYES, III CSS, CWS
7 LIMESTONE WAY
NORTH HAMPTON, NH 03862
(603) 205-4396

OWNER AND APPLICANT: KNOX MARSH DEVELOPMENT, LLC
242 CENTRAL AVE
DOVER, NH 03820



TAX MAP SKETCH
ROCHESTER, N.H.
SCALE: 1" = 300'±

NOTE:
BERRY SURVEYING & ENGINEERING HAS PREPARED AN INSPECTION & MAINTENANCE MANUAL AS PART OF THIS PROJECT'S DOCUMENTATION. ALL USERS ARE BOUND TO THIS DOCUMENT AS PART OF THE APPROVAL OF THE PLANNING BOARD. COPIES OF THE YEARLY INSPECTIONS ARE TO BE DELIVERED TO THE ROCHESTER DPW AS DIRECTED IN THE MANUAL

- REQUIRED PERMITS:
- NHDES SUBSURFACE SEPTIC
 - EPA/NOTICE OF INTENT (CGP)
 - LOCAL CHAPTER 218

FINAL APPROVAL
BY
ROCHESTER PLANNING BOARD
CERTIFIED BY :
DATE :



BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603) 332-2863
SCALE: AS NOTED
DATE : NOVEMBER 22, 2022
FILE NO. : DB 2022 - 028

STATE OF NEW HAMPSHIRE
KENNETH A. BERRY
LICENSED PROFESSIONAL ENGINEER
NO. 805

STATE OF NEW HAMPSHIRE
KENNETH A. BERRY
LICENSED LAND SURVEYOR
NO. 805

REVISION	DATE	DESCRIPTION

PROPOSED MAJOR SITE PLAN
LAND OF
KNOX MARSH DEVELOPMENT LLC
FLAT ROCK BRIDGE ROAD
ROCHESTER, N.H.
TAX MAP 210, LOT 64

TP #1 & 1A
0.0-0.5' 10YR 2/2 VERY DARK BROWN, FINE SANDY LOAM, GRANULAR, FRIABLE
0.5-1.5' 10YR 5/8 YELLOWISH BROWN, FINE SANDY LOAM, GRANULAR, FRIABLE
1.5-4.4' 10YR 6/3 PALE BROWN, MIXED SAND & GRAVEL, SINGLE GRAIN, LOOSE
4.4-6.0' 2.5Y 6/2 LIGHT BROWNISH GRAY FINE SAND, SINGLE GRAIN, FRIABLE IN HAND
15% REDOX 7.5YR 5/8

ESHWT @ 4.4'
NO G.W.
ROOTS TO 3.4'
TERMINATED @ 6.0'
P = 2-4 MIN/IN

TP #2

0.0-0.6' 10YR 2/2 VERY DARK BROWN, FINE SANDY LOAM, GRANULAR, FRIABLE
0.6-2.0' 10YR 5/8 YELLOWISH BROWN, FINE SANDY LOAM, GRANULAR, FRIABLE
2.0-3.0' 10YR 6/3 PALE BROWN MIXED SAND & GRAVEL, SINGLE GRAIN, LOOSE
3.0-6.0' 2.5Y 6/2 LIGHT BROWNISH GRAY, FINE SAND, SINGLE GRAIN, FIRM IN HAND
15% REDOX 5YR 5/8

ESHWT @ 3.2'
G.W. @ 4.5'
ROOTS TO 3.2'
TERMINATED @ 6.0'
P = 6 MIN/IN

TP #3

0.0-0.6' 10YR 2/2 VERY DARK BROWN, FINE SANDY LOAM, GRANULAR, FRIABLE
0.6-1.2' 10YR 5/4 YELLOWISH BROWN, FINE SANDY LOAM, GRANULAR, FRIABLE
1.2-2.0' 10YR 6/4 PALE BROWN, FINE SAND, SINGLE GRAIN, LOOSE
2.0-3.1' 10YR 6/4 LIGHT YELLOWISH BROWN, MIXED SAND & GRAVEL, SINGLE GRAIN
3.1-5.0' 10Y 6/2 LIGHT BROWNISH GRAY, FINE SAND, SINGLE GRAIN, FRIABLE IN HAND
50% REDOX

ESHWT @ 3.1'
NO LEDGE
G.W. @ 4.5'
ROOTS TO 3.5'
TERMINATED @ 5.0'
P = 2-4 MIN/IN

TP #4

0.0-0.5' 10YR 2/2 VERY DARK BROWN, FINE SANDY LOAM, GRANULAR, FRIABLE
0.5-1.0' 10YR 5/8 YELLOWISH BROWN, FINE SANDY LOAM, GRANULAR, FRIABLE
1.0-3.8' 10YR 6/4 LIGHT YELLOWISH BROWN, MIXED SAND & GRAVEL, SINGLE GRAIN, LOOSE
3.8-5.0' 10YR 6/2 LIGHT BROWNISH GRAY, FINE SAND, SINGLE GRAIN, FRIABLE IN HAND
15% REDOX

ESHWT @ 3.8'
NO LEDGE
G.W. @ 4.0'
ROOTS TO 3.5'
TERMINATED @ 5.0
P = 2-4 MIN/IN

TP #5

0.0-0.6' 10YR 2/1 BLACK, FINE SANDY LOAM, GRANULAR, FRIABLE
0.6-1.3' 2.5Y 5/4 LIGHT OLIVE BROWN, FINE SANDY LOAM, GRANULAR, FRIABLE
1.3-3.5' 5YR 5/8 YELLOWISH RED, MIXED SAND & GRAVEL, SINGLE GRAIN, FRIABLE
3.5-5.0' 2.5Y 6/2 LIGHT BROWNISH GRAY, FINE SAND, SINGLE GRAIN, BLOCKY

ESHWT @ 1.3'
G.W. @ 3.5'
ROOTS TO 2.3'
TERMINATED @ 5.0'
P = 2-4 MIN/IN

TP #6

0.0-0.6' 10YR 2/2 VERY DARK BROWN, FINE SANDY LOAM, GRANULAR, FRIABLE
0.6-1.4' 10YR 5/8 YELLOWISH BROWN, FINE SAND, SINGLE GRAIN, LOOSE, FRIABLE
1.4-4.0' 2.5Y 6/2 LIGHT BROWNISH GRAY, MIXED SAND & GRAVEL, SINGLE GRAIN, LOOSE, FRIABLE
50% 10YR 6/2, 50% 7.5YR 5/8

ESHWT @ 1.4'
G.W. @ 3.0'
ROOTS TO 1.4'
TERMINATED @ 4.0'
P = 2-4 MIN-IN

TP #7

0.0-0.6' 10YR 2/2 VERY DARK BROWN, FINE SANDY LOAM, GRANULAR, FRIABLE
0.6-1.4' 10YR 5/8 YELLOWISH BROWN, FINE SAND, SINGLE GRAIN, LOOSE, FRIABLE
1.4-4.0' 2.5Y 6/2 LIGHT BROWNISH GRAY, MIXED SAND & GRAVEL, SINGLE GRAIN, LOOSE, FRIABLE
50% 10YR 6/2, 50% 7.5YR 5/8

ESHWT @ 1.4'
G.W. @ 3.0'
ROOTS TO 1.4'
TERMINATED @ 4.0
P = 2-4 MIN/IN

TP #8

0.0-0.6' 10YR 2/2 VERY DARK BROWN, FINE SANDY LOAM, GRANULAR, FRIABLE
0.6-1.4' 10YR 5/8 YELLOWISH BROWN, FINE SAND, SINGLE GRAIN, LOOSE, FRIABLE
1.4-4.0' 2.5Y 6/2 LIGHT BROWNISH GRAY, MIXED SAND & GRAVEL, SINGLE GRAIN, LOOSE, FRIABLE
50% 10YR 6/2, 50% 7.5YR 5/8

ESHWT @ 1.4'
G.W. @ 3.0'
ROOTS TO 1.4'
TERMINATED @ 4.0
P = 2-4 MIN/IN

TP #9

0.0-0.3' 10YR 5/8 YELLOWISH BROWN, FINE SANDY LOAM, GRANULAR, FRIABLE
0.3-1.2' 10YR 5/4 YELLOWISH BROWN, VERY FINE SANDY LOAM, GRANULAR, FRIABLE
1.2-2.0' 2.5Y 6/2 LIGHT BROWNISH GRAY, FINE SAND, SINGLE GRAIN, LOOSE
2.0-4.0' 2.5Y 6/2 LIGHT BROWNISH GRAY, MIXED SAND & GRAVEL, SINGLE GRAIN, LOOSE, FRIABLE
30 % REDOX

ESHWT @ 2.0'
G.W. @ 3.5'
ROOTS TO 2.2'
TERMINATED @ 4.0'
P = 2-4 MIN/IN

TP #10

0.0-0.5' 10YR 2/2 VERY DARK BROWN, FINE SANDY LOAM, GRANULAR, FRIABLE
0.5-2.1' 10YR 5/8 YELLOWISH BROWN, FINE SANDY LOAM, GRANULAR, FRIABLE

2.1-5.0' 2.5Y 6/2 LIGHT BROWNISH GRAY MIXED SAND & GRAVEL, SINGLE GRAIN, LOOSE, FRIABLE
REDOX 50% 10YR 6/2
REDOX 50% 7.5YR 5/8

ESHWT @ 2.1'
G.W. @ 4.0'
ROOTS TO 2.3'
TERMINATED @ 5.0'
P = 2-4 MIN/IN

TP #11

0.0-0.5' 10YR 2/2 VERY DARK BROWN, FINE SANDY LOAM, GRANULAR, FRIABLE
0.5-2.1' 10YR 5/8 YELLOWISH BROWN, FINE SANDY LOAM, GRANULAR, FRIABLE
2.1-5.0' 2.5Y 6/2 LIGHT BROWNISH GRAY, MIXED SAND & GRAVEL, SINGLE GRAIN, LOOSE, FRIABLE
REDOX 50% 10YR 6/2
REDOX 50% 7.5YR 5/8

ESHWT @ 2.1'
G.W. @ 4.0'
ROOTS TO 2.3'
TERMINATED @ 5.0'
P = 2-4 MIN/IN

TP #12

0.0-0.3' 10YR 2/2 VERY DARK BROWN, FINE SANDY LOAM, GRANULAR, FRIABLE
0.3-1.4' 10YR 4/4 DARK YELLOWISH BROWN, FINE SAND, SINGLE GRAIN, LOOSE, FRIABLE
1.4-3.5' 2.5Y 6/2 LIGHT BROWNISH GRAY, MIXED SAND & GRAVEL, SINGLE GRAIN, LOOSE, FRIABLE
50% 10YR 6/2, 50% 7.5YR 5/8

ESHWT @ 1.4'
G.W. @ 2.2'
ROOTS TO 1.4'
TERMINATED @ 3.5'
P = 2-4 MIN/IN

TP #13

0.0-0.3' 10YR 2/2 VERY DARK BROWN, FINE SANDY LOAM, GRANULAR, FRIABLE
0.3-1.1' 10YR 4/4 DARK YELLOWISH BROWN, FINE SAND, SINGLE GRAIN, LOOSE, FRIABLE
1.1-5.0' 2.5Y 6/2 LIGHT BROWNISH GRAY, MIXED SAND & GRAVEL, SINGLE GRAIN, LOOSE, FRIABLE
50% 10YR 6/2, 50% 7.5YR 5/8

ESHWT @ 1.3'
G.W. @ 1.3'
ROOTS TO 1.3'
TERMINATED @ 5.0'
P = 2-4 MIN/IN

TP #14

0.0-0.6' 10YR 2/2 VERY DARK BROWN, FINE SANDY LOAM, GRANULAR, FRIABLE
0.6-1.6' 10YR 5/8 YELLOWISH BROWN, VERY FINE SANDY LOAM, SINGLE GRAIN, FRIABLE
1.6-5.0' 2.5Y 7/2 LIGHT GRAY, FINE SAND, SINGLE GRAIN, LOOSE, FRIABLE
REDOX 0% 2.5Y 7/2

ESHWT @ 1.6'
G.W. @ 2.0'
ROOTS TO 1.6'
TERMINATED @ 5.0'
P = 2-4 MIN/IN

TP #15

0.0-0.5' 10YR 2/2 VERY DARK BROWN, FINE SANDY LOAM, GRANULAR, FRIABLE
0.5-2.0' 10YR 5/8 YELLOWISH BROWN, FINE SANDY LOAM, GRANULAR, FRIABLE
2.0-2.4' 6/4 LIGHT YELLOWISH BROWN, FINE SAND, SINGLE GRAIN, LOOSE, FRIABLE
2.4-5.0' 2.5Y 6/2 LIGHT BROWNISH GRAY, MIXED SAND & GRAVEL, SINGLE GRAIN, LOOSE, FRIABLE
REDOX 10%

ESHWT @ 2.4'
G.W. @ 4.5'
ROOTS TO 2.4'
TERMINATED @ 5.0'
P = 2-4 MIN/IN

TP #16

0.0-0.5' 10YR 2/2 VERY DARK BROWN, FINE SANDY LOAM, GRANULAR, FRIABLE
0.5-2.0' 10YR 5/8 YELLOWISH BROWN, FINE SAND, SINGLE GRAIN, LOOSE, FRIABLE
2.0-2.8' 10YR 6/4 LIGHT YELLOWISH BROWN, FINE SAND, SINGLE GRAIN, LOOSE, FRIABLE
2.8-5.0' 2.5Y 6/4 LIGHT YELLOWISH BROWN, MIXED SAND & GRAVEL, SINGLE GRAIN, LOOSE
REDOX 30%

ESHWT @ 2.8'
G.W. @ 3.0'
ROOTS TO 2.8'
TERMINATED @ 5.0'
P = 2-4 MIN/IN

TP #17 & 17A

0.0-0.5' 10YR 2/2 VERY DARK BROWN, FINE SANDY LOAM, GRANULAR, FRIABLE
0.5-1.8' 10YR 5/8 YELLOWISH BROWN, FINE SAND, SINGLE GRAIN, LOOSE
1.8-2.8' 10YR 6/4 LIGHT YELLOWISH BROWN, FINE SAND, SINGLE GRAIN, LOOSE
2.8-5.0' 2.5Y 6/4 LIGHT YELLOWISH BROWN, MIXED SAND & GRAVEL, SINGLE GRAIN, LOOSE
REDOX 30%

ESHWT @ 2.8'
NO G.W.
ROOTS TO 2.5'
TERMINATED @ 5.0'
P = 2-4 MIN/IN

TP #18 & 18A

0.0-0.5' 10YR 2/2 VERY DARK BROWN, FINE SANDY LOAM, GRANULAR, FRIABLE
0.5-1.8' 10YR 5/8 YELLOWISH BROWN, FINE SAND, SINGLE GRAIN, LOOSE
1.8-2.8' 10YR 6/4 LIGHT YELLOWISH BROWN, FINE SAND, SINGLE GRAIN, LOOSE
2.8-5.0' 2.5Y 6/4 LIGHT YELLOWISH BROWN, MIXED SAND & GRAVEL, SINGLE GRAIN, LOOSE
REDOX 30%

ESHWT @ 3.8'
NO G.W.
ROOTS TO 2.5'
TERMINATED @ 5.0'
P = 2-4 MIN/IN

TP #19 & 19A

0.0-5.0' 10YR 6/4 LIGHT YELLOWISH BROWN, MIXED SAND & GRAVEL, SINGLE GRAIN, LOOSE

ESHWT N/A
NO G.W.
TERMINATED @ 5.0'
P = 2-4 MIN/IN

ABBREVIATION LEGEND:

S.G.C. SLOPED GRANITE CURB
V.G.C. VERTICAL GRANITE CURB
E.O.P. EDGE OF PAVEMENT
B.C.C. BITUMINOUS CONCRETE CURB
BITUM. BITUMINOUS
E.O.P. EDGE OF PAVEMENT
E.S.H.W.T. ESTIMATE SEASONAL HIGH WATER TABLE
TYP. TYPICAL
T. BLOCK THRUST BLOCK
CONC. CONCRETE
U.G.E. UNDER GROUND ELECTRIC / UTILITY
U.D. UNDER DRAIN
F.E.S. FLARED END SECTION
HDPE HIGH DENSITY POLYETHYLENE
RCP REINFORCED CONCRETE PIPE
F.G. FINISHED GRADE
E.G. EXISTING GRADE
T.W. TRAVELED WAY
T.B.R. TO BE REMOVED
'/. FEET / FEET

SSL () ~ {SIZE} SINGLE SOLID LINE (COLOR W=WHITE, Y=YELLOW)
DSL () ~ {SIZE} DOUBLE SOLID LINE (COLOR W=WHITE, Y=YELLOW)
SSB () ~ {SIZE} SINGLE SOLID W/ BROKEN LINE (COLOR W=WHITE, Y=YELLOW)
SBL () ~ {SIZE} SINGLE BROKEN LINE (COLOR W=WHITE, Y=YELLOW)
DBL () ~ {SIZE} DOUBLE BROKEN LINE (COLOR W=WHITE, Y=YELLOW)

PROPOSED LEGEND:

UTILITY POLE
UTILITY PADS
SEWER MANHOLE
WATER SHUT OFF / VALVE
HYDRANT
THRUST BLOCK
LIGHTING
CATCH BASIN / DRAIN MANHOLE
SIGNAGE
LAMP
CONTOUR MINOR
CONTOUR MAJOR
SPOT GRADE
CULVERT W/ FLARED END SECTION (F.E.S.)
DETAIL SHEET / DETAIL
TREE LINE
CENTER LINE
UNDERGROUND UTILITY
TRANSFORMER / J.BOX
UNDER DRAIN
WATER LINE
SEWER LINE
GAS LINE
SILT FENCE / EROSION MIX BERM
FILTREX 12" SILT SOXX
ORANGE CONSTRUCTION PERIMETER FENCE
STOCKPILE AREA

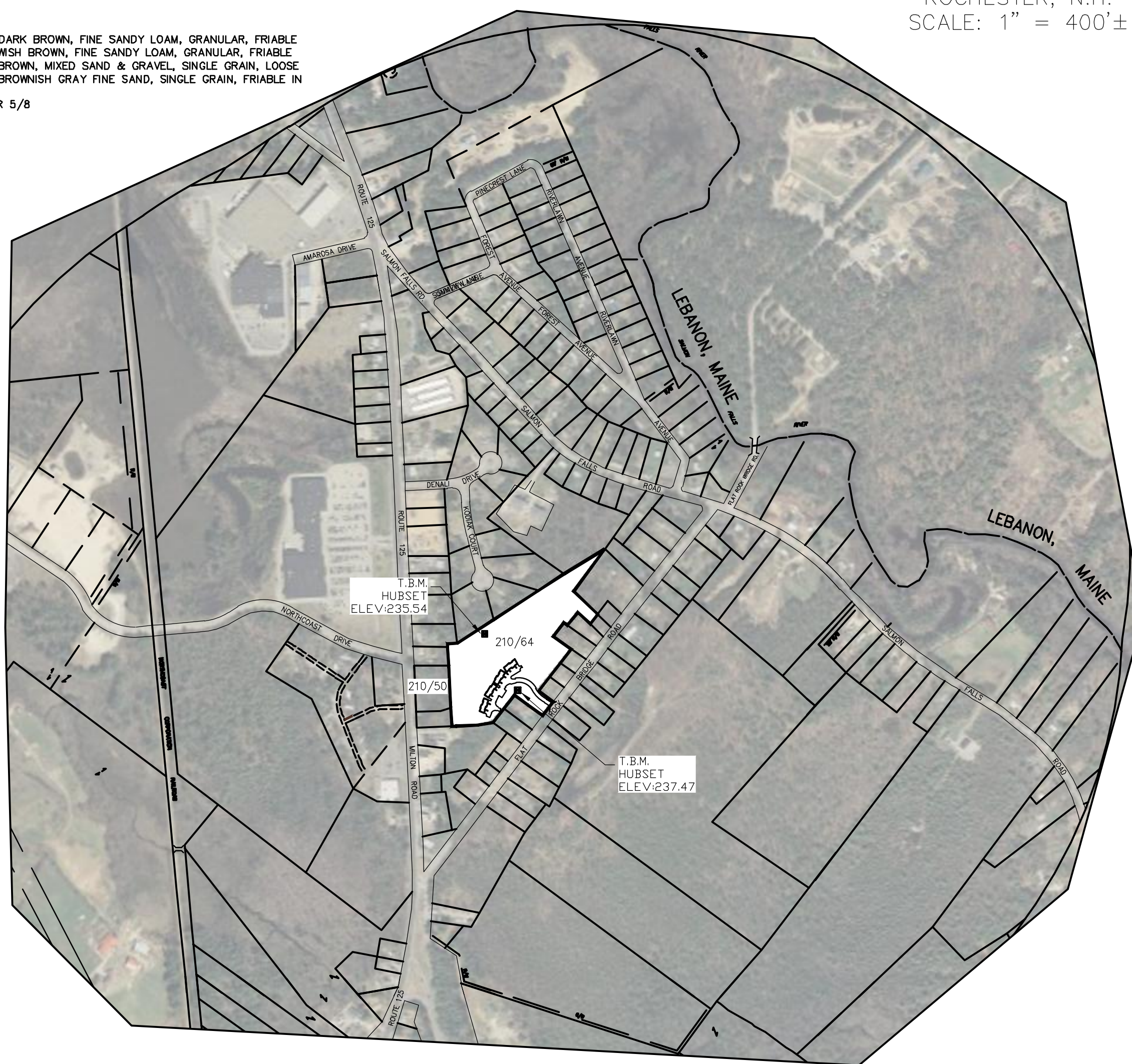
EXISTING LEGEND:

IRON BOUND ~TBS~
IRON BOUND ~FND~
GRANITE BOUND ~FND~
STONE BOUND ~FND~
UTILITY POLE
GUY WIRE
CURB STOP
GATE VALVE
GAS VALVE
FIRE HYDRANT
CATCH BASIN
SEWER MANHOLE
SINGLE POST SIGN
TEST PIT
TREE

BUILDING SETBACK LINE
EASEMENT LINE
GAS LINE
WATER LINE
SEWER LINE
OVERHEAD UTILITIES
HIGHWAY FENCE
SOILS LINE
EXISTING CONTOUR MINOR
EXISTING CONTOUR MAJOR
EXISTING CULVERT PIPE
EXISTING WETLANDS
EXISTING WETLANDS BUFFER
ZONE LINE

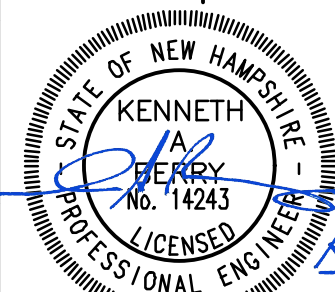
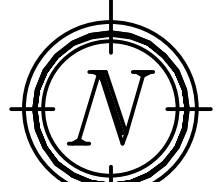
NEIGHBORHOOD PLAN

TAX MAP SKETCH
ROCHESTER, N.H.
SCALE: 1" = 400'±



SIGN ID NUMBER	SIGN SIZE (WIDTH x HEIGHT)	SIGN	TEXT DIMENSIONS	NO. OF SIGNS	BACKGROUND	LEGEND	BORDER	POST SIZE & QUANTITY
	4"x4"		SEE STANDARD SIGN TO BE PURCHASED AT THE CITY OF ROCHESTER PLANNING OFFICE	TBD IN FIELD	GREEN	WHITE	WHITE	U-CHANNEL OR TREE
	4"x4"		SEE STANDARD HIGHWAY SIGNS 2004 EDITION PUBLISHED BY USDOT - FHWA	4	GREEN	WHITE	WHITE	U-CHANNEL (3)

SIGN ID NUMBER	SIGN SIZE (WIDTH x HEIGHT)	SIGN	TEXT DIMENSIONS	NO. OF SIGNS	BACKGROUND	LEGEND	BORDER	POST SIZE & QUANTITY
R1-1	30"x30"		SEE STANDARD HIGHWAY SIGNS 2004 EDITION PUBLISHED BY USDOT - FHWA	1	RED	WHITE	WHITE	U-CHANNEL (1)
N/A	12"x18"		SEE STANDARD HIGHWAY SIGNS 2004 EDITION PUBLISHED BY USDOT - FHWA	5	WHITE	RED	RED	U-CHANNEL (5)
R2-1	24"x30"		SEE STANDARD HIGHWAY SIGNS 2004 EDITION PUBLISHED BY USDOT - FHWA	1	WHITE	BLACK	BLACK	U-CHANNEL (1)
W14-2	24"x24"		SEE STANDARD HIGHWAY SIGNS 2004 EDITION PUBLISHED BY USDOT - FHWA	1	YELLOW (RETROREFLECTIVE)	BLACK	BLACK	U-CHANNEL (1)
	24"x12"		SEE STANDARD HIGHWAY SIGNS 2004 EDITION PUBLISHED BY USDOT - FHWA	1	GREEN	WHITE	GREEN	U-CHANNEL (1)



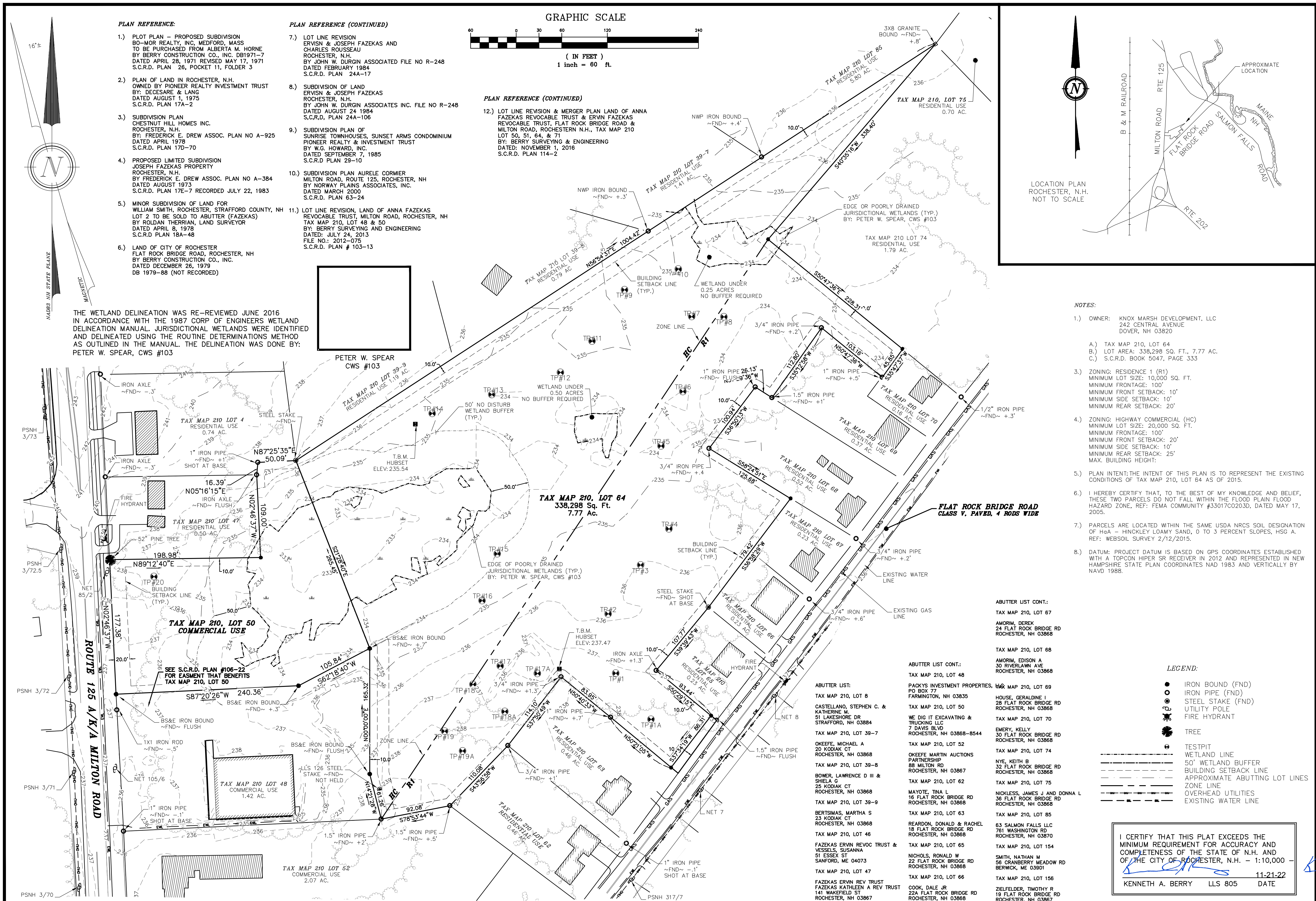
REVISION	DATE	DESCRIPTION

PROPOSED MAJOR SITE PLAN
LAND OF
KNOX MARSH DEVELOPMENT LLC
FLAT ROCK BRIDGE ROAD
ROCHESTER, N.H.
7.4X MAP 210, LOT 64

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE: AS NOTED
DATE : NOVEMBER 22, 2022
FILE NO. : DB 2022 - 028

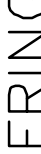
STATE OF NEW HAMPSHIRE
KENNETH A. BERRY
No. 14243
LICENSED PROFESSIONAL ENGINEER

KEY LINE SURVEY
NO. 805
KENNETH A. BERRY
SIGNATURE



REVISION	DATE	DESCRIPTION

EXISTING CONDITIONS PLAN
LAND OF
KNOX MARSH DEVELOPMENT LLC
FLAT ROCK BRIDGE ROAD
ROCHESTER, N.H.
TAX MAP 210, LOT 64

	<p style="text-align: center;">STATE OF NEW HAMPSHIRE</p> <p style="text-align: center;">SEAL OF THE STATE OF NEW HAMPSHIRE</p> <p style="text-align: center;">1776</p>
<p>PROFESSIONAL SURVEYING & ENGINEERING</p>	
<p>335 SECOND CROWN POINT ROAD BARRINGTON, NH 03825 (603) 332-2863</p>	
<p>SCALE : 1 IN. = 60 FT.</p>	
<p>DATE : NOVEMBER 22, 2022</p>	
<p style="text-align: center;">_____ SIGNATURE</p>	

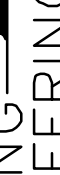
NOTES:

- THE INTENT OF THIS PLAN SET IS TO DEMONSTRATE THE EXISTING CONDITIONS OF TAX MAP 210, LOT 64, AND DETAILS FOR THE PROPOSED CONSTRUCTION OF A RESIDENTIAL SITE PLAN WITH PROPOSED PARKING, DRAINAGE, AND UTILITIES.
- 2.) CURRENT OWNER: KNOX MARSH DEVELOPMENT, LLC
242 CENTRAL AVE
DOVER, NH 03820
- 3.) THE PROJECT PARCEL IS TAX MAP 210, LOT 64 OF THE CITY OF ROCHESTER TAX ASSESSOR'S MAPS.
- 4.) TITLE REFERENCE FOR THE PROJECT PARCELS ARE THE STRAFFORD COUNTY REGISTRY OF DEEDS, (S.C.R.D.) BOOK NO. 5047 PAGE NO. 333.
- 5.) ZONING: RESIDENTIAL 1 (R1)
MINIMUM LOT SIZE: 10,000 SQ. FT.
MINIMUM FRONTAGE: 100'
MINIMUM FRONT SETBACK: 10'
MINIMUM SIDE SETBACK: 10'
MINIMUM REAR SETBACK: 20'
- 5A.) ZONING: HIGHWAY COMMERCIAL (HC)
MINIMUM LOT SIZE: 20,000 SQ. FT.
MINIMUM FRONTAGE: 100'
MINIMUM FRONT SETBACK: 20'
MINIMUM SIDE SETBACK: 10'
MINIMUM REAR SETBACK: 25'
MAXIMUM BUILDING HEIGHT: 35'
- 6.) PROPERTY LINE INFORMATION HAS BEEN OBTAINED FROM A SURVEY PERFORMED BY BERRY SURVEYING & ENGINEERING IN JULY 2015 WITH AN ERROR OF CLOSURE GREATER THAN 1 IN 10,000.
- 7.) UNDERGROUND UTILITY LOCATIONS ARE BASED UPON BEST AVAILABLE EVIDENCE AND ARE NOT FIELD VERIFIED. LOCATING AND PROTECTING ANY ABOVE AND BELOW GROUND UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. ANY UTILITY CONFLICTS SHOULD BE REPORTED IMMEDIATELY TO THE DESIGN ENGINEER.
- 8.) I HEREBY CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE AND BELIEF, THESE PARCELS DO NOT FALL WITHIN THE FLOOD PLAIN FLOOD HAZARD ZONE, REF: FEMA COMMUNITY #33017C0203D, DATED MAY 17, 2005.
- 9.) SEE THE EXISTING CONDITIONS PLANS FOR LOCATIONS OF ON SITE WETLANDS. THESE AREAS ARE TO BE FLAGGED PRIOR TO EARTH MOVING ACTIVITIES.
- 10.) AS-BUILT PLANS OF THE SITE SHALL BE SUBMITTED ON A REPRODUCIBLE MYLAR MEDIUM AND IN A DIGITAL DXF FORMAT ON DISK TO THE CITY OF ROCHESTER GIS OFFICE UPON COMPLETION OF PROJECT. AS-BUILT PLANS SHALL BE PREPARED AND CERTIFIED CORRECT BY A L.L.S. OR P.E.
- 11.) EXTERIOR LIGHTING SHALL BE CUT-OFF TYPE FIXTURES AND SHALL PROVIDE LIGHTING DIRECTED ON-SITE ONLY.
- 12.) TOPOGRAPHIC SURVEY PERFORMED BY BERRY SURVEYING & ENGINEERING IN 2015. EXISTING TOPO PROVIDED AT 1' INTERVAL
- 13.) DATUM: PROJECT DATUM IS BASED ON GPS COORDINATES ESTABLISHED WITH A TOPCON HIPER SR RECEIVER IN 2012 AND REPRESENTED IN NEW HAMPSHIRE STATE PLANE COORDINATES NAD 1983 AND VERTICALLY BY NAVD 1988.
- 14.) THE PROPOSED STRUCTURE WILL BE SERVED BY A SPRINKLER SYSTEM AS REQUIRED UNDER THE CODE OF THE CITY OF ROCHESTER AND THE 2009 STATE BUILDING CODES, AS APPLICABLE.
- 15.) FIRE DEPARTMENT CONNECTIONS SHALL BE LOCATED ON THE STREET SIDE OF THE BUILDING PER NFPA 13, AS APPLICABLE.
- 16.) A SECURITY SYSTEM MAY NEED TO BE INSTALLED AS MAY REQUIRED BY THE CODE OF THE CITY OF ROCHESTER, AS APPLICABLE.
- 17.) FINAL UTILITY LOCATIONS TO BE COORDINATED BETWEEN THE CONTRACTOR, ALL APPROPRIATE UTILITY COMPANIES AND THE ROCHESTER DPW.
- 18.) CONTRACTOR TO CONTACT ROCHESTER DPW A MINIMUM OF TWO WEEKS PRIOR TO ANY CONSTRUCTION TO COORDINATE ALL WORK CONCERNING INSTALLATION OF ANY PROPOSED WATER LINE IMPROVEMENTS AS MAY BE REQUIRED.
- 19.) ALL WATER MAIN AND SERVICE INSTALLATIONS SHALL CONFORM TO CITY OF ROCHESTER STANDARDS.
- 20.) CONTRACTOR SHALL COORDINATE ALL ELECTRICAL INSTALLATIONS WITH EVERSOURCE AT (603) 436-7708. ALL ELECTRIC CONDUIT INSTALLATION SHALL BE INSPECTED BY EVERSOURCE PRIOR TO BACKFILL. A 48-HOUR MINIMUM NOTICE IS REQUIRED.
- 21.) CONTRACTOR SHALL COORDINATE ALL TELECOMMUNICATIONS INSTALLATIONS WITH FAIRPOINT COMMUNICATIONS AT (603) 427-5525.
- 22.) CONTRACTOR SHALL COORDINATE ALL CABLE INSTALLATIONS WITH BREEZELINE.
- 23.) ALL NEW ON-SITE UTILITIES SHALL BE INSTALLED UNDERGROUND, WITH THE EXCEPTION OF ONE DROP POLE (WAIVER REQUEST.)
- 24.) SUBJECT PARCEL IS TO BE SERVED BY MUNICIPAL WATER AND ON SITE EFFLUENT DISPOSAL.
- 25.) TESTABLE BACKFLOW PREVENTORS SHALL BE PROVIDED FOR WATER LINES.
- 26.) ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO APPLICABLE CITY AND STATE CODES.
- 27.) ALL CONSTRUCTION SHALL CONFORM TO THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
- 28.) PROTECTION OF SUBGRADE: THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN STABLE, DEWATERED SUBGRADES, TRENCHES, AND OTHER AREAS DURING CONSTRUCTION. SUBGRADE DISTURBANCE MAY BE INFLUENCED BY EXCAVATION METHODS, MOISTURE, PRECIPITATION, GROUNDWATER CONTROL, AND CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO PREVENT SUBGRADE DISTURBANCE. SUCH PRECAUTIONS MAY INCLUDE DIVERTING STORMWATER RUNOFF AWAY FROM CONSTRUCTION AREAS, REDUCING TRAFFIC IN SENSITIVE AREAS, AND MAINTAINING AN EFFECTIVE DEWATERING PROGRAM. SOILS EXHIBITING HEAVING OR INSTABILITY SHALL BE OVER EXCAVATED TO MORE COMPETENT BEARING SOIL AND REPLACED WITH FREE DRAINING STRUCTURAL FILL MEETING THE ENGINEERS SPECIFIC RECOMMENDED CRITERIA.

