

**TOWN OF GRAY**  
**PLANNING BOARD**  
**AGENDA • JANUARY 11, 2024**

**Planning Board  
Regular Meeting**

**Henry Pennell Municipal Complex**  
**24 Main St., Gray, Maine**  
**And via Teams videoconferencing:**  
**<http://tinyurl.com/2k4s487j>**

**7:00 PM**

**I. MEETING COMMENCES**

Roll Call

**II. OFFICER ELECTIONS**

Nomination of Dan Cobb for chairman and Tamara Lee Pinard for vice chairman.

**III. MINUTES APPROVAL**

Planning Board Regular Meeting Minutes December 14, 2023

**IV. INFORMATION EXCHANGE**

**V.**

**CONTINUED BUSINESS**

a.

Cambell Acres Subdivision Amendment – Final Plan Review

A request by McDonnell Brothers Custom Builders, LLC, represented by DM Roma Consulting Engineers, for Planning Board final plan review of a proposal to create three lots in the Cambell Acres subdivision on the 7.12+/- parcel off Jenny Drive, Map 56, Lot 17-28-03 in the Rural Residential and Agricultural zoning district. This proposal is subject to major subdivision review.

b.

Aerie Estates Amendment to Eagles Ridge Subdivision - Preliminary Plan Review

A request by Sebago Realty, LLC, represented by D.H. Roma Consulting Engineers, for preliminary review of a proposal to create a 14-lot residential open space subdivision on the 41+/- acre parcel off Eagles Nest Road, at Tax Map 63, Lot 35-24, on the remaining land in the Eagles Ridge Subdivision, in a Rural Residential and Agricultural zoning district. The proposal

is subject to major subdivision plan review.

## **VI. ADJOURNMENT**

*\* The Town of Gray is an equal opportunity employer and complies with all applicable equal access to public accommodations law. If you are planning to attend a Town Council or Town committee or board meeting and need assistance with a physical disability, please contact the Town Manager's office at least 48 hours in advance of the meeting to have the Town assist you. 657-3339. TTY 657-3931.*

**TOWN of GRAY**  
**PLANNING BOARD**  
**MINUTES • DECEMBER 14, 2023**

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**Henry Pennell Municipal Complex**  
**24 Main Street Gray, ME, 04039**

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**7:00 PM**

**I) MEETING COMMENCES**

**ROLL CALL**

Attendee Name	Status
Dan Cobb	Present
Tamara Lee Pinard	Present
Melinda Sheehee	Present
Zhenya Shevchenko	Present
Kristen Muszynski	Present

**III) INFORMATION EXCHANGE**

a) Welcome New Member

Chairman Cobb welcomed new member Zhenya Shevchenko.

b) Ordinance Updates

Kristen shared items in memo regarding ordinance updates and Staff Review Committee meetings. Also mentioned potential workshop with Open Space Committee to discuss review process for open space subdivisions.

c) Staff Review Committee Updates

**II) MINUTES APPROVAL**

**10-16-23 MINUTES APPROVED AS PRESENTED.**

a) Planning Board - Regular Meeting - October 16, 2023 7:00 PM

Motion to approve II) MINUTES APPROVAL  
10-16-23 minutes approved as presented.

**RESULT  
MOVER  
SECONDER  
AYES**

**PASSED [UNANIMOUS]**  
Tamara Lee Pinard  
Melinda Sheehee  
Dan Cobb, Tamara Lee Pinard, Melinda  
Sheehee, Zhenya Shevchenko

#### **IV) NEW BUSINESS**

a) Morgan Meadow Drive Subdivision – Sketch Plan Review

A request by 519 Morgan Meadows LLC, represented by Caleb Eulitt, for Planning Board sketch plan review of a proposal to create two or more lots on his 25.45+/- acre property on Morgan Meadow Drive, off Totten Road, at Tax Map 57, Lot 23-81 in the Rural Residential and Agricultural zoning district. This proposal is subject to subdivision review.

Applicant Caleb Eulitt explained that he is looking to build only two new duplexes, creating only three lots on the property. Other proposals are off the table. Would keep the road at below 10 dwelling units. Abutter transfer is not happening. Lot one and two would be lot 1 as shown, and the “lot to abutter” shown. Lot 2 duplex will merge with large lot.

Inquired regarding board interest in potential 11<sup>th</sup> DU on the road.

Dan advised that waiver request must be made to show why it is requested. The board is not generally inclined to grant, as it sets precedent to not hold to the ordinance. Applicant will need to show something unique about the site or application – special circumstance. Initial take is waiver would be a tough sell but don’t know specifics.

Melinda: SFH on wet abutter lot instead of duplex would be better option and not require waiver or lots more road. 10 seems easy to achieve and develop in reasonable fashion.

Tamara and Zhenya agree.

Other discussion points are moot, as applicant has revised proposal.

Wetness of the “abutter” lot – concern, want to make sure it has a usable building envelope.

Regarding site walk: Melinda curious about the wetness of the “abutter” lot but stated that given current state/weather a site walk may not be that useful. Dan agreed, if building envelope is delineated on the plan, should be ok. Others agreed site walk not necessary, but want to see building envelope on the plan.

b) Mayall Road Gervais Subdivision – Sketch Plan Review

A request by Andrew Gervais of Gervais Homes LLC, represented by Austin Fagan of BH2M Engineering, for Planning Board sketch plan review of a proposal to create a 12-lot subdivision on his 60 +/- acre property near 279 Mayall Road, at Tax Map 21, Lot 26-20 in the Rural Residential and Agricultural and Business Development-1 zoning districts. This proposal is subject to major subdivision review.

Austin Fagan gave an overview of the project and provided the following response to staff comments. Kristen suggested that some sort of stormwater management plan would be in order, for review by Will Haskell, and board could then consider their feedback and review. Dan Cobb suggested that board would not be able to make suggestions without peer review from professionals.

Austin reviewed staff comments at board direction.

Dan suggested review the ordinance regarding open space and discussion with staff.

Board supports shared driveways, others do as well.

Board would like to have open space defined prior to setting a date for a site walk.

Austin: A wooded lot now. Concern more about location of road and Mayall driveways, would like to know that abutters are OK with proposed locations.

Don't need to come back before the board formally before setting site walk date, but as long as they have some sort of plan with OS delineated. Can schedule site walk WO additional sketch plan submittal.

Dan Cobb invited Doug Webster to speak to open space requirements to both applicants.

Perimeter buffer philosophy is that if a densely developed area in residential area should minimize adverse impact on abutters. And it needs to be fractionally owned by all lot owners.

Common park area quality- review the language and the table. Usable, immediately adjacent to the road. Not supposed to be wet or steep, but a gathering area for neighborhood use.

**V) NEW BUSINESS/PUBLIC HEARING**

a) Aerie Estates Amendment to Eagles Ridge Subdivision - Preliminary Plan Review

A request by Sebago Realty, LLC, represented by D.H. Roma Consulting Engineers, for preliminary review of a proposal to create a 14-lot residential

open space subdivision on the 41+/- acre parcel off Eagles Nest Road, at Tax Map 63, Lot 35-24, on the remaining land in the Eagles Ridge Subdivision, in a Rural Residential and Agricultural zoning district. The proposal is subject to major subdivision plan review.

JP Connelly presented the project, with Dustin Roma.

Board completed site walk Dec. 8 and received abutter input from Ted Macdonald. He is interested in realignment of the road to redirect headlights so they don't go directly into his home and applicant is working on achieving this by providing a 15 degree or less deviation to angle the road. He is also proposing to relocate stormwater to get it out of the 75' buffer. Would have common park area, then stormwater, then lot 8. Can also pursue plantings on abutter's lot, but prefer to realign the road. Moving the road up the hill to maintain 90 degree angle would be difficult for sight distance, also need to stay away from SVP.

Open space access- recognize not meeting 500' from each lot; could also put one at the rear. Community space and stormwater pond on lot 14 area, push it down.

Melinda likes idea of two common areas and stormwater out of the buffer.

Dan Cobb- good direction with OS amendment.

Shape of lots – Dan not prepared to weigh in on that, nor others. JP noted that flag area would not affect building envelope, it's just the nature of that existing property. Could eliminate flag shaped piece.

Soil scientist has provided an updated letter to confirm that his report is still valid.

Building to remove: Plan is to demolish and put down erosion control mix. Dan recommends that it should be blocked so it does not become a parking area. If well on site, need to address it.

Zhenya- need to address septic system, too and clean up any septic tanks on site.

Melinda- maybe seed/loam on site rather than just erosion control, to encourage buffer growth. Don't need to plant large trees, but putting in some small plugs would work.

JP concern about plantings taking hold, will present a plan.

Tamara: just encouraging growth, some kind of soil more accommodating than wood chips.

Dustin: can just transplant some of the nearby trees. Will take out/fill with sand the septic tank.

Wells/septic: address the hydro study waiver request. Topo is North to South running with road. Plumes expected to follow the road, keep plumes on site and on each lot. Expect plumes of 200' in these soils.

Hydrogeological study- Doug Webster comment on not only the proposed lots but also on existing lots. Also close proximity to bedrock, can elongate the plumes. Should consider how it would affect existing lots.

JP: topography of existing lots is similar and expect their plumes run parallel to the road as well.

Abutter Maryanne Rowen, Eagles Nest Road, noted that all septic are on front and wells on the back for the existing lots.

Board feedback: Want to know depth of wells (JP – 150’) Melinda concerned about how bedrock plays into it. Tamara reviewed memo notes, prefers to err on side of caution; Dan agrees, wants expert confirmation that it is OK as proposed.

#### PUBLIC HEARING- EAGLES/AERIE

Abutter Maryanne Rowen asked the board to confirm that Aerie Estates will have their own HOA, not share the Eagles Ridge HOA. This was confirmed.

Abutter Tom Roan, 39 Eagles Nest asked the board to confirm that the ROW stays as is. Kristen confirmed that this applicant does not have RTI to change that, as they do not own the existing Eagles Ridge subdivision, and board has weighed in to say that they do not want to see ROW extended on this property.

Separately, applicant withdraws hydrogeological study waiver request, no need to read through and deny. The 401.7.4 requirement for a hydrogeological study, due to the project not meeting the thresholds for dwelling units per square footage of property and not being on/near an aquifer; and proposing only 14 lots in the developed area.

Motion to approve the following **waivers** for the request by Sebago Realty, LLC, represented by D.H. Roma Consulting Engineers, of a proposal to create a 14-lot residential open space subdivision on the 41+/- acre parcel off Eagles Nest Road, at Tax Map 63, Lot 35-24, on the remaining land in the Eagles Ridge Subdivision, in a Rural Residential and Agricultural zoning district. The proposal is subject to major subdivision plan review.

The waivers are:

- The 401.13.15 C.4. requirement for a dead-end streetlight, due to unwanted overnight lighting for lot owners at end of the road.
- The 401.13.1 D requirement for stone/concrete monuments at all corners, due to the existence of stone walls on site. The Town will require a minimum of inclusion of no fewer than four granite/stone property markers on each side of roadway; and all parent parcel corners that are not marked by stone wall that will be retained should be marked with rebar, iron or stone; with the requirement that the updated plan must show the existing (noted as “to be retained”) stone walls on site. Metal pins will be installed at the other points of curvature/property lines, per the ordinance.

<b>RESULT</b>	<b>PASSED [UNANIMOUS]</b>
<b>MOVER</b>	Tamara Lee Pinard
<b>SECONDER</b>	Zhenya Shevchenko
<b>AYES</b>	Dan Cobb, Tamara Lee Pinard, Melinda Sheehee, Zhenya Shevchenko

Motion to table the **Preliminary Plan Review** by Sebago Realty, LLC, represented by D.H. Roma Consulting Engineers, to create a 14-lot residential open space subdivision on the 41+/- acre parcel off Eagles Nest Road, at Tax Map 63, Lot 35-24, on the remaining land in the Eagles Ridge Subdivision, in a Rural Residential and Agricultural zoning district. The proposal is subject to major subdivision plan review and the preliminary approval is subject to conditions.

<b>RESULT</b>	<b>PASSED [UNANIMOUS]</b>
<b>MOVER</b>	Melinda Sheehee
<b>SECONDER</b>	0
<b>AYES</b>	Dan Cobb, Tamara Lee Pinard, Melinda Sheehee, Zhenya Shevchenko

Motion to table to find the application by Sebago Realty, LLC, represented by D.H. Roma Consulting Engineers, **complete**, per 401.7.1 E. This proposal is to create a 14-lot residential open space subdivision on the 41+/- acre parcel off Eagles Nest Road, at Tax Map 63, Lot 35-24, on the remaining land in the Eagles Ridge Subdivision, in a Rural Residential and Agricultural zoning district. The proposal is subject to major subdivision plan review.

<b>RESULT</b>	<b>PASSED [UNANIMOUS]</b>
<b>MOVER</b>	Melinda Sheehee
<b>SECONDER</b>	0
<b>AYES</b>	Dan Cobb, Tamara Lee Pinard, Melinda Sheehee, Zhenya Shevchenko

**VI) CONTINUED BUSINESS**

- a) Cambell Acres Subdivision Amendment – Final Plan Review  
A request by McDonnell Brothers Custom Builders, LLC, represented by DM Roma Consulting Engineers, for Planning Board final plan review of a proposal to create three lots in the Cambell Acres subdivision on the 7.12+/- parcel off Jenny Drive, Map 56, Lot 17-28-03 in the Rural Residential and Agricultural zoning district. This proposal is subject to major subdivision review.

JP Connelly presented the project.

Noted that the high intensity soil survey- map is now complete and submitted to the town same day.

Regarding the flooding standard and stormwater standard: We can address the flooding standard but the site topography is fairly steep and doesn't allow us to put a pond further interior on the site and also capture the end of the road. Pond design addresses the flooding concern.

Will be asking for waiver from strict compliance, to avoid impacts to the

roadside buffer.

JP noted that if it's not subdivision, there will be no buffering and no stormwater treatment off the driveway will impact the road and Fosters property.

Faced with dilemma, will be seeking waiver for minor increase in flow and minor decrease in stormwater quality management.

Board advised they will want consulting engineer to confirm that this approach would not create a problem. Tamara noted that she wants to understand that there are no other alternatives. Additional pond and associated clearing not ok with board.

Dustin noted that treatment is based on percentage. Treating 95% of small project is more difficult. Same length of road you can't treat, but it's a larger percentage. DEP stormwater laws not intended for projects less than an acre.

Motion to table the application by McDonnell Brothers Custom Builders, LLC, represented by DM Roma Consulting Engineers, for final plan review of a proposal to create an additional three lots in the Cambell Acres subdivision on the 7.12+/- parcel off Jenny Drive, Map 56, Lot 17-28-03 in the Rural Residential and Agricultural zoning district. This proposal is subject to major subdivision review and several conditions.

<b>RESULT</b>	<b>PASSED [UNANIMOUS]</b>
<b>MOVER</b>	Melinda Sheehee
<b>SECONDER</b>	Tamara Lee Pinard
<b>AYES</b>	Dan Cobb, Tamara Lee Pinard, Melinda Sheehee, Zhenya Shevchenko

**VII) ADJOURNMENT**

Motion to adjourn

<b>RESULT</b>	<b>PASSED [UNANIMOUS]</b>
<b>MOVER</b>	Tamara Lee Pinard
<b>SECONDER</b>	Melinda Sheehee
<b>AYES</b>	Dan Cobb, Tamara Lee Pinard, Melinda Sheehee, Zhenya Shevchenko



January 2, 2024

Town of Gray Planning Board  
c/o Kristen Muszynski, Town Planner  
Henry Pennell Municipal Complex  
24 Main St, Gray, ME 04039

**Re: Cambell Acres – Amended Subdivision – Final Major Subdivision Application  
Planning Department and Town Engineer review comment response  
McDonnell Brothers Custom Builders, LLC. – Owner/Applicant**

Dear Ms. Muszynski:

On behalf of McDonnell Brothers Custom Builders, LLC., DM Roma Consulting Engineers has prepared this letter to address outstanding issues and concerns as outlined in the memo to the Town of Gray Planning Board dated December 4, 2023, discussions with the Planning Board at the December 14, 2023, and discussion with the Town Planner and Town’s consulting engineer. The responses in this letter were prepared to address outstanding concerns and comments from the Town Staff, and Town’s Review Engineer.

The following is a list of comments and followed by our response:

Town Staff comments:

- Also, per COA #15, with the board-approved waiver of the high-intensity soil survey requirement, the applicant is subject to the requirements of 401.13.18 C.3. b. for developed and undeveloped areas, as provided by a certified soil scientist (CSS). The applicant has submitted a letter from CSS Mark Hampton in the Nov. 13 submittal packet. However, Mr. Hampton only states that there are no poorly or very poorly drained soils present on the parcel.
  - A HISS was prepared. The report and associated test pits were provided on 12/5/2023 and the plan itself followed on 12/14/2023.

