



**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  
332-2863 335-4623

Telephone #: \_\_\_\_\_ Fax #: \_\_\_\_\_

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 <b><i>post-development</i></b> 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: \_\_\_\_\_

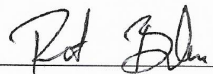
Date: \_\_\_\_\_

Signature of agent: 

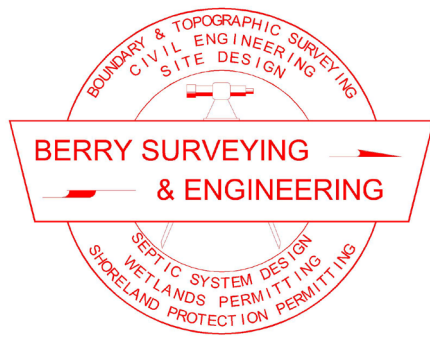
Date: 11-21-22

### 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



## **BERRY SURVEYING & ENGINEERING**

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November 21, 2022  
August 14, 2023  
March 5, 2024

City of Rochester  
Planning & Development  
Attn: Ms. Shanna Saunders, Planning Director  
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  
Non-Chapter 218 Waiver Requests

Pursuant to the City of Rochester Site Plan Regulations, Berry Surveying & Engineering (BS&E) on behalf of the applicant, BS&E 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 15 (D) Electrical Utilities (1)
- Article III, Section 11.A (14) Sidewalk Planting Strips

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 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:**

**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.

**1. Identification of Waiver Request & Explanation.**

Article III, Section 11 (A) (14) calls for a planting strip wherever practical along sidewalks. The applicant is proposing an open drainage system to reduce the amount of impact on the land by reducing excessive fill on site. To accommodate the sheet flow off the pavement into the infiltration systems there is an at grade walk proposes without a planting strip. This was discussed when the project was initially proposed and approved to ensure the walk would be plowed year-round.



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**2. Waiver Justification:**

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

There is a robust landscaping plan along the roadside edge. The green strip is often used on above grade walks to separate pedestrians from traffic. In this case the traffic is low and the at grade walk promotes a Low Impact Development stormwater design.

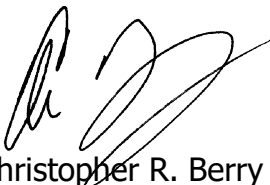
**b. Strict conformity to the regulations would pose an unnecessary hardship to the applicant.**

Strict conformity would require placing curbing and an above grade walk. This will then require the site be filled to a large extent for the installation of catch basins which require additional depth to the drainage design. The walk will then not be accessible for maintenance in the winter by the applicant. Both of these situations create a hardship to the applicant and the future residents of the development.

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

Respectfully Submitted,

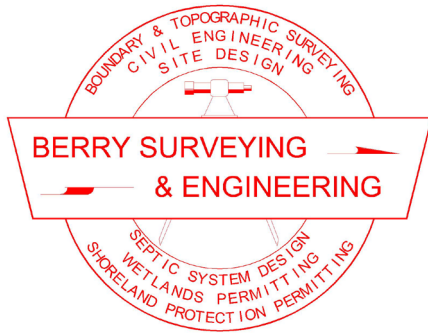
BERRY SURVEYING & ENGINEERING



Christopher R. Berry  
Principal, President



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March 6, 2024

City of Rochester Planning Office  
Attention: Shanna Saunders, Planning Director  
33 Wakefield Street  
Rochester, NH 03867

RE: Knox Marsh Development LLC  
Flat Rock Bridge Road  
Tax Map 210, Lot 64  
Chapter 218 Waiver Request

Chairperson & Members of the Rochester Planning Board:

**In accordance with the Chapter 218 Regulations, the following waiver is hereby requested:**

**1. Identification of Waiver Request:** 218-10.C(3) a & b

- To waive the requirement that the post-development peak rate of stormwater runoff so that it does not exceed the pre-development for the 2YR & 10YR storm events at the internal wetland (Final Reach #100) and for the 2YR storm event at the existing leaching catch basin (Final Reach #600).
- To waive the requirement that the post-development volume of stormwater runoff so that it does not exceed the pre-development for the 2YR storm event at the internal wetland (Final Reach #100). Inherently, then to allow for runoff to be discharged to a wetland more than the volume in the existing conditions (2YR-24HR storm event, Final Reach #100).

**Explanation:**

For the internal wetland (Final Reach #100, Pond #100), via three infiltration rain gardens, is able to capture and route the vast majority of the proposed impervious surfaces from the development. This can be seen on the W2-Proposed Watershed sheet. In the W1-Existing Conditions Watershed Sheet, the large majority of the contributing area to the wetland originates from Subcatchment #5. In the Existing Condition, this subcatchment is 916,318 Sq. Ft., with a weighted curve number of 47, 90.95% pervious area. In the proposed condition, the development area that is largely infiltrated is taken out of existing subcatchment #5. This results in the remaining

proposed area of subcatchment #5 is 818,301 Sq. Ft., with a weighted curve number of 48, 89.82% pervious area, an increase of one point. With the off-site area of roof and paved impervious surface remaining the same in the pre and post conditions, these impervious surfaces become a higher percentage of the subcatchment in the post condition, generating the increase in weighted curve number.

In the review of the 2YR and 10YR-24Hr storm events, the proposed conditions subcatchment #5 generates 0.17CFS on the 2YR-24Hr storm event and 2.18CFS on the 10YR-24Hr storm event. This proposed generation of subcatchment #5 on the 2YR & 10YR-24Hr events is more than Final Reach #100 in total in the Existing Condition. The time of concentration remains the same in the pre-to post condition, which indicates that the increase in weighted curve number by one point from a primarily offsite area in the genesis of this increase. With the stormwater BMP's all infiltrating the 10YR event or greater, the off-site subcatchment is responsible for this increase in peak rate of stormwater runoff at the 2YR & 10YR-24Hr and the volume of stormwater runoff at the 2Yr-24Hr storm event. Peak rate of stormwater runoff is reduced at the 25YR, 50YR, & 100YR storm events and stormwater volume is reduced at the 10YR, 25YR, 50YR, & 100YR storm events via mitigation measures provided.

An analysis of the wetland pond area was performed and is shown in Section 3.0 of the Drainage Narrative. During the Existing Condition, 2Yr-24HR storm event, the wetland reaches a peak elevation of 233.11' and during the 10Yr-24HR storm event, the wetland reaches a peak elevation of 233.78'. Based on topographic observations, the wetland has a permanent pooling elevation of at least 234.50. During the Proposed Condition, 2Yr-24HR storm event, the wetland reaches a peak elevation of 233.13' and during the 10Yr-24HR storm event, the wetland reaches a peak elevation of 233.77'. From this analysis, it can be seen that the ponding elevation of the wetland at the 10YR-24HR storm event is decreased, despite the minor increase in peak rate of runoff, due to the volumetric decrease shown. At the 2YR-24Hr storm event, the 0.02 vertical foot increase in the ponding elevation of the pond is marginal, contained within the pre-defined ponding area, and is likely within the deviation of the model.

For the leaching catch basin in Flat Rock Bridge Road (Final Reach #600), subcatchment #6 existing conditions contributing area is 14,947 Sq. Ft., with a weighted curve number of 56 (69.12% pervious). In the proposed conditions, the area of subcatchment #6 has been reduced to 8,456 Sq. Ft., with a weighted curve number of 62 (61.39% pervious). The proposed conditions model demonstrates a reduction in the peak rate of runoff in the 10YR-24HR, 25YR-24HR, 50YR-24HR, and 100YR-24HR storm events and a volumetric reduction at all provided events. Despite the reduction in subcatchment area, increase of peak rate of runoff at the 2YR-24HR is generated by the increase in weighted curve number of the subcatchment. When analyzing an infiltration catch basin, the most important function is the volume of runoff to be

infiltrated. As previously stated, the volume of runoff has been equaled or reduced in the proposed condition drainage analysis.

**Waiver Justification:**

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

The intent of this regulation is to protect natural resources and abutting properties from the potential flooding effects of development. In terms of Final Reach #100, the wetland is self-contained from +/- 233' to at least elevation 234.5. Evaluating the 2YR-24HR wetland ponding, the base elevation of the wetland increases from 233.11' to 233.13'. As shown in the Existing Conditions Plans, these elevations are contained within a permanent ponding area and is not a threat to abutting properties for this minor increase in the peak rate of runoff and volume of runoff. Evaluating the 10YR-24HR wetland ponding, the base elevation of the wetland decreases from 233.78' to 233.77'. With the elevation of the ponding in the proposed condition less than the existing condition, there is no threat to abutting properties from the minor increase in the 10YR-24 peak rate of runoff to the wetland, as the volume at this storm event has been reduced.

In terms of Final Reach #600, the applicant has reduced the contributing area to the catch basin by 6,191 Sq. Ft.. Due to the proposed construction of Oldenburg Drive, this 6,191 Sq. Ft. (mostly HSG A, grass) is now routed to Rain Garden #1. While the Time of Concentration has only marginally decreased, the increase in the weighted curve number is enough for the model to show an increase in the peak rate of runoff from 0.03 CFS to 0.05 CFS for the 2YR-24HR storm event, with a reduction shown at the remaining storm events. When evaluating a leaching catch basin, the most important component is the volume to the system. The Proposed Conditions Analysis demonstrates that volume of stormwater runoff is equal to or reduced from the Existing Conditions Analysis. Due to this demonstration of volume compliance, and compliance with Rochester Chapter 218 standards for peak rate of runoff at all other analyzed events, BS&E feels that this minor increase in peak rate of runoff will not cause adverse impacts to downstream properties or infrastructure.

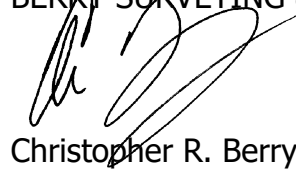
**b. Strict conformity to the regulations would pose an unnecessary hardship to the applicant.**

Strict conformity to these regulations would pose an unnecessary hardship the applicant. For Final Reach #100, the increase in peak rate of runoff at the 2YR-24HR and 10YR-24HR storm event and increase in volume of runoff at the 2YR-24HR storm event is due to an increase in weighted curve number from a subcatchment primarily outside of the area of development. Subcatchment #5 changes from a weighted CN of 47 in the existing condition to a CN of 48 in the proposed condition. This same situation

is true for the 2YR-24HR peak rate of runoff increase for Final Reach #600. This increase in peak rate is the results of the subcatchment CN going from 56 in the Existing Conditions to a 62 in the Proposed Condition, despite a reduction in area. Both of these situations, the increase in weighted curve number is generated by off-site factors that are out of the applicant's control. The applicant has proposed three Infiltration Rain Gardens that infiltrate the vast majority of the developed impervious areas.

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

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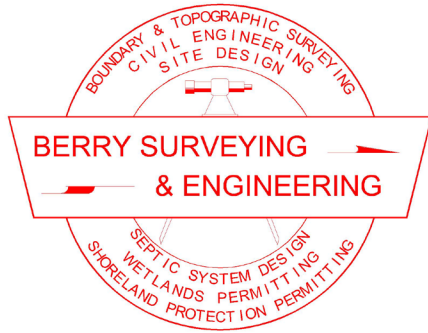
Christopher R. Berry, SIT 567  
Principal, President



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



Kevin R. Poulin, PE  
Project Engineer



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City of Rochester  
Planning & Development  
Attention: Shanna Saunders, Planning Director  
33 Wakefield Street  
Rochester, NH 03867

November 21, 2022

March 6, 2024

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

Director Saunders,

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. 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.

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. Three Chapter 218 Waivers are proposed, with their justification included in the Wavier Request narrative. The prior project met the standards of the former Chapter 50.

Thank you for your time and attention to this matter.

BERRY SURVEYING & ENGINEERING

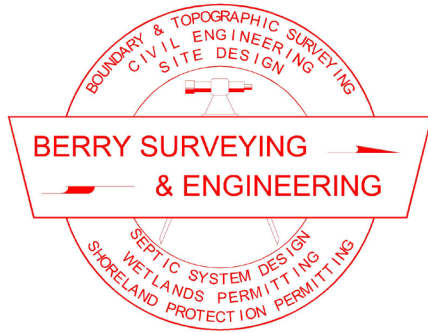


Christopher R. Berry  
Principal, President



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City of Rochester  
Planning & Development  
Attn: Ms. Shanna Saunders, Planning Director  
33 Wakefield Street  
Rochester, NH 03867

March 6, 2024

Re: TRG #II Response  
Knox Marsh Development, LLC  
Flat Rock Bridge Road  
Tax Map 210, Lot 64

Ms. Saunders,

We are in receipt of the comments from the TRG #II meeting. Below please find the original comment generated by the TRG in *Italic* and the response by Berry Surveying & Engineering (BS&E) below it in **Bold**.

### Conservation Commission Comments:

*\*Please confirm the distance between the proposed road and the existing driveway for 18 Flat Rock Bridge Rd meet required distances.*

**Greater than the minimum distance required of 75' is provided from the proposed road and the existing driveway. Dimensions have been added to demonstrate this on sheet #6.**

*\*Sheet 4 Note 42 "ALL TREATMENT SWALES TO BE CONSTRUCTED SHALL HAVE SOD BOTTOMS." Please remove notation, this is a City of Dover standard note.*

**Please find revised sheet #4, this note has been removed. Subsequent notes have been renumbered.**

*\*Sheet 4 Note 45 needs to be revised to indicate building addresses are assigned by the Planning Department.*

**Please find revised sheet #4, note #44.**

*\*Overall landscaping appears sparse. Recommend increasing the number of shrubs and perennials, especially adding additional plantings between the buildings.*

**Please find the revised Landscaping Plan, sheet #15. The Landscaping has been bolstered with shrubs added between units and added along the roadway alignment.**

*The peninsula between units 8 and 9 should include a tree.*

**This area does not have a tree proposed due to the proximity to proposed septic tanks and other utilities. Additional trees have been added to the Landscaping Package around the site. Plantings have been added to the fill slope between units and along Oldenburg Drive.**

*\*Would like to see the following plants replaced with New England native species: dwarf fothergilla, Greenwave yew and Feather Reed Cross Karl Feorster.*

**These plants have been replaced. Please find Landscaping Plans sheet #15.**

*Replace Greenwave yew with New England native, such as Common Juniper (Juniperus communis); Winterberry (Ilex verticillata); Eastern Red Cedar (Juniperus virginiana).*

**Greenwave yew has been replaced with Winterberry. Please find Landscaping Plan, sheet #15.**

*Replace dwarf fothergilla with New England native, such as witch hazel (Hamamelis virginiana).*

**Dwarf fothergilla has been replaced with "Little Suzie" Witch Hazel. Please find Landscaping Plan, sheet #15.**

*Replace Feather Reed Cross Karl Feorster with New England native ornamental grass, such as Little Bluestem (Schizachyrium scoparium) or Switchgrass (Panicum virgatum).*

**Feather Reed grasses have been replaced with Little Bluestem. Please find Landscaping Plan, sheet #15.**

*\*Please add a shelter for the clustered mailbox units and provide details for this installation.*

*Confirm that clustered mailbox units provide a minimum of 1 parcel locker per 10 units. Current note on Sheet 6 needs to be updated "(3) 13 UNIT MAIL CLUSTER BOXES."*

**The mailbox callout on sheet #6 has been updated to meet the requirement. A mailbox shelter has not been provided with the resubmission. The applicant feels that this is not a common practice within the area.**

*\*Wetland Remediation Plan still needs to be submitted to NHDES for approval.*

*Thank you for your time and attention to this matter.*

**The Wetland Remediation Plan has been approved by NHDES at this time.**



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*We acknowledge the change to include planter islands in front of the units. Thank you and please flesh out plant species a bit more. Looking for something aesthetically pleasing for curb appeal and not just checking the box that landscaping is complete.*

**Several additional plant species have been added into the Landscaping Plan. This includes additional trees and shrubs placed throughout. Please find the revised Landscaping Plan, sheet #15.**

*Where does completion of the wetlands remediation plan stand?*  
**The Wetland Remediation Plan has been approved by NHDES. The applicant's portion will be undertaken once Rochester Site Plan approval is received.**

*Planning will not support the waiver for commercial sized lighting. This is clearly a residential neighborhood and needs residential scale lighting.*

**Plans mistakenly called out 18' mounting height when 15' was intended. A waiver request then produced as a result of the mistake. The previous Lighting Plan showed contours and footcandles based upon a pole lamp mounting height of 15'. This mounting height has been clarified on the Site and Lighting Plans and the Waiver Request has been withdrawn.**

*Will wait for Stormwater resubmittal and hold reduced TRG III (DPW only)*  
**Applicant acknowledges comment.**

*Minor plan set comments:*

*1. Sht 4/Note 55: Revise note to indicate that the site will require metering & backflow protection at the street.*

**Please find revised sheet #4, note #54.**

*2. Sht 4/Note 60: Revise note to indicate that backflow prevention device and water development connection fee permits are required.*

**Please find revised sheet #4, note #59.**

*3. Sht 4/Note 61 is not applicable to this project being it will be serviced by an onsite community septic system.*

**Note # 60, sheet #4 has been removed.**




*4. Sht 24/Detail U10: Revise note to indicate that hydrant is to be Kennedy K81D (open right).*


**Please find revised Detail U10, sheet #24.**

In addition to the Third Party Review comment letter provided, a Construction Adverse Effects Mitigation Program has been added to the Drainage Binder.

Respectfully submitted,  
BERRY SURVEYING & ENGINEERING

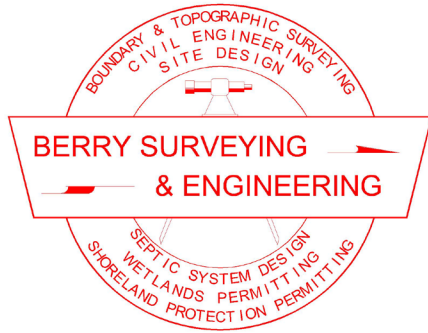
  
Christopher R. Berry  
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Kevin R. Poulin, PE  
Project Engineer



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City of Rochester  
Planning & Development  
Attn: Ms. Shanna Saunders, Planning Director  
33 Wakefield Street  
Rochester, NH 03867

March 6, 2024

Re: Third Party Drainage Review Response #1  
Knox Marsh Development, LLC  
Flat Rock Bridge Road  
Tax Map 210, Lot 64

Ms. Saunders,

We are in receipt of the Third Party Peer Review concerning compliance with Chapter 218 for the project site noted above. Below please find the original comment generated by the peer review in *Italic* and the response by Berry Surveying & Engineering (BS&E) below it in **Bold**.

### I. Narrative Stormwater Management and Erosion Control Report

*The Drainage Analysis Report provided was reviewed to ensure compliance with the Stormwater Management and Erosion Control Report (Report) requirements in § 218-8.B(1). The following comments should be addressed by the Applicant.*

- a. *Anticipated project start and completion dates, and duration of grading and construction activities are not provided.*

**Please find Construction Adverse Effects Mitigation Program (CAEMITP) provided with this submission.**

- b. *Description of the procedures to limit and/or optimize use of deicing materials and minimize off-site increases in chloride levels in adjacent surface and groundwater is not provided.*

**Please find Construction Adverse Effects Mitigation Program (CAEMITP) provided with this submission.**

- c. *Description of the procedures to control waste such as discarded building*

*materials, construction debris, sanitary waste, chemicals, litter are not provided.*  
**The location and procedure of these items have been added to the Erosion & Sediment Control Plan, sheet #14. This Plan is also included within the Drainage Binder. Please find Construction Adverse Effects Mitigation Program (CAEMITP) provided with this submission.**

- d. *Copies are pertinent state permits (wetlands), if applicable, are not provided. The narrative does state that a Site Specific, Terrain Alteration Permit (RSA 485: A-17) is not required because the disturbance is less than 100,000 SF.*  
**No state permits are required for the development of the subject parcel.**

## II. Site Development Plan Requirements

*The design was reviewed to ensure compliance with the requirements in § 218-8.B. The following comments should be addressed by the Applicant.*

- a. *Direction of flow of stormwater runoff using arrows within the project area is not shown.*  
**Flow arrows have been added to the W1 & W2 Watershed sheets. Please find Drainage Binder.**
- b. *Limit and type of existing vegetation (including invasive species) is not shown, except for the tree line.*  
**The type of existing vegetation has been added to the Existing Conditions Plan, sheet #2, and the W1&W2 watershed sheets.**
- c. *A limit of earth disturbance is not shown on the site plans.*  
**The limit of earth disturbance is now shown on the Erosion & Sediment Control Plan, sheet #14.**
- d. *A cut and fill plan is not provided.*  
**Please find a Site Cut and Fill Plan now provided within the drainage binder.**
- e. *Location of equipment storage and staging areas are not shown. Procedures should be added to the Drainage Analysis Report to reflect the added controls.*  
**The location and procedure of these items have been added to the Erosion & Sediment Control Plan, sheet #14. This Plan is also included**

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**within the Drainage Binder. Please find Construction Adverse Effects Mitigation Program (CAEMITP) provided with this submission.**

- f. *Location of vehicle fueling areas or equipment fueling areas are not shown. Procedures should be added to the Drainage Analysis Report to reflect the added controls.*

**The location and procedure of these items have been added to the Erosion & Sediment Control Plan, sheet #14. This Plan is also included within the Drainage Binder. Please find Construction Adverse Effects Mitigation Program (CAEMITP) provided with this submission.**

- g. *Location of disposal facilities for solid waste, construction debris, sanitary waste, concrete washout, and plan for stump disposal (if applicable) are not shown. The proposed effluent disposal field is shown.*

**These locations of these items have been added to the Erosion & Sediment Control Plan, sheet #14. This Plan is also included within the Drainage Binder. Please find Construction Adverse Effects Mitigation Program (CAEMITP) provided with this submission.**

### III. Temporary Construction Stormwater Management Design Standards

*The design was reviewed to ensure compliance with the requirements in § 218-9.A. The following comments should be addressed by the Applicant.*

- a. *Notes are not provided to indicate "where final grading has not occurred, temporary stabilization measures should be in place within 5 calendar days for exposed soil areas that are within 100 feet of a surface waterbody or a wetland and no more than 14 calendar days for all other areas. Permanent stabilization should be in place within 3 calendar days following completion of final grading of exposed soil areas".*

**This note is located on Detail E18, Sheet E-102, note #6.**

- b. *Procedures are not provided to control waste such as discarded building materials, chemicals, litter, and sanitary waste during the construction process.*

**These locations of these items have been added to the Erosion & Sediment Control Plan, sheet #14. This Plan is also included within the Drainage Binder. Please find Construction Adverse Effects Mitigation Program (CAEMITP) provided with this submission.**



#### IV. Post-Construction Stormwater Management Design Standards

*The design was reviewed to ensure compliance with the requirements in § 218-10. The following comments should be addressed by the Applicant.*

- a. *Documentation should be provided to demonstrate why pervious parking surfaces will not be used.*

**This documentation is now shown in Section 3.0 of the Drainage Narrative under "Stormwater Treatment".**

- b. *Access for maintenance should be established and shown for all proposed stormwater facilities.*

**All proposed stormwater treatment BMPs are located along the side of Oldenburg Drive. The applicant feels that road side access and parking space access for stormwater BMP maintenance is adequate.**

- c. *Proposed deicing material storage areas should shown (if applicable) and be located in areas under cover.*

**There will not be deicing materials kept on site. The site will be plowed by a private snow plowing company that will supply deicing materials, when necessary, on site.**

#### V. Stormwater Management Design Standards for New Development

*The design was reviewed to ensure compliance with the requirements in § 218-10.C. The following comments should be addressed by the Applicant.*

- a. *Calculations are not provided to demonstrate that the total post-construction impervious area is treated to remove at least 80% total suspended solids and 50% removal of total phosphorus (TP) and total nitrogen (TN). The pollutant removal calculations should use the methods provided in Attachment 3 to Appendix F of the 2017 NH Small MS4 Permit, or other tools provided by EPA Region 1.*

**Please find Pollutant Removal Calculations submitted within the Drainage Binder.**

- b. *Calculations are not provided to demonstrate that the stormwater treatment practices have been designed for the water quality volume (WQV) or water quality flow (WQF).*

**Please find NHDES BMP Treatment sheets provided within the Drainage Binder for this submission.**



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- c. *Calculations are not provided to demonstrate protection of groundwater resources by reducing the post-development stormwater runoff volume by infiltrating the Groundwater Recharge Volume (GRV) as required under § 218-10.C(2)(a,b). The required GRV for the site and the provided GRV should be provided in a table in the Drainage Analysis.*

**Please find NHDES AoT GRV Sheet provided within the Drainage Binder of this submission. The GRV calculations have been added to table 3.0 within the Drainage Narrative.**

- d. *The peak discharge rate for Final Reach #600 under the proposed condition increases when compared to the existing condition for the 2-year through 50-year storms. In accordance with § 218-10(3)(c) if an increase in post-development peak rate is anticipated, the Applicant needs to demonstrate that there are site constraints that limit the ability to implement LID measures and demonstrate that the project will not cause adverse impacts to downstream properties, infrastructure, aquatic habitat or water quality degradation in downstream water bodies.*

**Please find Waiver Request for portions of Chapter 218 contained within the application package.**

#### VI. Stormwater Drainage System Specifications

*The design was reviewed to ensure compliance with the requirements in § 218-10.F. The following comments should be addressed by the Applicant.*

- a. *Describe the pretreatment practices for the raingardens and how the practices will be maintained.*

**Sediment forebays have been added to each rain garden as the pre-treatment device. Please find Inspection and Maintenance Plan specifying the maintenance measures for the stormwater BMPs. Maintenance measures for the sediment forebays have been added to the document "Stormwater System Operation: Inspection and Maintenance Manual".**

#### VII. Post-Construction Inspection and Maintenance Agreement

*The design was reviewed to ensure compliance with the requirements in § 218-11.C. The following comments should be addressed by the Applicant.*



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- a. *The Inspection and Maintenance Plan was provided but should include BMP details and photo documentation requirement.*

**The document, "Stormwater System Operation: Inspection and Maintenance Manual" provides details of the BMPs, including inspection frequencies, inspection requirements, and the threshold for cleanout. Under "Minimum Inspection Requirements" for the Rain Gardens, the photo documentation requirements have been added. Please find revised "Stormwater System Operation: Inspection and Maintenance Manual".**

#### VIII. Other Comments

- a. *Plans and details associated with the off-site drainage areas (i.e., from the Family Dollar hydrologic analysis and for the leaching catch basin) were not verified as-built drawings were not provided.*

**The off-site drainage area for the Family Dollar Hydrologic Analysis is modeled in the same condition, existing to proposed, and has previously been reviewed and approved by the City of Rochester. No data is provided for the leaching catch basin, as the point of analysis is the catch basin rim.**

- b. *For rain garden #1, on Sheet 7 – Proposed Grading Plan, the top of bio media is shown as 236.10 feet, but in the HydroCAD model and on Sheet 8 – Rain Garden #1 w/ Infiltration, it is shown as 236.60 feet.*

**The callout for Rain Garden #1 on sheet #7 has been revised to 236.50, along with the other callouts for the BMP modification. Please find sheet #7.**

- c. *The rain garden details on Sheet 8 should be updated to show the elevation of the top of aged bark mulch and depth of open storage.*

**Please find revised Rain Garden Details on sheets #8-10. The bark has been removed and replaced with grass.**

- d. *The proposed rain gardens include perimeter plantings (trees) as well as shrubs and perennials on the surface. The maintenance of the rain garden is imperative to ensure that these will infiltrate as designed. The applicant should consider proposing a surface that would be easy to maintain (i.e., grass). With the current*



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*planting plan the accumulation of leaves from perimeter trees, trash and debris, sediment, potential establishment of trees and shrubs may inhibit capacity and infiltration of the proposed practice. The Applicant has modeled the raingarden with "open storage"; however, once the proposed plants are mature, they will reduce the amount of open storage in the raingarden. If the Applicant chooses to keep the planting plan as shown, they should modify the open storage to reflect the mature vegetated condition.*

**The applicant has opted to remove the vegetation and plant the rain gardens with grass. Please find Rain Garden Plans, Sheets #8-10.**

- e. *A test pit was not conducted within rain garden #3 to determine estimated seasonal high groundwater and permeability of the underlying soil. A test pit should be conducted in this location to confirm ESHWT. There appears to be significant variability across the site.*

**Test Pit #2A has now been performed within Rain Garden #3. Please find R-103.**

- f. *The test pit data provided (i.e., estimated seasonal high water table (ESHWT) and the rain garden details are inconsistent. The lowest ESHWT should be used for the rain garden design. For example, for raingarden #2, TP#17A ESHWT is 2.8 feet and the detail for raingarden #2 shows an ESHWT of 4.4 feet. The Applicant should review the test pit data and redesign the project accordingly.*

**After reviewing data for Test Pit #1, #17A, & #18A, the pond has been designed appropriately with the proposed depths.**

**E.S.H.W.T. for TP #1 = 232.85**

**E.S.H.W.T. for TP #17A = 233.95**

**E.S.H.W.T. for TP #18A = 233.95**

**The requirements of Env-Wq 1508.08(h) are that the SHWT can be reduced to one foot below the filter course material. With the Bio-Media invert elevation of 235.50, the stormwater BMP provides greater than 1' of separation from the filter course material across the BMP.**

*The following comments are specific to the HydroCAD Report:*

- a. *A proposed diversion swale is shown on Sheet 7 – Proposed Grading Plan. This swale should be included in the HydroCAD model to evaluate velocities entering and within the swale.*

**A separate HydroCAD Model is provided to demonstrate the swale**



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**velocities. Please find this model in the Drainage Binder and summarized in the Drainage Narrative in section 3.2.**

- b. *A proposed headwall is shown on Sheet 7 – Proposed Grading Plan. Is this intended to act as a retaining wall or is there a culvert that is not labeled on the plan.*

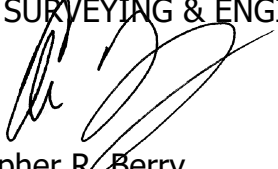
**The callout has been modified to “retaining wall”. There are no culverts proposed in this area. Please find sheet #7.**


- c. *A proposed outlet structure is shown for rain garden #2. This should be added to the HydroCAD model to evaluate peak discharge and volume.*


**The outlet structure has been added into the Proposed Drainage Model. The rim of the outlet structure is not used on the 100YR-24HR storm event. Please find revised proposed conditions analysis within the Drainage Binder.**

Thank you for your time and attention to this matter.

BERRY SURVEYING & ENGINEERING

  
Christopher R. Berry  
Principal, President

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

  
Kevin R. Poulin, PE  
Project Engineer



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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<br>82%            | 22<br>18%             | 88<br>40.75%          | 128<br>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 11<sup>th</sup> 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 |
|-------------|--------------|-------------|
| <b>6</b>    | 1            | 5           |

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

| Total Trips | 63% Entering | 37% Exiting |
|-------------|--------------|-------------|
| <b>8</b>    | 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              |

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**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,

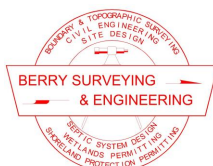
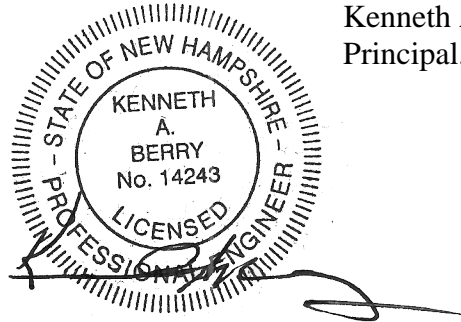
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TABLE OF CONTENTS:

|             |  |
|-------------|--|
| SHEET 1     | — NEIGHBORHOOD PLAN                                      |
| SHEET 2     | — EXISTING CONDITIONS PLAN                               |
| SHEET 3     | — SITE SPECIFIC SOILS PLAN                               |
| SHEET 4     | — GENERAL NOTES  |
| SHEET 5     | — OVERVIEW SITE PLAN                                     |
| SHEET 6     | — PROPOSED SITE PLAN                                     |
| SHEET 7     | — PROPOSED GRADING PLAN                                  |
| SHEET 8     | — RAIN GARDEN DETAILS (R101)                             |
| SHEET 9     | — RAIN GARDEN DETAILS (R102)                             |
| SHEET 10    | — RAIN GARDEN DETAILS (R103)                             |
| SHEET 11    | — PLAN & PROFILE   |
| SHEET 12    | — UTILITY PLAN   |
| SHEET 13    | — CROSS SECTIONS   |
| SHEET 14    | — EROSION & SEDIMENT CONTROL PLAN                        |
| SHEET 15    | — LANDSCAPING PLAN                                       |
| SHEET 16    | — LIGHTING PLAN  |
| SHEET 17    | — E101 EROSION & SEDIMENT CONTROL DETAILS                |
| SHEET 18    | — E102 EROSION & SEDIMENT CONTROL DETAILS                |
| SHEET 19    | — C101 CONSTRUCTION DETAILS                              |
| SHEET 20    | — C102 CONSTRUCTION DETAILS                              |
| SHEET 21    | — C103 CONSTRUCTION DETAILS                              |
| SHEET 22    | — L101 LANDSCAPING DETAILS                               |
| SHEET 23    | — U101 UTILITY DETAILS                                   |
| SHEET 24    | — U102 UTILITY DETAILS                                   |
| SHEET 25-28 | — SEPTIC DESIGN & CONSTRUCTION DETAILS                   |
| SHEET 29    | — R101-ROCHESTER CH. 218 STORMWATER REQUIREMENTS & NOTES |
|             | — ARCHITECTURAL PLANS                                    |

SURVEYOR OF RECORD: KENNETH A. BERRY, PE, LLS  
CPSWQ, CPESC, CESSWI  
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ENGINEER OF RECORD: KENNETH A. BERRY, PE, LLS  
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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

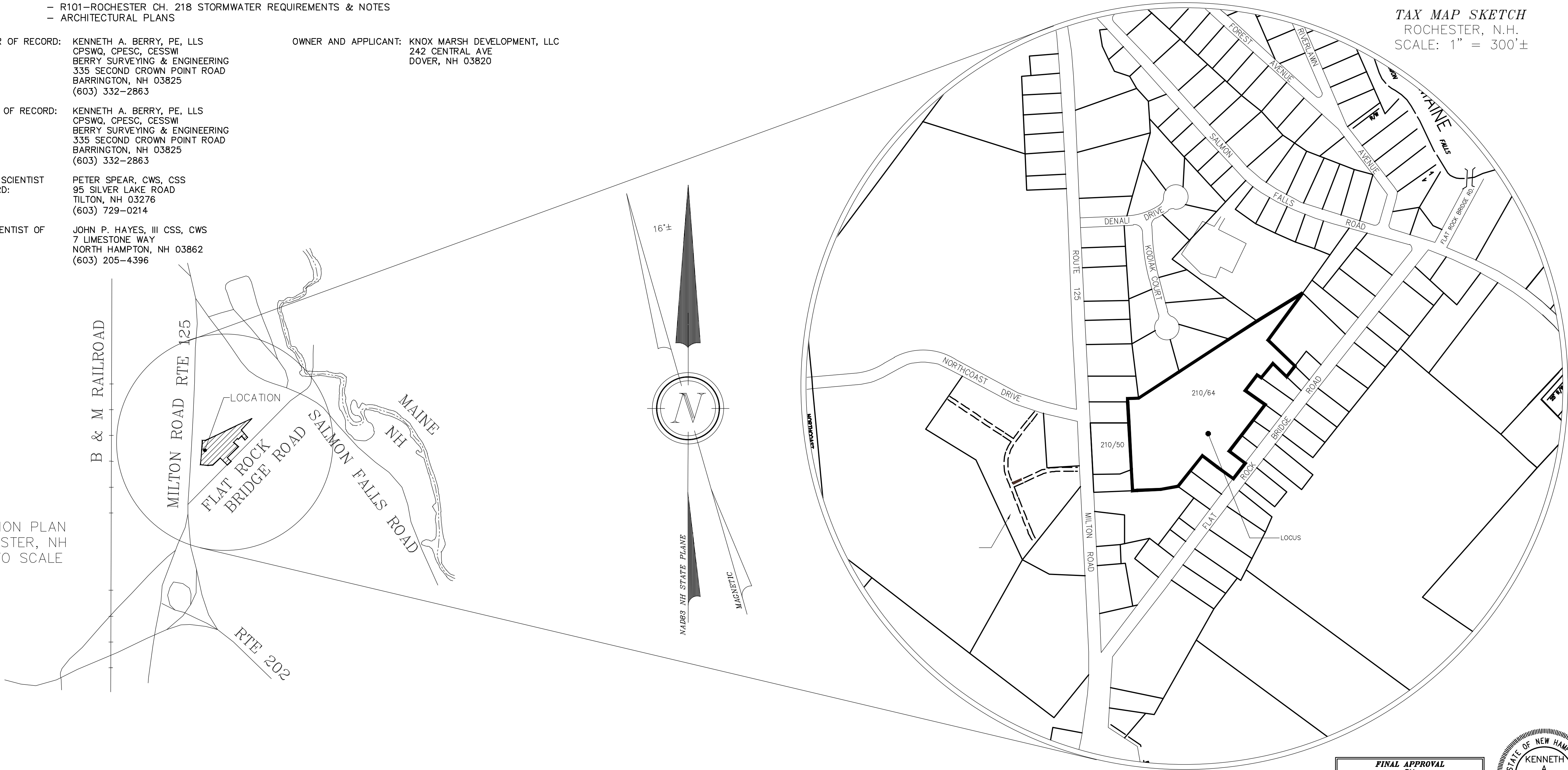
OWNER AND APPLICANT: KNOX MARSH DEVELOPMENT, LLC  
242 CENTRAL AVE  
DOVER, NH 03820

LOCATION PLAN  
ROCHESTER, NH  
NOT TO SCALE

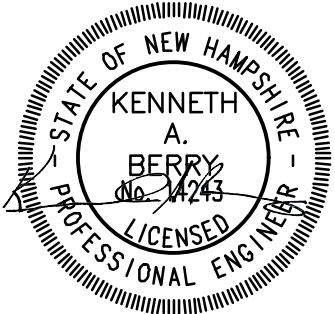
NOTE:  
BERRY SURVEYING & ENGINEERING HAS PREPARED AN INSPECTION & MAINTENANCE MANUAL AS PART OF THIS PROJECT'S DOCUMENTATION. ALL USERS ARE BOUND TO THIS DOCUMENT AS PART OF THE APPROVAL OF THE PLANNING BOARD. COPIES OF THE YEARLY INSPECTIONS ARE TO BE DELIVERED TO THE ROCHESTER DPW AS DIRECTED IN THE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

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

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



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

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

REVISION #1  
DATE 8-14-23  
DESCRIPTION REVISE PER TRG COMMENT

REVISE PER THIRD PARTY REVIEW COMMENT  
3-05-24  
#2



TP #1 & 1A& 1b (1b WAS CONDUCTED 8-1-23)

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 & 2a (2a WAS CONDUCTED 8-1-23)

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 SAND, SINGLE GRAIN, LOOSE  
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  
0.3-1.3' 10YR 4/4 DARK YELLOWISH BROWN, FINE SAND, SINGLE GRAIN, LOOSE, FRIABLE  
1.3-5.0' 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 @ 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 SANDY LOAM, GRANULAR, 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  
FILTREXX 12" SILT SOXX  
ORANGE CONSTRUCTION PERIMETER FENCE  
STOCKPILE AREA

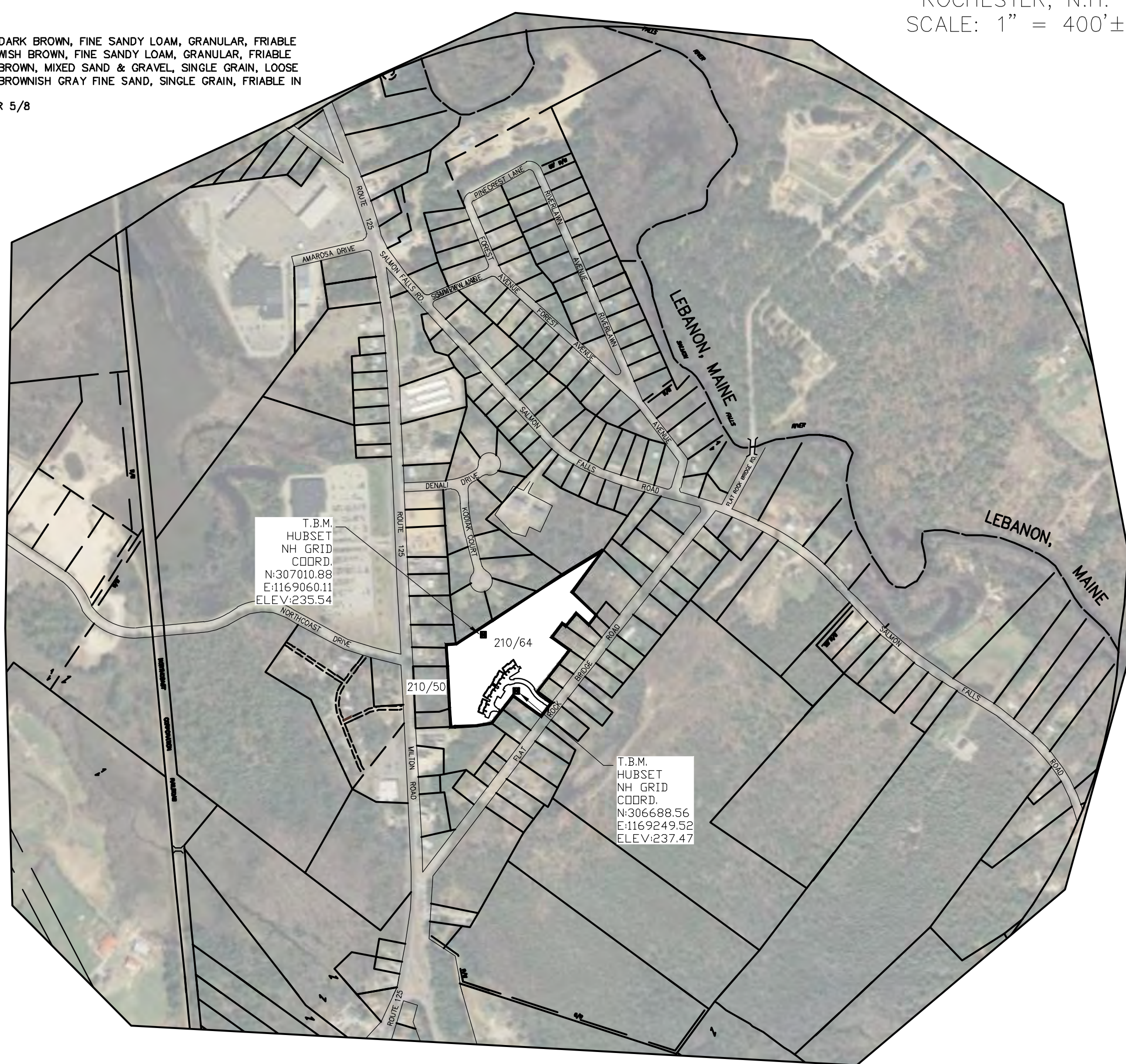
#### EXISTING LEGEND:

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

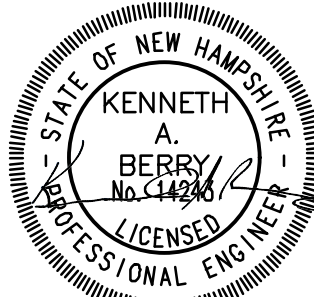
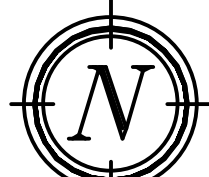
#### TAX MAP SKETCH

ROCHESTER, N.H.  
SCALE: 1" = 400'±



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

| SIGN ID NUMBER | SIGN SIZE<br>(WIDTH x HEIGHT) | SIGN | TEXT<br>DIMENSIONS  | NO. OF<br>SIGNS | BACKGROUND                  | LEGEND | BORDER | POST SIZE &<br>QUANTITY |
|----------------|-------------------------------|------|---|-----------------|-----------------------------|--------|--------|-------------------------|
| R1-1           | 30"x30"                       |      | SEE STANDARD<br>HIGHWAY SIGNS<br>2004 EDITION<br>PUBLISHED BY<br>USDOT - FHWA | 1               | RED                         | WHITE  | WHITE  | U-CHANNEL<br>(1)        |
| N/A            | 12"x18"                       |      | SEE STANDARD<br>HIGHWAY SIGNS<br>2004 EDITION<br>PUBLISHED BY<br>USDOT - FHWA | 8               | WHITE                       | RED    | RED    | U-CHANNEL<br>(5)        |
| R2-1           | 24"x30"                       |      | SEE STANDARD<br>HIGHWAY SIGNS<br>2004 EDITION<br>PUBLISHED BY<br>USDOT - FHWA | 1               | WHITE                       | BLACK  | BLACK  | U-CHANNEL<br>(1)        |
| W14-2          | 24"x24"                       |      | SEE STANDARD<br>HIGHWAY SIGNS<br>2004 EDITION<br>PUBLISHED BY<br>USDOT - FHWA | 1               | YELLOW<br>(RETROREFLECTIVE) | BLACK  | BLACK  | U-CHANNEL<br>(1)        |
|                | 24"x12"                       |      | SEE STANDARD<br>HIGHWAY SIGNS<br>2004 EDITION<br>PUBLISHED BY<br>USDOT - FHWA | 1               | GREEN                       | WHITE  | GREEN  | U-CHANNEL<br>(1)        |



| REVISION | DATE               | DESCRIPTION   |
|----------|--------------------|---|
| #2<br>#1 | 3-05-24<br>8-14-23 | REVISE PER THIRD PARTY REVIEW COMMENT<br>REVISE PER TRG COMMENT |