- 30.0. IF THE EARTHWORK IS PERFORMED DURING FREEZING WEATHER (NOT ALLOWED IN CITY R.O.W.), EXPOSED SUBGRADES ARE SUSCEPTIBLE TO FROST. NO FILL OR UTILITIES SHALL BE PLACED ON FROZEN GROUND. THIS WILL LIKELY REQUIRE REMOVAL OF A FROZEN SOIL CRUST AT THE COMMENCEMENT OF EACH DAY'S OPERATION. THE FINAL SUBGRADE ELEVATION WOULD ALSO REQUIRE AN APPROPRIATE DEGREE OF INSULATION AGAINST FREEZING.
- 31.0. PLACEMENT OF BORROW MATERIALS SHALL BE PERFORMED IN A MANNER THAT PREVENTS LONG TERM DIFFERENTIAL SETTLEMENT. EXCESSIVELY WET MATERIALS SHALL BE STOCKPILED AND ALLOWED TO DRAIN BEFORE PLACEMENT. FROZEN MATERIAL SHALL NOT BE USED FOR CONSTRUCTION. VOIDS BETWEEN STONES AND CLUMPS OF MATERIAL SHALL BE FILLED WITH FINE MATERIALS.
- 32.0. SEE DETAILS CONCERNING SITE LAYOUT, DRAINAGE, UTILITY AND SEDIMENT AND EROSION CONTROLS.
- 33.0. THERE IS ONE EMERGENCY OVERFLOW DROP INLET TO HAVE AN NHDOT "B" GRATE.
- 34.0. ALL EROSION CONTROL NOTES SHALL INCLUDE PROVISIONS FOR CONSTRUCTION SEQUENCING, TEMPORARY EROSION CONTROL MEASURES, AND PERMANENT STANDARDS SUCH AS LOAM SPREAD RATE FOR DISTURBED AREAS, RATES OF LIME, TYPE AND RATES FOR FERTILIZER, AND SEED AND MULCH MIXTURE WITH RATES OF APPLICATION. FILTREXX SOXX IS PREFERRED OVER THE USE OF SILT FENCE. FENCING IS TO BE USED ON SITE ONLY AS REQ. AND DIRECTED BY THE SWPPP INSPECTOR.
- 35.0. SEE SEDIMENT AND EROSION CONTROL PLANS
- 36.0. ALL DRAINAGE PIPE IS TO BE HDPE N=12. INDIVIDUAL PIPE SIZES ARE SPECIFIED. RECYCLED PIPE IS APPROVED FOR PROJECT SITE. RECYCLED "GREEN" PIPE IS ACCEPTABLE FOR THIS PROJECT.
- 37.0. ALL ELEVATIONS TO BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. THE DESIGN ENGINEER IS TO BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCY. TEMPORARY BENCHMARKS (T.B.M.) ARE TO BE PROVIDED BY THE DESIGN ENGINEER.
- 38.0. NOTE THAT THE PROJECT IS SUBJECT TO THE EPA NPDES PHASE II. THE NOTICE OF INTENT (NOI) MUST BE FILED ALONG WITH A STORM WATER POLLUTION PREVENTION PLAN (SWPPP). WEEKLY INSPECTIONS WILL BE CONDUCTED BY THE DESIGN ENGINEER.
- 39.0. UPON FINAL COMPLETION AND 85% STABILIZATION THE DRAINAGE SYSTEM IS TO BE CLEANED OF ALL DEBRIS TO INCLUDE THE PUMPING OF THE BASIN SUMPS.
- 40.0. ALL UNPAVED AREAS ARE TO RECEIVE 4" QUALITY LOAM AND SEED
- 41.0. ALL BASINS AND DRAINS ARE TO HAVE BOOTS INSTALLED ON ALL INLETS AND OUTLETS
- 42.0. THE LIMITS OF CONSTRUCTION DISTURBANCE SHALL BE STAKED, FLAGGED AND CLEARLY IDENTIFIED PRIOR TO THE COMMENCEMENT OF SITE WORK, AS APPLICABLE.
- 43.0. ALL TREATMENT SWALES TO BE CONSTRUCTED SHALL HAVE SOD BOTTOMS.
- 44.0. A LETTER OF CREDIT FOR THE COST OF RE-VEGETATING ALL DISTURBED AREAS ON THE SITE SHALL BE SUBMITTED PRIOR TO ANY EARTH DISBURRING ACTIVITY, AS MAY BE APPLICABLE.
- 45.0. A PRE-CONSTRUCTION CONFERENCE WITH THE DEVELOPER, THE DESIGN ENGINEER, THE EARTHWORK CONTRACTOR, THE PLANNING DIRECTOR OR DESIGNEE, AND THE CITY ENGINEER OR DESIGNEE SHALL OCCUR PRIOR TO ANY EARTH DISTURBING ACTIVITY.
- 46.0. BUILDING ADDRESSES SHALL BE ASSIGNED BY THE ASSESSING DEPARTMENT AND ARE TO BE SHOWN ON THE SITE PLAN.
- 47.0. THE FOLLOWING FEDERAL AND STATE PERMITS HAVE BEEN ISSUED FOR THE SUBJECT PROPERTY:
EPA NOTICE OF INTENT
NHDES SUBSURFACE DISPOSAL -
- 48.0. LIST ANY VARIANCES OR SPECIAL EXCEPTIONS GRANTED BY THE ZONING BOARD OF ADJUSTMENT FOR THE PROPOSED STRUCTURE: NONE
- 49.0. THIS SITE PLAN PROPOSES 95,000 SQ. FT. OF DISTURBANCE.
- 50.0. CALL DIG SAFE PRIOR TO BEGINNING WORK (1-888-344-7233)
- 51.0. WRITTEN DIMENSION ON THIS PLAN TAKE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL USE CAUTION WHEN SCALING REPRODUCED PLANS. IN THE EVENT OF A CONFLICT BETWEEN THIS PLAN SET AND ANY OTHER DRAWINGS AND/OR SPECIFICATIONS, THE ENGINEER SHALL BE NOTIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR IS TO CONFIRM ALL ELEVATIONS. CONFLICTS WILL BE REPORTED TO THE DESIGN ENGINEER PRIOR TO CONSTRUCTION.
- 52.0. SNOW IS TO BE MOVED OFF-SITE ONCE SNOW STORAGE AREAS ARE FULL.
- 53.0. PERFORMANCE GUARANTEE: THE APPLICANT, PRIOR TO ISSUANCE OF A BUILDING PERMIT OR BEGINNING SITE WORK, SHALL PROVIDE SITE IMPROVEMENT AND RESTORATION SECURITY. THE PERFORMANCE GUARANTEE SHALL BE AN AMOUNT EQUAL TO 10% OF THE APPROVED CONSTRUCTION COST ESTIMATE (INCLUDING A 10% CONTINGENCY) TO ENSURE THE PROPER AND TIMELY COMPLETION OF THE SITE WORK AND SITE RESTORATION WITHIN THE DEVELOPMENT.
BEFORE THE SITE PLAN CAN BE RECORDED, LOTS DEEDED TO THIRD PARTIES, OR STRUCTURE OCCUPIED, THE APPLICANT SHALL PROVIDE A COST ESTIMATE OF REMAINING SITE WORK, INCLUDING LABOR, AND PROVIDE THE CITY WITH A SECURITY EQUAL TO 110% OF THE ESTIMATED COST FOR REMAINING SITE WORK. (ANY EXISTING SURETY BEING HELD AT THIS TIME MAY BE CONSIDERED TOWARD THIS AMOUNT.) THIS AMOUNT SHALL INCLUDE PREPARATION OF AS-BUILT PLANS.
CONSTRUCTION COST ESTIMATE FOR THIS PROJECT SHALL BE SUBMITTED FOR REVIEW AND APPROVAL. ESTIMATE SHALL BE BASED ON DEPARTMENT OF PUBLIC WORKS CONSTRUCTION SURETY SCHEDULE AND SHALL INCLUDE A 10% CONTINGENCY. COSTS FOR ITEMS NOT SPECIFICALLY ADDRESSED IN THE SURETY SCHEDULE WILL BE BASED ON 1) CITY STANDARDS; 2) NHDOT WEIGHTED AVERAGES, 3) INDUSTRY STANDARDS, OR 4) CONTRACTOR ESTIMATES.
- 54.0. FOR MORE INFORMATION ABOUT THIS SITE PLAN, CONTACT THE CITY OF ROCHESTER PLANNING DEPARTMENT, 31 WAKEFIELD STREET, ROCHESTER, NH 03667. (603) 335-1358.
- 55.0. THE PROPOSED PROJECT IS TO DEVELOP 16 TOWNHOUSE STYLE UNITS WITH TWO BEDROOMS EACH. SINGLE CAR GARAGES AND WITH PARKING IS PROPOSED AT EACH UNIT, WITH VISITOR PARKING PROPOSED.
- 56.0. A MASTER WATER METER WILL BE INSTALLED AT THE ENTRANCE TO THIS PROJECT. COORDINATE WITH DPW & ASSISTANT CITY ENGINEER 603-335-7575
- 57.0. CURB BOXES SHOULD BE PLACED IN THE LAWN AREA, OR IF PLACED IN PAVEMENT, A ROAD BOX IS REQUIRED.
- 58.0. SEE EXISTING CONDITIONS PLAN FOR DATUM. VERTICAL DATUM BASED ON NAVD88 ELEVATIONS. HORIZONTAL DATUM BASED ON NAD83 STATE PLANE COORDINATES GATHERED USING TOPCON HIPER SR SURVEY GRADE GPS.
- 59.0. MINIMUM SLOPE FOR ALL SEWER SEWER CONNECTIONS IS TO BE NO LESS THAN 0.0208'/.
CONTRACTOR TO TRANSFER TEMPORARY BENCHMARK TO A SUITABLE BENCHMARK TO CONTROL CONSTRUCTION. ANY ELEVATION DISCREPANCIES ARE TO BE REPORTED TO THE DESIGN ENGINEER IMMEDIATELY.
- 60.0. WATER CONNECTION, SEWER CONNECTION, EXCAVATION & DRIVEWAY CURB-CUT PERMITS ARE TO BE APPLIED FOR DURING THE STREET LOCATION CONSTRUCTION PHASE.
- 61.0. PRIOR TO ANY CERTIFICATE OF OCCUPANCY IS APPROVED BY DPW, A SEWER ASSESSMENT FEE OF \$300/BEDROOM MUST BE PAID.

REVISION	DATE	DESCRIPTION

GENERAL NOTES
LAND OF
KNOX MARSH DEVELOPMENT LLC
FLAT ROCK BRIDGE ROAD
ROCHESTER, N.H.
TAX MAP 210, LOT 64


 BERRY SURVEYING & ENGINEERING
 335 SECOND CROWN POINT ROAD
 BARRINGTON, NH 03825 (603)332-2863
 SCALE : NONE
 DATE : NOVEMBER 22, 2022
 FILE NO. : DB 2022 - 028

LEGEND:

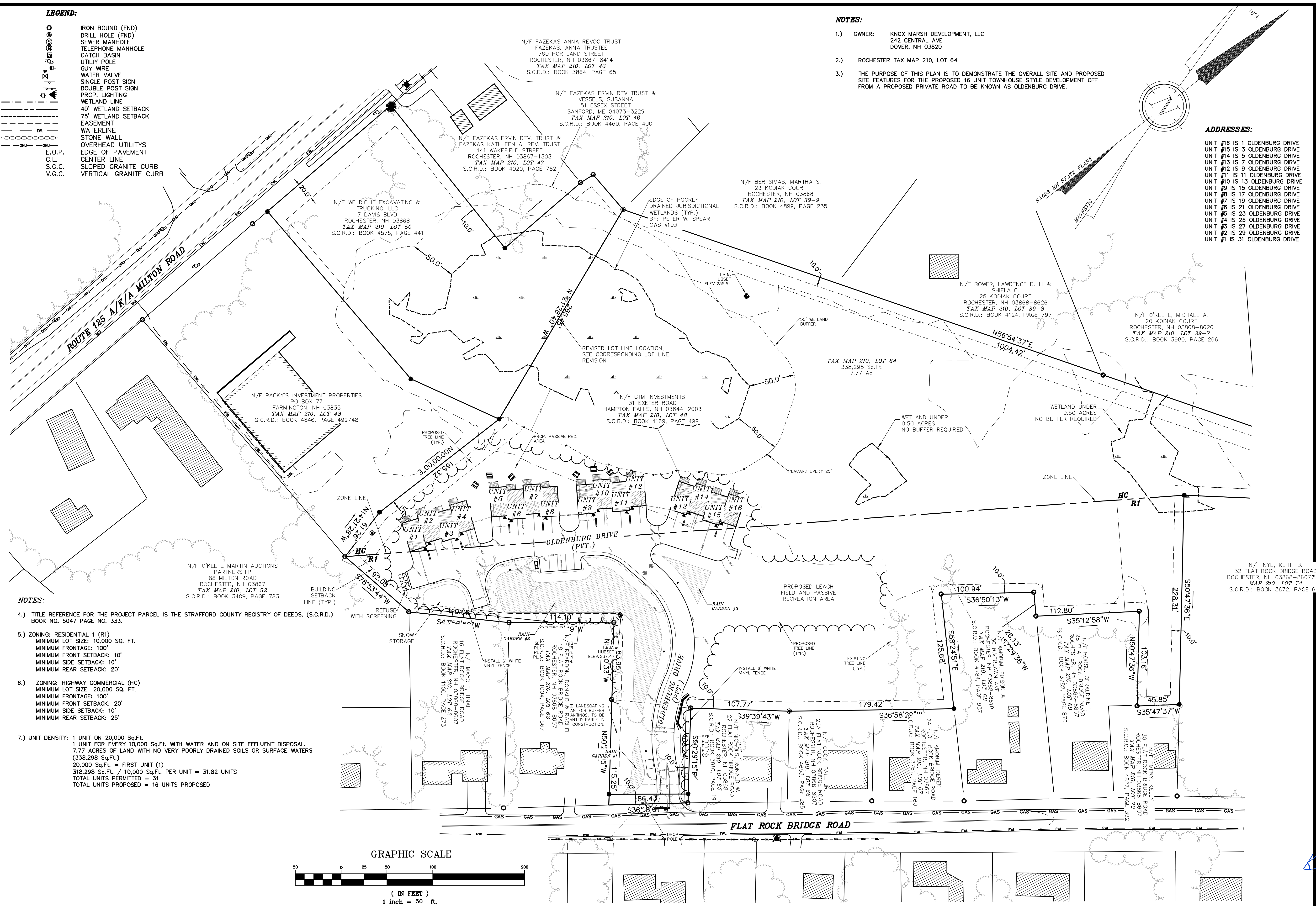
- IRON BOUND (FND)
- DRILL HOLE (FND)
- SEWER MANHOLE
- TELEPHONE MANHOLE
- CATCH BASIN
- UTILITY POLE
- GUY WIRE
- WATER VALVE
- SINGLE POST SIGN
- DOUBLE POST SIGN
- PROP. LIGHTING
- WETLAND LINE
- 40' WETLAND SETBACK
- 75' WETLAND SETBACK
- EASEMENT
- WATERLINE
- STONE WALL
- OVERHEAD UTILITIES
- EDGE OF PAVEMENT
- C.L.
- S.G.C.
- V.G.C.

NOTES:

- OWNER: KNOX MARSH DEVELOPMENT, LLC
242 CENTRAL AVE
DOVER, NH 03820
- ROCHESTER TAX MAP 210, LOT 64
- THE PURPOSE OF THIS PLAN IS TO DEMONSTRATE THE OVERALL SITE AND PROPOSED SITE FEATURES FOR THE PROPOSED 16 UNIT TOWNHOUSE STYLE DEVELOPMENT OFF FROM A PROPOSED PRIVATE ROAD TO BE KNOWN AS OLDENBURG DRIVE.

ADDRESSES:

- UNIT #16 IS 1 OLDENBURG DRIVE
UNIT #15 IS 3 OLDENBURG DRIVE
UNIT #14 IS 5 OLDENBURG DRIVE
UNIT #13 IS 7 OLDENBURG DRIVE
UNIT #12 IS 9 OLDENBURG DRIVE
UNIT #11 IS 11 OLDENBURG DRIVE
UNIT #10 IS 13 OLDENBURG DRIVE
UNIT #9 IS 15 OLDENBURG DRIVE
UNIT #8 IS 17 OLDENBURG DRIVE
UNIT #7 IS 19 OLDENBURG DRIVE
UNIT #6 IS 21 OLDENBURG DRIVE
UNIT #5 IS 23 OLDENBURG DRIVE
UNIT #4 IS 25 OLDENBURG DRIVE
UNIT #3 IS 27 OLDENBURG DRIVE
UNIT #2 IS 29 OLDENBURG DRIVE
UNIT #1 IS 31 OLDENBURG DRIVE



NOTES:

- TITLE REFERENCE FOR THE PROJECT PARCEL IS THE STRAFFORD COUNTY REGISTRY OF DEEDS, (S.C.R.D.) BOOK NO. 5047 PAGE NO. 333.
- ZONING: RESIDENTIAL 1 (R1)
MINIMUM LOT SIZE: 10,000 SQ. FT.
MINIMUM FRONTAGE: 100'
MINIMUM FRONT SETBACK: 10'
MINIMUM SIDE SETBACK: 10'
MINIMUM REAR SETBACK: 20'
- ZONING: HIGHWAY COMMERCIAL (HC)
MINIMUM LOT SIZE: 20,000 SQ. FT.
MINIMUM FRONTAGE: 100'
MINIMUM FRONT SETBACK: 20'
MINIMUM SIDE SETBACK: 10'
MINIMUM REAR SETBACK: 25'
- UNIT DENSITY: 1 UNIT ON 20,000 Sq.Ft.
1 UNIT FOR EVERY 10,000 Sq.Ft. WITH WATER AND ON SITE EFFLUENT DISPOSAL.
7.77 ACRES OF LAND WITH NO VERY POORLY DRAINED SOILS OR SURFACE WATERS (338,298 Sq.Ft.)
20,000 Sq.Ft. = FIRST UNIT (1)
318,298 Sq.Ft. / 10,000 Sq.Ft. PER UNIT = 31.82 UNITS
TOTAL UNITS PERMITTED = 31
TOTAL UNITS PROPOSED = 16 UNITS PROPOSED

REVISION	DATE	DESCRIPTION

OVERVIEW SITE PLAN
LAND OF
KNOX MARSH DEVELOPMENT LLC
FLAT ROCK BRIDGE ROAD
ROCHESTER, N.H.
TAX MAP 210, LOT 64

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE : 1 IN. EQUALS 50 FT.
DATE : NOVEMBER 22, 2022
FILE NO. : DB 2022 - 028

KENNETH A. BERRY
REGISTERED PROFESSIONAL ENGINEER

FILTER MEDIA MIXTURES			
Component Material	Percent of Mixture by Volume	Gradation of material	
		Sieve No.	Percent by Weight Passing Standard Sieve
Filter Media Option A			
ASTM C-33 concrete sand	50 to 55		
Loamy sand topsoil, with fines as indicated	20 to 30	200	15 to 25
Moderately fine shredded bark or wood fiber mulch, with fines as indicated	20 to 30	200	< 5

3/8" WASHED CRUSHED STONE*	
SIEVE SIZE	% PASSING BY WEIGHT
1/2"	100
3/8"	95 - 100
# 4	22 - 55
# 8	0 - 10

* EQUIVALENT TO STANDARD WASHED STONE - SECTION 702 OF NHDOT NHDOT STANDARD SPECIFICATIONS

1-1/2" WASHED CRUSHED STONE*	
SIEVE SIZE	% PASSING BY WEIGHT
2"	100
1-1/2"	90 - 100
1"	20 - 55
1/2"	0 - 15
3/8"	0 - 5

* EQUIVALENT TO STANDARD WASHED STONE - SECTION 702 OF NHDOT NHDOT STANDARD SPECIFICATIONS

TREES AND SHRUBS

Sym	Qty	Botanical Name / Common Name	Root	Size
A	10	Cornus sericea 'Isanti' / Isanti Dogwood	Cont.	2-3' Ht.
B	11	Fothergilla gardenii / Dwarf Fothergilla	Cont.	5 Gal.
C	10	Ilex glabra 'Nordic' / Nordic Inkberry	Cont.	2'-2 1/2' Ht.

PERENNIALS & GROUND COVERS

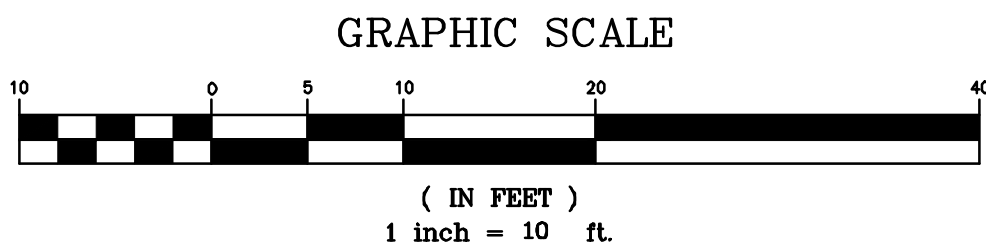
Sym	Qty	Botanical Name / Common Name	Root	Size	Remark
A1	200	Aster puniceus / Swamp Aster	Plug	Flat	24" OC
		Carex scoparia / Broom Sedge	Plug	Flat	
		Iris versicolor / Blue Flag Iris	Plug	Flat	
		Lobelia cardinalis / Cardinal Flower	Plug	Flat	
		Liatris spicata / Blazing Star	Plug	Flat	
B1	0	Juniperus effuses / Common Rush	Plug	2-1/2"	18" OC
C1	0	Rudbeckia fulgida / Black-Eyed Susan	Cont.	2 Qt.	18" OC

RAIN GARDEN MIX

THE GRASS THAT IS PLANTED WITHIN A RAIN GARDEN BIO-FILTRATION SYSTEM WITHIN THE BIO-MEDIA MUST CONSIST OF A COMBINATION OF WARM SEASON GRASS SEED AND COLD SEASON GRASS SEED IN ORDER FOR THE GRASS TO START GROWING FOR STABILIZATION AND CONTINUE GROWING IN THE SANDY WELL-DRAINED ENVIRONMENT. PLANTING SPECIFICATION WILL MEET THE REQUIREMENTS AS OUTLINED IN VEGETATION NEW HAMPSHIRE SAND AND GRAVEL PITS MIX 1 (WARM SEASON GRASSES) (15 LBS/AC) AND INCLUDE ANNUAL AND PERENNIAL RYE GRASS SEED (15 LBS/AC); THE NEW ENGLAND NATIVE WARM SEASON GRASS MIX (23 LBS/AC) BY NEW ENGLAND WETLAND PLANTS, INC.; RAIN GARDEN MIX 180 (15 LBS/AC & 15 LBS/AC OF RYE) / RAIN GARDEN GRASS MIX 180-1 (20 LBS/AC & 10 LBS/AC OF RYE) BY ERNST CONSERVATION SEEDS; OR APPROVED EQUAL.

STABILIZATION NOTE:

SEE NOTE #6, SHEET E-102, DETAIL E-18. SIDE SLOPES ARE TO BE STABILIZED WITHIN THREE WORKING DAY UPON COMPLETION OF FINAL GRADE.



NOTES

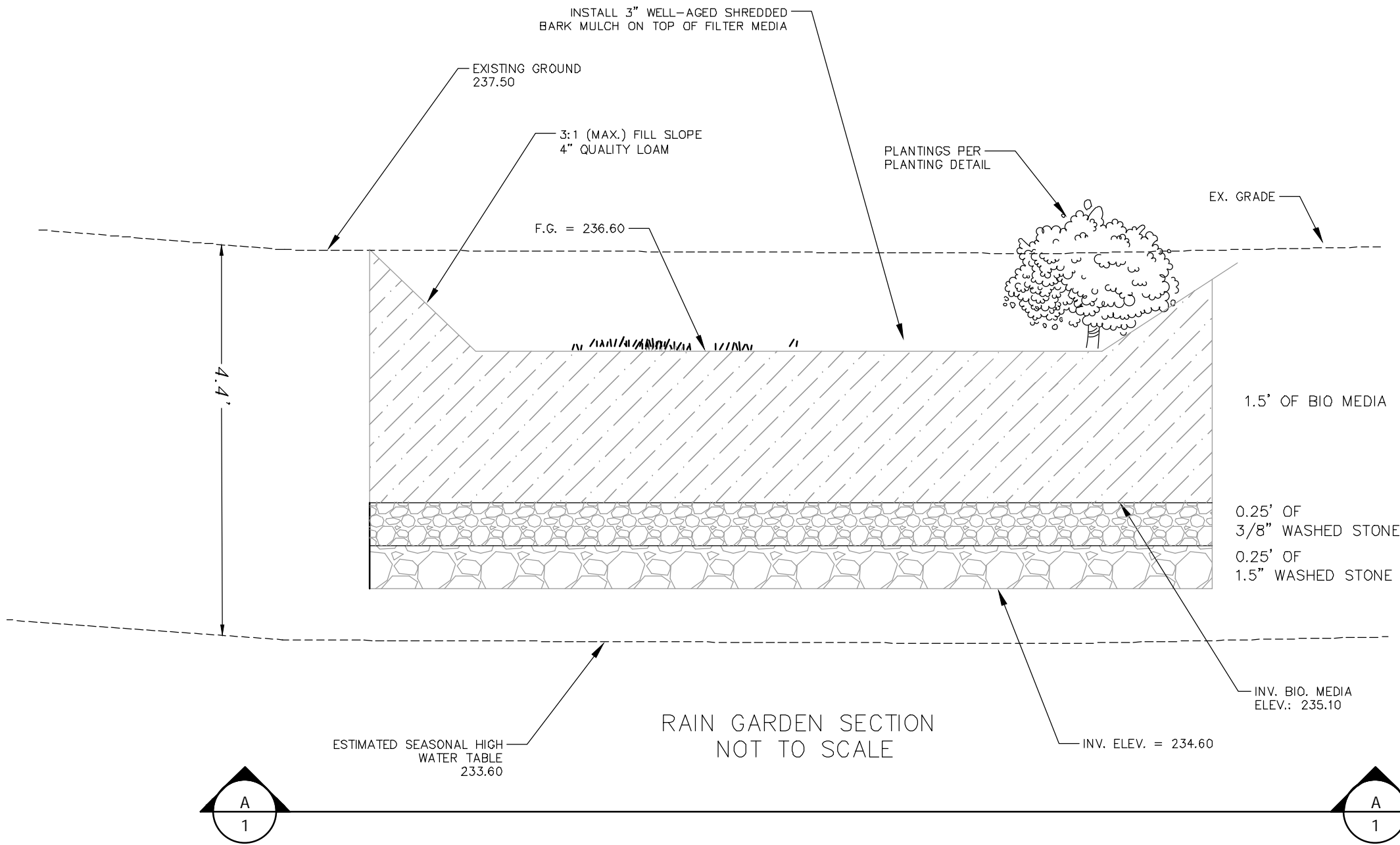
1. WHEN CONTRACTOR EXCAVATES RAIN GARDEN AREA TO SUBGRADE, DESIGN ENGINEER SHALL PERFORM SUBSURFACE EVALUATION PRIOR TO THE PLACEMENT OF ANY SELECT MATERIAL OR OTHER BACKFILL.
2. SOIL FILTER MEDIA SHALL BE AS SHOWN ABOVE.
3. NO COMPACTION OF RAIN GARDEN SOILS IS TO OCCUR DURING CONSTRUCTION.

MAINTENANCE REQUIREMENTS

1. SYSTEMS SHOULD BE INSPECTED AT LEAST TWICE ANNUALLY, AND FOLLOWING ANY RAINFALL EXCEEDING 2.5 INCHES IN A 24-HOUR PERIOD, WITH MAINTENANCE OR REHABILITATION CONDUCTED AS A WARRANTED BY SUCH INSPECTION.
2. PRETREATMENT MEASURES SHOULD BE INSPECTED AT LEAST TWICE ANNUALLY, AND CLEANED OF ACCUMULATED SEDIMENT AS WARRANTED BY INSPECTION, BUT NO LESS THAN ONCE ANNUALLY.
3. 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.
4. 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.

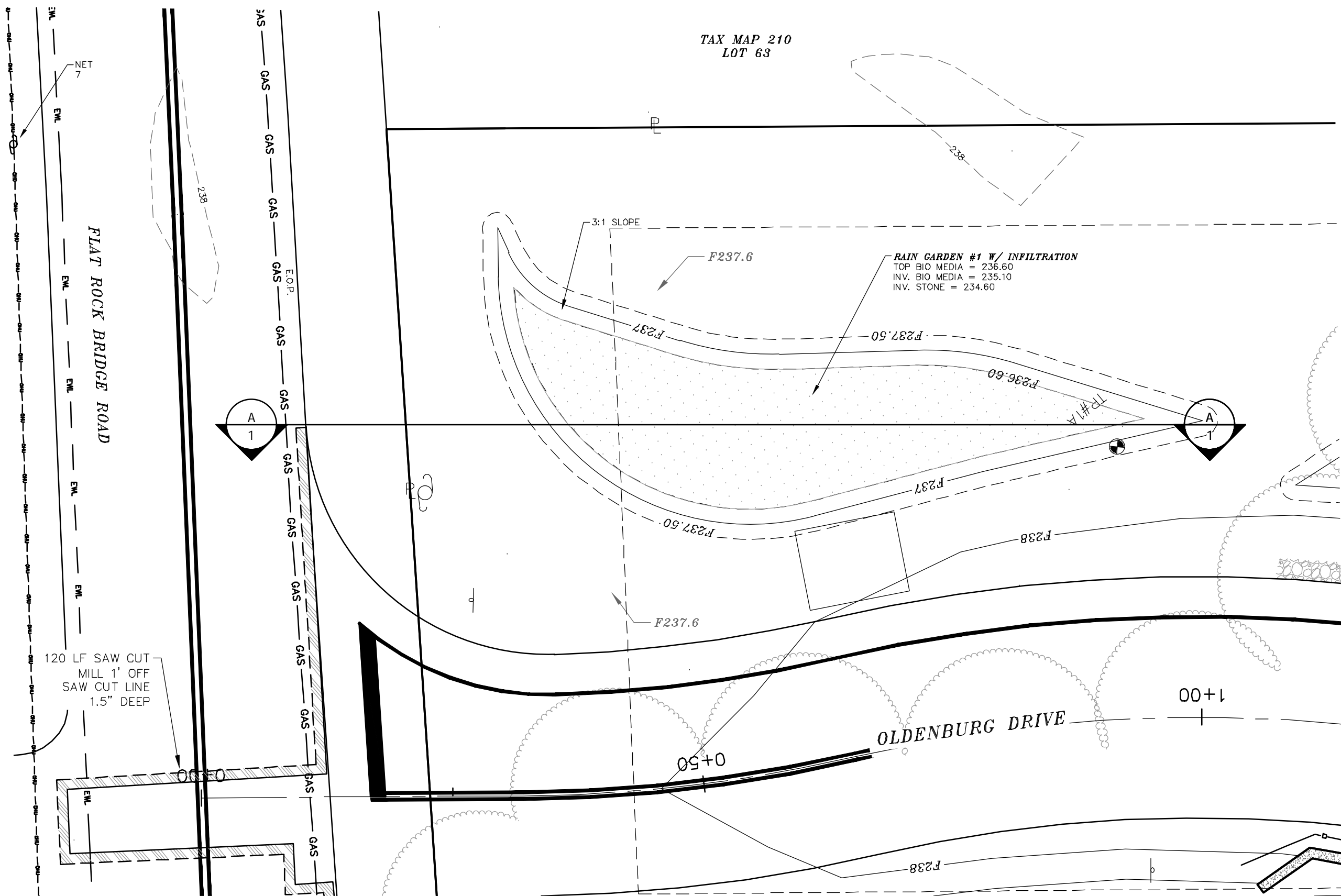
DESIGN REFERENCES

1. UNH STORMWATER CENTER
2. NEW HAMPSHIRE STORMWATER MANAGEMENT MANUAL, VOLUME 2, DECEMBER 2008 AS AMENDED.

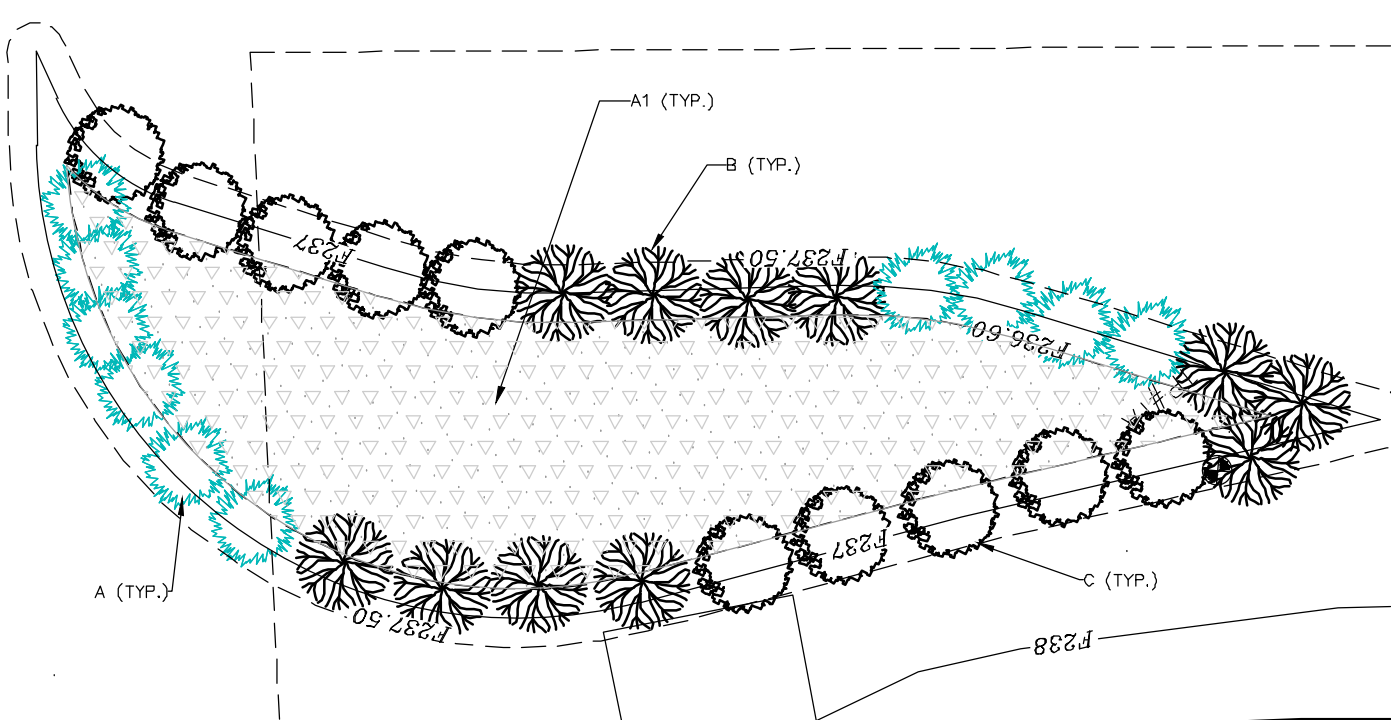


LANDSCAPING NOTES:

1. THE LANDSCAPE CONTRACTOR SHALL LOCATE AND VERIFY THE EXISTENCE OF ALL UTILITIES PRIOR TO STARTING WORK BY CALLING DIG SAFE.
2. THE CONTRACTOR SHALL SUPPLY ALL PLANT MATERIALS IN QUANTITIES SUFFICIENT TO COMPLETE THE PLANTINGS SHOWN ON THE DRAWINGS. VARIATIONS IN QUANTITIES ARE TO BE APPROVED BY THE DESIGN ENGINEER.
3. ALL MATERIAL SHALL CONFORM TO THE GUIDELINES ESTABLISHED BY THE CURRENT AMERICAN STANDARD FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
4. ALL PLANT SUBSTITUTIONS MUST BE APPROVED BY THE ENGINEER.
5. ALL PLANT MATERIALS SHALL BE EXACTLY AS SPECIFIED BY THE ENGINEER. MODIFICATIONS ARE TO BE APPROVED BY THE DESIGN ENGINEER.
6. PLANTS SHALL BE SUBJECT TO INSPECTION AND APPROVAL AT THE PLACE OF GROWTH, UPON DELIVERY OR AT THE JOB SITE WHILE WORK IS ON-GOING TO CONFORMITY TO SPECIFIED QUALITY, SIZE AND VARIETY.
7. PLANTS FURNISHED IN CONTAINERS SHALL HAVE THE ROOTS WELL ESTABLISHED IN THE SOIL MASS AND SHALL HAVE AT LEAST ONE (1) GROWING SEASON. ROOT-BOUND PLANTS OR INADEQUATELY SIZED CONTAINERS TO SUPPORT THE PLANT MAY BE DEEMED UNACCEPTABLE.
8. NO PLANT SHALL BE PUT IN THE GROUND BEFORE GRADING HAS BEEN FINISHED AND APPROVED BY THE ENGINEER. ALL FINAL GRADES SHALL BE PER THE GRADING AND DRAINAGE PLANS AND ROADWAY PROFILES. 85% UPSTREAM STABILIZATION MUST BE MET PRIOR TO PLANTING, OR OTHER SILTATION CONTROLS WILL BE REQUIRED AS DEEMED APPROPRIATE BY THE DESIGN ENGINEER.
9. ALL PLANTS SHALL BE INSTALLED AND DETAILED PER PROJECT SPECIFICATIONS.
10. ALL PLANTS SHALL BE WATERED THOROUGHLY TWICE DURING THE FIRST 24-HOUR PERIOD AFTER PLANTING. ALL PLANTS SHALL BE WATERED WEEKLY, OR MORE OFTEN IF NECESSARY, DURING THE FIRST GROWING SEASON.
11. ALL PLANTS SHALL BE GUARANTEED BY THE CONTRACTOR FOR NOT LESS THAN ONE FULL YEAR FROM THE TIME OF INSTALLATION. DURING THIS TIME, THE OWNER SHALL MAINTAIN ALL PLANT MATERIALS IN THE ABOVE MANNER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSPECT THE PLANTS TO ENSURE PROPER CARE. IF THE CONTRACTOR IS DISSATISFIED WITH THE CARE GIVEN, HE SHALL IMMEDIATELY, AND IN SUFFICIENT TIME TO PERMIT THE CONDITION TO BE RECTIFIED, NOTIFY THE OWNER IN WRITING OR OTHERWISE FORFEIT HIS CLAIM.
12. FINAL ACCEPTANCE BY THE ENGINEER WILL BE MADE UPON THE CONTRACTOR'S REQUEST AFTER ALL CORRECTIVE WORK HAS BEEN COMPLETED.
13. BY THE END OF THE GUARANTEE PERIOD, THE CONTRACTOR SHALL HAVE REPLACED ANY PLANT MATERIAL THAT IS MISSING, NOT TRUE TO SIZE AS SPECIFIED, THAT HAS DIED, THAT HAVE LOST IS NATURAL SHAPE DUE TO DEAD BRANCHES, EXCESSIVE PRUNING OR INADEQUATE OR IMPROPER CARE, OR IS, IN THE OPINION OF THE OWNER, IN UNHEALTHY OR UNSIGHTLY CONDITION.
14. ALL RAINGARDEN SIDE SLOPES TO BE GRASS COMMON TO REGION.
15. FOR ANY LANDSCAPE AREA, REMOVE WEEDS, ROCKS, CONSTRUCTION ITEMS, ETC., THEN APPLY GRASS SEED OR RAINGARDEN RIVER STONE AS DEPICTED ON PLANS.



FLAT ROCK BRIDGE ROAD



PLANTING PLAN

R-101

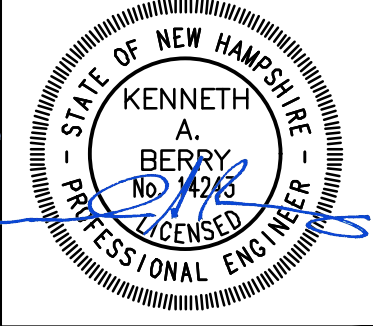
RAIN GARDEN #1 W/ INFILTRATION
LAND OF
KNOX MARSH DEVELOPMENT LLC
FLAT ROCK BRIDGE ROAD
ROCHESTER, N.H.
TAX MAP 210, LOT 64

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

SCALE : 1 IN. EQUALS 10 FT.

DATE : NOVEMBER 22, 2022

FILE NO. : DB 2022 - 028



SHEET 8 OF 28

FILTER MEDIA MIXTURES			
Component Material	Percent of Mixture by Volume	Gradation of material	
		Sieve No.	Percent by Weight Passing Standard Sieve
Filter Media Option A			
ASTM C-33 concrete sand	50 to 55		
Loamy sand topsoil, with fines as indicated	20 to 30	200	15 to 25
Moderately fine shredded bark or wood fiber mulch, with fines as indicated	20 to 30	200	< 5

3/8" WASHED CRUSHED STONE*	
SIEVE SIZE	% PASSING BY WEIGHT
1/2"	100
3/8"	95 - 100
# 4	22 - 55
# 8	0 - 10

* EQUIVALENT TO STANDARD WASHED STONE - SECTION 702 OF NHDOT STANDARD SPECIFICATIONS

1-1/2" WASHED CRUSHED STONE*	
SIEVE SIZE	% PASSING BY WEIGHT
2"	100
1-1/2"	90 - 100
1"	20 - 55
1/2"	0 - 15
3/8"	0 - 5

* EQUIVALENT TO STANDARD WASHED STONE - SECTION 702 OF NHDOT STANDARD SPECIFICATIONS

TREES AND SHRUBS

Sym.	Qty.	Botanical Name / Common Name	Root	Size
A	3	Cornus sericea 'Isanti' / Isanti Dogwood	Cont.	2-3' HT.
B	4	Fothergilla gardenii / Dwarf Fothergilla	Cont.	5 Gal.
C	4	Ilex glabra 'Nordic' / Nordic Inkberry	Cont.	2'-2 1/2' HT.