Town’s consulting engineer comments:

- The response to comments letter noted that the foundation drains were shown on the Plan and Profile sheet of the plan set. We could not find the foundation drain pipes on the plans.
  - Foundation drain leaders were shown on the Roadway Plan and Profile sheet 4 of 7 dated 12-4-2023.
- We recommend that a plunge pool outlet be provided at the filter basin outlet to reduce outflow velocities to the abutting property.
  - Plunge Pool outlet was added at the discharge to the proposed Filter Basin pond.

- The stormwater report states that the required stormwater treatment has not been met. The Applicant provided treatment for 84.2% of the impervious area and 69.6% of the developed area which is less than the required 90% of impervious area and 75% of developed area for a project developing less than 60% of the available land. The Engineer describes an alternative location for the stormwater management in the comment response and notes their concerns with the alternate location. Based on our past consultations with Gray Public Works relative to existing stormwater concerns along Cambell Shore Road, we have concerns about reducing the standards for stormwater quality or quantity at this location. Note that no formal waiver request has been requested by the Applicant/Design Engineer. The Design Engineer should review other options for meeting the stormwater quality standards.
  - Due to several circumstances, specifically the relatively small size of the project, effort to minimize land disturbance to effectively provide more natural wooded buffers between the proposed duplexes and existing neighbors the project layout, no disturbance being allowed in the 75' scenic road buffer and existing topography; a portion of the proposed subdivision road near the intersection of Jenny Drive is not captured and treated prior to leaving the site. As such the percentage of impervious area and developed area treated by this project design is below the 90% total impervious area and 75% total developed area treatment requirement. The project design was evaluated under different scenarios incorporating a variety of alternate and additional treatment BMPs. Improvements to the treatment percentages were negligible due to the inability to capture, convey, treat and outlet stormwater from the proposed subdivision road, prior to the intersection with Jenny Drive.

Alternately, since the project stormwater quality treatment requirements are percentage based performance standards we evaluated changes to the project design that we could capture, convey and treat in the currently proposed grassed lined underdrained filter basin (FB-1). From this exercise it was determined that if the project area within sub-basin watersheds WS-21, 22, 23 & 24 were to increase in impervious area from the current project design by approximately 15,440± square feet and the landscaped area by approximately 2,925± square feet, the project would meet the stormwater treatment requirements.

For perspective, the current project layout proposes 26,676± square feet of total impervious area and 85,612± square feet of total developed area; increasing the impervious area 15,440± square feet would result in a total impervious area for the project of 42,116± square feet (a 57.8%± increase).

- The stormwater calculations show an increase in peak post development flow to the roadside ditch along Jenny Drive. The ditch conveys runoff to the existing roadway culvert at the intersection of Jenny Drive and Fran Circle. The stormwater calculations show a reduction in peak flow at the Jenny Drive/Fran Circle culvert inlet as well as across the

abutting Foster property. Based on our understanding of existing stormwater/drainage concerns in this area, we do not recommend waivers of stormwater quantity standards for this project. Note that no formal waiver request has been requested by the Applicant/Design Engineer. The Design Engineer should review other options for meeting the stormwater quantity standards for stormwater flowing to the Jenny Drive ditch and study point SP-2.

- The project site is situated near the highpoint of Jenny Drive, and Jenny Drive has a significant road side swale. The concern that Town's peer review engineer has comes from his understanding to past flooding concerns in the area.

We have reviewed and evaluated several alternatives to address this stormwater concern. We were able to prepare a design that would mitigate the increase in peak discharge into the Jenny Drive drainage swale; however similar to the above response, this solution requires construction of a basin at the end of the proposed subdivision road, and within the 75' scenic road buffer. During the course of this projects review however, it was discovered that stormwater ponds would not be allowed in the 75' scenic road buffer and it doesn't appear that the Planning Board has the authority to allow for this disturbance within the 75' scenic road buffer.

Hydrologic/Hydraulic modeling of the project indicates that the flows into the Jenny Drive road swale are relatively small in comparison to the road swales capacity and ability convey flow as shown on the table below. While the stormwater model indicates that there is an increase in discharge into the road swale (see SP2), ultimately the peak flow in the post-developed condition is mitigated to meet or reduce peak flows compared to the existing condition at the inlet to the existing drainage culvert at the intersection of Fran Circle and Jenny Drive (see SP1), which is likely the result of the performance of the proposed underdrained soil filter basin (see SP3).

Based on calculations, the underdrained soil filter basin BMP is required to have a filter area of 1,635 sf and contain a water quality volume of 2,726 cf, but for this project the design of the basin was enlarged to provide a filter area of 2,352 sf (approximately 717 sf greater (44%) than required) and a water quality volume of 4,226 cf (approximately 1,500 cf more (55%) than required).

Table 1 – Peak Rates of Stormwater Runoff						
Study Point	2-Year (cfs)		10-Year (cfs)		25-Year (cfs)	
	Pre	Post	Pre	Post	Pre	Post
SP1	3.66	2.27	8.41	7.49	12.57	12.56
SP2	1.07	1.48	2.43	3.27	3.61	4.82
SP3	2.86	0.89	6.62	4.57	9.91	8.08

With the relatively small flow within the Jenny Drive drainage swale, the reduction of stormwater discharge onto the neighboring property (“N/F Philip W. & Barbara J. Foster”), the stormwater discharge reducing the flow captured at the existing drainage culvert, and the fact that the proposed soil filter basin is significantly larger than required to treat tributary areas, it is our opinion that the project design will not create an undue risk to flooding, and the existing road swale will be capable of handling much more than the proposed stormwater flows.

Additionally, on 12/18/2023 there was a significant rainfall event, that according to the National Weather Service measured 4.3 inches of rain in a 24-hour period at the Gray ME weather station. This rain event provided us the opportunity to physically evaluate the flow capacity of the existing drainage swale and the volume of runoff tributary to the swale. Our on-site field observations during this storm seem to backup the results our model predicted. Photos from the site during the rain are included on the following page:



PHOTO 1 – near the proposed intersection in Jenny Drive looking toward Fran Circle



PHOTO 2 –Jenny Drive looking toward Fran Circle with existing culvert



PHOTO 3 –Jenny Drive looking at road swale at staked proposed road location

As illustrated in the photos, the road side swale in this location performed very well in this significant rain event. The swale appears to have the ability to convey more than the predicted post-developed flows safely. In this case, we are asking the Planning Board to consider granting the project a waiver from reducing the peak discharge to pre-developed conditions at this one location (SP2) due to the nature of the site and not being able to construct a basin within the 75' scenic buffer, and the fact that the flow at downstream drain infrastructure (existing culvert at Jenny Drive/Fran Circle) will ultimately be reduced by the project design in the modeled rainfall events.

- We have concerns about the intersection of Lieutenant's Drive and Jenny Drive. Will the grading prevent water from flowing out onto Jenny Drive? All runoff from Lieutenant's Drive should be directed to the ditch and not into the intersection. Please provide additional narrative and/or a sketch showing what portion of the new access road will drain to Jenny Drive (if any).
  - Lieutenant's Drive will be designed with a crowned road section draining to a drainage swales on either side. The majority of the drainage swales will be installed with 6" rip rap lining. With proposed road construction it is common

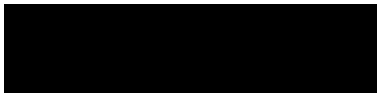
that a small portion of the proposed road will not be able to be directed into curb gutter lines or road side swales. In this case the proposed project will have approximately 452 sf of area that will have the potential to drain into Jenny Drive. However, Jenny Drive is also a crowned road section, and due to the Jenny Drive road cross slope runoff from that 452 sf area will then be directed into the southerly road swale. WM-2 "Watershed Map: Developed Condition" presented at the Planning Board hearing on 12/14/23 has been updated to illustrate this area and is included with this response letter.

- The new residential driveways shall conform to section 400.5.4.C.2 and slope away from the roadway a minimum of ¼"/ft and a maximum of 1"/ft for no less than 4' from the edge of the travel way surface. The changes shall maintain conformance with section 400.5.4.A Table 5.1.
  - General Note 19 on the Second Amended Subdivision Plan sheet 3 of 8, has been revised to state *"ALL DRIVEWAY AND LOT DEVELOPMENT WORK SHALL PROVIDE FOR EROSION & SEDIMENTATION CONTROL BMPs IN ACCORDANCE WITH THE MAINE DEP HANDBOOK OF EROSION AND SEDIMENTATION CONTROL LATEST REVISION. ALL DRIVEWAYS SHALL BE CONSTRUCTED TO CONFORM WITH SECTION 400.5.4.C.2 OF THE STREET ORDINANCE"*

We have enclosed with this submission the Developed Condition Watershed map for your review. Upon your review of the submission, please do not hesitate to contact me if you have any questions or require any additional information.

Sincerely,

DM ROMA CONSULTING ENGINEERS



J.P. Connolly  
Senior Project Engineer

Cc: McDonnell Brothers Custom Builders, LLC.

## WAIVER REQUESTS

The applicant would like the Planning Board to consider granting waiver to the following requirement:

- Storm water management

The applicant is requesting the Planning Board consider granting a waiver from the requirement of section 401.13.12.D and 401.13.12.G, requiring a stormwater management plan that meets the requirements of DEP Chapter 500 General Standards (401.13.12.D) and Flooding Standards (401.13.12.G).

Strict compliance with DEP Chapter 500 General Standards and Flooding Standards is difficult to achieve, due to existing ground topography of the site and the requirement to maintain a 75' scenic buffer along Jenny Drive. While compliance with the General & Flooding standards maybe possible to achieve, the result would require tree clearing within the 75' scenic buff as well as significant amount of additional tree clearing, and earth work, which have been a primary concern of the neighbors and Planning Board.

The project design provides 84.1% treatment of proposed impervious area and 69.6% treatment of the developed area and is required to provide 90% Impervious Area treatment and 75% Developed Area treatment. Expanding the project to include a significant amount of additional impervious and developed area upstream of the proposed stormwater BMP (Filter Basin 1) would result in the project meeting the General Standard but would require much more tree clearing, land disturbance, and/or larger houses and more paved areas.

At one location, where runoff tributary to the Jenny Drive existing road swale leaves the project site the flooding standard can't be meet due to the requirement to maintain a 75' scenic buffer along Jenny Drive. The Jenny Drive road swale appear to have the capacity to safely capture and convey the additional flow and the Flooding Standard is meet at location where runoff leaves the property and discharges to the west and on to the neighboring property, as well as the confluence of the Jenny Drive road swale and overland discharge onto the neighboring property at the existing drainage culvert at Jenny Drive and Fran Circle.

# AERIE ESTATES

(SECOND AMENDMENT TO EAGLES RIDGE SUBDIVISION)  
 AERIE DRIVE, OFF EAGLES NEST ROAD  
 GRAY, MAINE

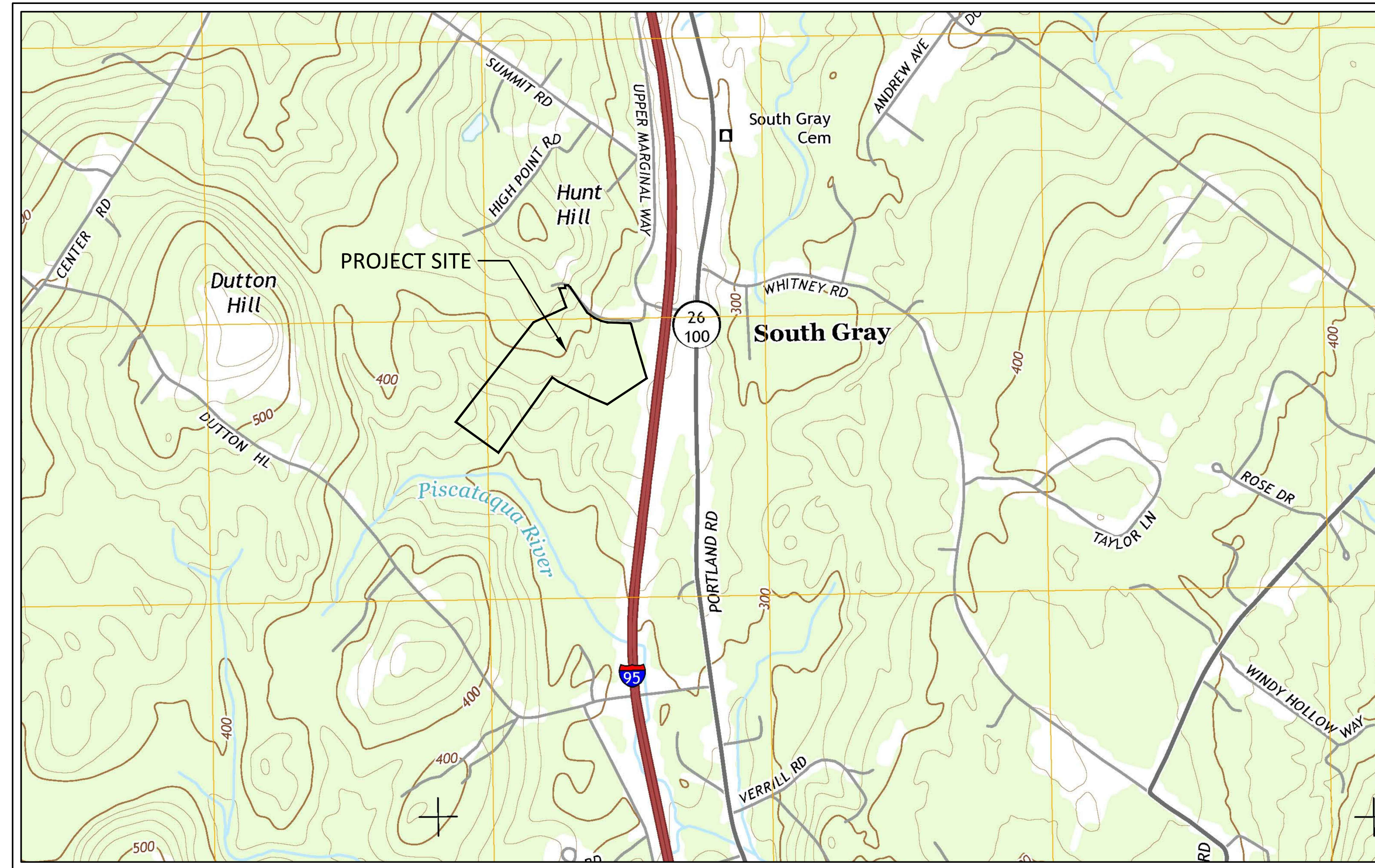
CONSULTANTS

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CIVIL ENGINEER DM ROMA CONSULTING ENGINEERS

LAND SURVEYOR SURVEY, INC

SITE EVALUATOR MAINELY SOILS, LLC



PROJECT VICINITY MAP  
 SCALE 1" = 1,000'

PERMITTING PLAN SET - NOT FOR CONSTRUCTION  
 JANUARY 2, 2024

PREPARED BY:

**DM ROMA**

CONSULTING ENGINEERS  
 P.O. BOX 1116  
 WINDHAM, ME 04062  
 (207) 591-5055

**APPLICANT & RECORD OWNER:**

SEBAGO REALTY, LLC  
 PO BOX 1116  
 WINDHAM, ME 04062

AERIE ESTATES SUBDIVISION  
**DRAWING SHEET INDEX**

PAGE NO.	DESCRIPTION
1	TITLE SHEET
2	BOUNDARY SURVEY
3	SUBDIVISION PLAN
4	ROADWAY PLAN
5	STORMWATER MANAGEMENT DETAILS
6	ROADWAY PROFILE
7	CONSTRUCTION DETAILS
8	CONSTRUCTION DETAILS

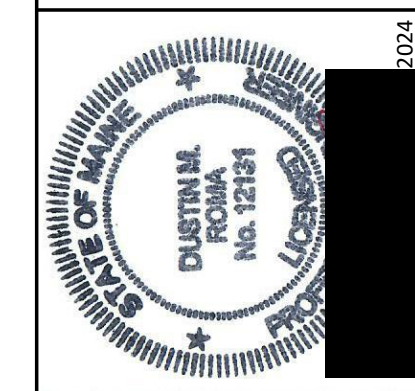
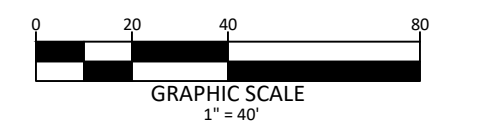