PROPOSED MAJOR SITE PLAN  
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 NOTED  
DATE : NOVEMBER 22, 2022  
FILE NO. : DB 2022 - 028

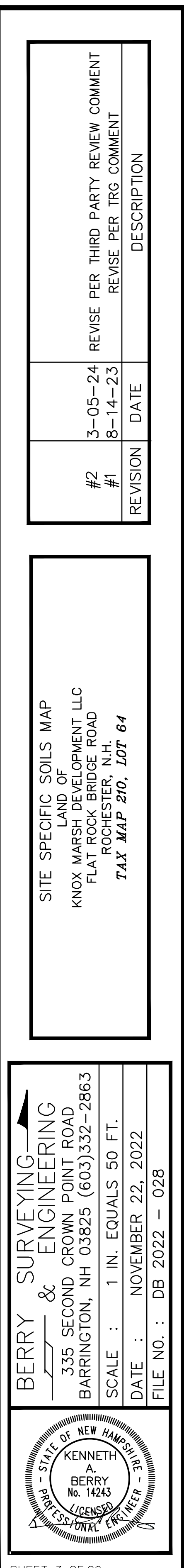
STATE OF NEW HAMPSHIRE  
KENNETH A. BERRY  
No. 114946  
LICENSED PROFESSIONAL ENGINEER

KEY LINE SURVEY  
NO. 805  
KENNETH A. BERRY  
SIGNATURE





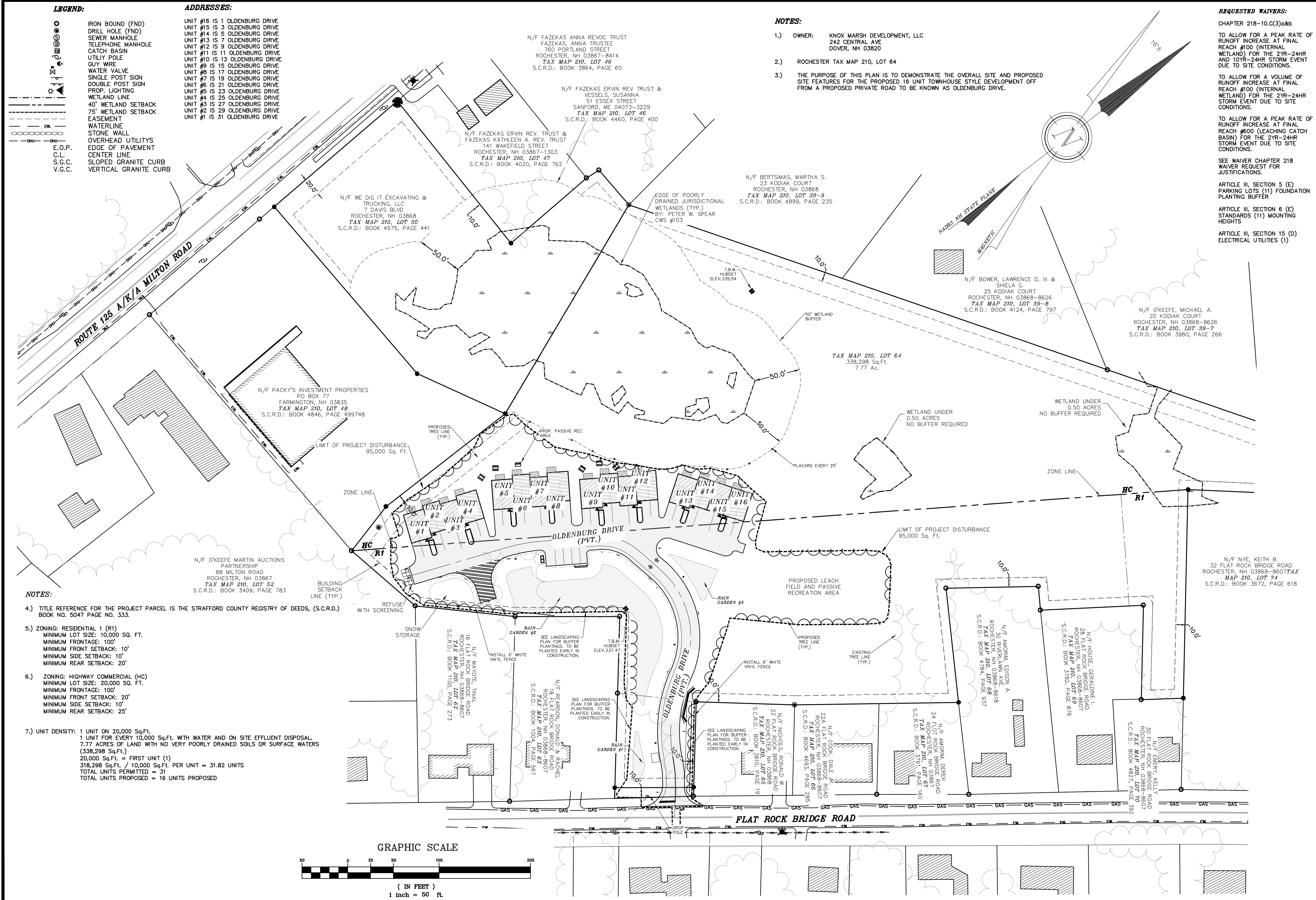












| REVISION | DATE    | DESCRIPTION                           |
|----------|---------|---------------------------------------|
| #2       | 3-05-24 | REVISE PER THIRD PARTY REVIEW COMMENT |
| #1       | 8-14-23 | REVISE PER TRG COMMENT                |

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

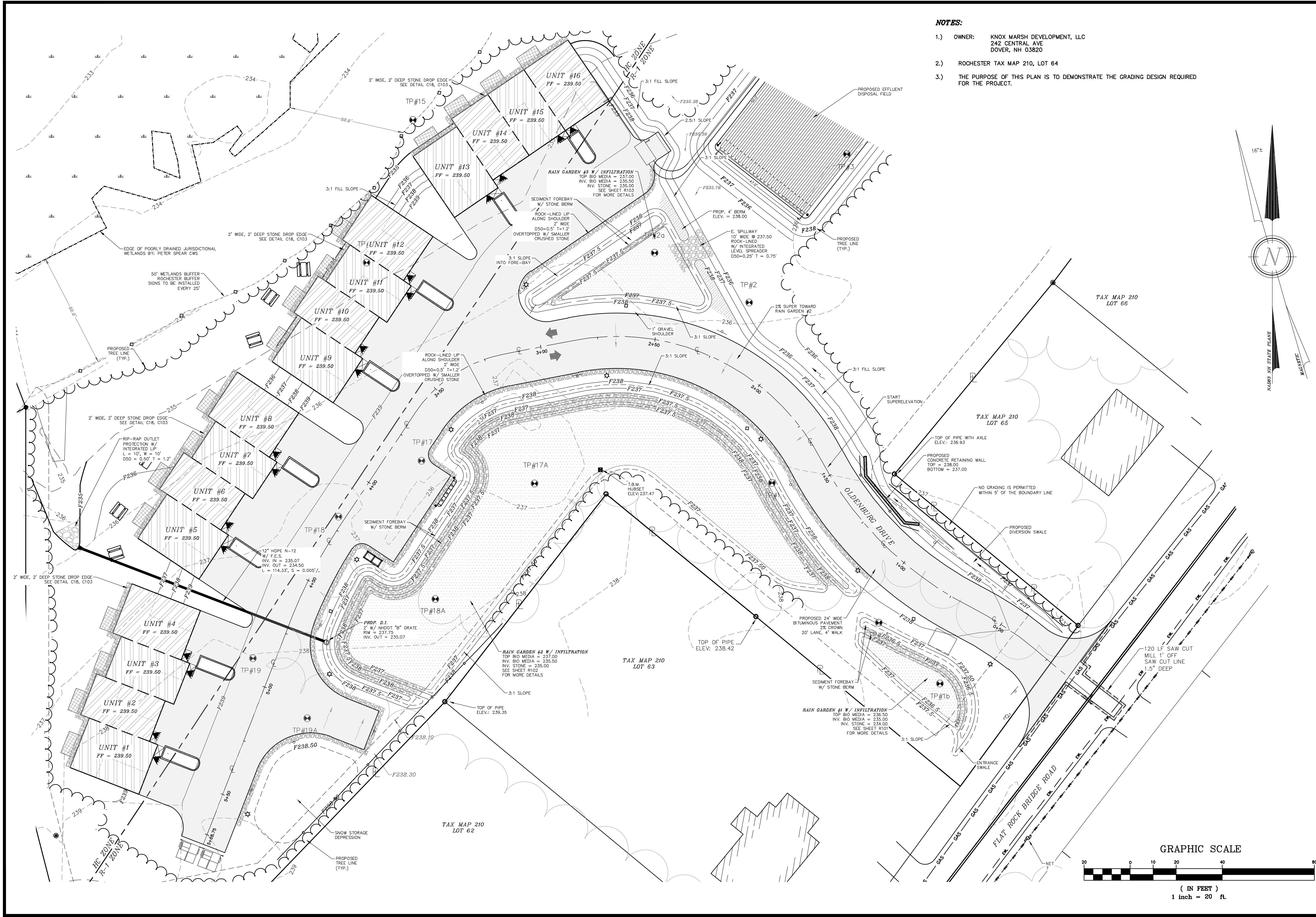
**BERRY SURVEYING & ENGINEERING**  
335 SECOND CROWN POINT ROAD  
BARRINGTON, NH 03825 (603)332-2863  
SCALE : 1 IN. EQUALS 50 FT.  
DATE : NOVEMBER 22, 2022  
FILE NO. : DB 2022 - 028

**KENNETH A. BERRY**  
No. 14243  
Professional Engineer

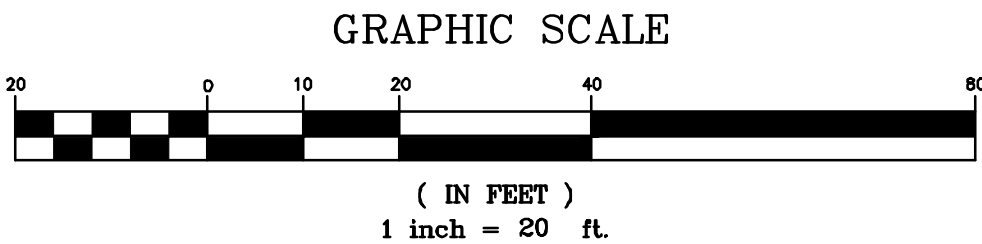
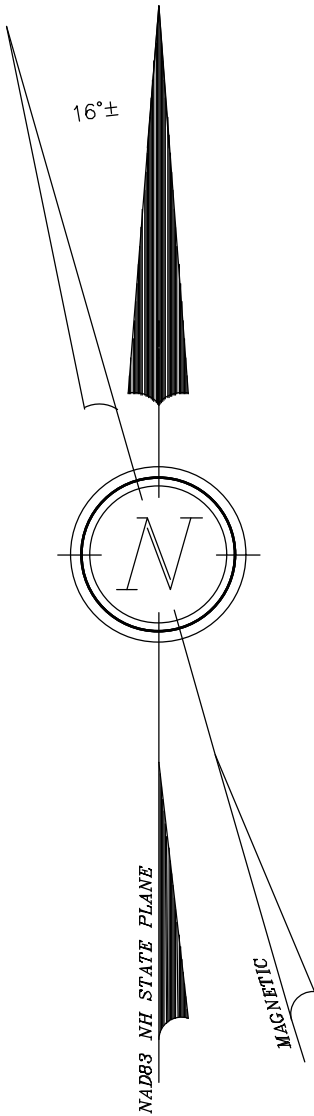








- NOTES:**
- 1) OWNER: KNOX MARSH DEVELOPMENT, LLC  
242 CENTRAL AVE  
DOVER, NH 03820
  - 2) ROCHESTER TAX MAP 210, LOT 64
  - 3) THE PURPOSE OF THIS PLAN IS TO DEMONSTRATE THE GRADING DESIGN REQUIRED FOR THE PROJECT.



| REVISION |    | DATE    | DESCRIPTION                           |
|----------|----|---------|---------------------------------------|
| #2       | #1 | 3-05-24 | REVISE PER THIRD PARTY REVIEW COMMENT |
|          |    | 8-14-23 | REVISE PER TRG COMMENT                |

PROPOSED GRADING 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

KENNETH A. BERRY

No. 14243

(SEAL)

PROFESSIONAL ENGINEER

STATE OF NEW HAMPSHIRE

SHEET 7 OF 29

NOT FOR CONSTRUCTION











| BIORETENTION FILTER MEDIA MIXTURES   |                              |                       |  |
|--|------------------------------|-----------------------|--|
| Component Material   | Percent of Mixture by Volume | Gradation of material |  |
|  |                              | Sieve No.             | Percent by Weight Passing Standard Sieve |
| Bioretention 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

**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.

| 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

#### NOTES

- 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.
- SOIL BIORETENTION FILTER MEDIA SHALL BE AS SHOWN ABOVE. "BIO MEDIA" MEANS BIORETENTION FILTER MEDIA.
- COMPACTION IS NOT TO OCCUR IN THE RAIN GARDEN AREAS PRIOR TO CONSTRUCTION. SCARIFICATION REQUIRED IN THE EVENT COMPACTION TAKES PLACE.
- DO NOT PLACE THE BIORETENTION SYSTEM INTO SERVICE UNTIL THE BMP HAS BEEN PLANTED AND ITS CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.
- DO NOT DISCHARGE SEDIMENT-LADEN WATERS FROM CONSTRUCTION ACTIVITIES (RUNOFF WATER FROM EXCAVATIONS) TO THE BIORETENTION AREA DURING ANY STAGE OF CONSTRUCTION.
- DO NOT TRAFFIC EXPOSED SOIL SURFACE WITH CONSTRUCTION EQUIPMENT. IF FEASIBLE PERFORM EXCAVATIONS WITH EQUIPMENT POSITIONED OUTSIDE THE LIMITS OF THE INFILTRATION COMPONENTS OF THE SYSTEM.

#### MAINTENANCE REQUIREMENTS

- SYSTEMS SHOULD BE INSPECTED AT LEAST TWICE ANNUALLY, AND FOLLOWING ANY RAINFALL EXCEEDING 0.25 INCHES IN A 24-HOUR PERIOD, WITH MAINTENANCE OR REHABILITATION CONDUCTED AS A WARRANTED BY SUCH INSPECTION.
- PRETREATMENT MEASURES SHOULD BE INSPECTED AT LEAST TWICE ANNUALLY, AND CLEANED OF ACCUMULATED SEDIMENT AS WARRANTED BY INSPECTION, BUT NO LESS THAN ONCE ANNUALLY.
- AT LEAST ONCE ANNUALLY, SYSTEM SHOULD BE INSPECTED FOR DRAWDOWN TIME. IF BIORETENTION SYSTEM DOES NOT DRAIN WITHIN 72-HOURS FOLLOWING A RAINFALL EVENT, THEN A QUALIFIED PROFESSIONAL SHOULD ASSESS THE CONDITION OF THE FACILITY TO DETERMINE MEASURES REQUIRED TO RESTORE FILTRATION FUNCTION OR INFILTRATION FUNCTION (AS APPLICABLE), INCLUDING BUT NOT LIMITED TO REMOVAL OF ACCUMULATED SEDIMENTS OR RECONSTRUCTION OF THE FILTER MEDIA.
- VEGETATION SHOULD BE INSPECTED AT LEAST ANNUALLY, AND MAINTAINED IN HEALTHY CONDITION, INCLUDING, PRUNING, REMOVAL, AND REPLACEMENT OF DEAD OR DISEASED VEGETATION, AND REMOVAL OF INVASIVE SPECIES.

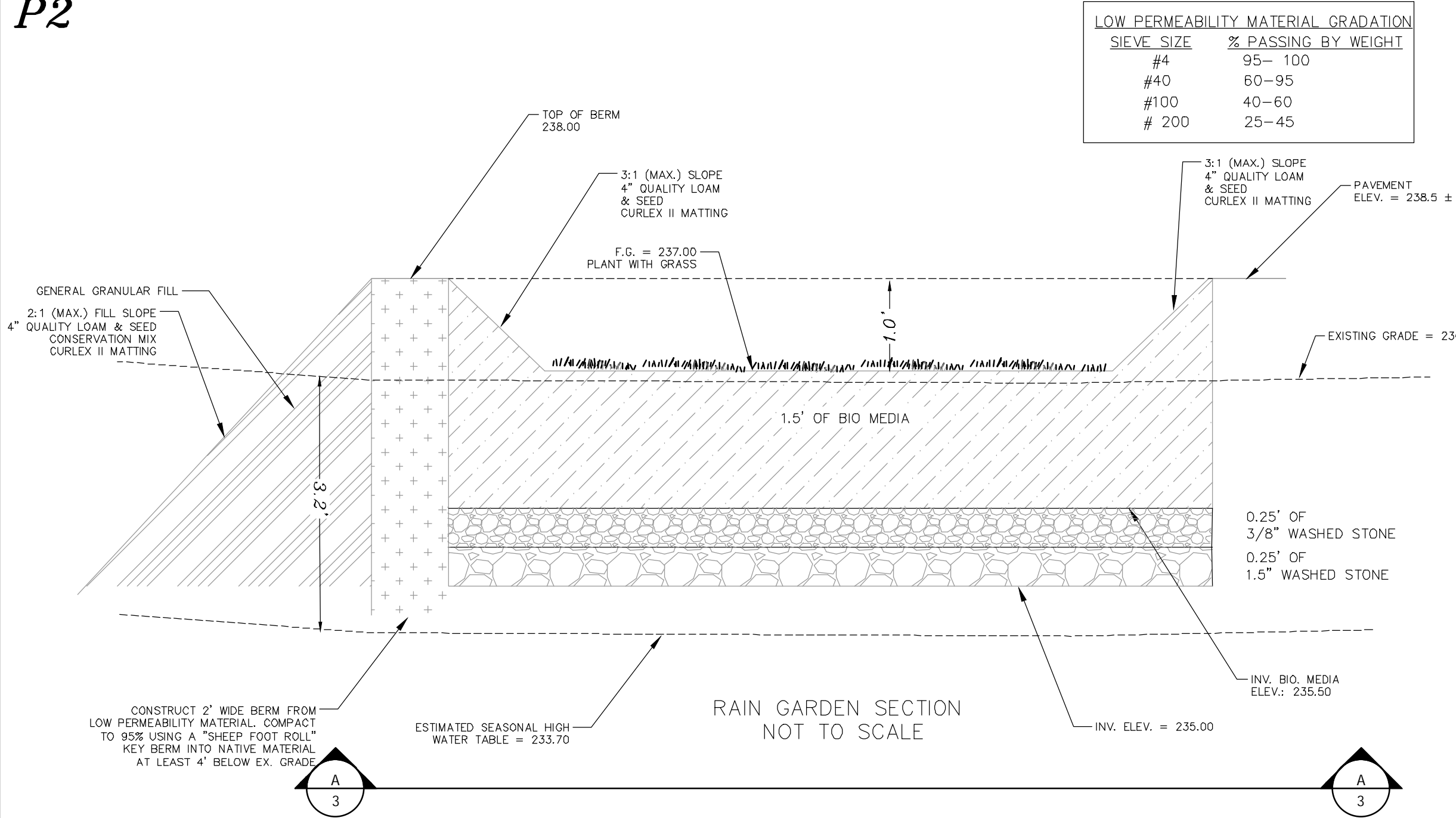
#### DESIGN REFERENCES

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

#### 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.

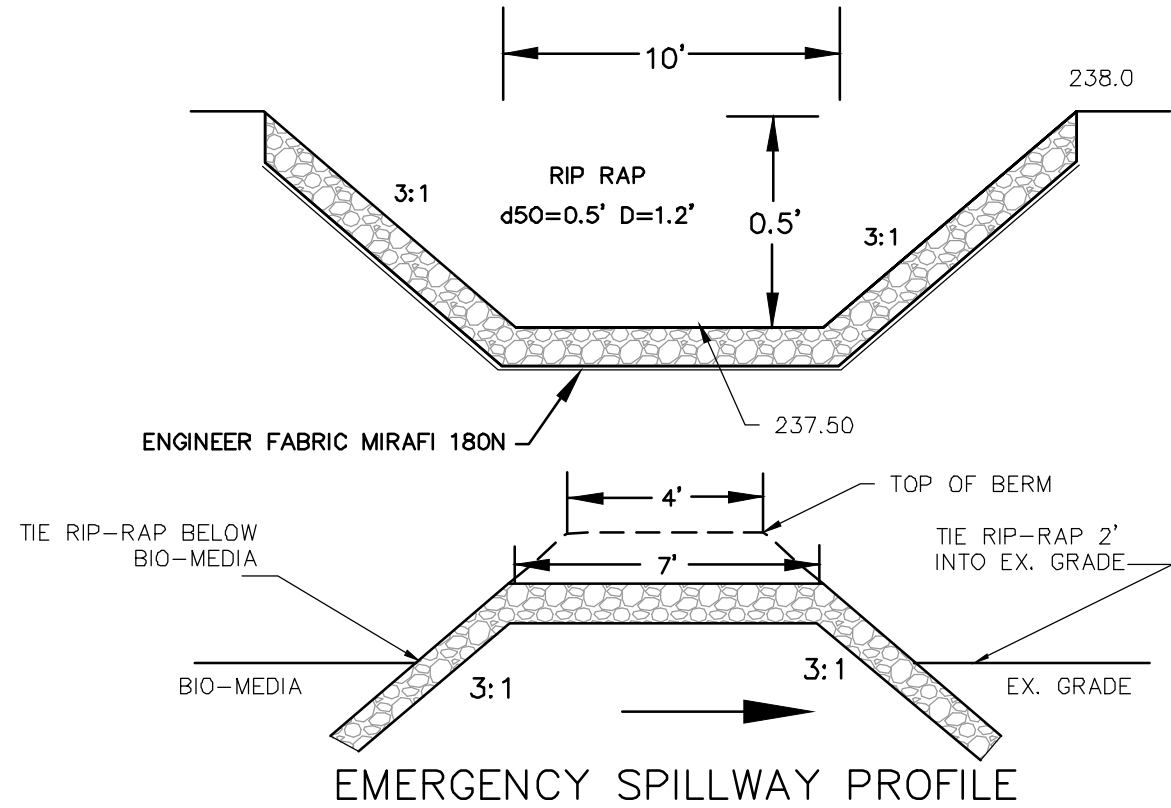
P1 P2



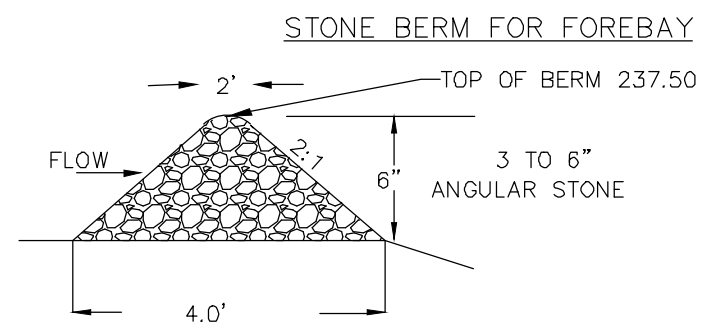
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|----------|----|---------|---------------------------------------|
| #2       | #1 | 3-05-24 | REVISE PER THIRD PARTY REVIEW COMMENT |
|          |    | 8-14-23 | REVISE PER TRG COMMENT                |

#### SPILLWAY DETAILS

NOT TO SCALE

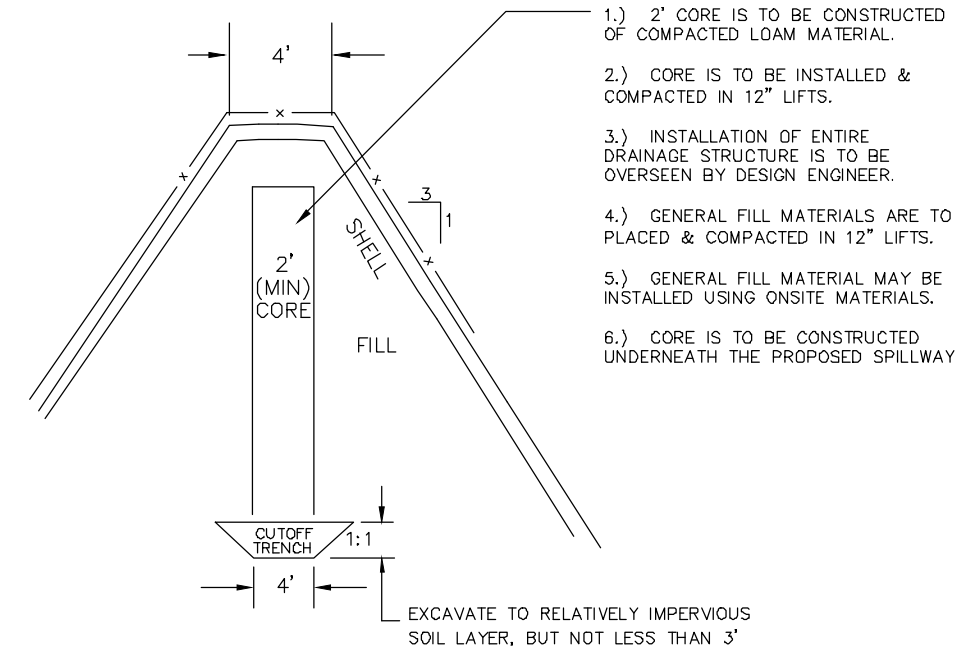


P3 P3



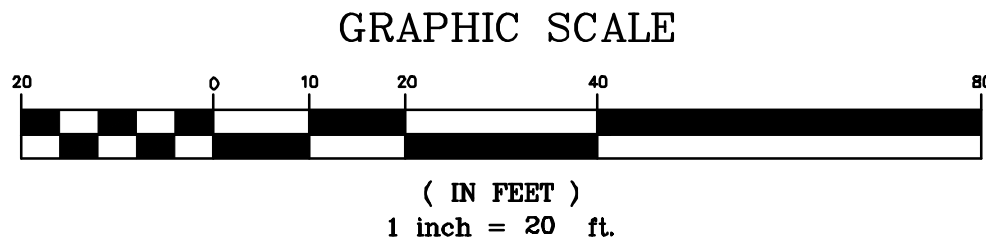
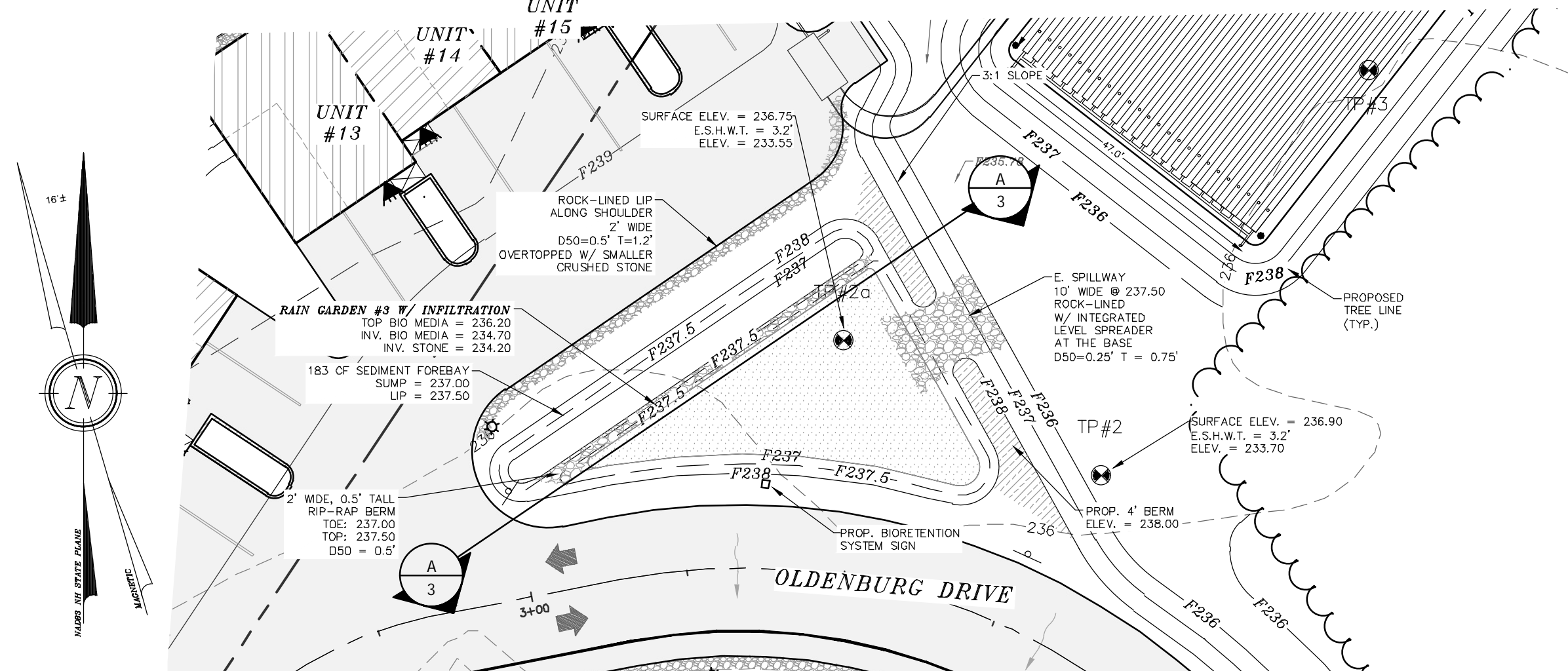
P4

| LOW PERMEABILITY MATERIAL GRADATION |                     |
|-------------------------------------|---------------------|
| SIEVE SIZE                          | % PASSING BY WEIGHT |
| #4                                  | 95 - 100            |
| #40                                 | 60 - 95             |
| #100                                | 40 - 60             |
| #200                                | 25 - 45             |



RAIN GARDEN #3 W/ INFILTRATION  
LAND OF KNOX MARSH DEVELOPMENT LLC  
FLAT ROCK BRIDGE ROAD  
ROCHESTER, N.H.  
74x MAP #10, LOT 64

#### GRADING PLAN



RAIN GARDEN #3  
PLAN

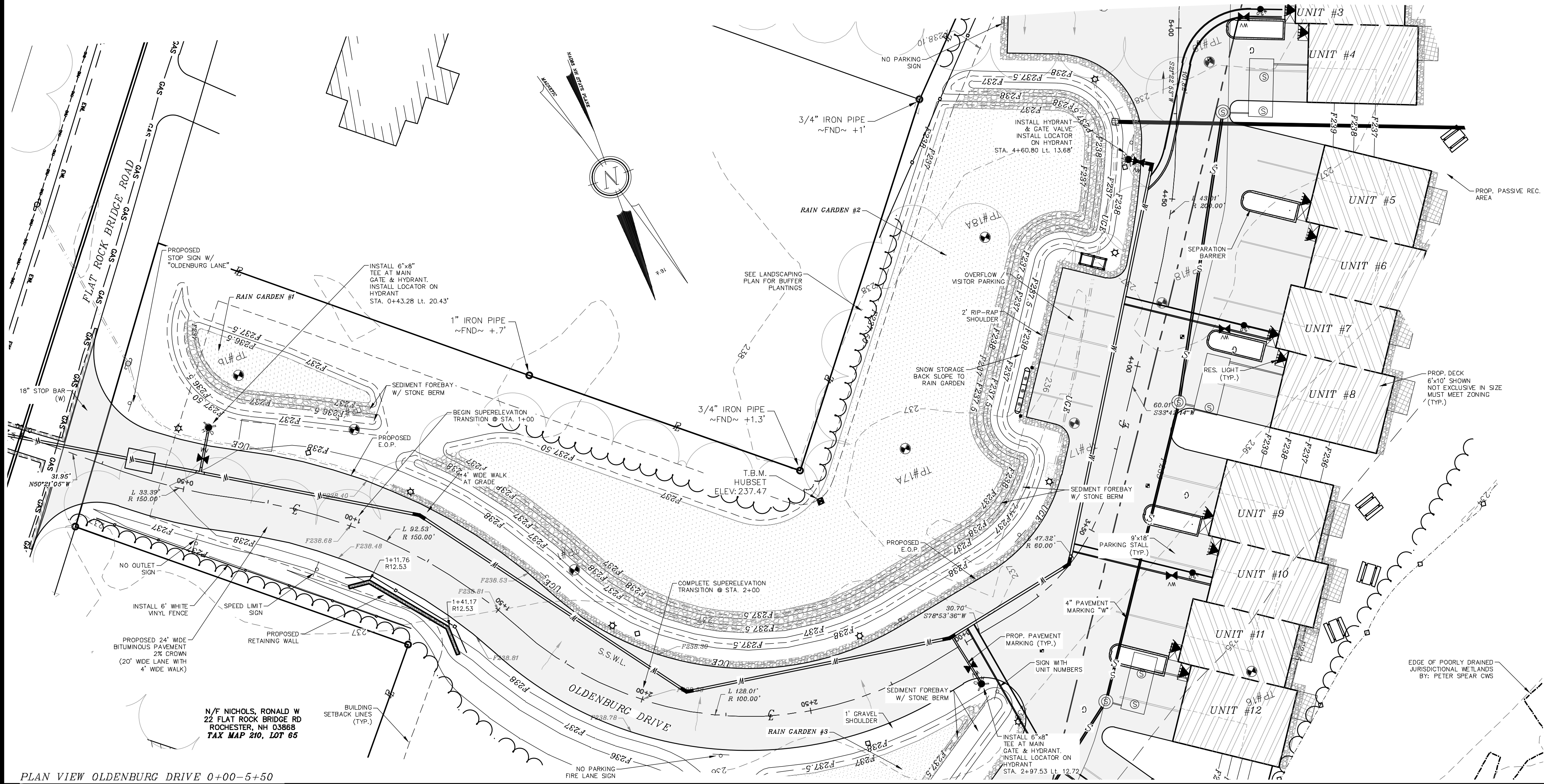
R-103

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

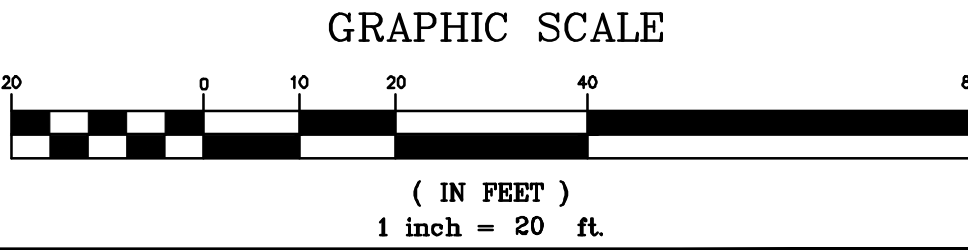
STATE OF NEW HAMPSHIRE  
KENNETH A. BERRY  
No. 14243  
PROFESSIONAL ENGINEER

SHEET 10 OF 29

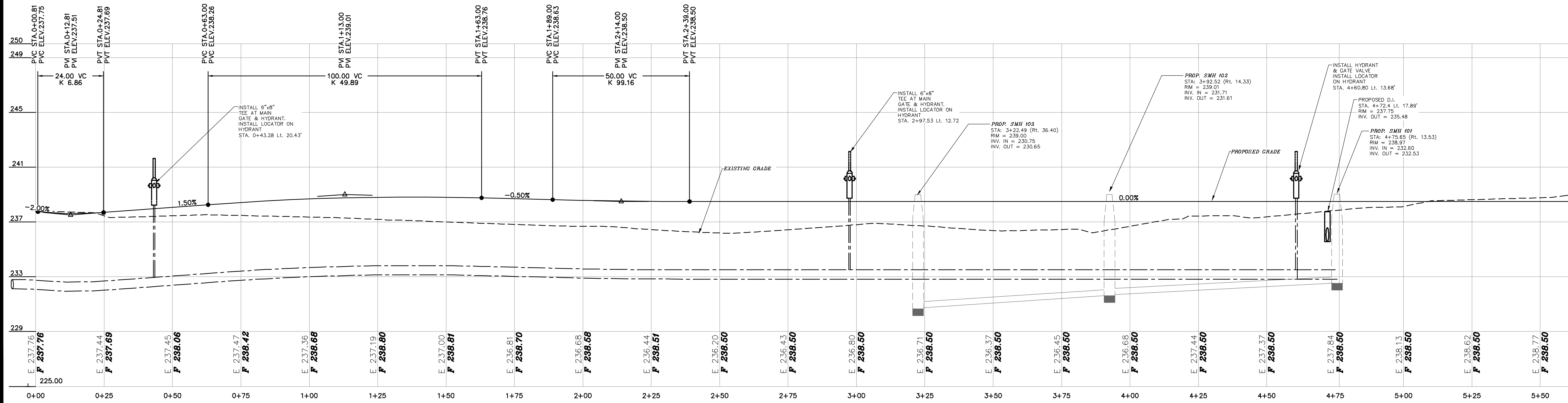




- NOTES:**
- 1.) OWNER: KNOX MARSH DEVELOPMENT, LLC  
242 CENTRAL AVE  
DOVER, NH 03820
  - 2.) ROCHESTER TAX MAP 210, LOT 64
  - 3.) THE PURPOSE OF THIS PLAN IS TO DEMONSTRATE THE PLAN AND PROFILE VIEW OF OLDENBURG DRIVE



PLAN VIEW OLDENBURG DRIVE 0+00-5+50  
PROFILE VIEW OLDENBURG DRIVE 0+00 - 5+50  
VERTICAL SCALE" 1' = 4'



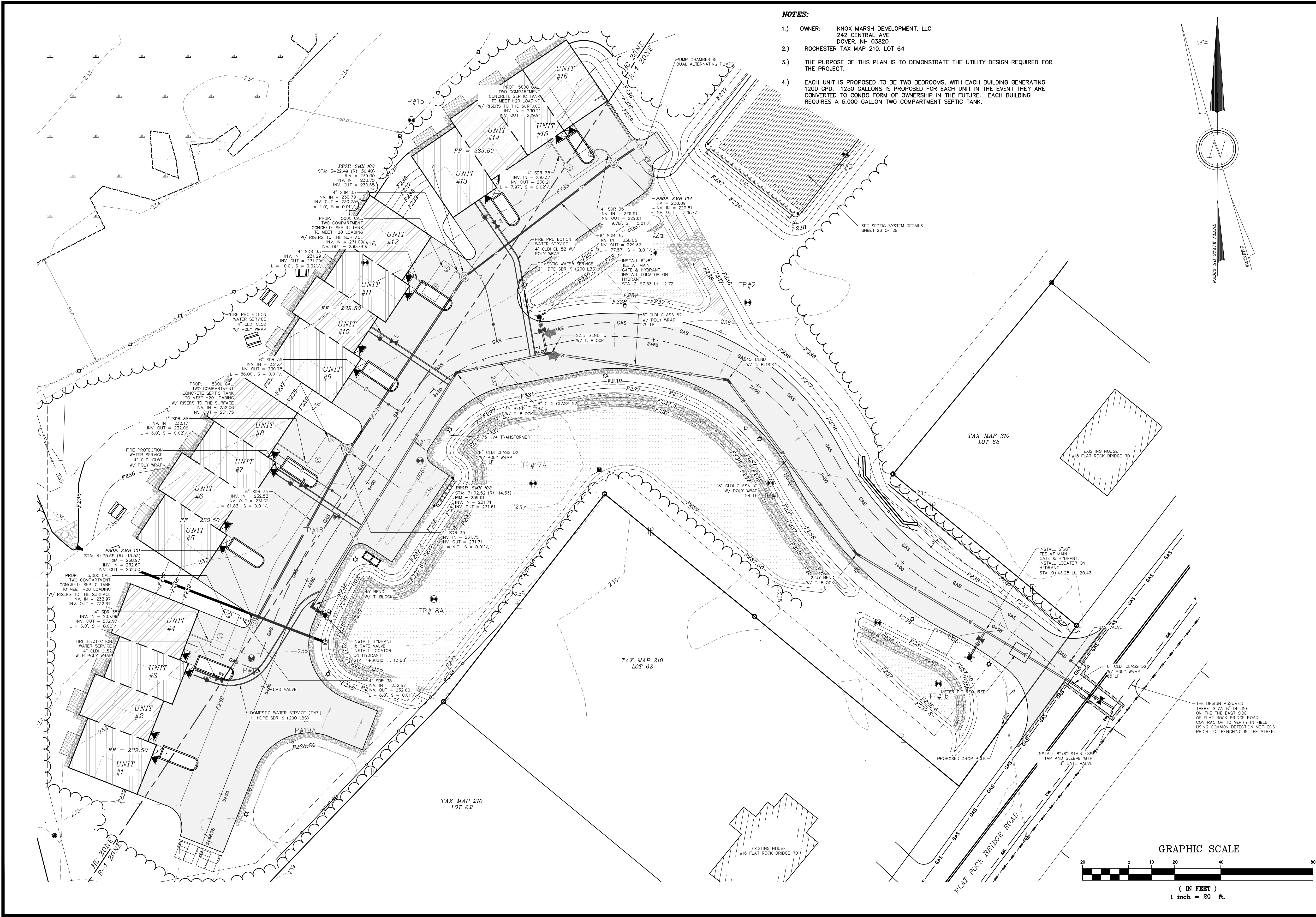
| REVISION | DATE    | DESCRIPTION                           |
|----------|---------|---------------------------------------|
| #2       | 3-05-24 | REVISE PER THIRD PARTY REVIEW COMMENT |
| #1       | 8-14-23 | REVISE PER TRG COMMENT                |

OLDENBURG DRIVE GRADING & DRAINAGE 0+00 - 5+00  
LAND OF  
KNOX MARSH DEVELOPMENT LLC  
FLAT ROCK BRIDGE ROAD  
ROCHESTER, N.H.  
74x MAP 210, LOT 64

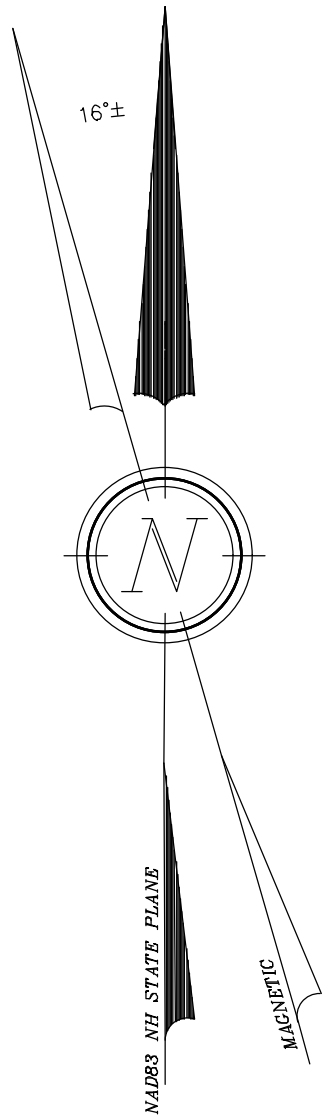
**BERRY SURVEYING & ENGINEERING**  
335 SECOND CROWN POINT ROAD  
BARRINGTON, NH 03825 (603)332-2863  
SCALE: 1 IN. EQUALS 20 FT.  
DATE : NOVEMBER 22, 2022  
FILE NO. : DB 2022 - 028

**KENNETH A. BERRY**  
REGISTERED PROFESSIONAL ENGINEER  
STATE OF NEW HAMPSHIRE  
14243





- NOTES:**
- 1.) OWNER: KNOX MARSH DEVELOPMENT, LLC  
242 CENTRAL AVE  
DOVER, NH 03820
  - 2.) ROCHESTER TAX MAP 210, LOT 64
  - 3.) THE PURPOSE OF THIS PLAN IS TO DEMONSTRATE THE UTILITY DESIGN REQUIRED FOR THE PROJECT.
  - 4.) EACH UNIT IS PROPOSED TO BE TWO BEDROOMS, WITH EACH BUILDING GENERATING 1200 GPD. 1250 GALLONS IS PROPOSED FOR EACH UNIT IN THE EVENT THEY ARE CONVERTED TO CONDO FORM OF OWNERSHIP IN THE FUTURE. EACH BUILDING REQUIRES A 5,000 GALLON TWO COMPARTMENT SEPTIC TANK.



| REVISION |         | DATE    | DESCRIPTION                           |
|----------|---------|---------|---------------------------------------|
| #2       | 3-05-24 |         | REVISE PER THIRD PARTY REVIEW COMMENT |
|          | #1      | 8-14-23 | REVISE PER TRG COMMENT                |

|  |  |
|--|--|
| UTILITY PLAN<br>LAND OF<br>KNOX MARSH DEVELOPMENT LLC<br>FLAT ROCK BRIDGE ROAD<br>ROCHESTER, N.H.<br>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