PERENNIALS & GROUND COVERS

Sym.	Qty.	Botanical Name / Common Name	Root	Size	Remark
A1	390	Aster puniceus / Swamp Aster	Plug	Flat	24" OC
		Carex scoparia / Broom Sedge	Plug	Flat	
		Iris versicolor / Blue Flag Iris	Plug	Flat	
		Lobelia cardinalis / Cardinal Flower	Plug	Flat	
		Liatris spicata / Blazing Star	Plug	Flat	
B1	0	Juniperus effusa / Common Rush	Plug	2-1/2"	18" OC
C1	0	Rudbeckia fulgida / Black-Eyed Susan	Cont.	2 Qt.	18" OC

NOTES

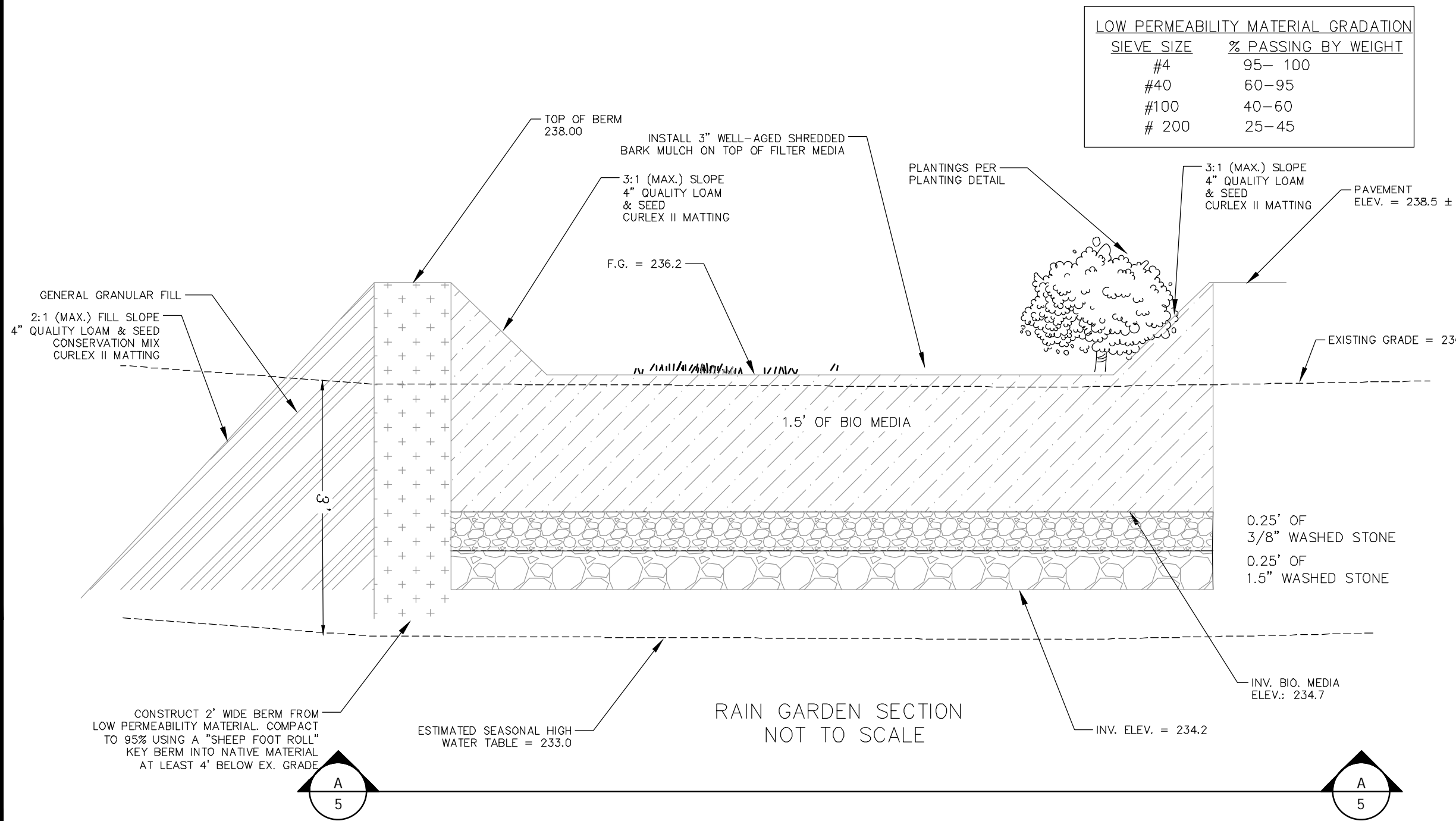
1. WHEN CONTRACTOR EXCAVATES RAIN GARDEN AREA TO SUBGRADE, DESIGN ENGINEER SHALL PERFORM SUBSURFACE EVALUATION PRIOR TO THE PLACEMENT OF ANY SELECT MATERIAL OR OTHER BACKFILL.
2. SOIL FILTER MEDIA SHALL BE AS SHOWN ABOVE.
3. NO COMPACTION OF RAIN GARDEN SOILS IS TO OCCUR DURING CONSTRUCTION.

MAINTENANCE REQUIREMENTS

1. SYSTEMS SHOULD BE INSPECTED AT LEAST TWICE ANNUALLY, AND FOLLOWING ANY RAINFALL EXCEEDING 2.5 INCHES IN A 24-HOUR PERIOD, WITH MAINTENANCE OR REHABILITATION CONDUCTED AS WARRANTED BY SUCH INSPECTION.
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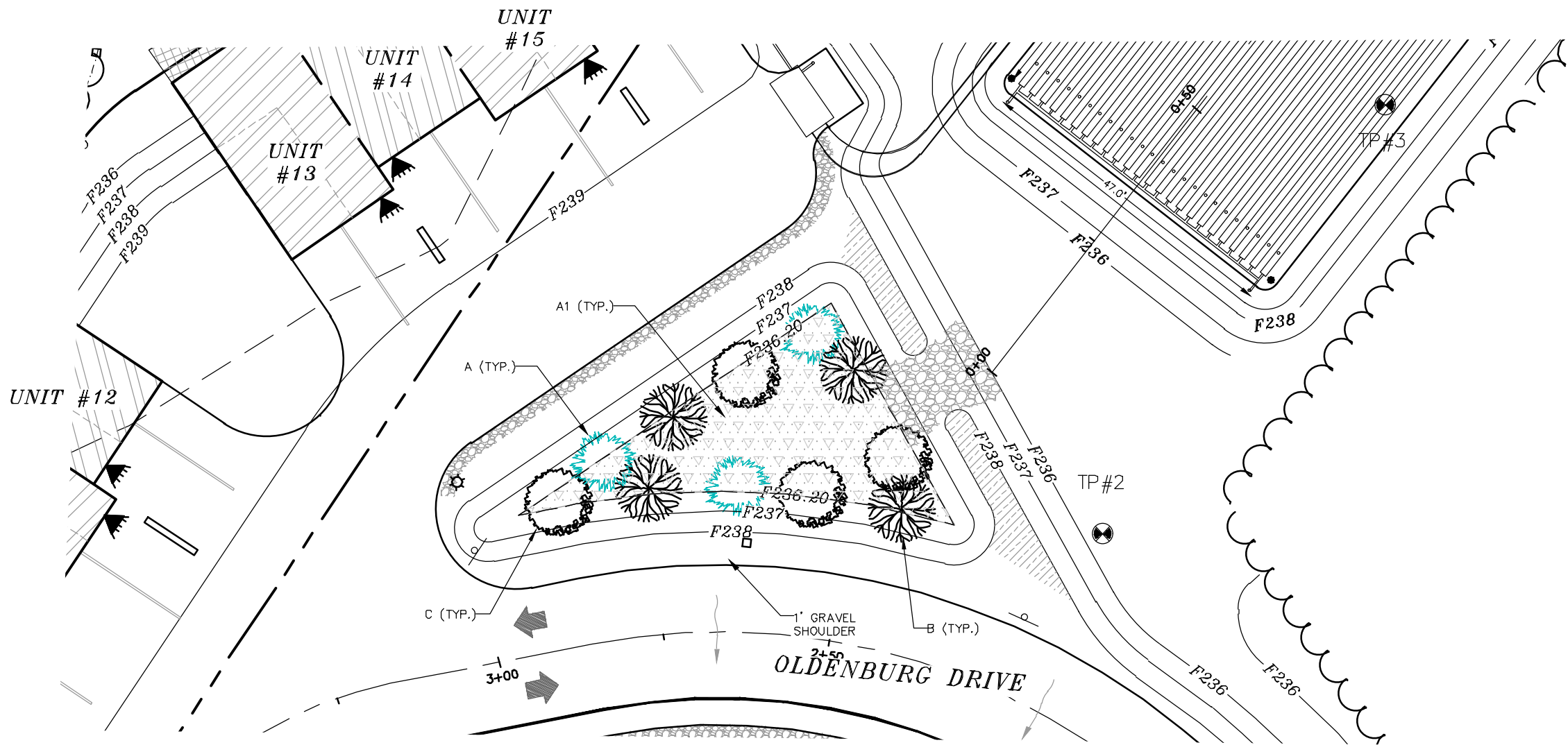
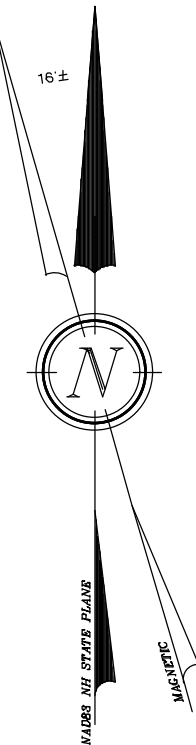


RAIN GARDEN MIX

THE GRASS THAT IS PLANTED WITHIN A RAIN GARDEN BIO-FILTRATION SYSTEM WITHIN THE BIO-MEDIA MUST CONSIST OF A COMBINATION OF WARM SEASON GRASS SEED AND COLD SEASON GRASS SEED IN ORDER FOR THE GRASS TO START GROWING FOR STABILIZATION AND CONTINUE GROWING IN THE SANDY WELL-DRAINED ENVIRONMENT. PLANTING SPECIFICATION WILL MEET THE REQUIREMENTS AS OUTLINED IN "VEGETATION NEW HAMPSHIRE SAND AND GRAVEL INTS" MIX 1 (WARM SEASON GRASSES) (15 LBS/AC) AND INCLUDE ANNUAL AND PERENNIAL RYE GRASS SEED (15 LBS/AC); THE NEW ENGLAND NATIVE WARM SEASON GRASS MIX (23 LBS/AC) BY NEW ENGLAND WETLAND PLANTS, INC.; RAIN GARDEN MIX 180 (15 LBS/AC & 15 LBS/AC OF RYE) / RAIN GARDEN GRASS MIX 180-1 (20 LBS/AC & 10 LBS/AC OF RYE) BY ERNST CONSERVATION SEEDS, OR APPROVED EQUAL.

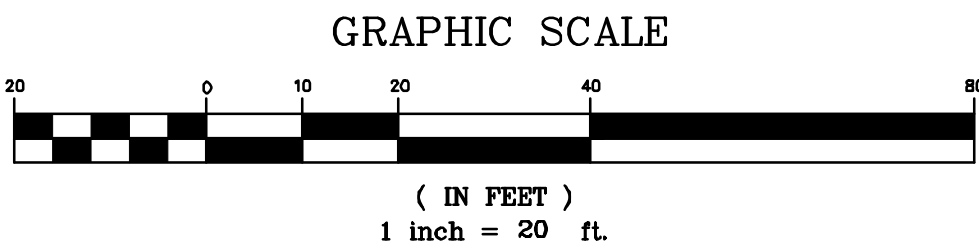
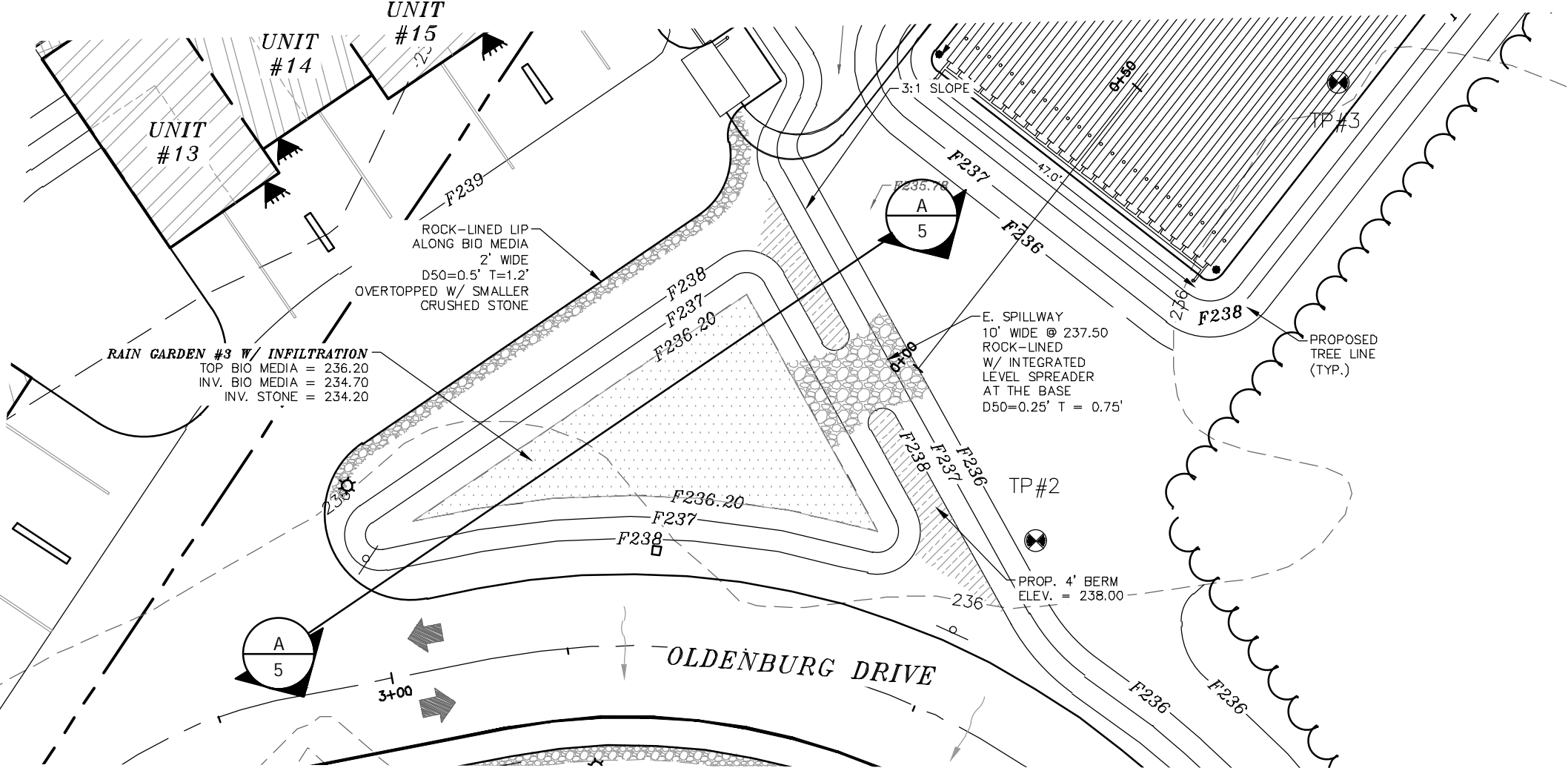
STABILIZATION NOTE:

SEE NOTE #6, SHEET E-102, DETAIL E-18. SIDE SLOPES ARE TO BE STABILIZED WITHIN THREE WORKING DAY UPON COMPLETION OF FINAL GRADE.



PLANTING PLAN

GRADING PLAN

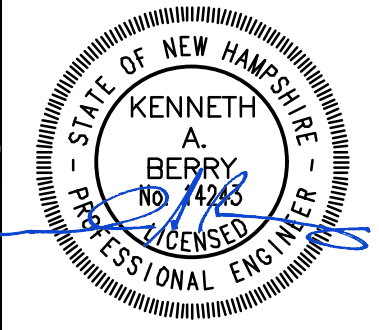


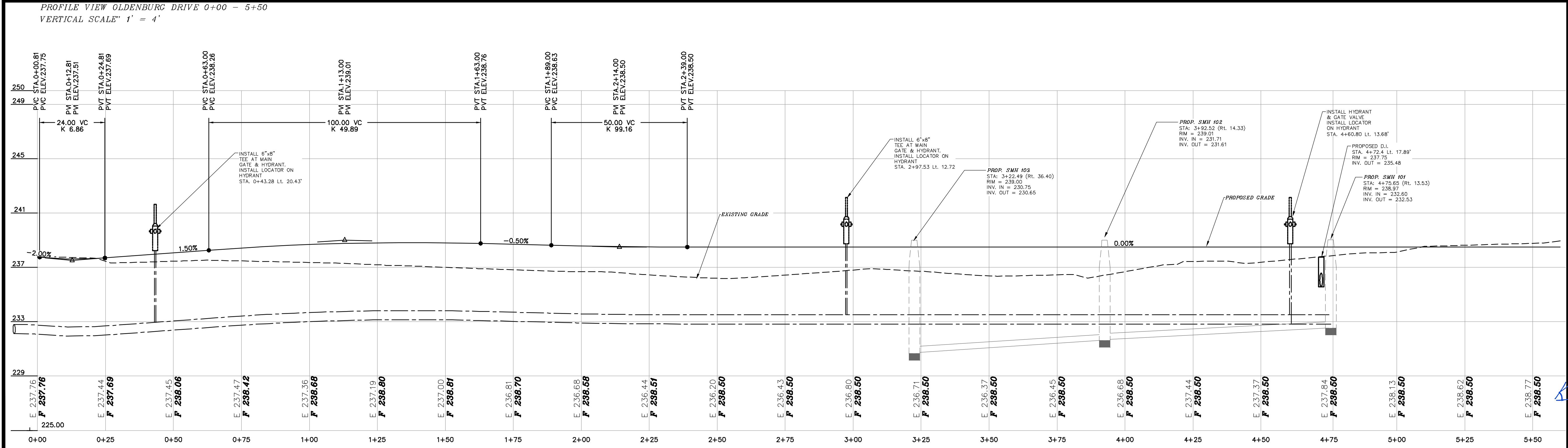
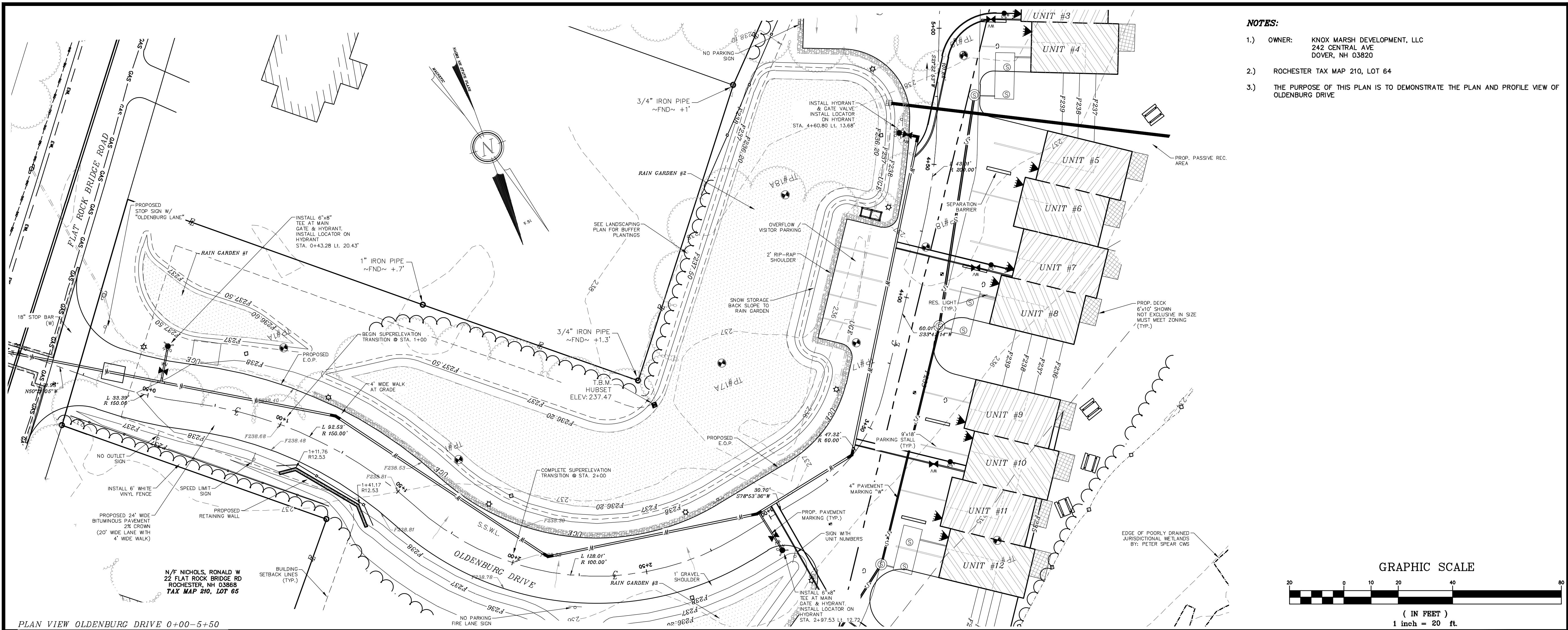
RAIN GARDEN #3 PLAN

R-103

RAIN GARDEN #3 W/ INFILTRATION
LAND OF
KNOX MARSH DEVELOPMENT LLC
FLAT ROCK BRIDGE ROAD
ROCHESTER, N.H.
7.4X MAP 210, LOT 64

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE : 1 IN. EQUALS 20 FT.
DATE : NOVEMBER 22, 2022
FILE NO. : DB 2022 - 028

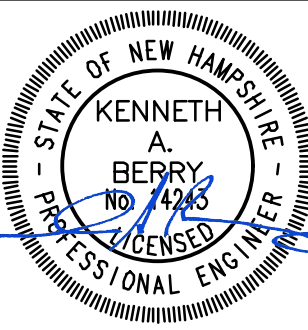


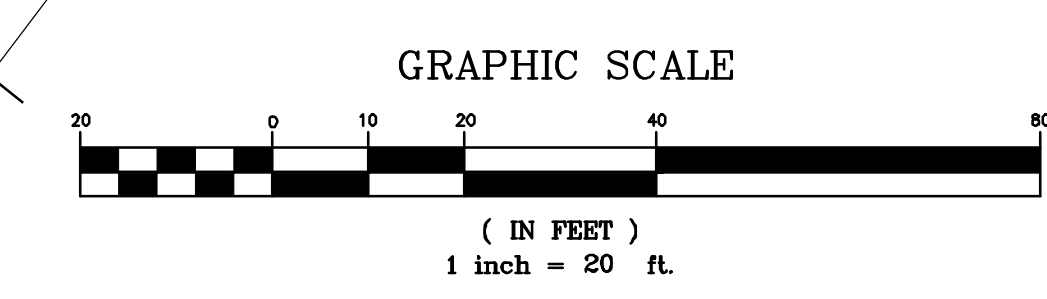


REVISION	DATE	DESCRIPTION

OLDENBURG DRIVE GRADING & DRAINAGE 0+00 - 5+00
LAND OF
KNOX MARSH DEVELOPMENT LLC
FLAT ROCK BRIDGE ROAD
ROCHESTER, N.H.
TAX MAP 210, LOT 64

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE: 1 IN. EQUALS 20 FT.
DATE : NOVEMBER 22, 2022
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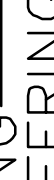


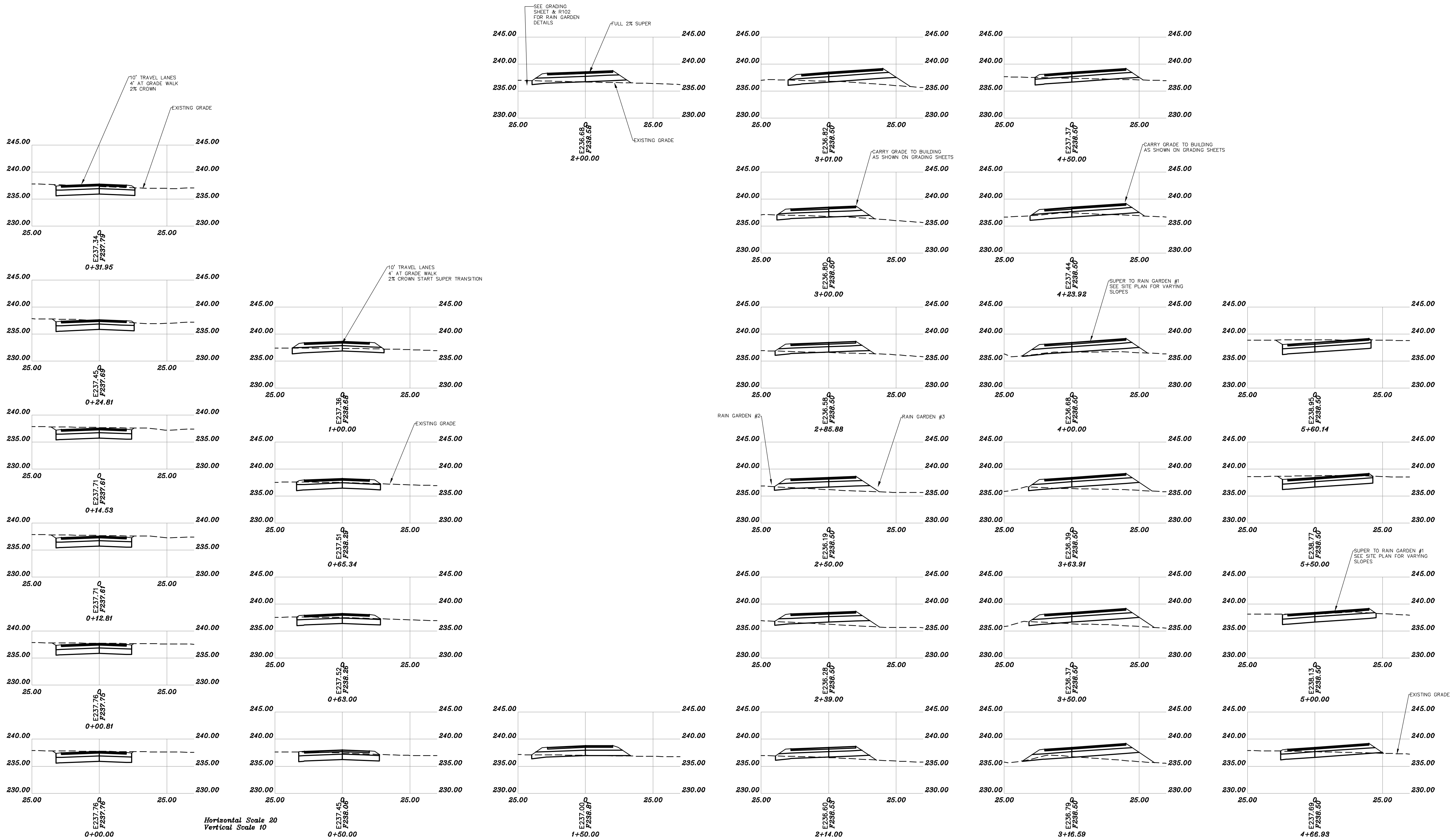
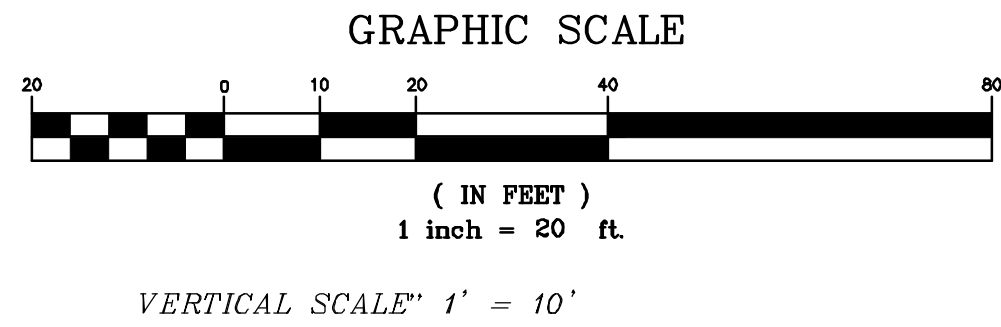
BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863

SCALE : 1 IN. EQUALS 20 FT.

DATE : NOVEMBER 22, 2022

FILE NO. : DB 2022 - 028

The seal is circular with a double-lined border. The outer ring contains the text "NEW HAMPSHIRE" at the top and "PROFESSIONAL ENGINEER" at the bottom, separated by dots. The inner circle contains the text "KENNETH A. BERRY" in the center, "NH 14243" below it, and "LICENSED" at the bottom.

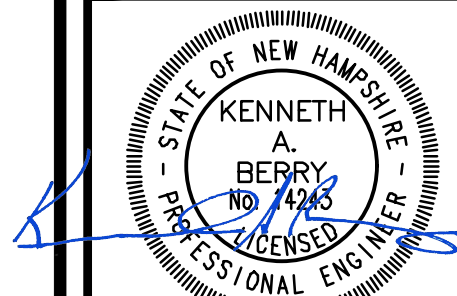


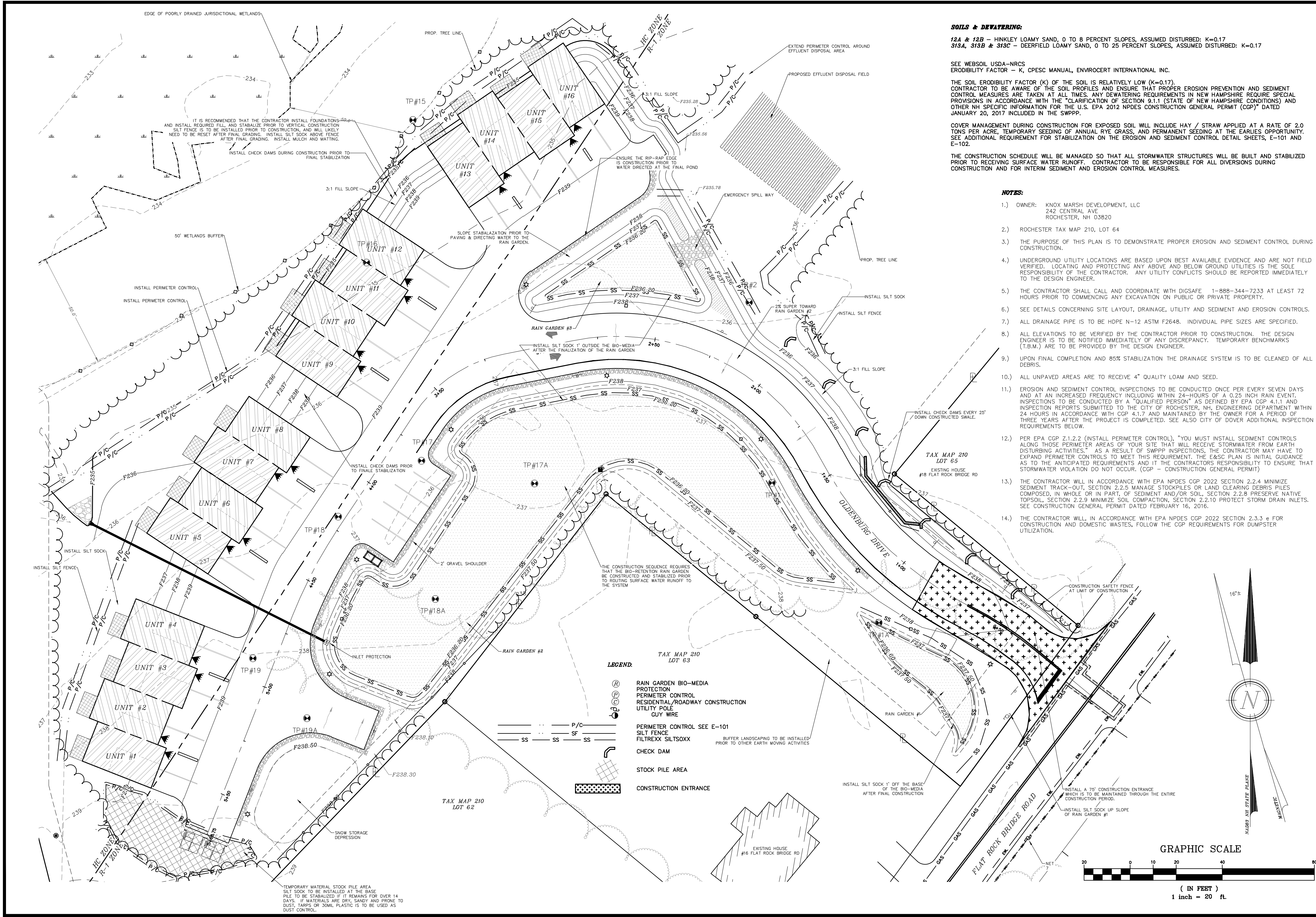
Horizontal Scale 20
Vertical Scale 10

REVISION		DATE	DESCRIPTION

OLDENBURG DRIVE CROSS SECTIONS
LAND OF
KNOX MARSH DEVELOPMENT LLC
FLAT ROCK BRIDGE ROAD
ROCHESTER, N.H.
TAX MAP 210, LOT 64

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE: 1 IN. EQUALS 20 FT.
DATE : NOVEMBER 22, 2022
FILE NO. : DB 2022 - 028





SOILS & DEWATERING:
12A & 12B – HINKLEY LOAMY SAND, 0 TO 8 PERCENT SLOPES, ASSUMED DISTURBED: K=0.17
313A, 313B & 313C – DEERFIELD LOAMY SAND, 0 TO 25 PERCENT SLOPES, ASSUMED DISTURBED: K=0.17

SEE WEBSOIL USDA-NRCS
ERODIBILITY FACTOR – K, CPESC MANUAL, ENVIROCERT INTERNATIONAL INC.

THE SOIL ERODIBILITY FACTOR (K) OF THE SOIL IS RELATIVELY LOW (K=0.17). CONTRACTOR TO BE AWARE OF THE SOIL PROFILES AND ENSURE THAT PROPER EROSION PREVENTION AND SEDIMENT CONTROL MEASURES ARE TAKEN AT ALL TIMES. ANY DEWATERING REQUIREMENTS IN NEW HAMPSHIRE REQUIRE SPECIAL PROVISIONS IN ACCORDANCE WITH THE "CLARIFICATION OF SECTION 9.1.1 (STATE OF NEW HAMPSHIRE CONDITIONS) AND OTHER NH SPECIFIC INFORMATION FOR THE U.S. EPA 2012 NPDES CONSTRUCTION GENERAL PERMIT (CGP)" DATED JANUARY 20, 2017 INCLUDED IN THE SWPPP.

COVER MANAGEMENT DURING CONSTRUCTION FOR EXPOSED SOIL WILL INCLUDE HAY / STRAW APPLIED AT A RATE OF 2.0 TONS PER ACRE, TEMPORARY SEEDING OF ANNUAL RYE GRASS, AND PERMANENT SEEDING AT THE EARLIEST OPPORTUNITY. SEE ADDITIONAL REQUIREMENT FOR STABILIZATION ON THE EROSION AND SEDIMENT CONTROL DETAIL SHEETS, E-101 AND E-102.

THE CONSTRUCTION SCHEDULE WILL BE MANAGED SO THAT ALL STORMWATER STRUCTURES WILL BE BUILT AND STABILIZED PRIOR TO RECEIVING SURFACE WATER RUNOFF. CONTRACTOR TO BE RESPONSIBLE FOR ALL DIVERSIONS DURING CONSTRUCTION AND FOR INTERIM SEDIMENT AND EROSION CONTROL MEASURES.

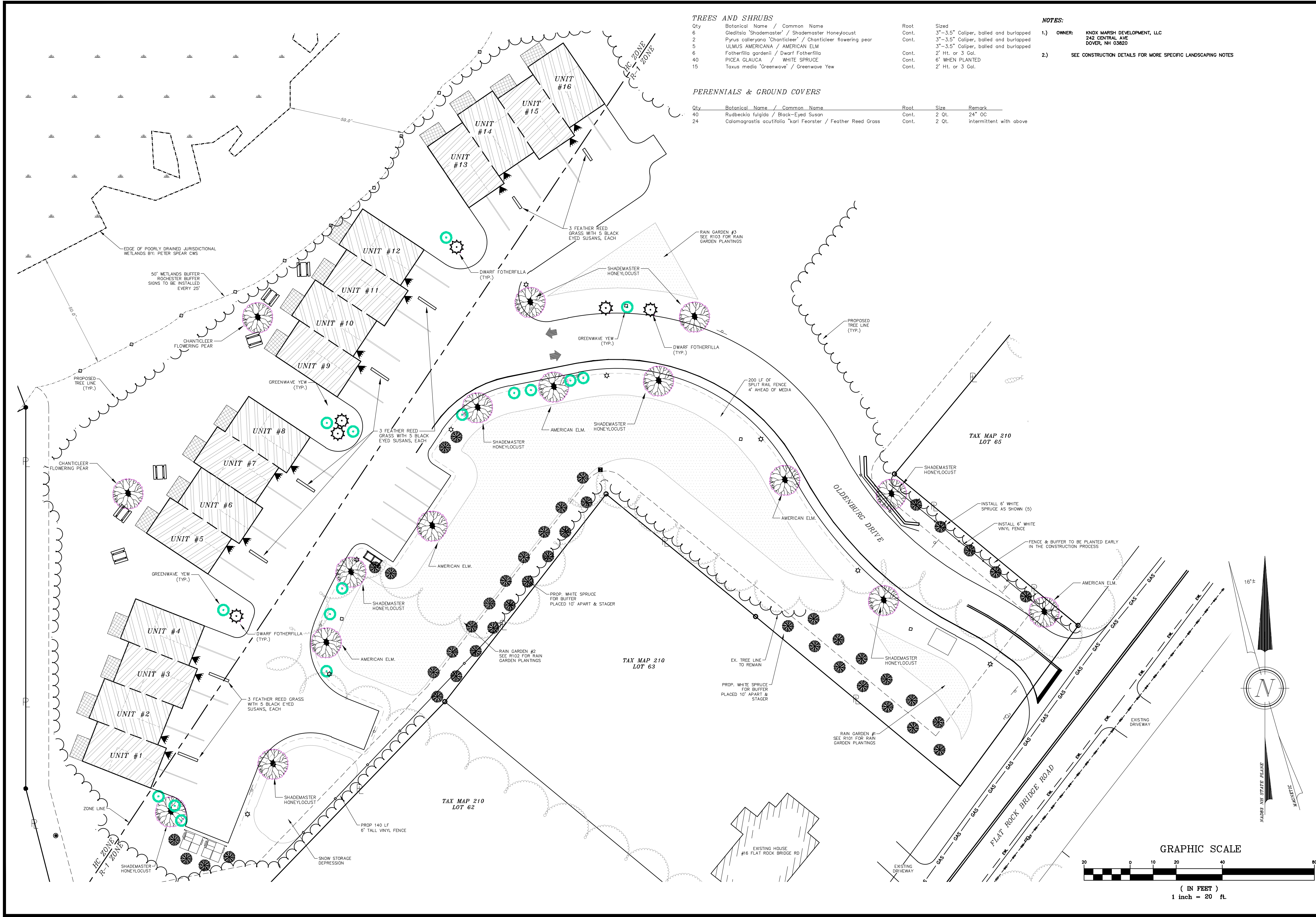
- NOTES:**
- 1.) OWNER: KNOX MARSH DEVELOPMENT, LLC
242 CENTRAL AVE
ROCHESTER, NH 03820
 - 2.) ROCHESTER TAX MAP 210, LOT 64
 - 3.) THE PURPOSE OF THIS PLAN IS TO DEMONSTRATE PROPER EROSION AND SEDIMENT CONTROL DURING CONSTRUCTION.
 - 4.) UNDERGROUND UTILITY LOCATIONS ARE BASED UPON BEST AVAILABLE EVIDENCE AND ARE NOT FIELD VERIFIED. LOCATING AND PROTECTING ANY ABOVE AND BELOW GROUND UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. ANY UTILITY CONFLICTS SHOULD BE REPORTED IMMEDIATELY TO THE DESIGN ENGINEER.
 - 5.) THE CONTRACTOR SHALL CALL AND COORDINATE WITH DIGSAFE, 1-888-344-7233 AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY.
 - 6.) SEE DETAILS CONCERNING SITE LAYOUT, DRAINAGE, UTILITY AND SEDIMENT AND EROSION CONTROLS.
 - 7.) ALL DRAINAGE PIPE IS TO BE HDPE N-12 ASTM F2648. INDIVIDUAL PIPE SIZES ARE SPECIFIED.
 - 8.) ALL ELEVATIONS TO BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. THE DESIGN ENGINEER IS TO BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCY. TEMPORARY BENCHMARKS (T.B.M.) ARE TO BE PROVIDED BY THE DESIGN ENGINEER.
 - 9.) UPON FINAL COMPLETION AND 85% STABILIZATION THE DRAINAGE SYSTEM IS TO BE CLEANED OF ALL DEBRIS.
 - 10.) ALL UNPAVED AREAS ARE TO RECEIVE 4" QUALITY LOAM AND SEED.
 - 11.) EROSION AND SEDIMENT CONTROL INSPECTIONS TO BE CONDUCTED ONCE PER EVERY SEVEN DAYS AND AT AN INCREASED FREQUENCY INCLUDING WITHIN 24-HOURS OF A 0.25 INCH RAIN EVENT. INSPECTIONS TO BE CONDUCTED BY A "QUALIFIED PERSON" AS DEFINED BY EPA CGP 4.1.1 AND INSPECTION REPORTS SUBMITTED TO THE CITY OF ROCHESTER, NH, ENGINEERING DEPARTMENT WITHIN 24 HOURS IN ACCORDANCE WITH CGP 4.1.7 AND MAINTAINED BY THE OWNER FOR A PERIOD OF THREE YEARS AFTER THE PROJECT IS COMPLETED. SEE ALSO CITY OF DOVER ADDITIONAL INSPECTION REQUIREMENTS BELOW.
 - 12.) PER EPA CGP 2.1.2.2 (INSTALL PERIMETER CONTROL), "YOU MUST INSTALL SEDIMENT CONTROLS ALONG THOSE PERIMETER AREAS OF YOUR SITE THAT WILL RECEIVE STORMWATER FROM EARTH DISTURBING ACTIVITIES AS A RESULT OF SWPPP INSPECTIONS. THE CONTRACTOR MAY HAVE TO EXPAND PERIMETER CONTROLS TO MEET THIS REQUIREMENT. THE E&S PLAN IS INITIAL GUIDANCE AS TO THE ANTICIPATED REQUIREMENTS AND IT THE CONTRACTORS RESPONSIBILITY TO ENSURE THAT STORMWATER VIOLATION DO NOT OCCUR. (CGP – CONSTRUCTION GENERAL PERMIT)
 - 13.) THE CONTRACTOR WILL IN ACCORDANCE WITH EPA NPDES CGP 2022 SECTION 2.2.4 MINIMIZE SEDIMENT TRACK-OUT, SECTION 2.2.5 MANAGE STOCKPILES OR LAND CLEARING DEBRIS PILES COMPOSED, IN WHOLE OR IN PART, OF SEDIMENT AND/OR SOIL, SECTION 2.2.8 PRESERVE NATIVE TOPSOIL, SECTION 2.2.9 MINIMIZE SOIL COMPACTION, SECTION 2.2.10 PROTECT STORM DRAIN INLETS. SEE CONSTRUCTION GENERAL PERMIT DATED FEBRUARY 16, 2016.
 - 14.) THE CONTRACTOR WILL, IN ACCORDANCE WITH EPA NPDES CGP 2022 SECTION 2.3.3 e FOR CONSTRUCTION AND DOMESTIC WASTES, FOLLOW THE CGP REQUIREMENTS FOR DUMPSTER UTILIZATION.