**LEGEND**

EXISTING	PROPOSED
--- PROPERTY LINE/R.O.W.	--- PROPERTY LINE/R.O.W.
--- ABUTTER PROPERTY LINE	--- ABUTTER PROPERTY LINE
--- TIE LINE	--- TIE LINE
--- SETBACK LINE	--- SETBACK LINE
--- EASEMENT LINE	--- EASEMENT LINE
○ GRANITE MONUMENT	○ GRANITE MONUMENT
○ IRON PIN/DRILL HOLE	○ IRON PIN/DRILL HOLE
--- CENTERLINE	--- CENTERLINE
--- BUILDING	--- BUILDING
--- EDGE OF PAVEMENT/CURB	--- EDGE OF PAVEMENT/CURB
--- EDGE OF GRAVEL	--- EDGE OF GRAVEL
--- EDGE OF CONCRETE	--- EDGE OF CONCRETE
--- SIGN	--- SIGN
--- EDGE OF WETLANDS	--- EDGE OF WETLANDS
--- EDGE OF WATER	--- EDGE OF WATER
--- CENTERLINE OF STREAM	--- CENTERLINE OF STREAM
--- FLOODPLAIN	--- FLOODPLAIN
---200---201--- CONTOUR LINE	---200---201--- CONTOUR LINE
--- TREELINE	--- TREELINE
TP- TEST PIT	TP- TEST PIT
○ CATCHBASIN	○ CATCHBASIN
○ DRAINAGE MANHOLE	○ DRAINAGE MANHOLE
--- CULVERT/STORMDRAIN	--- CULVERT/STORMDRAIN
--- UNDERDRAIN	--- UNDERDRAIN
--- HYDRANT	--- HYDRANT
○ WELL	○ WELL
○ UTILITY POLE	○ UTILITY POLE
○ LIGHT POLE	○ LIGHT POLE
OHU OVERHEAD UTILITIES	OHU OVERHEAD UTILITIES
UGU UNDERGROUND UTILITIES	UGU UNDERGROUND UTILITIES
--- TRANSFORMER PAD	--- TRANSFORMER PAD
--- GAS MAIN	--- GAS MAIN
--- GAS VALVE	--- GAS VALVE
--- RIPRAP	--- RIPRAP
--- SILT FENCE	--- SILT FENCE



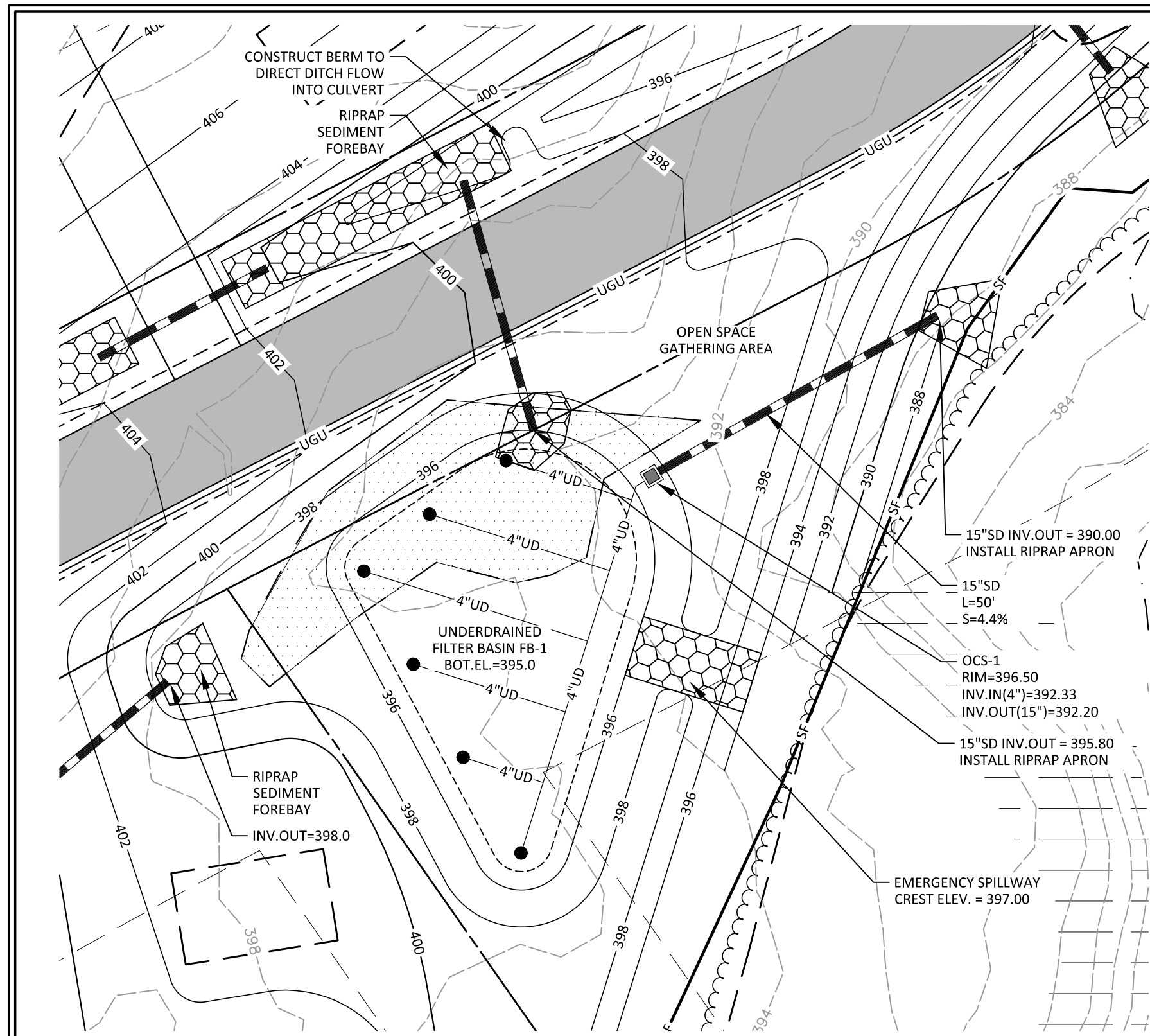
**DM ROMA**  
CONSULTING ENGINEERS  
P.O. BOX 1116  
WINDHAM, ME 04092  
(207) 591-5055

REV	DATE	BY	DESCRIPTION
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D	11-22-23	JPC	REVISED PER REVIEW COMMENTS
E	12-4-23	JPC	REVISED PER REVIEW COMMENTS
F	1-2-24	JPC	REVISED PER REVIEW COMMENTS

**ROADWAY PLAN**  
AERIE ESTATES SUBDIVISION  
AERIE DRIVE - OFF EAGLES NEST ROAD  
GRAY, MAINE  
FOR: **SEBAGO REALTY, LLC**  
P.O. BOX 1116  
WINDHAM, ME 04092

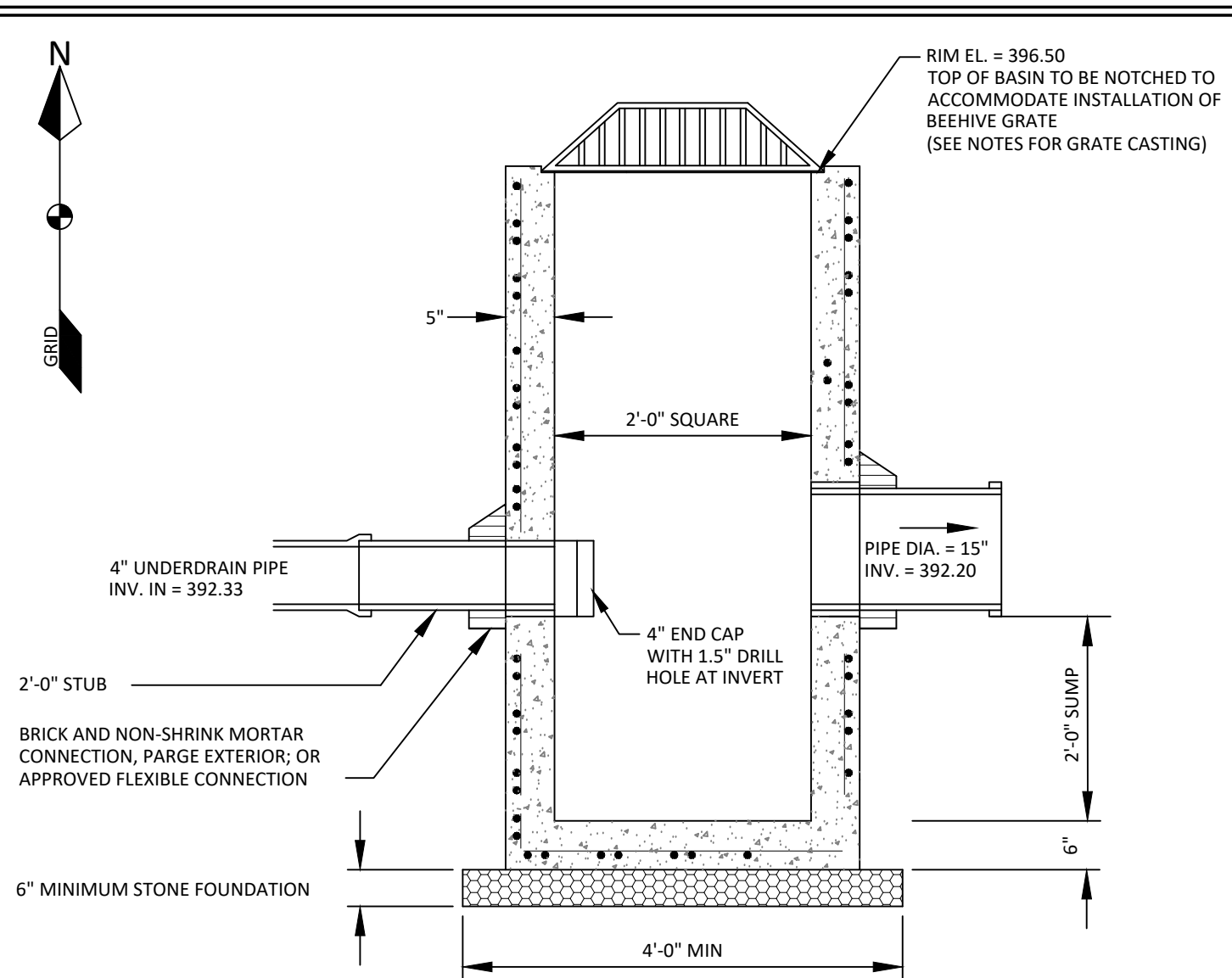
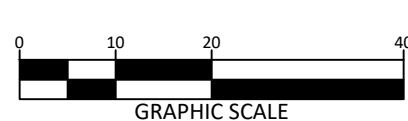
23050  
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1" = 40'  
SCALE:  
1-2-2024  
DATE:  
SHEET 4 OF 8  
PP-1

- CONSTRUCTION NOTES:**
- ALL CULVERTS SHALL BE HDPE PIPE EQUAL TO ADS N-12.
  - DRIVEWAY CULVERTS FOR LOTS 1, 2, 4, 5, 8, 9, 10 AND 11 SHALL BE MINIMUM 15" DIAMETER. DRIVEWAY CULVERTS FOR LOTS 6, 7, 12 AND 13 SHALL BE MINIMUM 18" DIAMETER.
  - INSTALL EROSION CONTROL BLANKET ON ALL SLOPES GREATER THAN 15% AND UP TO A 2:1 SLOPE.
  - DRIVEWAYS TO ALL LOTS SHALL BE CONSTRUCTED TO DRAIN AWAY FROM THE ROADWAY SURFACE IN ACCORDANCE WITH SECTION 400.5.4.C.2 OF THE STREET ORDINANCE. THE DRIVEWAY SLOPE SHALL PITCH AWAY FROM THE ROAD AT A GRADE NOT LESS THAN 0.25" PER FOOT AND NOT MORE THAN 1" PER FOOT FOR A DISTANCE OF AT LEAST 4 FEET.



UNDERDRAINED FILTER BASIN FB-1 DETAIL

SCALE 1"=20'

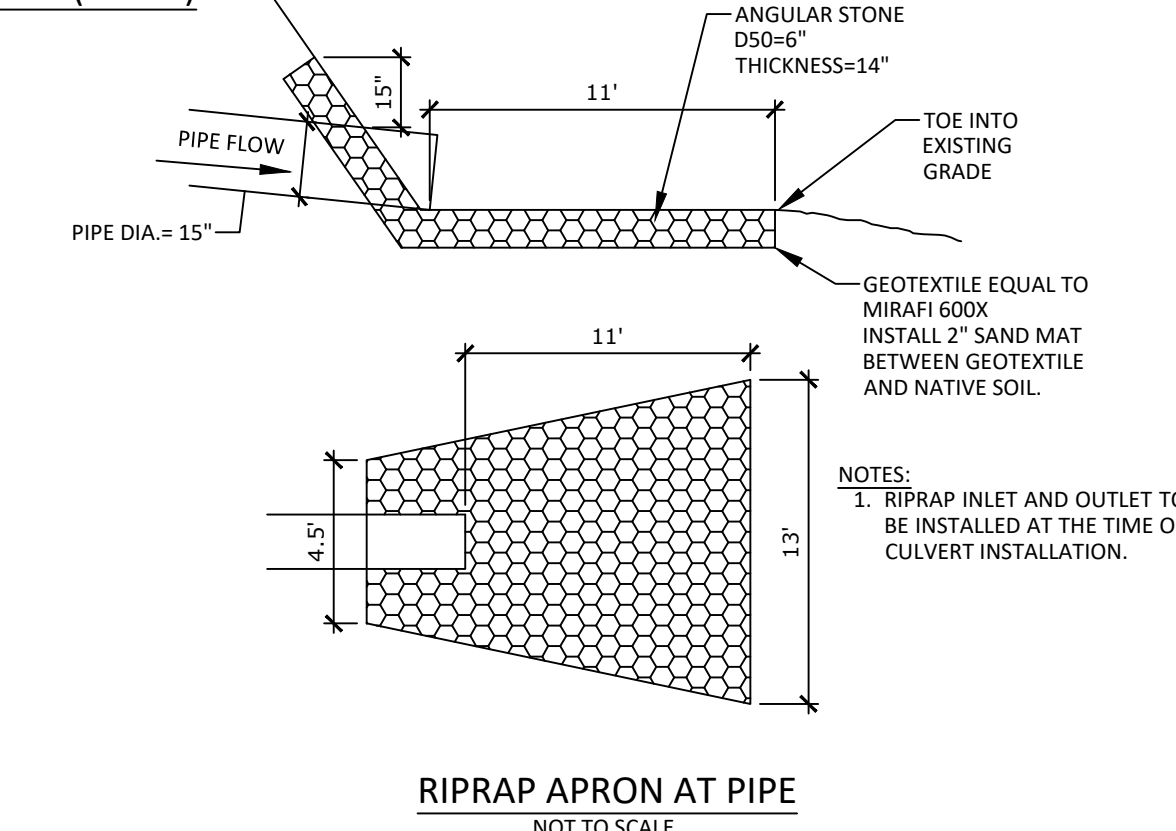
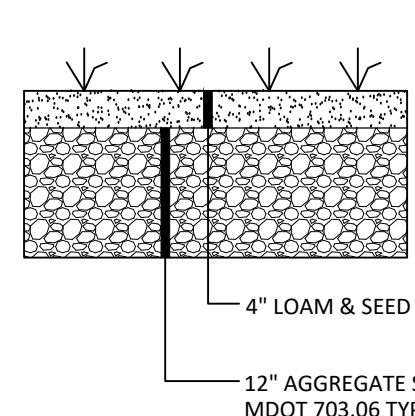


NOTES:

1. OUTLET CONTROL STRUCTURE SHALL BE CONSTRUCTED UTILIZING A PRECAST CATCH BASIN (24"x 24" - TYPE F).
2. CAST IRON GRATE SHALL BE EQUAL TO NEENAH FOUNDRY, PRODUCT NO. R-4345, BEEHIVE LIGHT DUTY GRATE, OR APPROVED EQUIVALENT.
3. SUBMIT SHOP DRAWINGS AND CASTING SPECIFICATIONS TO ENGINEER FOR APPROVAL.

OUTLET CONTROL STRUCTURE (OCS-1)

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3. SUBMIT SHOP DRAWINGS AND CASTING SPECIFICATIONS TO ENGINEER FOR APPROVAL.