No. 14243

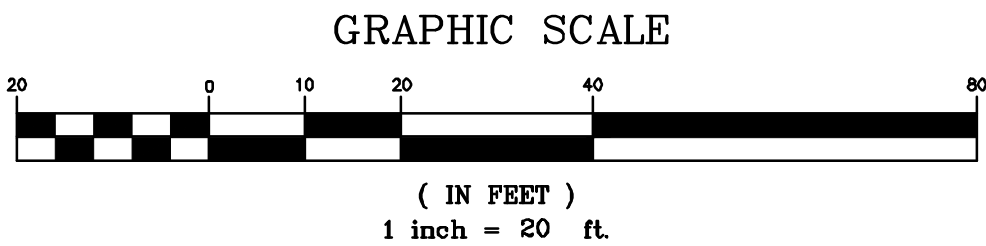
REGISTERED PROFESSIONAL ENGINEER

STATE OF NEW HAMPSHIRE

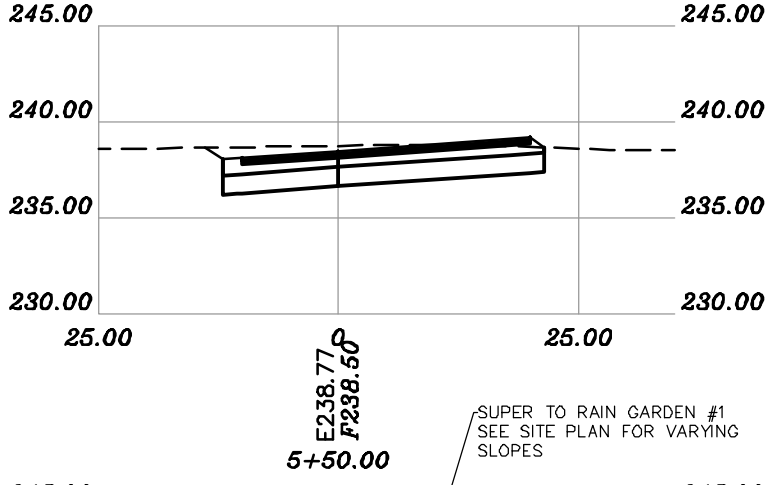
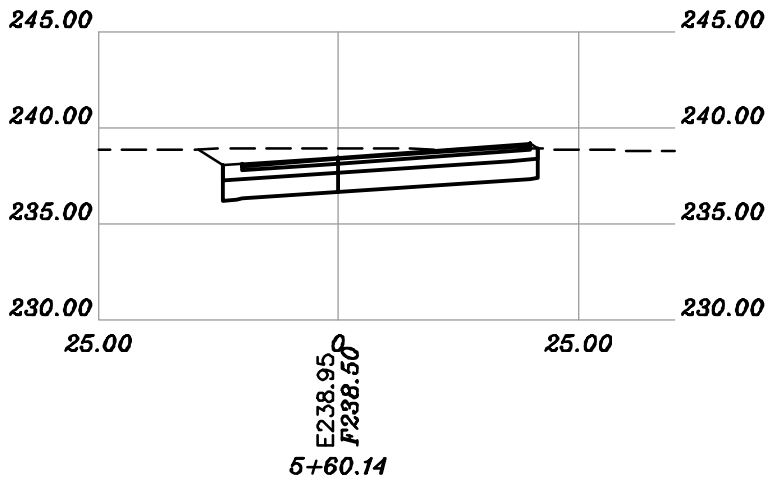
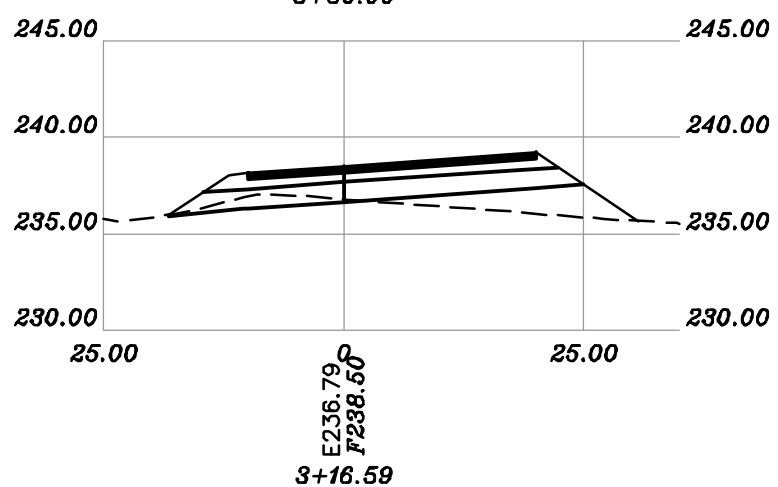
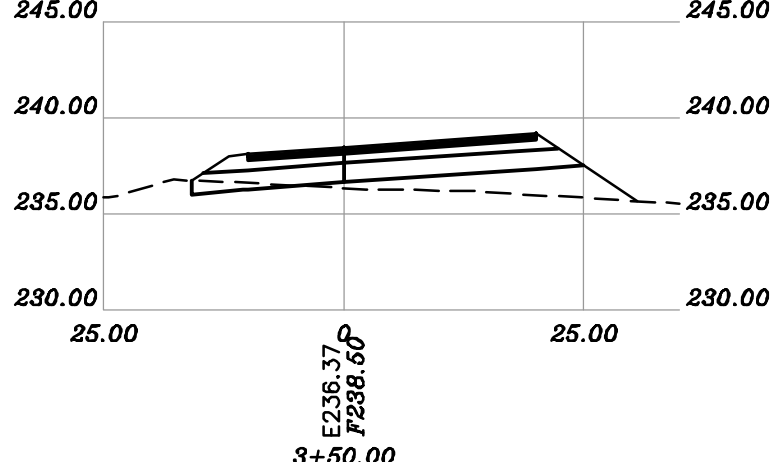
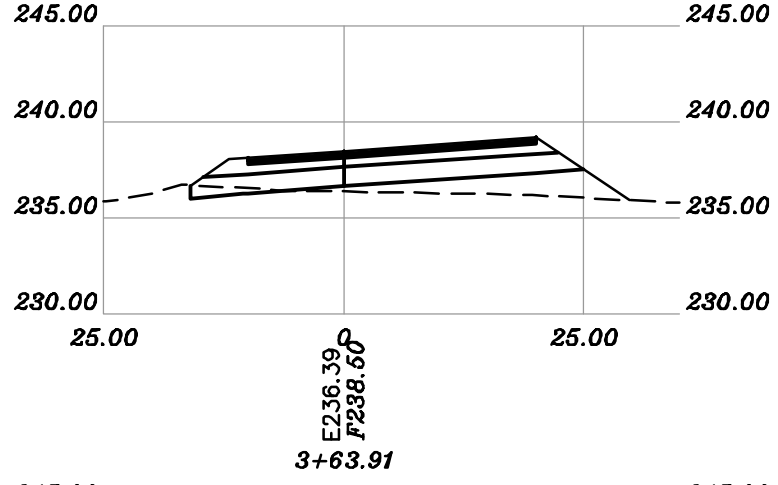
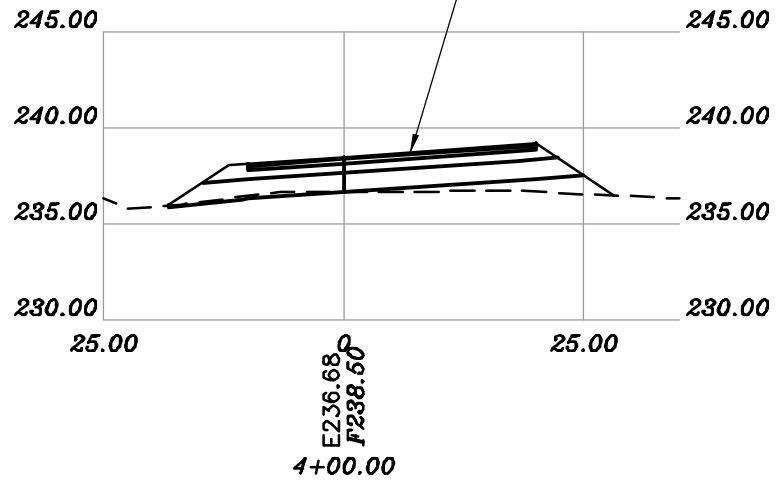
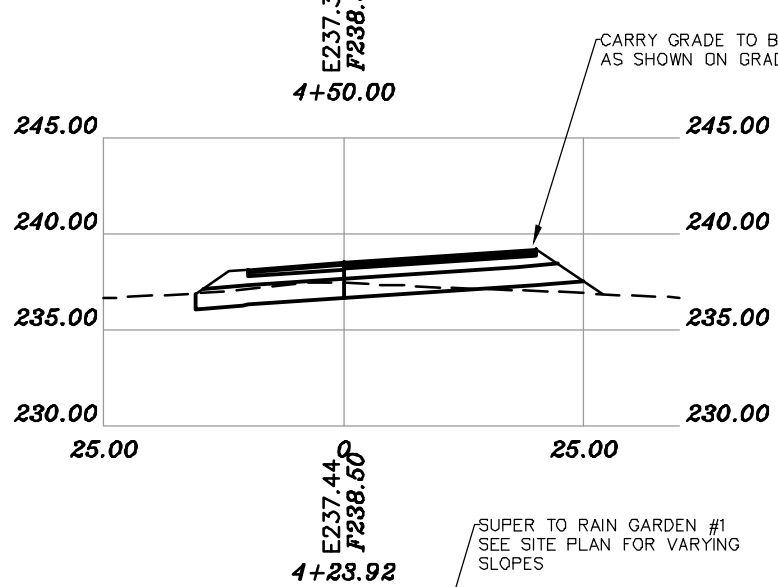
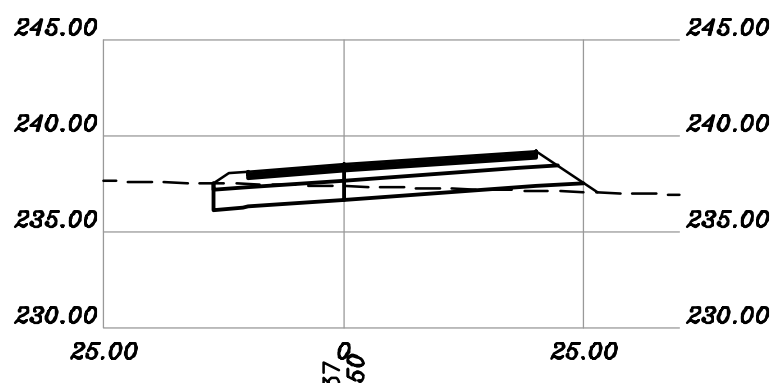
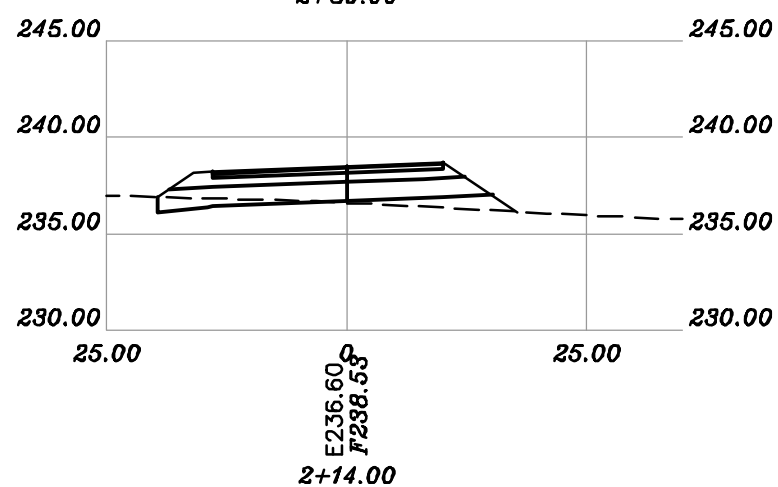
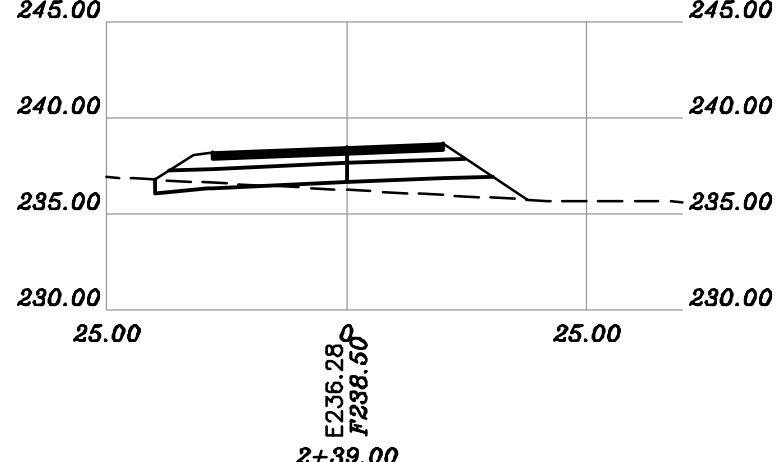
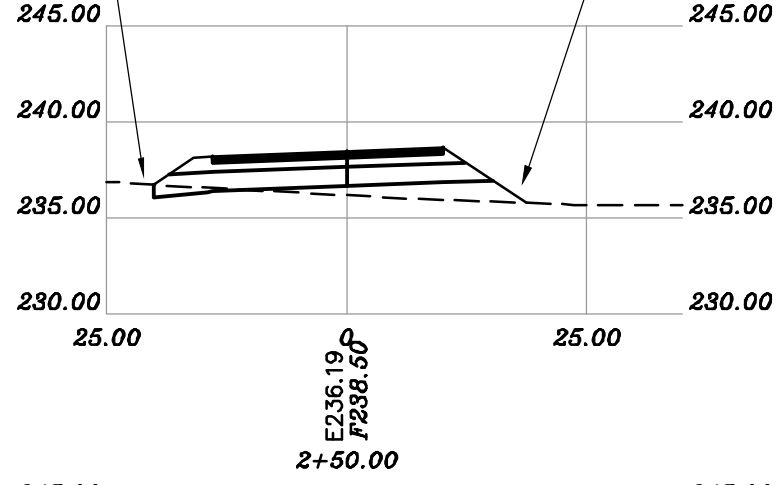
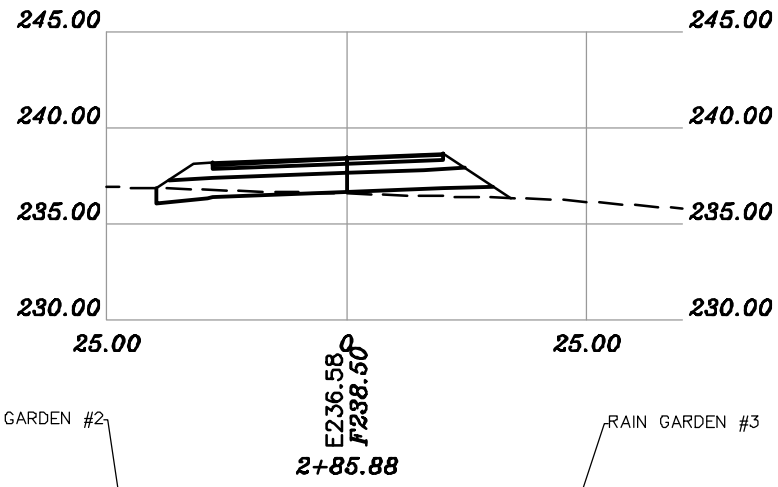
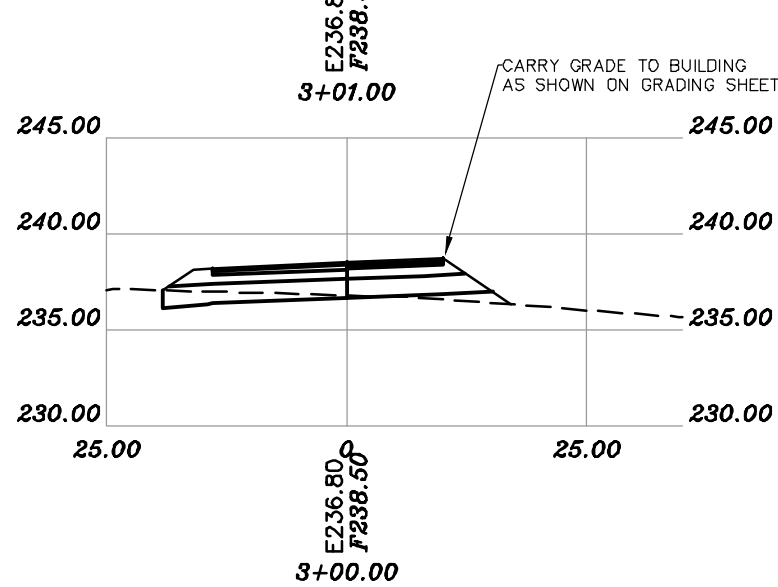
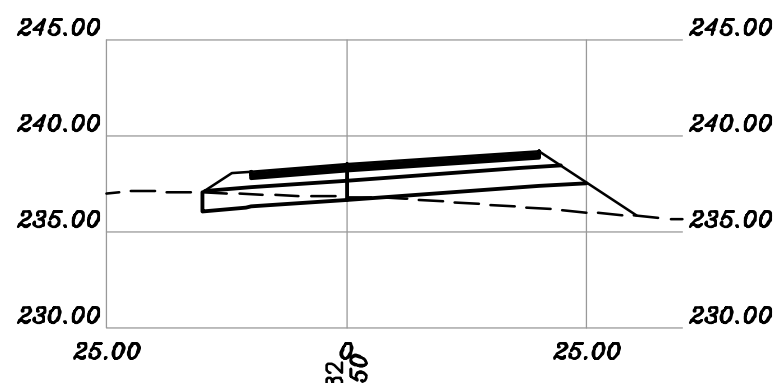
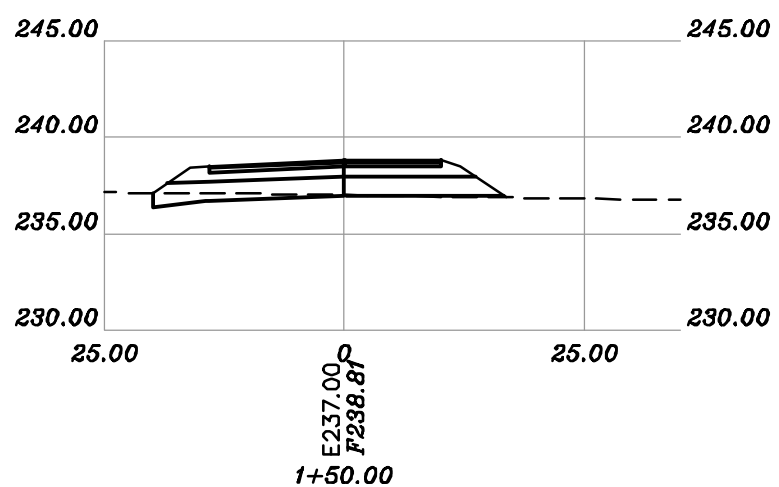
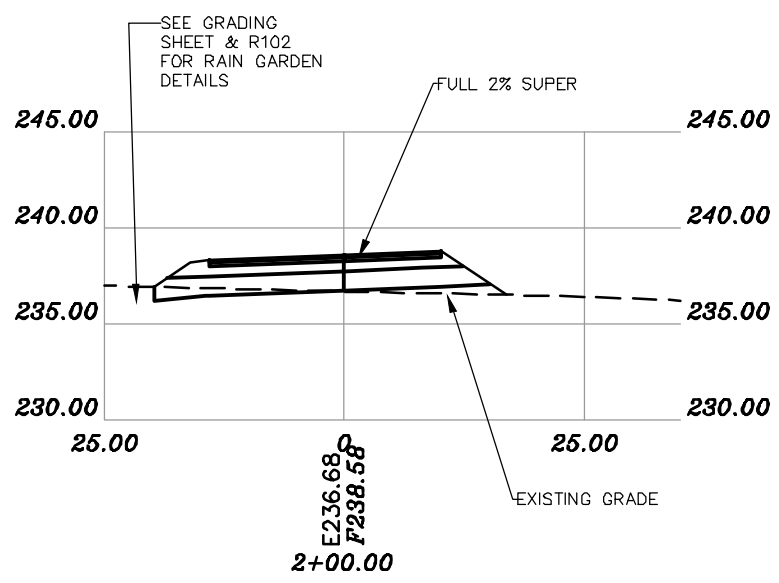
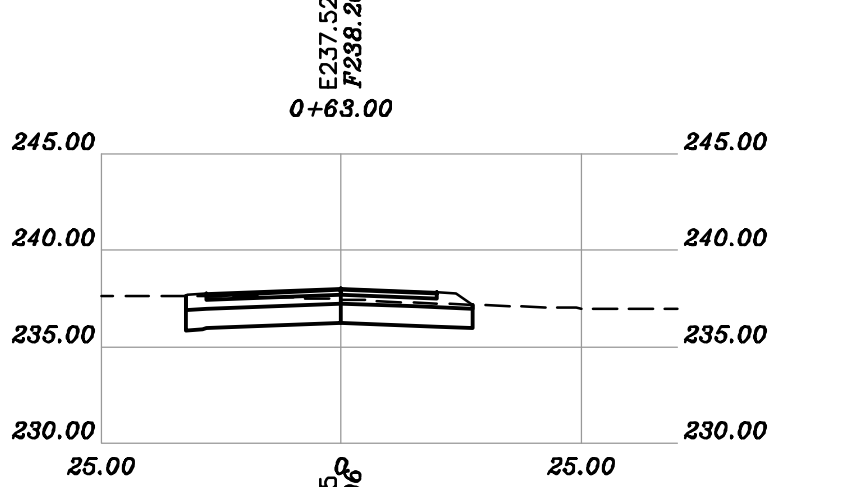
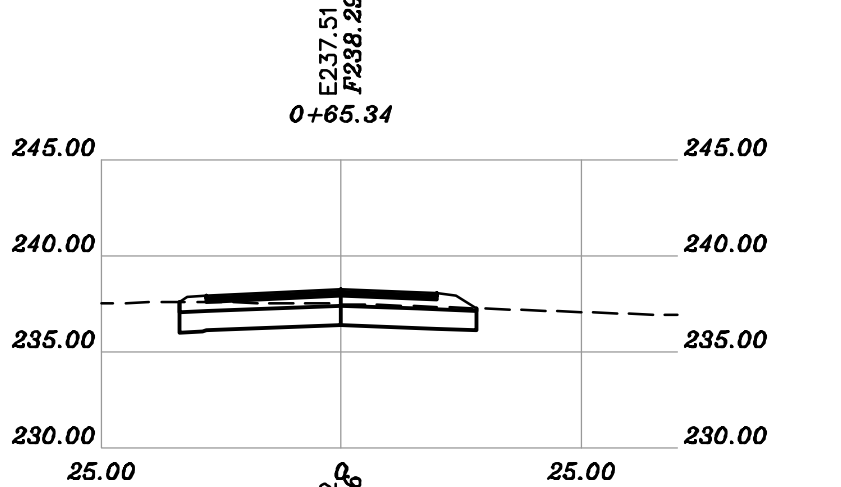
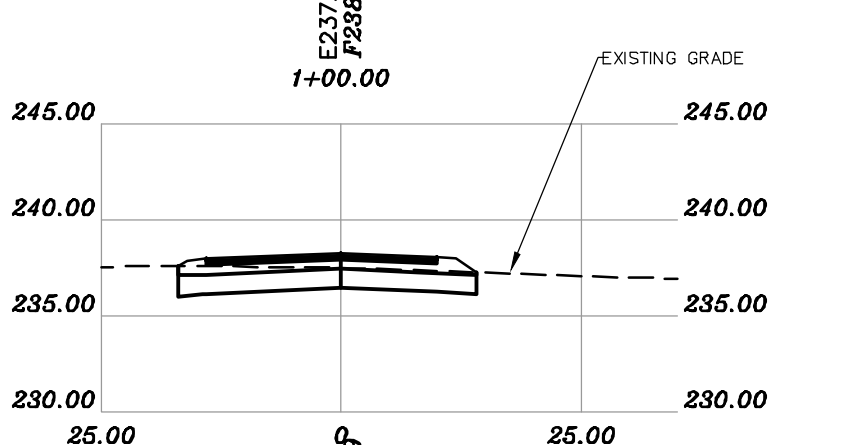
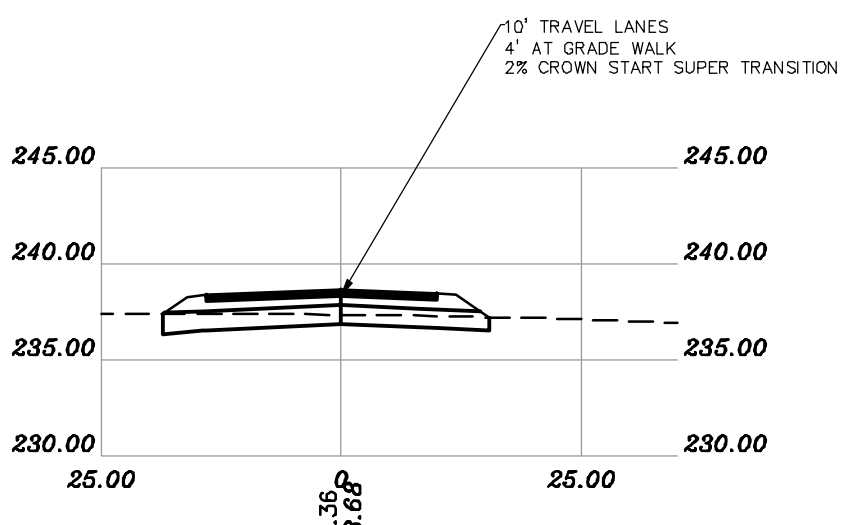
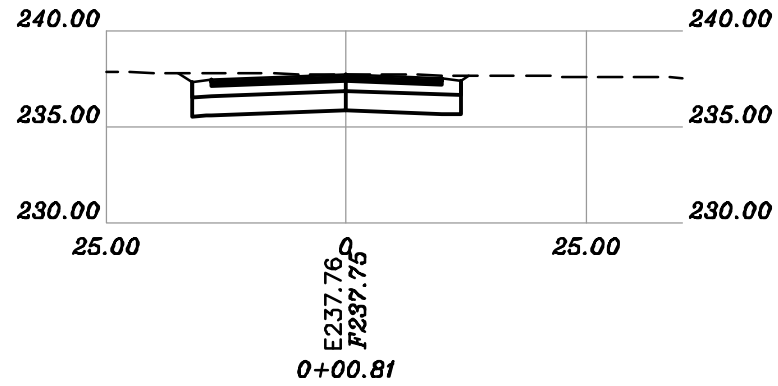
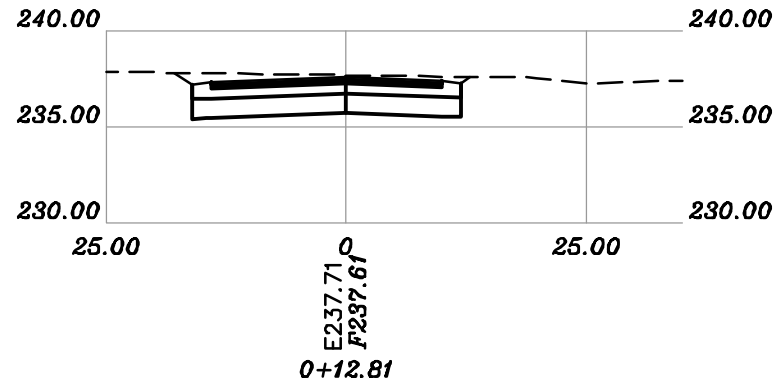
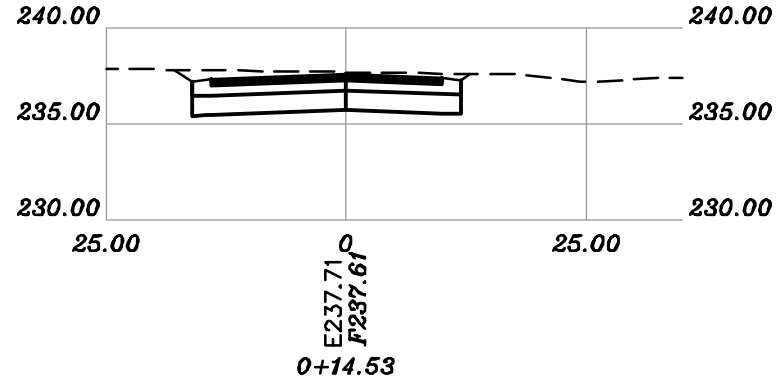
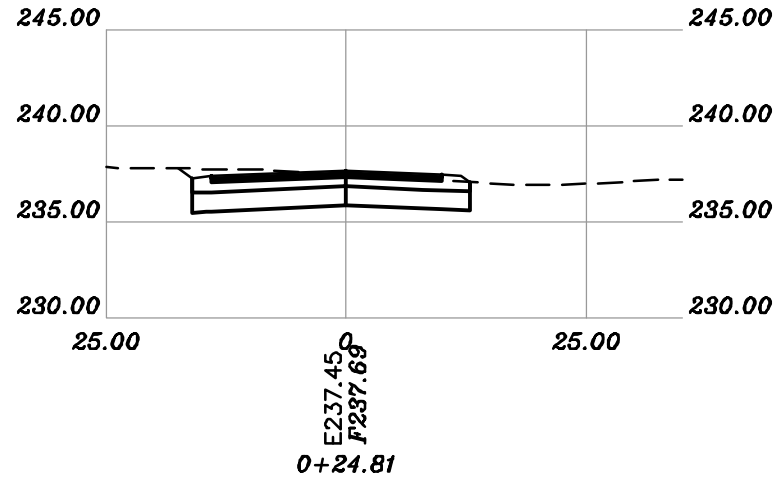
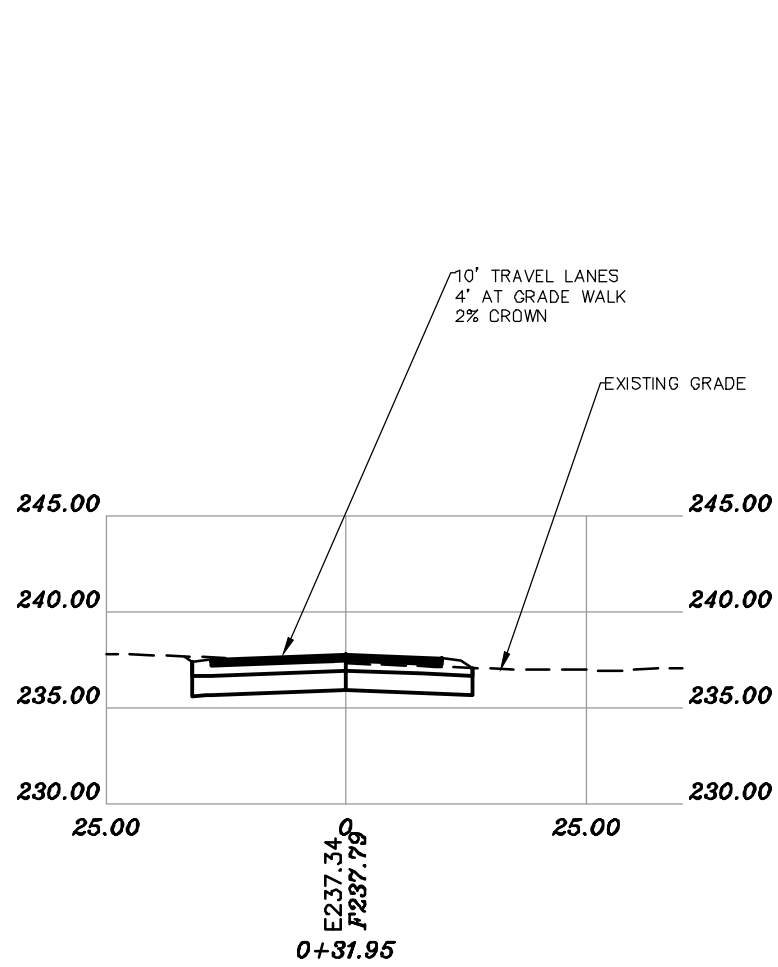
SHEET 12 OF 29

NOT FOR CONSTRUCTION





VERTICAL SCALE" 1' = 10'



Horizontal Scale 20  
Vertical Scale 10

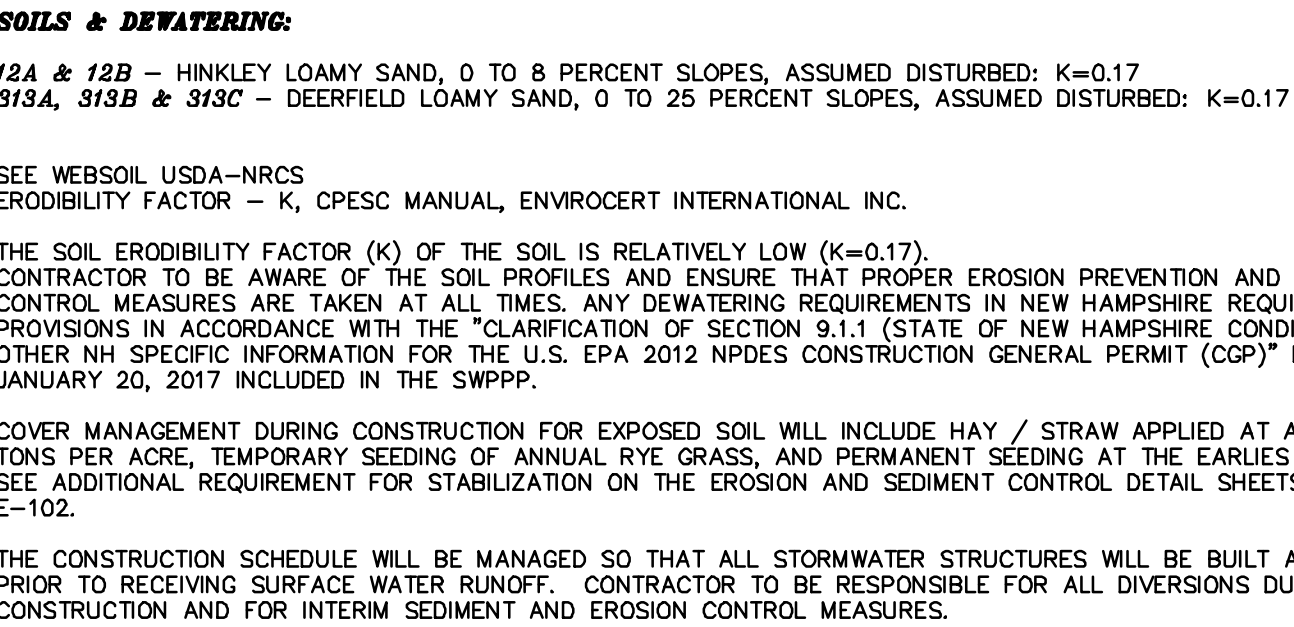
| REVISION | DATE    | DESCRIPTION                           |
|----------|---------|---------------------------------------|
| #2       | 3-05-24 | REVISE PER THIRD PARTY REVIEW COMMENT |
| #1       | 8-14-23 | REVISE PER TRG COMMENT                |

OLDENBURG DRIVE CROSS SECTIONS  
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: 1 IN. EQUALS 20 FT.  
DATE : NOVEMBER 22, 2022  
FILE NO. : DB 2022 - 028

KENNETH A. BERRY  
No. 14243  
Professional Engineer - 10/2018





|          |         |                        |                |
|----------|---------|------------------------|----------------|
| #2       | 3-05-24 | REVISE PER THIRD PARTY | REVIEW COMMENT |
| #1       | 8-14-23 | REVISE PER TRG         | COMMENT        |
| REVISION | DATE    | DESCRIPTION            |                |

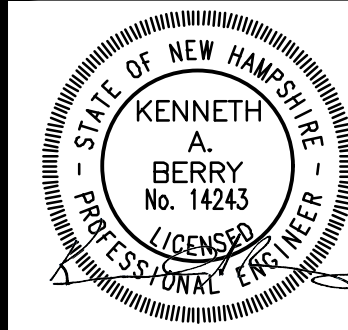
EROSION & SEDIMENT CONTROL PLAN

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

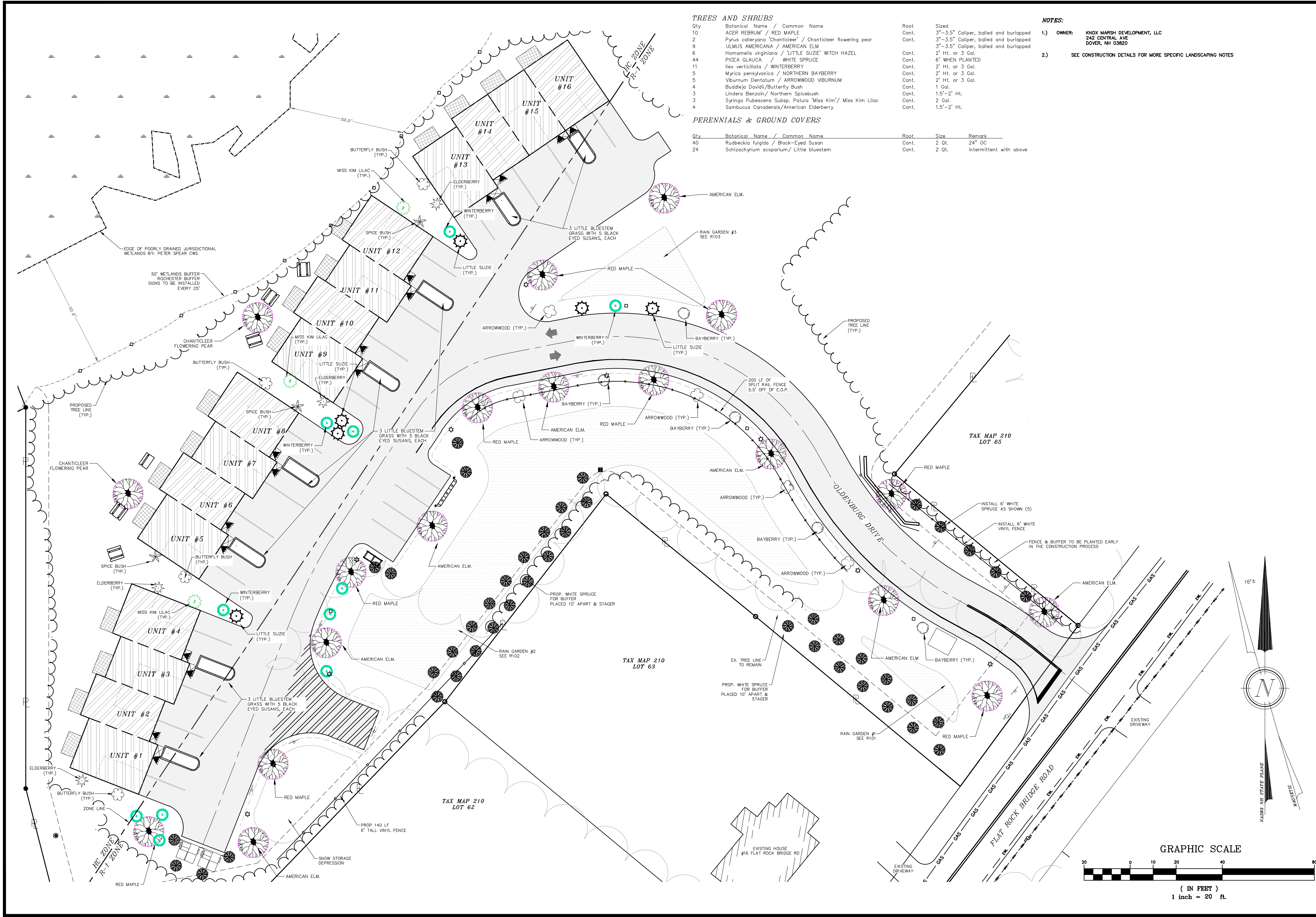
BERRY SURVEYING & ENGINEERING

335 SECOND CROWN POINT ROAD  
BARRINGTON, NH 03825 (603)332-2863  
SCALE : 1 IN. EQUALS 20 FT.

SCALE : 1 IN. EQUALS 20 FT.

DATE : NOVEMBER 22;  
FILE NO : DB 2022 - 028





TREES AND SHRUBS

| Qty | Botanical Name / Common Name                                | Root  | Size                                  |
|-----|---|-------|---------------------------------------|
| 10  | ACER REDBURN / RED MAPLE                                    | Cont. | 3"-3.5" Caliper, balled and burlapped |
| 2   | Pyrus calleryana 'Chanticleer' / Chanticleer flowering pear | Cont. | 3"-3.5" Caliper, balled and burlapped |
| 9   | ULMUS AMERICANA / AMERICAN ELM                              | Cont. | 3"-3.5" Caliper, balled and burlapped |
| 6   | Hamamelis virginiana / 'LITTLE SUZIE' WITCH HAZEL           | Cont. | 2" Ht. or 3 Gal.                      |
| 44  | PICEA GLAUCA / WHITE SPRUCE                                 | Cont. | 6" WHEN PLANTED                       |
| 11  | Ilex verticillata / WINTERBERRY                             | Cont. | 2" Ht. or 3 Gal.                      |
| 5   | Myrica pennsylvanica / NORTHERN BAYBERRY                    | Cont. | 2" Ht. or 3 Gal.                      |
| 5   | Viburnum Dentatum / ARROWWOOD VIBURNUM                      | Cont. | 2" Ht. or 3 Gal.                      |
| 4   | Buddleja Davidii/Butterfly Bush                             | Cont. | 1 Gal.                                |
| 3   | Lindera Benzoin/ Northern Spicebush                         | Cont. | 1.5'-2' Ht.                           |
| 3   | Syringa Pubescens Subsp. Patula 'Miss Kim' / Miss Kim Lilac | Cont. | 2 Gal.                                |
| 4   | Sambucus Canadensis/American Elderberry                     | Cont. | 1.5'-2' Ht.                           |

PERENNIALS & GROUND COVERS

| Qty | Botanical Name / Common Name              | Root  | Size  | Remark                  |
|-----|---|-------|-------|-------------------------|
| 40  | Rudbeckia fulgida / Black-Eyed Susan      | Cont. | 2 Qt. | 24" OC                  |
| 24  | Schizachyrium scoparium / Little bluestem | 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                           |
|----------|---------|---------------------------------------|
| #2       | 1-05-24 | REVISE PER THIRD PARTY REVIEW COMMENT |
| #1       | 8-14-23 | REVISE PER TRG COMMENT                |

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

STATE OF NEW HAMPSHIRE

KENNETH A. BERRY

No. 14243

PROFESSIONAL ENGINEER

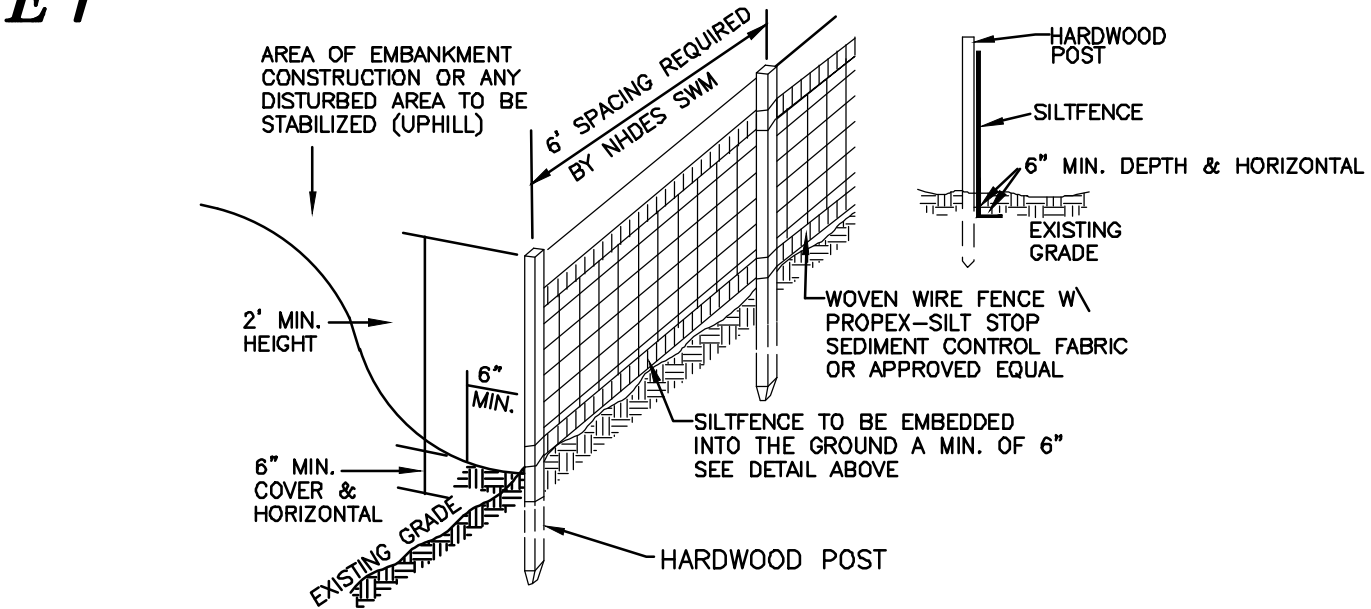
SHEET 15 OF 29







E1



SILT FENCE CONSTRUCTION SPECIFICATIONS

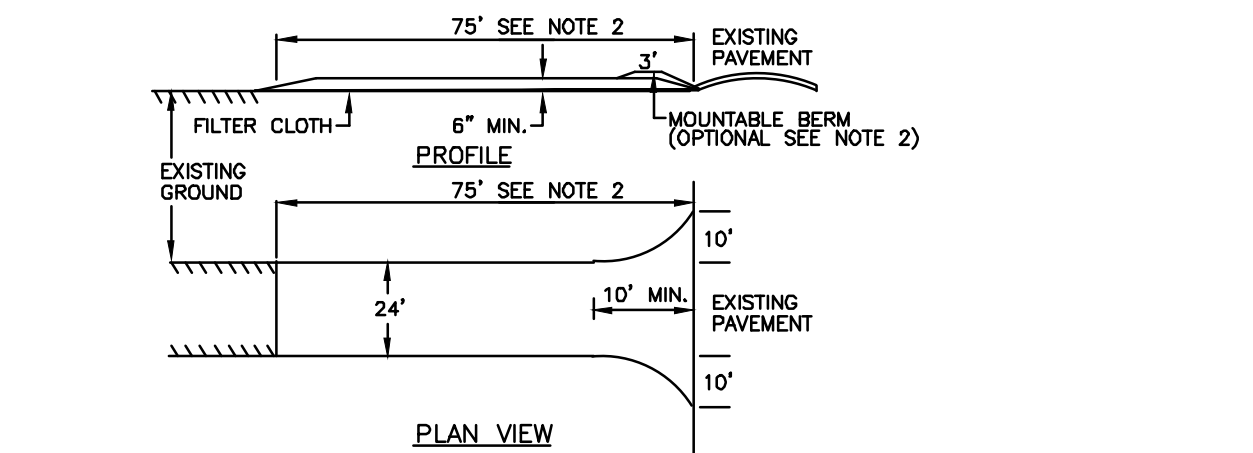
1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES AND FILTER CLOTH SHALL BE FASTENED TO WOVEN WIRE EVERY 24" AT TOP MID AND BOTTOM SECTIONS AND BE EMBEDDED INTO GROUND A MINIMUM OF 8" THE FENCE POSTS SHALL BE A MINIMUM 48" LONG, SPACED A MAXIMUM 6' APART, AND DRIVEN 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.