REVISION	DATE	DESCRIPTION

EROSION & SEDIMENT CONTROL PLAN
LAND OF
KNOX MARSH DEVELOPMENT LLC
FLAT ROCK BRIDGE ROAD
ROCHESTER, N.H.
TAX MAP 210, LOT 64

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE : 1 IN. EQUALS 20 FT.
DATE : NOVEMBER 22, 2022
FILE NO. : DB 2022 – 028

STATE OF NEW HAMPSHIRE
KENNETH A. BERRY
REGISTERED PROFESSIONAL ENGINEER



TREES AND SHRUBS

Qty	Botanical Name / Common Name	Root	Size
6	Oleditsia 'Shademaster' / Shademaster Honeylocust	Cont.	3"-3.5" Caliper, balled and burlapped
2	Pyrus calleryana 'Chanticleer' / Chanticleer flowering pear	Cont.	3"-3.5" Caliper, balled and burlapped
5	ULMUS AMERICANA / AMERICAN ELM	Cont.	3"-3.5" Caliper, balled and burlapped
6	Fotherfilla gardenii / Dwarf Fotherfilla	Cont.	2' Ht. or 3 Gal.
40	PICEA GLAUCA / WHITE SPRUCE	Cont.	6' WHEN PLANTED
15	Taxus media 'Greenwave' / Greenwave Yew	Cont.	2' Ht. or 3 Gal.

PERENNIALS & GROUND COVERS

Qty	Botanical Name / Common Name	Root	Size	Remark
40	Rudbeckia fulgida / Black-Eyed Susan	Cont.	2 Qt.	24" OC
24	Calamagrostis acutifolia 'karl Foerster' / Feather Reed Grass	Cont.	2 Qt.	intermittent with above

NOTES:

- OWNER: KNOX MARSH DEVELOPMENT, LLC
242 CENTRAL AVE
DOVER, NH 03820
- SEE CONSTRUCTION DETAILS FOR MORE SPECIFIC LANDSCAPING NOTES

REVISION	DATE	DESCRIPTION

PROPOSED LANDSCAPING PLAN
LAND OF
KNOX MARSH DEVELOPMENT LLC
FLAT ROCK BRIDGE ROAD
ROCHESTER, N.H.
TAX MAP 210, LOT 64

BERRY SURVEYING & ENGINEERING

335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863

DATE : NOVEMBER 22, 2022

FILE NO. : DB 2022 - 028

1 IN. EQUALS 20 FT.

KENNETH A. BERRY
No. 4243
LICENSED PROFESSIONAL ENGINEER -

Stenberg Lighting

Lanterns

6-239

9403 STATE SERIES

SPECIFICATIONS

LIST NO
9403 STATE
SPEC

with 7" diameter ring to produce an L.E.C. of Type 1 or 5e distribution. The Lower Optic System shall be made of highly specular anodized aluminum and shall conform standard with medium base socket.

NOTICE: STAINLESS STEEL Refractor identification shall be developed by multi-segment, gold mirrored reflector system which eliminate light and provide color. The reflector cavity shall be made of specular anodized aluminum. Refractor Types Type 2 (RMR), Type 3 (MRG), Type 5 (RMR) materials are available for application type lamp.

Envirol-Glass Hurricane Candle (HCC) is an option which adds an authentic touch and can be used with Refractor.

House Side Shield (HSS) is an option which will keep up to 120° light in any one direction. 3-Light (3L) candleless set is an option for incandescent application.

PHOTOCELLS

Photocells shall be either the thermal-bimetal burner type or the electronic burner type. On single-point type fixtures the photocell shall be mounted in the finer and provided to hold. On multiple head pendant assemblies photocells shall be mounted in the pole support on an access plate and are not provided as ballast housing assemblies and finers are packaged separately for ease of wiring to sensor. The thermal-bimetal photocell shall be designed to turn on at 10 footcandle and turn off at no more than 5 footcandles. The electronic burner type photocell is instant on and 4 to 5 foot candle turn off and shall turn on at 1 footcandle with a turn-off at no more than 5 footcandle. Photocells are either 120 volt or 208/240 volt 277 volt.

ARMS

All arms are made of cast aluminum and/or extruded aluminum. Arms with decorative flange have meticulously detailed scroll work and gracefully curved bracket. All 9403 fixtures will have its finer either welded to the arm or will be mechanically attached at the factory to ensure arms will be plumb, secure and level over the life of the installation. Each arm shall be bolted to a post mount adapter, which is welded to the pole to ensure proper distribution to the base. Twin TA, TASCAR and 579 arms will be attached to a decorative center hub which will slip-fit the center stem of the pole (shown). All 9403 arms are available as a twin application. Arms are pre-wired for ease of installation.

FINISH

Prior to coating, each assembly shall be chemically cleaned and etched in a 5-stage surface rinsing system which includes alkaline cleaning, rinsing, phosphoric etching, reverse osmosis rinsing and non-chrome sealing to ensure corrosion resistance and excellent adhesion for the finish coating. The finish coating shall be electrochemically applied semi-gloss, durable polyester powder-baked at 400 degrees for 45 minutes. Finish options include: White. Ultra-primat acrylic. Verde Green Finish and Swedish Iron finish are hand brushed using a 3-step process. The total assembly shall be wrapped in shopwrap or fully enclosed in corrugated carton.

WARRANTY

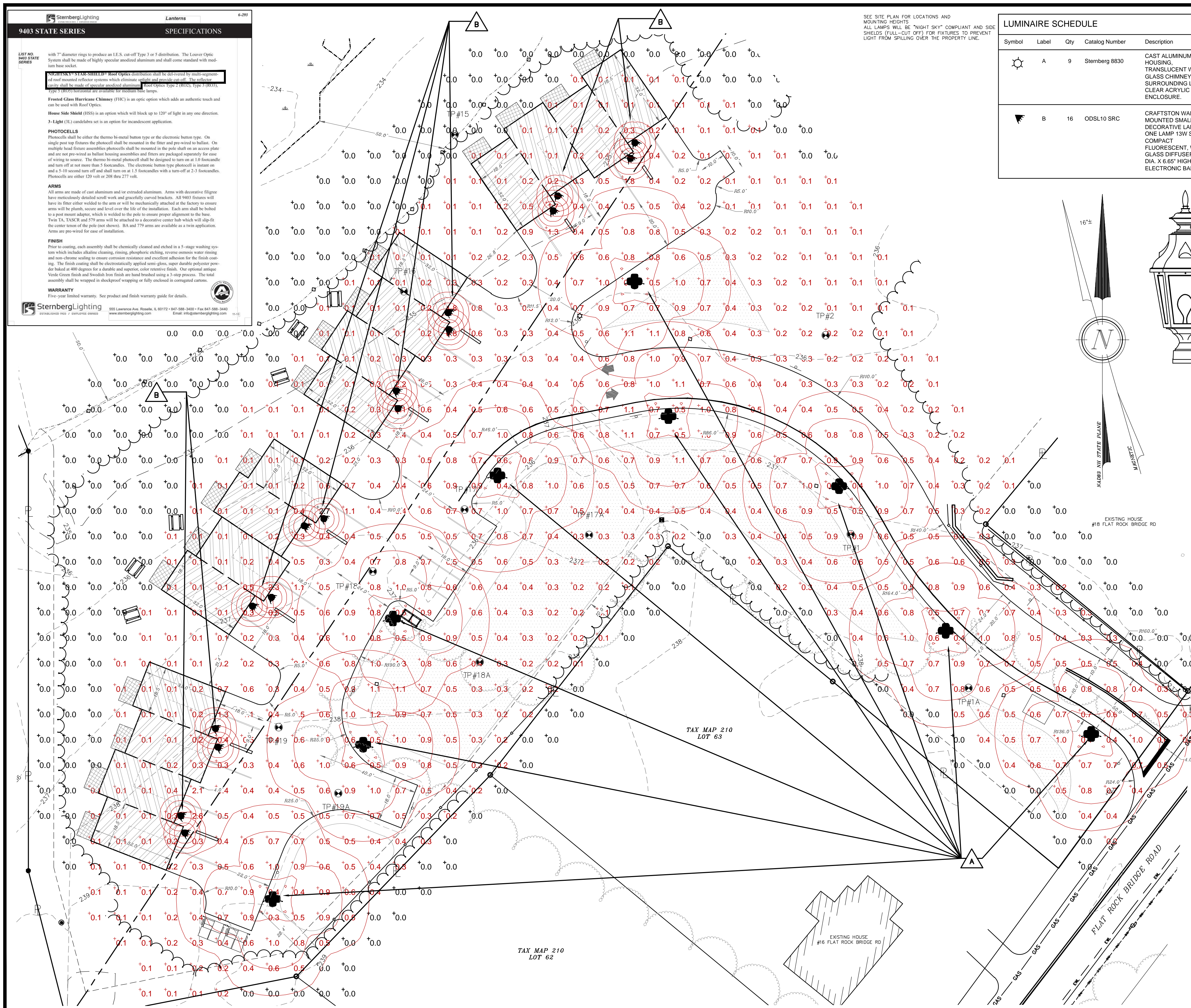
Five-year limited warranty. See product and finish warranty guide for details.



StenbergLighting
atlantastudio@aol.com / jsternberg@msn.com

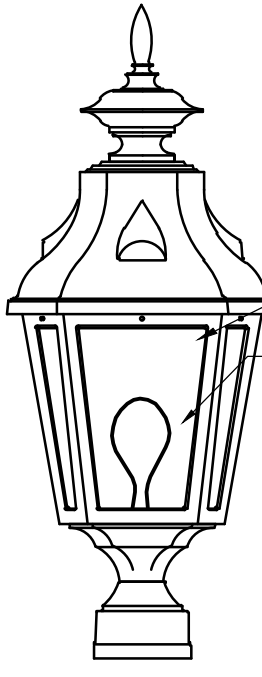
555 Lexington Ave., Room 1607E • New York, NY 10022 • Fax 212 691 3440

Email: estenberg@stenberg.com

(6-23)



LUMINAIRE SCHEDULE									
Symbol	Label	Qty	Catalog Number	Description	Lamp	File	Lumens	LLF	Watts
	A	9	Sternberg 8830	CAST ALUMINUM HOUSING, TRANSLUCENT WHITE GLASS CHIMNEY SURROUNDING LAMP, CLEAR ACRYLIC ENCLOSURE.	ONE CLEAR VBD M57 175 WATT 517 METAL HALIDE LAMP RATED AT 14,000 LUMENS.	8830-FC ONLY- -175MH(R).IES	14000	1.00	175
	B	16	ODSL10 SRC	CRAFTSON WALL MOUNTED SMALL DECORATIVE LANTERN, ONE LAMP 13W SPIRAL COMPACT FLUORESCENT, WHITE GLASS DIFFUSER 4.25" DIA. X 6.65" HIGH, ELECTRONIC BALLAST	ONE 13-WATT T4 SPIRAL COMPACT FLUORESCENT, VERTICAL BASE UP POSITION.	ODSL10_SRC. ies	900	1.00	12.6

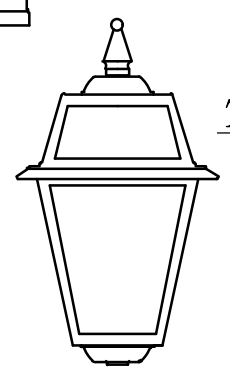


NIGHT SKY COMPLIANT
ROOF OPTICS

LENSES TO BE WHITE ACRYLIC TO
ELIMINATE GLARE
ONE BULB FIXTURE
NIGHTSKY (tm) STAR-SHIELD ROOF OPTICS
ARE REQUIRED ON ALL LAMPS AND HOUSE
SIDE SHIELDS (HSS) WILL BE USED TO
PREVENT LIGHT FROM SPILLING OVER
THE PROPERTY LINES.

STREET LIGHTING

NOT TO SCALE



TYPICAL RESIDENTIAL LAMP "B"
NOT TO SCALE

LENSES TO BE WHITE ACRYLIC
ONE BULB FIXTURE
NIGHTSKY (tm) STAR-SHIELD ROOF OPTICS ARE REQUIRED ON ALL LAMPS
AND HOUSE SIDE SHIELDS (HSS) WILL BE USED TO PREVENT
LIGHT FROM SPILLING OVER THE PROPERTY LINES.

2-29

Sternberg Lighting
A Division of The Lighting Company

Lanterns

9403 STATE SERIES

SPECIFICATIONS

GENERAL

The #900T Fixture series is a historical four-sided fixture. It consists of a decorative cast curved roof, a cast cage with acrylic lenses and a lift hinge across door and/or side ring for re-lamping. The roof shall be appointed with a decorative cast finish.

POST FITTER

The filler or base shall be heavy wall cast aluminum, .356 alloy for high tensile strength. It shall have an inside diameter opening to fit a 3" diameter pole or tenon. When ordered with a Sternberg aluminum pole, the filler shall be set secured to the pole top or tenon.

BALLAST

The ballast shall be remote mounted in the base of the pole, shaft, arm or ballast box. The #940TBH and #940TBBH shall have an integral ballast compartment. The ballast housing shall be heavy wall cast aluminum, .356 alloy for high tensile strength. The housing shall be an integral part of the fixture and act as one piece to ensure a water-tight compartment. The ballast shall be attached to the fixture housing by means of epoxy resin bonding to protect against ballast temperature stressors, keeping the ballast cool and ensuring long life. The ballast shall be mounted on a pull out door for easy ballast maintenance.

ELECTRICAL

Fixture shall be UL or ETL listed in U.S. and Canada. H.I.D. Ballasts shall be high power factor with lamp starting down to -30 degrees C. Medium base mogul base porcelain sockets are 4KV rated. All compact fluorescent (PL) ballasts shall be instant start electronic with a tripping temperature of down to 0 degrees F. They shall have a 4-pin socket to accept quick and simple lamp bulbs. Ballasts shall be DOE EISA compliant.

FIXTURE HOUSING

The #9403 fixture shall be 15 1/2" wide and the overall height shall be 36". It shall be made of heavy wall cast aluminum, .356 alloy and lenses shall be made of vandal resistant acrylic, available in clear (CA), clear seeded (CS), prismatic (PA) and white (WA) acrylic. The fixture cage shall be cast in one piece. The Model #9403 shall be appointed with a cast square cupule house and roof finial. The Model #900T shall be appointed with a decorative cast 6" diameter tall finial. The Model #9403 shall cast a closed bottom. The Model #940TBBH shall have a large legged open cast bottom.

OPTICAL OPTIONS

Reflectors shall be of 6" diameter borosilicate glass with an L.E.S. Type I (R13) or Type 5 (R15). Distribution. It shall be secured to the socket stem with 3" plated steel threaded pipe nipple and rest on a cast aluminum holder with anti-shock gasket. The reflector will be secured to cast holder with a quarter-turn internal aluminum twisting wing for ease of maintenance.

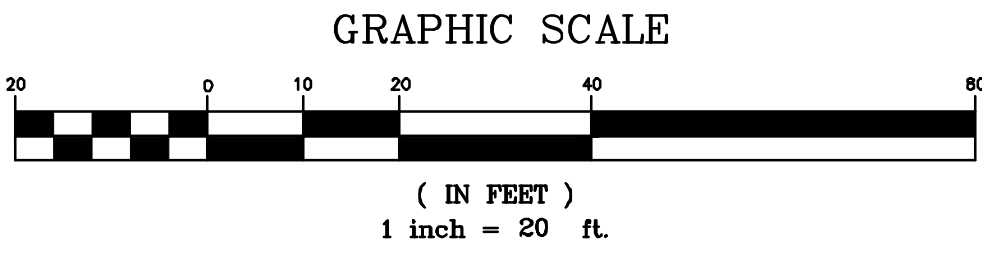
The NIGHTSCOPY® OPTI-SHIELD® Lenser Optic System (LOS) shall be a multi-tier reflector

EPA = 2 x 19 (F)
WEIGHT = 19 LBs

LEET NO.
9403 STATE
SERIES

(1/1)

(Continued on Next page)

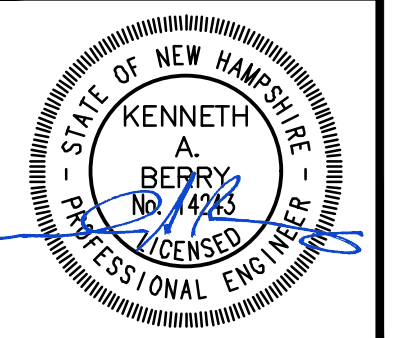


REVISION	DATE	DESCRIPTION

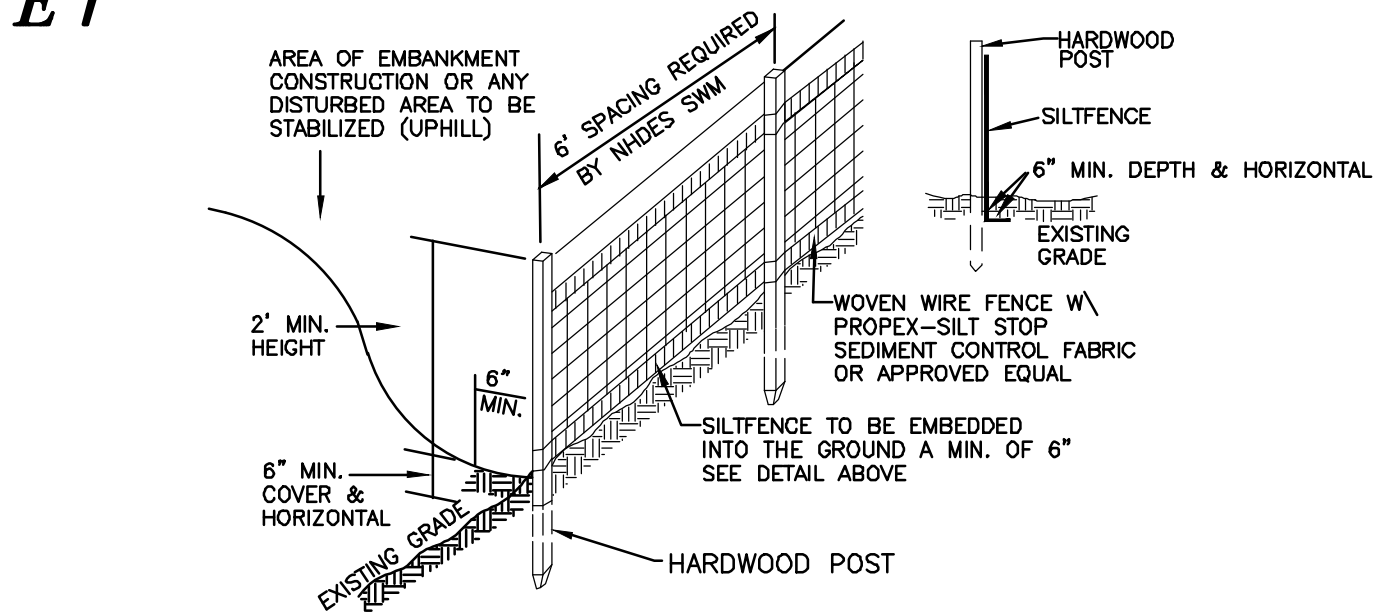
PROPOSED LIGHTING PLAN
LAND OF
FOX MARSH DEVELOPMENT LLC
FLAT ROCK BRIDGE ROAD
ROCHESTER, N.H.
TAX MAP 210, LOT 64

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
1 IN. EQUALS 20 FT.

DATE : NOVEMBER 22, 2022
FILE NO. : DB 2022 - 028



E1

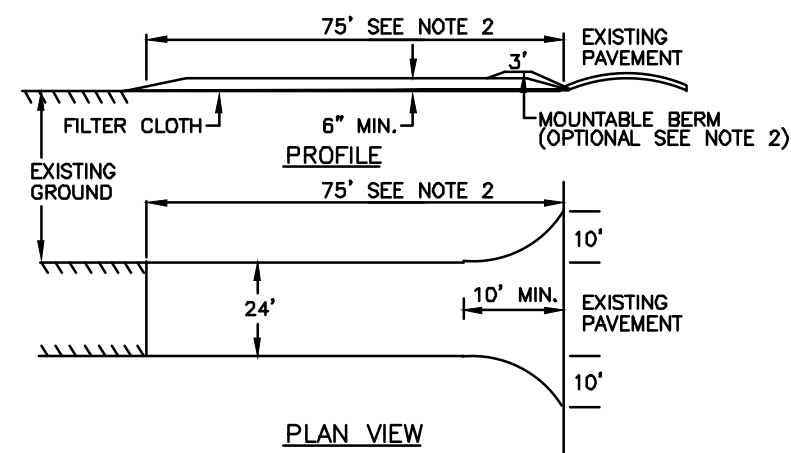


SILT FENCE CONSTRUCTION SPECIFICATIONS

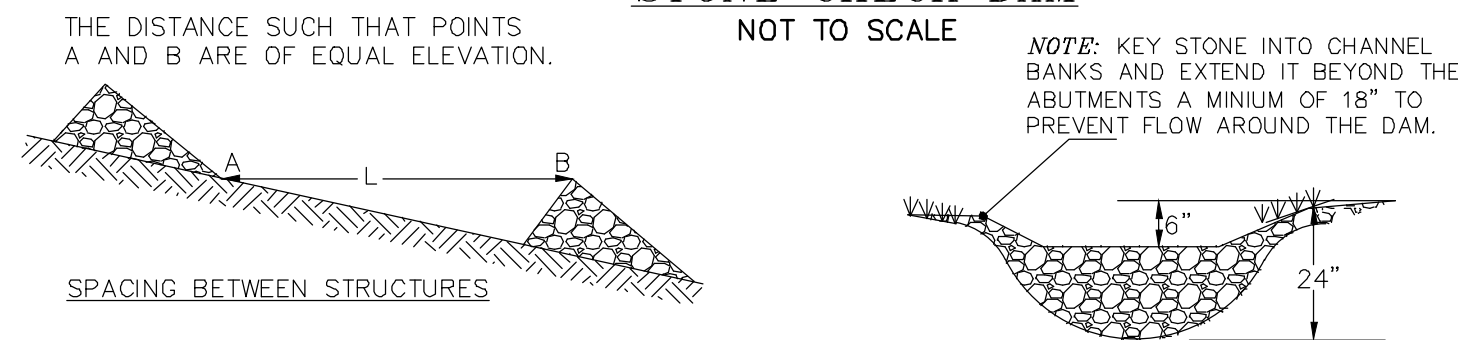
1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES AND FILTER CLOTH SHALL BE FASTENED TO WOVEN WIRE EVERY 24" AT TOP MID AND BOTTOM SECTIONS AND BE EMBEDDED INTO GROUND A MINIMUM OF 8" THE FENCE POSTS SHALL BE A MINIMUM 48" LONG, SPACED A MAXIMUM 6' APART, AND DRIVEN A MINIMUM OF 16" INTO THE GROUND.
2. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THE ENDS OF THE FABRIC SHALL BE OVERLAPPED BY SIX INCHES, FOLDED AND STAPLED TO PREVENT SEDIMENT FROM BY-PASSING.
3. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND SEDIMENT REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE AND PROPERLY DISPOSED OF. SEE MAINTENANCE NOTE BELOW, REMOVAL OF SEDIMENT REQUIRED AT A DEPTH OF 6-INCHES.
4. PLACE THE ENDS OF THE SILT FENCE UP CONTOUR TO PROVIDE FOR SEDIMENT STORAGE.
5. SILT FENCES SHALL BE REMOVED WHEN NO LONGER NEEDED AND THE SEDIMENT COLLECTED SHALL BE DISPOSED AS DIRECTED BY THE ENGINEER.
6. THE AREA DISTURBED BY THE REMOVAL SHALL BE SMOOTHED AND RE-VEGETATED.
7. TO BE CONSTRUCTED IAW NH SWM #3 4-2 SEDIMENT CONTROL PRACTICES, SILT FENCE, PAGE 90.

SILT FENCE MAINTENANCE

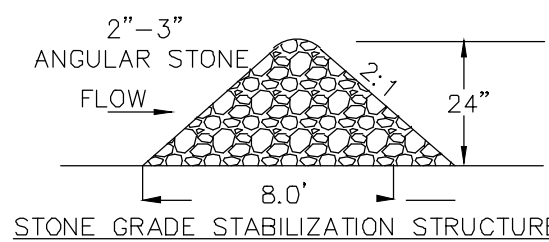
1. SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS THAT ARE REQUIRED SHALL BE MADE IMMEDIATELY.
2. IF THE FABRIC ON A SILT FENCE SHOULD DECOMPOSE OR BECOME INEFFECTIVE DURING THE EXPECTED LIFE OF THE FENCE, THE FABRIC SHALL BE REPLACED PROMPTLY.
3. SEDIMENT DEPOSITS SHOULD BE REMOVED WHEN THEY REACH SIX-INCHES IN DEPTH.
4. SEDIMENT DEPOSITS THAT ARE REMOVED OR LEFT IN PLACE AFTER THE FABRIC HAS BEEN REMOVED SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED.

SILT FENCE DETAIL
NOT TO SCALEE5 STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE

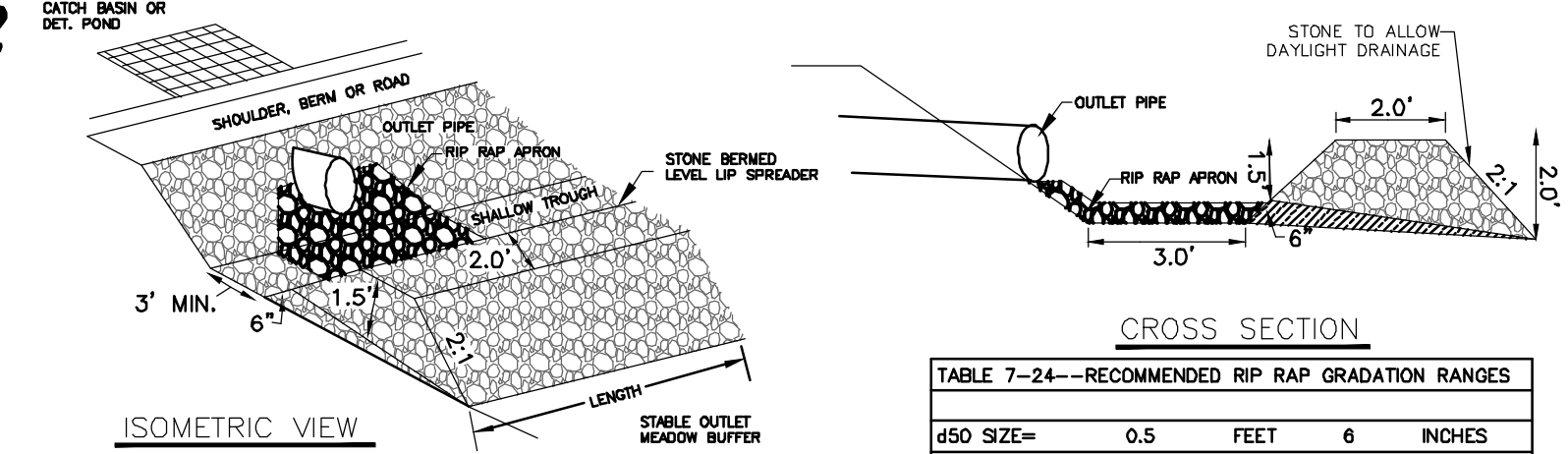
1. STONE FOR A STABILIZED CONSTRUCTION ENTRANCE SHALL BE 3 INCH STONE, RECLAIMED STONE, OR RECYCLED CONCRETE EQUIVALENT.
2. THE LENGTH OF THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 75 FEET, EXCEPT THAT THE MINIMUM LENGTH MAY BE REDUCED TO 50 FEET IF A 3-INCH TO 6-INCH BERM IS INSTALLED AT THE ENTRANCE OF THE PROJECT SITE.
3. THE THICKNESS OF THE STONE FOR THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 6 INCHES.
4. THE WIDTH OF THE ENTRANCE SHALL NOT BE LESS THAN THE FULL WIDTH OF THE ENTRANCE WHERE INGRESS OR EGRESS OCCURS OR 10 FEET, WHICHEVER IS GREATER.
5. GEOTEXTILE FILTER CLOTH SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING.
6. 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.
7. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, WASHED, OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED PROMPTLY.
8. TO BE CONSTRUCTED IAW NH SWM #3 4-2 SEDIMENT CONTROL PRACTICES, TEMPORARY CONSTRUCTION EXIT, PAGE 124.

STONE CHECK DAM
NOT TO SCALE

1. CHECK DAMS SHOULD BE INSTALLED BEFORE RUNOFF IS DIRECTED TO THE SWALE OR DRAINAGE DITCH.
2. THE MAXIMUM CONTRIBUTING DRAINAGE AREA TO THE DAM SHOULD BE LESS THAN ONE ACRE.
3. THE MAXIMUM HEIGHT OF THE DAM SHOULD BE TWO FEET.
4. THE CENTER OF THE DAM SHOULD BE AT LEAST SIX INCHES LOWER THAN THE OUTER EDGES.
5. THE MAXIMUM SPACING IS AS SHOWN ON THE PROJECT SITE PLANS.
6. CHECK DAMS WILL NOT BE USED IN A FLOWING STREAM.
7. TEMPORARY CHECK DAMS WILL BE REMOVED ONCE THE SWALE OR DITCH IS DETERMINED STABLE.
8. TO BE CONSTRUCTED IAW NH SWM #3 4-2 SEDIMENT CONTROL PRACTICES, TEMPORARY CHECK DAMS, PAGE 114.

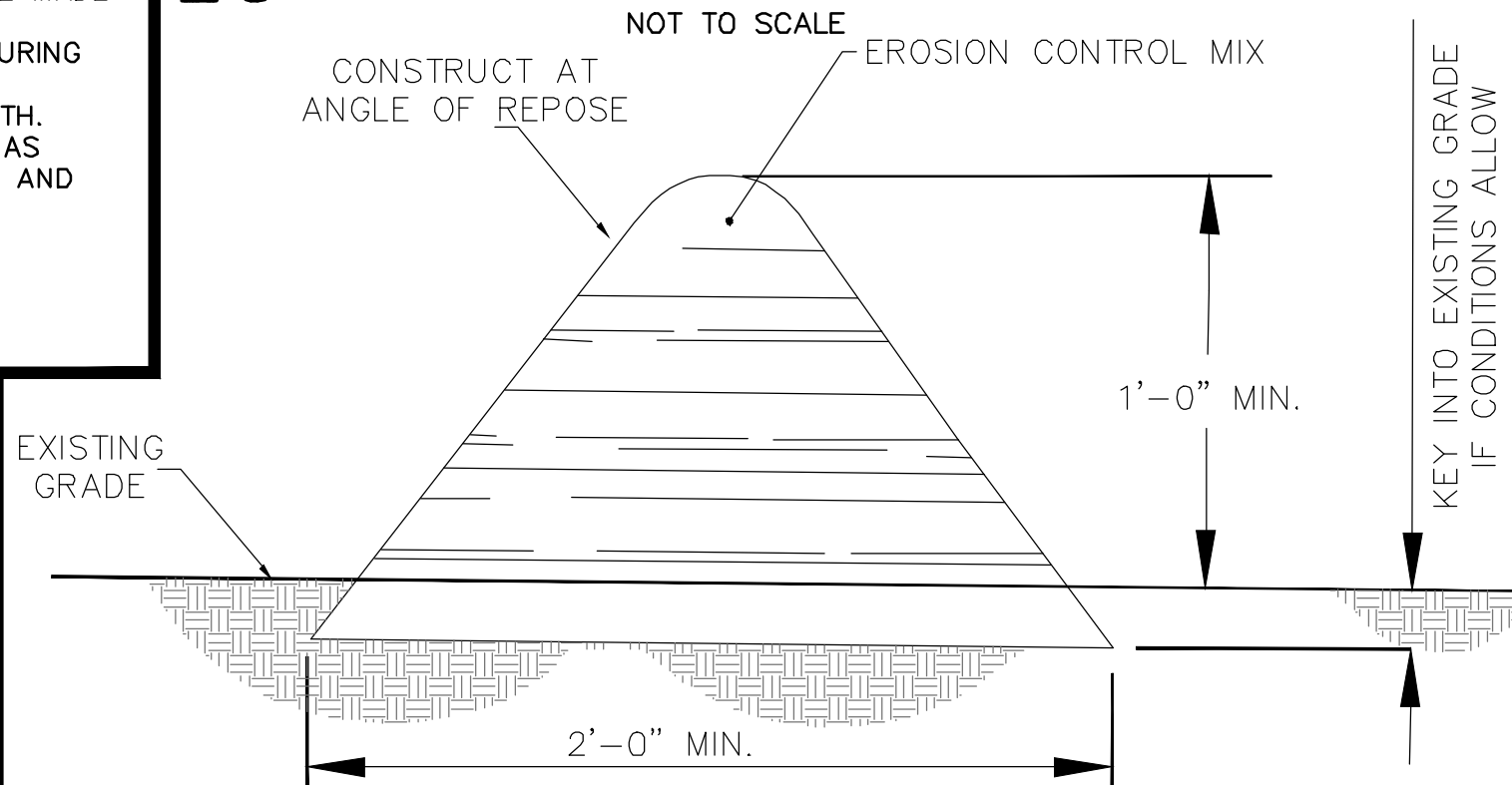


E2



DESIGN SIZE	0.5 FEET	6 INCHES
% OF WEIGHT SMALLER THAN THE GIVEN DESIGN SIZE	SIZE OF STONE (INCHES) FROM	TO
100%	9	12
85%	8	11
50%	6	9
15%	2	3

1. CONSTRUCT THE LEVEL SPREADER LIP ON A 0% GRADE TO INSURE UNIFORM SPREADING OF RUNOFF.
2. LEVEL SPREADER SHALL BE CONSTRUCTED ON UNDISTURBED SOIL AND NOT ON FILL.
3. THE ENTIRE LEVEL LIP AREA SHALL BE PROTECTED BY PLACING EXCELSIOR ENFORCER MATTING BENEATH THE STONE. EACH STRIP SHALL OVERLAP BY AT LEAST SIX INCHES.
4. THE FLOW FROM THE LEVEL SPREADER SHALL OUTLET ONTO STABILIZED AREAS. WATER SHOULD NOT RE-CONCENTRATE IMMEDIATELY BELOW THE SPREADER.
5. MAINTENANCE: THE LEVEL SPREADER SHOULD BE CHECKED PERIODICALLY AND AFTER EVERY MAJOR STORM TO DETERMINE IF THE LIP HAS BEEN DAMAGED AND THE DESIGN CONDITIONS HAVE NOT CHANGED. ANY DETRIMENTAL SEDIMENT ACCUMULATION SHOULD BE REMOVED. IF STONE REMOVAL HAS TAKEN PLACE ON THE LIP, THEN THE DAMAGE SHOULD BE REPAIRED.
6. REFERENCE IS MADE TO NHDES SWM VOL. 2, 4-6, STONE BERM LEVEL SPREADERS, PAGE 162

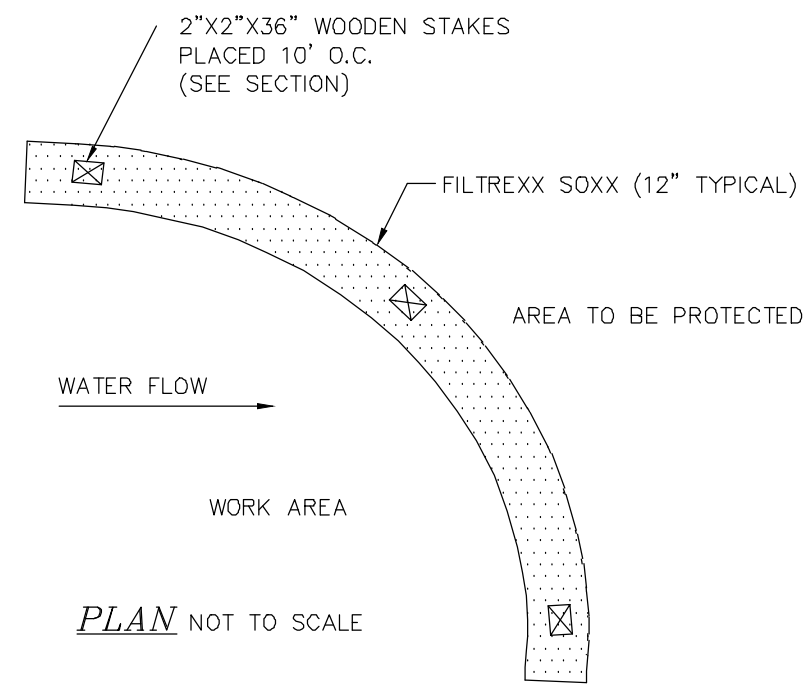
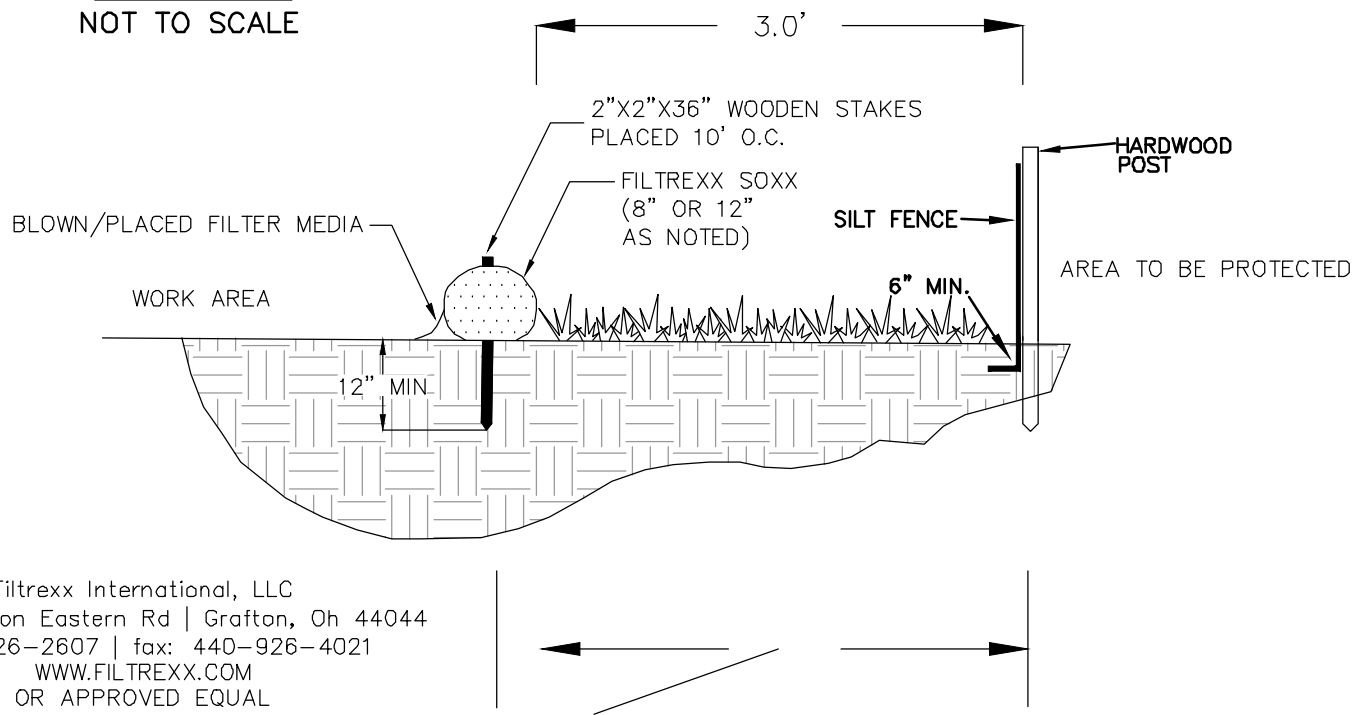
STONE BERM LEVEL SPREADER
NOT TO SCALEE6 EROSION CONTROL MIX BERM
NOT TO SCALE

EROSION CONTROL MIX BERMS SHALL BE USED ONLY AS FOLLOWS:

1. BERMS 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 DRAINAGE WAY ABOVE THE BERM.
2. THE BERMS SHALL BE INSTALLED FOLLOWING THE CONTOUR OF THE LAND AS CLOSELY AS POSSIBLE.
3. THE BERMS SHALL BE INSTALLED ON SLOPES LESS THAN 5%.
4. SUBJECT TO (E), BELOW, THE MIX SHALL HAVE AN ORGANIC PORTION BETWEEN 80 AND 100% DRY WEIGHT BASIS, AND BE FIBROUS AND ELONGATED SUCH AS FROM SHREDDED BARK, STUMP GRINDINGS, COMPOSTED BARK, OR EQUIVALENT MANUFACTURED PRODUCTS. WOOD AND BARK GROUND CONSTRUCTION DEBRIS, OR REPROCESSED WOOD PRODUCTS SHALL NOT BE USED AS ORGANIC MATERIAL.
5. THE MIX SHALL NOT CONTAIN SILTS, CLAY, OR FINE SANDS.
6. THE MIX SHALL HAVE A PARTICLE SIZE BY WEIGHT OF 70 TO 85% PASSING A 6-INCH SCREEN AND A MAXIMUM OF 85% PASSING THE 0.75-INCH SCREEN.
7. THE MIX PH SHALL BE BETWEEN 5.0 AND 8.0.
8. THE BERM SHALL BE AT LEAST 12 INCHES HIGH AND AT LEAST 2 FEET WIDE.
9. TO BE CONSTRUCTED IAW NH SWM #3 4-2 SEDIMENT CONTROL PRACTICES, EROSION CONTROL MIX BERMS, PAGE 106.