OUTLET CONTROL STRUCTURE (OCS-2)

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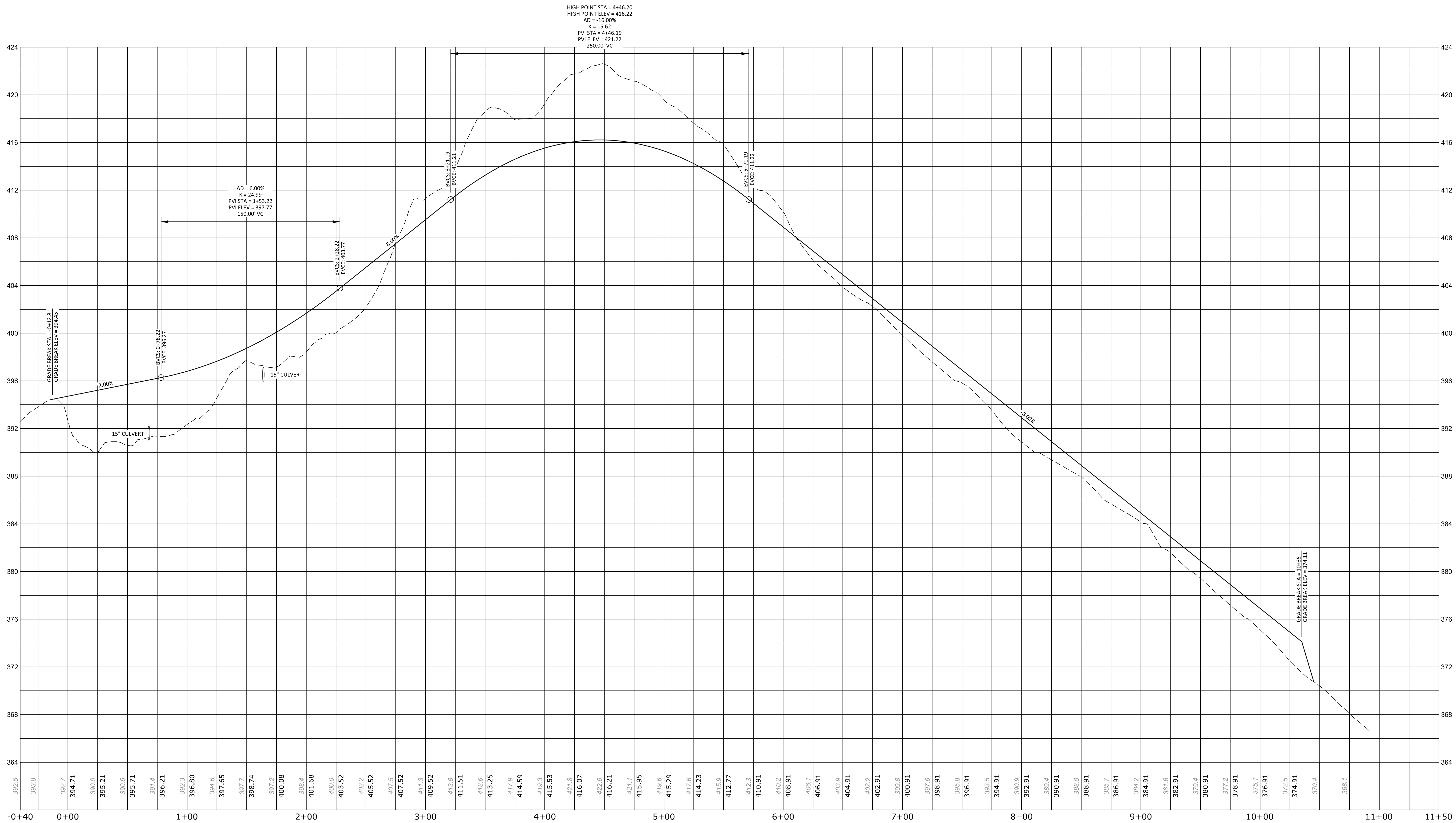
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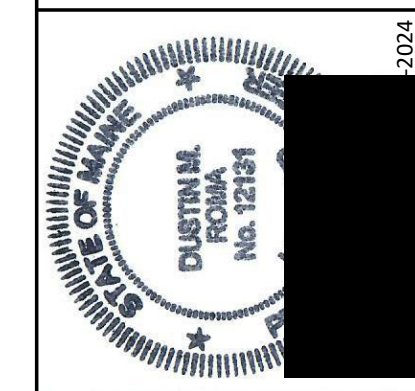
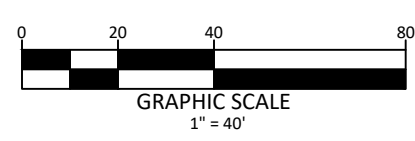
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ROADWAY PROFILE - AERIE DRIVE

SCALE 1"=40'H, 1"=4'V



**DM ROMA**  
CONSULTING ENGINEERS  
P.O. BOX 1116  
WINDHAM, ME 04662  
(207) 591-5055

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**ROADWAY PROFILE**  
AERIE ESTATES SUBDIVISION  
AERIE DRIVE - OFF EAGLES NEST ROAD  
GRAY, MAINE  
FOR: SEBAGO REALTY, LLC  
P.O. BOX 1116  
WINDHAM, ME 04662

23050  
JOB NUMBER:  
AS SHOWN  
SCALE:  
1-2-2024  
DATE:  
SHEET 6 OF 8  
PP-3

**EROSION AND SEDIMENTATION CONTROL NOTES:**

EXCAVATION AND EARTHWORK SHALL BE COMPLETED SUCH THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME. LIMIT THE EXPOSED AREA TO THOSE AREAS IN WHICH WORK IS TO OCCUR DURING THE FOLLOWING 15 DAYS AND THAT CAN BE MULCHED IN ONE DAY.

IN ORDER TO EFFECTIVELY PREVENT AND CONTROL EROSION RELATED TO SOIL DISTURBANCE, THE FOLLOWING BEST MANAGEMENT PRACTICES (BMPs) SHALL BE EMPLOYED:

**1. POLLUTION PREVENTION**

MINIMIZE DISTURBED AREAS AND PROTECT NATURAL DOWNGRADIENT BUFFER AREAS TO THE EXTENT PRACTICABLE. CONTROL STORMWATER VOLUME AND VELOCITY WITHIN THE SITE TO MINIMIZE SOIL EROSION. MINIMIZE THE DISTURBANCE OF STEEP SLOPES. CONTROL STORMWATER DISCHARGES, INCLUDING BOTH PEAK FLOW RATES AND VOLUME, TO MINIMIZE EROSION AT OUTLETS. THE DISCHARGE MAY NOT RESULT IN EROSION OF ANY OPEN DRAINAGE CHANNELS, SWALES, STREAM CHANNELS OR STREAM BANKS, UPLAND, OR COASTAL OR FRESHWATER WETLANDS OFF THE PROJECT SITE.

WHENEVER PRACTICABLE, NO DISTURBANCE ACTIVITIES SHOULD TAKE PLACE WITHIN 50 FEET OF ANY PROTECTED NATURAL RESOURCE. IF DISTURBANCE ACTIVITIES TAKE PLACE WITHIN 50 FEET OF ANY PROTECTED NATURAL RESOURCE, AND STORMWATER DISCHARGES THROUGH THE DISTURBED AREAS TOWARD THE PROTECTED NATURAL RESOURCE, PERIMETER EROSION CONTROLS MUST BE DOUBLED. IF DISTURBANCE ACTIVITIES TAKE PLACE LESS THAN 30 FEET FROM ANY PROTECTED NATURAL RESOURCE, AND STORMWATER DISCHARGES THROUGH THE DISTURBED AREAS TOWARD THE PROTECTED NATURAL RESOURCE, PERIMETER EROSION CONTROLS MUST BE DOUBLED AND DISTURBED AREAS MUST BE TEMPORARILY OR PERMANENTLY STABILIZED WITHIN 7 DAYS.

**2. TEMPORARY SOIL STABILIZATION BMPs**

TEMPORARY MULCHING SHALL BE APPLIED IMMEDIATELY TO ANY AREAS THAT HAVE BEEN TEMPORARILY OR PERMANENTLY SEED. ANY DISTURBED SOIL WITHIN 75' OF A STREAM, WATER BODY OR WETLAND MUST RECEIVE TEMPORARY MULCH WITHIN 48 HOURS FOLLOWING DISTURBANCE AND BEFORE ANY STORM EVENT. ALL OTHER AREAS SHALL RECEIVE TEMPORARY MULCH WITHIN 7 DAYS OF DISTURBANCE. AREAS WHICH CANNOT BE SEED DURING THE GROWING SEASON SHALL BE MULCHED FOR OVER-WINTER PROTECTION. THE FOLLOWING ARE ACCEPTABLE TEMPORARY MULCHING METHODS:

HAY OR STRAW MULCHES NEED TO BE AIR-DRIED, FREE OF UNDESIRABLE SEEDS AND COARSE MATERIALS. APPLICATION RATE MUST BE 2 BALES (70-90 POUNDS) PER 1000 SQ. FT. OR 1.5 TO 2 TONS (90-100 BALES) PER ACRE TO COVER 75-90% OF THE GROUND SURFACE. HAY OR STRAW CAN BE DRIVEN INTO THE GROUND WITH TRACKED EQUIPMENT IF SLOPES ARE LESS THAN 3%, OR CAN BE ANCHORED WITH JUTE, WOOD FIBER OR PLASTIC NETTING ON STEEPER SLOPES.

EROSION CONTROL MIX MUST CONSIST PRIMARILY OF ORGANIC MATERIAL AND WILL INCLUDE ANY OF THE FOLLOWING: SHREDDED BARK, STUMP GRINDINGS, COMPOSTED BARK OR OTHER ACCEPTABLE PRODUCTS BASED ON A SIMILAR RAW SOURCE. WOOD OR BARK CHIPS, GROUND CONSTRUCTION DEBRIS OR RECYCLED WOOD PRODUCTS. EROSION CONTROL MATS CAN BE USED AS A STAMP-ALONE REINFORCEMENT ON SLOPES OF 2 HORIZONTAL TO 1 VERTICAL OR LESS AND DRAINING IN SHEET FLOW. IT CAN BE PLACED WITH A HYDRAULIC BUCKET, WITH A PNEUMATIC BLOWER OR BY HAND, AND MUST PROVIDE 100% SOIL COVERAGE.

EROSION CONTROL MIX SHALL MEET THE FOLLOWING SPECIFICATIONS:  
 -ORGANIC MATTER CONTENT SHALL BE BETWEEN 50-100%, DRY WEIGHT BASIS.  
 -MINERAL PORTION OF THE MIX SHOULD BE NATURALLY INCLUDED IN THE MIX WITH NO LARGER ROCKS (>4")  
 -ORGANIC PORTION NEEDS TO BE FIBROUS AND ELONGATED  
 -LARGE PORTIONS OF SILTS, CLAYS OR FINE SANDS ARE NOT ACCEPTABLE IN THE MIX  
 -IN STUMP GRINDING, THE MINERAL SOIL ORIGINATES FROM THE ROOT BALL AND SHOULD NOT BE REMOVED BEFORE GRINDING  
 -THE MIX SHOULD BE FREE OF REFUSE, MATERIAL TOXIC TO PLANT GROWTH OR UNSUITABLE MATERIAL (BARK CHIPS, GROUND CONSTRUCTION DEBRIS OR RECYCPESED WOOD PRODUCTS

WHEN USED AS MULCH, THE THICKNESS OF THE EROSION CONTROL MIX IS BASED UPON THE FOLLOWING:

LENGTH OF SLOPE	3:1 SLOPE OR LESS	BETWEEN 2:1 AND 3:1 SLOPE
LESS THAN 20 FT	2.0 IN.	4.0 IN.
BETWEEN 20 - 60 FT	3.0 IN.	5.0 IN.
BETWEEN 60 - 100 FT	4.0 IN.	6.0 IN.

CHEMICAL MULCHES AND SOIL BINDERS MAY BE USED AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL CONSULT WITH THE MANUFACTURER TO DETERMINE ADEQUATE APPLICATION RATES AND METHODS.

TEMPORARY MULCH SHALL BE INSPECTED FOLLOWING ANY SIGNIFICANT RAINFALL EVENT (GREATER THAN 0.5 INCH RAINFALL, TYP.). IF LESS THAN 90% OF THE SOIL SURFACE IS COVERED BY MULCH, ADDITIONAL MULCH SHALL BE IMMEDIATELY APPLIED. EROSION CONTROL MATS AND MULCH ANCHORING MUST BE INSPECTED AFTER RAINFALL EVENTS FOR DISLOCATION OR FAILURE, AND REPAIRED IMMEDIATELY. INSPECTIONS SHALL TAKE PLACE UNTIL 95% OF THE SOIL SURFACE IS COVERED WITH PERMANENT VEGETATION. WHERE MULCH IS USED WITH ORNAMENTAL PLANTINGS, INSPECT PERIODICALLY THROUGHOUT THE YEAR TO DETERMINE IF MULCH IS MAINTAINING COVERAGE OF THE SOIL SURFACE, AND REPAIR AS NEEDED.

TEMPORARY VEGETATION SHALL BE ESTABLISHED ON SOILS THAT WILL NOT BE BROUGHT TO FINAL GRADE FOR A PERIOD OF MORE THAN 30 DAYS. IF TEMPORARY VEGETATION CANNOT BE ESTABLISHED PRIOR TO THE END OF THE GROWING SEASON, PERMANENT VEGETATION AND MULCH ANCHORING MUST BE INSTALLED PRIOR TO THE END OF THE GROWING SEASON. TO PREPARE THE SEEDBED, THE CONTRACTOR SHALL APPLY FERTILIZER AT A RATE OF 600 POUNDS PER ACRE OF 10-10-10 (N-P205-K20) OR EQUIVALENT AND LIMESTONE AT A RATE OF 3 TONS PER ACRE, IF NECESSARY. LOOSE SOIL TO A DEPTH OF 2 INCHES IN AREAS THAT HAVE BEEN COMPACTED BY CONSTRUCTION ACTIVITIES. GRASS SEED SHALL BE SELECTED BASED UPON THE TIME OF YEAR THE PLANTING WILL TAKE PLACE AS SUMMARIZED IN THE FOLLOWING TABLE:

SEED	LB. PER ACRE	RECOMMENDED SEEDING DATES
WINTER RYE	112	8/15 - 10/1
OATS	80	4/1 - 7/1 8/15 - 9/15
ANNUAL REGRASS	40	4/1 - 7/1

TEMPORARY SEEDING SHALL BE PERIODICALLY INSPECTED TO MAINTAIN AT LEAST 95% VEGETATIVE COVER OF SOIL SURFACE. IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHALL BE MADE AND OTHER TEMPORARY MEASURES SHALL BE USED IN THE INTERIM SUCH AS TEMPORARY MULCH, FILTER BARRIERS, ETC.

**3. SEDIMENT BARRIER BMPs**

PRIOR TO CONSTRUCTION TEMPORARY SEDIMENT BARRIERS SHALL BE INSTALLED AT THE DOWNGRADIENT EDGE OF ANY AREA TO BE DISTURBED AND ADJACENT TO ANY DRAINAGE CHANNELS WITHIN THE DISTURBED AREA. SEDIMENT BARRIERS INCLUDE ANY OF THE FOLLOWING:

**FILTER BARRIER FENCE, ALSO CALLED SILT FENCE,** SHALL BE INSTALLED WHERE SHOWN ON THE PLANS AND IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS. THE FILTER FABRIC SHALL BE A PERVIOUS SHEET OF PROPYLENE, NYLON, POLYESTER OR ETHYLENE YARN AND SHALL PROVIDE A MINIMUM OF 6 MONTHS USABLE CONSTRUCTION LIFE INCLUDING PROTECTION AGAINST ULTRA-VIOLET LIGHT. THE HEIGHT OF THE FENCE SHALL NOT EXCEED 36 INCHES INSTALLED AND POST SPACING SHALL NOT EXCEED 6 FEET. JOINTS IN THE FENCE SHALL BE AVOIDED TO THE EXTENT POSSIBLE, AND IF NECESSARY SHALL BE SPICED TOGETHER AT A SUPPORT POST WITH A MINIMUM 6 INCH OVERLAP. A TRENCH SHALL BE EXCAVATED APPROXIMATELY 6 INCHES WIDE AND 6 INCHES DEEP, AND THE BOTTOM 6-8 INCHES OF FABRIC SHALL BE "TOED-IN" TO THE TRENCH AND COMPACTED. THE TRENCH SHOULD BE UPHILL OF THE FABRIC PRIOR TO BURIAL.

EROSION CONTROL MIX BERMS ARE LINEAR BARRIERS COMPOSED OF EROSION CONTROL MIX AS SPECIFIED ABOVE. THE BERM MUST BE A MINIMUM OF 12 INCHES TALL AND 24 INCHES WIDE AT THE BASE IF UPHILL SLOPES ARE LESS THAN 5%. STEEPER SLOPES OR SLOPES GREATER THAN 20 FEET LONG MAY REQUIRE REPAIR. EROSION CONTROL MIX BERMS SHALL BE PROHIBITED AT THE BASE OF A LONG OR STEEP SLOPE (5% OR GREATER) WITHOUT THE ADDITIONAL SUPPORT OF A FILTER FENCE INSTALLED ON THE DOWNHILL SIDE OF THE BERM.