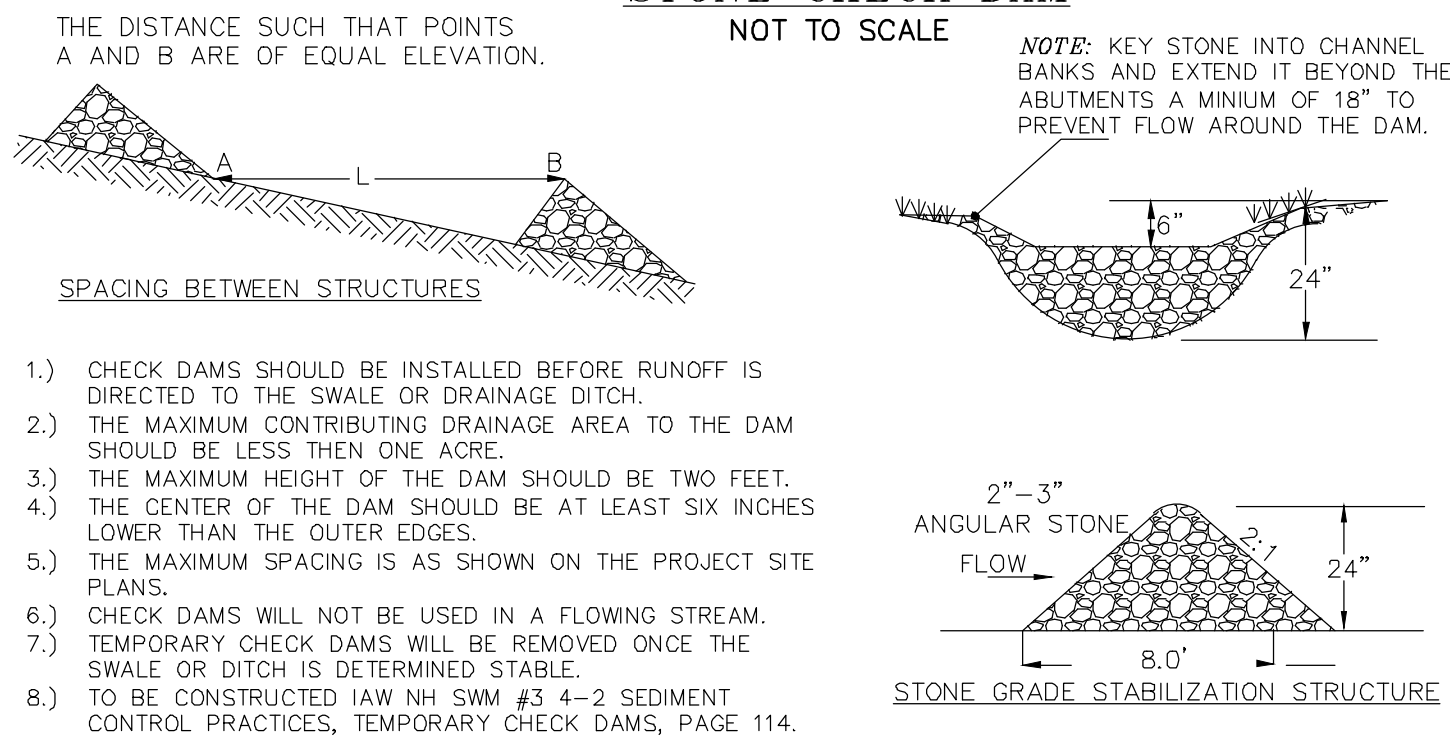
SILT FENCE DETAIL  
NOT TO SCALE

E5 STABILIZED CONSTRUCTION ENTRANCE  
NOT TO SCALE



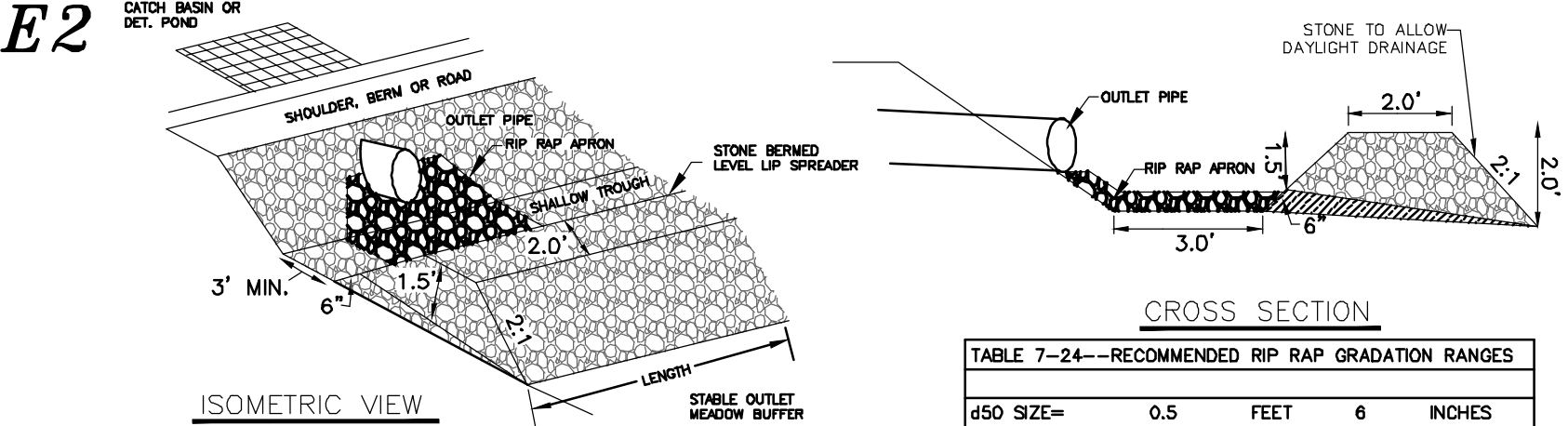
1. STONE FOR A STABILIZED CONSTRUCTION ENTRANCE SHALL BE 3 INCH STONE, RECLAIMED STONE, OR RECYCLED CONCRETE EQUIVALENT.
2. THE LENGTH OF THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 75 FEET, EXCEPT THAT THE MINIMUM LENGTH MAY BE REDUCED TO 50 FEET IF A 3-INCH TO 6-INCH BERM IS INSTALLED AT THE ENTRANCE 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 STONE.
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



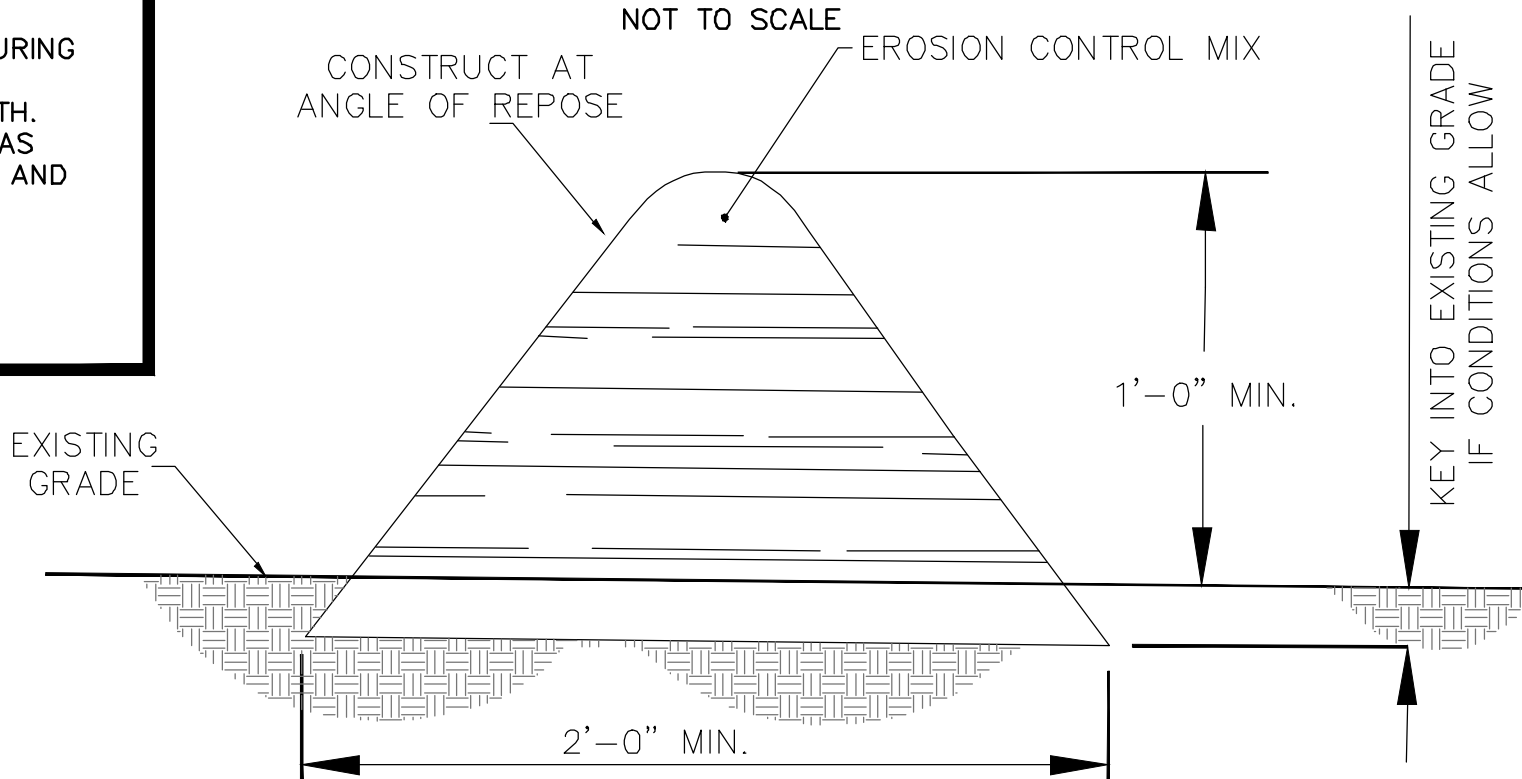
CROSS SECTION

| 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        |

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 SCALE

E6 EROSION CONTROL MIX BERM  
NOT TO SCALE

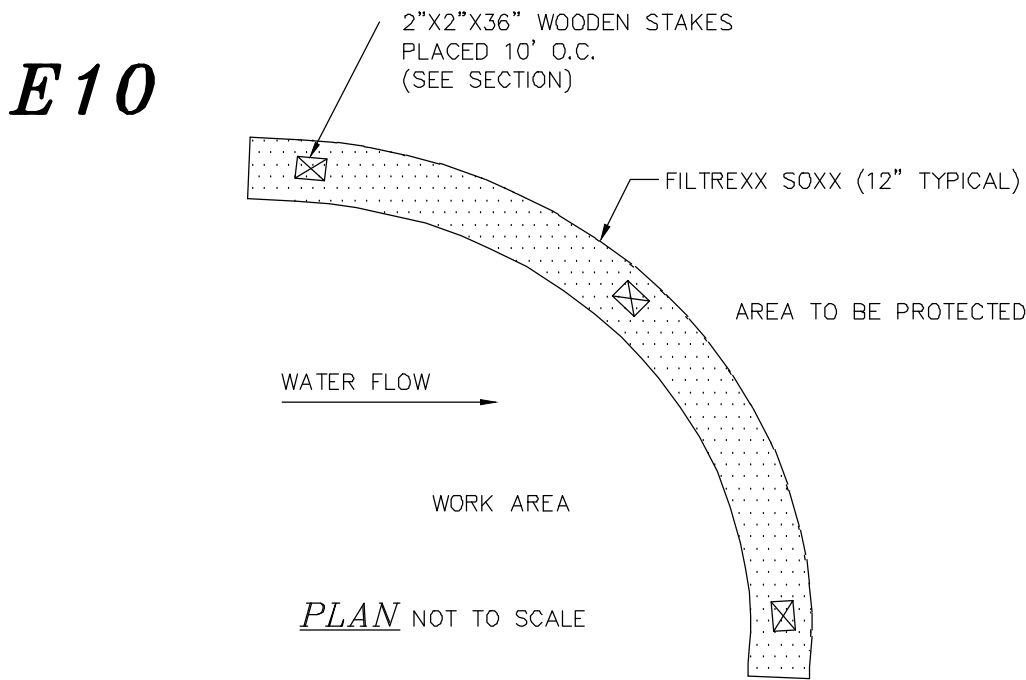


EROSION CONTROL MIX BERMS SHALL BE USED ONLY AS FOLLOWS:

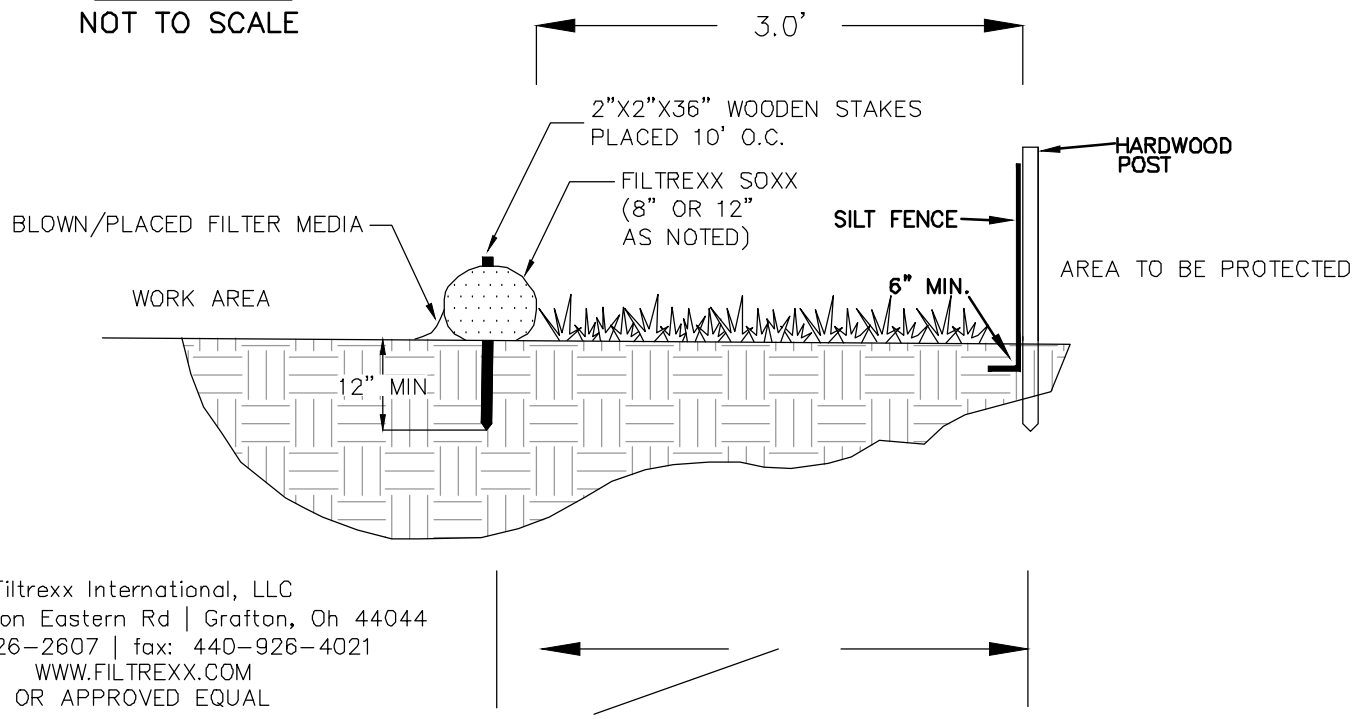
1. BERMS SHALL BE USED IN AREAS WHERE EROSION WILL OCCUR ONLY IN THE FORM OF SHEET EROSION AND THERE IS NO CONCENTRATION OF WATER IN A CHANNEL OR DRAINAGE WAY ABOVE THE BERM.
2. THE BERMS SHALL BE INSTALLED FOLLOWING THE CONTOUR OF THE LAND AS CLOSELY AS POSSIBLE.
3. THE BERMS SHALL BE INSTALLED ON SLOPES 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, COMPOSED 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

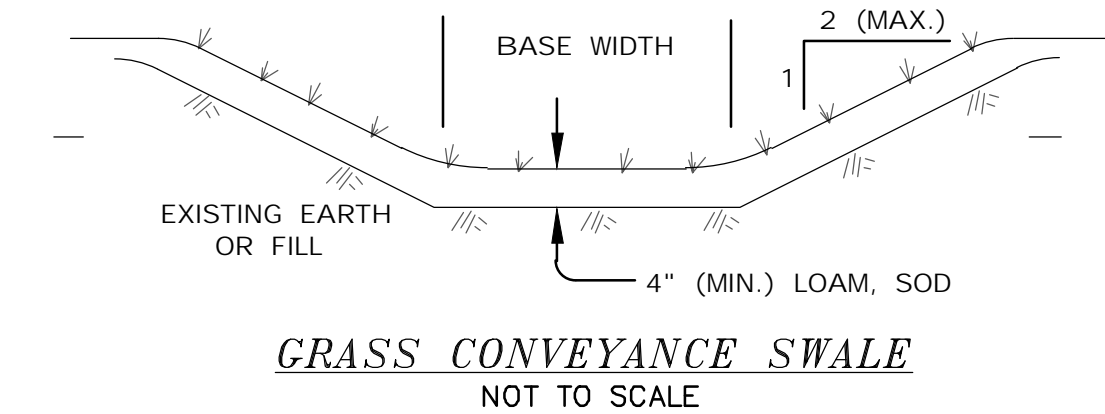


FILTREXX SEDIMENT CONTROL  
NOT TO SCALE



SECTION NOT TO SCALE

E3



GRASS CONVEYANCE SWALE  
NOT TO SCALE

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

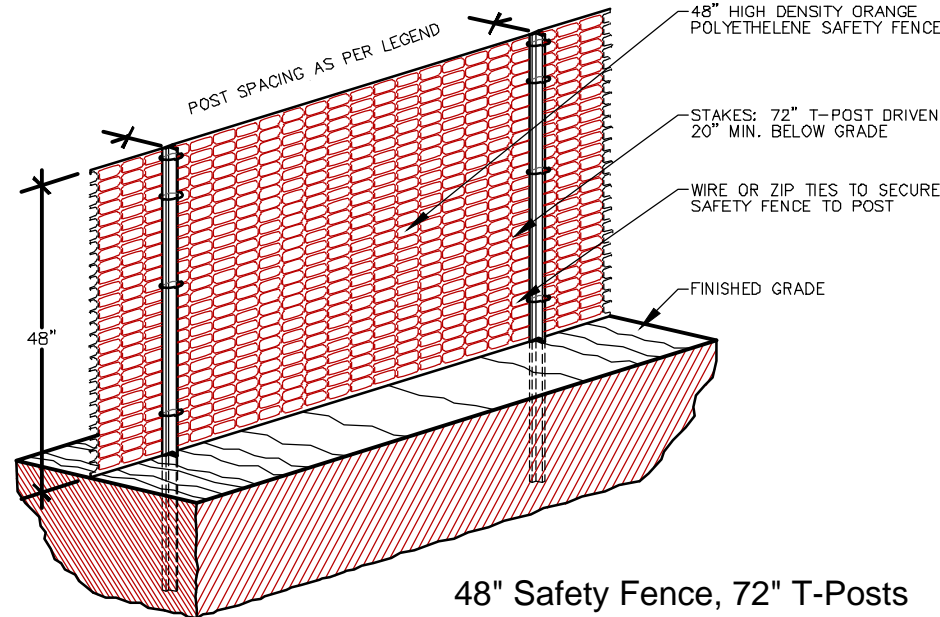
MOW GRASS ANNUALLY TO A DEPTH OF 4".

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

| LEGEND |                                |
|--------|--------------------------------|
| SAF12  | 48" ORANGE FENCE, 12 FEET O.C. |
| SAF11  | 48" ORANGE FENCE, 11 FEET O.C. |
| SAF10  | 48" ORANGE FENCE, 10 FEET O.C. |
| SAF9   | 48" ORANGE FENCE, 9 FEET O.C.  |
| SAF8   | 48" ORANGE FENCE, 8 FEET O.C.  |
| SAF7   | 48" ORANGE FENCE, 7 FEET O.C.  |
| SAF6   | 48" ORANGE FENCE, 6 FEET O.C.  |



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 SEEDED 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 5800 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)

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

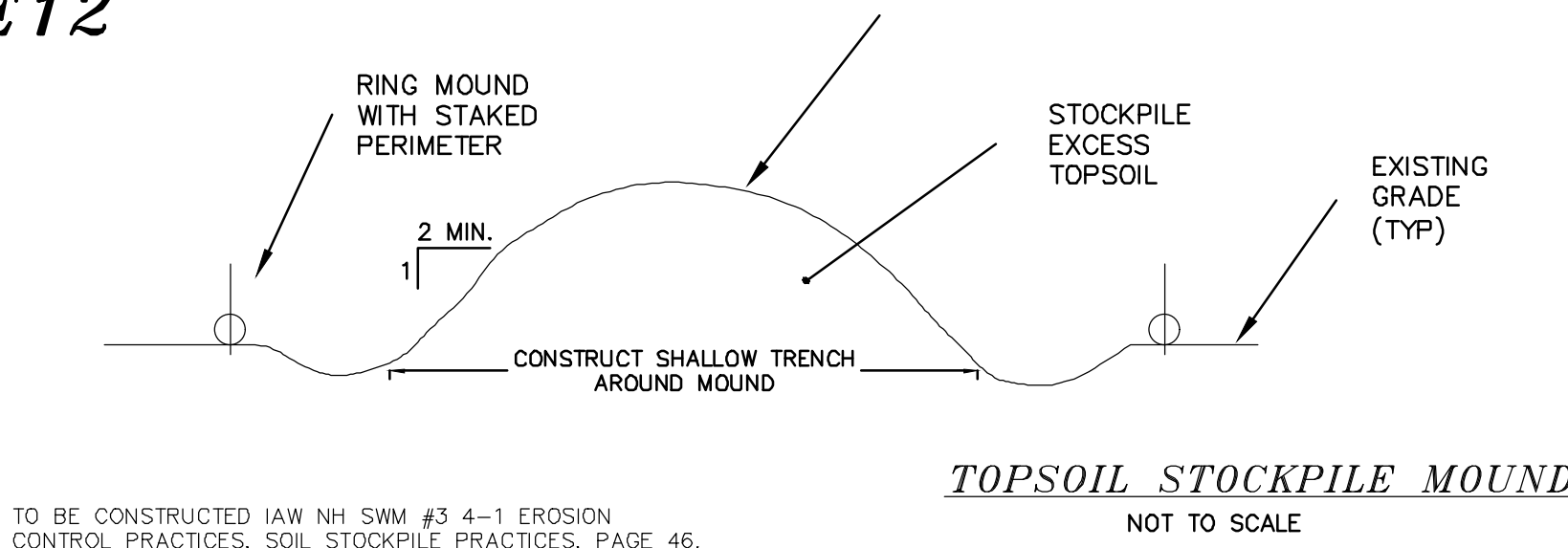
STATE OF NEW HAMPSHIRE  
KENNETH A. BERRY  
No. 14243  
Professional Engineer

SILTSACK DETAIL  
NOT TO SCALE

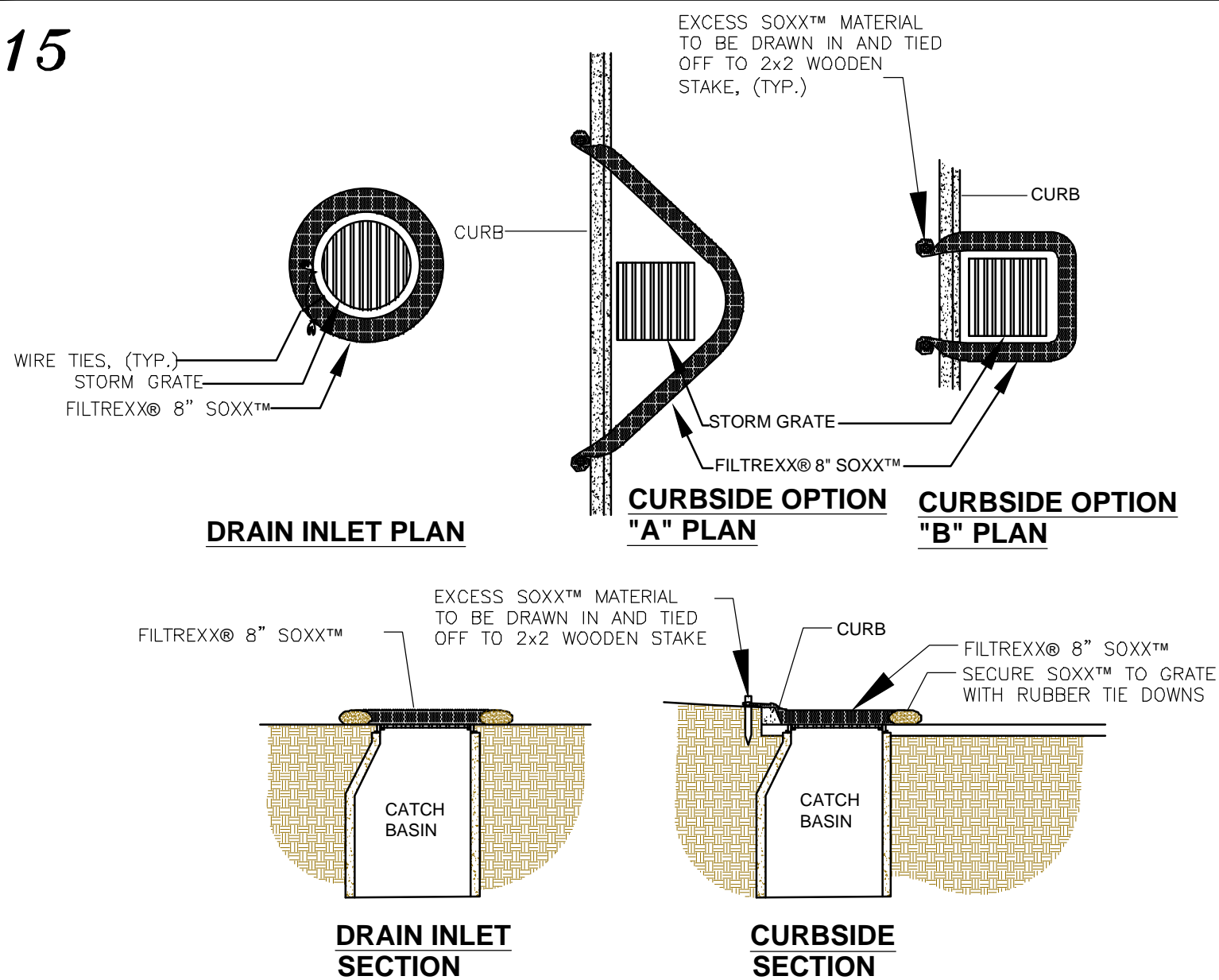
E-101



## E12



## E15

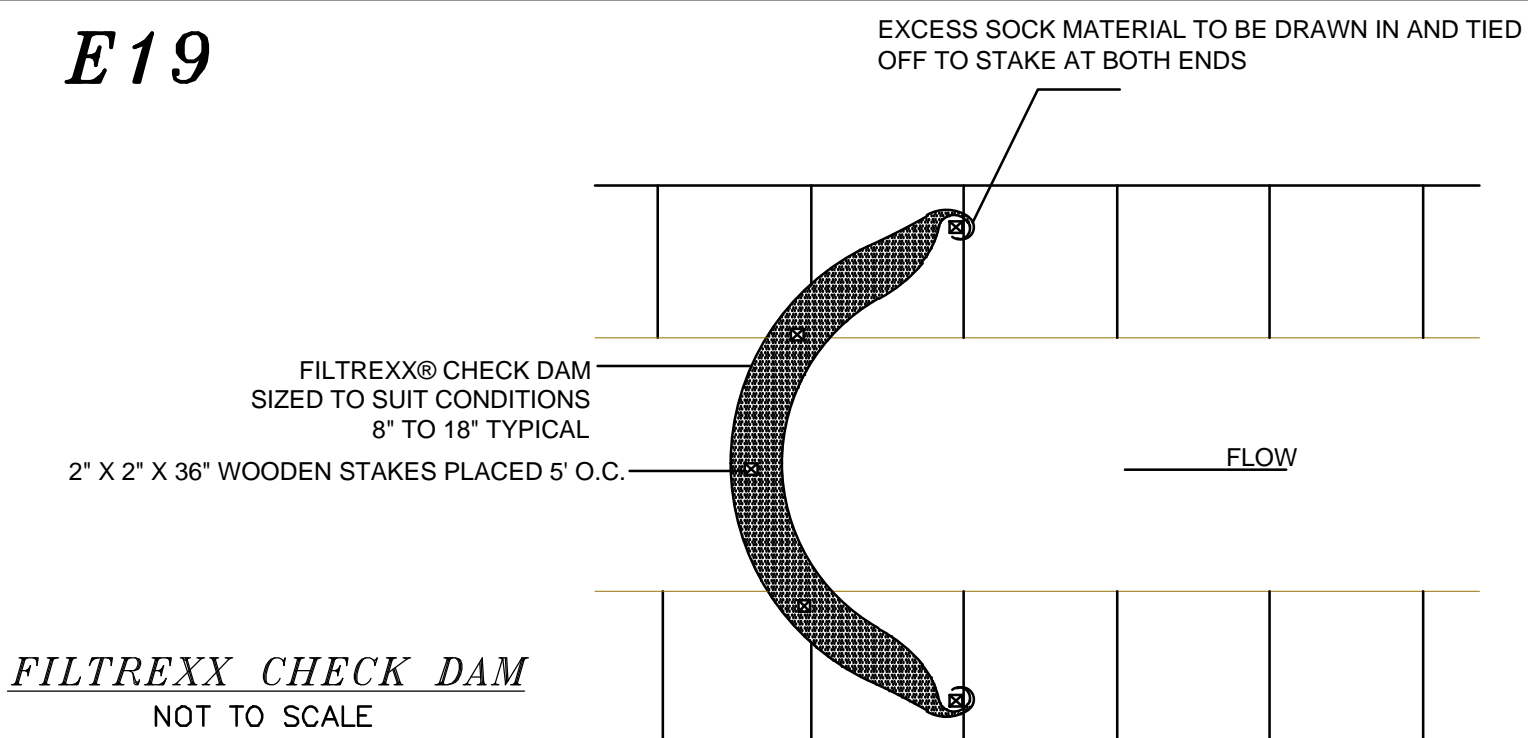


- NOTES:
1. ALL MATERIAL TO MEET FILTREXX® SPECIFICATIONS.
  2. FILTER MEDIA™ FILL TO MEET APPLICATION REQUIREMENTS.
  3. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

### 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 ½ 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.

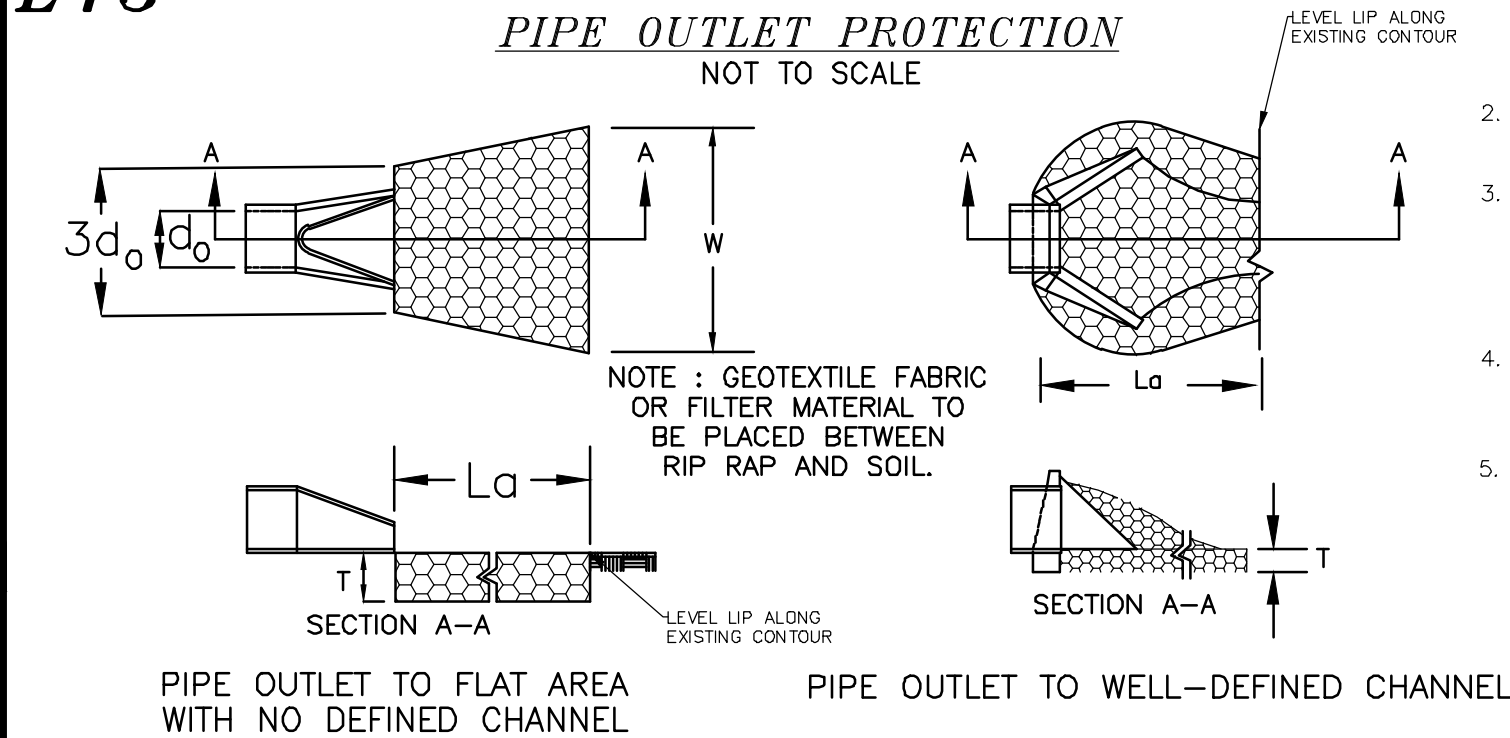
## E20

### STAKED HAYBALE DETAIL

NOT TO SCALE

- 1.) HAY BALES BARRIERS MAY ONLY BE USED FOR A MAXIMUM OF 60 DAYS AND ARE NOT RECOMMENDED FOR PERIMETER CONTROL.
- 2.) TO BE INSTALLED IAW NH SWM #3, 4-2 SEDIMENT CONTROL, STRAW OR HAY BALE BARRIER.
- 3.) REQUIRED TO SHOW DETAIL, BUT DO NOT RECOMMEND USE OF HAY BALES FOR EROSION CONTROL.

## E13



## E16

| USE  | SEEDING MIXTURE 1/ | DROUGHTY                     | WELL DRAINED                      | MODERATELY WELL DRAINED           | POORLY DRAINED                    |
|--|--------------------|------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| STEPPED CUTS AND FILL, BORROW AND DISPOSAL AREAS   | A<br>B<br>C<br>D   | FAIR<br>POOR<br>POOR<br>FAIR | GOOD<br>GOOD<br>GOOD<br>EXCELLENT | GOOD<br>FAIR<br>GOOD<br>EXCELLENT | FAIR<br>FAIR<br>GOOD<br>EXCELLENT |
| WATERWAYS, EMERGENCY SPILLWAYS, AND OTHER CHANNELS WITH FLOWING WATER                      | A<br>B<br>C        | GOOD<br>GOOD<br>GOOD         | GOOD<br>EXCELLENT<br>EXCELLENT    | GOOD<br>EXCELLENT<br>EXCELLENT    | FAIR<br>FAIR<br>FAIR              |
| LIGHTLY USED PARKING LOTS, ODD AREAS, UNUSED LANDS, AND LOW INTENSITY USE RECREATION SITES | A<br>B<br>C        | GOOD<br>GOOD<br>GOOD         | GOOD<br>EXCELLENT<br>EXCELLENT    | GOOD<br>EXCELLENT<br>EXCELLENT    | FAIR<br>POOR<br>EXCELLENT         |
| PLAY AREAS AND ATHLETIC FIELDS (TOPSOIL IS ESSENTIAL FOR GOOD TURF)                        | F<br>G             | FAIR<br>FAIR                 | EXCELLENT<br>EXCELLENT            | EXCELLENT<br>EXCELLENT            | ZZ<br>ZZ                          |

NOTE: TEMPORARY SEED MIX FOR STABILIZATION OF TURF SHALL BE WINTER RYE OR DATS 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.

### SEEDING SPECIFICATIONS

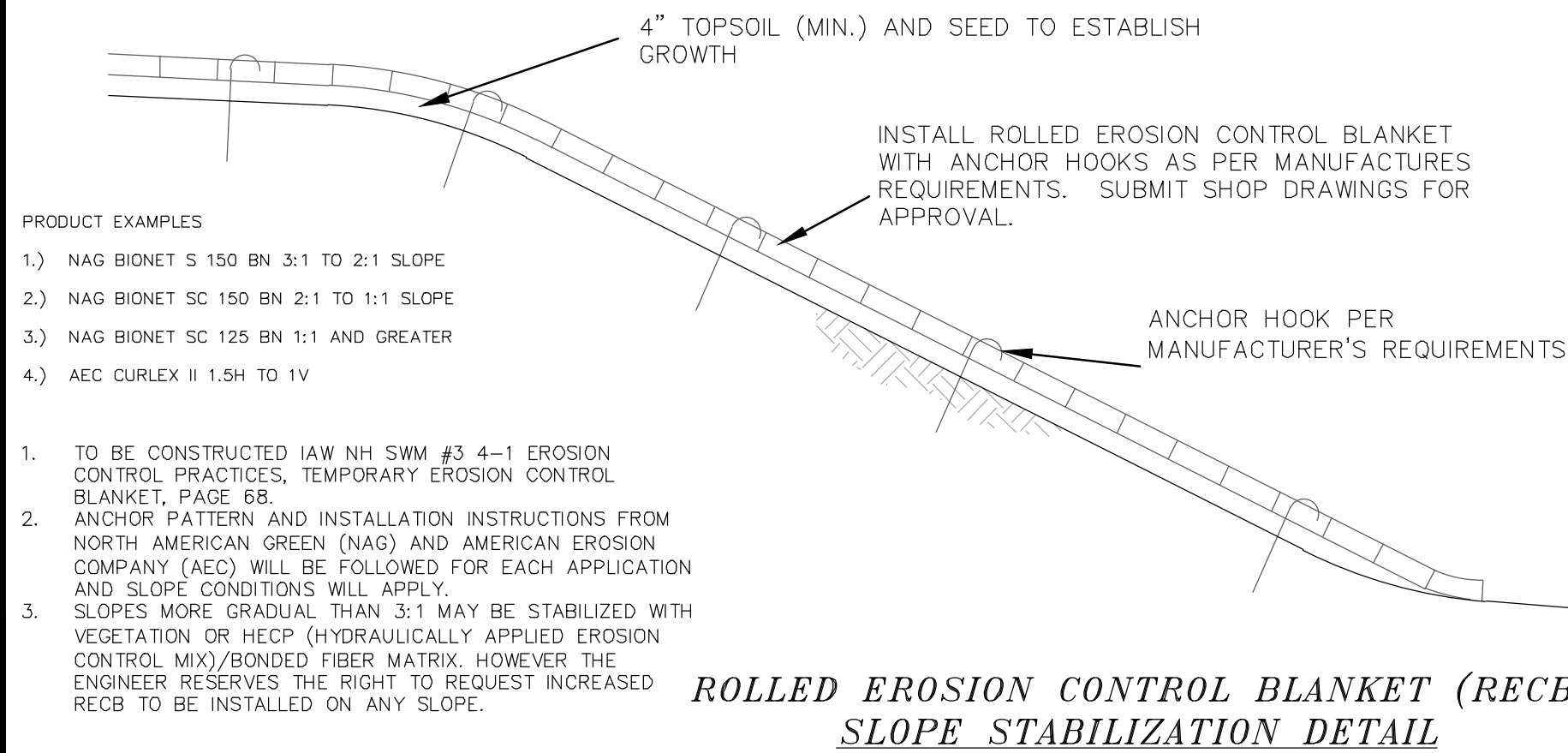
#### SEEDING RATES

|   |                      |                              |
|---|----------------------|------------------------------|
| C. TALL FESCUE<br>CREEPING RED FESCUE<br>BIRD'S FOOT TREFOIL<br>TOTAL | 24<br>24<br>24<br>72 | 0.55<br>0.55<br>0.55<br>1.65 |
|---|----------------------|------------------------------|

1. GRADING AND SHAPING: 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 LIMESTONE, 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(P205), 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. FERTILIZER IS NOT TO BE APPLIED WITHIN THE 50 WETLAND BUFFER.

- 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.
- C. MAINTENANCE TO ESTABLISH A STAND
- D. PLANTED AREA SHOULD BE PROTECTED FROM DAMAGE BY FIRE, GRAZING, TRAFFIC, AND DENSE WEED GROWTH.
- E. 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.
- F. IN WATERWAYS, CHANNELS, OR SWALES WHERE UNIFORM FLOW CONDITIONS ARE ANTICIPATED, OCCASIONAL MOWING MAY BE NECESSARY TO CONTROL GROWTH OF WOODY VEGETATION. TO BE CONSTRUCTED IAW NH SWM #3 4-1 EROSION CONTROL PRACTICES, PERMANENT VEGETATION, PAGE 60.
- G. SEE RAIN GARDEN AND INFILTRATION DETAIL SHEETS FOR SPECIFIC PLANTING INSTRUCTIONS AND SEEDING.

## E21



#### PRODUCT EXAMPLES

- 1.) NAG BIONET S 150 BN 3:1 TO 2:1 SLOPE
- 2.) NAG BIONET SC 150 BN 2:1 TO 1:1 SLOPE
- 3.) NAG BIONET SC 125 BN 1:1 AND GREATER
- 4.) AEC CUREXX II 1.5H TO 1V

1. TO BE CONSTRUCTED IAW NH SWM #3 4-1 EROSION CONTROL PRACTICES, TEMPORARY EROSION CONTROL BLANKET, PAGE 68.
2. ANCHOR PATTERN AND INSTALLATION INSTRUCTIONS FROM NORTH AMERICAN GREEN (NAG) AND AMERICAN EROSION COMPANY (AEC) WILL BE FOLLOWED FOR EACH APPLICATION AND SLOPE CONDITIONS WILL APPLY.
3. SLOPES MORE GRADUAL THAN 3:1 MAY BE STABILIZED WITH VEGETATION OR HECF (HYDRAULICALLY APPLIED EROSION CONTROL MIX)/BONDED FIBER MATRIX. HOWEVER THE ENGINEER RESERVES THE RIGHT TO REQUEST INCREASED RECB TO BE INSTALLED ON ANY SLOPE.