E9

E10

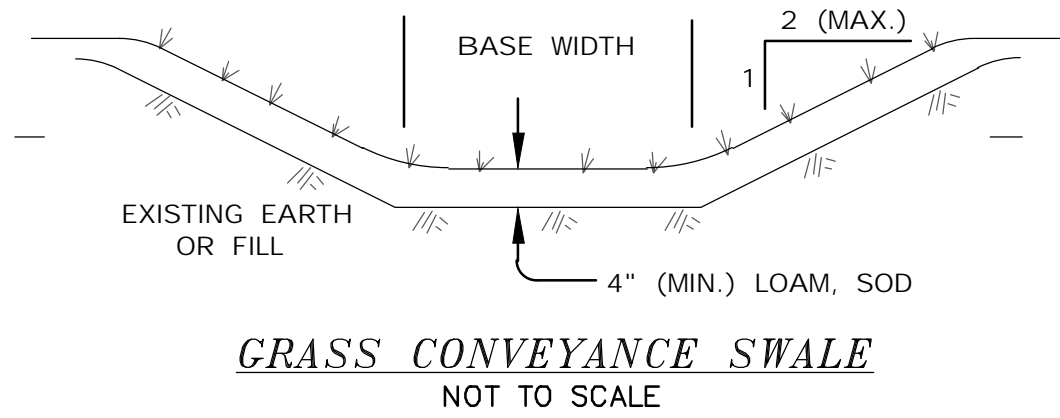
FILTREXX SEDIMENT CONTROL
NOT TO SCALE

Filtrex International, LLC
35481 Grafton Eastern Rd | Grafton, Oh 44044
440-926-2807 | fax: 440-926-4021
WWW.FILTREXX.COM
OR APPROVED EQUAL

NOTES

1. ALL MATERIAL TO MEET FILTREXX SPECIFICATIONS.
2. FILTER MEDIA FILL TO MEET APPLICATION REQUIREMENTS.
3. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.
4. SILT/STOCK MAY BE USED IN PLACE OF SILT FENCE OR OTHER SEDIMENT BARRIERS.
5. SILT/STOCK COMPOST/SOIL/ROCK/SEED FILL MATERIAL SHALL BE ADJUSTED AS NECESSARY TO MEET THE REQUIREMENTS OF THE SPECIFIC APPLICATION.
6. FILTREXX SOXX IS A REGISTERED TRADEMARK OF FILTREXX INTERNATIONAL, LLC.
7. SILT FENCE IS NOT A SUBSTITUTION FOR SILT SOXX AND ANY EQUAL SUBSTITUTION TO BE APPROVED.
8. TO BE CONSTRUCTED IAW FILTREXX, SECTION 1: EROSION & SEDIMENT CONTROL (PAGE 323) - CONSTRUCTION ACTIVITIES, SWPPP CUT SHEET: FILTREXX SEDIMENT CONTROL.

E3

GRASS CONVEYANCE SWALE
NOT TO SCALE

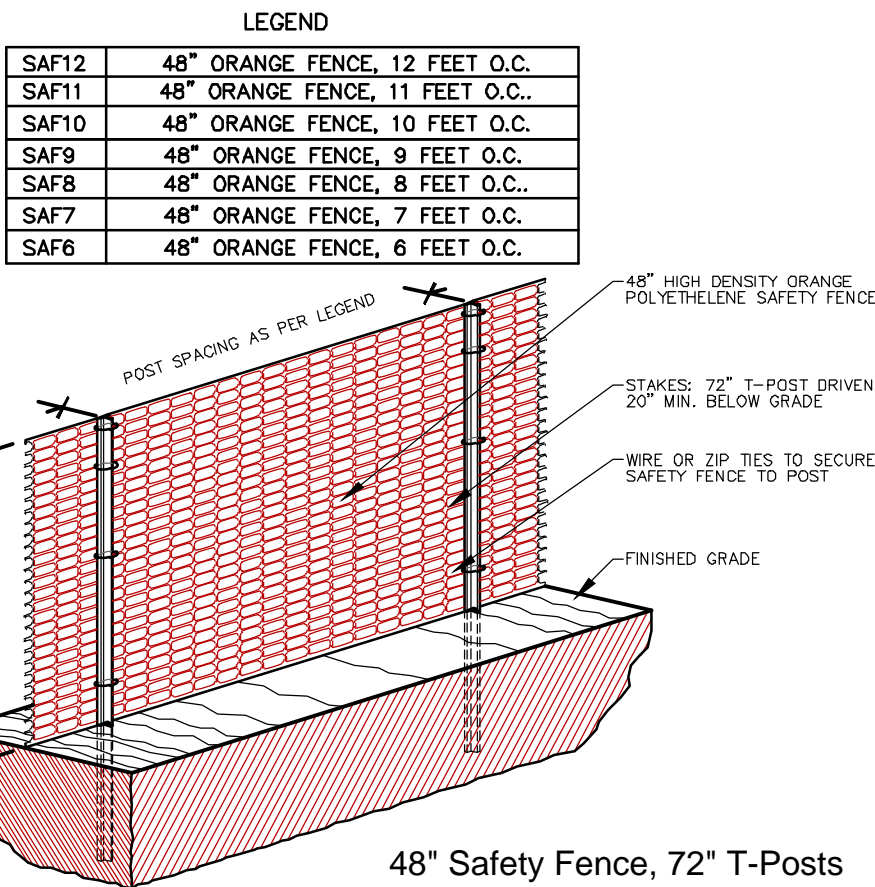
INSPECT ANNUALLY FOR EROSION, SEDIMENT ACCUMULATIONS, VEGETATION LOSS, & INVASIVE SPECIES. REPAIR AS NECESSARY.

MOW GRASS ANNUALLY TO A DEPTH OF 4".

INSTALL STABILIZATION MATTING DURING CONSTRUCTION

TO BE CONSTRUCTED IAW NH SWM #2 CHAPTER 4, #5 TREATMENT SWALES, PAGE 123.

E4

CONSTRUCTION SAFETY FENCE
NOT TO SCALE

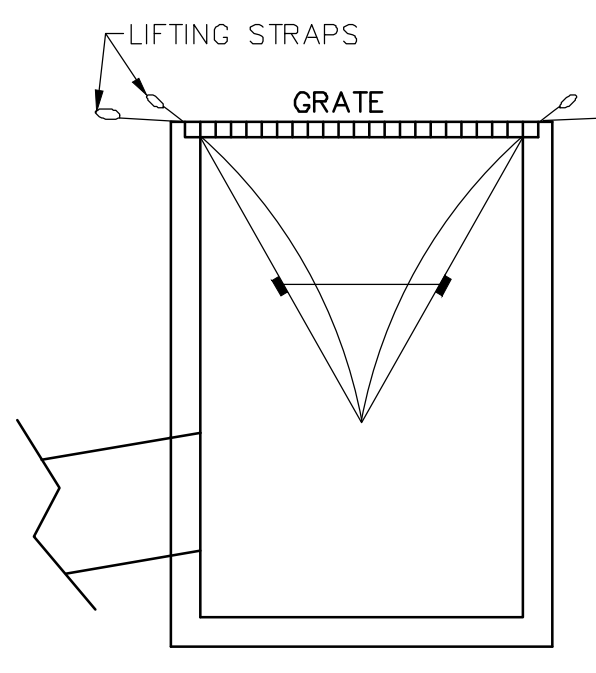
1. ALL SENSITIVE AREAS SHALL BE PROTECTED AS PER PLAN.
2. ALL TREES IN THE CONSTRUCTION AREA NOT SPECIFICALLY DESIGNATED FOR REMOVAL SHALL BE PRESERVED AND PROTECTED WITH HIGH VISIBILITY FENCE AS PER PLAN.
3. WHEN PRACTICABLE, INSTALL HIGH VISIBILITY 3 FEET OUTSIDE OF THE DRIP LINE OF THE TREE.
4. SAFETY FENCE SHOULD BE FASTENED SECURELY TO THE T-POSTS.
5. THE FENCING MUST REMAIN IN PLACE DURING ALL PHASES OF CONSTRUCTION; ANY CHANGE OF THE PROTECTIVE FENCING MUST BE APPROVED.

E8

TEMPORARY EROSION CONTROL MEASURES

1. THE SMALLEST PRACTICAL AREA OF LAND SHALL BE EXPOSED AT ANY ONE TIME.
2. EROSION, SEDIMENT AND DETENTION MEASURES SHALL BE INSTALLED AS SHOWN ON THE PLANS AND AT LOCATIONS AS REQUIRED, DIRECTED BY THE ENGINEER.
3. ALL DISTURBED AREAS SHALL BE RETURNED TO ORIGINAL GRADES AND ELEVATIONS. DISTURBED AREAS SHALL BE LOAMED WITH A MINIMUM OF 4" OF LOAM AND SEEDING WITH NOT LESS THAN ONE POUND OF SEED PER 50 SQUARE YARDS OF AREA. (SEE SEED SPECIFICATIONS THIS SHEET)
4. ALL DISTURBED AREAS WILL BE RESTABILIZED WITHIN 45 DAYS. AT ANY ONE TIME, NO MORE THAN 5 ACRES, (217,800 Sq. Ft.) WILL BE DISTURBED.
5. SILT FENCES AND PERIMETER BARRIERS SHALL BE INSPECTED PERIODICALLY AND AFTER EVERY RAIN DURING THE LIFE OF THE PROJECT. ALL DAMAGED AREAS SHALL BE REPAIRED, SEDIMENT DEPOSITS SHALL PERIODICALLY BE REMOVED AND DISPOSED OF.
6. AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED, THE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE REMOVED AND THE AREA DISTURBED BY THE REMOVAL SMOOTHED AND RE-VEGETATED.
7. PER THE EPA CGP REQUIREMENTS THERE WILL BE REPORTS OF THE EROSION CONTROL INSPECTIONS IAW SWPPP PREPARED BY BS&E. ALL EROSION CONTROLS SHALL BE INSPECTED WEEKLY AND WITHIN 24 HOURS AFTER 0.25" OR GREATER RAIN EVENT.
8. DITCHES, SWALES, AND BASINS SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
9. DO NOT TRAFFIC EXPOSED SOIL SURFACES WITH CONSTRUCTION EQUIPMENT. IF FEASIBLE, PERFORM EXCAVATIONS WITH EQUIPMENT POSITIONED OUTSIDE THE LIMITS OF THE INFILTRATION SYSTEM.
10. ROADWAYS, DRIVEWAYS AND CUT AND FILL SLOPES MUST BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINAL GRADE.
11. STABILIZATION MEANS:
 - 11.1. A MINIMUM OF 85% OF VEGETATIVE COVER HAS BEEN ESTABLISHED.
 - 11.2. A MINIMUM OF 3 INCHES OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP RAP HAS BEEN INSTALLED, OR
 - 11.3. EROSION CONTROL BLANKETS HAVE BEEN INSTALLED.
12. THIS PROJECT IS TO BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.
13. THE NHDES STORMWATER MANUAL, IN THREE VOLUMES, DATED DECEMBER 2008, IS A PART OF THIS PLAN SET AND THE MORE RESTRICTIVE WILL GOVERN. (NH SWM)

E11

RECOMMENDED MAINTENANCE SCHEDULE
-EACH SILTSACK SHOULD BE INSPECTED AFTER EVERY MAJOR RAIN EVENT, AND MUST BE MAINTAINED.
-IF THERE HAVE BEEN NO MAJOR EVENTS, SILTSACK SHOULD BE INSPECTED EVERY 2-3 WEEKS.
-THE RESTRAINT CORD SHOULD BE VISIBLE AT ALL TIMES. IF CORD IS COVERED WITH SEDIMENT, THE SILTSACK SHOULD BE EMPTIED.
-TO BE USED IN ALL AREAS WHERE THERE WILL BE TRAFFIC.
- ARE SUBJECT TO DAMAGE BY SNOW PLOWS, AND MUST BE INSPECTED AFTER ANY SNOW EVENT AND REPLACED AS REQUIRED.

TO BE CONSTRUCTED IAW NH SWM #3 4-2 SEDIMENT CONTROL PRACTICES, TEMPORARY STORM DRAIN INLET PROTECTION, PAGE 118.

SILTSACK DETAIL
NOT TO SCALE

E-101

REVISION	DATE	DESCRIPTION

EROSION & SEDIMENT CONTROL DETAILS

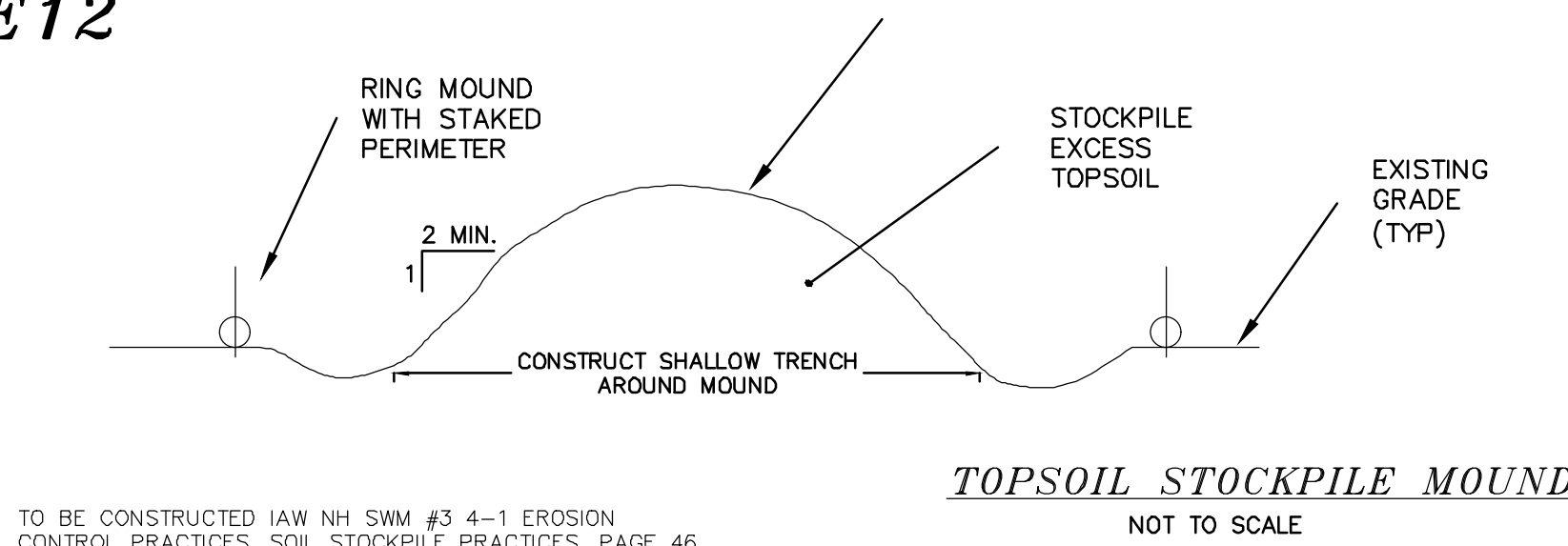
LAND OF
KNOX MARSH DEVELOPMENT LLC
FLAT ROCK BRIDGE ROAD
ROCHESTER, N.H.
74X MAP 210, LOT 64

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE : AS MARKED
DATE : NOVEMBER 22, 2022
FILE NO. : DB 2022 - 028

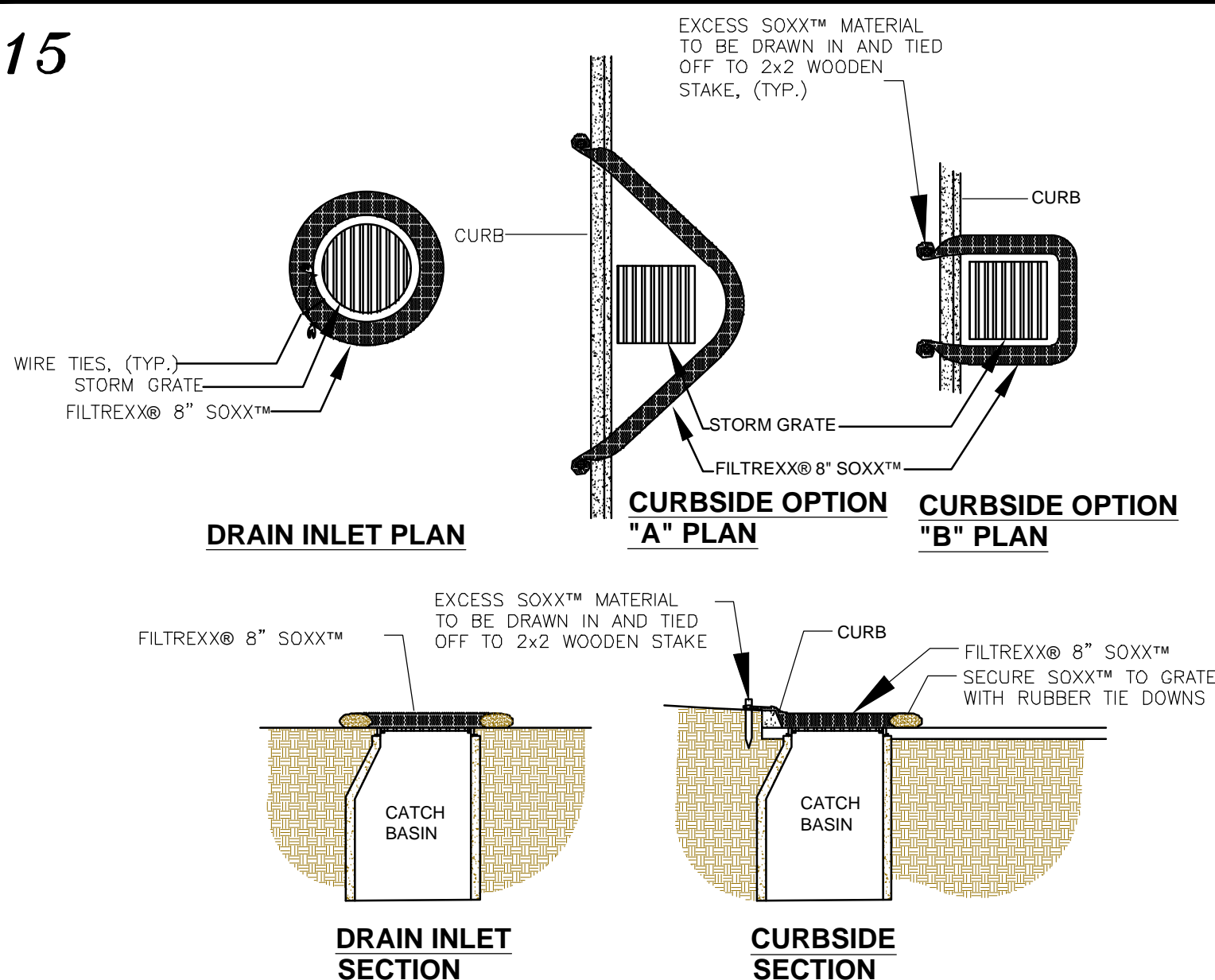
STATE OF NEW HAMPSHIRE
KENNETH A. BERRY
REGISTERED PROFESSIONAL ENGINEER
No. 1243

SHEET 17 OF 28

E12



E15

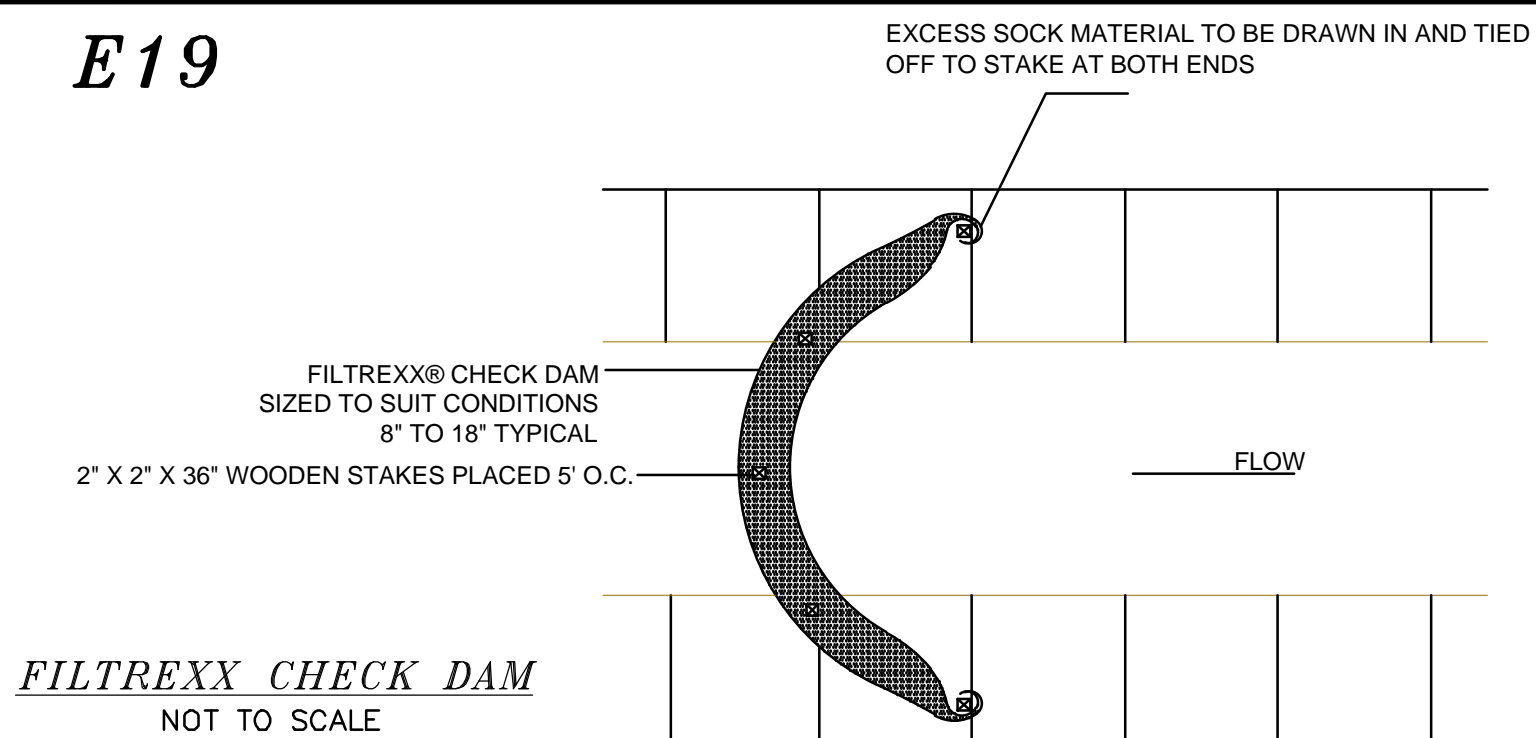


- NOTES:
1. ALL MATERIAL TO MEET FILTREXX® SPECIFICATIONS.
 2. FILTER MEDIA™ FILL TO MEET APPLICATION REQUIREMENTS.
 3. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

FILTREXX INLET PROTECTION

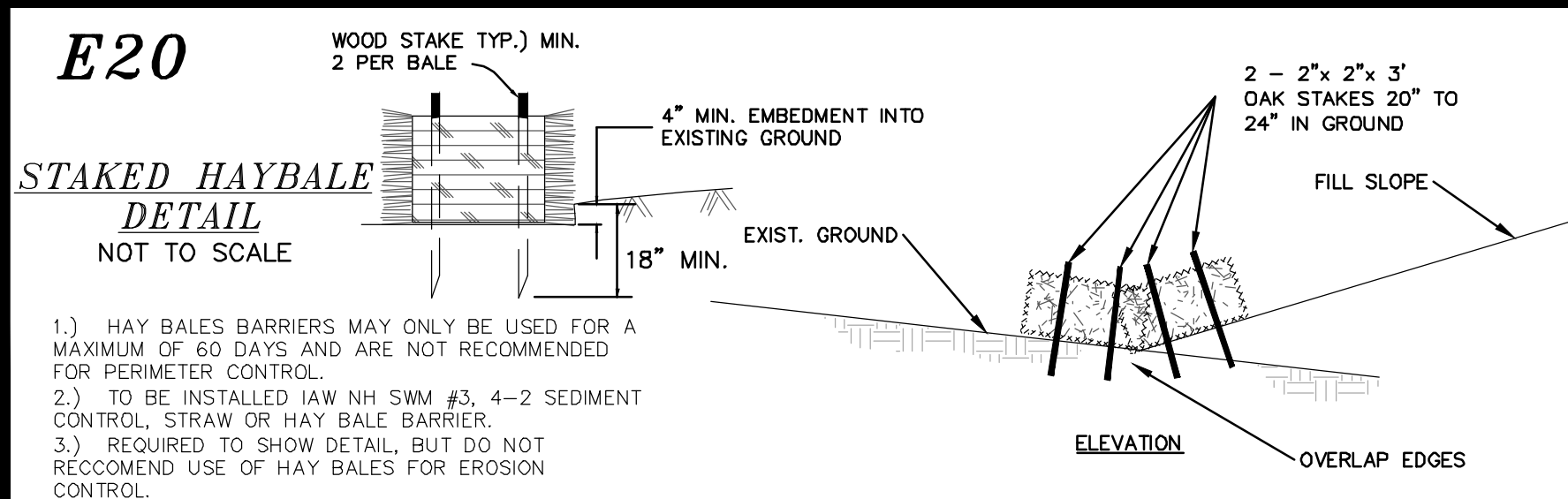
NOT TO SCALE

E19

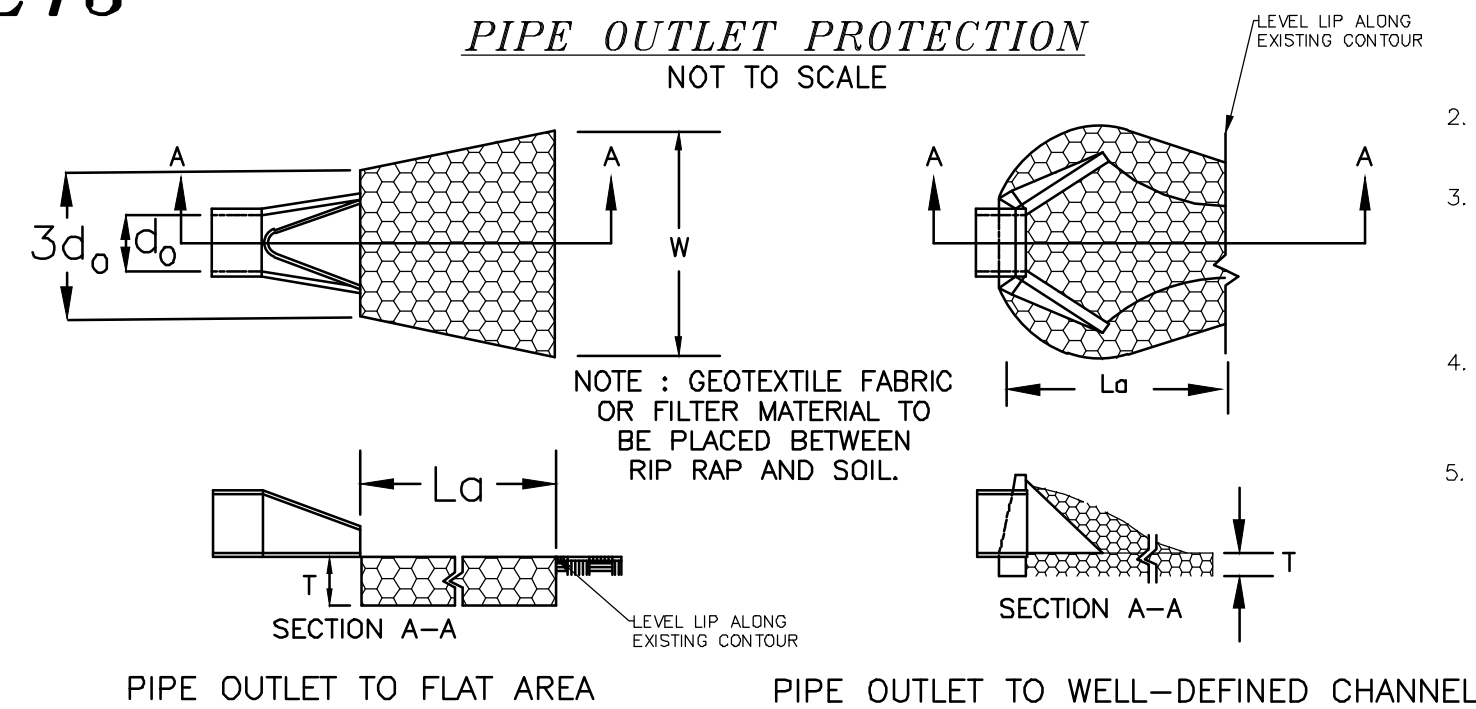


- NOTES:
1. ALL MATERIAL TO MEET FILTREXX® SPECIFICATIONS.
 2. CHECK DAM SHOULD BE USED IN AREAS THAT DRAIN 1 ACRE OR LESS.
 3. SEDIMENT SHOULD BE REMOVED FROM BEHIND CHECK DAM ONCE THE ACCUMULATED HEIGHT HAS REACHED 1/2 THE HEIGHT OF THE CHECK DAM.
 4. CHECK DAM CAN BE DIRECT SEED AT THE TIME OF INSTALLATION.
 5. CONTRACTOR IS REQUIRED TO BE A FILTREXX CERTIFIED™ INSTALLER.

E20



E13



E16

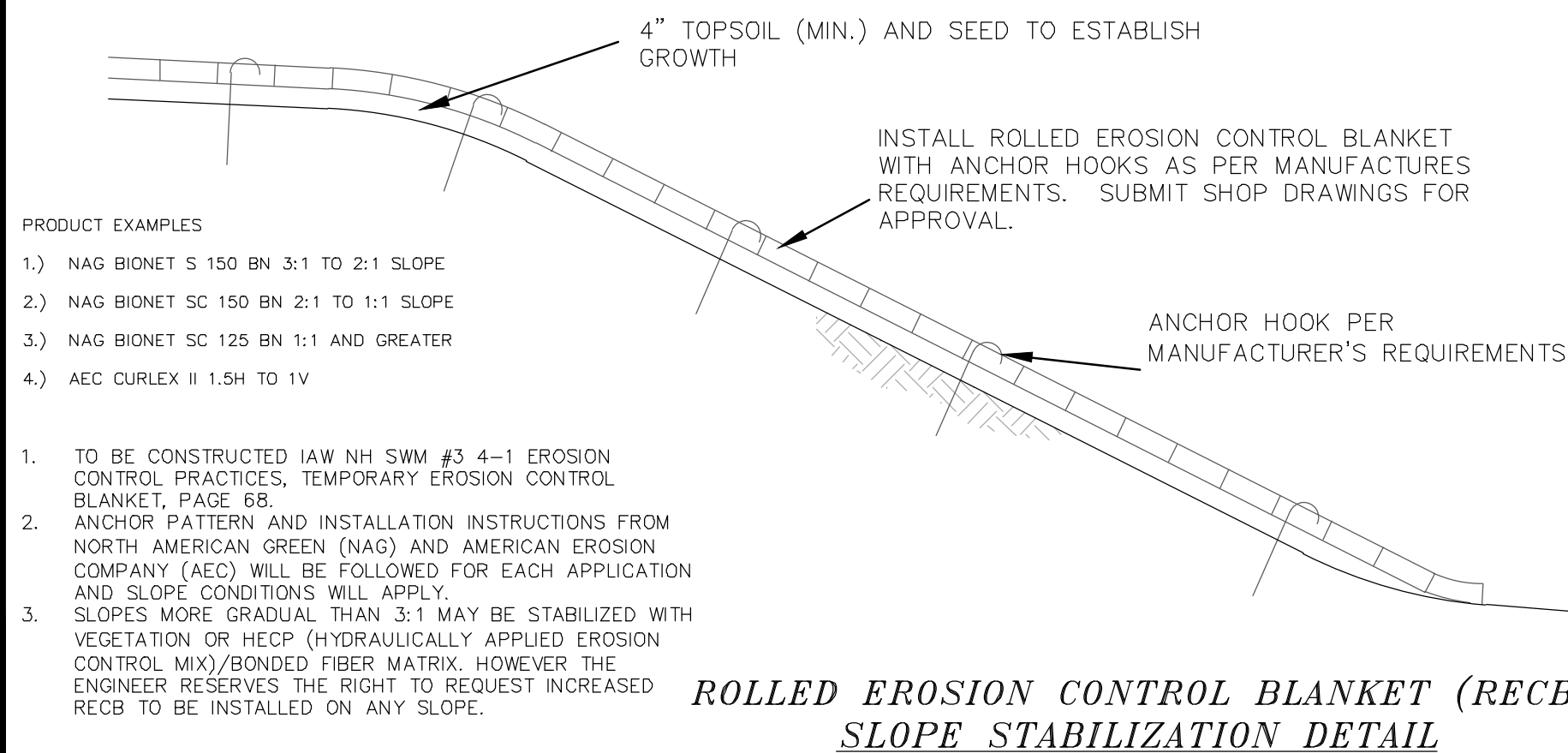
NOTE: Temporary seed mix for stabilization of turf shall be winter type or oats at a rate of 2.5 lbs. per 1000 s.f. and shall be placed prior to OCT. 15, if permanent seeding not yet complete.

USE	SEEDING MIXTURE 1/	DROUGHTY	WELL DRAINED	MODERATELY WELL DRAINED	POORLY DRAINED
STEEP CUTS AND FILLS, BORROW AND DISPOSAL AREAS	A	FAIR	GOOD	GOOD	FAIR
	B	POOR	GOOD	GOOD	FAIR
	C	FAIR	FAIR	GOOD	EXCELLENT
	D	FAIR	FAIR	EXCELLENT	POOR
WATERWAYS, EMERGENCY SPILLWAYS, AND OTHER CHANNELS WITH FLOWING WATER	A	GOOD	GOOD	GOOD	FAIR
	C	GOOD	EXCELLENT	EXCELLENT	FAIR
	D	GOOD	EXCELLENT	EXCELLENT	FAIR
LIGHTLY USED PARKING LOTS, GOLF COURSES, UNIMPROVED LANDS, AND LOW INTENSITY USE RECREATION SITES	A	GOOD	GOOD	GOOD	FAIR
	C	GOOD	EXCELLENT	EXCELLENT	FAIR
	D	GOOD	EXCELLENT	EXCELLENT	FAIR
PLAY AREAS AND ATHLETIC FIELDS (TOPSOIL IS ESSENTIAL FOR GOOD TURF)	F	FAIR	EXCELLENT	EXCELLENT	2/
	G	FAIR	EXCELLENT	EXCELLENT	2/

SEEDING SPECIFICATIONS

1. GRADING AND SHAPING
 - A. SLOPES SHALL NOT BE STEEPER THAN 2:1; 3:1 SLOPES OR FLATTER ARE PREFERRED.
 - WHERE MOWING WILL BE DONE, 3:1 SLOPES OR FLATTER ARE RECOMMENDED.
2. SEEDBED PREPARATION
 - A. SURFACE AND SEEPAGE WATER SHOULD BE DRAINED OR DIVERTED FROM THE SITE TO PREVENT DROWNING OR WINTER KILLING OF THE PLANTS.
 - B. STONES LARGER THAN 4 INCHES AND TRASH SHOULD BE REMOVED BECAUSE THEY INTERFERE WITH SEEDING AND FUTURE MAINTENANCE OF THE AREA. WHERE FEASIBLE, THE SOIL SHOULD BE TILLED TO A DEPTH OF ABOUT 4 INCHES TO PREPARE A SEED BED AND MIX FERTILIZER AND LIME INTO THE SOIL. THE SEEDBED SHOULD BE LEFT IN REASONABLY FIRM AND SMOOTH CONDITION. THE LAST TILLAGE OPERATION SHOULD BE PERFORMED ACROSS THE SLOPE WHEREVER PRACTICAL.
3. ESTABLISHING A STAND
 - A. LIME AND FERTILIZER SHOULD BE APPLIED PRIOR TO OR AT THE TIME OF SEEDING AND INCORPORATED INTO THE SOIL KINDS AND AMOUNTS OF LIME AND FERTILIZER SHOULD BE BASED ON AN EVALUATION OF SOIL TESTS. WHEN A SOIL TEST IS NOT AVAILABLE, THE FOLLOWING MINIMUM AMOUNTS SHOULD BE APPLIED: AGRICULTURAL LIME, 2 TONS PER ACRE OR 100LBS. PER 1,000 SQ.FT. NITROGEN(N), 50LBS. PER ACRE OR 1.1LBS. PER 1,000 SQ.FT. PHOSPHATE(P2O5), 100LBS. PER ACRE OR 2.2LBS. PER 1,000 SQ.FT. POTASH(K2O), 100LBS. PER ACRE OR 2.2LBS. PER 1,000 SQ.FT. (NOTE: THIS IS THE EQUIVALENT OF 500LBS. PER ACRE OF 10-20-20 FERTILIZER OR 1,000LBS. PER ACRE OF 5-10-10.)
4. MULCH
 - A. HAY, STRAW, OR OTHER MULCH, WHEN NEEDED, SHOULD BE APPLIED IMMEDIATELY AFTER SEEDING.
 - B. MULCH WILL BE HELD IN PLACE USING APPROPRIATE TECHNIQUES FROM THE BEST MANAGEMENT PRACTICE FOR MULCHING. HAY OR STRAW MULCH SHALL BE PLACED AT A RATE OF 90LBS PER 1000 S.F.
5. MAINTENANCE TO ESTABLISH A STAND
 - A. PLANTED AREA SHOULD BE PROTECTED FROM DAMAGE BY FIRE, GRAZING, TRAFFIC, AND DENSE WEED GROWTH.
 - B. FERTILIZATION NEEDS SHOULD BE DETERMINED BY ONSITE INSPECTIONS. SUPPLEMENTAL FERTILIZER IS USUALLY THE KEY TO FULLY COMPLETE THE ESTABLISHMENT OF THE STAND BECAUSE MOST PERENNIAL STAKE 2 TO 3 YEARS TO BECOME ESTABLISHED.
 - C. IN WATERWAYS, CHANNELS, OR SWALES WHERE UNIFORM FLOW CONDITIONS ARE ANTICIPATED, OCCASIONAL MOWING MAY BE NECESSARY TO CONTROL GROWTH OF WOODY VEGETATION.
6. TO BE CONSTRUCTED IAW NH SWM #3 4-1 EROSION CONTROL PRACTICES, PERMANENT VEGETATION, PAGE 60.
7. SEE RAIN GARDEN AND INFILTRATION DETAIL SHEETS FOR SPECIFIC PLANTING INSTRUCTIONS AND SEEDING.