SEDIMENT BARRIERS SHOULD BE INSTALLED DOWNGRADIENT OF SOIL OR SEDIMENT STOCKPILES AND STORMWATER SHOULD BE PREVENTED FROM RUNNING ONTO THE STOCKPILE. SEDIMENT BARRIERS SHALL BE INSPECTED AFTER ANY SIGNIFICANT RAINFALL EVENT (GREATER THAN 0.5 INCH RAINFALL) AND REPAIRED IMMEDIATELY IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THE BARRIERS. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR EDGES OF THE BARRIER, OR IF LARGE VOLUMES OF WATER ARE IMPOUNDED BEHIND THE BARRIER, IT MAY BE NECESSARY TO REMOVE THE BARRIER WITH A TEMPORARY STONE CHECK DAM. SEDIMENT SHALL BE REMOVED ONCE IT REACHES HALF THE BARRIER HEIGHT. AFTER THE BARRIER IS REMOVED, ANY REMAINING SILT SHALL EITHER BE REMOVED OR GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED.

TEMPORARY EROSION CONTROL MEASURES ARE REMOVED ONCE THE SITE IS PERMANENTLY STABILIZED AND CONSTRUCTION ACTIVITY HAS BEEN COMPLETED.

**4. STORM DRAIN INLET PROTECTION**

STORM DRAIN INLETS THAT ARE MADE OPERATIONAL BEFORE THEIR DRAINAGE AREA IS STABILIZED SHALL BE PROTECTED WITH A FILTER UNTIL THE DRAINAGE AREA IS EITHER PAVED OR STABILIZED WITH 95% VEGETATIVE GROWTH. THE FOLLOWING ARE ACCEPTABLE BMPs ASSOCIATED WITH STORM DRAIN INLET PROTECTION:

MANUFACTURED SEDIMENT FILTERS ARE THE PREFERRED METHOD FOR PROTECTING CATCH BASIN INLETS IN PAVED OR GRAVEL ROADWAYS. THE FILTERS TYPICALLY CONSIST OF A FABRIC OR OTHER PERVIOUS MATERIAL THAT IS PLACED ABOVE OR BELOW THE GRATE THAT TRAPS SEDIMENT ON THE SURFACE AND ALLOWS WATER TO FLOW THROUGH THE GRATE. CONSIDERATIONS SUCH AS WEATHER CONDITIONS, SLOPES, TRIBUTARY WATERSHED AREA AND EXPECTED SEDIMENT ACCUMULATION SHOULD BE FACTORED INTO MAKING A DECISION ON ANY PARTICULAR PRODUCT, AND THE MANUFACTURER'S RECOMMENDATIONS ON INSTALLATION AND MAINTENANCE SHALL BE STRICTLY ADHERED TO.

**5. STABILIZED CONSTRUCTION ENTRANCE/EXIT**

TO REDUCE THE TRACKING OF SEDIMENT ONTO ROADWAYS, A STABILIZED CONSTRUCTION EXIT SHALL BE INSTALLED AT ALL POINTS OF EGRESS WHERE VEHICLES MAY TRAVEL FROM THE PROJECT SITE TO A PUBLIC ROAD OR OTHER PAVED AREA. THE STONE PAD SHALL CONSIST OF A MINIMUM 6-INCH DEPTH OF 2-3 INCH CRUSHED STONE, AND SHALL BE PLACED ON A GEOTEXTILE FABRIC. THE PAD SHALL EXTEND AT LEAST 50 FEET INTO THE PROJECT SITE AND BE A MINIMUM OF 10 FEET WIDE. THE EXIT SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY, AND THE CONTRACTOR SHALL SWEEP PAVEMENT AT EXITS THAT HAVE EXPERIENCED ANY MID-TRACKING PRIOR TO THE NEXT STORM EVENT. MAINTAIN THE PAD UNTIL ALL DISTURBED AREAS ARE STABILIZED.

**6. DUST CONTROL**

THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST ON THE PROJECT SITE AND ON ADJACENT ROADWAYS. EXPOSED SOIL SURFACES SHALL BE MOISTENED PERIODICALLY WITH ADEQUATE WATER TO CONTROL DUST. GRAVEL SURFACES SHALL EITHER BE TREATED WITH AN APPLICATION OF CALCIUM CHLORIDE OR COVERED WITH CRUSHED STONE IF DUST CONTROL BECOMES DIFFICULT WITH NORMAL WATER APPLICATIONS.

**7. LAND GRADING AND SLOPE PREPARATION**

GRADING SHALL BE PLANNED SO AS TO MINIMIZE THE LENGTH OF TIME BETWEEN INITIAL SOIL EXPOSURE AND FINAL GRADING. ON LARGE PROJECTS THIS SHOULD BE ACCOMPLISHED BY PHASING THE OPERATION AND COMPLETING THE FIRST PHASE UP TO FINAL GRADING AND SEEDING BEFORE STARTING THE NEXT PHASE. ANY EXPOSED AREA THAT WILL NOT BE FINISH GRADED WITHIN 7 DAYS SHALL BE TREATED WITH MULCH OR PLANTED WITH TEMPORARY VEGETATION. PROVISIONS SHALL BE MADE TO SAFELY CONVEY SURFACE RUNOFF TO STORM DRAININGS, PROTECTED OUTLETS OR TO STABLE WATER COURSES TO ENSURE THAT SURFACE RUNOFF WILL NOT DAMAGE SLOPES OR OTHER GRADED AREAS. CUT AND FILL SLOPES THAT ARE TO BE STABILIZED WITH GRASS SHALL NOT BE STEEPER THAN 2:1. AREAS TO BE FILLED SHALL BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS OR OTHER OBJECTIONABLE MATERIALS. AREAS SHALL BE GRADDED TO A MINIMUM DEPTH OF 3 INCHES PRIOR TO PLACEMENT OF TOPSOIL. ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES AND CONDUITS, ETC. SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES. ALL FILLS SHALL BE PLACED AND COMPACTED IN LAYERS NOT TO EXCEED 8 INCHES IN THICKNESS. FILL MATERIAL SHALL BE FREE OF STUMPS, BUILDING DEBRIS AND OTHER OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS. FROZEN MATERIAL OR SOFT, MUCKY OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILL SLOPES OR STRUCTURAL FILLS. FILL SHALL NOT BE PLACED ON A FROZEN FOUNDATION. SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED APPROPRIATELY. ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY FOLLOWING FINISHED GRADING.

**8. TOPSOIL**

IF POSSIBLE, TOPSOIL SHALL BE STOCKPILED ON THE PROJECT SITE AND REUSED. HIGH QUALITY TOPSOIL SHALL BE FRIABLE AND LOAMY (LOAM, SANDY LOAM, SILT LOAM, SANDY CLAY LOAM, CLAY LOAM), AND SHALL BE FREE OF DEBRIS, TRASH, STUMPS, ROCKS, ROOTS AND NOXIOUS WEEDS. AFTER THE AREAS TO BE TOPSOILED HAVE BEEN BROUGHT TO GRADE, AND IMMEDIATELY PRIOR TO SPREADING THE TOPSOIL, THE SUBGRADE SHALL BE LOOSENED BY SCRAPING TO A DEPTH OF AT LEAST 2 INCHES TO ENSURE BONDING WITH SUBSOIL. THE TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED TO A MINIMUM COMPACTED DEPTH OF 4 INCHES. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS. IT IS NECESSARY TO COMPACT THE TOPSOIL ENOUGH TO ENSURE GOOD CONTACT WITH THE UNDERLYING SOIL, BUT UNDUCE COMPACTION IS TO BE AVOIDED.

**9. PERMANENT SOIL STABILIZATION**

IF THE AREA WILL NOT BE WORKED FOR MORE THAN ONE YEAR OR HAS BEEN BROUGHT TO FINAL GRADE, THEN PERMANENTLY STABILIZE THE AREA WITHIN 7 DAYS BY PLANTING VEGETATION, SEEDING, SOD, OR THROUGH THE USE OF PERMANENT MULCH, OR RIPRAP, OR ROAD SUB-BASE. IF USING VEGETATION FOR STABILIZATION, SELECT THE PROPER VEGETATION FOR THE LIGHT, MOISTURE, AND SOIL CONDITIONS; AMEND AREAS OF DISTURBANCE WITH TOPSOIL, COMPOST, OR FERTILIZER; PROTECT SEEDS AND AREAS WITH MULCH OR, IF NECESSARY, EROSION CONTROL BLANKETS; AND SCHEDULE SODDING, PLANTING, AND SEEDING SO TO AVOID DIE-OFF FROM SUMMER DROUGHT AND FALL FROSTS. NEWLY SEED OR SODDED AREAS MUST BE PROTECTED FROM VEHICLE TRAFFIC, EXCESSIVE PEDESTRIAN TRAFFIC, AND CONCENTRATED RUNOFF UNTIL THE VEGETATION IS WELL-ESTABLISHED WITH 90% COVER BY HEALTHY VEGETATION. IF NECESSARY, AREAS MUST BE REWORKED AND RESTABILIZED IF GERMINATION IS SPARSE, PLANT COVERAGE IS SPOTTY, OR TOPSOIL EROSION IS EVIDENT. ONE OR MORE OF THE FOLLOWING MAY APPLY TO A PARTICULAR SITE.

SEEDED AREAS: TO PREPARE THE SEEDBED, APPLY 10-20-20 FERTILIZER AT A RATE OF 800 POUNDS PER ACRE AND GROUND LIMESTONE AT A RATE OF 3 TONS PER ACRE. WORK THE FERTILIZER AND LIMESTONE INTO THE TOPSOIL TO A DEPTH OF 4 INCHES AND REMOVE ANY STONES, ROOTS OR OTHER VISIBLE DEBRIS. SELECT A SEED MIXTURE THAT IS APPROPRIATE FOR THE SOIL TYPE AND MOISTURE CONTENT AS FOUND AT THE SITE, AND FOR THE AMOUNT OF SUN EXPOSURE AND FOR LEVEL OF USE. REFER TO THE USDA SOIL CONSERVATION SERVICE OR THE LOCAL SOIL AND WATER CONSERVATION DISTRICT FOR APPROPRIATE SEED INFORMATION. APPLY SEED UNIFORMLY IN ACCORDANCE WITH SUPPLIER RECOMMENDATIONS AND IMMEDIATELY COVER WITH MULCH AS DESCRIBED IN THE TEMPORARY MULCHING SECTION OF THIS PLAN.

HYDROSEEDING SHALL BE DONE IN ACCORDANCE WITH SUPPLIERS RECOMMENDATIONS. FOR SEEDED AREAS TO BE PERMANENTLY STABILIZED, 90% OF THE DISTURBED SOIL SHALL BE COVERED WITH MATURE HEALTHY PLANTS WITH NO EVIDENCE OF WASHING OR RILLING OF THE TOPSOIL.

SOD STRIPS SHALL BE LAID AT RIGHT ANGLES TO DIRECTION OF SLOPE OR FLOW OF WATER STARTING AT LOWEST ELEVATION. JOINTS SHALL BE STAGGERED, AND ALL STRIPS SHALL BE ROLLED OR TAMPED INTO PLACE. ON SLOPES, SOD SHALL BE ANCHORED WITH STAPLES, WIRES OR PINS. IRRIGATE SODDED AREA IMMEDIATELY AFTER INSTALLATION. FOR SODDED AREAS TO BE PERMANENTLY STABILIZED, THE ROOTS OF THE SOD MUST BE COMPLETELY BOUND INTO THE UNDERLYING SOIL WITH NO SLUMPING OF THE SOD OR DIE-OFF.

PERMANENT MULCH IS A LONG TERM COVER THAT PROVIDES A GOOD BUFFER AROUND DISTURBED AREAS. THE EROSION CONTROL MIX SHALL CONSIST PRIMARILY OF ORGANIC MATERIAL AND MAY INCLUDE SHREDDED BARK, STUMP GRINDINGS OR COMPOSTED BARK. WOOD CHIPS, GROUND CONSTRUCTION DEBRIS, REPROCESSED WOOD PRODUCTS OR BARK CHIPS ARE NOT ACCEPTABLE. THE EROSION CONTROL MIX SHALL CONTAIN A WELL-GRADED MIXTURE OF PARTICLE SIZES AND MAY CONTAIN ROCKS LESS THAN 4 INCHES IN DIAMETER. EROSION CONTROL MIX MUST BE FREE OF REFUSE, PHYSICAL CONTAMINANTS AND MATERIAL TOXIC TO PLANT GROWTH.

RIPPRAP STONE SHALL CONSIST OF SUB-ANGULAR FIELD STONE OR ROUGH UNEVEN QUARRY STONE OF APPROXIMATELY RECTANGULAR SHAPE. THE DEPTH OF STONE SHALL BE A MINIMUM OF 2.2 TIMES THE MAXIMUM STONE DIAMETER. A GRAVEL OR GEOTEXTILE FILTER BLANKET SHALL BE PLACED BETWEEN THE RIPRAP AND UNDERLYING SOIL SURFACE. GRAVEL FILTER BLANKETS SHALL MEET MOST TYPICAL UNDERDRAIN MATERIAL SPECIFICATIONS AND BE AT LEAST 6 INCHES THICK. GEOTEXTILE FILTER BLANKETS SHALL BE SPECIFIED BASED ON SITE CONDITIONS. RIPRAP SLOPES SHALL BE TOED INTO THE BASE OF THE EMBANKMENT BY EXCAVATING A TRENCH AT THE BOTTOM OF THE SLOPE AND INSTALLING A STABLE BASE OF RIPRAP TO GRADE.

DITCHES, CHANNELS AND SWALES ARE CONSIDERED PERMANENTLY STABILIZED WHEN THE CHANNEL HAS 90% COVER OF HEALTHY VEGETATION WITH A WELL-GRADED RIPRAP LINING, EROSION CONTROL BLANKET, OR WITH ANOTHER NON-EROSIVE LINING SUCH AS CONCRETE OR ASPHALT PAVEMENT. THERE MUST BE NO EVIDENCE OF SLUMPING OF THE CHANNEL LINING, UNDERCUTTING OF THE BANKS, OR DOWNCUTTING OF THE CHANNEL.

**10. STORMWATER CHANNELS**

EACH CHANNEL SHOULD BE CONSTRUCTED IN SECTIONS SO THAT THE SECTION'S GRADING, SHAPING, AND INSTALLATION OF THE PERMANENT LINING CAN BE COMPLETED THE SAME DAY. IF A CHANNEL'S FINAL GRADING OR LINING INSTALLATION MUST BE DELAYED, THEN TEMPORARY STABILIZATION OF THE CHANNEL SHOULD BE INSTALLED. EROSION BERMES MUST BE USED TO DIVERT STORMWATER FROM THE CHANNEL. PERMANENT STABILIZATION SHALL BE INSTALLED IN THE CHANNEL TO SLOW THE WATER VELOCITY, AND A TEMPORARY LINING INSTALLED ALONG THE CHANNEL TO PREVENT SCOURING.

**WINTER EROSION AND SEDIMENTATION CONTROL NOTES:**

THE WINTER CONSTRUCTION PERIOD TYPICALLY BEGINS IN EARLY NOVEMBER AND ENDS IN MID APRIL. IF A CONSTRUCTION SITE IS NOT STABILIZED WITH PAVEMENT, A ROAD GRAVEL BASE OR RIPRAP BY NOVEMBER 15, THEN THE SITE NEEDS TO BE PROTECTED WITH OVER-WINTER STABILIZATION. WINTER EXCAVATION AND EARTHWORK SHALL BE COMPLETED SUCH THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME. LIMIT THE EXPOSED AREA TO THOSE AREAS IN WHICH WORK IS TO OCCUR DURING THE FOLLOWING 15 DAYS AND THAT CAN BE MULCHED IN ONE DAY PRIOR TO ANY SNOW EVENT. AN AREA SHALL BE CONSIDERED DENUDED IF THE SUBGRADE GRAVEL IS INSTALLED ABOVE THE AREAS OF FUTURE LOAM AND SEED HAVE BEEN LOANED, SEEDED AND MULCHED. A COVER OF EROSION CONTROL MIX IS THE PREFERRED TEMPORARY MULCH DURING WINTER CONDITIONS.

**1. NATURAL RESOURCE PROTECTION**

ANY AREAS WITHIN 75 FEET FROM ANY REGULATED NATURAL RESOURCES SHALL BE MULCHED BY DECEMBER 1 AND ANCHORED WITH PLASTIC NETTING OR PROTECTED WITH AN EROSION CONTROL COVER. DURING WINTER CONSTRUCTION, A DOUBLE ROW OF SEDIMENT BARRIERS (FOR EXAMPLE, SILT FENCE BACKED WITH HAY BALES OR EROSION CONTROL MIX) WILL BE PLACED BETWEEN ANY REGULATED NATURAL RESOURCE AND THE DISTURBED AREA. PROJECTS CROSSING THE REGULATED NATURAL RESOURCE SHALL BE PROTECTED A MINIMUM DISTANCE OF 100 FEET ON EITHER SIDE FROM THE RESOURCE. EXISTING PROJECTS NOT STABILIZED BY DECEMBER 1 SHALL BE PROTECTED WITH THE SECOND LINE OF SEDIMENT BARRIER TO ENSURE FUNCTIONALITY DURING THE SPRING THAW AND RAINS.