### 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 INSPECTOR (CESSWI), 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 FIVE (5) 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 CUREXX 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                           |
|----------|---------|---------------------------------------|
| #2       | 3-05-24 | REVISE PER THIRD PARTY REVIEW COMMENT |
| #1       | 8-14-23 | REVISE PER TRG COMMENT                |

EROSION & SEDIMENT CONTROL DETAILS

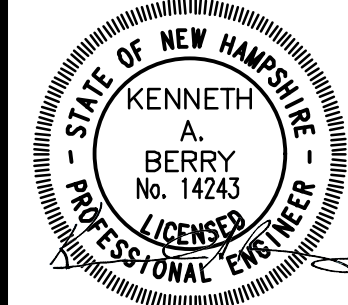
LAND OF KNOX MARSH DEVELOPMENT LLC

FLAT ROCK BRIDGE ROAD

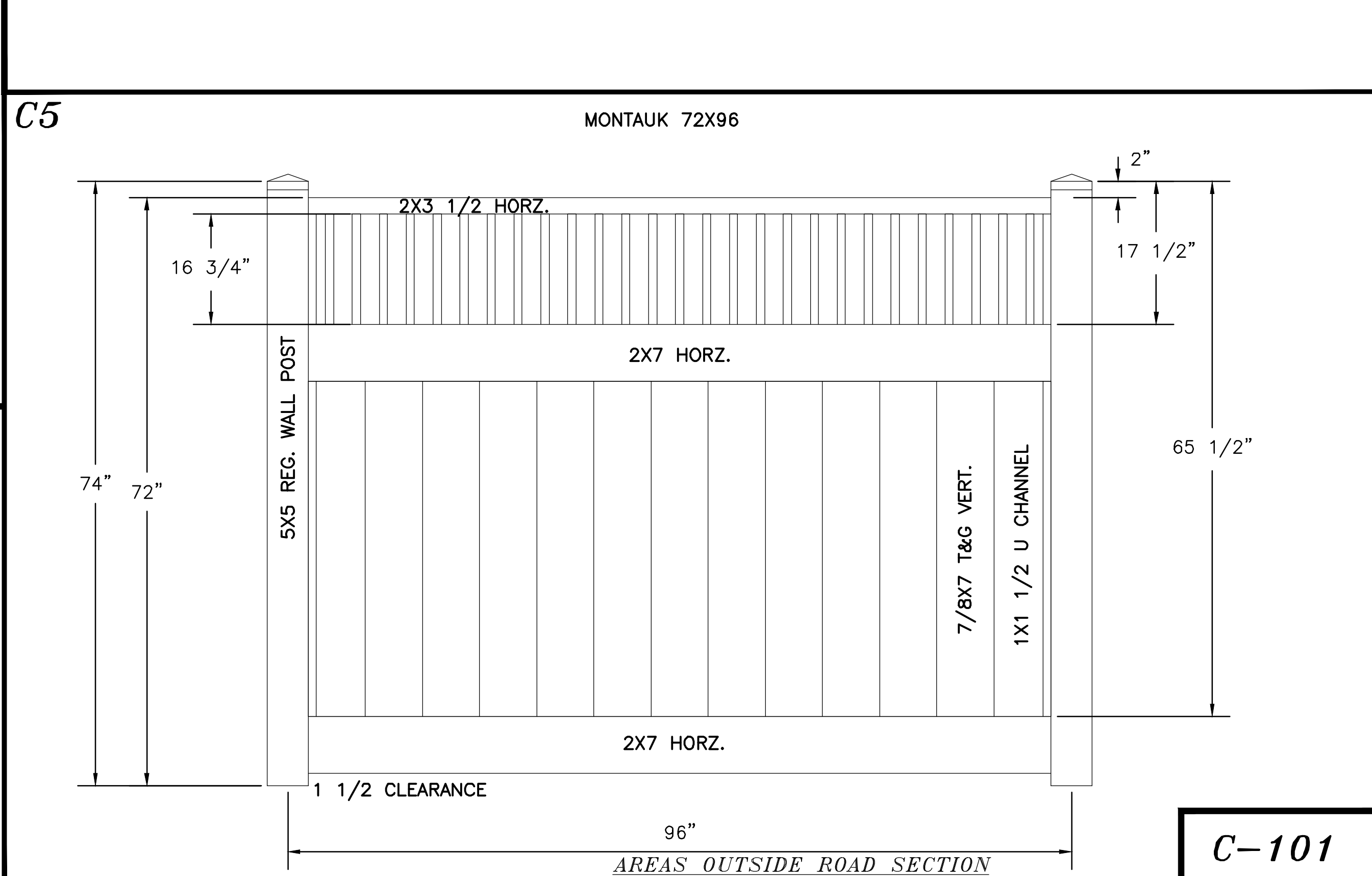
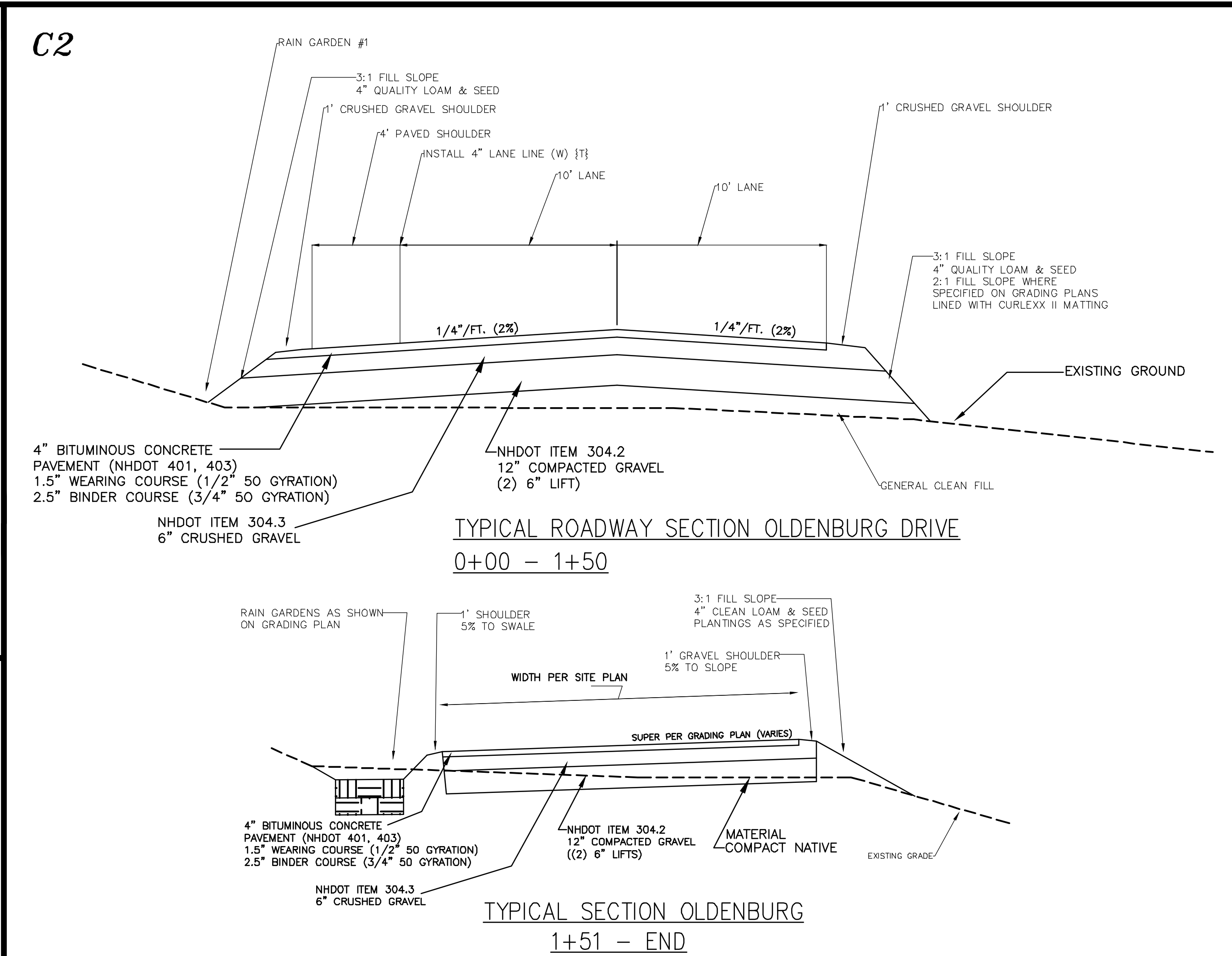
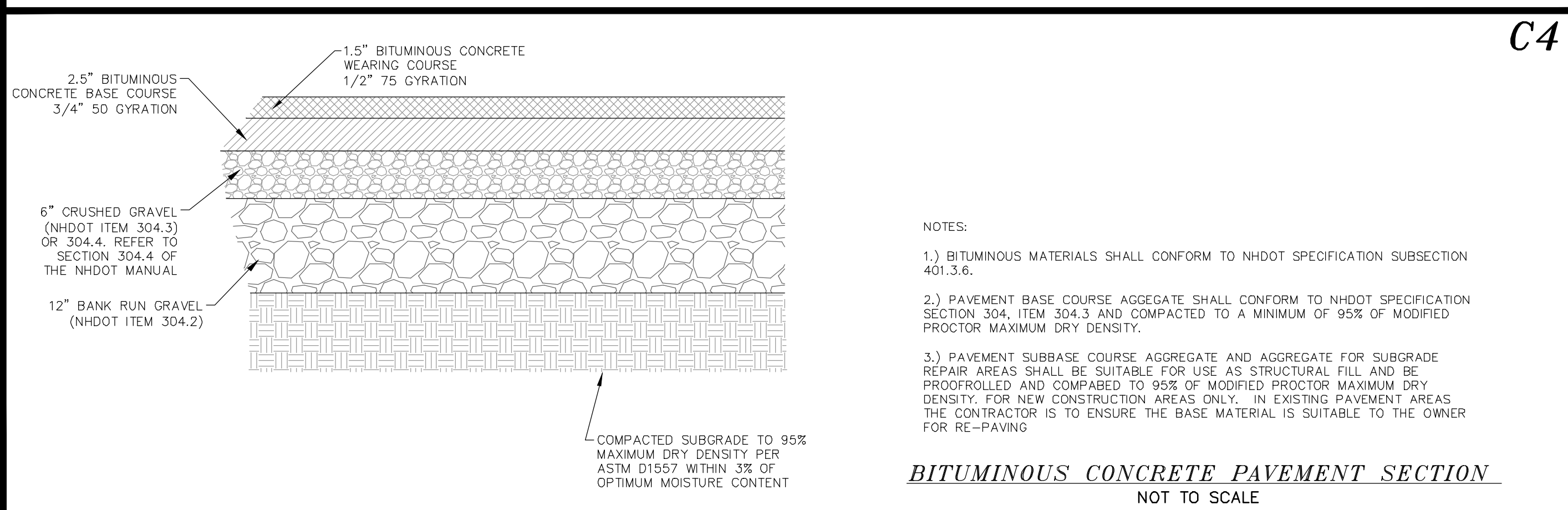
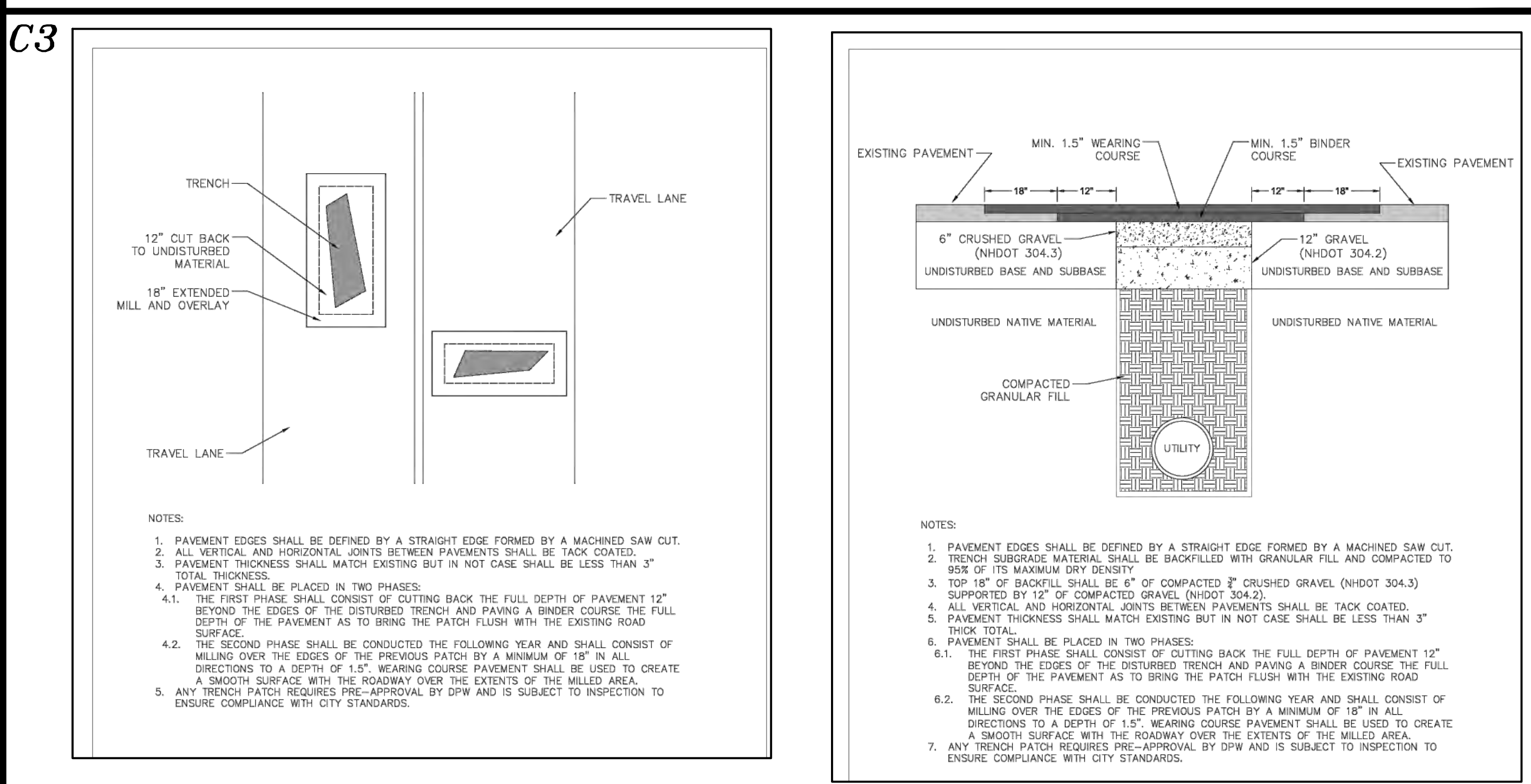
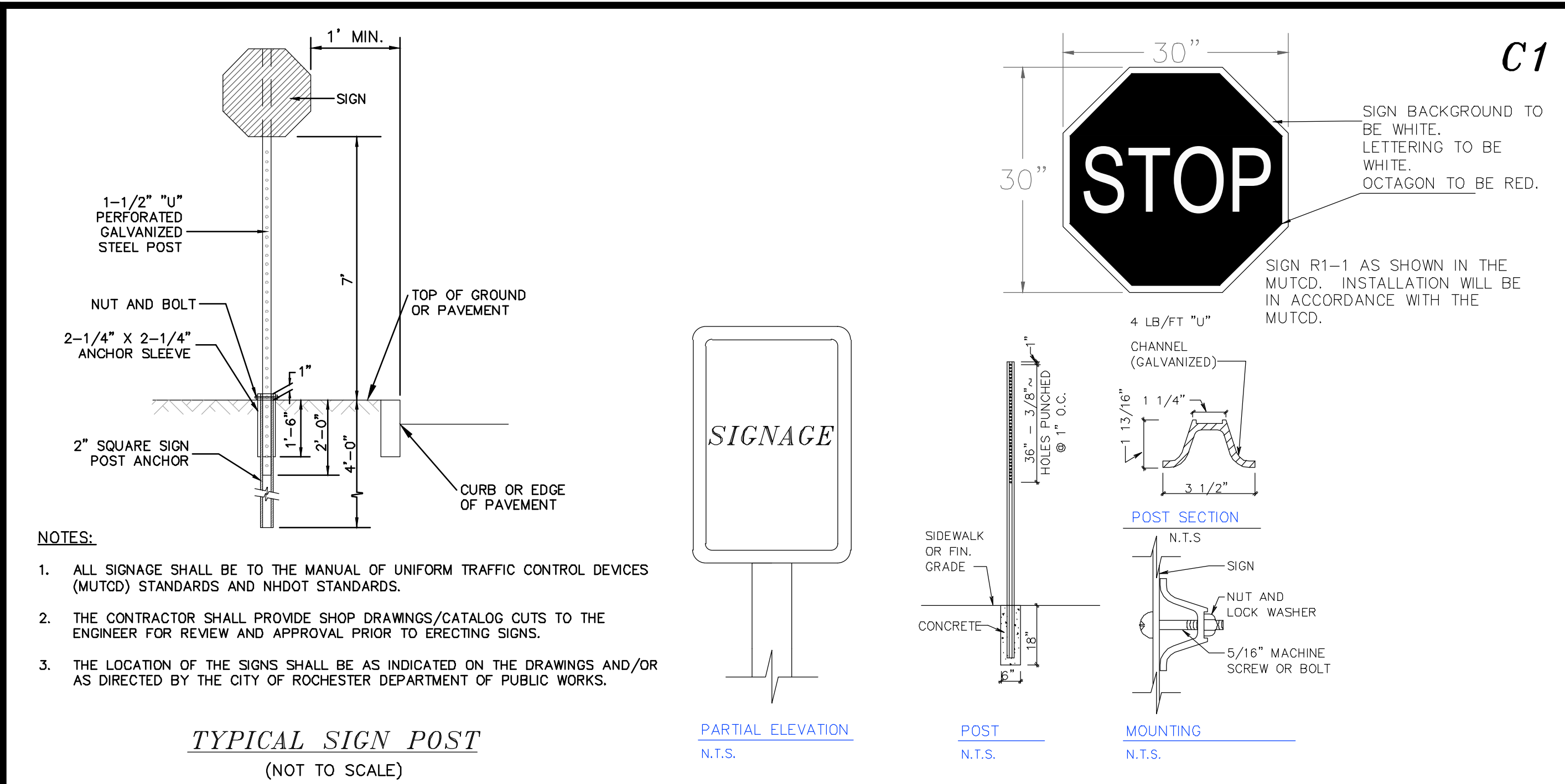
ROCHESTER, N.H.

7.4x MAP 210, LOT 64

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







| REVISION | DATE    | DESCRIPTION                           |
|----------|---------|---------------------------------------|
| #2       | 3-05-24 | REVISE PER THIRD PARTY REVIEW COMMENT |
| #1       | 8-14-23 | REVISE PER TRG COMMENT                |

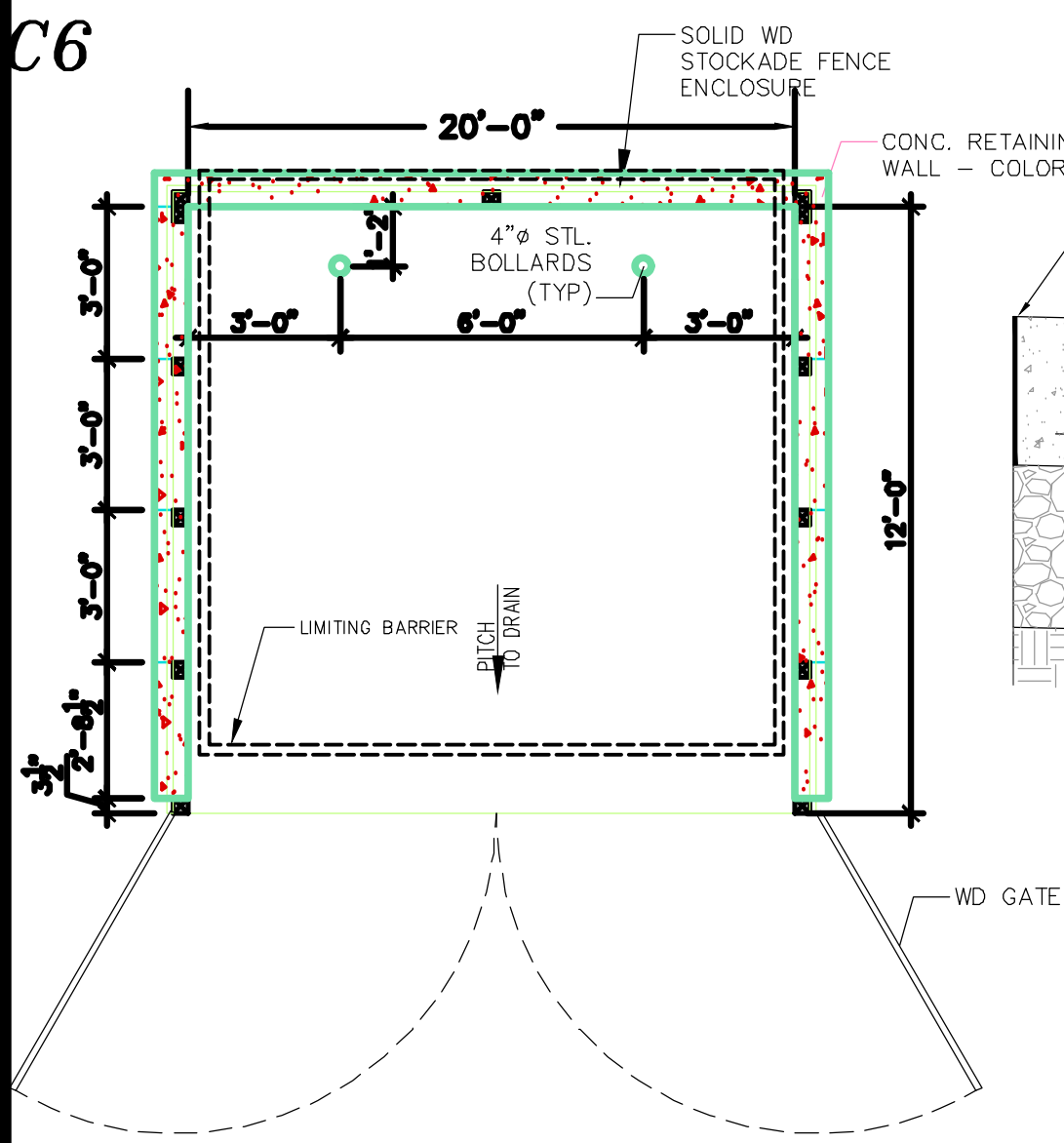
CONSTRUCTION DETAILS  
LAND OF  
KNOX MARSH DEVELOPMENT LLC  
FLAT ROCK BRIDGE ROAD  
ROCHESTER, N.H.  
7.1X MAP 210, LOT 64

**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  
No. 14243  
LICENSED PROFESSIONAL ENGINEER

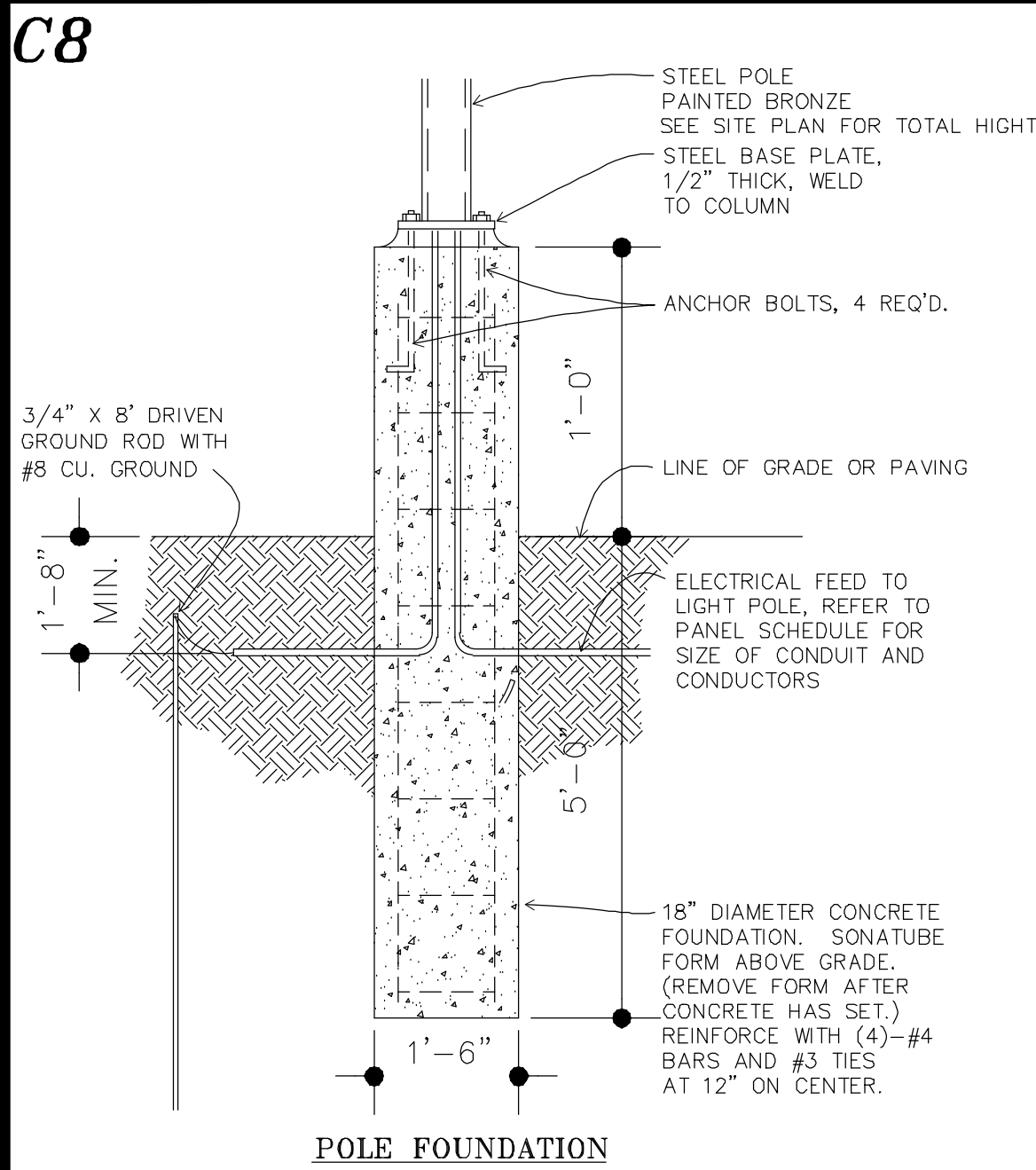
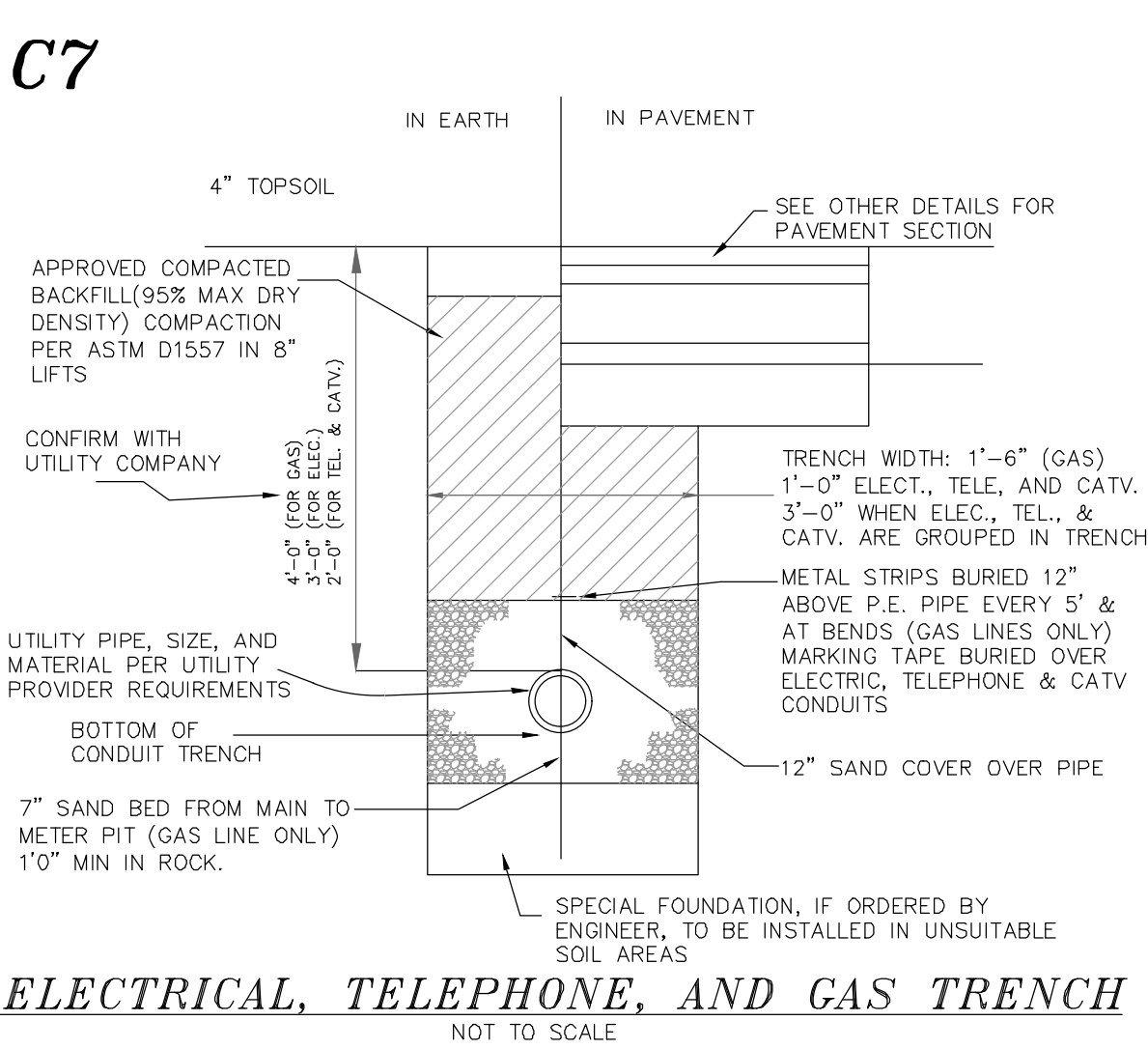
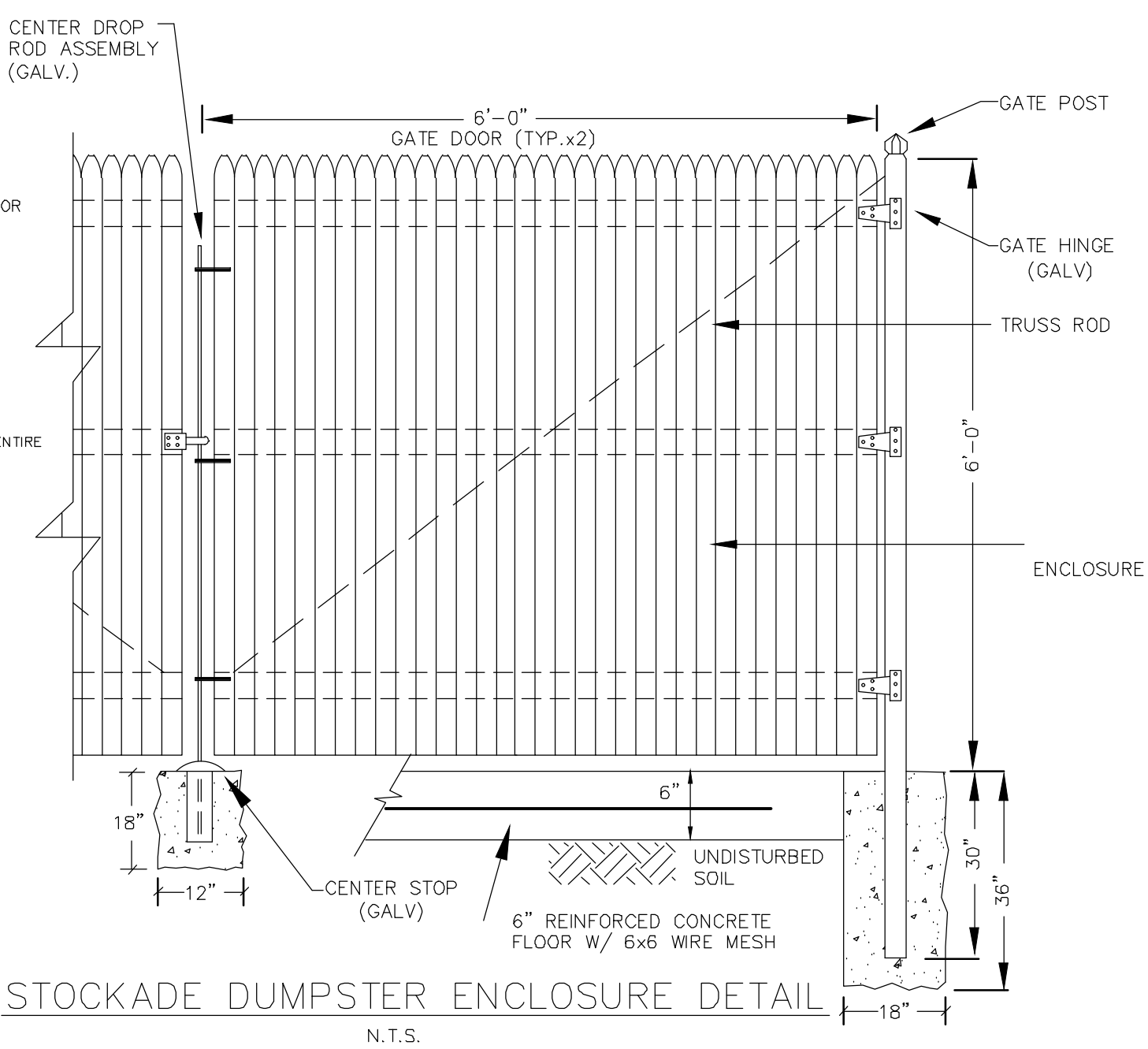
C-101



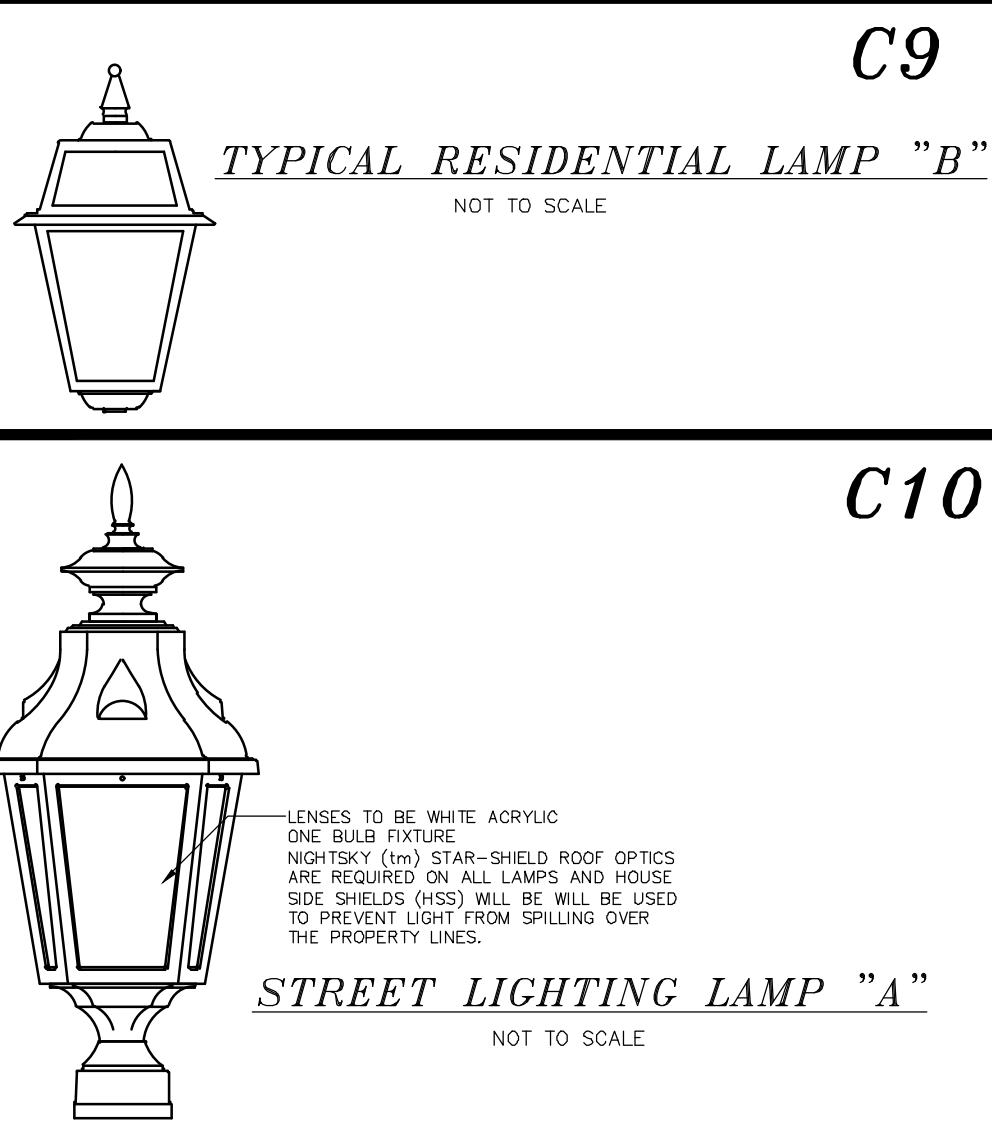


SECTION VIEW  
DUMPSTER PAD & CONCRETE PAVEMENT  
NOT TO SCALE

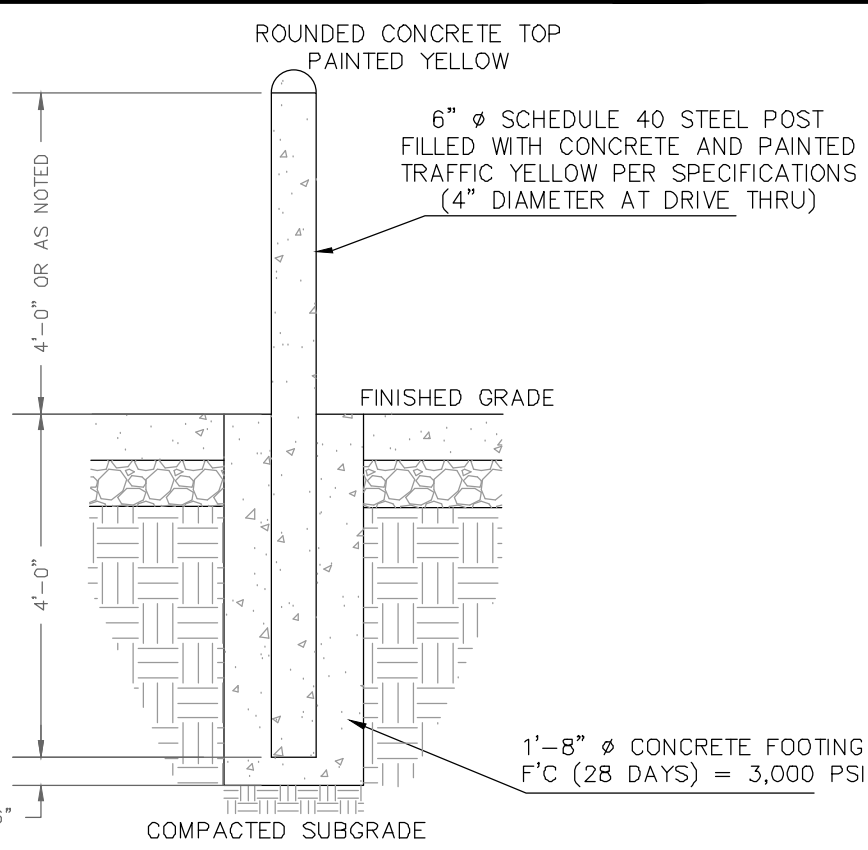
- NOTES:
- 1.) DUMPSTER PAD WILL BE SCREENED BY STOCKAID FENCE.
  - 2.) GATE ENCLOSURES WILL NOT BE INCLUDED.
  - 3.) CONFIGURATION WILL ENCLOSE 2-8 YARD DUMPSTERS..
  - 4.) ADDITIONAL AREA FOR PALLET STORAGE.



POLE FOUNDATION  
LIGHT BASE DETAIL  
SCALE: NONE



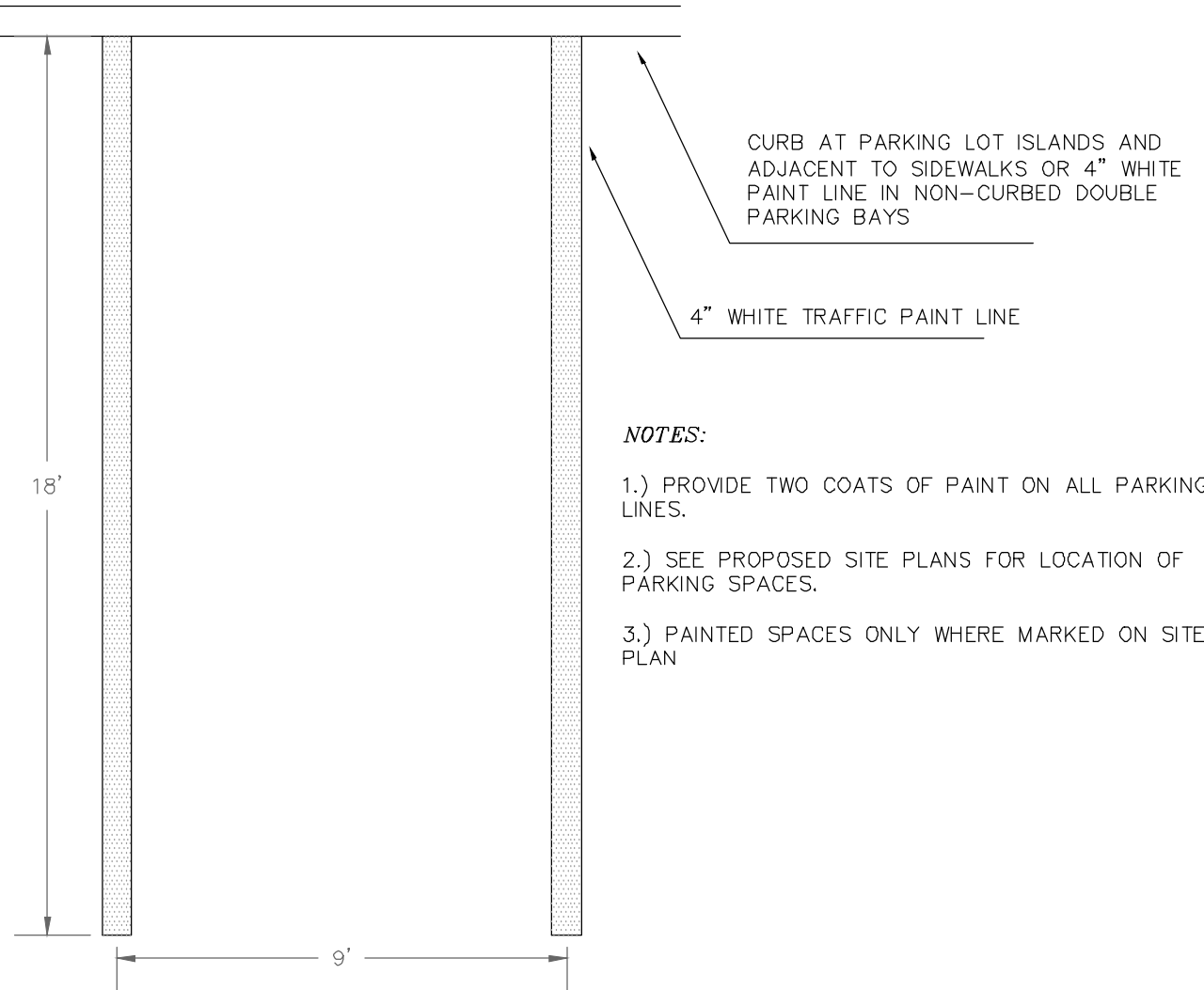
STREET LIGHTING LAMP "A"  
NOT TO SCALE



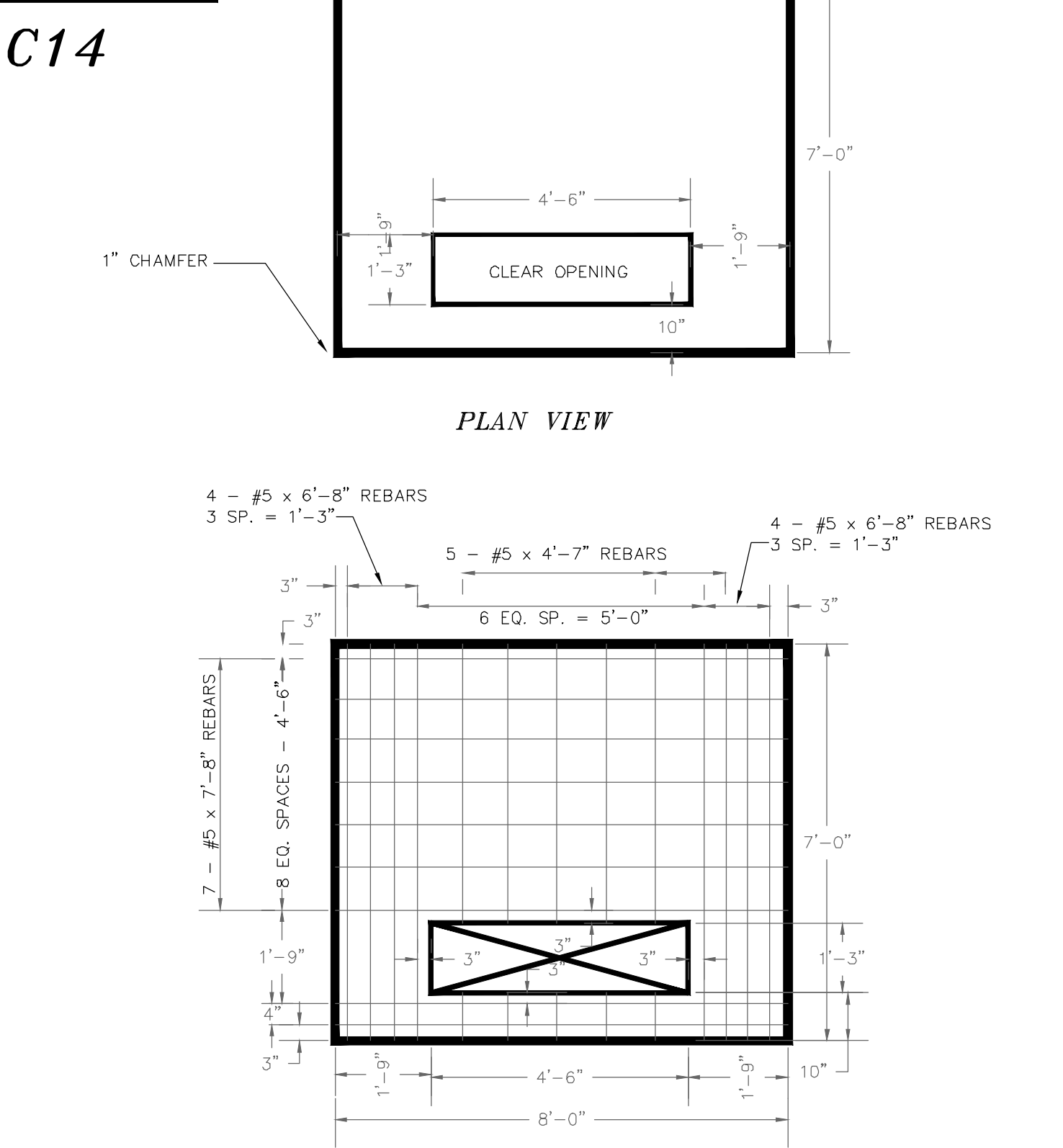
PEDESTAL PLACEMENT

BOLLARD DETAIL  
NOT TO SCALE

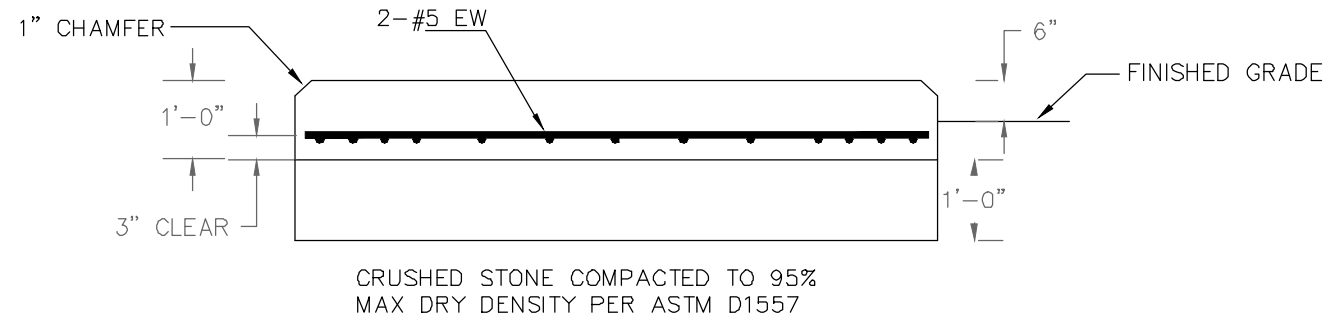
PARKING SPACE DETAIL  
NOT TO SCALE



- NOTES:
- 1.) PROVIDE TWO COATS OF PAINT ON ALL PARKING LINES.
  - 2.) SEE PROPOSED SITE PLANS FOR LOCATION OF PARKING SPACES.
  - 3.) PAINTED SPACES ONLY WHERE MARKED ON SITE PLAN



C13



SECTION VIEW

- NOTES:
- 1.) CONFIRM SIZE WITH ELECTRIC COMPANY BEFORE CONSTRUCTION.
  - 2.) USE LOCAL ELECTRIC COMPANY DETAILS AS REQUIRED.