E21



PIPE OUTLET PROTECTION CONSTRUCTION SPECIFICATIONS

- SPECIFIED GRADATION.
2. THE ROCK OR GRAVEL USED FOR FILTER OF RIP RAP SHALL CONFORM TO NHDOT SECTION 583.
 3. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE ROCK RIP RAP 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.
 4. STONE FOR THE RIP RAP MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT SEGREGATION OF THE STONE SIZES.
 5. TO BE CONSTRUCTED IAW NH SWM #2 4-6 CONVEYANCE PRACTICES, 6. OUTLET PROTECTION, PAGE 172.

E14

TABLE 7-24--RECOMMENDED RIP RAP GRADATION RANGES			
d50 SIZE=	0.5	FEET	6 INCHES
% OF WEIGHT SMALLER THAN THE GIVEN d50 SIZE	SIZE OF STONE (INCHES) FROM	TO	
100%	9	12	
85%	8	11	
50%	6	9	
15%	2	3	

CONSTRUCTION SEQUENCE:

- 1.) CUT AND REMOVE TREES IN CONSTRUCTION AREA ONLY AS REQUIRED, RELOCATE ANY PROJECT T.B.M.
- 2.) CONSTRUCT AND/OR INSTALL TEMPORARY AND PERMANENT SEDIMENT EROSION AND DETENTION CONTROL FACILITIES AS SPECIFIED. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY SOIL LAND DISTURBANCE AND MUST BE REVIEWED AND APPROVED BY THE COMMUNITY SERVICES DEPARTMENT.
- 3.) EROSION, SEDIMENT AND DETENTION CONTROL FACILITY SHALL BE INSTALLED & STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM. TEMPORARY DIVERSIONS MAY BE REQUIRED. POST CONSTRUCTION STORM WATER MANAGEMENT PRACTICES MUST BE INITIATED AND STABILIZED EARLY IN THE PROCESS. RUNOFF MUST BE DIRECTED TO TEMPORARY PRACTICES UNTIL STORMWATER BMPs ARE STABILIZED.
- 4.) CLEAR, CUT AND DISPOSE OF DEBRIS IN APPROVED FACILITY
- 5.) CONSTRUCT TEMPORARY CULVERTS AS REQUIRED, OR DIRECTED
- 6.) CONSTRUCT ROADWAYS FOR ACCESS TO DESIRED CONSTRUCTION AREAS. ALL ROADS SHALL BE STABILIZED IMMEDIATELY. SEE BEST MANAGEMENT PRACTICES FOR BLASTING ON SHEET C-102.
- 7.) START BUILDING CONSTRUCTION.
- 8.) INSTALL PIPE AND CONSTRUCTION ASSOCIATED APPURTENANCES AS REQUIRED OR DIRECTED. INSTALL RAIN GARDENS. ALL DISTURBED AREAS SHALL STABILIZED IMMEDIATELY AFTER GRADING.
- 9.) BEGIN PERMANENT AND TEMPORARY SEEDING AND MULCHING. ALL CUT AND FILL SLOPES AND DISTURBED AREAS SHALL BE SEED OR MULCHED AS REQUIRED, OR DIRECTED. NO AREA IS ALLOWED TO BE DISTURBED FOR A LENGTH OF TIME THAT EXCEEDS 45 DAYS BEFORE BEING STABILIZED. DAILY, OR AS REQUIRED. ALL ROADWAYS AND PARKING AREAS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADES. ALL CUT AND FILL SLOPES SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADES. LIMIT THE LENGTH OF EXPOSURE OF UNSTABILIZED SOIL TO 45 DAYS OR LESS.
- 10.) CONSTRUCT TEMPORARY BERMS, DRAINS DITCHES, SILT FENCES, SEDIMENT TRAPS, ETC. MULCH AND SEED AS REQUIRED.
- 11.) INSPECT AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION. ALL SWPPP INSPECTIONS MUST BE CONDUCTED BY A QUALIFIED PROFESSIONAL SUCH AS A PROFESSIONAL ENGINEER (PE), A CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (CPESC), A CERTIFIED EROSION SEDIMENT AND STORM WATER SPECIALIST (CESSW), OR A CERTIFIED PROFESSIONAL IN STORM WATER QUALITY (CPSWQ). INSPECTION REPORTS SHALL BE SUBMITTED TO THE COMMUNITY SERVICES DEPARTMENT. EROSION AND SEDIMENT CONTROL PRACTICES ARE TO BE INSPECTED WEEKLY AND AFTER 0.5" OF RAINFALL.
- 12.) COMPLETE PERMANENT SEEDING AND LANDSCAPING.
- 13.) REMOVE TEMPORARY EROSION CONTROL MEASURES AFTER SEEDING AREAS HAVE ESTABLISHED THEMSELVES AND SITE IMPROVEMENTS ARE COMPLETE.
- 14.) SMOOTH AND REVEGETATE ALL DISTURBED AREAS.
- 15.) FINISH PAVING ALL ROADWAYS.
- 16.) LOT DISTURBANCE, OTHER THAN THAT SHOWN ON THE APPROVED PLANS, SHALL NOT COMMENCE UNTIL AFTER THE ROADWAY HAS THE BASE COURSE TO DESIGN ELEVATION AND THE ASSOCIATED DRAINAGE IS COMPLETE AND STABLE.

E18 DEFINITION OF STABLE:

PER ENV-WQ 1500 ALTERATION OF TERRAIN

1. BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED.
 2. A MINIMUM OF 85 PERCENT VEGETATED GROWTH HAS BEEN ESTABLISHED..
 3. A MINIMUM OF 3 INCHES OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP-RAP HAS BEEN INSTALLED.
 4. OR, EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
- ADDITION STABILIZATION NOTES:
5. HAY MULCH OR OTHER APPROVED METHODS SHALL BE USED TO CONTROL EROSION OF NEWLY GRADED AREAS. ALL CUT AND FILL SLOPES SHALL BE SEED AND MULCHED WITHIN 72 HOURS AFTER THEIR CONSTRUCTION.
 6. DISTURBED SOIL AREAS SHALL BE EITHER TEMPORARILY OR PERMANENTLY STABILIZED. IN AREAS WHERE FINAL GRADING HAS NOT OCCURRED, TEMPORARY STABILIZATION MEASURES SHOULD BE IN PLACE WITHIN SEVEN (7) CALENDAR DAYS FOR EXPOSED SOIL AREAS THAT ARE WITHIN ONE HUNDRED (100) FEET OF A SURFACE WATER BODY OR A WETLAND AND NO MORE THAN 14 CALENDAR DAYS FOR ALL OTHER AREAS. PERMANENT STABILIZATION SHOULD BE IN PLACE WITHIN THREE (3) CALENDAR DAYS FOLLOWING COMPLETION OF FINAL GRADING OF EXPOSED SOIL AREAS.

E22

WINTER STABILIZATION NOTES

1. ALL DISTURBED AREAS THAT DO NOT HAVE AT LEAST 85% VEGETATIVE COVERAGE PRIOR TO OCTOBER 15TH SHALL BE STABILIZED BY APPLYING MULCH AT A RATE OF 3-4 TONS PER ACRE. ALL SIDE SLOPES, STEEPER THAN 4:1, THAT ARE NOT DIRECTED TO SWALES OR DETENTION BASINS, SHALL BE LINED WITH BIODEGRADABLE/PHOTODEGRADABLE "JUTE MATTING" (EXCELSIOR'S CUREX II OR EQUAL). ALL OTHER SLOPES SHALL BE MULCHED AND TACKED AT A RATE OF 3-4 TONS PER ACRE. THE APPLICATION OF MULCH AND/OR JUTE MATTING SHALL NOT OCCUR OVER EXISTING SNOW COVER. IF THE SITE IS ACTIVE AFTER OCTOBER 15TH, ANY SNOW THAT ACCUMULATES ON DISTURBED AREAS SHALL BE REMOVED. PRIOR TO SPRING THAW ALL AREAS WILL BE STABILIZED, AS DIRECTED ABOVE.
2. ALL SWALES THAT DO NOT HAVE FULLY ESTABLISHED VEGETATION SHALL BE EITHER LINED WITH TEMPORARY JUTE MATTING OR TEMPORARY STONE CHECK DAMS (APPROPRIATELY SPACED). STONE CHECK DAMS WILL BE MAINTAINED THROUGHOUT THE WINTER MONTHS. IF THE SWALES ARE TO BE MATTED WITH PERMANENT LINERS OR RIPRAP WITH ENGINEERING FABRIC, THIS SHALL BE COMPLETED PRIOR TO WINTER SHUTDOWN OR AS SOON AS THEY ARE PROPERLY GRADED AND SHAPED.
3. PRIOR TO OCT. 15TH ALL ROADWAY AND PARKING AREAS SHALL BE BROUGHT UP TO AND THROUGH THE BANK RUN GRAVEL APPLICATION. IF THESE AREAS' ELEVATIONS ARE PROPOSED TO REMAIN BELOW THE PROPOSED SUBGRADE ELEVATION, THE SUBGRADE MATERIAL SHALL BE ROUGHLY CROWNED AND A 3" LAYER OF CRUSHED GRAVEL SHALL BE PLACED AND COMPACTED. THIS WILL ALLOW THE SUBGRADE TO SHED RUNOFF AND WILL REDUCE ROADWAY EROSION. THIS CRUSHED GRAVEL DOES NOT HAVE TO CONFORM TO NH DOT 304.3, BUT SHALL HAVE BETWEEN 15-25% PASSING THE #200 SIEVE AND THE LARGEST STONE SIZE SHALL BE 2". IF THE SITE IS ACTIVE AFTER OCTOBER 15TH, ANY ACCUMULATED SNOW SHALL BE REMOVED FROM ALL ROADWAY AND PARKING AREAS.
4. AFTER OCTOBER 15TH, THE END OF NEW HAMPSHIRE'S AVERAGE GROWING SEASON, NO ADDITIONAL LOAM SHALL BE SPREAD ON SIDE SLOPES AND SWALES. THE STOCKPILES THAT WILL BE LEFT UNDISTURBED UNTIL SPRING SHALL BE SEED BY THIS DATE. AFTER OCTOBER 15TH, ANY NEW OR DISTURBED PILES SHALL BE MULCHED AT A RATE OF 3-4 TONS PER ACRE. ALL STOCKPILES THAT WILL REMAIN THROUGHOUT THE WINTER SHALL BE SURROUNDED WITH SILT FENCING.
5. ENV-WQ 1505.06 COLD WEATHER SITE STABILIZATION (B)(1) LIMITS AREA OF EXPOSURE TO ONE ACRE OF UNSTABILIZED SOIL WITHOUT OBTAINING A WAIVER AND WINTER CONSTRUCTION PLAN.

E-102

REVISION	DATE	DESCRIPTION

EROSION & SEDIMENT CONTROL DETAILS

LAND OF KNOX MARSH DEVELOPMENT LLC

FLAT ROCK BRIDGE ROAD

ROCHESTER, N.H.

74X MAP 210, Lot 64

BERRY SURVEYING & ENGINEERING

335 SECOND CROWN POINT ROAD

BARRINGTON, NH 03825 (603)332-2863

SCALE : AS MARKED

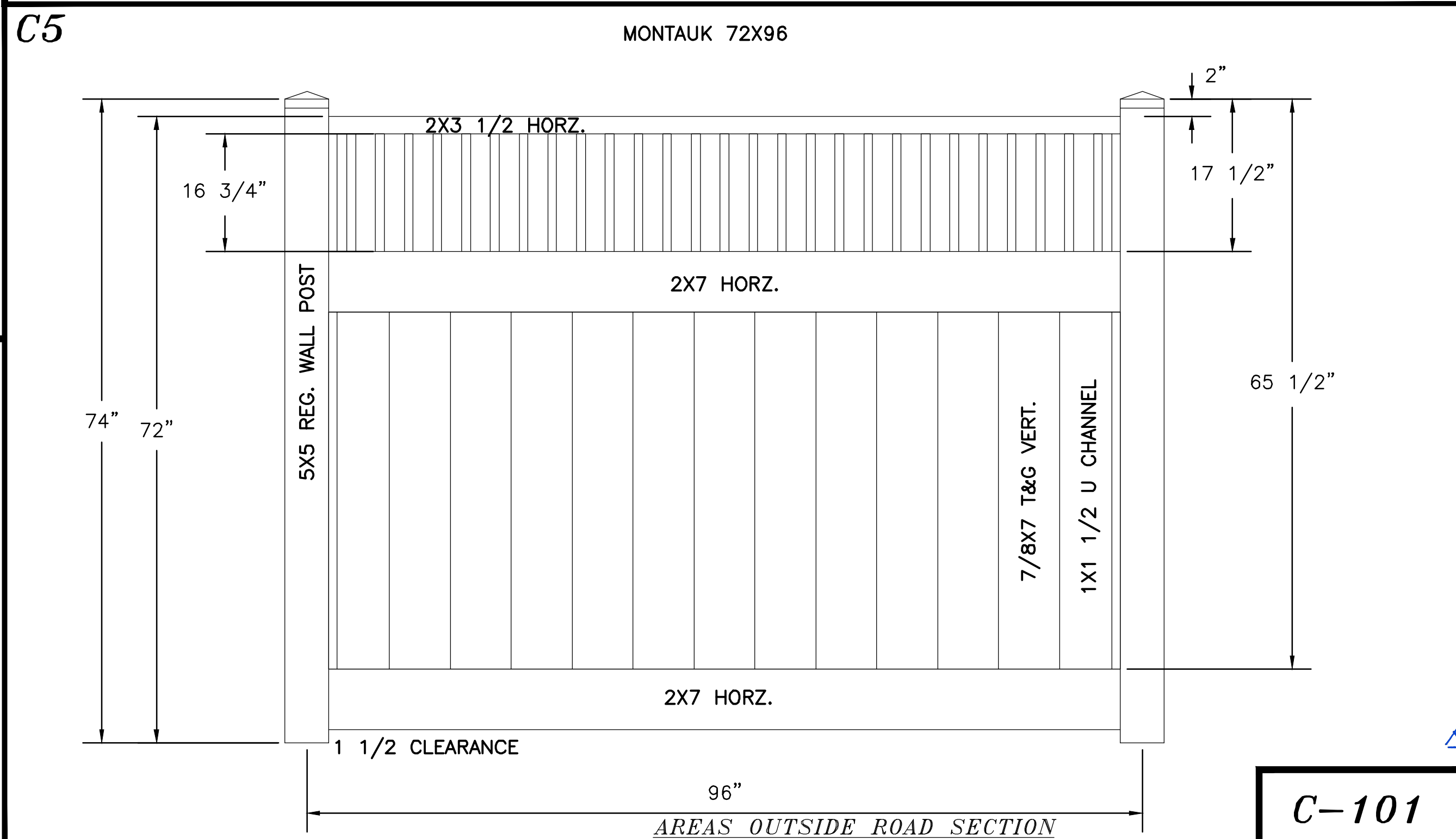
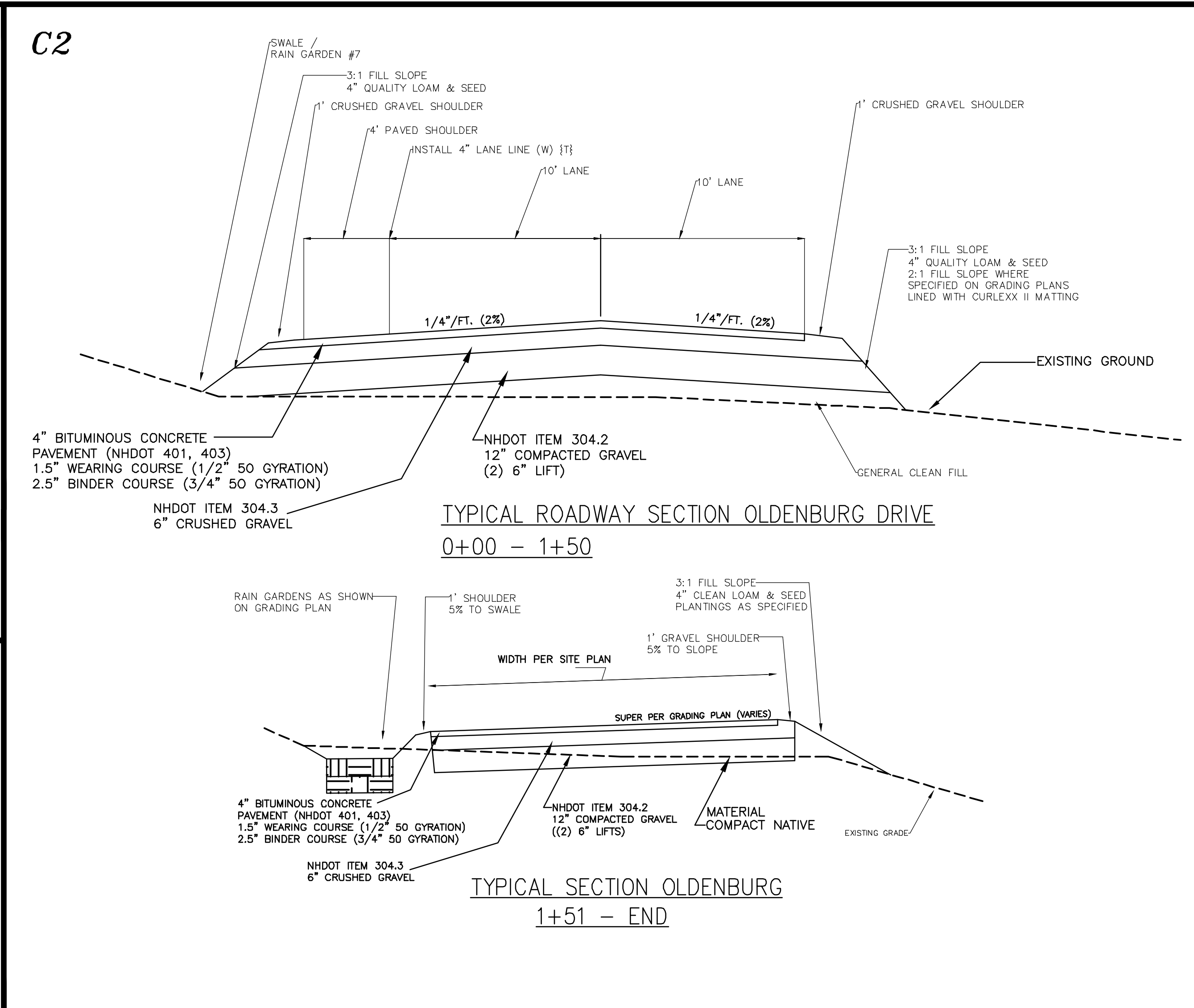
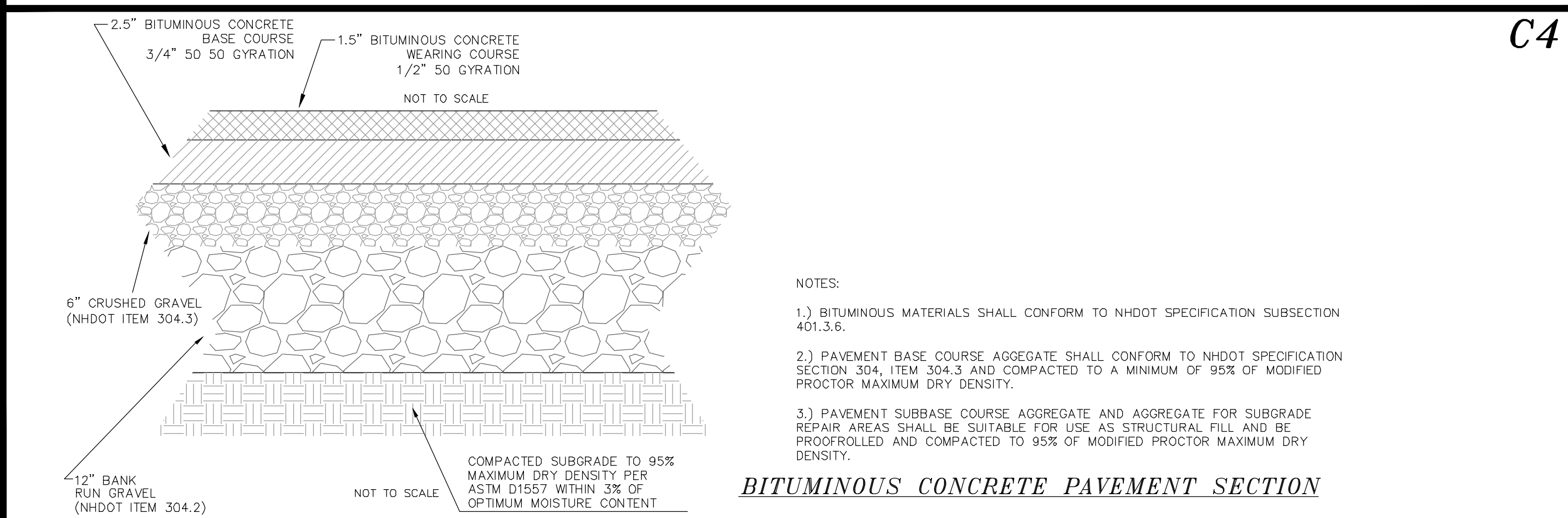
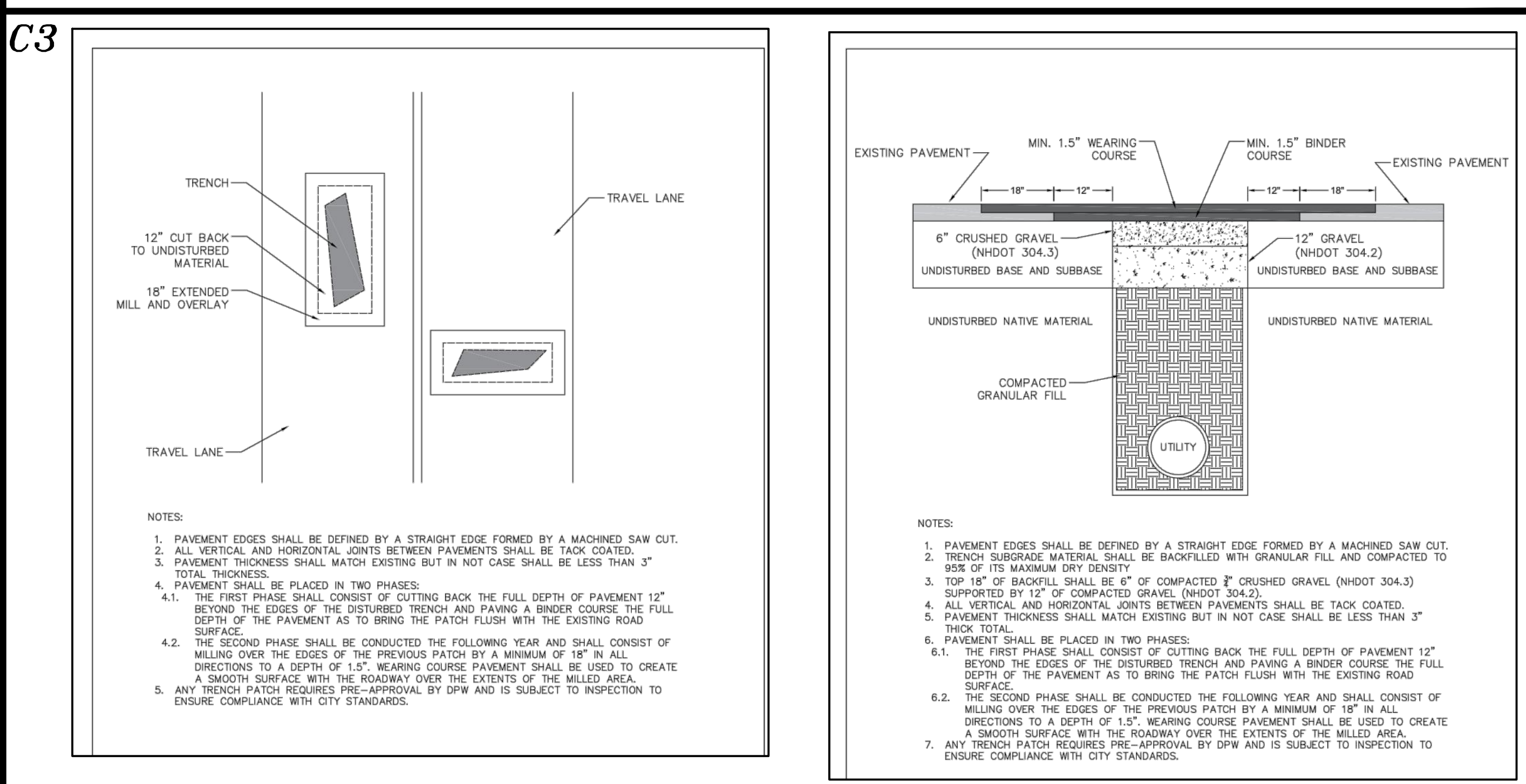
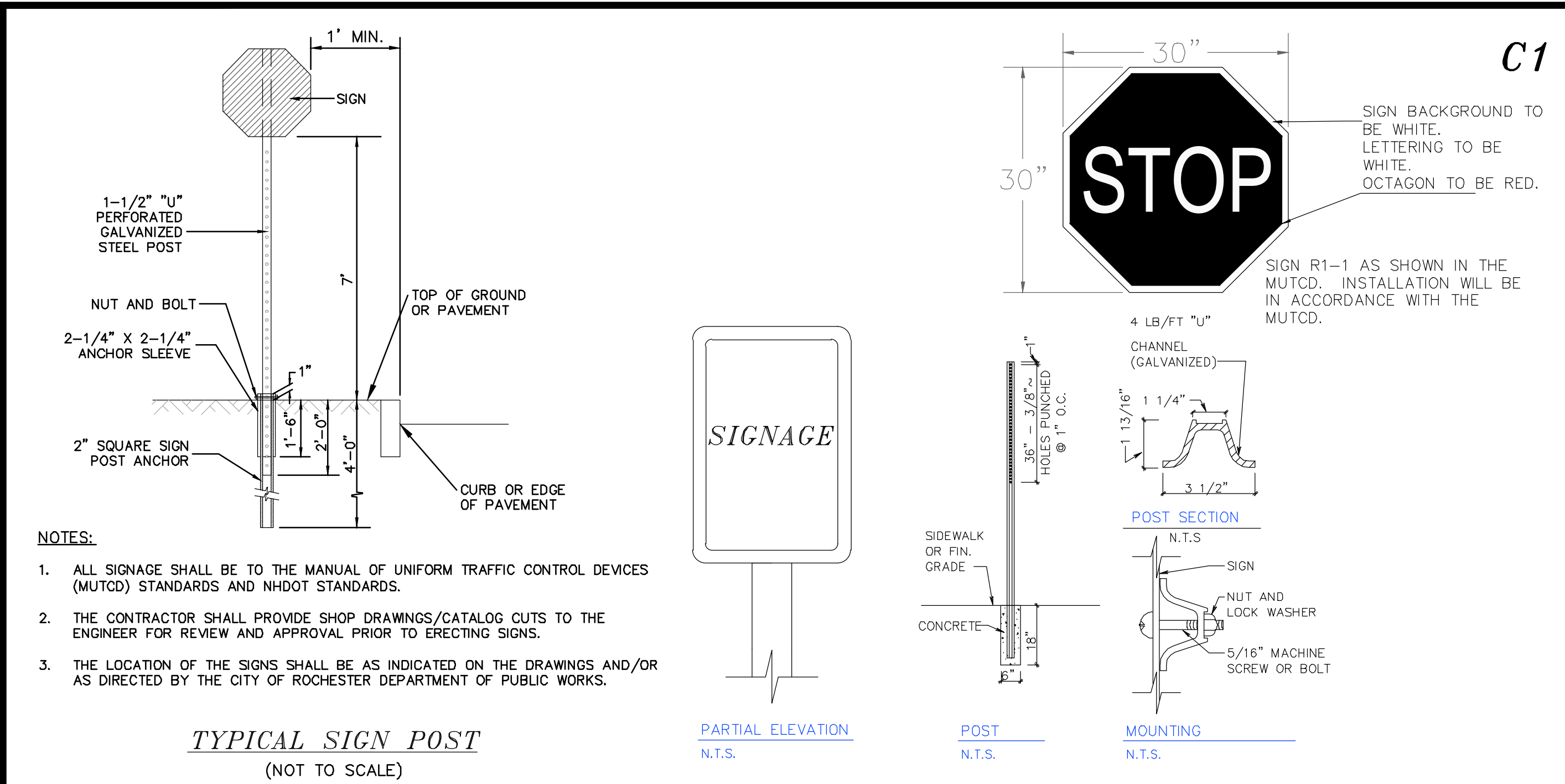
DATE : NOVEMBER 22, 2022