**2. SEDIMENT BARRIERS**

DURING FROZEN CONDITIONS, SEDIMENT BARRIERS MAY CONSIST OF EROSION CONTROL MIX BERMS OR ANY OTHER RECOGNIZED SEDIMENT BARRIERS AS FROZEN SOIL PREVENTS THE PROPER INSTALLATION OF HAY BALES OR SILT FENCES.

**3. MULCHING**

ALL AREAS SHALL BE CONSIDERED TO BE DENUDED UNTIL SEEDED AND MULCHED. HAY AND STRAW MULCH SHALL BE APPLIED AT A RATE OF 3 TONS PER ACRE (THAT BE THE NORMAL ACCEPTED RATE) AND SHALL BE PROPERLY ANCHORED. EROSION CONTROL MIX MUST BE APPLIED WITH A MINIMUM 4 INCHES THICKNESS. MULCH SHALL NOT BE SPREAD ON TOP OF SNOW. SNOW MUST BE REMOVED DOWN TO A ONE-INCH DEPTH PRIOR TO APPLICATION. AFTER EACH DAY OF FINAL GRADING, THE AREA WILL BE PROPERTY STABILIZED WITH ANCHORED HAY OR STRAW OR EROSION CONTROL MATTING. AN AREA SHALL BE CONSIDERED TO HAVE BEEN STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED OR ADEQUATELY ANCHORED SO THAT GROUND SURFACE IS NOT VISIBLE THROUGH THE MULCH. BETWEEN THE DATES OF NOVEMBER 1 AND APRIL 15, ALL MULCH SHALL BE ANCHORED BY EITHER MULCH NETTING, TRACKING OR WOOD CELLULOSE FIBER. THE COVER WILL BE CONSIDERED SUFFICIENT WITH THE GROUND SURFACE IS NOT VISIBLE THROUGH THE MULCH. AFTER NOVEMBER 15T, MULCH AND ANCHORING OF ALL EXPOSED SOIL SHALL OCCUR AT THE END OF EACH FINAL GRADING WORKDAY.

**4. SOIL STOCKPILING**

STOCKPILES OF SOIL OR SUBSOIL WILL BE MULCHED FOR OVER WINTER PROTECTION WITH HAY OR STRAW AT TWICE THE NORMAL RATE OR WITH A FOUR-INCH LAYER OF EROSION CONTROL MIX. STOCKPILES SHALL BE COVERED WITH A 2-3 INCH DEPTH OF MULCH PRIOR TO ANY RAINFALL (0.5 INCH RAINFALL OR GREATER) OR SNOWFALL. SEDIMENT BARRIERS SHOULD BE INSTALLED DOWNGRADIENT OF SOIL OR SEDIMENT STOCKPILES AND STORMWATER SHOULD BE PREVENTED FROM RUNNING ONTO THE STOCKPILE. ANY SOIL STOCKPILE WILL NOT BE PLACED WITHIN 100 FEET FROM ANY REGULATED NATURAL RESOURCE.

**5. SEEDING**

BETWEEN THE DATES OF OCTOBER 15 AND APRIL 1, LOAM OR SEED WILL NOT BE REQUIRED. DURING PERIODS OF ABOVE FREEZING TEMPERATURES FINISHED AREAS SHALL BE FINE GRADED AND EITHER PROTECTED MULCH OR TEMPORARILY SEEDED AND MULCHED UNTIL SUCH TIME AS THE FINAL TREATMENT CAN BE APPLIED. IF THE DATE IS AFTER NOVEMBER 1 AND IF THE EXPOSED AREA HAS BEEN FLOORED, FINE GRADDED WITH A UNIFORM SURFACE, THEN THE AREA MAY BE DORMANT SEEDS AT A RATE OF 3 TIMES HIGHER THAN SPECIFIED FOR PERMANENT SEED AND THEN MULCHED. IF DORMANT SEEDING IS USED, ALL DISTURBED AREAS SHALL RECEIVE 4 INCHES OF LOAM AND SEED AT AN APPLICATION RATE OF 5 LBS PER 1,000 S.F. ALL AREAS INSUFFICIENTLY VEGETATED (LESS THAN 90%) IN THE SPRING SHALL BE REVEGETATED.

**6. OVER-WINTER STABILIZATION OF DITCHES AND CHANNELS**

ALL STONE-LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED BY NOVEMBER 1. ALL GRASS-LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED AND STABILIZED BY SEPTEMBER 1. IF A GRASS-LINED DITCH OR CHANNEL IS STABILIZED BY SEPTEMBER 1, THEN EITHER A SOD LINING SHALL BE INSTALLED PRIOR TO OCTOBER 1 OR THE DITCH MUST BE LINED WITH STONE RIPRAP BACKED BY AN APPROPRIATE GRAVEL BED OR GEOTEXTILE PRIOR TO NOVEMBER 1.

**7. OVER-WINTER STABILIZATION OF DISTURBED SLOPES**

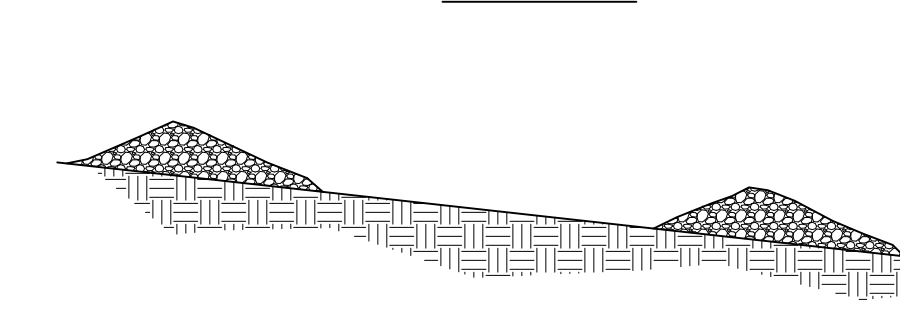
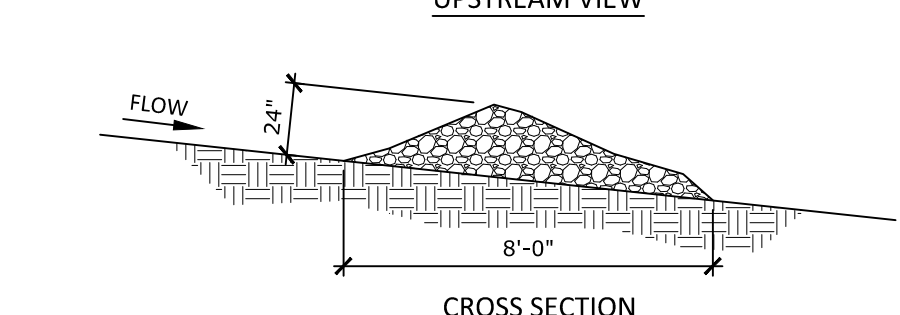
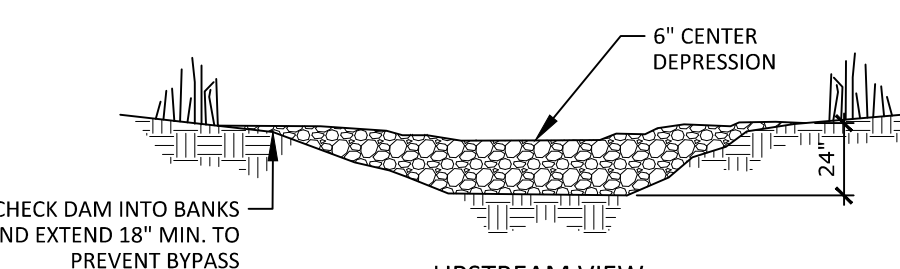
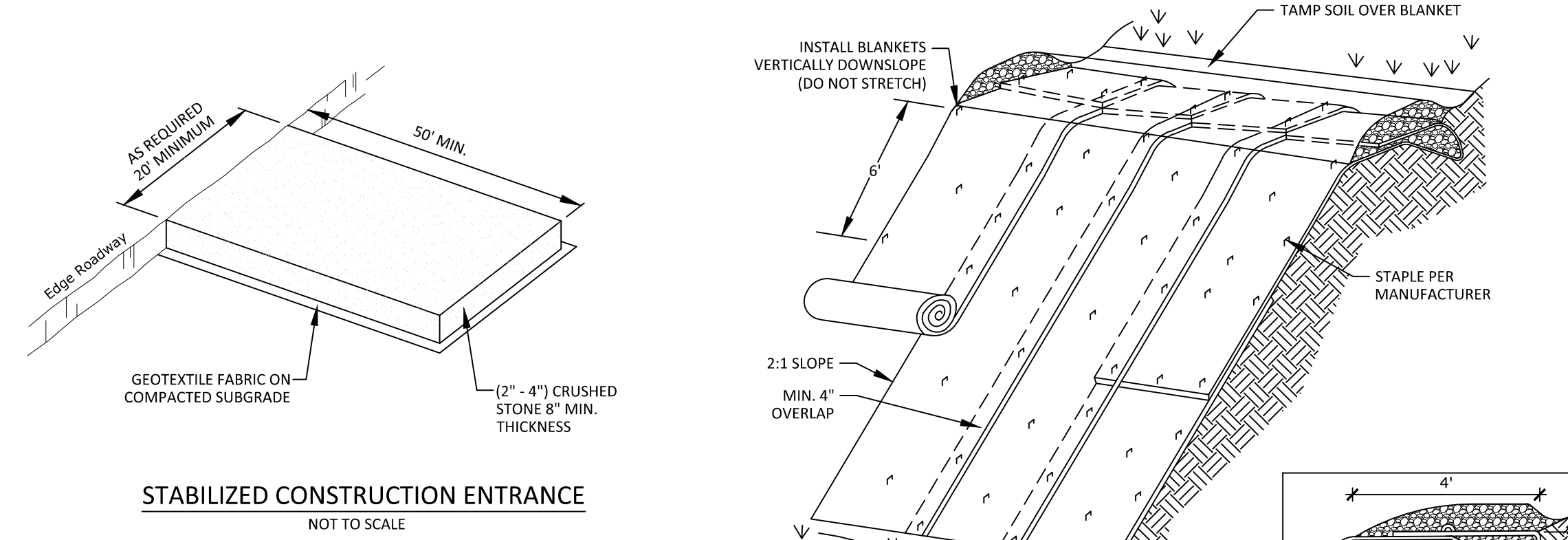
ALL STONE-COVERED SLOPES MUST BE CONSTRUCTED AND STABILIZED BY NOVEMBER 15. ALL SLOPES TO BE VEGETATED MUST BE SEEDED AND MULCHED BY SEPTEMBER 1. ALL AREAS HAVING A GRADE STEEPER THAN 8% SHALL BE CONSIDERED A SLOPE. IF A SLOPE TO BE VEGETATED IS NOT STABILIZED BY SEPTEMBER 1, THEN THE SLOPE SHALL EITHER BE STABILIZED WITH TEMPORARY VEGETATION AND EROSION CONTROL MATS BY OCTOBER 1, SOD BY OCTOBER 1, EROSION CONTROL MIX BY NOVEMBER 1 OR STONE RIPRAP BY NOVEMBER 15. SEE APPLICABLE SECTIONS UNDER EROSION AND SEDIMENTATION CONTROL NOTES FOR PROPER INSTALLATION METHODS.

**8. OVER-WINTER STABILIZATION OF DISTURBED SOILS**

BY SEPTEMBER 15, ALL DISTURBED SOILS ON AREAS HAVING A SLOPE LESS THAN 15% MUST BE SEEDED AND MULCHED. IF THE DISTURBED AREAS ARE NOT STABILIZED BY THIS DATE, THEN THE AREA SHALL EITHER BE STABILIZED WITH TEMPORARY VEGETATION BY OCTOBER 1, SOD BY OCTOBER 1, OR MULCH BY NOVEMBER 15. SEE APPLICABLE SECTIONS UNDER EROSION AND SEDIMENTATION CONTROL NOTES FOR PROPER INSTALLATION METHODS.

**9. MAINTENANCE**

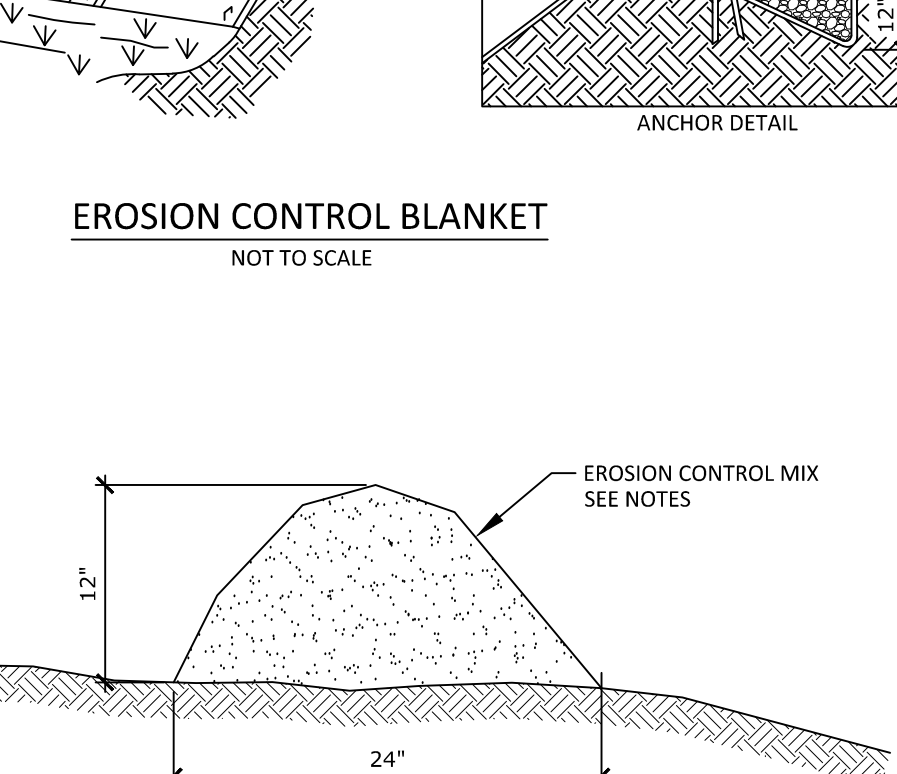
MAINTENANCE MEASURES SHALL BE APPLIED AS NEEDED DURING THE ENTIRE CONSTRUCTION SEASON. AFTER EACH RAINFALL, SNOW STORM, PERIOD OF THAWING AND RUNOFF AND AT LATEST ONCE A WEEK, THE SITE CONTRACTOR SHALL PERFORM A VISUAL INSPECTION OF ALL INSTALLED EROSION CONTROL MEASURES AND PERFORM REPAIRS AS NEEDED TO INSURE THEIR CONTINUOUS FUNCTION. FOLLOWING THE TEMPORARY AND/OR FINAL SEEDING AND MULCHING, THE CONTRACTOR SHALL, IN THE SPRING, INSPECT AND REPAIR ANY DAMAGES AND/OR BARE SPOTS. AN ESTABLISHED VEGETATIVE COVER MEANS A MINIMUM OF 90% OF AREAS VEGETATED WITH VIGOROUS GROWTH.



- NOTES:**
- CHECK DAMS SHOULD BE INSTALLED BEFORE RUNOFF IS DIRECTED TO THE SWALE.
  - THE AREA AROUND THE CHECK DAM SHOULD BE FREE OF DEBRIS.
  - A STONE CHECK DAM SHOULD BE COMPRISED OF WELL-GRADED CRUSHED ROCK WITH A MAXIMUM SIZE OF 6" AND A MINIMUM STONE SIZE OF 1".
  - THE MAXIMUM HEIGHT OF A CHECK DAM SHOULD BE 2' WITH A 6" DEPRESSION AT ITS CENTER FOR OVERFLOW. THE EDGES OF THE DAM SHOULD BE KEYED INTO THE EMBANKMENTS TO PREVENT SIDE EROSION.
  - MECHANICAL PLACEMENT FOLLOWED BY HAND PLACEMENT WILL BE NECESSARY TO ACHIEVE A TIGHT MASS WITHIN THE CHANNEL AND TO ENSURE THAT THE CENTER OF THE DAM IS LOWER THAN THE EDGES.
  - ANY EROSION DOWNGRADIENT OR AROUND THE EDGES OF STONE CHECK DAMS SHOULD BE CORRECTED IMMEDIATELY.
  - THE CHECK DAMS MAY BE REMOVED WHEN THE SWALE IS STABILIZED WITH VEGETATION (90% COVERAGE).