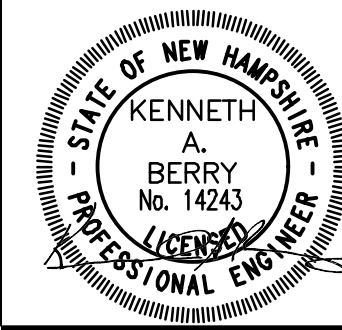
TRANSFORMER PAD DETAIL  
NOT TO SCALE

C-102

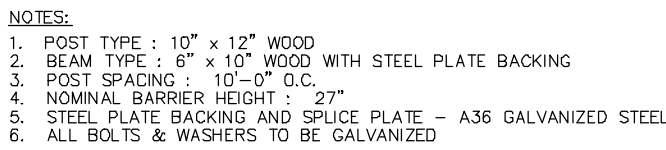
| REVISION | DATE    | DESCRIPTION                           |
|----------|---------|---------------------------------------|
| #2       | 3-05-24 | REVISE PER THIRD PARTY REVIEW COMMENT |
| #1       | 8-14-23 | REVISE PER TRG COMMENT                |

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

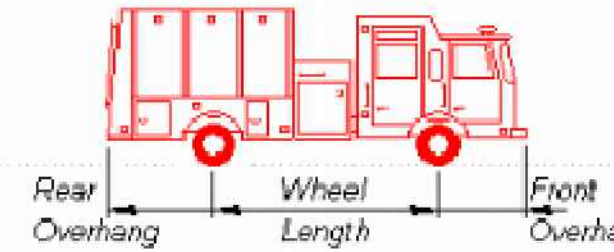
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|------------------------------------|
| BERRY SURVEYING & ENGINEERING      |
| 335 SECOND CROWN POINT ROAD        |
| BARRINGTON, NH 03825 (603)332-2863 |
| SCALE : AS MARKED                  |
| DATE : NOVEMBER 22, 2022           |
| FILE NO. : DB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



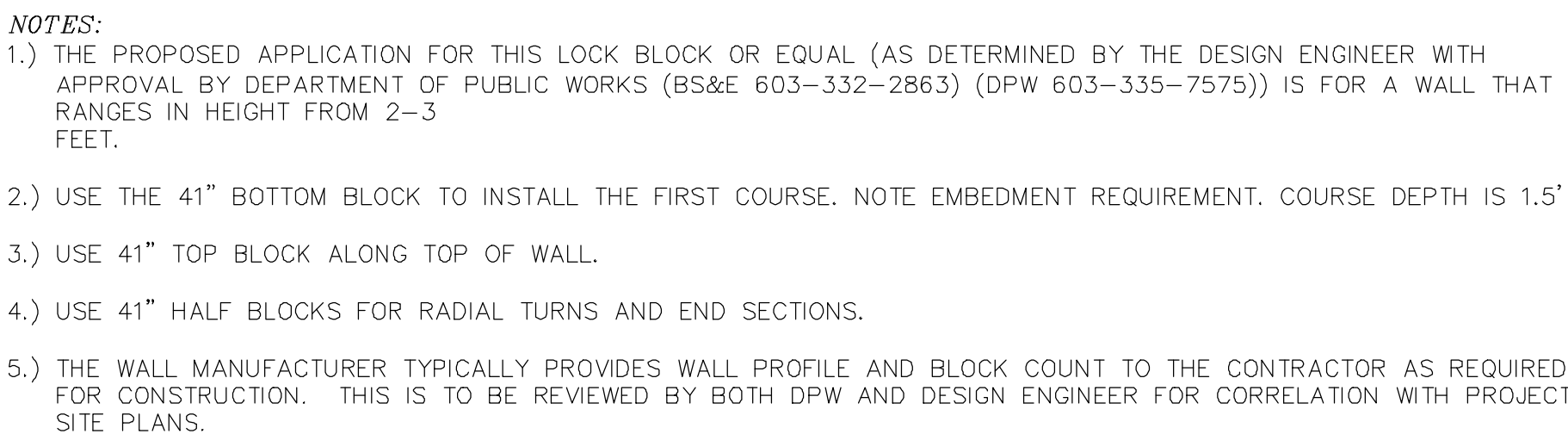




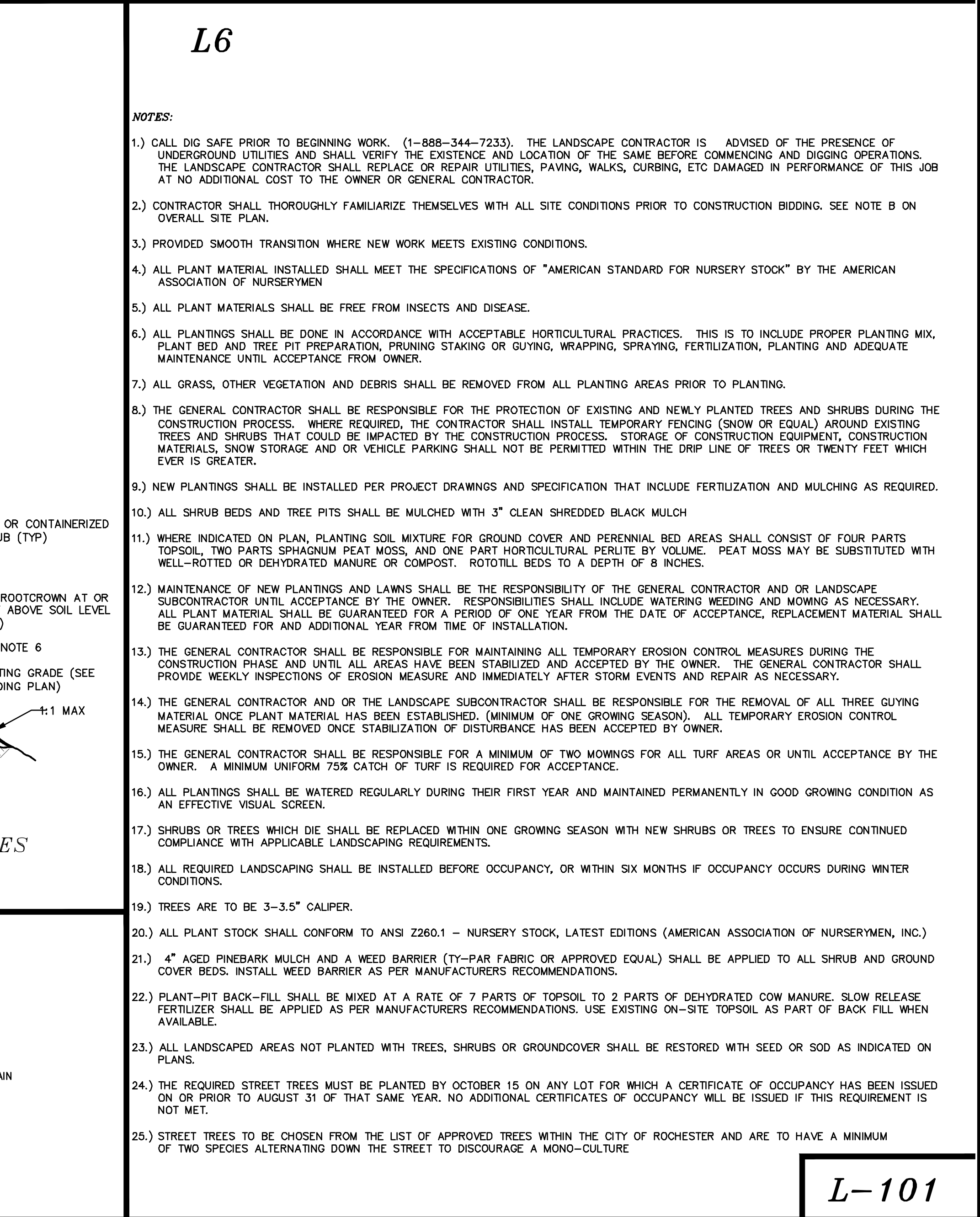
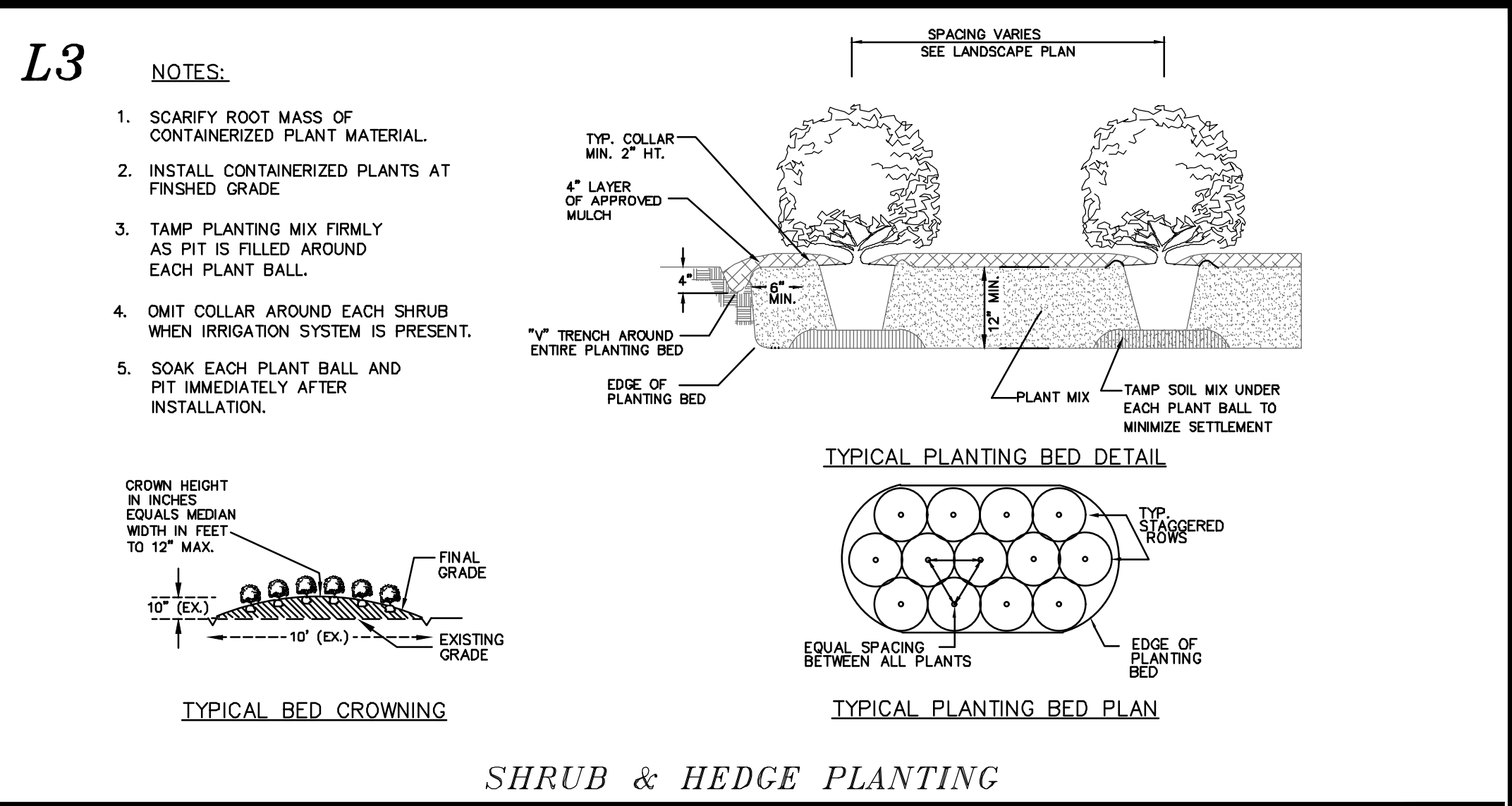
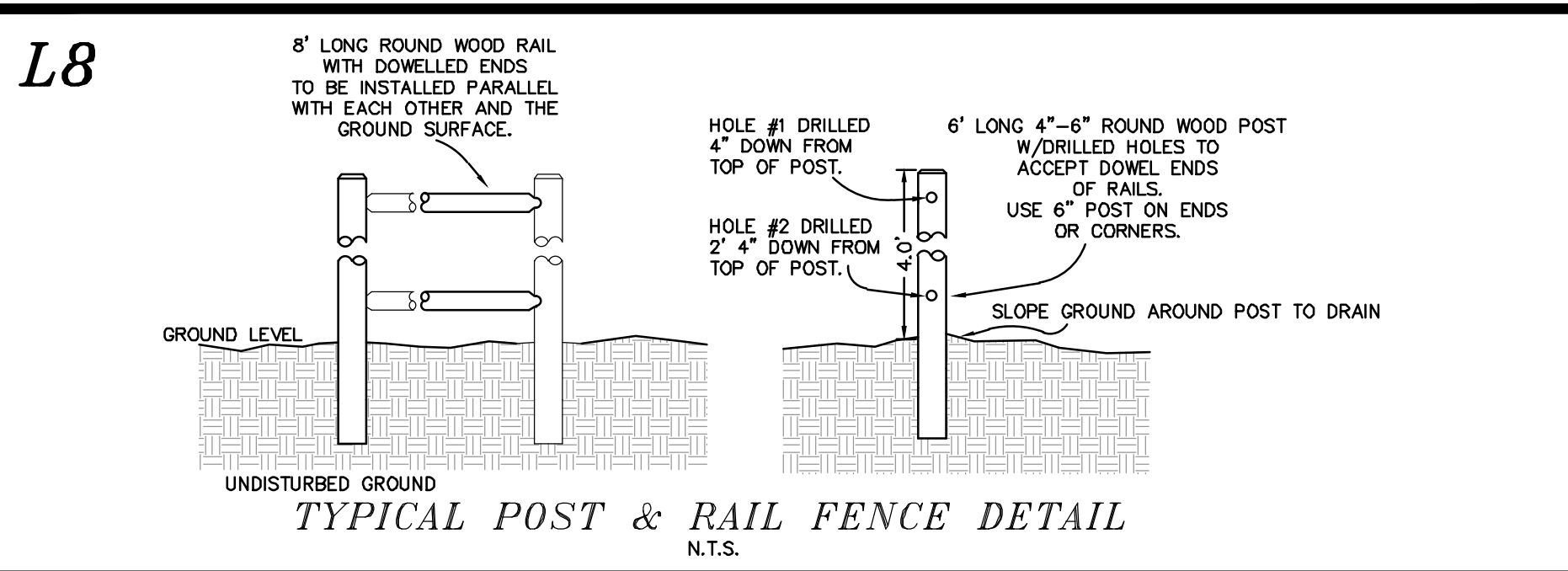
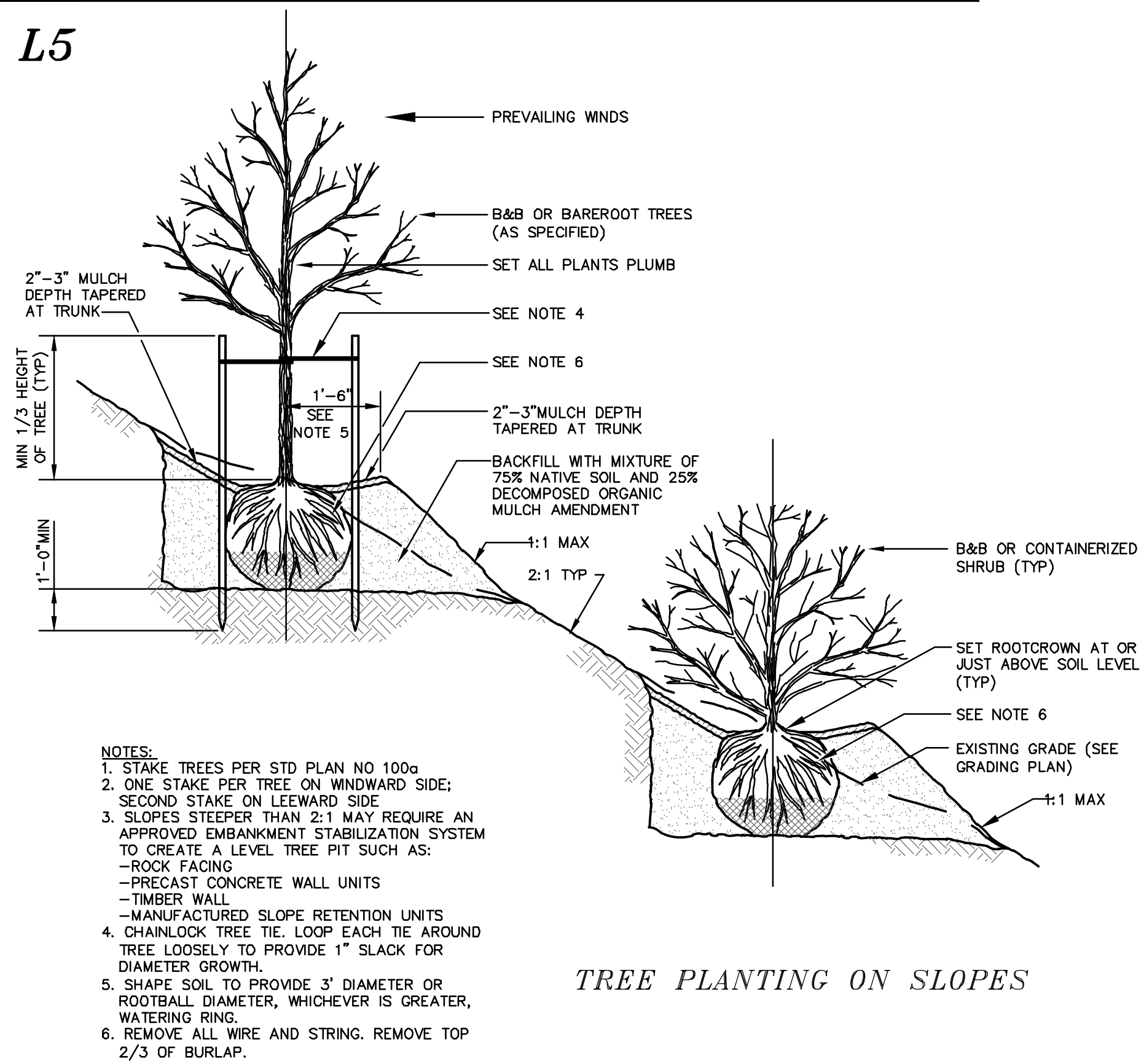
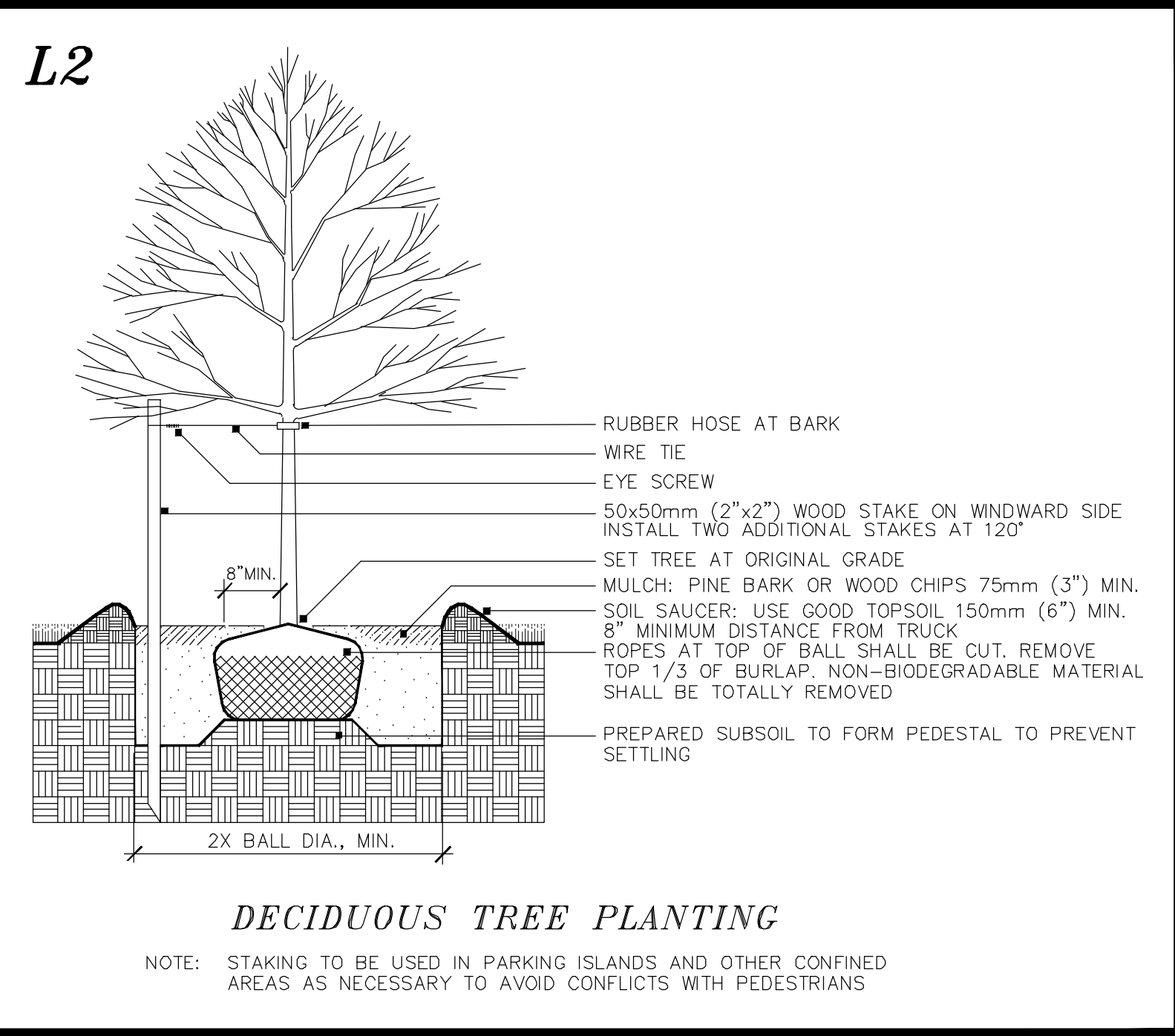
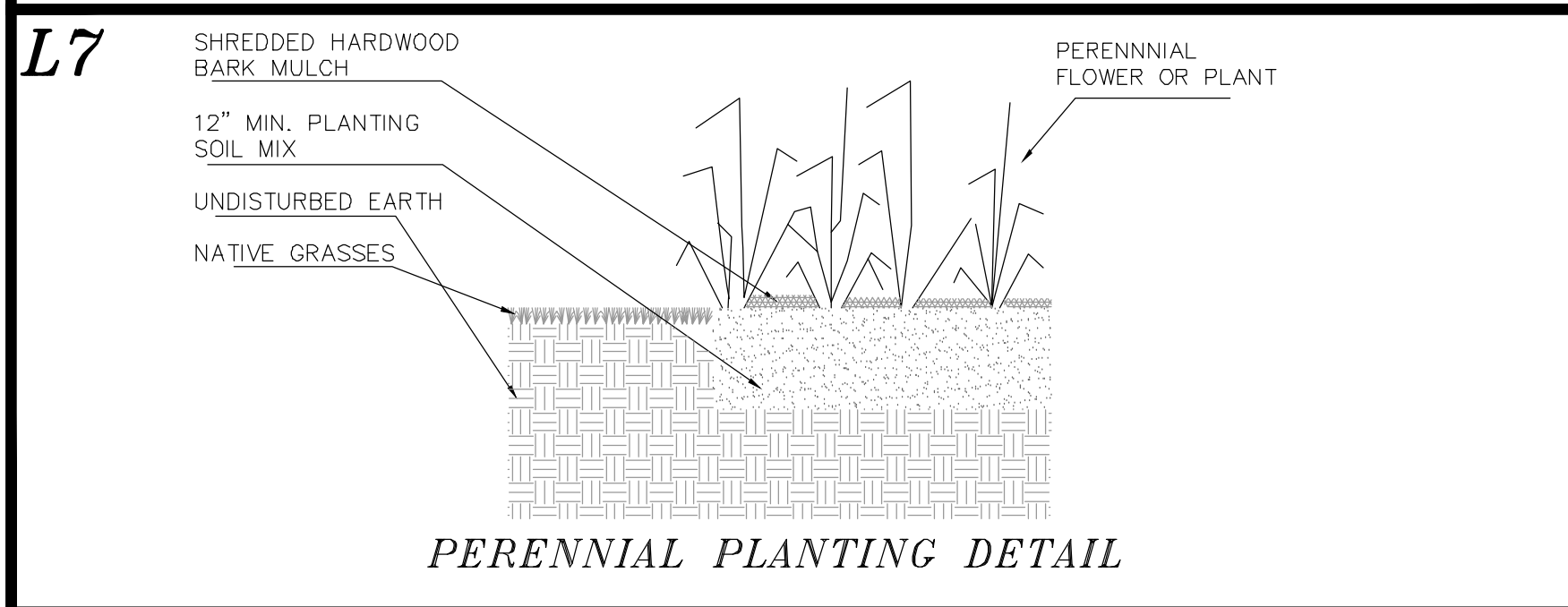
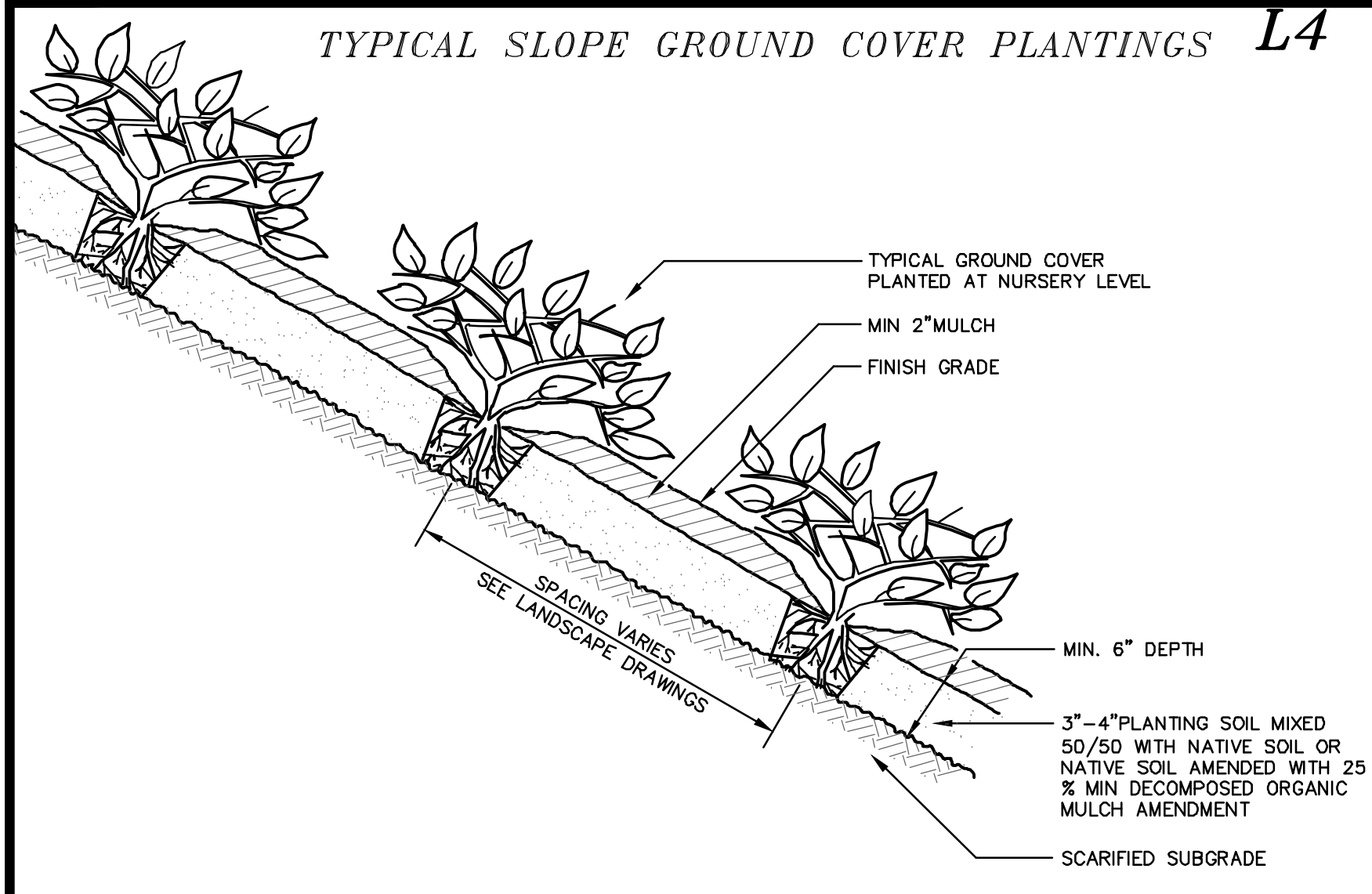
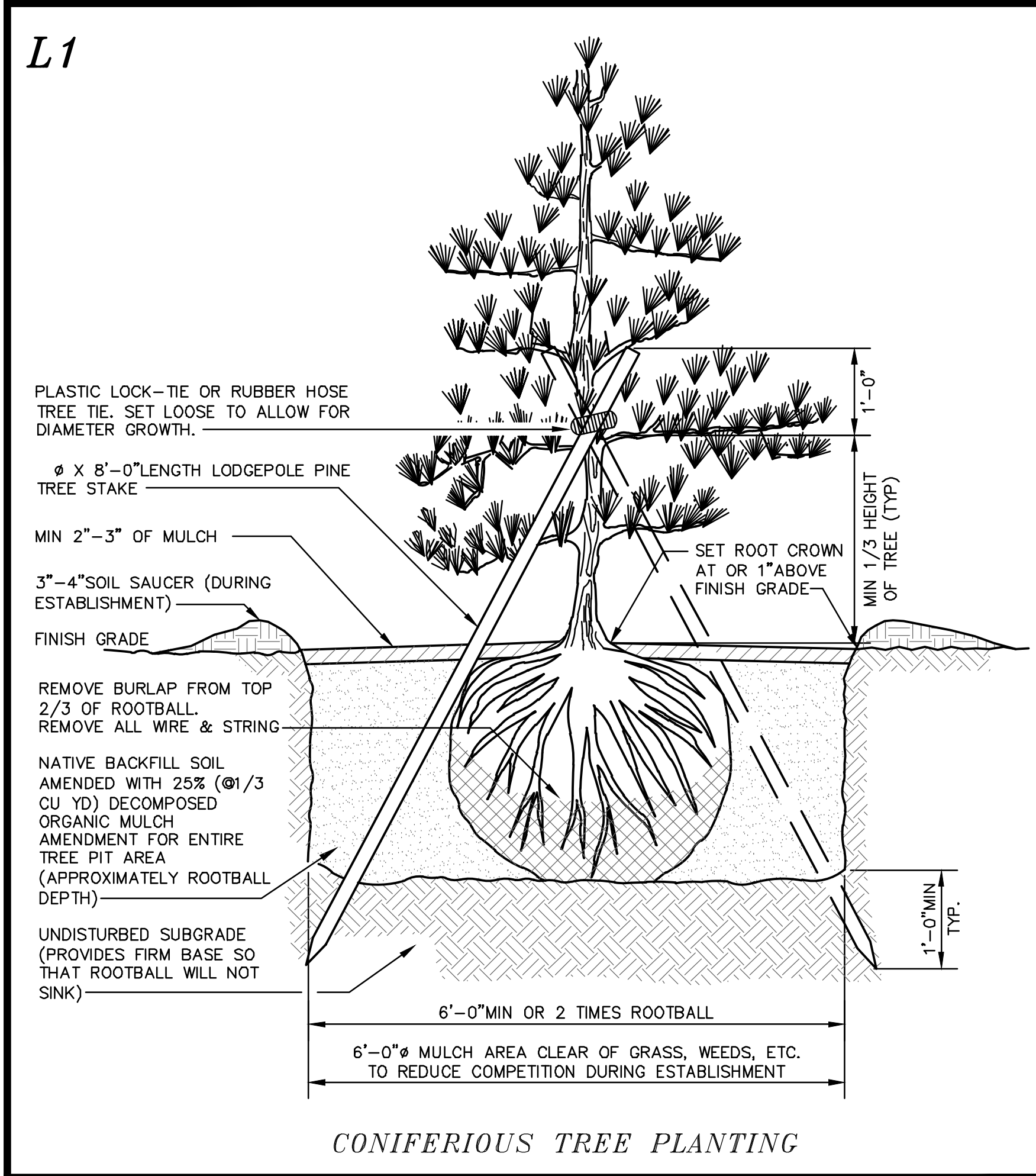
The diagram illustrates the dimensions of a vehicle's wheel and chassis. It shows a top-down view of a vehicle with two wheels. The 'Wheel Width' is the distance between the two wheels. The 'Vehicle Width' is the total width of the vehicle body. The 'Rear Overhang' is the distance from the rear wheel to the back of the vehicle. The 'Wheel Length' is the distance between the two wheels. The 'Front Overhang' is the distance from the front wheel to the front of the vehicle.



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







| REVISION | DATE    | DESCRIPTION                           |
|----------|---------|---------------------------------------|
| #2       | 3-05-24 | REVISE PER THIRD PARTY REVIEW COMMENT |
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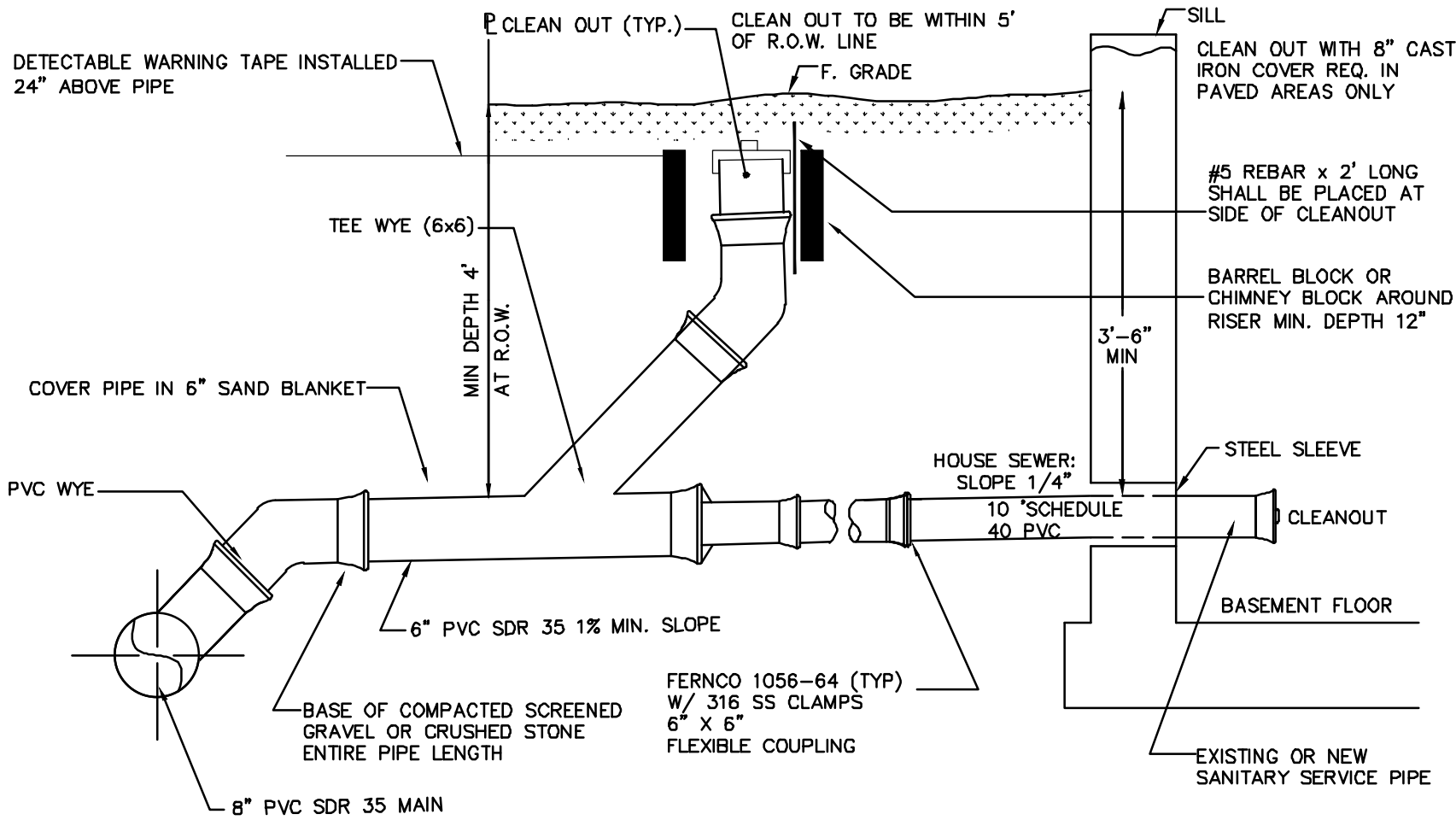
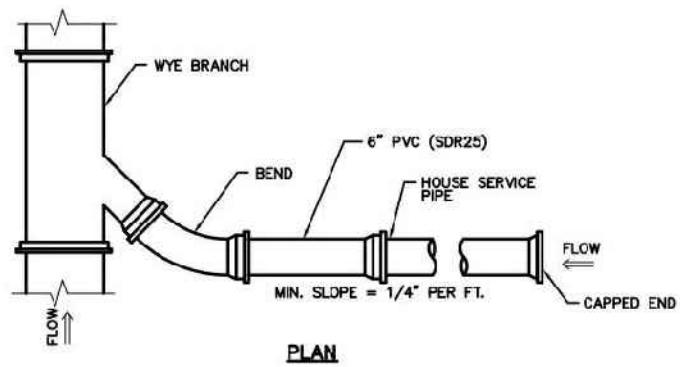
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|---|
| LANDSCAPING CONSTRUCTION DETAILS  |
| LAND OF KNOX MARSH DEVELOPMENT LLC<br>FLAT ROCK BRIDGE ROAD<br>ROCHESTER, N.H.<br>74X MAP 210, LOT 64 |

|   |
|---|
| BERRY SURVEYING & ENGINEERING<br>335 SECOND CROWN POINT ROAD<br>BARRINGTON, NH 03825 (603)332-2863<br>SCALE : AS MARKED<br>DATE : NOVEMBER 22, 2022<br>FILE NO. : DB 2022 - 028 |
| STATE OF NEW HAMPSHIRE<br>KENNETH A. BERRY<br>No. 14243<br>PROFESSIONAL ENGINEER  |



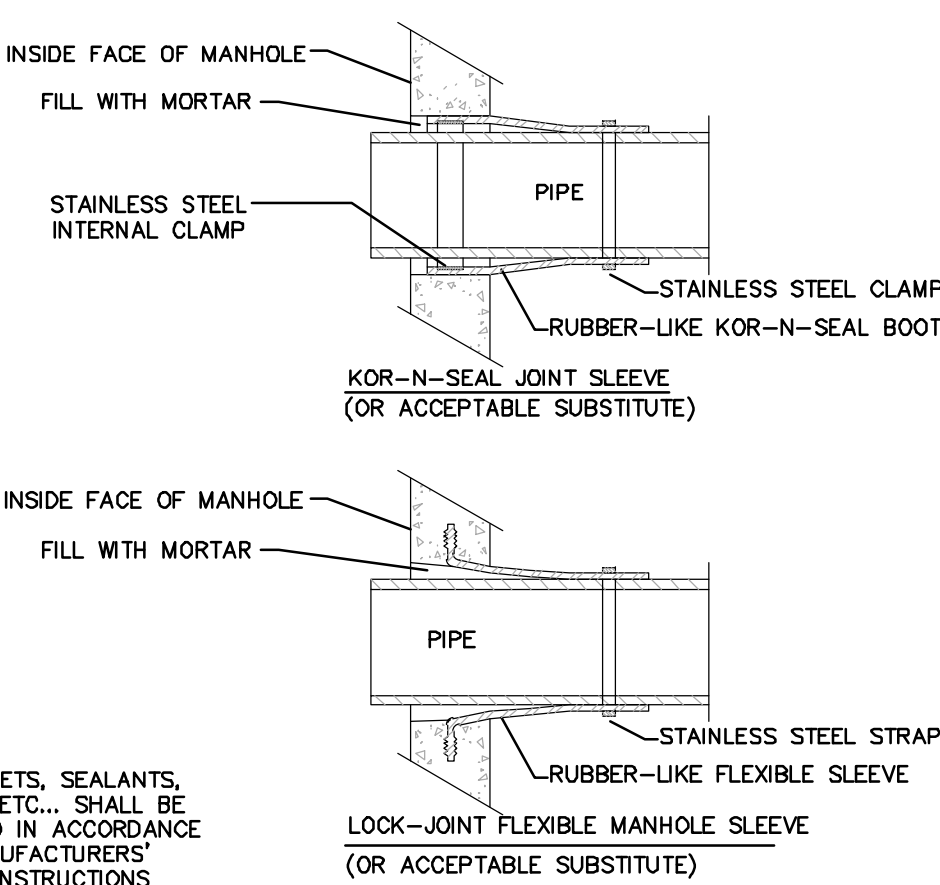
U1

- 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

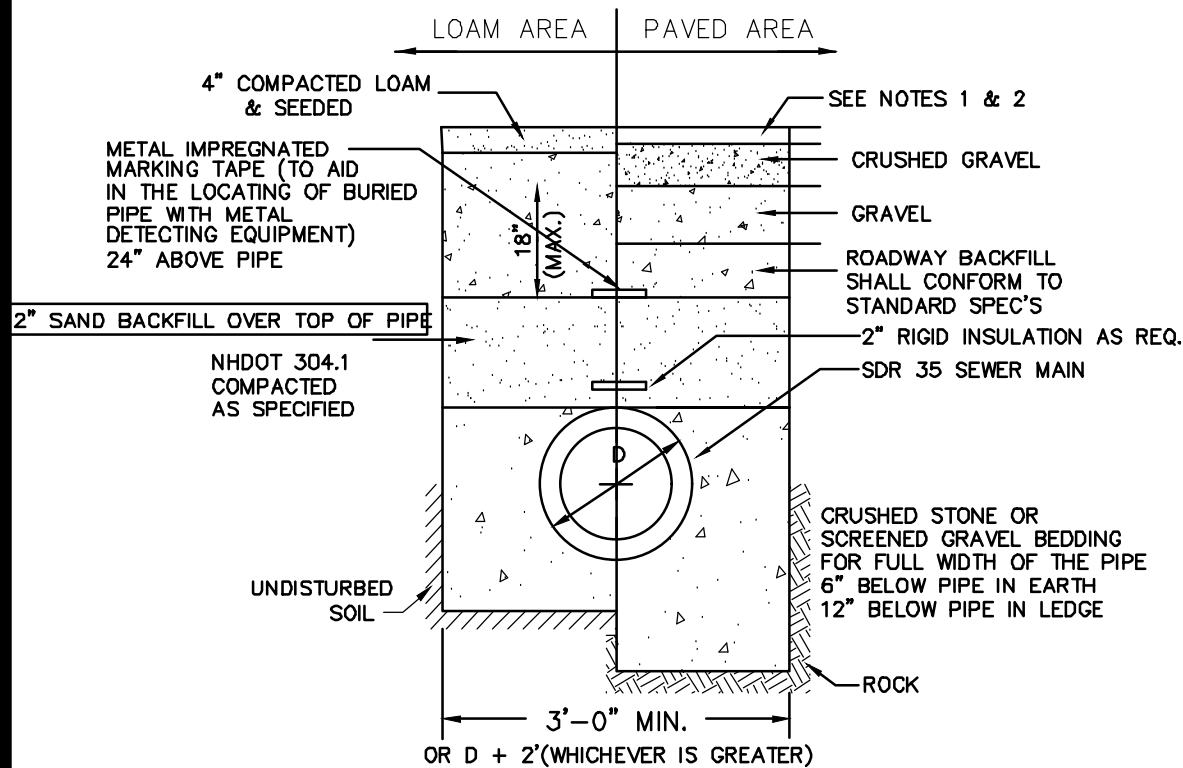
U2



DETAIL "A" - PIPE TO MANHOLE JOINTS

(NOT TO SCALE)