FILE NO. : DB 2022 - 028

STATE OF NEW HAMPSHIRE

KENNETH A. BERRY

Professional Engineer



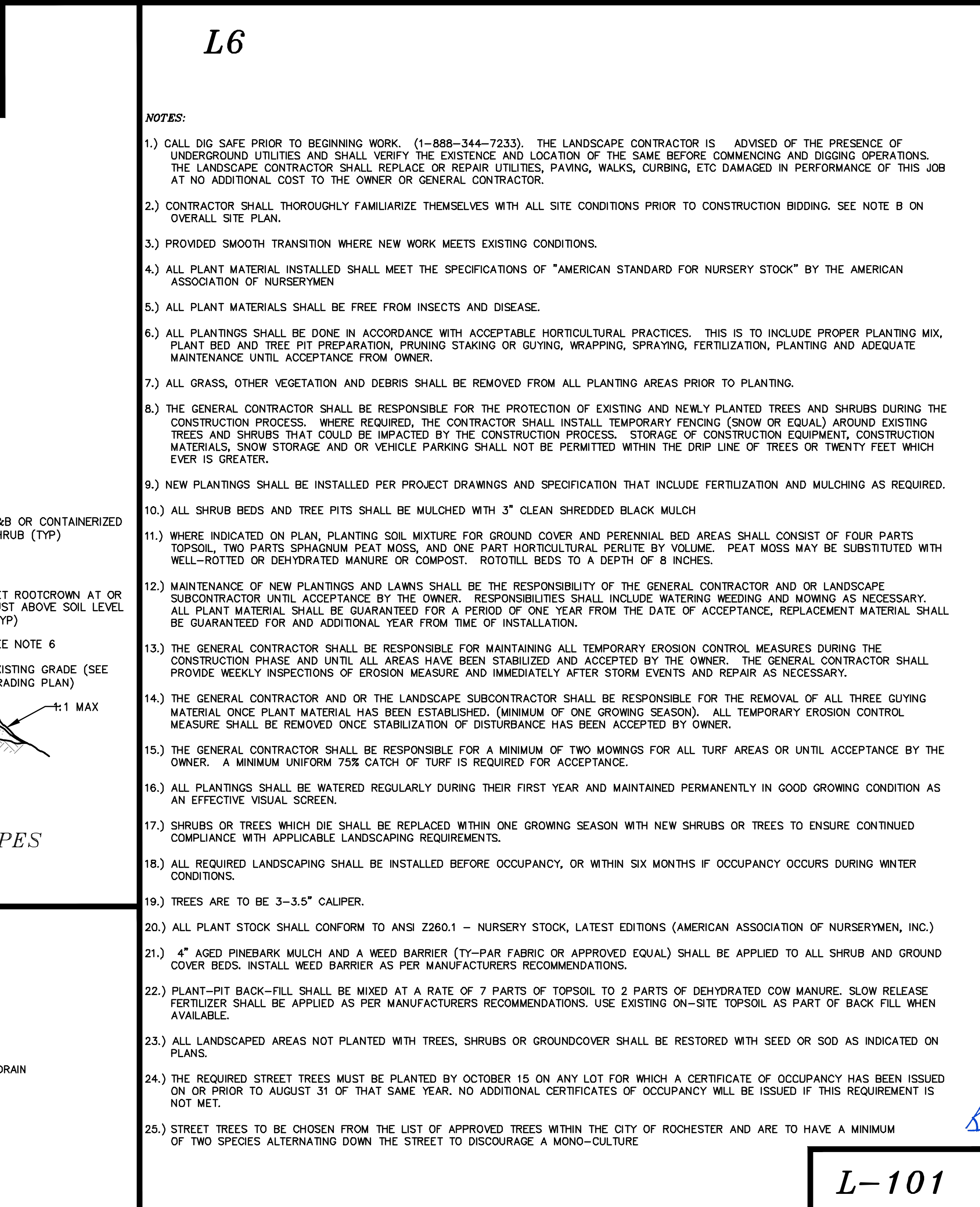
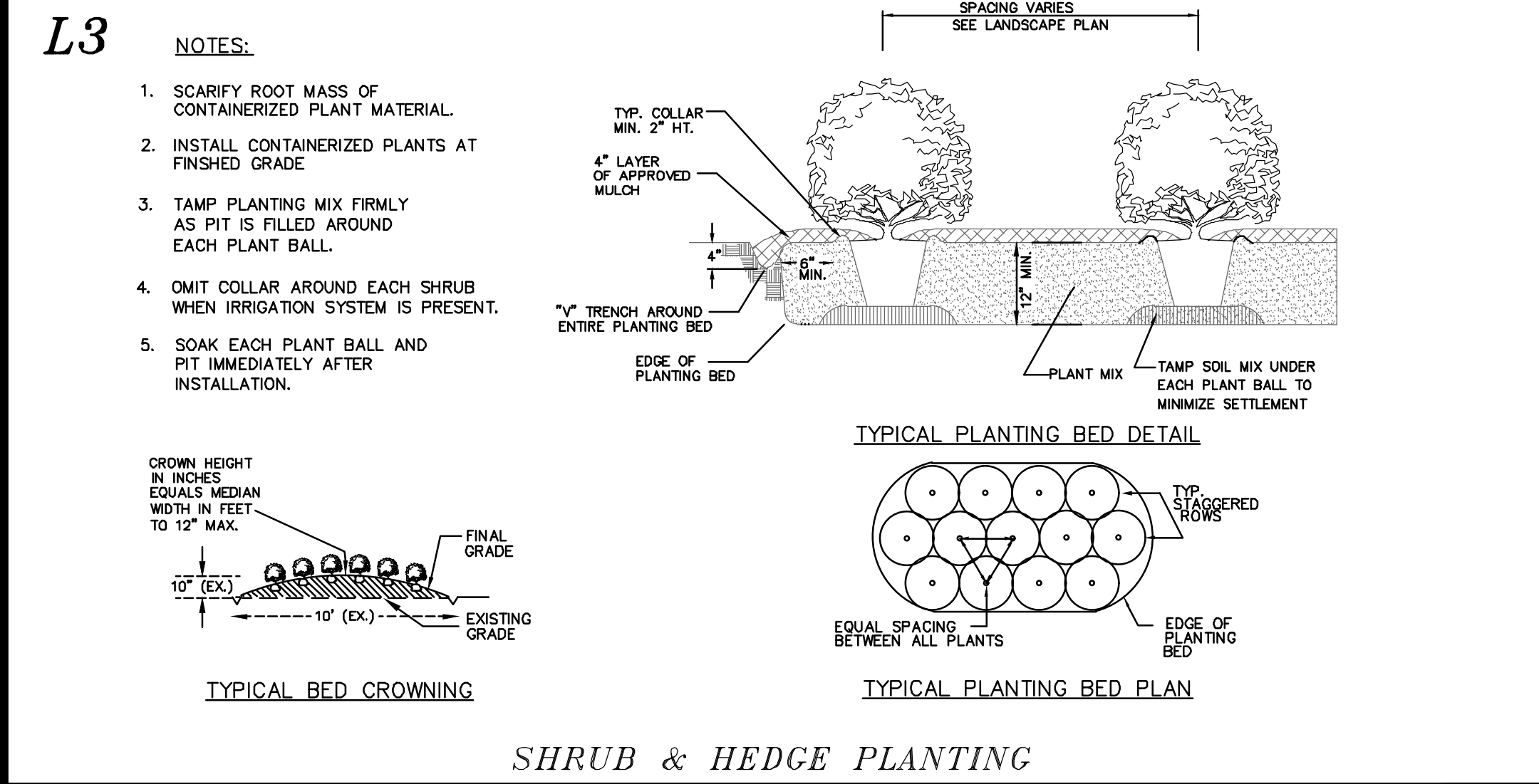
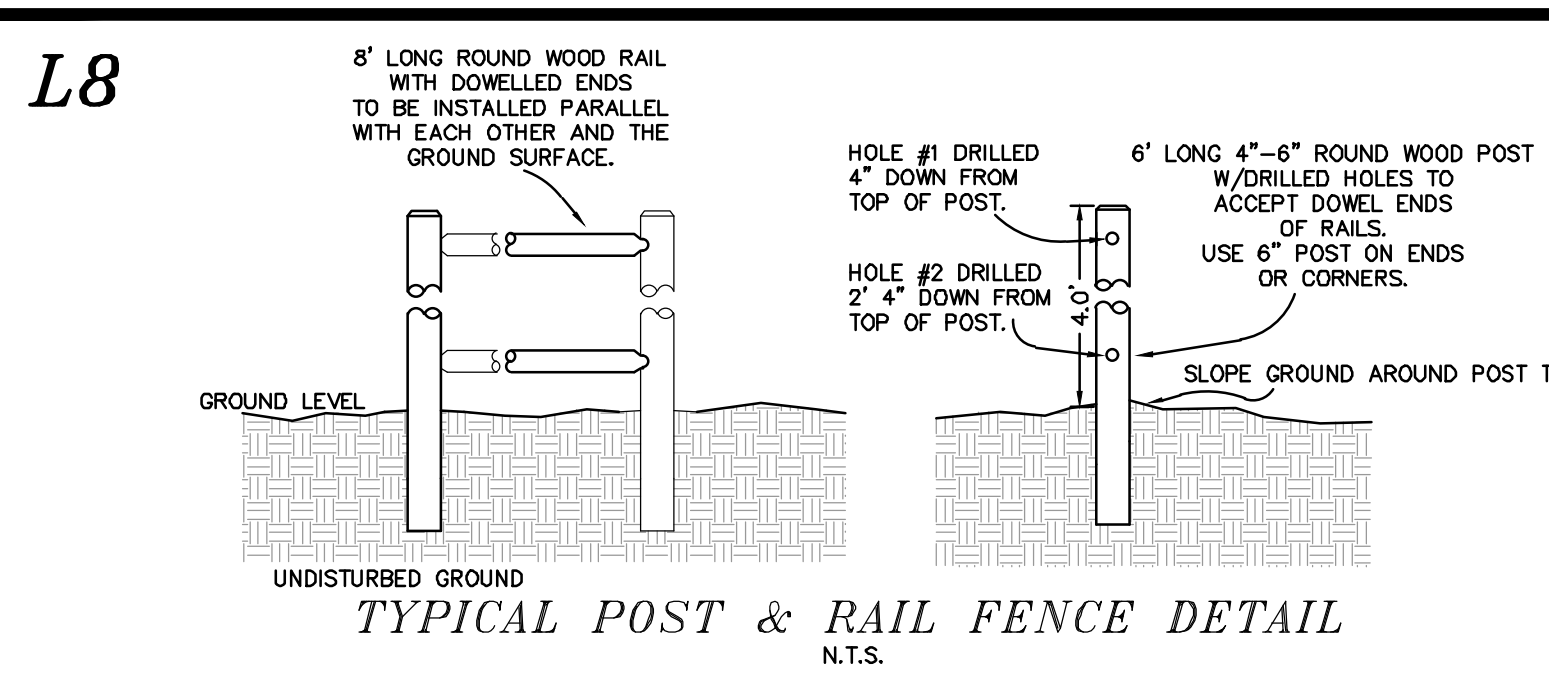
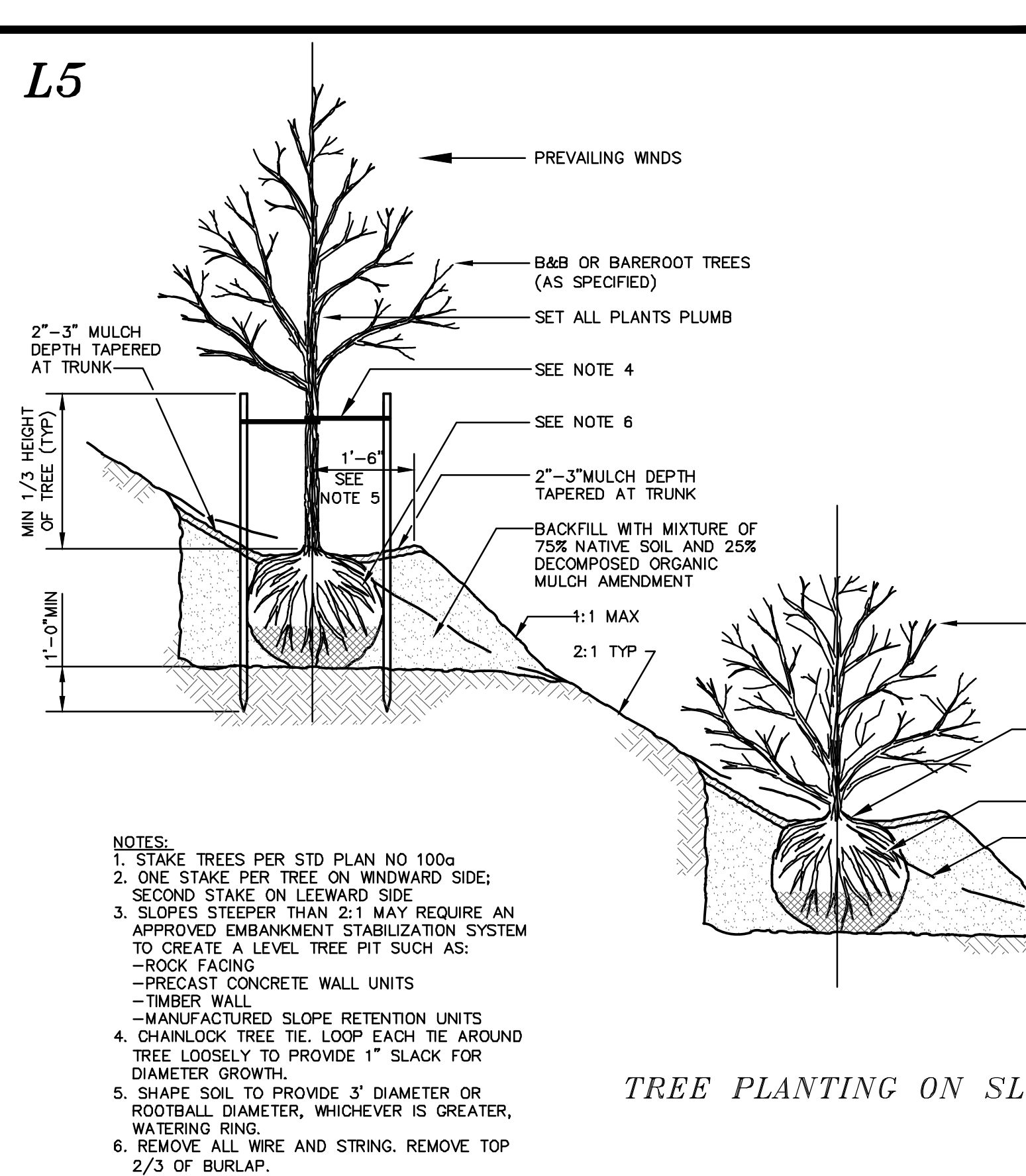
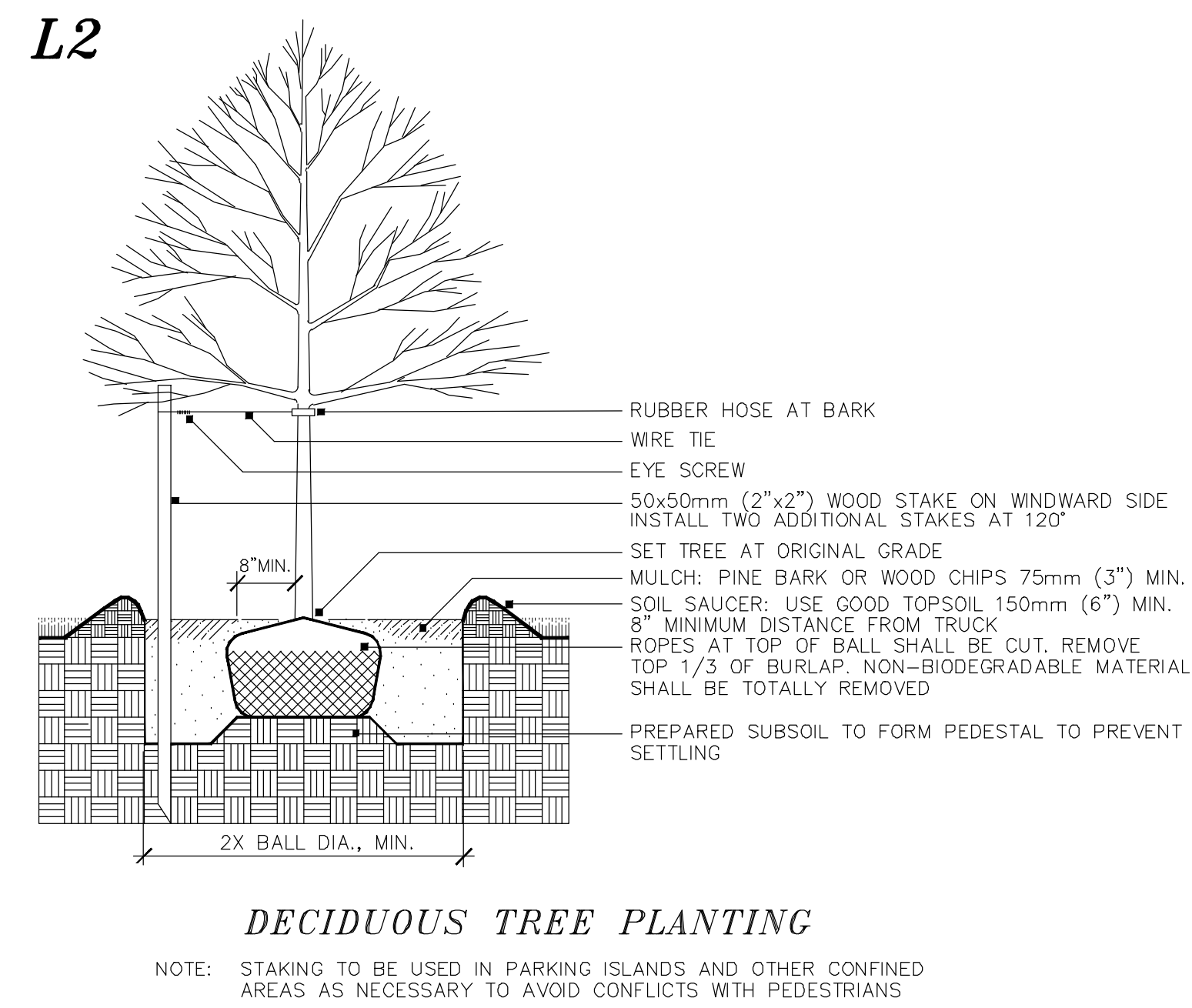
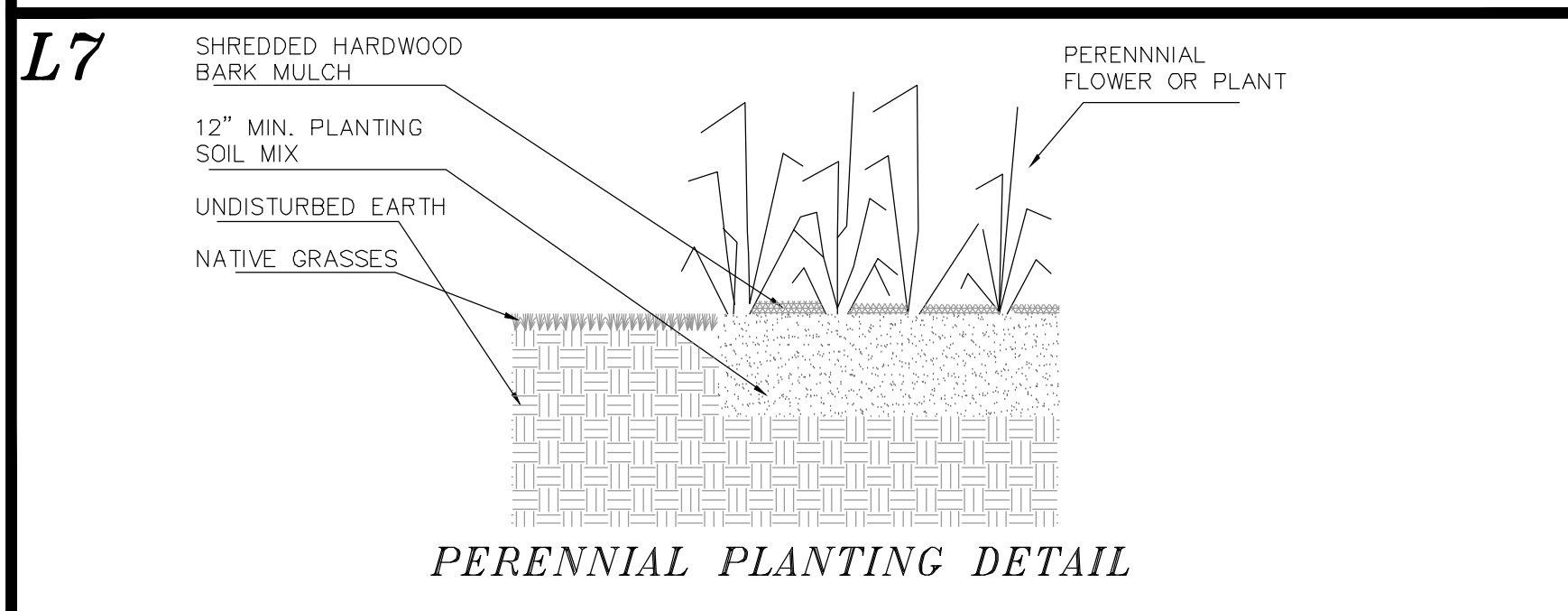
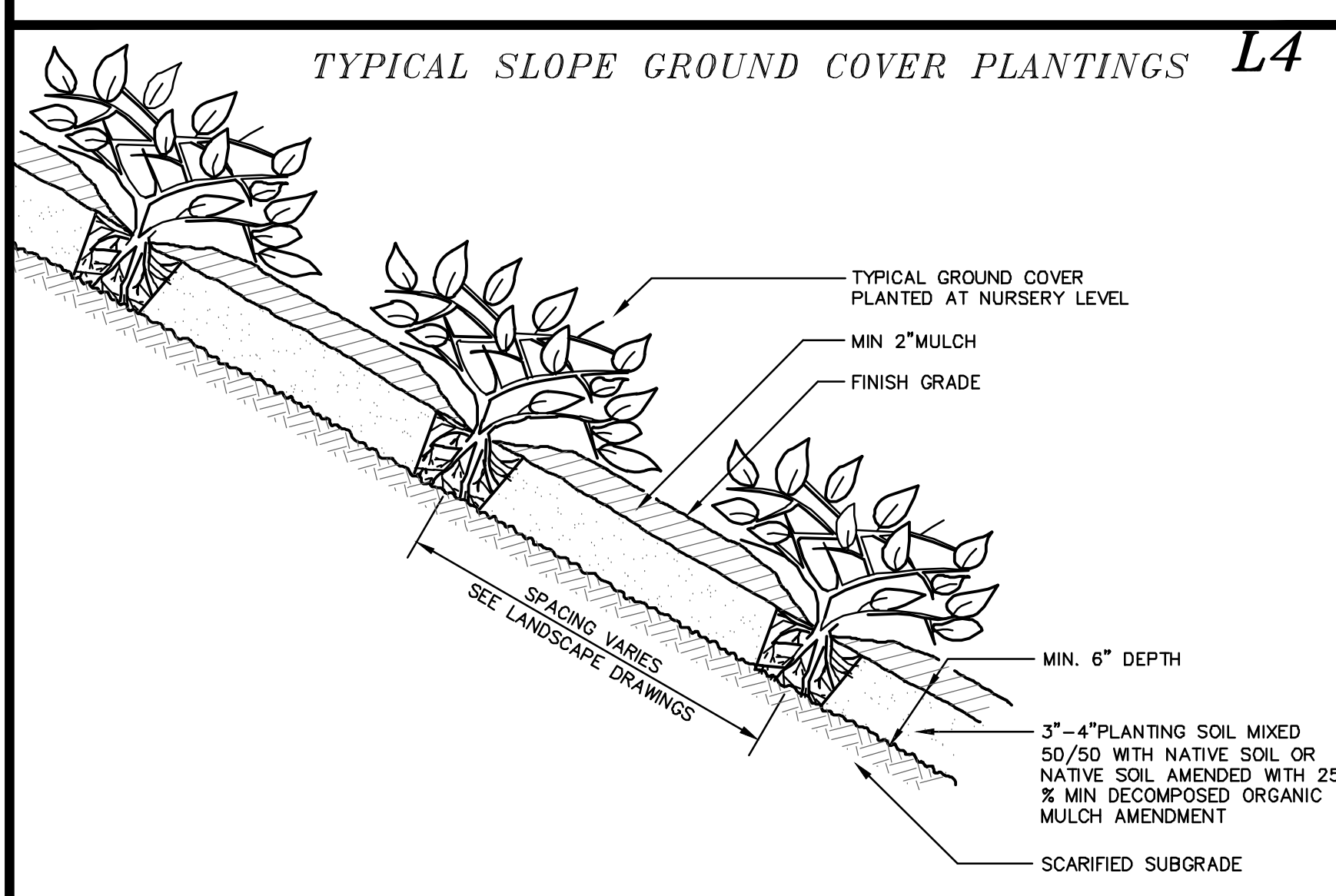
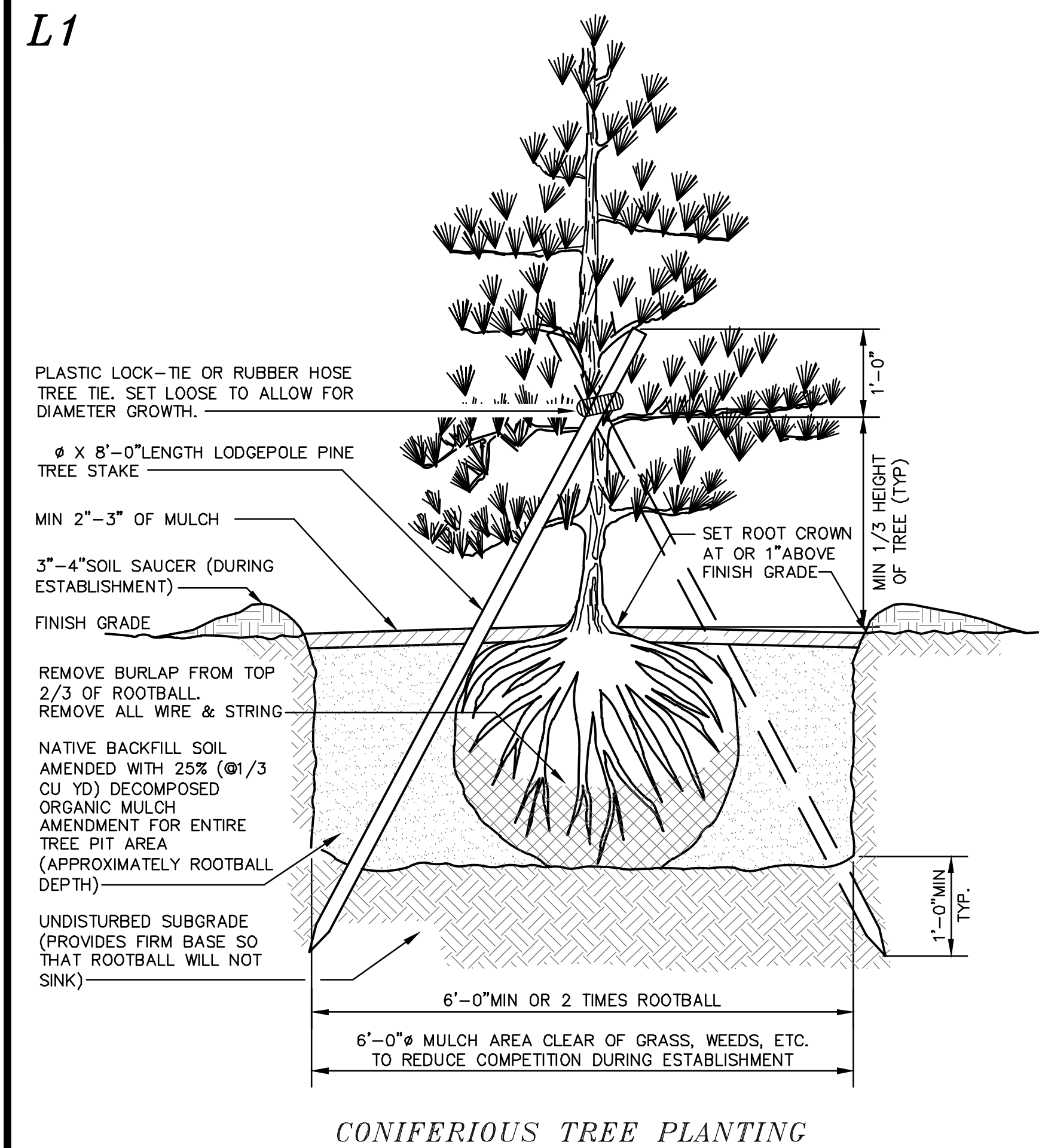
REVISION	DATE	DESCRIPTION

CONSTRUCTION DETAILS
LAND OF
KNOX MARSH DEVELOPMENT LLC
FLAT ROCK BRIDGE ROAD
ROCHESTER, N.H.
74X MAP 210, LOT 64

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE : AS MARKED
DATE : NOVEMBER 22, 2022
FILE NO. : DB 2022 - 028

STATE OF NEW HAMPSHIRE
KENNETH A. BERRY
LICENSED PROFESSIONAL ENGINEER
No. 16243

C-101
SHEET 19 OF 28



REVISION	DATE	DESCRIPTION

LANDSCAPING CONSTRUCTION DETAILS
LAND OF KNOX MARSH DEVELOPMENT LLC FLAT ROCK BRIDGE ROAD ROCHESTER, N.H. 74X MAP 210, LOT 64

BERRY SURVEYING & ENGINEERING

335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863

SCALE : AS MARKED

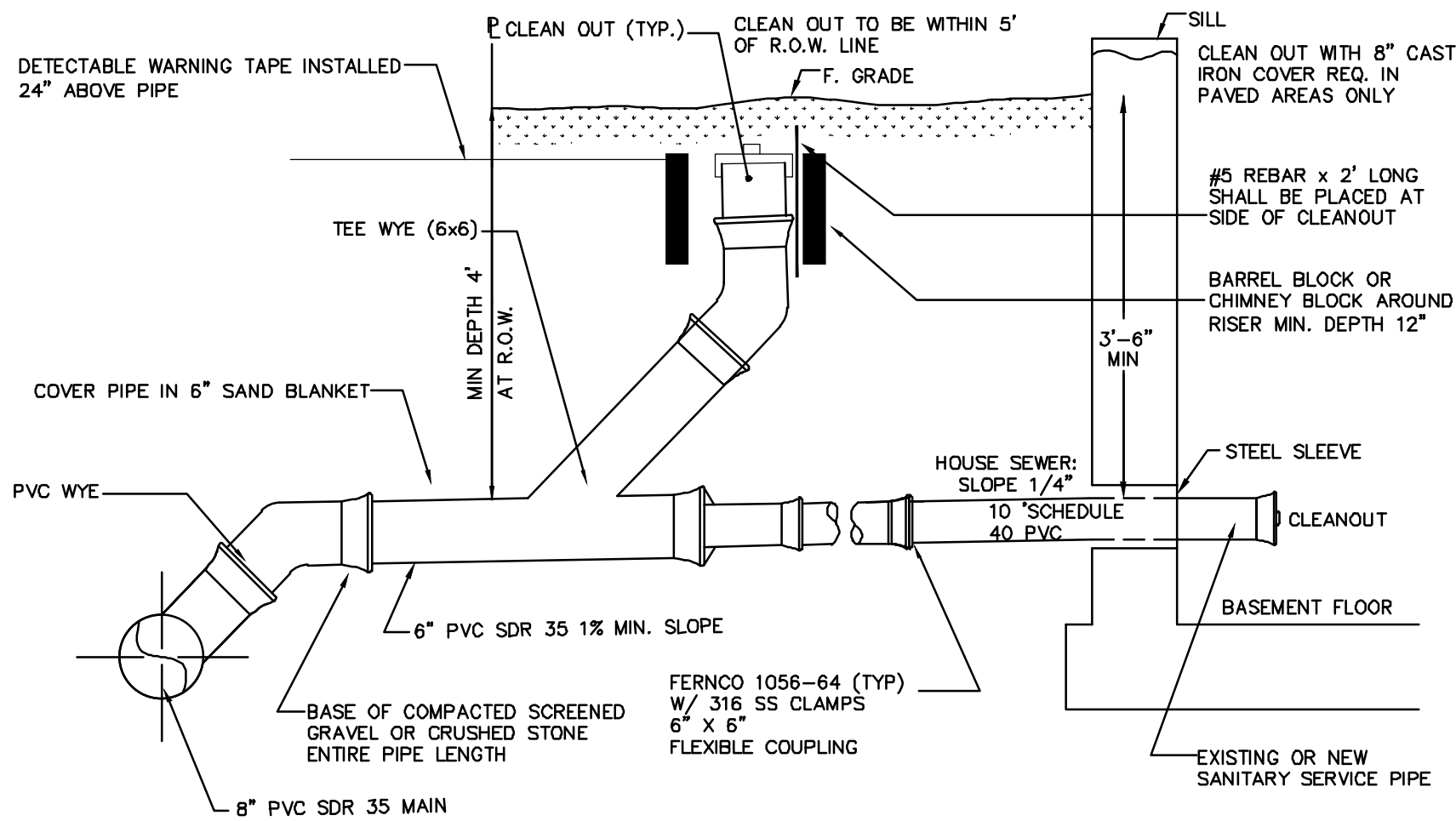
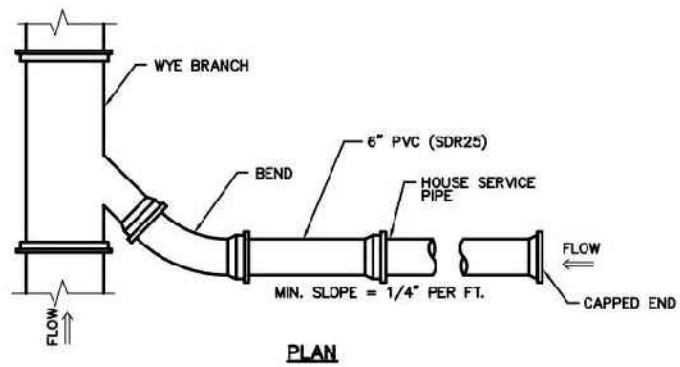
DATE : NOVEMBER 22, 2022

FILE NO. : DB 2022 - 028

STATE OF NEW HAMPSHIRE
KENNETH A. BERRY
LICENSED PROFESSIONAL ENGINEER
No. 4243

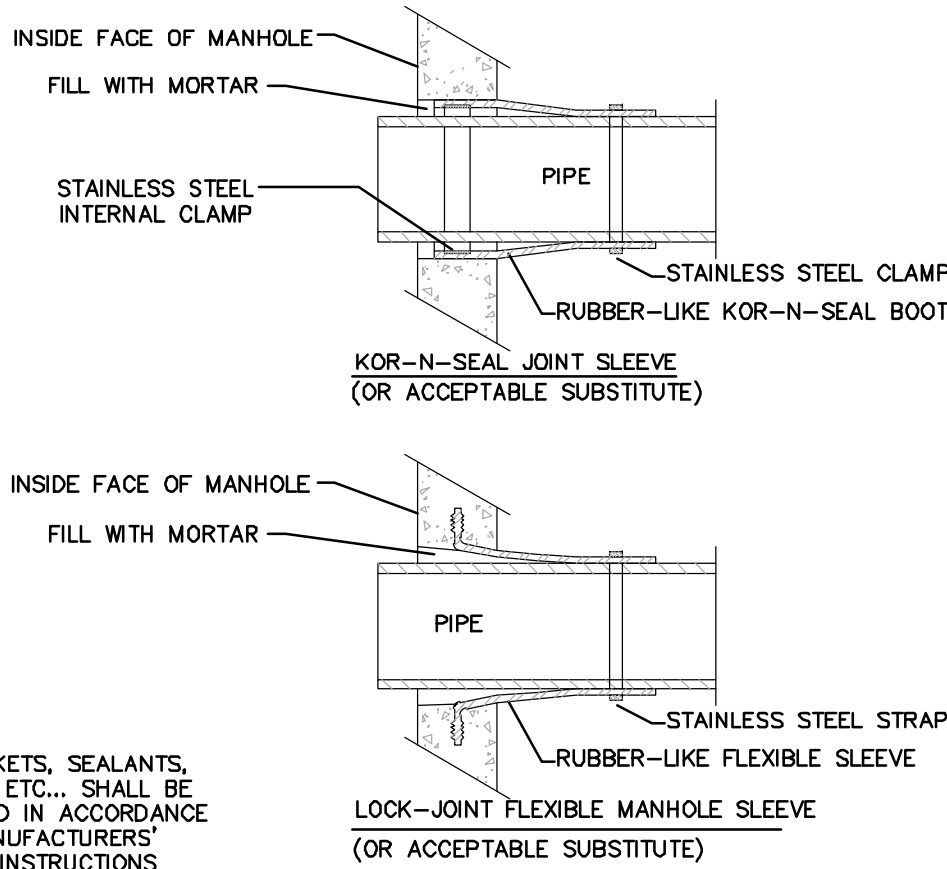
U1

- 1.) SEE DETAILS FOR SERVICE CONNECTION REQUIREMENTS
- 2.) SERVICE CONNECTION SHALL BE INSTALLED BELOW WATER MAIN WHERE POSSIBLE.
- 3.) CLEANOUTS SHALL BE INSTALLED AT EACH SERVICE CONNECTION.
- 4.) REBAR SHALL BE PLACED AT SIDE OF CLEANOUT.
- 5.) CLEANOUT SHALL BE USED TO PLUG AND TEST ALL NEW LATERALS WITH MINIMAL INTERRUPTION TO OPERATION OF HOMEOWNER SANITARY SYSTEM
- 6.) CLEANOUT RISER PIPE AND FITTINGS SHALL BE INSTALLED AT THE TIME OF RESIDENTIAL CONNECTION, AND IS NOT PART OF ROAD CONSTRUCTION.



DETAIL OF HOUSE SEWER SERVICE

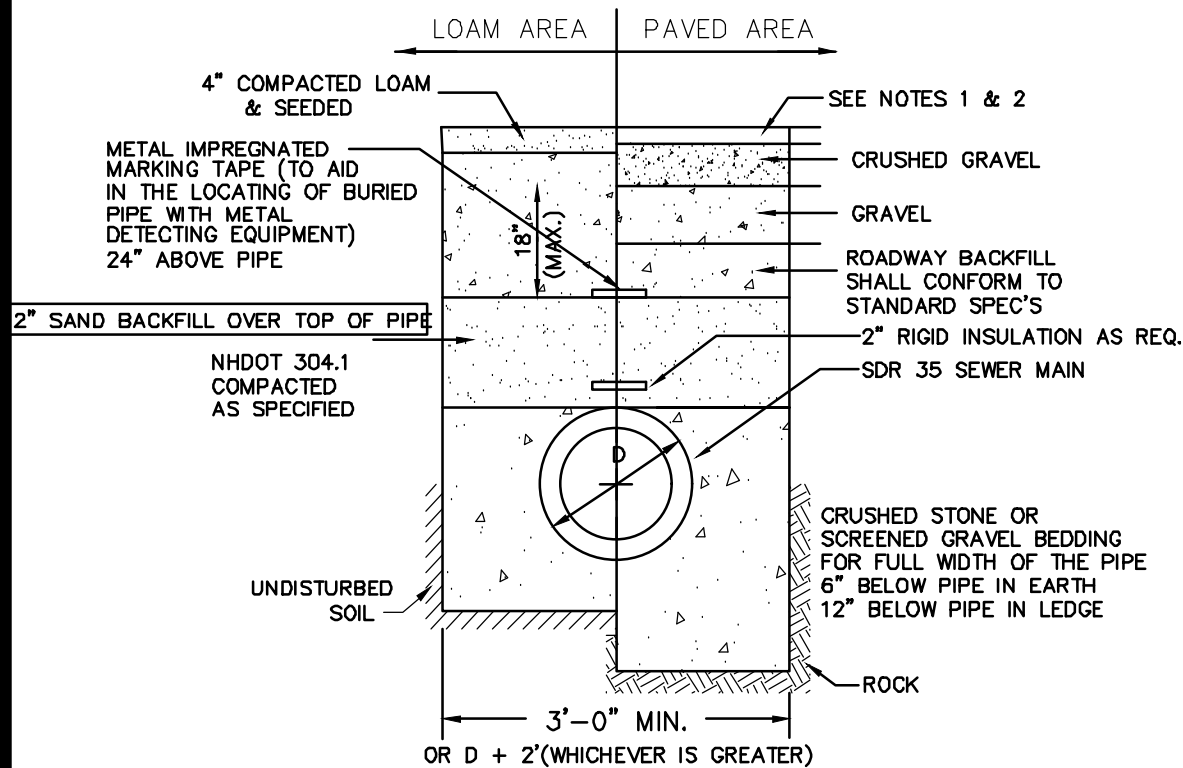
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DETAIL "A" - PIPE TO MANHOLE JOINTS

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U3

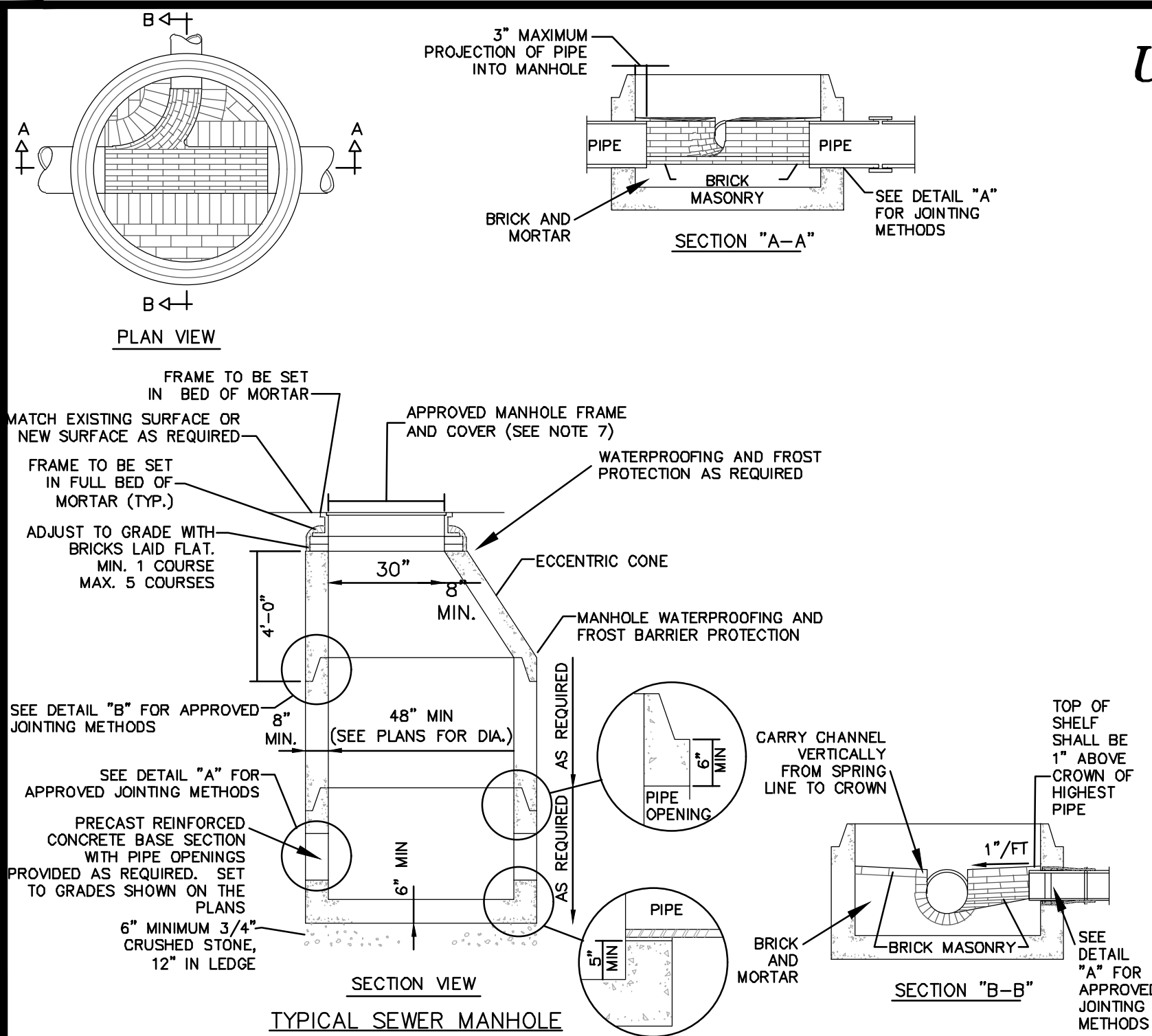


- NOTE:
1. PAVEMENT REPAIR IN EXISTING ROADWAYS SHALL CONFORM TO STREET OPENING REGULATIONS.
 2. NEW ROADWAY CONSTRUCTION SHALL CONFORM TO SUBDIVISION SPEC'S.
 3. ANTI-SLEEP COLLARS OR CLAY CHECK DAMS ON STEEP RUNS IN WET CONDITIONS

TYPICAL SEWER TRENCH DETAIL

NOT TO SCALE

U4



TYPICAL SEWER MANHOLE

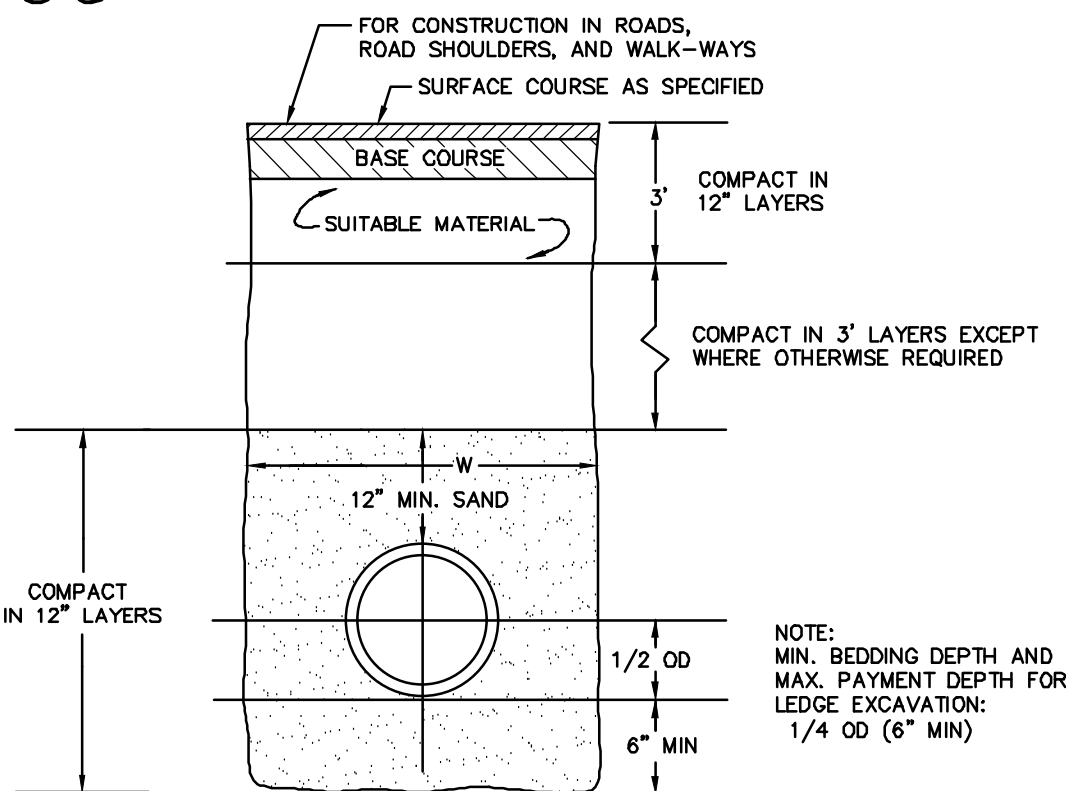
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- NOTES ON MANHOLE CONSTRUCTION
- 1) IT IS THE INTENTION THAT THE MANHOLE, INCLUDING ALL COMPONENT PARTS, HAVE ADEQUATE SPACE, STRENGTH AND LEAKPROOF QUALITIES CONSIDERED NECESSARY FOR THE INTENDED SERVICE. SPACE REQUIREMENTS AND CONFIGURATIONS, SHALL BE AS SHOWN ON THE DRAWING. MANHOLES SHALL BE AN ASSEMBLY OF PRECAST SECTIONS, WITH STEEL REINFORCEMENT AND ADEQUATE JOINTING. THE COMPLETE STRUCTURE SHALL BE OF SUCH MATERIAL AND QUALITY AS TO WITHSTAND HS-20-44 LOADING, INCLUDING THE COVER. ALL SMH CONSTRUCTION AND MATERIALS WILL BE IAW ENV.-WQ 704.13 ADOPTED OCTOBER 15, 2014
 - 2) BARRELS AND CONE SECTIONS SHALL BE PRECAST REINFORCED CONCRETE. (IAW ENV.-WQ 704(II))
 - 3) SEWER MANHOLE DIAMETER SHALL BE AS INDICATED ON THE PLANS.
 - 4) PRECAST CONCRETE BARREL SECTIONS, CONES AND BASES SHALL CONFORM TO ASTM C478.
 - 5) GRAVITY SEWER PIPE TESTING WILL BE IN ACCORDANCE WITH ENV.-WQ 704.06 AND MAN HOLE TESTING IAW ENV.-WQ 704.17 DATED OCTOBER 15, 2014.
 - 6) INVERTS AND SHELVES: MANHOLES SHALL HAVE A BRICK PAVED SHELF AND INVERT, CONSTRUCTED TO CONFORM TO THE SIZE OF THE PIPE AND FLOW. INVERT BRICKS SHALL BE LAID ON EDGE AND THE BASE SECTION SHALL BE FULL. AT CHANGES IN DIRECTIONS, THE INVERTS SHALL BE LAID OUT IN CURVES OF THE LONGEST RADIUS POSSIBLE TANGENT TO THE CENTER LINE OF THE SEWER PIPES. CARE SHALL BE TAKEN TO ENSURE THAT THE BRICK INVERT IS A SMOOTH CONTINUATION OF THE SEWER INVERT. SHELVES SHALL BE CONSTRUCTED TO THE ELEVATION OF THE HIGHEST PIPE CROWN AND SLOPE TO DRAIN TOWARD THE FLOWING THROUGH CHANNEL. UNDERLAYMENT OF INVERT AND SHELF SHALL CONSIST OF BRICK MASONRY. (IAW ENV.-WQ 704.13 (c), (9), (c)).
 - 7) FRAMES AND COVERS: MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN AND PROVIDE A 30-INCH CLEAR OPENING. 3-INCH (MINIMUM HEIGHT) LETTERS WITH THE WORD "SEWER" SHALL BE PLAINLY CAST INTO THE CENTER OF EACH MANHOLE COVER. (IAW ENV.-WQ 704.13 (g) (4-8)) SEWER MAN HOLE COVERS ARE TO FAIRFAX.
 - 8) SHALLOW MANHOLE: IN LIEU OF A CONE SECTION, WHEN MANHOLE DEPTH IS LESS THAN 6 FEET, A REINFORCED CONCRETE SLAB COVER MAY BE USED HAVING AN ECCENTRIC ENTRANCE OPENING AND CAPABLE OF SUPPORTING H-20 LOADS.
 - 9) HORIZONTAL JOINTS BETWEEN SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE OF A TYPE APPROVED BY THE ROCHESTER DPW, WHICH TYPE SHALL, IN GENERAL, DEPEND FOR WATERTIGHTNESS UPON A DOUBLE ROW OF AN OVERLAPPING TYPE ELASTOMERIC OR MASTIC-LIKE GASKET. APPROVED ELASTOMERIC SEALANTS ARE: RAM-NEK, KENT SEAL NO. 2, EZ, OR EQUAL.
 - 10) IN CROSS COUNTRY AREAS OUTSIDE OF THE PAVED ROADWAY SURFACE, THE MANHOLE FRAME ELEVATION SHALL BE A MINIMUM OF 6" ABOVE FINISHED GRADE. GRADE TO PROVIDE POSITIVE DRAINAGE AWAY FROM THE MANHOLE.
 - 11) ALL FRAMES AND GRATES ARE TO BE U.S.A. MADE
 - 12) THE CONTRACTOR TO WORK WITH CITY OF ROCHESTER REVIEW ENGINEER AND SEWER DEPARTMENT ON THE MEANS AND METHODS USED TO INSTALL ALL SEWER STRUCTURES. SPECIFIC ATTENTION IS TO BE PAID TO THE INSTALLATION OF SMH 1A, WHEREAS THE EXISTING PIPE SLOPE IS UNKNOWN. DURING LOW FLOW CONDITIONS, CUT AND TEMPORARILY CAP THE EXISTING 8" VC LINE, OR INSTALL TEMPORARY BY-PASS LINE (OF EQUAL SIZE). AFTER INSTALLATION OF NEW BASIN, FERNCO THE NEW SDR 35 PIPES TO THE EXISTING VC LINES. THIS INSTALLATION IS TO BE COORDINATED WITH THE CITY OF ROCHESTER SEWER DEPARTMENT.