**STONE CHECK DAM**

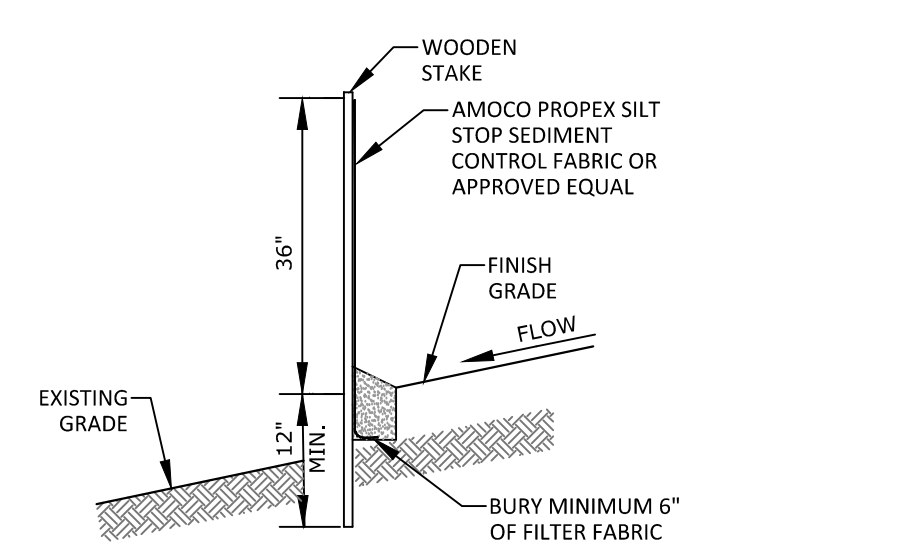
NOT TO SCALE



- NOTES:**
- EROSION CONTROL MIX BERM INSTALLED 12" HIGH AND 24" WIDE CONSISTING OF WELL-GRADED CRUSHED STONE WITH NO ROCKS GREATER THAN 4" OR LARGE AMOUNTS OF FINES.
  - SEE SECTION 3 OF THE EROSION AND SEDIMENTATION CONTROL NOTES, THIS SHEET, FOR INSTALLATION LOCATION REQUIREMENTS AND ADDITIONAL DETAIL.

**EROSION CONTROL MIX BERM**

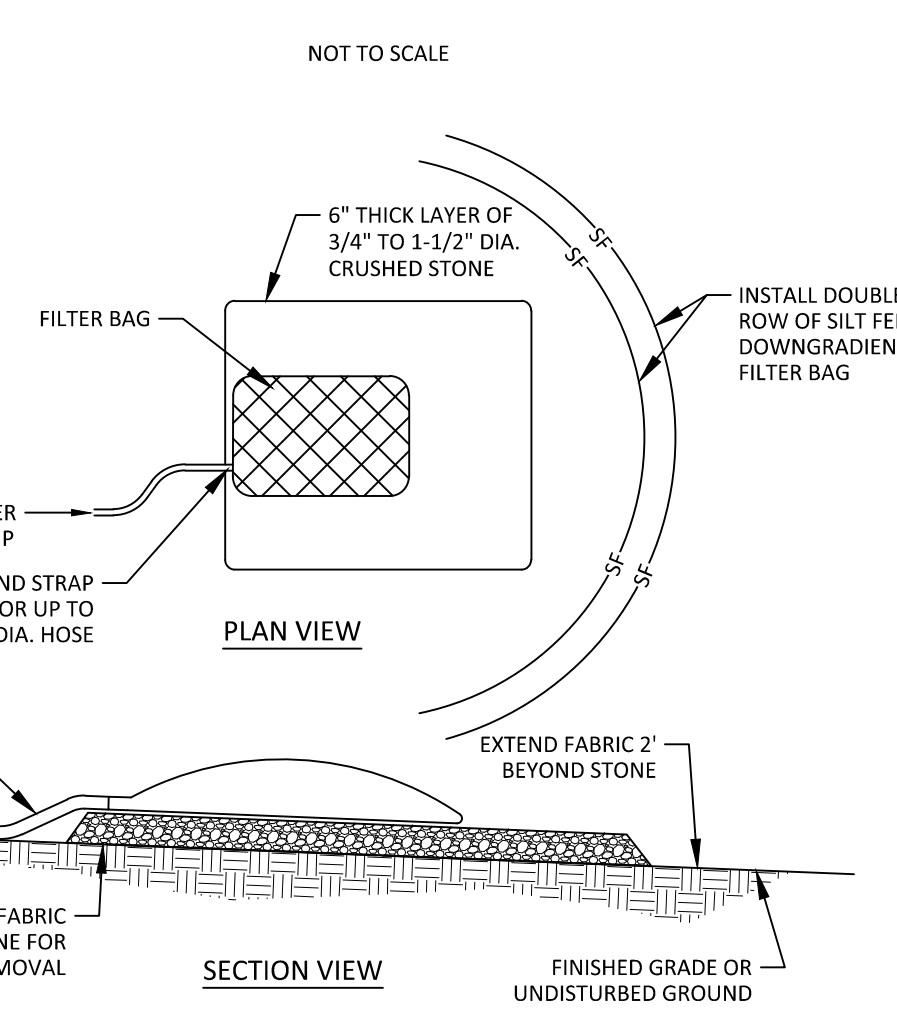
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- NOTES:**
- SEE SECTION 3 OF THE EROSION AND SEDIMENTATION CONTROL NOTES, THIS SHEET, FOR INSTALLATION LOCATION REQUIREMENTS AND ADDITIONAL DETAIL.

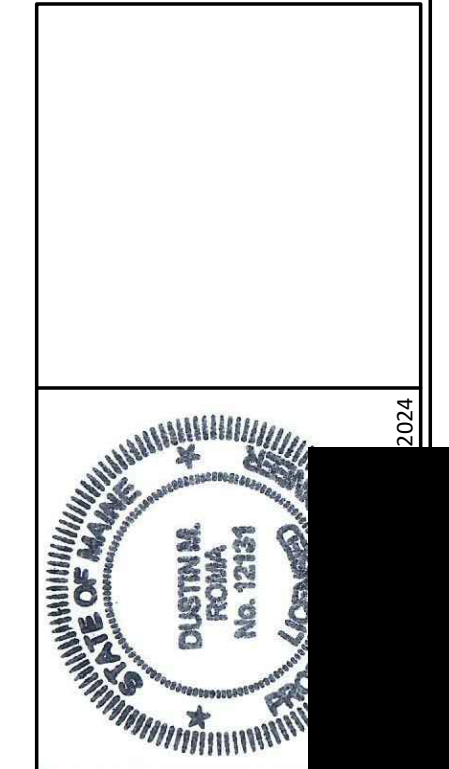
**SEDIMENT FILTER FENCE**

NOT TO SCALE



**DEWATERING GEOTEXTILE FILTER BAG**

NOT TO SCALE



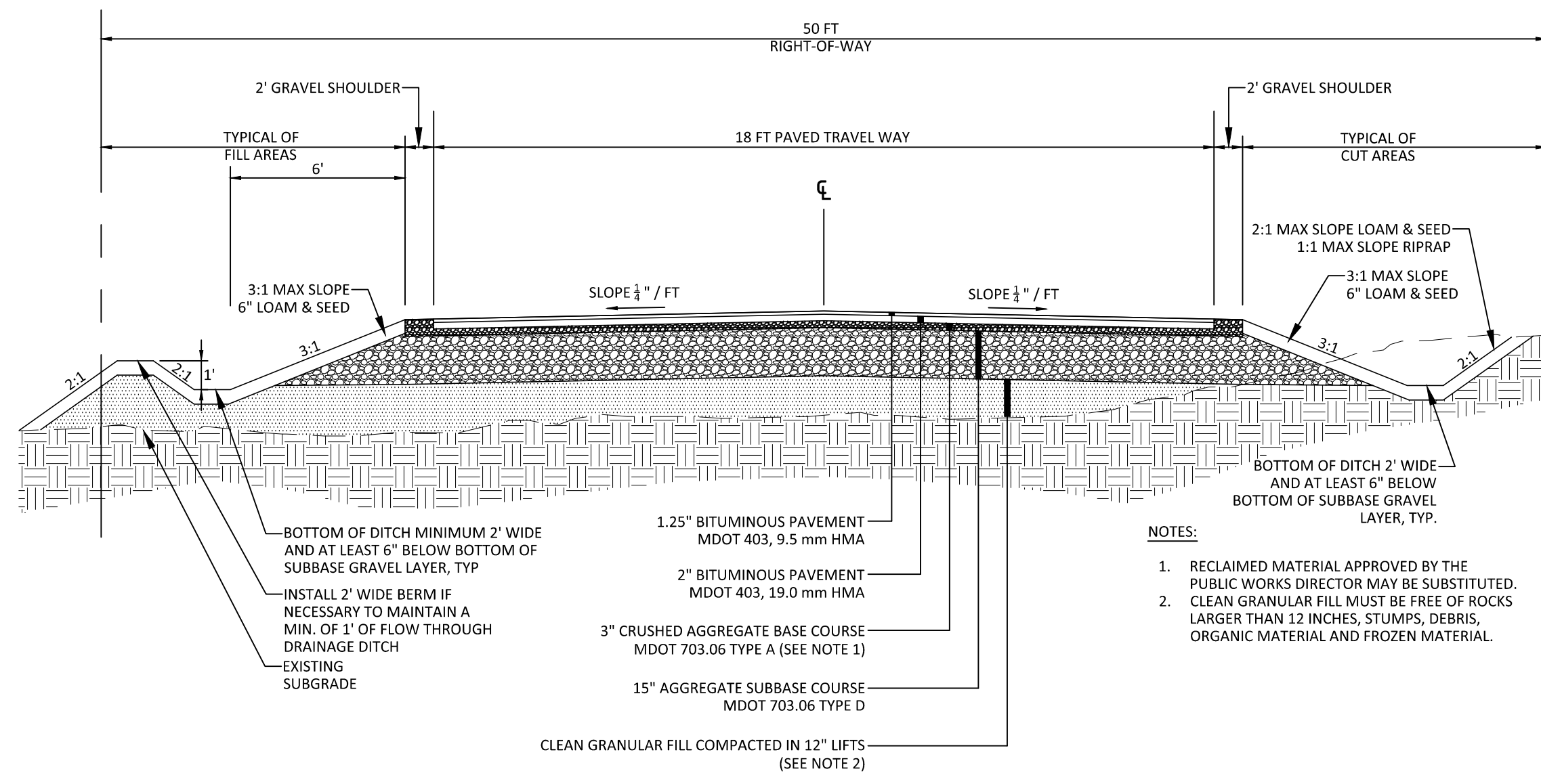
**DM ROMA**  
 CONSULTING ENGINEERS  
 P.O. BOX 1116  
 WINDHAM, ME 04092  
 (207) 591-5055

REV.	DATE	BY	DESCRIPTION
A	9/19/23	JPC	ISSUED FOR REVIEW
B	11-19-23	JPC	REVISED PER REVIEW COMMENTS
C	11-19-23	JPC	REVISED PER REVIEW COMMENTS
D	12-14-23	JPC	REVISED PER REVIEW COMMENTS
E	3-2-24	JPC	REVISED PER REVIEW COMMENTS

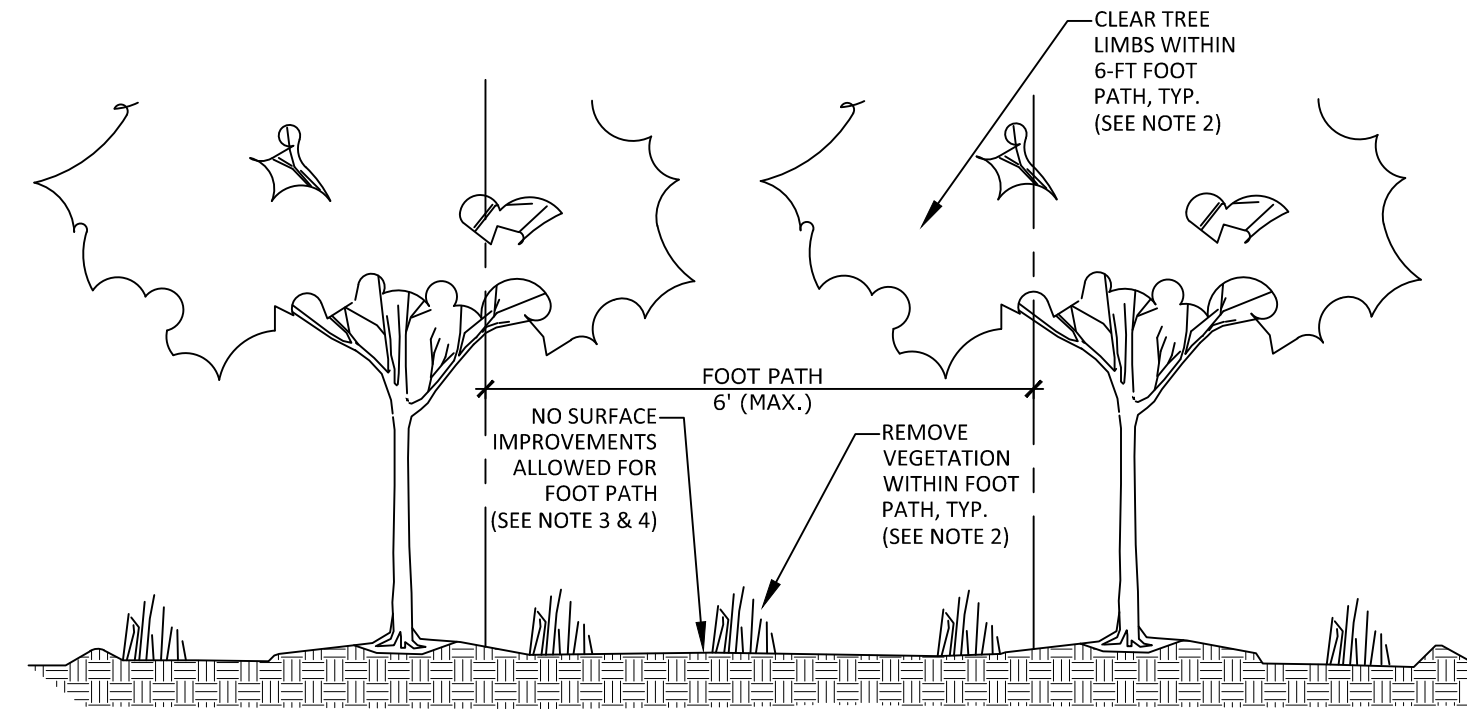
DATE	DESCRIPTION

**DETAILS**  
 AERIE ESTATES SUBDIVISION  
 AERIE DRIVE - OFF EAGLES NEBROAD  
 GRAY, MAINE  
 FOR:  
**SEBAGO REALTY, LLC**  
 P.O. BOX 1116  
 WINDHAM, ME 04092