U3



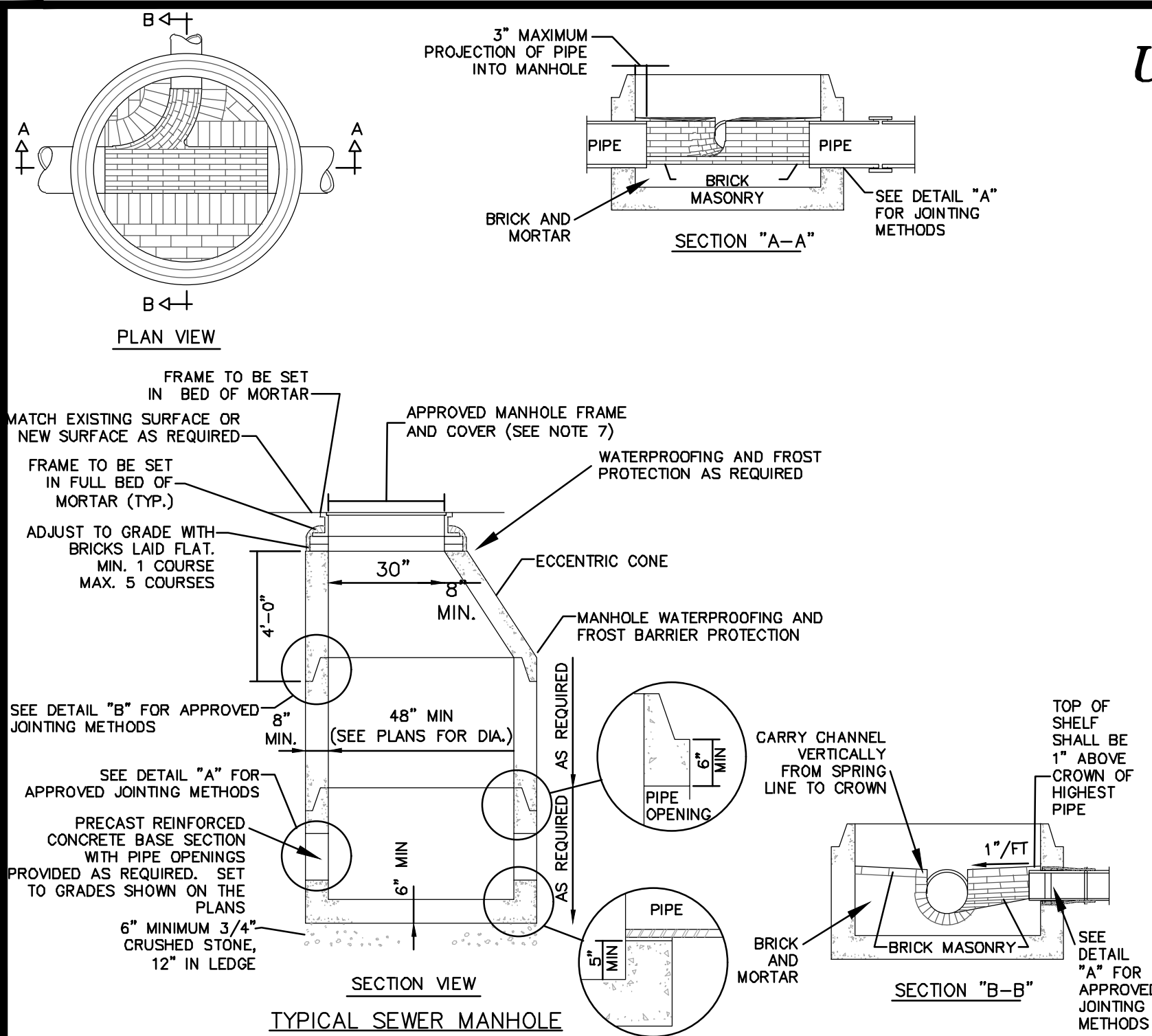
NOTE:

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

TYPICAL SEWER TRENCH DETAIL

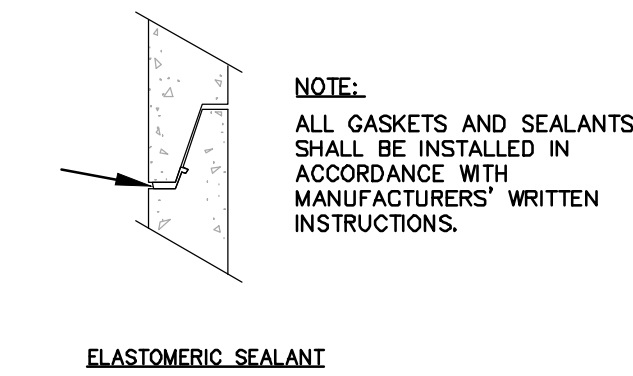
NOT TO SCALE

U4



TYPICAL SEWER MANHOLE

(NOT TO SCALE)



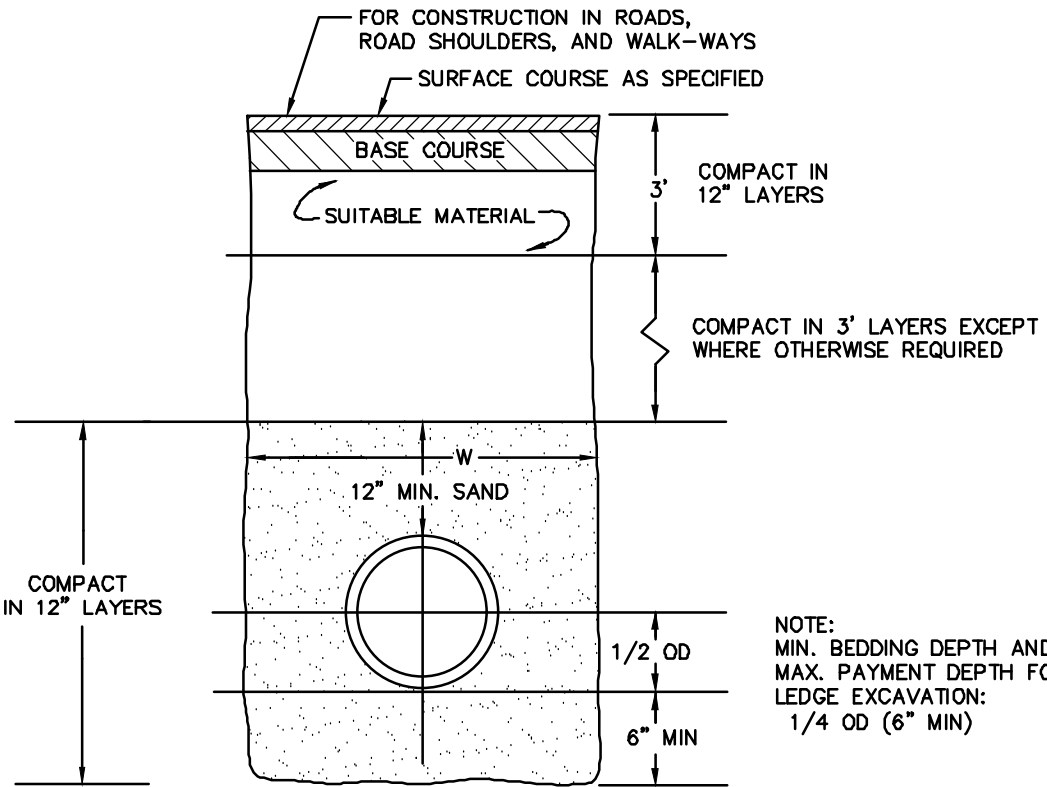
DETAIL "B" HORIZONTAL JOINTS

(NOT TO SCALE)

NOTES ON MANHOLE CONSTRUCTION

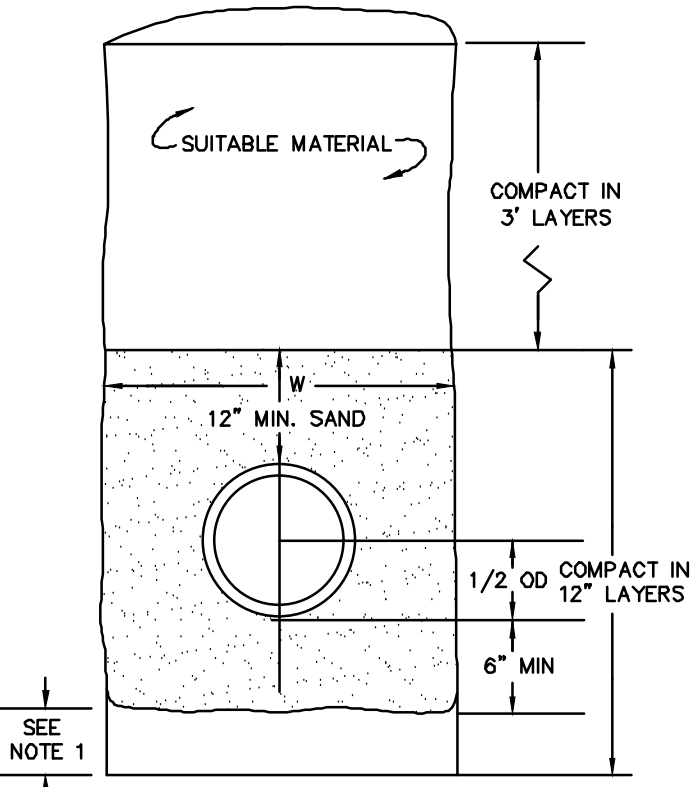
- 1) IT IS THE INTENTION THAT THE MANHOLE, INCLUDING ALL COMPONENT PARTS, HAVE ADEQUATE SPACE, STRENGTH AND LEAKPROOF QUALITIES CONSIDERED NECESSARY FOR THE INTENDED SERVICE. SPACE REQUIREMENTS AND CONFIGURATIONS, SHALL BE AS SHOWN ON THE DRAWING. MANHOLES SHALL BE AN ASSEMBLY OF PRECAST SECTIONS, WITH 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.

U5



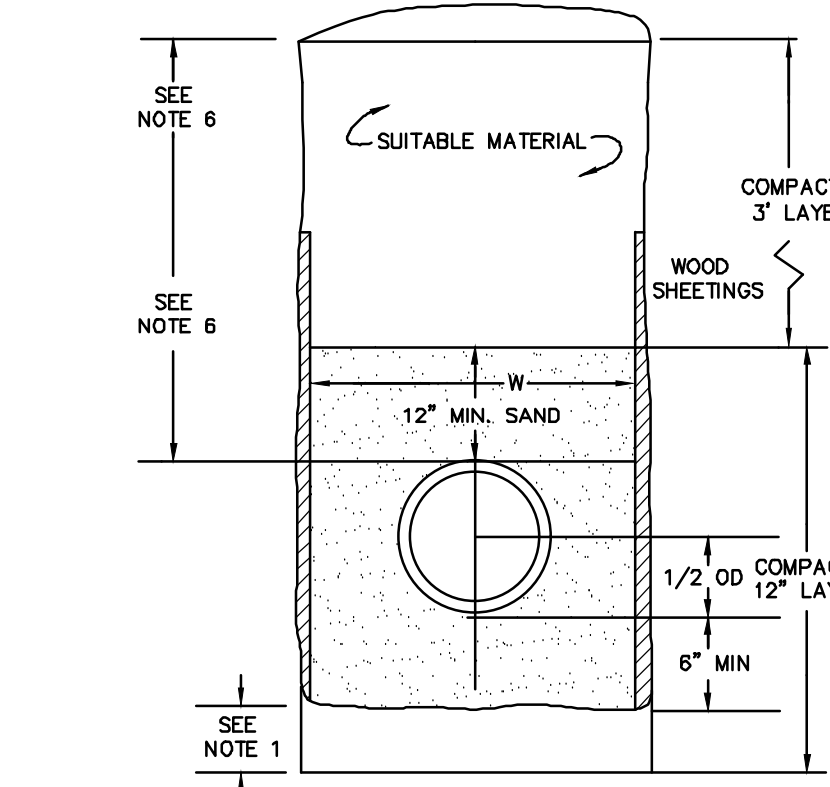
LEDGE CONSTRUCTION

NOT TO SCALE



EARTH CONSTRUCTION

NOT TO SCALE



EARTH CONSTRUCTION WITH SHEETING

NOT TO SCALE

U-101

| REVISION | DATE    | DESCRIPTION                           |
|----------|---------|---------------------------------------|
| #2       | 3-05-24 | REVISE PER THIRD PARTY REVIEW COMMENT |
| #1       | 8-14-23 | REVISE PER TRG COMMENT                |

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

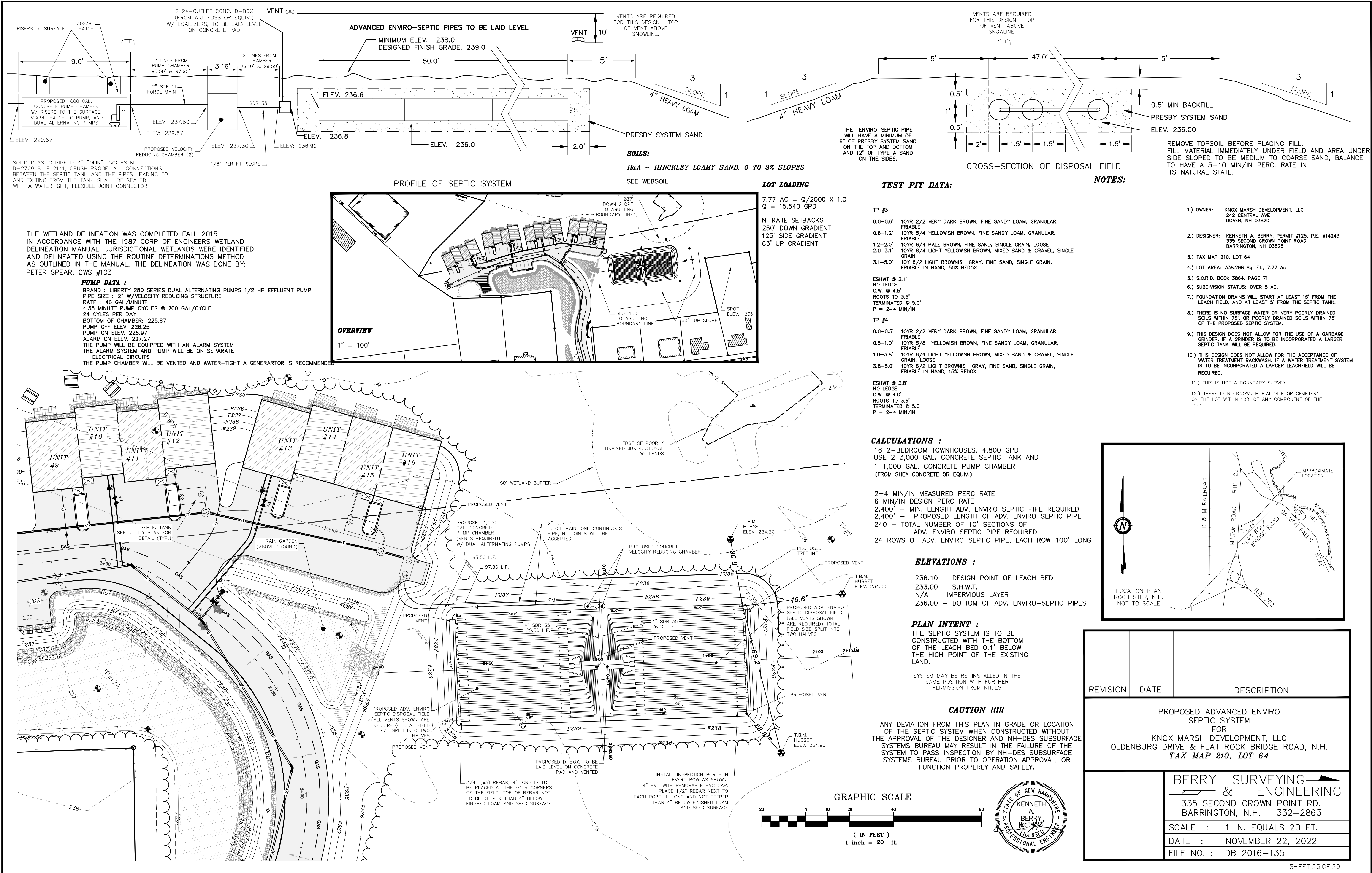
BERRY SURVEYING & ENGINEERING  
335 SECOND CROWN POINT ROAD  
BARRINGTON, NH 03825 (603)332-2863  
SCALE : AS MARKED  
DATE : NOVEMBER 22, 2022  
FILE NO. : DB 2022 - 028

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

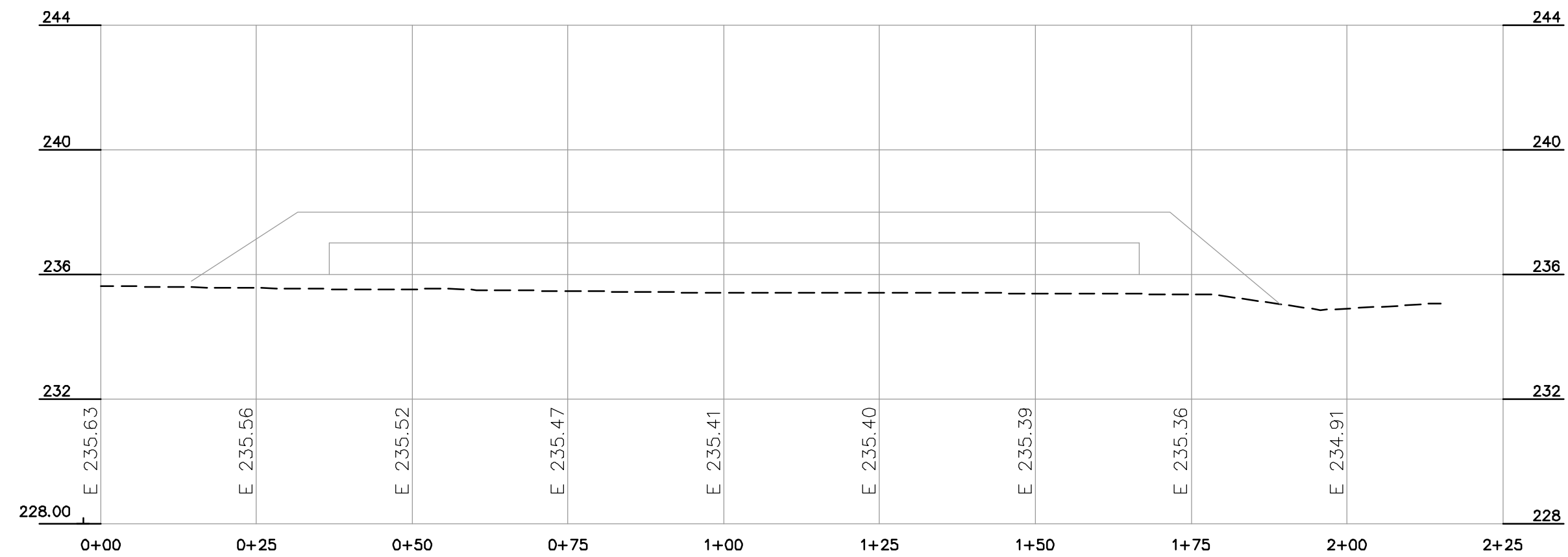




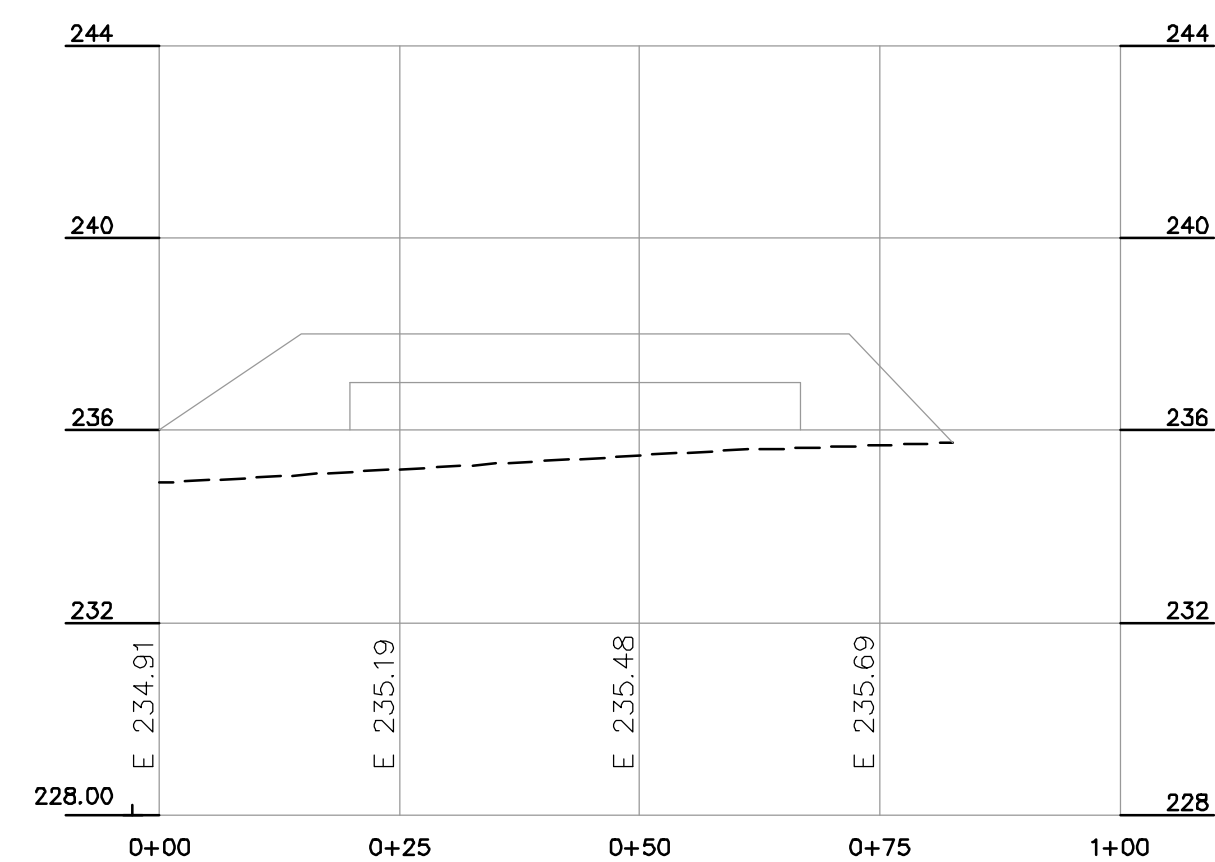








PROFILE VIEW EFFLUENT DISPOSAL FIELD  
VERTICAL SCALE" 1' = 4'

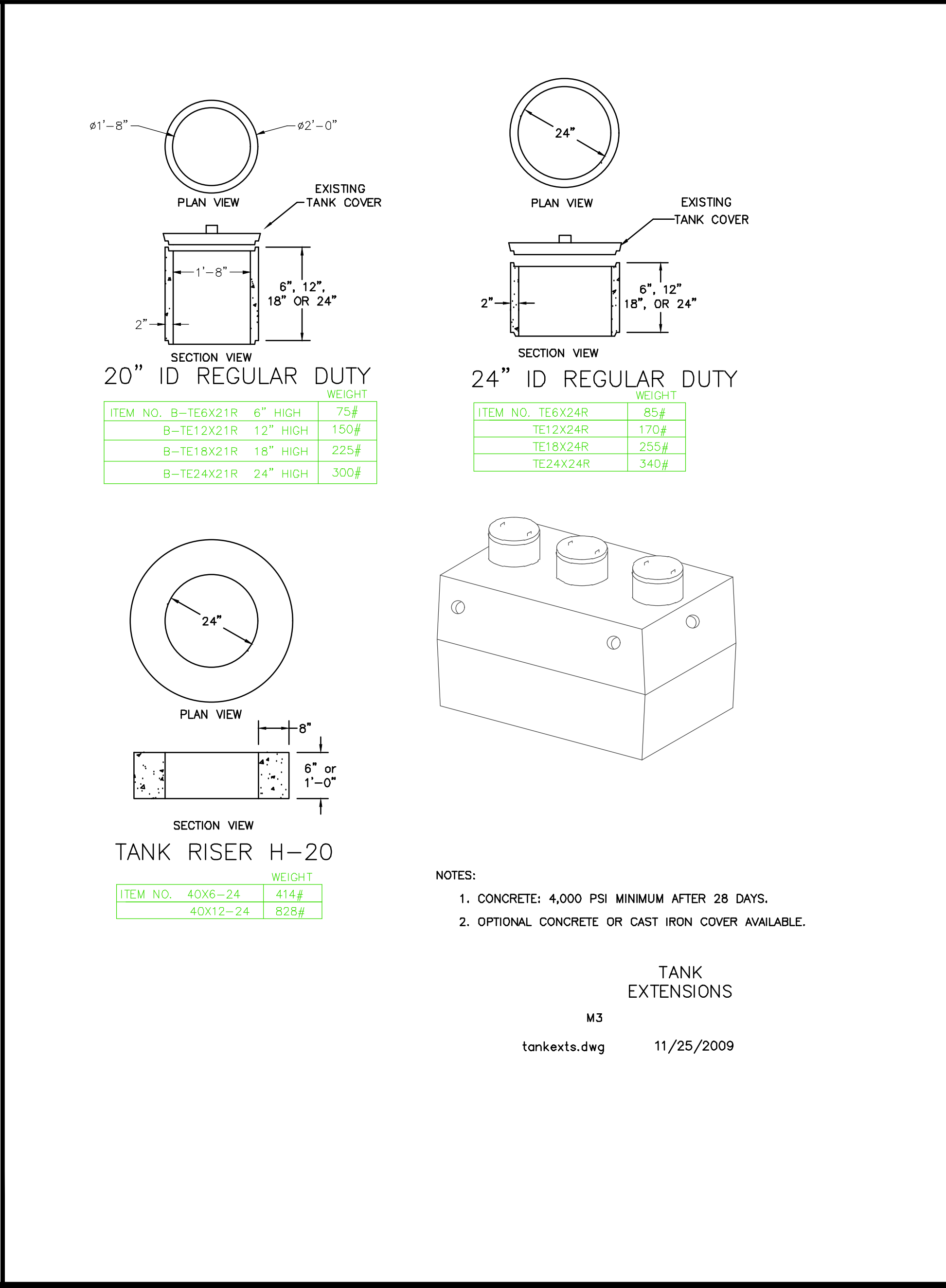
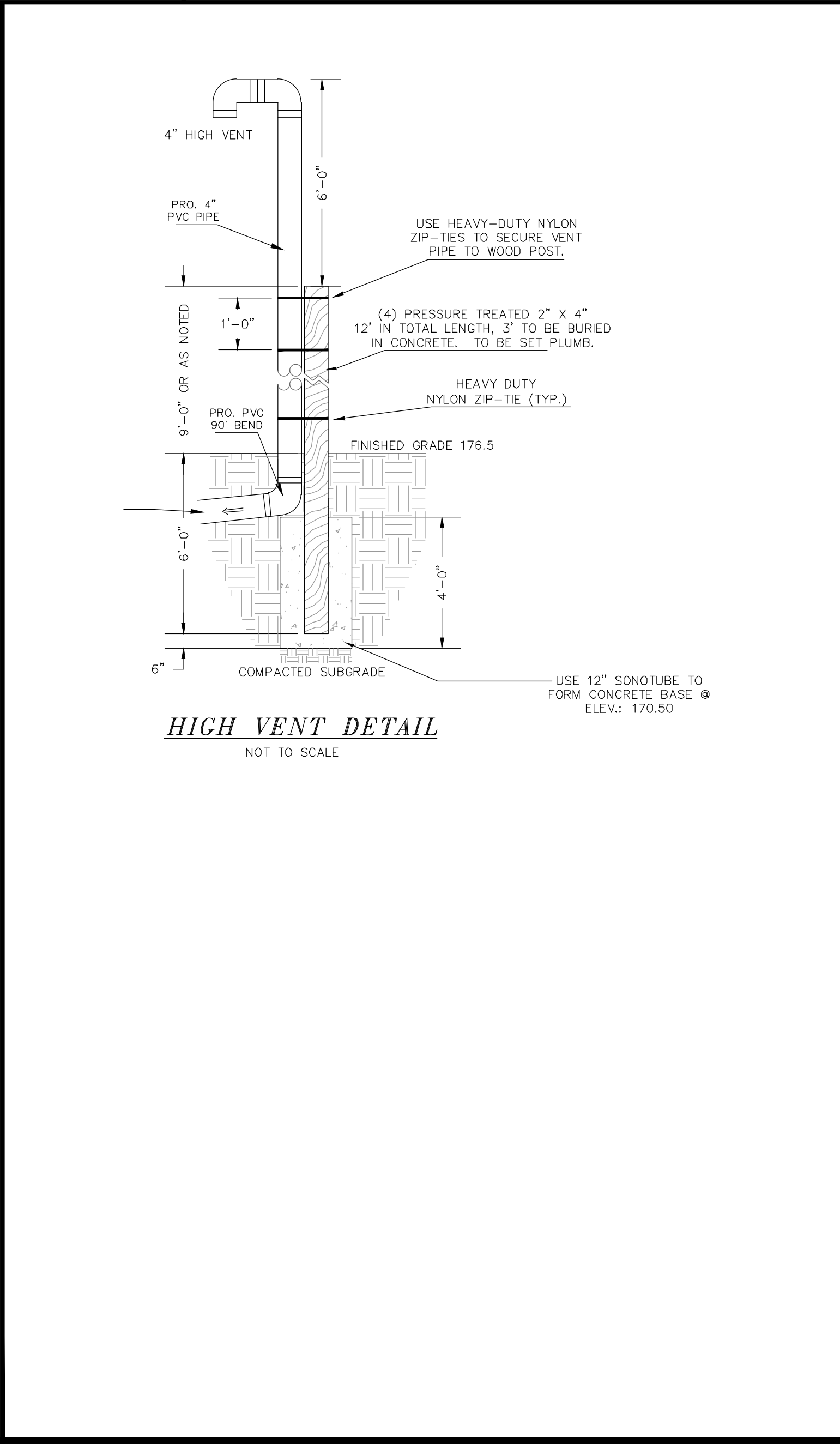
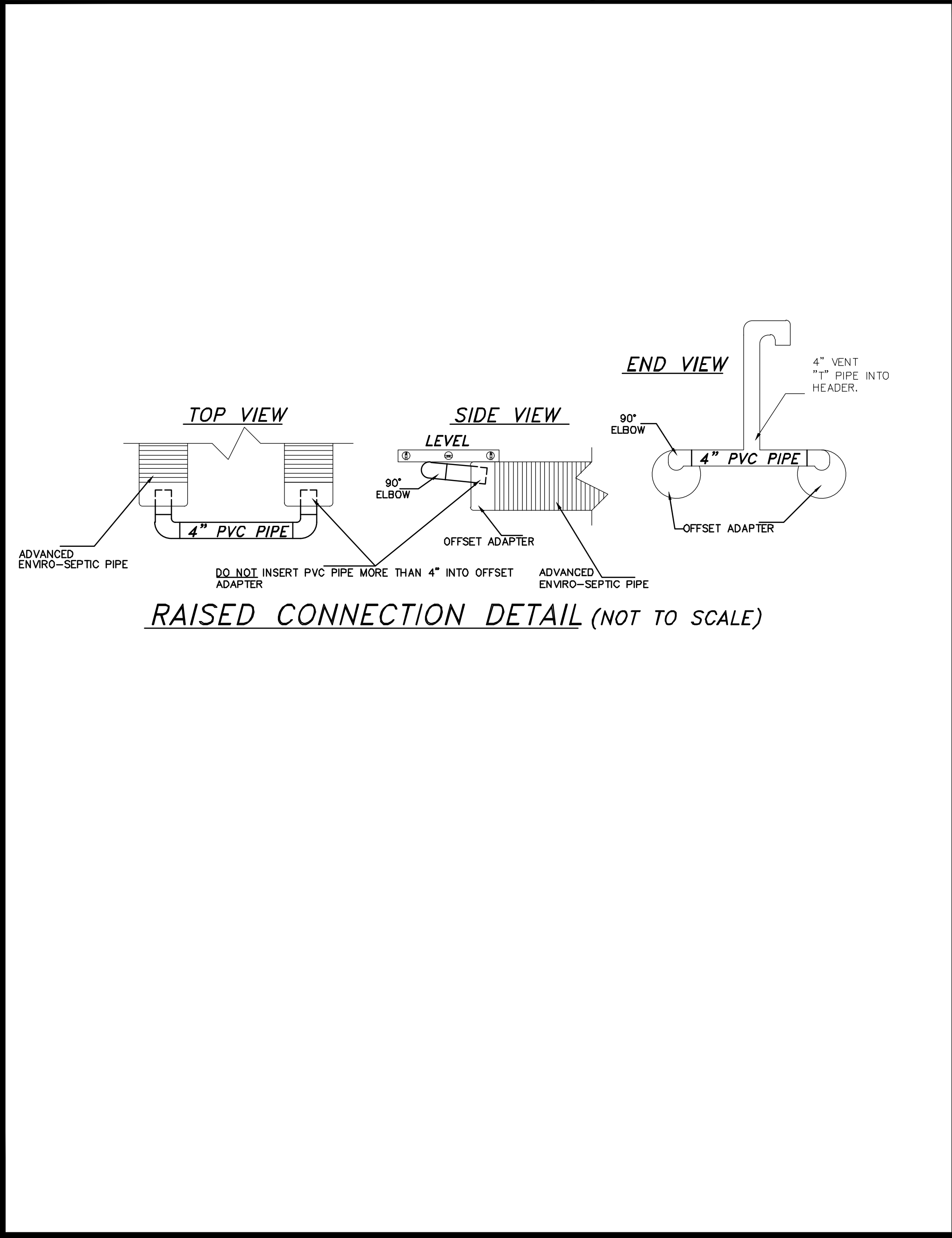
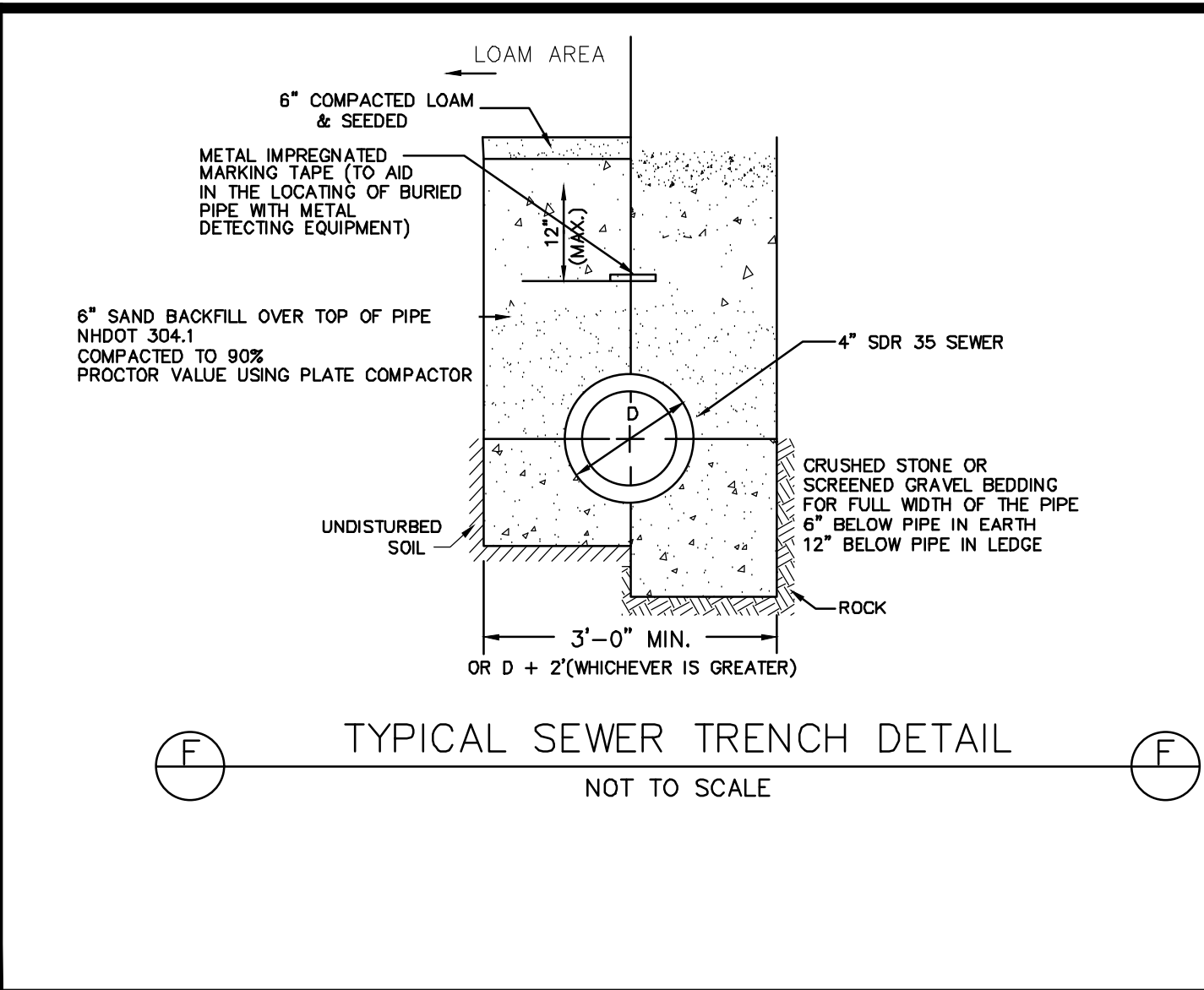
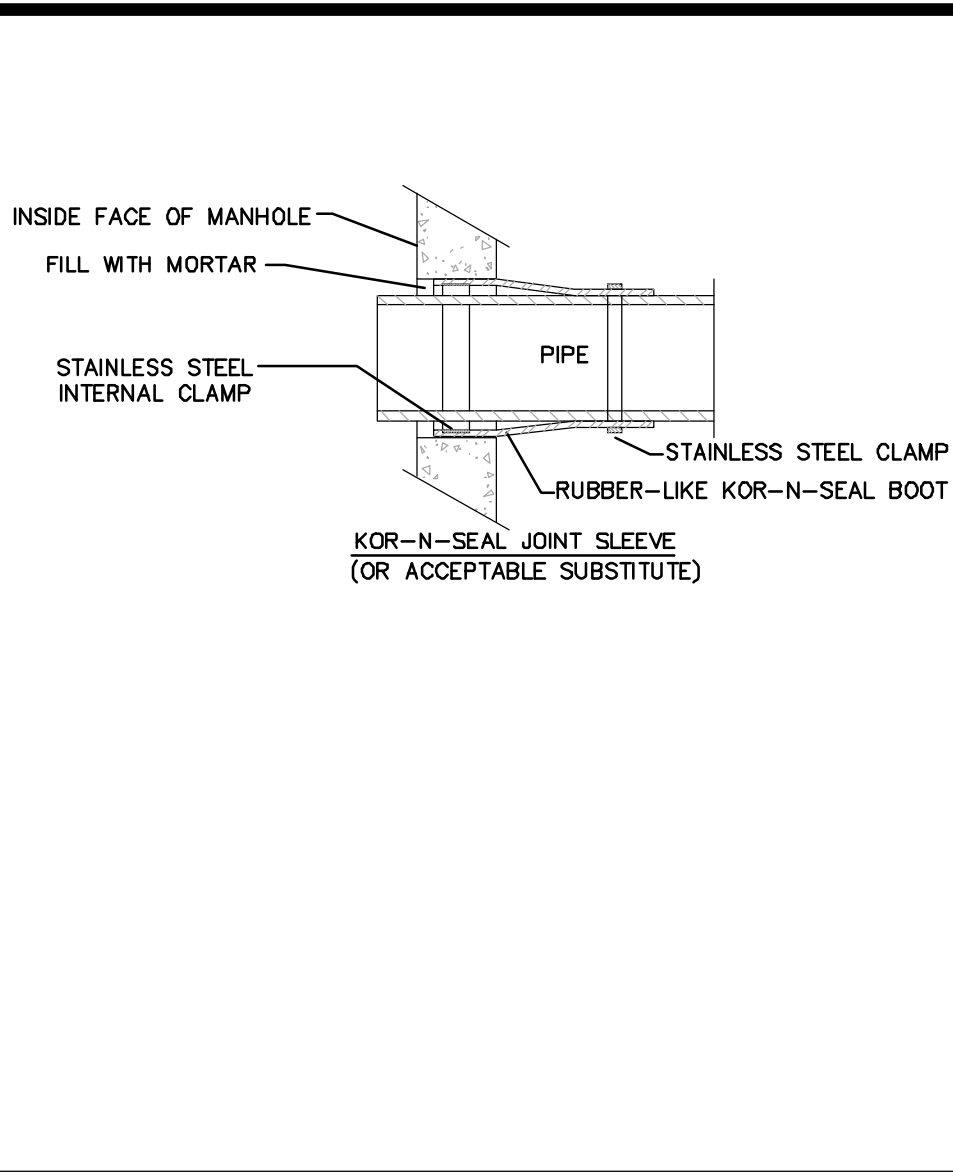
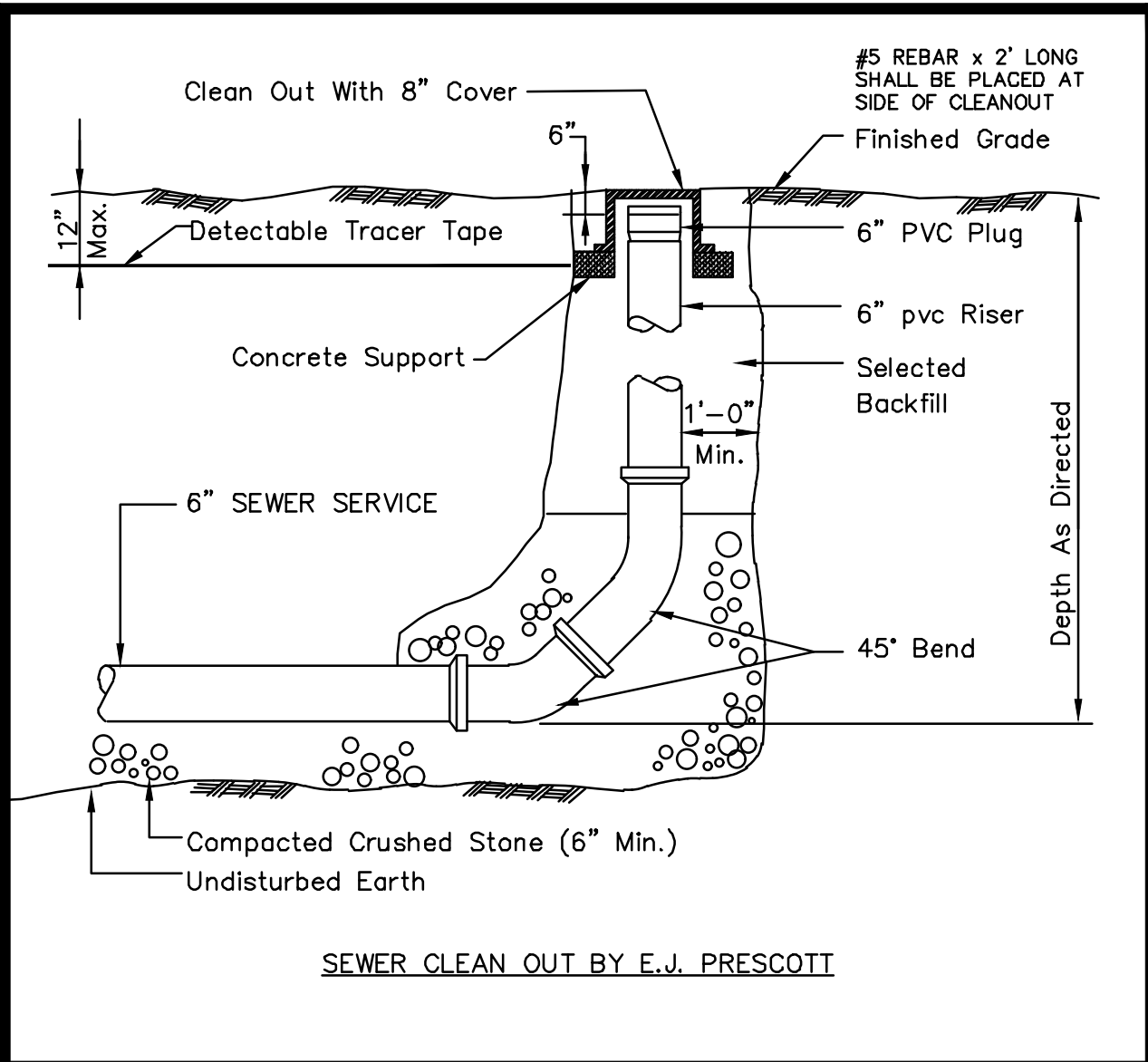


- NOTES:**
- 1.) OWNER: KNOX MARSH DEVELOPMENT, LLC  
242 CENTRAL AVE  
ROCHESTER, NH 03820
  - 2.) ROCHESTER TAX MAP 210, LOT 64
  - 3.) THE PURPOSE OF THIS PLAN IS TO DEMONSTRATE THE PROFILE VIEW AND SECTION VIEW OF THE EFFLUENT DISPOSAL FIELD.