DETAIL "B" HORIZONTAL JOINTS

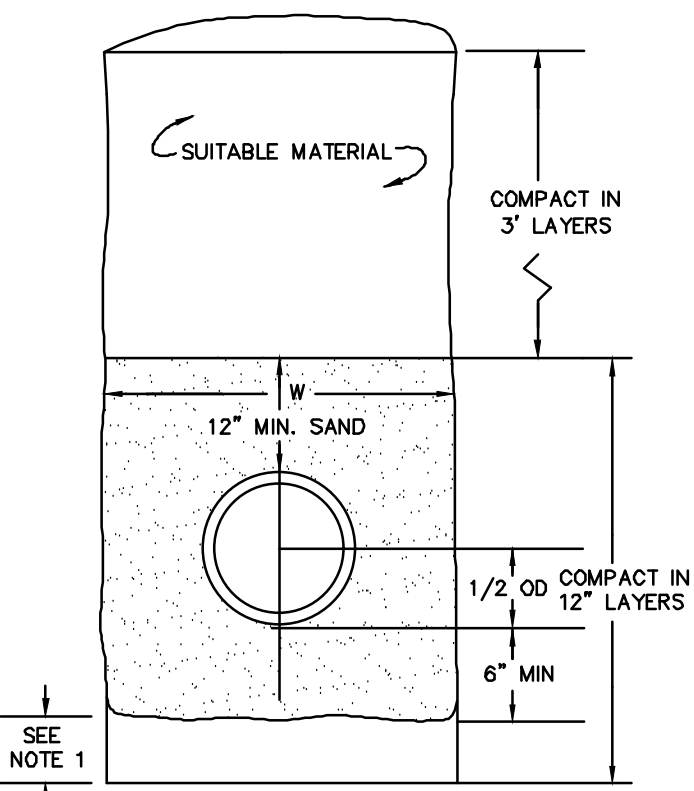
(NOT TO SCALE)

U5



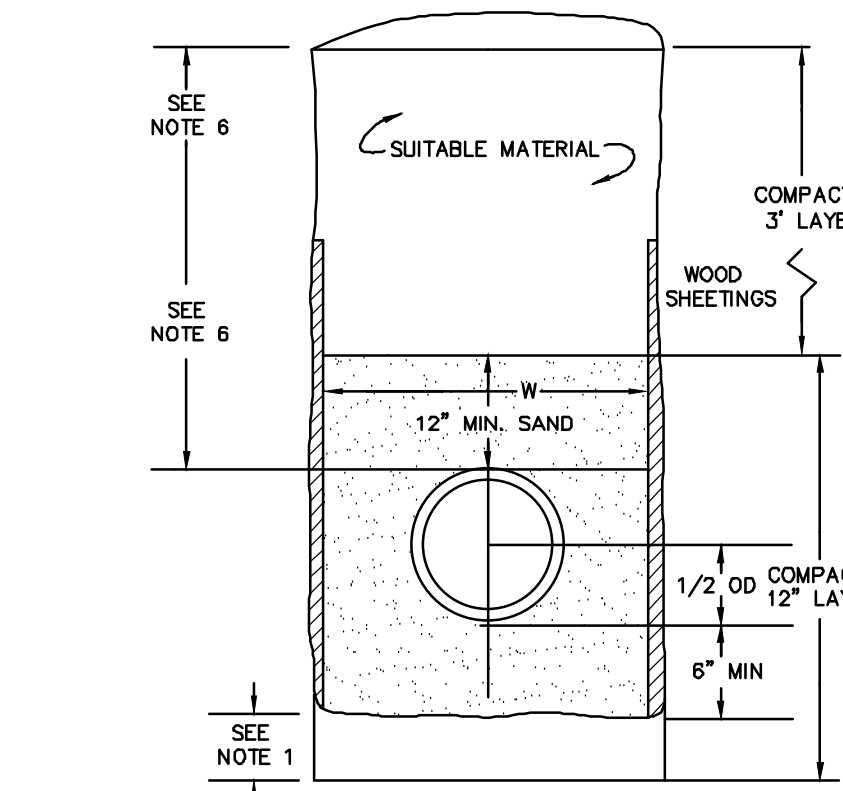
LEDGE CONSTRUCTION

NOT TO SCALE



EARTH CONSTRUCTION

NOT TO SCALE



EARTH CONSTRUCTION WITH SHEETING

NOT TO SCALE

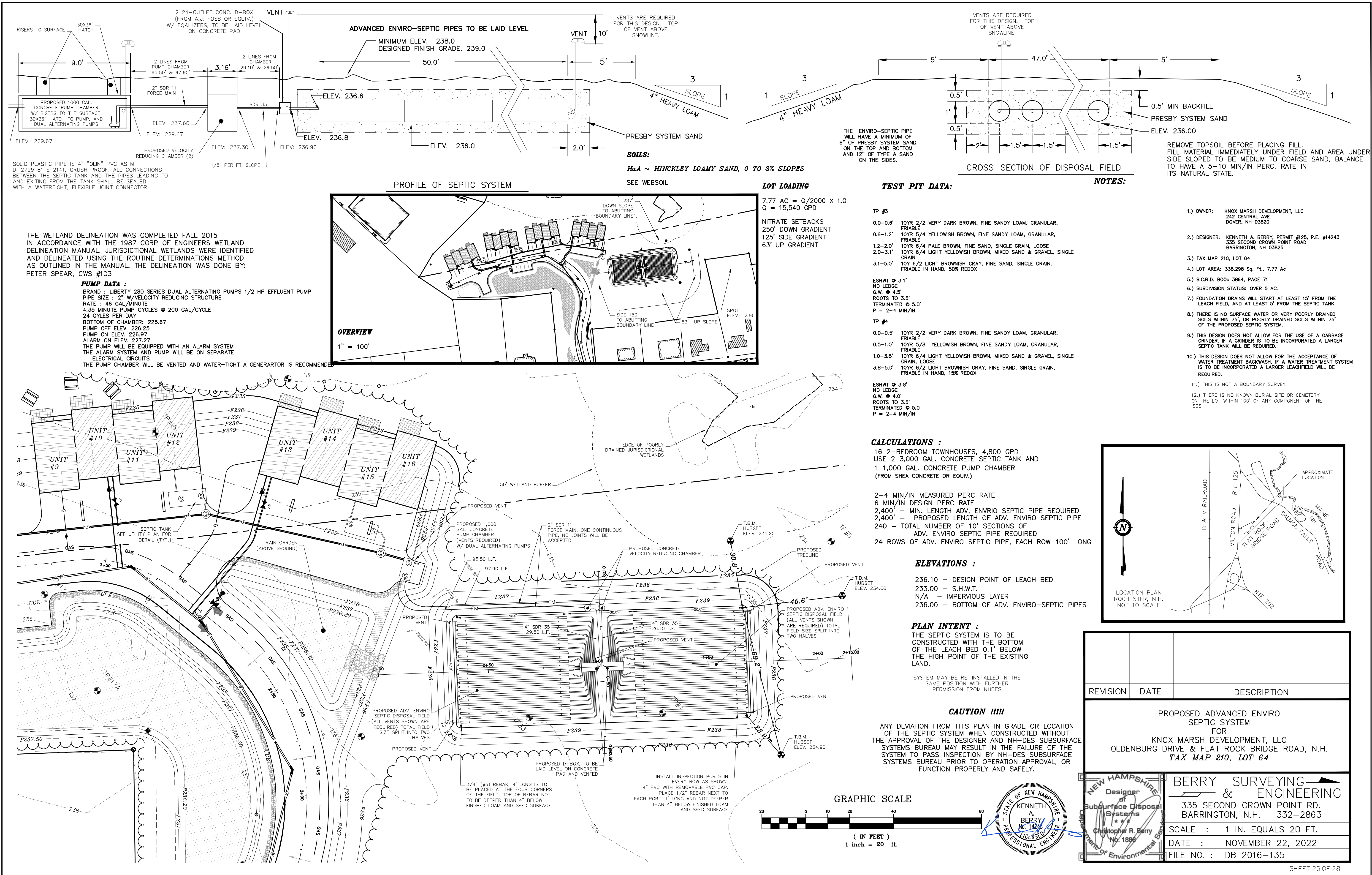
U-101

REVISION	DATE	DESCRIPTION

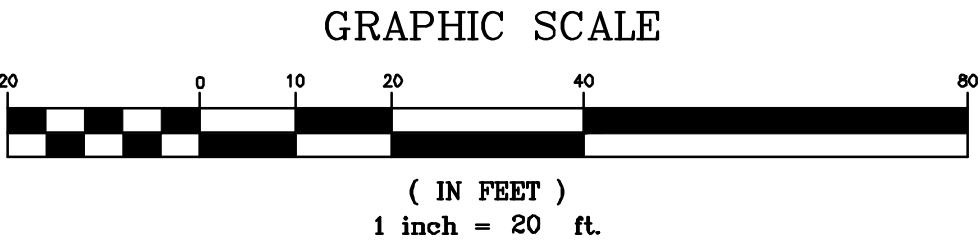
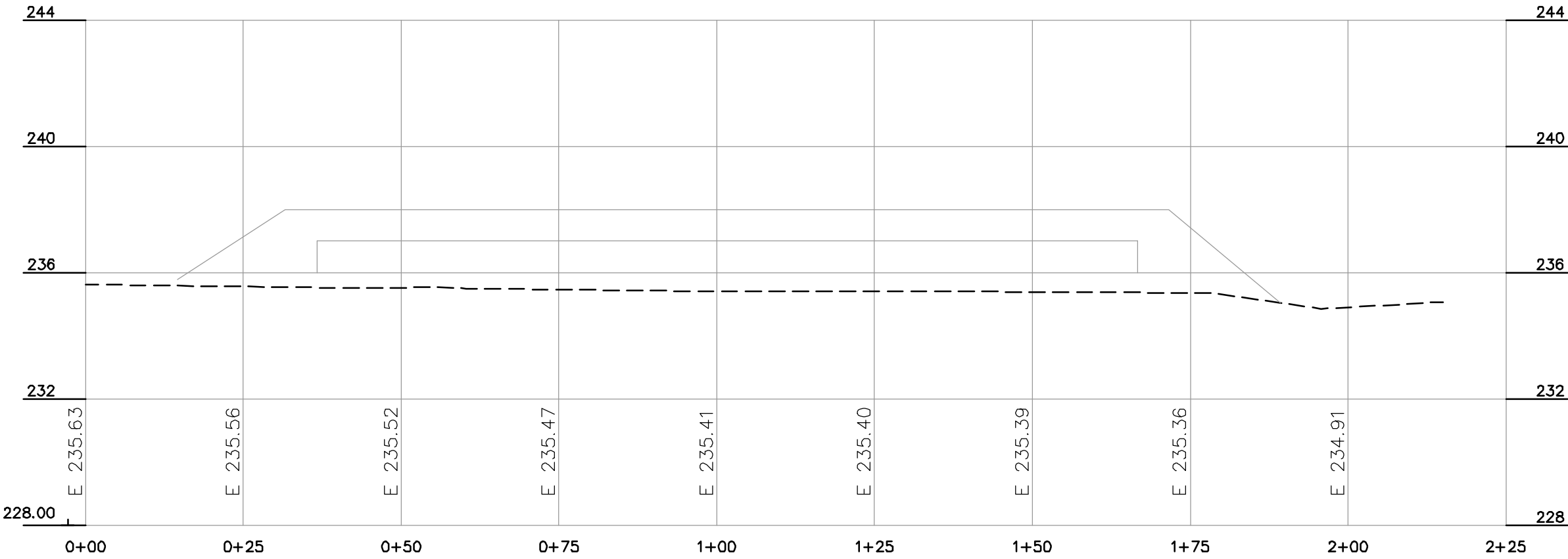
UTILITY DETAILS
LAND OF
KNOX MARSH DEVELOPMENT LLC
FLAT ROCK BRIDGE ROAD
ROCHESTER, N.H.
74X MAP 210, LOT 64

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE : AS MARKED
DATE : NOVEMBER 22, 2022
FILE NO. : DB 2022 - 028

STATE OF NEW HAMPSHIRE
KENNETH A. BERRY
LICENSED PROFESSIONAL ENGINEER

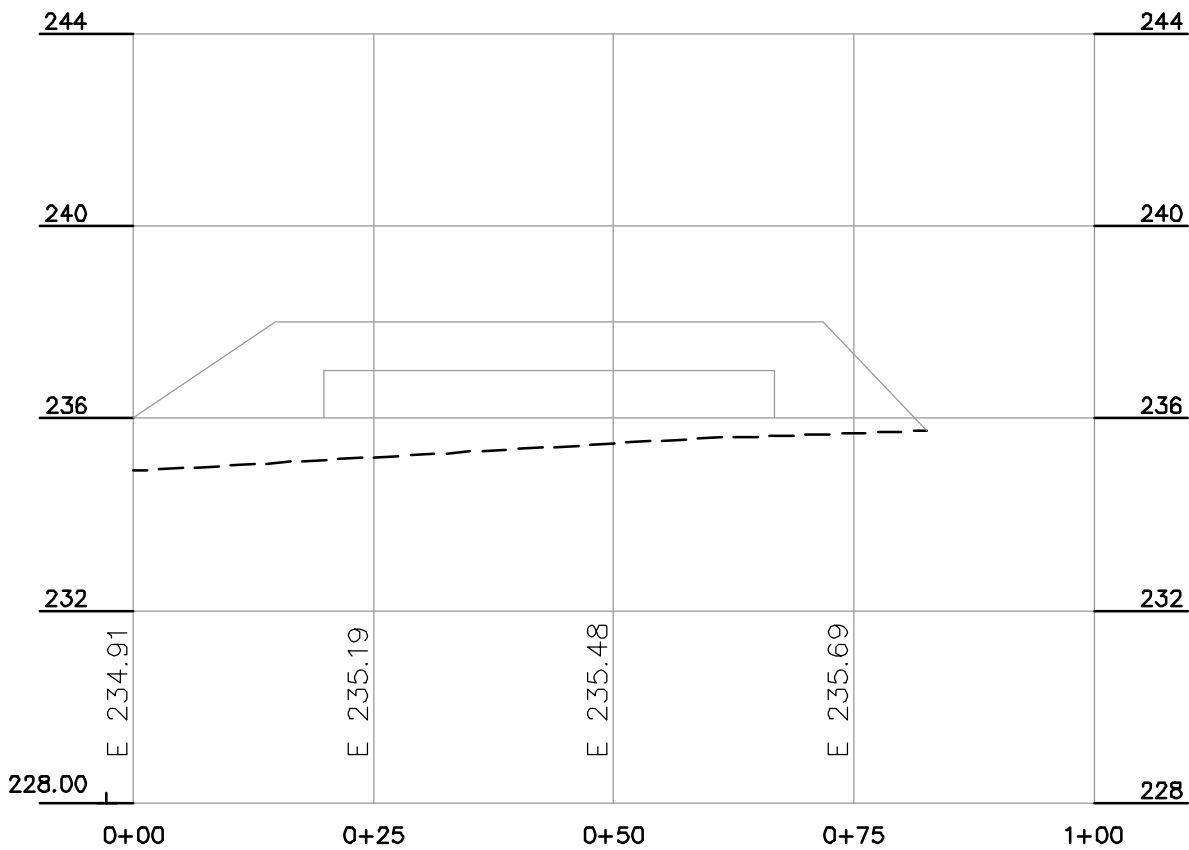


- NOTES:**
- 1.) OWNER: KNOX MARSH DEVELOPMENT, LLC
242 CENTRAL AVE
ROCHESTER, NH 03820
 - 2.) ROCHESTER TAX MAP 210, LOT 64
 - 3.) THE PURPOSE OF THIS PLAN IS TO DEMONSTRATE THE PROFILE VIEW AND SECTION VIEW OF THE EFFLUENT DISPOSAL FIELD.



PROFILE VIEW EFFLUENT DISPOSAL FIELD
VERTICAL SCALE" 1' = 4'

CROSS SECTION VIEW EFFLUENT DISPOSAL FIELD
VERTICAL SCALE" 1' = 4'

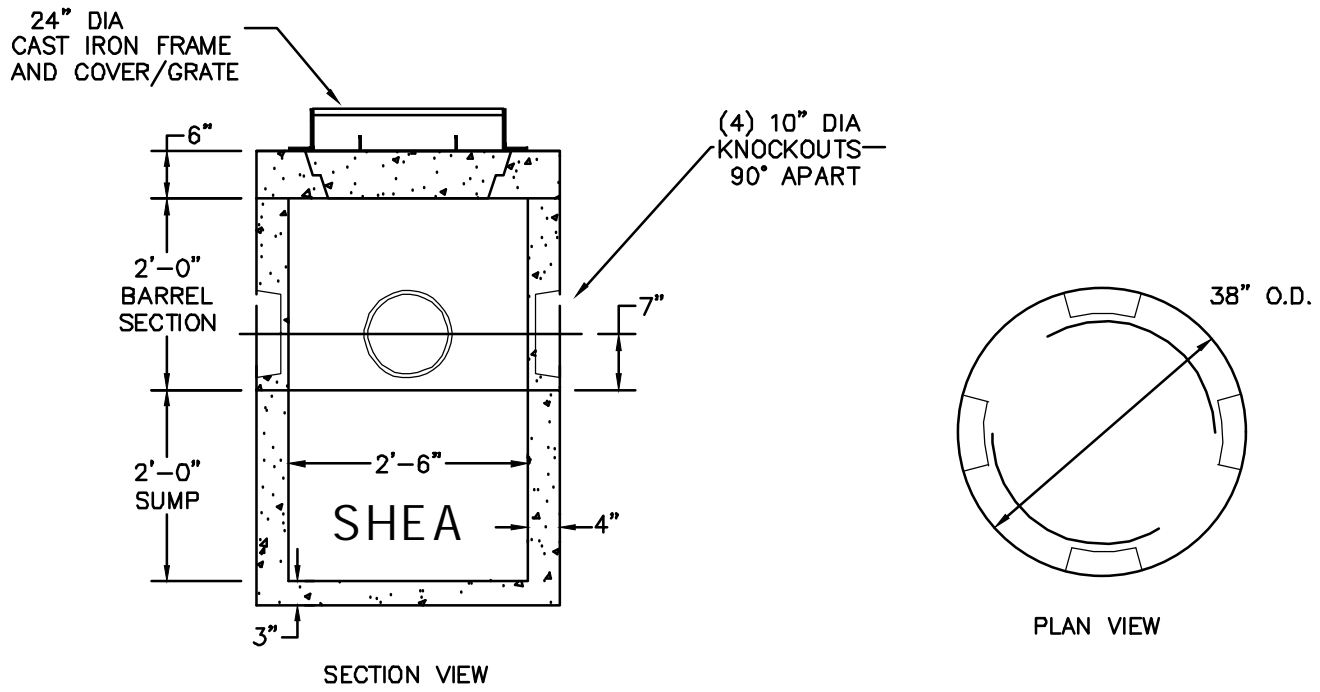


REVISION	DATE	DESCRIPTION

PROFILE AND SECTION VIEW OF EFFLUENT DISPOSAL FIELD
LAND OF
KNOX MARSH DEVELOPMENT LLC
FLAT ROCK BRIDGE ROAD
ROCHESTER, N.H.
TAX MAP 210, LOT 64

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE: 1 IN. EQUALS 20 FT.
DATE : NOVEMBER 22, 2022
FILE NO. : DB 2022 - 028

KENNETH A. BERRY
PROFESSIONAL ENGINEER
STATE OF NEW HAMPSHIRE
LICENSE NO. 1435



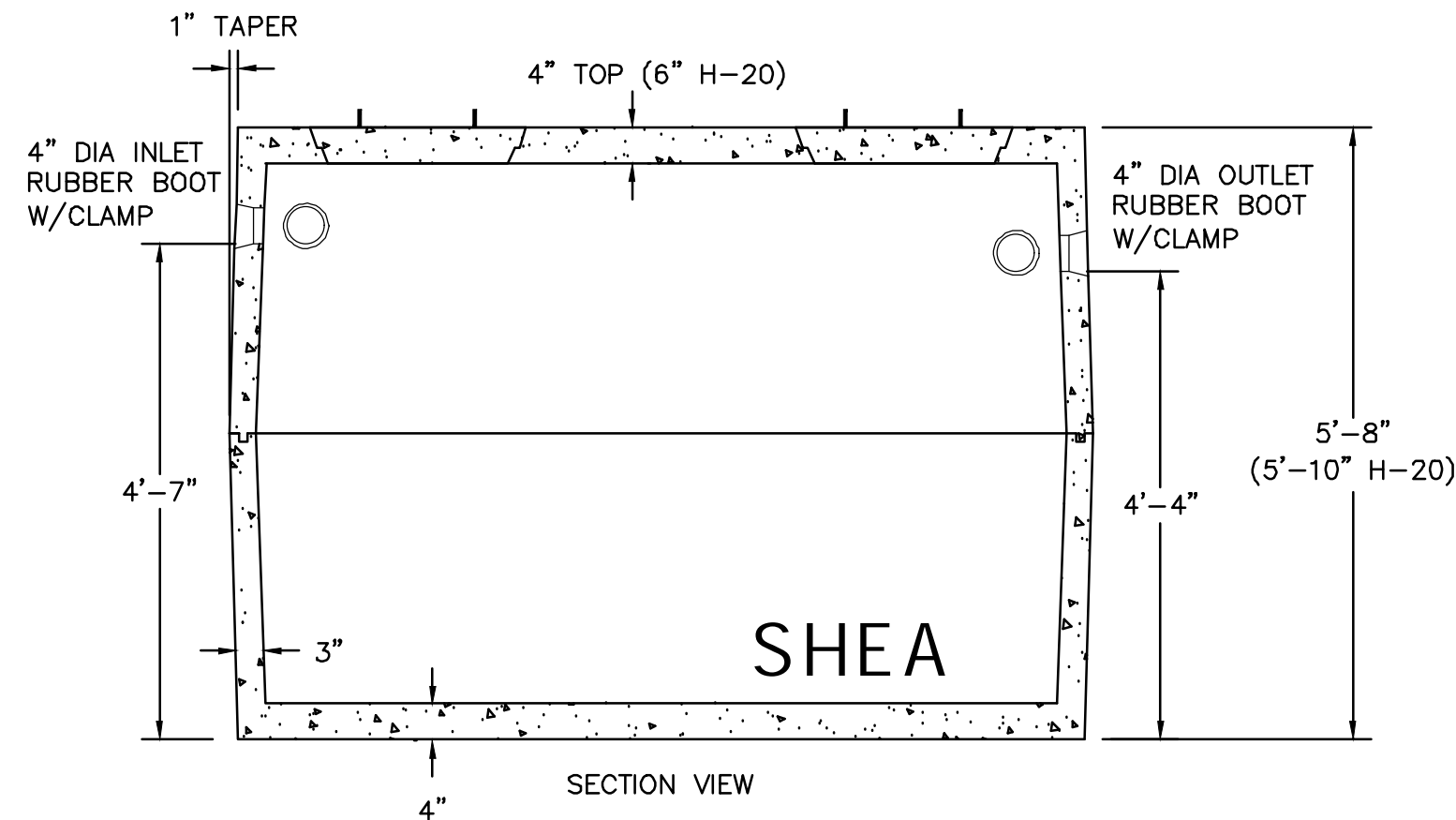
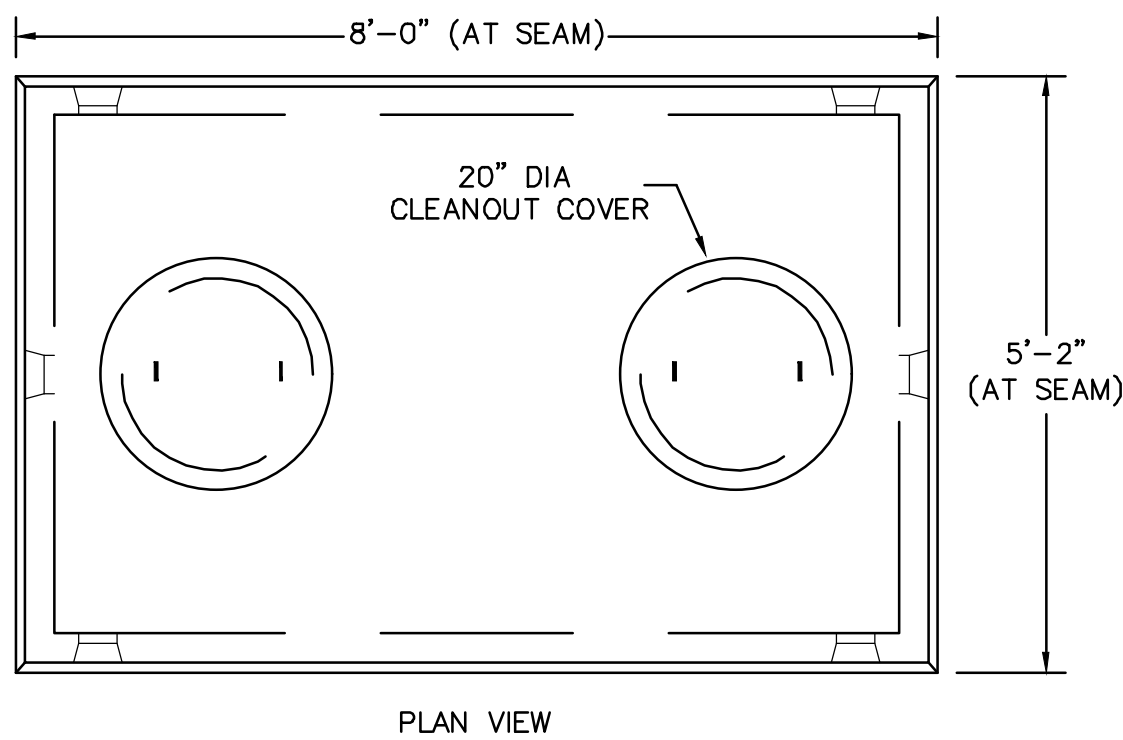
NOTES:

1. CONCRETE: 5,000 PSI MINIMUM AFTER 28 DAYS.
2. DESIGNED FOR H-20 LOADING.

SECTIONS	ITEM NO	WEIGHT
1'-0" RISER	MC-MCB12RH	440#
2'-0" RISER	MC-MCB24RH	880#
3'-0" RISER	MC-MCB36RH	1,320#
2'-0" BASE	MC-MCB24SH	1,175#
2'-0" BARREL	MC-MCB24BSH	880#
38" COVER	MC-MCB38CH	585#

MANHOLE 30" DIA H-20
MINI CATCH BASIN
USED FOR VELOCITY REDUCING BASINS
G1

manh30inH20.dwg 02/01/2013



NOTES:

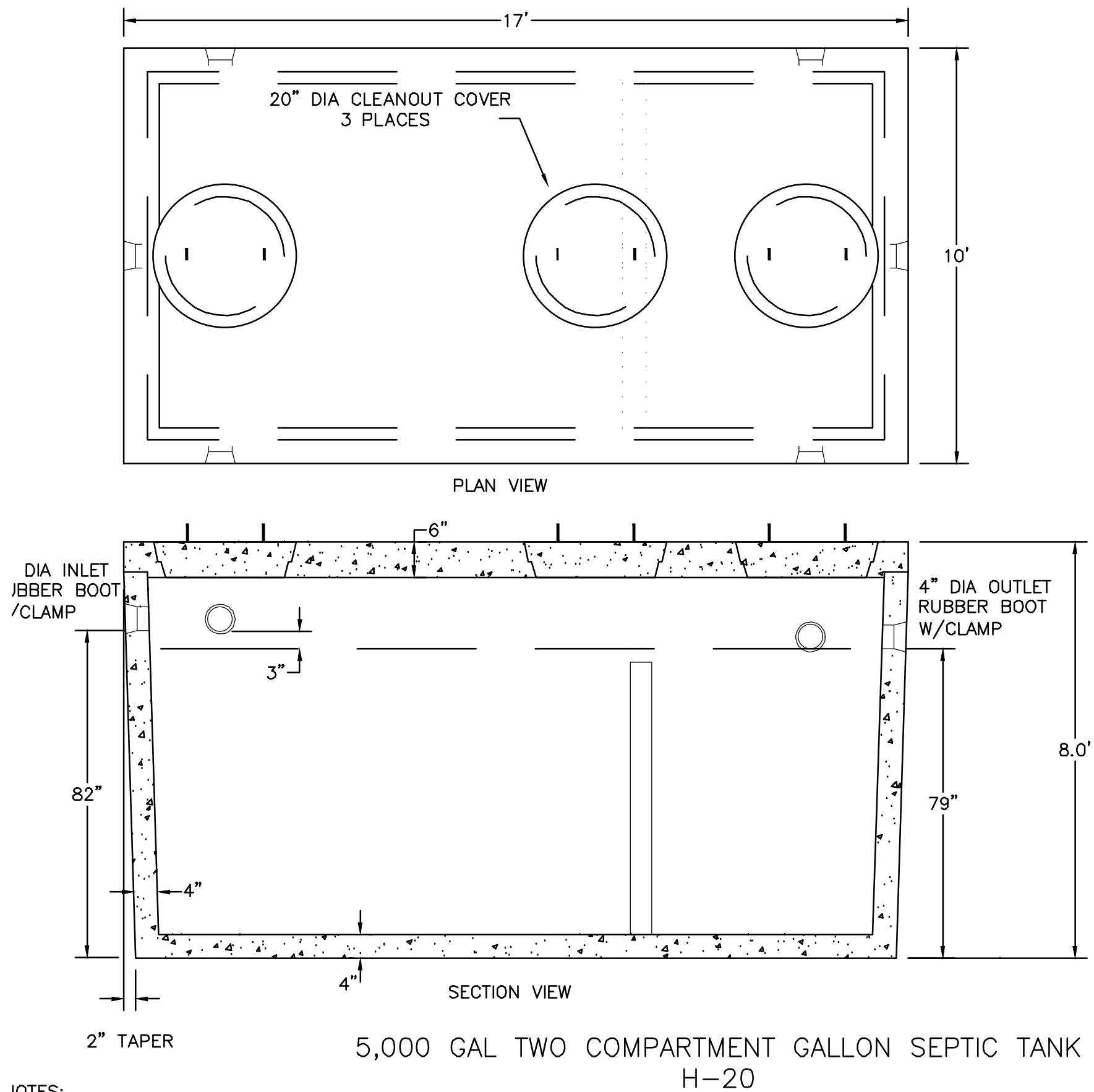
1. CONCRETE: 4,000 PSI MINIMUM AFTER 28 DAYS.
2. DESIGN CONFORMS WITH 310 CMR 15.000, DEP TITLE 5 REGS, FOR PUMP CHAMBERS.
3. ALL REINFORCEMENT PER ASTM C1227.
4. ALSO AVAILABLE IN H-20 LOADING. (REQUIRED)
5. JOINT SEALED WITH BUTYL RESIN.
6. PUMPS AND ACCESSORIES OPTIONAL.

ITEM NO.	TK-1000	STANDARD	WEIGHT
	TK-1000H	H-20	8,765#
			9,785#

PUMP CHAMBER
1000 GALLON

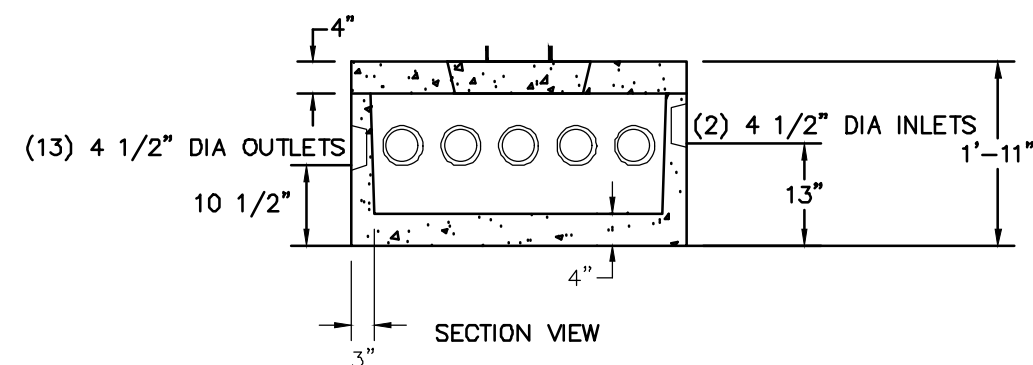
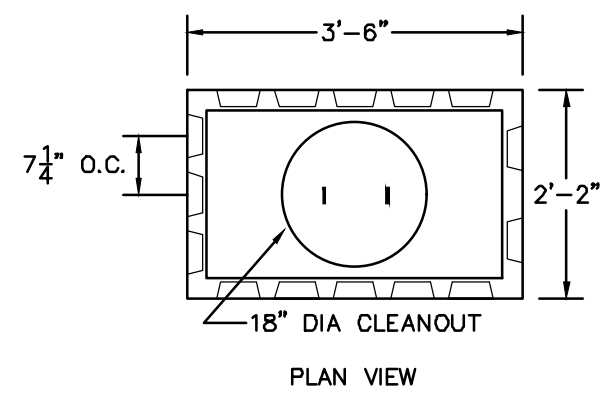
C2

pc1000.dwg 02/01/2013



NOTES:

1. CONCRETE: 4,000 PSI MINIMUM AFTER 28 DAYS.
2. DESIGN CONFORMS WITH 310 CMR 15.00, DEP TITLE 5 REGS, FOR SEPTIC TANKS.
3. ALL REINFORCEMENT PER ASTM C1227.
4. BAFFLE WALL OPTIONAL FOR TWO COMPARTMENT TANKS.
5. TEES AND GAS BAFFLE SOLD SEPARATELY.
6. TONGUE & GROOVE JOINT SEALED WITH BUTYL RESIN.
7. H2O LOADING REQUIRED (THICKER WALLS MAY BE NEEDED)



NOTES:

1. CONCRETE: 4,000 PSI MINIMUM AFTER 28 DAYS.
2. DESIGN CONFORMS WITH 310 CMR 15.000, DEP TITLE 5 REGS, FOR DISTRIBUTION BOXES.
3. DESIGNED FOR H-20 LOADING.

ITEM NO.	B-13DBH	WEIGHT
	B-13DBCH	1,400#
		463#

DISTRIBUTION BOX
24 OUTLET-2 INLETS

D5

Db13out-2.dwg 11/26/12

GENERAL TANK & RISER NOTES:

- 1.) ALL TANKS ARE TO BE SEALED USING CONSEAL CS-202 OR APPROVED EQUAL. THIS IS TO BE USED AT ANY JOINT OR SEAM ON THE TANK OR WHERE THE RISER MEETS THE TANK.
- 2.) NO OVERLAPPING OF CONSEAL WILL BE ACCEPTED. JOINTS IN THE CONSEAL ARE TO BE A MINIMUM OF 12" FROM ANY CORNER. CONSEAL IS TO BE PLACED AND ALLOWED TO SET FOR 40 MIN. PRIOR TO BACK FILL TO MAXIMIZE COMPRESSION. 50% COMPRESSION IS REQUIRED.
- 3.) TANK SEAMS AND JOINTS WHERE RISERS MEET THE TANK ARE TO BE ADDITIONALLY SEALED WITH SIKASIL 728 NS SILICON SEALANT.
- 4.) TANKS ARE TO BE WATER PROOFED BOTH INSIDE AND OUT USING A COMMON CONCRETE WATER PROOFING.
- 5.) ALL TANKS AND D-BOXES ARE TO BE EQUIPPED WITH BOOTS. CEMENTED OUTLETS WILL NOT BE ACCEPTED.
- 6.) CONTRACTOR IS TO NOTE PIPE CALLOUTS AND REQUIREMENTS FOR NO JOINTS. WHERE 45" JOINTS ARE REQUIRED, "RING TIGHT" FITTINGS ARE REQUIRED. PVC CEMENT WILL NOT BE ACCEPTED.
- 7.) "T" BAFFLES ARE REQUIRED ON ALL SEPTIC TANK INLETS AND OUTLETS.

EFFLUENT DISPOSAL DESIGN SPECIFIC CONSTRUCTION DETAILS
LAND OF
KNOX MARSH DEVELOPMENT LLC
FLAT ROCK BRIDGE ROAD
ROCHESTER, N.H.
74X MAP 210, LOT 64

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

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