PROFILE 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       |



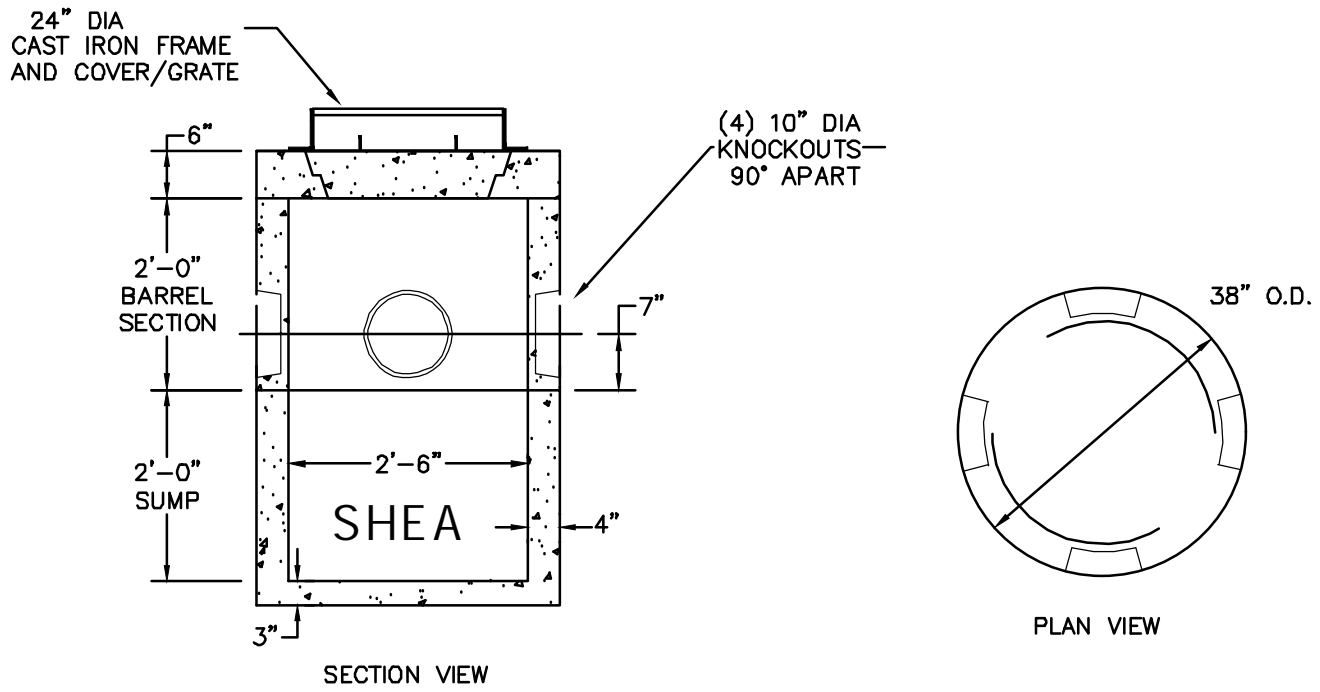
| REVISION | DATE    | DESCRIPTION                           |
|----------|---------|---------------------------------------|
| #2       | 3-05-24 | REVISE PER THIRD PARTY REVIEW COMMENT |
| #1       | 8-14-23 | REVISE PER TRG COMMENT                |

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

KENNETH A. BERRY  
No. 14243  
PROFESSIONAL ENGINEER -

SHEET 27 OF 29

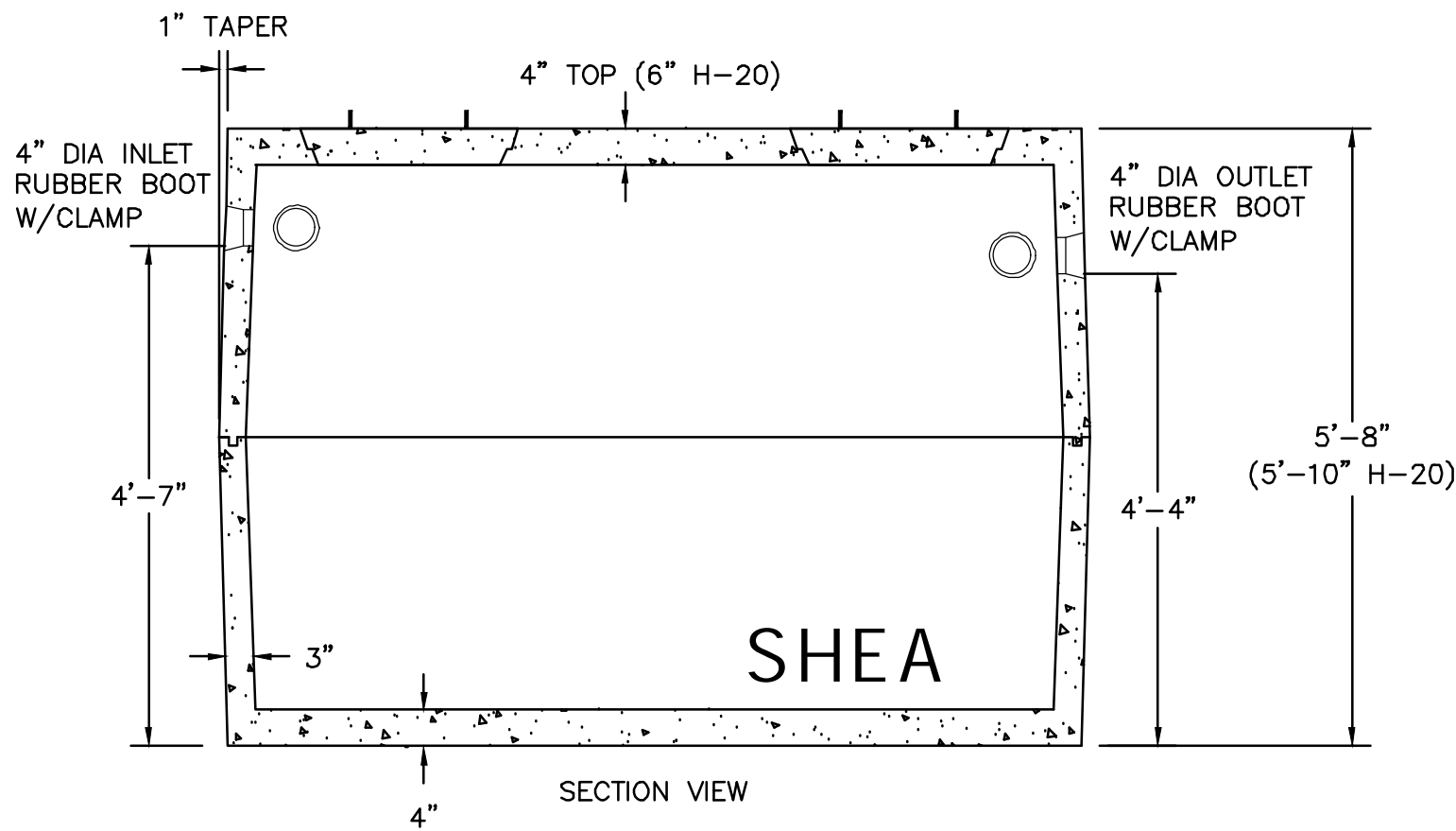
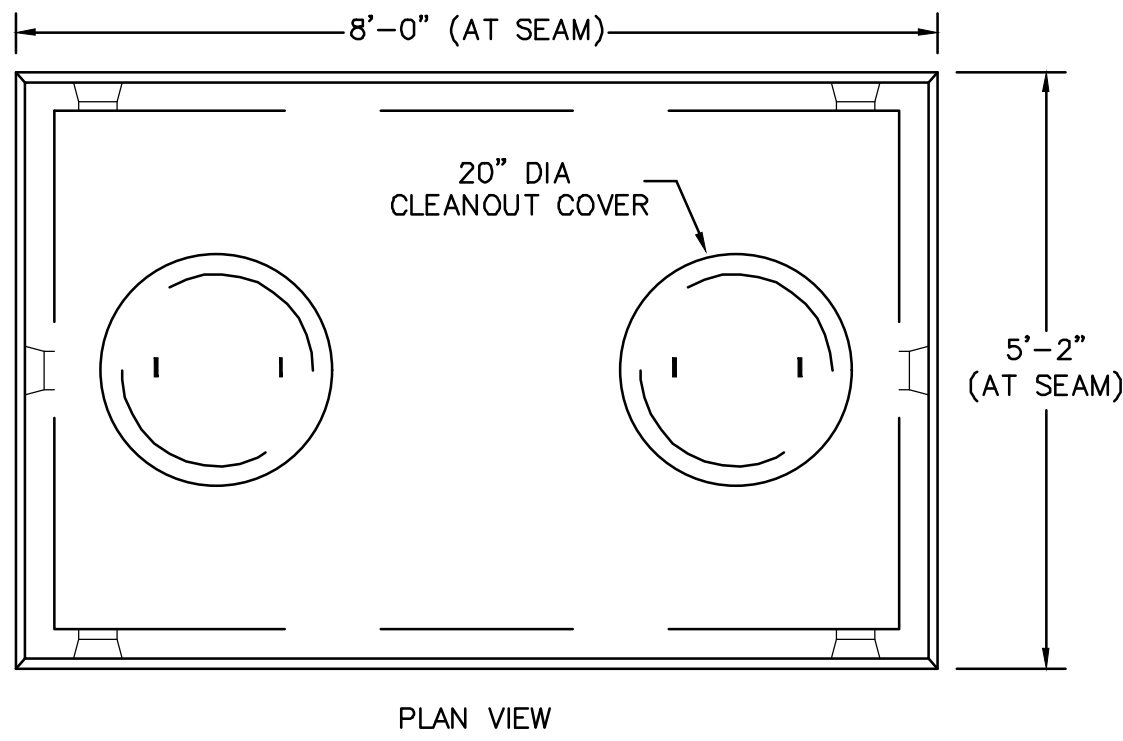


- NOTES:
1. CONCRETE: 5,000 PSI MINIMUM AFTER 28 DAYS.
  2. DESIGNED FOR H-20 LOADING.

| 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



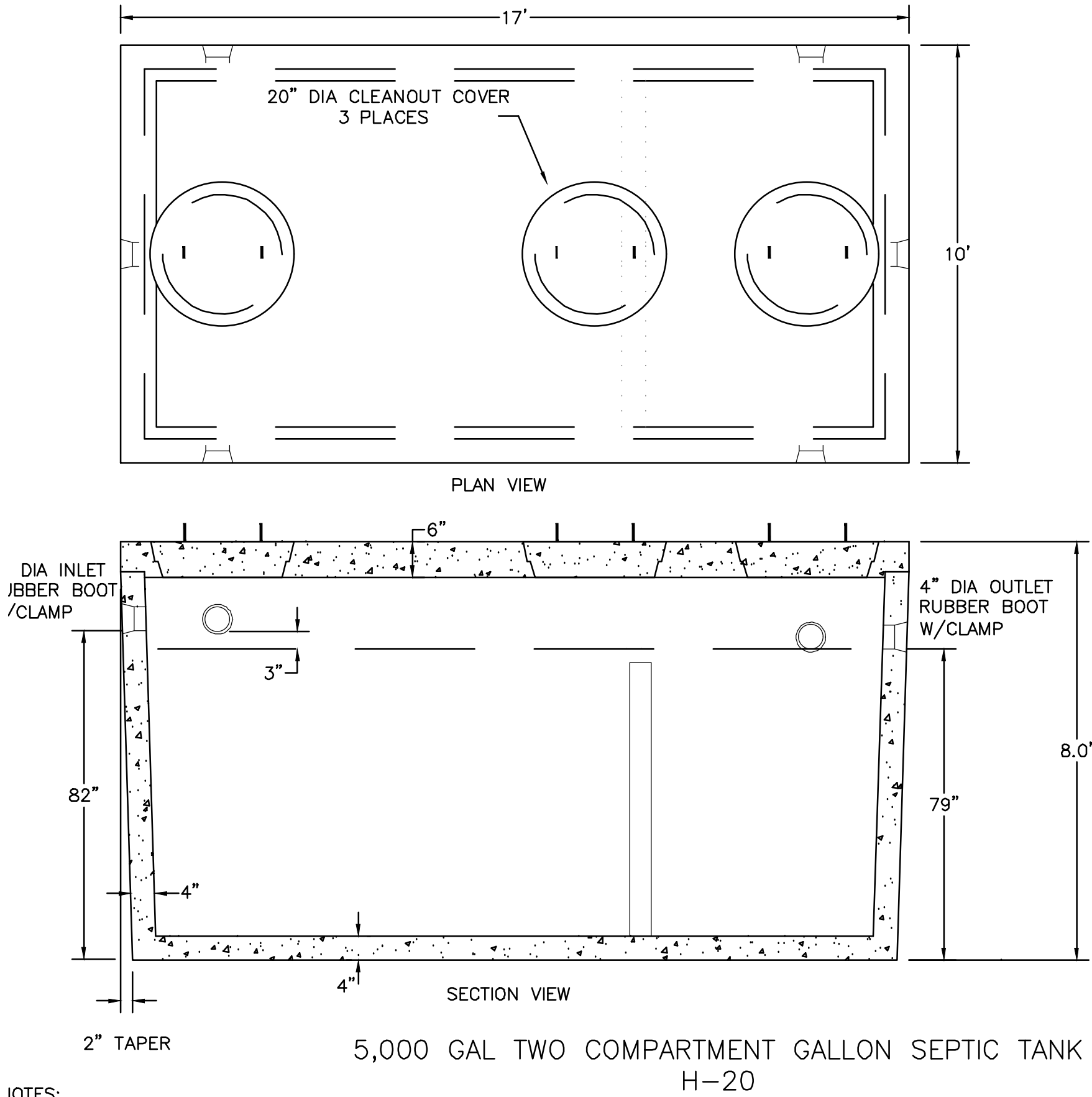
- NOTES:
1. CONCRETE: 4,000 PSI MINIMUM AFTER 28 DAYS.
  2. DESIGN CONFORMS WITH 310 CMR 15.000, DEP TITLE 5 REGS, FOR PUMP CHAMBERS.
  3. ALL REINFORCEMENT PER ASTM C1227.
  4. ALSO AVAILABLE IN H-20 LOADING. (REQUIRED)
  5. JOINT SEALED WITH BUTYL RESIN.
  6. PUMPS AND ACCESSORIES OPTIONAL.

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

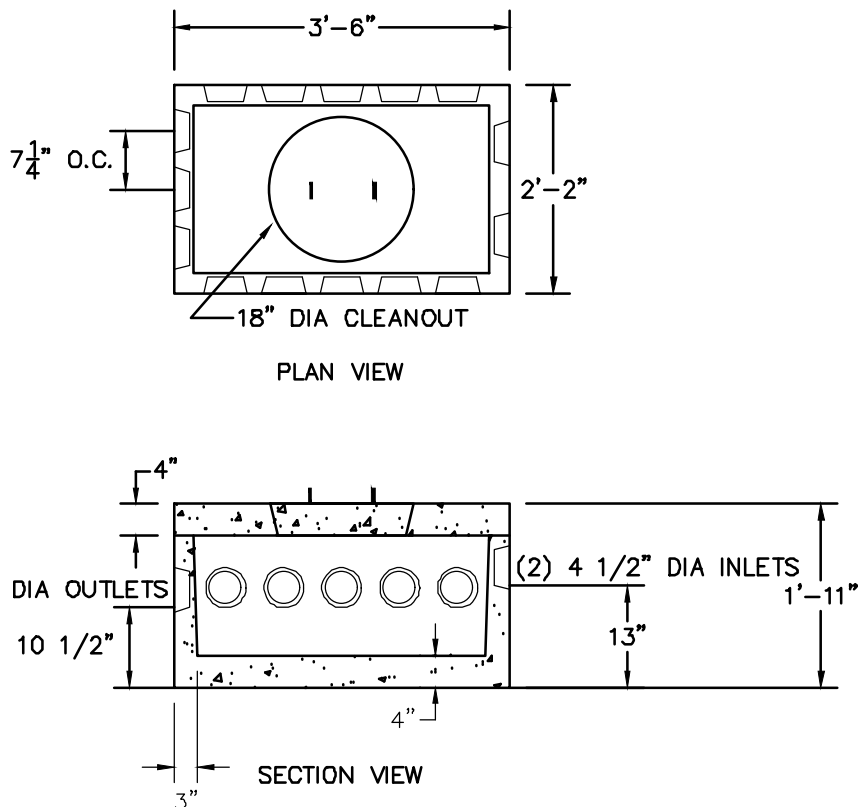
PUMP CHAMBER  
1000 GALLON

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)



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

- 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.

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.

| REVISION | DATE    | DESCRIPTION                           |
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EFFLUENT DISPOSAL DESIGN SPECIFIC CONSTRUCTION DETAILS  
LAND OF  
KNOX MARSH DEVELOPMENT LLC  
FLAT ROCK BRIDGE ROAD  
ROCHESTER, N.H.  
7.1X MAP 210, LOT 64

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

DATE : NOVEMBER 22, 2022  
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KENNETH A. BERRY  
No. 14243  
PROFESSIONAL ENGINEER -



(218-9) CONSTRUCTION SITE EROSION CONTROL DESIGN STANDARDS

- A. TEMPORARY CONSTRUCTION STORMWATER MANAGEMENT DESIGN
- THE FOLLOWING DESIGN STANDARDS SHALL BE APPLIED IN PLANNING FOR STORMWATER MANAGEMENT AND EROSION CONTROL AS RELATED TO CONSTRUCTION. (NOTE: THESE STANDARDS ARE IN ADDITION TO REQUIREMENTS THAT MAY BE FOUND IN OTHER SECTIONS OF THE SITE PLAN, SUBDIVISION, AND OTHER LAND USE REGULATIONS OR ORDINANCES. THESE STANDARDS ARE ALSO IN ADDITION TO REQUIREMENTS SET FORTH IN THE NH SMALL MS4 NPDES GENERAL PERMIT, NPDES GENERAL PERMIT FOR DISCHARGES FROM CONSTRUCTION ACTIVITIES, NPDES WETLANDS PERMITS [RSA 482-A] AND THE NHDES ALTERATION OF TERRAIN RULES [RSA 485-A:17].)
- (1) ALL MEASURES IN THE PLAN SHALL MEET, AS A MINIMUM, THE BMP'S SET FORTH IN THE NEW HAMPSHIRE STORMWATER MANUAL, VOLUME 3 (2008 OR AS UPDATED) A COPY OF THE NEW HAMPSHIRE STORMWATER MANUAL IS AVAILABLE FROM THE NHDES WEBSITE AT: [HTTPS://WWW.DCS.NH.GOV/WATER/STORMWATER](https://www.dcs.nh.gov/WATER/STORMWATER) NOTE: THE MANUALS AND WEBSITE LINKS IN THIS SECTION ARE PROVIDED FOR INFORMATION AND ARE SUBJECT TO CHANGE. THE MOST CURRENT VERSION OF THE MANUAL AND LINK REFERENCE SHOULD BE USED BY THE APPLICANT.
- (2) EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE AND SHALL BE REVIEWED AND APPROVED BY DPW PRIOR TO ANY LAND DISTURBANCE.
- (3) WHENEVER PRACTICAL, NATURAL VEGETATION SHALL BE MAINTAINED, PROTECTED, OR SUPPLEMENTED. STRIPPING OF VEGETATION SHALL BE DONE IN A MANNER THAT MINIMIZES SOIL EROSION. NATURAL BUFFERS SHALL BE MAINTAINED.
- (4) THE AREA OF DISTURBANCE SHALL BE KEPT TO A MINIMUM AND BE LIMITED TO AN AREA ONLY LARGE ENOUGH TO ACCOMMODATE CONSTRUCTION ACTIVITIES FOR A PARTICULAR CONSTRUCTION PHASE.
- (5) MEASURES SHALL BE TAKEN TO CONTROL EROSION WITHIN THE PROJECT AREA. SEDIMENT IN STORMWATER RUNOFF SHALL BE TRAPPED AND RETAINED WITHIN THE PROJECT AREA. WETLAND AREAS AND SURFACE WATERS SHALL BE PROTECTED FROM SEDIMENT. SOIL DISTURBANCE SHALL BE AVOIDED WITHIN ESTABLISHED BUFFER SETBACKS AS DEFINED AND CONSISTENT WITH THE PROVISIONS INCLUDED IN THE CONSERVATION OVERLAY DISTRICT (ZONING ORDINANCE § 27512).
- (6) OFF-SITE SURFACE WATER AND STORMWATER RUNOFF SHALL BE DIVERTED AWAY FROM AREAS OF LAND DISTURBANCE WHERE FEASIBLE OR IMPLEMENT MEASURES TO CONVEY STORMWATER THROUGH THE PROJECT AREA WITHOUT CAUSING EROSION OF SEDIMENT SHALL BE INCLUDED. INTEGRITY OF DOWNSREAM DRAINAGE SYSTEMS SHALL BE MAINTAINED.
- (7) PERIMETER CONTROLS
- (a) INSTALL SEDIMENT CONTROLS ALONG ANY PERIMETER AREAS OF THE SITE THAT WILL RECEIVE STORMWATER RUNOFF.
- (b) PERIMETER CONTROLS SHALL NOT BE PLACED WITHIN WETLAND AREAS, STREAM CHANNELS, OR WETLAND BUFFERS.
- (8) STABILIZATION
- (a) IN AREAS WHERE FINAL GRADING HAS NOT OCCURRED, TEMPORARY STABILIZATION MEASURES SHOULD BE IN PLACE WITHIN 5 CALENDAR DAYS FOR EXPOSED SOIL AREAS THAT ARE WITHIN 100 FEET OF A SURFACE WATERBODY OR A WETLAND AND NO MORE THAN 14 CALENDAR DAYS FOR ALL OTHER AREAS. PERMANENT STABILIZATION SHOULD BE IN PLACE WITHIN 3 CALENDAR DAYS FOLLOWING COMPLETION OF FINAL GRADING OF EXPOSED SOIL AREAS.
- (b) STABILIZATION MEASURES SHALL BE PROVIDED WITH THE SUBMISSION FOR ANY DISTURBANCE ON SLOPES EQUAL TO OR STEEPER THAN 3:1V.
- (c) SPECIFY PERMANENT AND TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES, SEEDING MIXTURES AND RATES, TYPES OF SOO, METHODS OF SEEDBED PREPARATION, EXPECTED SEEDING DATES (OR LIMITATIONS ON SEEDING TIMEFRAMES), TYPE AND RATE OF LIME AND FERTILIZER APPLICATION, AND TYPE AND QUANTITY OF MULCHING FOR TEMPORARY AND PERMANENT CONTROL FACILITIES.
- (9) WINTER CONSTRUCTION
- (a) FOR CONSTRUCTION DURING THE WINTER SEASON, AN ADDITIONAL EROSION AND SEDIMENTATION CONTROL PLAN AND TIMELINE SHALL BE SUBMITTED BY SEPTEMBER 1 TO THE DPW.
- (b) ADDITIONAL TEMPORARY STABILIZATION SHALL BE DEPLOYED FOR THE WINTER SEASON CONSISTENT WITH NEW HAMPSHIRE STORMWATER MANUAL GUIDELINES FOR LAND DISTURBANCE THAT ARE NOT PERMANENTLY STABILIZED BY OCTOBER 1 OR IMPLEMENTED PER THE DISCRETION OF DPW.
- (c) ACTIVE CONSTRUCTION AREAS SHOULD BE LIMITED TO THE AREA NECESSARY TO GAIN ACCESS AND SUSTAIN PLANNED IMPROVEMENTS THAT WILL BE COMPLETED DURING THE WINTER SEASON.
- (10) SEDIMENT BASINS AND TRAPS
- (a) USE OF TEMPORARY SEDIMENT BASINS SHOULD AVOID ANY ADDITIONAL VEGETATION CLEARING OR SITE DISTURBANCE NOT OTHERWISE NEEDED FOR POST-CONSTRUCTION. SEDIMENT BASIN LOCATIONS SHALL BE REVIEWED BY DPW PRIOR TO CONSTRUCTION AND SHALL CONSIDER THE POTENTIAL FOR OFF-SITE IMPACTS, INCLUDING PUBLIC SAFETY, ESPECIALLY AS IT RELATES TO SEDIMENT MOVEMENT OR SEDIMENT BASIN FAILURE, AND ALTERNATIVE SEDIMENT CONTROLS APPROVED BY DPW SHALL BE USED WHERE SITE LIMITATIONS PRECLUDE A SAFE DESIGN.
- (11) WASTE CONTROL
- (a) PROCEDURES SHALL BE IMPLEMENTED TO CONTROL WASTE SUCH AS DISCARDED BUILDING MATERIALS, CONCRETE TRUCK WASHOUT, CHEMICALS, LITTER, AND SANITARY WASTE DURING THE CONSTRUCTION PROCESS THAT MAY CAUSE ADVERSE IMPACTS TO WATER QUALITY.
- (12) INSPECTION SCHEDULE
- (a) ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED IN FUNCTIONING CONDITION UNTIL FINAL SITE STABILIZATION IS ACCOMPLISHED. A PROPOSED INSPECTION SCHEDULE, IN ACCORDANCE WITH THE GUIDELINES OF THE NEW HAMPSHIRE STORMWATER MANUAL, OR NPDES GENERAL PERMIT FOR DISCHARGES FROM CONSTRUCTION ACTIVITIES SHALL BE INCLUDED IN THE SUBMITTAL.
- (13) REMOVAL OF TEMPORARY CONTROLS
- (a) ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED AFTER THE SITE IS STABILIZED UNLESS THE MEASURES ARE INTENDED TO BE LEFT IN PLACE AND APPROVED BY DPW ON A CASE-BY-CASE BASIS. TRAPPED SEDIMENT AND OTHER DISTURBED SOIL AREAS RESULTING FROM THE REMOVAL OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED WITHIN THREE (3) CALENDAR DAYS UNLESS CONDITIONS DICTATE OTHERWISE.

(218-10) POST CONSTRUCTION STORMWATER MANAGEMENT DESIGN STANDARDS

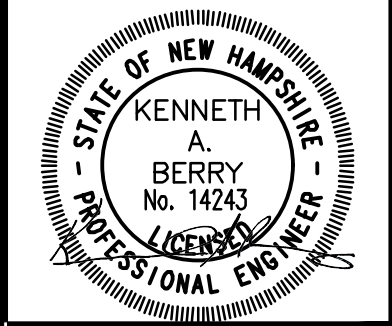
- (1) NO PERSON SHALL LOCATE, STORE, DISCHARGE, OR PERMIT THE DISCHARGE OF ANY TREATED, UNTREATED, OR INADEQUATELY TREATED LIQUID, CASEOUS, OR SOLID MATERIALS OF SUCH NATURE, QUANTITY, NOXIUSNESS, TOXICITY, OR TEMPERATURE THAT MAY RUN OFF, SEEP, PERCOLATE, OR WASH INTO SURFACE WATER OR GROUNDWATER SO AS TO CONTAMINATE, POLLUTE, HARM, IMPAIR, OR NOT MEET WATER QUALITY STANDARDS OF SUCH WATERS.
- (2) ALL STORAGE FACILITIES FOR FUEL, CHEMICALS, CHEMICAL OR INDUSTRIAL WASTES, AND BIODEGRADABLE RAW MATERIALS SHALL MEET THE REGULATIONS OF NHDES, INCLUDING THOSE INVOLVING UNDERGROUND STORAGE TANKS, ABOVEGROUND STORAGE TANKS, HAZARDOUS WASTE, AND REQUIRED BMPS FOR GROUNDWATER PROTECTION (ENV-WO 401).
- (3) THE PHYSICAL, BIOLOGICAL, AND CHEMICAL INTEGRITY OF THE RECEIVING WATERS SHALL NOT BE DEGRADED BY THE STORMWATER RUNOFF FROM THE DEVELOPMENT SITE.
- (4) DEICING MATERIAL STORAGE AREAS SHALL BE LOCATED UNDER COVER AND LOADING, AND OFFLOADING AREAS SHALL BE DESIGNED AND MAINTAINED SUCH THAT UNTREATED STORMWATER RUNOFF IS NOT DISCHARGED TO RECEIVING WATERS. SNOW STORAGE AREAS SHALL BE LOCATED SUCH THAT NO DIRECT UNTREATED DISCHARGES TO RECEIVING WATERS ARE POSSIBLE FROM THE STORAGE SITE. STORMWATER RUNOFF FROM SNOW AND DEICING STORAGE AREAS SHALL ENTER TREATMENT AREAS AS SPECIFIED ABOVE BEFORE BEING DISCHARGED TO RECEIVING WATERS OR ALLOWED TO INFILTRATE INTO THE GROUNDWATER. SEE NHDES GUIDANCE FACTS SHEET ON STORAGE AND MANAGEMENT OF DEICING MATERIALS, A COPY OF WHICH IS AVAILABLE ON THE NHDES WEBSITE AT: [HTTPS://WWW4.DCS.STATE.NH.US/NH-MS4/WP-CONTENT/UPLOADS/2020/11/SALTSTORAGE.PDF](https://www4.dcs.state.nh.us/NH-MS4/WP-CONTENT/UPLOADS/2020/11/SALTSTORAGE.PDF)

(218-11) INSTALLATION, CONSTRUCTION, MAINTENANCE AND INSPECTION REQUIREMENTS AND RESPONSIBILITY

- A. REQUIREMENTS
- (1) SITE DEVELOPMENT SHALL NOT BEGIN BEFORE THE SMECP HAS BEEN REVIEWED AND APPROVED BY THE CITY AND IF APPLICABLE, ALL PLANNING BOARD CONDITIONS HAVE BEEN FULFILLED. BMPS SHALL BE INSTALLED AS DESIGNED AND SCHEDULED AS A CONDITION OF FINAL APPROVAL OF THE SMECP. IN CASES WHERE A SWPPP IS PROVIDED TO COMPLY WITH THE EPA CONSTRUCTION GENERAL PERMIT, THE SWPPP CONTENTS CAN BE USED TO FULFILL COMPONENTS OF THE SMECP IN THE FINAL REVIEW AND APPROVAL. IN ADDITION, SITE DEVELOPMENT SHALL NOT BEGIN UNTIL A NOI HAS BEEN ACKNOWLEDGED BY THE EPA (IF APPLICABLE).
- (2) THE DPW OR DEPARTMENT OF PLANNING AND DEVELOPMENT MAY REQUIRE A BOND OR OTHER SECURITY WITH SURETY CONDITIONS IN AN AMOUNT SATISFACTORY TO THE CITY, PROVIDING FOR THE ACTUAL CONSTRUCTION INSTALLATION, AND REMOVAL OF SUCH MEASURES WITHIN A PERIOD SPECIFIED BY THE CITY AND EXPRESSED IN THE BOND OR THE SECURITY.
- (3) THE DEPARTMENT OF PLANNING AND DEVELOPMENT, DPW, OR OFFICE OF CODE ENFORCEMENT MAY REQUIRE THE OWNER OR HIS/HER AUTHORIZED AGENT TO DEPOSIT IN ESCROW WITH THE CITY AN AMOUNT OF MONEY SUFFICIENT TO COVER THE CITY'S COST FOR INSPECTION AND ANY PROFESSIONAL ASSISTANCE REQUIRED FOR SITE COMPLIANCE AND MONITORING.
- (4) THE OWNER OF RECORD OF THE PROPERTY SHALL RECORD THE NOTICE OF DECISION AND A STORMWATER INSPECTION AND MAINTENANCE AGREEMENT AT THE REGISTRY OF DEEDS. THE STORMWATER INSPECTION AND MAINTENANCE AGREEMENT SHALL INCLUDE A MAINTENANCE AND INSPECTION PLAN MEETING ALL REQUIREMENTS IN PART E(1), BELOW.
- B. RESPONSIBILITY
- (1) RESPONSIBLE PARTIES DURING CONSTRUCTION
- (a) COMMERCIAL AND INDUSTRIAL DEVELOPMENT AND/OR REDEVELOPMENT THE OWNER, AND OWNER'S LEGALLY DESIGNATED REPRESENTATIVE (IF ANY) SHALL ALL HOLD RESPONSIBILITY FOR IMPLEMENTING THE SMECP. THIS INCLUDES BUT IS NOT LIMITED TO THE INSTALLATION, CONSTRUCTION, INSPECTION, AND MAINTENANCE OF ALL STORMWATER MANAGEMENT AND EROSION CONTROL MEASURES REQUIRED BY THE PROVISIONS OF THIS CHAPTER.
- (b) RESIDENTIAL DEVELOPMENT AND REDEVELOPMENT THE OWNER IS RESPONSIBLE FOR IMPLEMENTING THE SMECP. EXCLUDING ANY POST-DEVELOPMENT REQUIREMENTS OF PLAN IMPLEMENTATION, THERE ARE TWO WAYS FOR THE CITY TO CONSIDER AN OWNER TO BE REMOVED AS THE RESPONSIBLE PARTY (THE OWNER MAY ALSO BE REQUIRED TO COMPLY WITH OTHER REGULATING ENTITIES' ADDITIONAL REQUIREMENTS):
- (i) THE OWNER COMPLETES THE PROJECT IN A MANNER SATISFACTORY TO THE CITY AND IF A NOI HAS BEEN FILED FOR THE PROJECT, THE NOI PERMITTEE FILES A NOTICE OF TERMINATION (NOT WITH THE EPA IN ACCORDANCE WITH THE TERMS OF THE FEDERAL REQUIREMENTS.
- (ii) THE OWNER PASSES LEGAL RESPONSIBILITY FOR THE SMECP TO ANOTHER COMPETENT PARTY, IN THE CASE OF A NEW SUBDIVISION WHERE LOTS MAY BE TRANSFERRED TO A DIFFERENT ENTITY FOR CONSTRUCTION OF THE BUILDINGS, IT IS THE OWNER'S RESPONSIBILITY TO ENSURE THAT THE OWNER HAS A LEGAL BASIS TO REQUIRE COMPLIANCE BY THE NEW ENTITY.
- (c) INDIVIDUAL HOMEOWNER DEVELOPMENT
- THE HOMEOWNER OR A HOMEOWNER WHO HAS TAKEN CONTROL OF A SUBDIVIDED PROPERTY BEARS RESPONSIBILITY FOR COMPLIANCE WITH THE APPROVED SMECP. IF THE HOMEOWNER IS CONTRACTING BUILDING SERVICES TO ANOTHER PERSON OR ENTITY, THE HOMEOWNER MAY CHOOSE TO PASS LEGAL RESPONSIBILITY OF COMPLIANCE TO THE CONTRACTED ENTITY. IF THE RESPONSIBILITY IS NOT PASSED, THE HOMEOWNER REMAINS THE RESPONSIBLE PARTY AND SHALL COMPLY WITH THE TERMS OF THE ORIGINAL SMECP.
- (2) RESPONSIBLE PARTIES – POST-CONSTRUCTION / LONG-TERM MAINTENANCE, LONG-TERM MAINTENANCE OF APPROVED STORMWATER PRACTICES SHALL BE ENSURED THROUGH THE STORMWATER INSPECTION AND MAINTENANCE PLAN AS DESCRIBED IN PART D(1), BELOW. RESPONSIBILITY FOR IMPLEMENTING THE INSPECTION AND MAINTENANCE PLAN IS AS FOLLOWS:
- (a) COMMERCIAL AND INDUSTRIAL DEVELOPMENT AND/OR REDEVELOPMENT THE OWNER, AND OWNER'S LEGALLY DESIGNATED REPRESENTATIVE (IF ANY) SHALL ALL HOLD RESPONSIBILITY FOR IMPLEMENTING THE MAINTENANCE AND INSPECTION PLAN. THE RESPONSIBLE PARTY(IES) MAY CONTRACT WITH ONE OR MORE THIRD PARTIES TO CONDUCT THE INSPECTION AND MAINTENANCE ACTIVITIES BUT SHALL REMAIN RESPONSIBLE FOR ENSURING LONG-TERM EFFECTIVENESS AND MAINTAINING RECORDS AS REQUIRED BY PART D(1), BELOW.
- (b) RESIDENTIAL DEVELOPMENT AND/OR REDEVELOPMENT FOR RESIDENTIAL DEVELOPMENT AND/OR REDEVELOPMENT WHERE A HOMEOWNERS' ASSOCIATION WILL NOT BE ESTABLISHED, THE INDIVIDUAL HOMEOWNERS SHARE JOINT AND SEVERAL LIABILITY FOR IMPLEMENTING THE MAINTENANCE AND INSPECTION PLAN. FOR RESIDENTIAL DEVELOPMENTS WHERE A HOMEOWNERS' ASSOCIATION WILL BE ESTABLISHED THE FOLLOWING APPLIES:
- (i) THE HOMEOWNERS' ASSOCIATION SHALL ASSUME RESPONSIBILITY AND BE SPECIFIED AS SUCH IN THE DOCUMENTATION THAT ESTABLISHES THE ASSOCIATION.
- (ii) IF THE HOMEOWNERS' ASSOCIATION IS DISSOLVED OR DISCONTINUED, THE INDIVIDUAL HOMEOWNERS SHARE JOINT AND SEVERAL LIABILITY FOR MAINTENANCE AND INSPECTION ACTIVITIES. THE RESPONSIBLE PARTY(IES) MAY CONTRACT WITH ONE OR MORE THIRD PARTIES TO CONDUCT THE INSPECTION AND MAINTENANCE ACTIVITIES BUT SHALL REMAIN RESPONSIBLE FOR ENSURING LONG-TERM EFFECTIVENESS AND MAINTAINING RECORDS AS REQUIRED BY PART D(1), BELOW.
- C. POST-CONSTRUCTION INSPECTION AND MAINTENANCE
- (1) THE STORMWATER INSPECTION AND MAINTENANCE AGREEMENT SHALL INCLUDE AN INSPECTION AND MAINTENANCE PLAN FOR POST-CONSTRUCTION MONITORING OF STORMWATER BMPS TO ENSURE LONG-TERM PERFORMANCE AND FUNCTIONALITY, INCLUDING THE FOLLOWING:
- (a) DETAILS OF EACH BMP, INCLUDING A PLAN SHOWING THE LOCATION OF EACH BMP
- (b) NAME OF RESPONSIBLE PARTY FOR INSPECTIONS AND MAINTENANCE
- (c) PROPOSED SCHEDULE OF INSPECTION FREQUENCY CONSISTENT WITH THE NEW HAMPSHIRE STORMWATER MANUAL
- (d) INSPECTION CHECKLIST AND PHOTO DOCUMENTATION REQUIREMENTS
- (e) A SAMPLE LOG TO DOCUMENT EACH INSPECTION AND MAINTENANCE ACTIVITY
- (f) A SAMPLE DEICING LOG TO TRACK AMOUNT AND TYPE OF DEICING MATERIALS APPLIED TO THE SITE
- (g) DESCRIPTION OF MAINTENANCE RESPONSE ACTIONS, INCLUDING ACTIONS TO BE TAKEN IF INVASIVE SPECIES BEGIN TO GROW IN THE BMPS
- (h) DOCUMENTATION OF HOW REPORTS WILL BE COMPLETED, SUBMITTAL AND RETENTION PROCEDURES, AND CONTINGENCY PLANS IF FUTURE MAINTENANCE IS REQUIRED
- (2) THE OWNER OF RECORD OF THE PROPERTY SHALL RECORD THE APPROVED STORMWATER INSPECTION AND MAINTENANCE AGREEMENT AT THE REGISTRY OF DEEDS.
- (3) INSPECTIONS SHALL BE CONDUCTED BY A THIRD PARTY, QUALIFIED PROFESSIONAL.
- (4) RESPONSIBLE PARTY(IES) SHALL REMAIN RESPONSIBLE FOR ENSURING LONG-TERM EFFECTIVENESS AND MAINTAINING RECORDS AS REQUIRED BY THE INSPECTION AND MAINTENANCE PLAN.
- (5) INSPECTIONS OF THE POST-CONSTRUCTION BMPS SHALL BE CONDUCTED AT THE FREQUENCY SPECIFIED IN THE INSPECTION AND MAINTENANCE PLAN. COPIES OF INSPECTION REPORTS SHALL BE MADE AVAILABLE UPON REQUEST TO DPW.
- D. PROVIDING SITE ACCESS FOR MAINTENANCE AND INSPECTION MUNICIPAL STAFF OR THEIR DESIGNATED AGENT SHALL HAVE SITE ACCESS TO COMPLETE ROUTINE INSPECTIONS TO ENSURE COMPLIANCE WITH THE APPROVED SMECP. SUCH ACCESS SHALL BE IMPLIED WITH THE ISSUANCE OF A SWP AND/OR AS INDICATED IN DEVELOPMENT APPROVALS. SUCH INSPECTIONS SHALL BE CONDUCTED AT A TIME AGREED UPON WITH THE OWNER OF RECORD. IF PERMISSION TO INSPECT IS DENIED BY THE LANDOWNER, IT SHALL BE DEEMED A VIOLATION. MUNICIPAL STAFF OR THEIR DESIGNATED AGENT RESERVE THE RIGHT TO SECURE AN ADMINISTRATIVE INSPECTION WARRANT FROM THE DISTRICT OR SUPERIOR COURT UNDER RSA 595-B ADMINISTRATIVE INSPECTION WARRANTS. EXPENSES ASSOCIATED WITH INSPECTIONS SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER.
- E. NOTIFICATION FOR SPILLS OR OTHER NON-STORMWATER DISCHARGES AS SOON AS ANY OWNER, OWNER'S AGENT, OR DESIGNATED PERSON RESPONSIBLE FOR A FACILITY, SITE, ACTIVITY, OR OPERATION HAS INFORMATION OF ANY KNOWN OR SUSPECTED RELEASE OF POLLUTANTS OR NON-STORMWATER DISCHARGES WHICH ARE RESULTING OR MAY RESULT IN ILLIOT DISCHARGES OR POLLUTANTS DISCHARGING INTO STORMWATER, THE MUNICIPAL STORM DRAIN SYSTEM, STATE WATERS, OR WATERS OF THE UNITED STATES, SAID PERSON SHALL TAKE ALL NECESSARY STEPS TO ENSURE THE DISCOVERY, CONTAINMENT, AND CLEANUP OF SUCH RELEASE TO MINIMIZE THE EFFECTS OF THE DISCHARGE. IF SAID INDIVIDUAL IS NOT COMPETENT TO ASSESS, CONTAIN, OR CLEAN UP, THAT PERSON SHALL IMMEDIATELY NOTIFY ANOTHER COMPETENT INDIVIDUAL OR FIRM. IF THE SUBSTANCE POSES AN IMMEDIATE HEALTH OR SAFETY CONCERN (EMERGENCY SITUATION), THE CITY OF ROCHESTER EMERGENCY SERVICES SHALL IMMEDIATELY BE NOTIFIED, AND THEN NOTIFICATION SHALL BE MADE TO THE CITY OF ROCHESTER OFFICE OF BUILDING, ZONING AND LICENSING SERVICES, AND THE DPW. NOTIFYING THE CITY OF ROCHESTER DOES NOT PRECLUDE, SUPERSEDE, OR PROVIDE ANY LIABILITY COVERAGE FOR ANY FEDERAL- OR STATE REQUIRED NOTIFICATIONS RELATED TO MATERIAL SPILLS. IN NONEMERGENCY SITUATIONS, NOTIFICATION SHOULD BE MADE AS SOON AS POSSIBLE; HOWEVER, NO LATER THAN THE NEXT BUSINESS DAY FOLLOWING AN EVENT.

| #2<br>#1 | 3-05-24<br>8-14-23 | REVISE PER TRG COMMENT | REVISION | DATE | DESCRIPTION |
|----------|--------------------|------------------------|----------|------|-------------|
|          |                    |                        |          |      |             |

|  |
|--|
| ROCHESTER CH. 218 STORMWATER REQUIREMENTS & NOTES  |
| LAND OF<br>KNOX MARSH DEVELOPMENT LLC<br>FLAT ROCK BRIDGE ROAD<br>ROCHESTER, N.H.<br>74X MAP 210, LOT 64 |

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