23050  
 JOB NUMBER:  
 AS NOTED  
 SCALE:  
 1-2-2024  
 DATE:  
 SHEET 7 OF 8  
 D-1

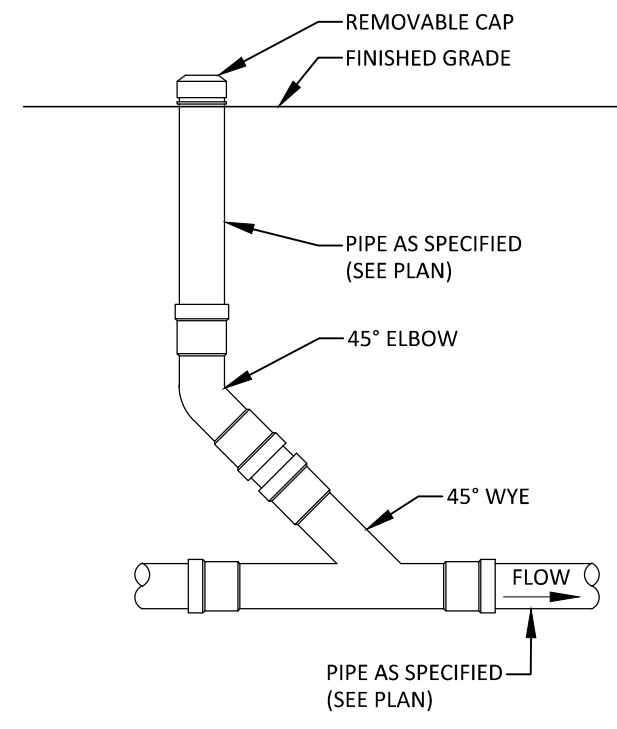


TYPICAL ROADWAY SECTION  
MODIFIED MINOR RURAL STREET STANDARD

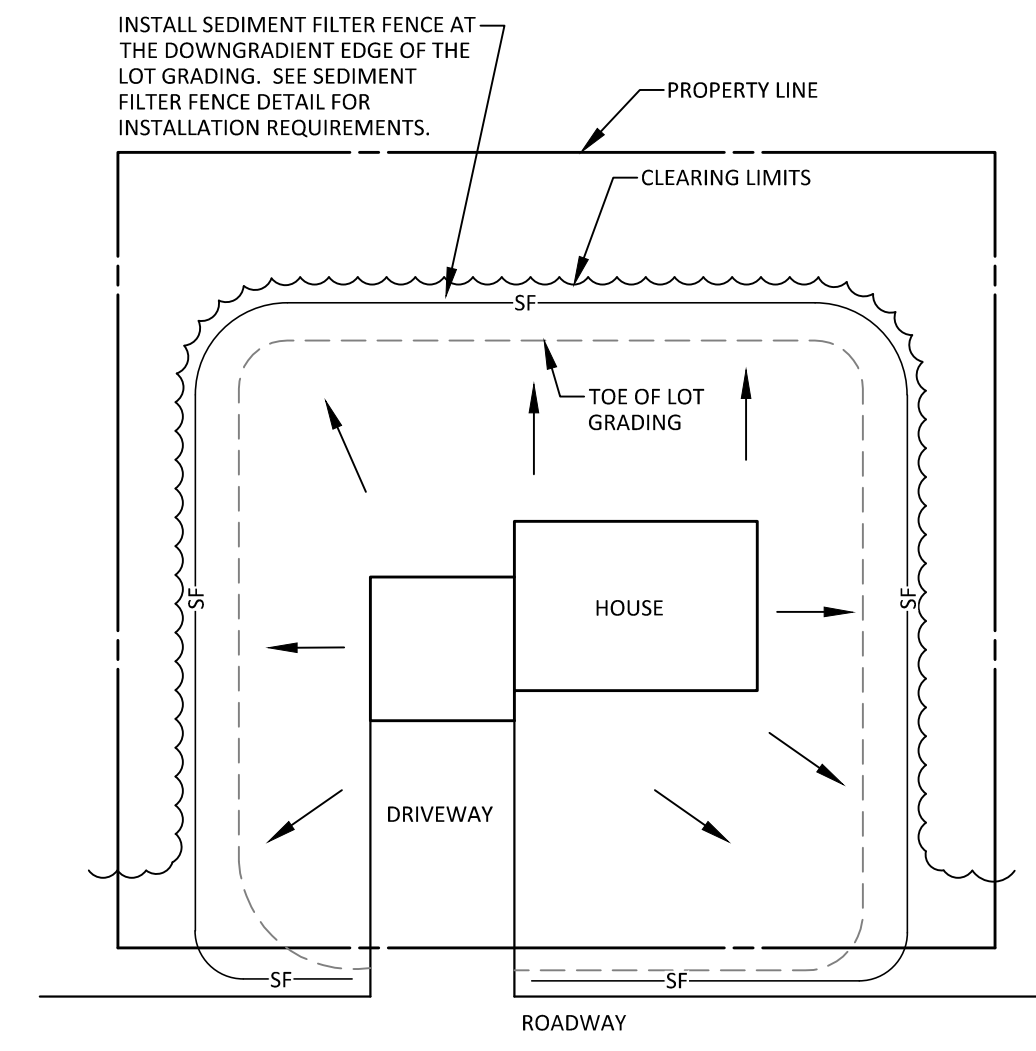


FOOT PATH DETAIL

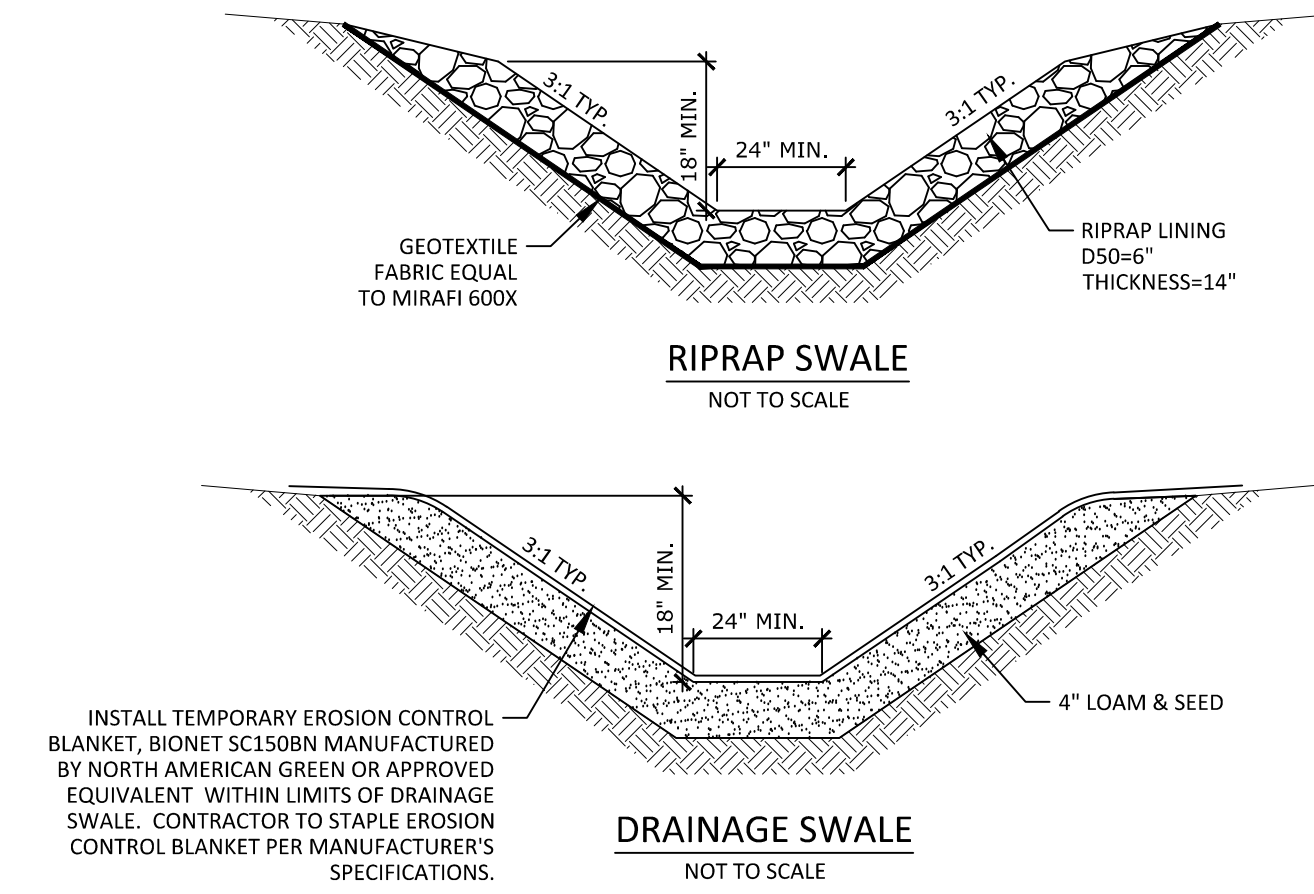
- NOTES:
- PROPOSED FOOT PATH THROUGH THE OPEN SPACE LOT (LOT 4) SHALL BE LOCATED SUCH THAT NO TREE CLEARING IS REQUIRED.
  - CLEARING FOR FOOT PATH IS LIMITED TO REMOVING BRUSH AND VEGETATION, AND IF NECESSARY TRIMMING OF LIMBS ONLY.
  - FOOT PATH SHALL NOT BE INSTALLED WITH ANY SURFACE IMPROVEMENTS OR EARTH DISTURBANCE (NO EXCAVATION OR PLACEMENT OF FILL, AND NO INSTALLATION OF GRAVEL/PAVEMENT).
  - IN THE EVENT NO ALTERNATE FOOT PATH LOCATION IS ACCEPTABLE, 4-FT WIDE (MAX.) STAIRS MAY BE INSTALLED WHERE SLOPES EXCEED 15%.



UNDERDRAIN CLEANOUT DETAIL  
NOT TO SCALE

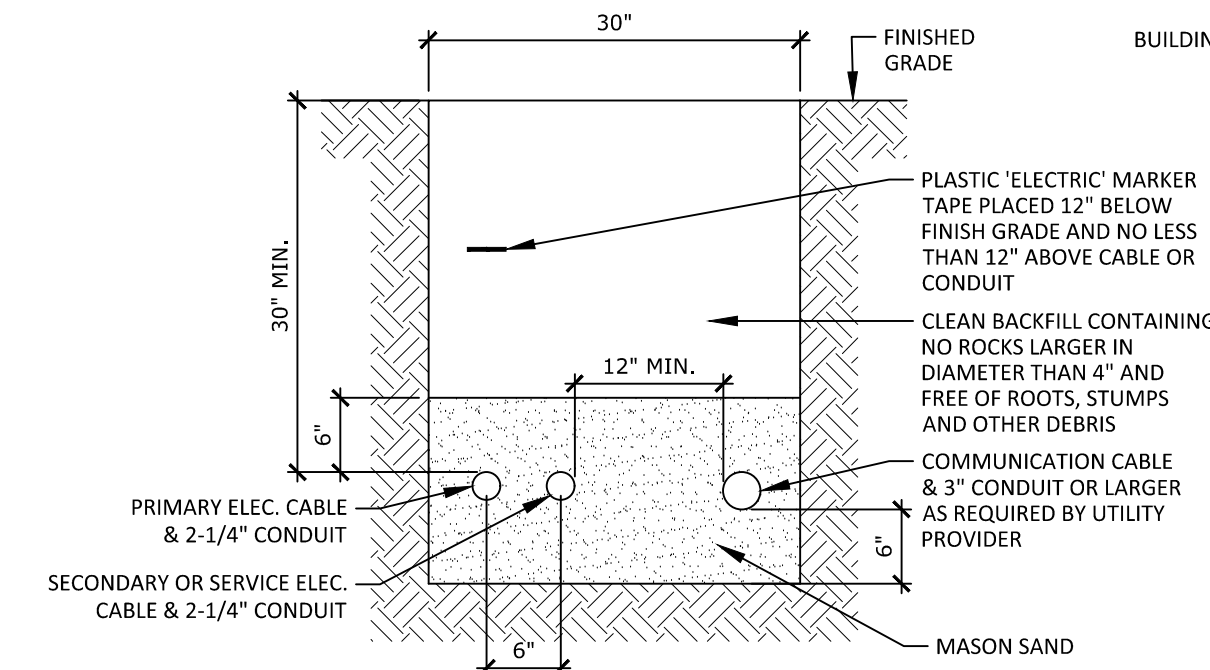


TYPICAL HOUSE LOT  
EROSION CONTROL DETAIL  
NOT TO SCALE



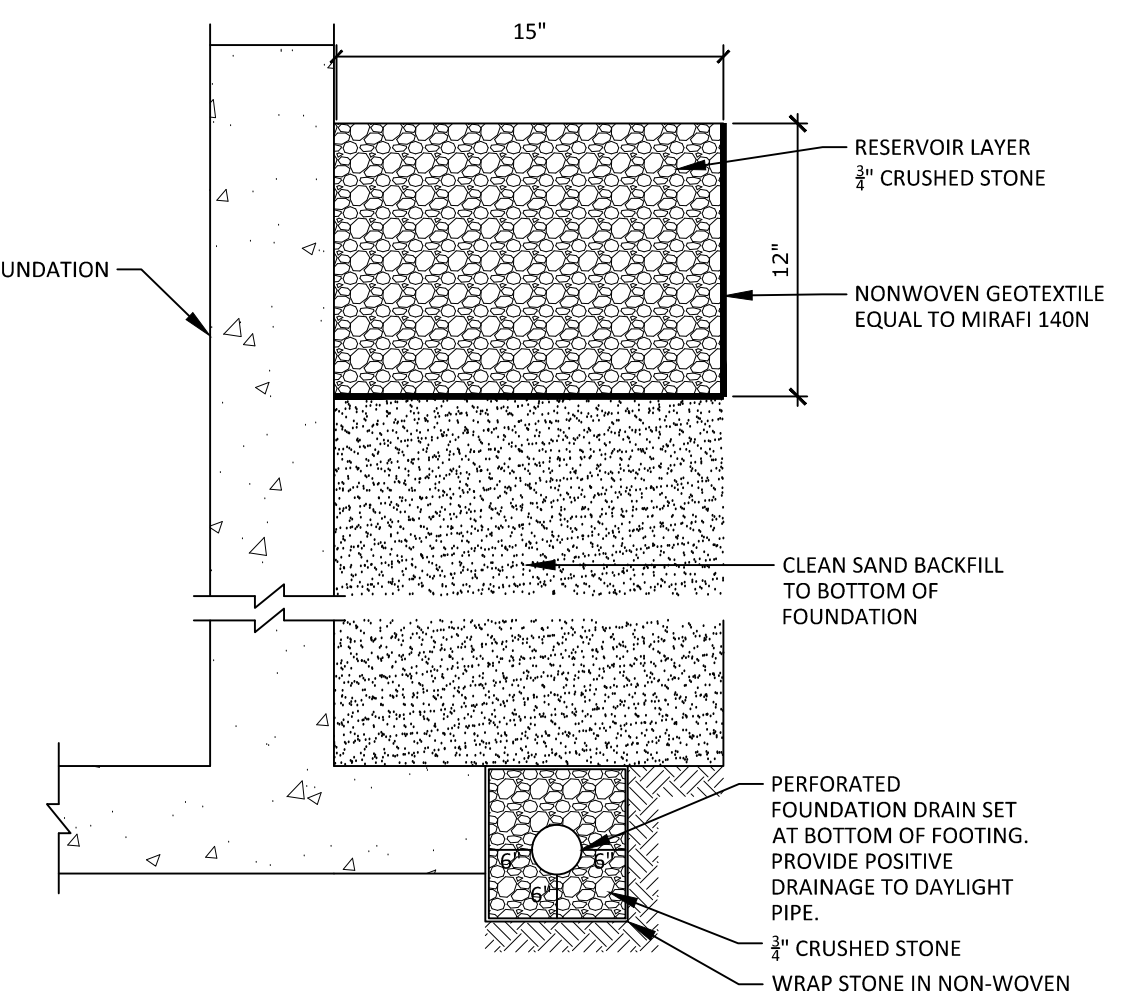
RIPRAP SWALE  
NOT TO SCALE

DRAINAGE SWALE  
NOT TO SCALE

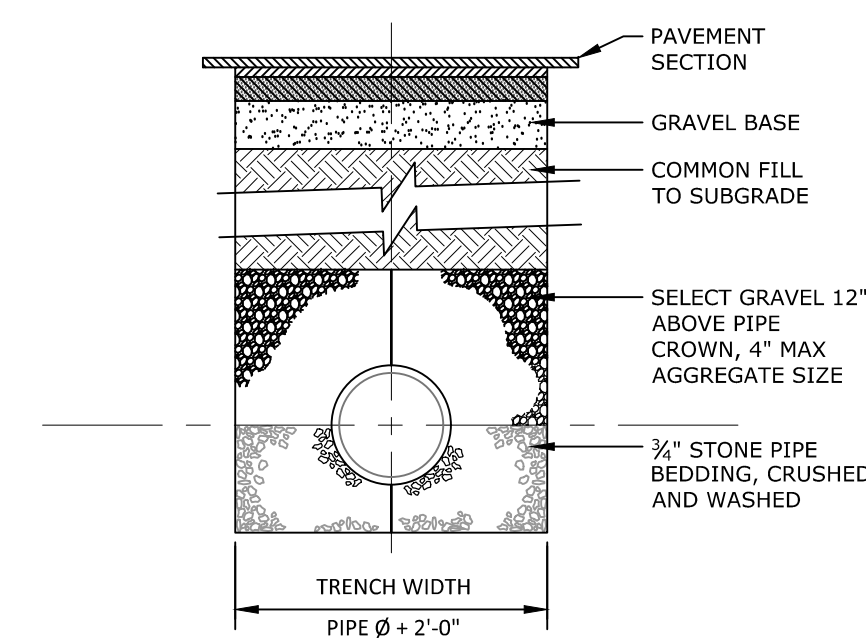


- NOTES:
- CONDUIT SIZE AND MATERIAL AS SPECIFIED BY THE UTILITY PROVIDER.
  - INSTALLATION SHOULD NOT ALLOW THE INTER-TWINGING OF CABLES.
  - BEDDING AND BACKFILL SHALL BE FREE OF ROOTS, STUMPS AND OTHER DEBRIS.
  - COMMUNICATION CABLE AND POWER CABLE SHALL HAVE NO LESS THAN 12 INCHES OF RADIAL SEPARATION.

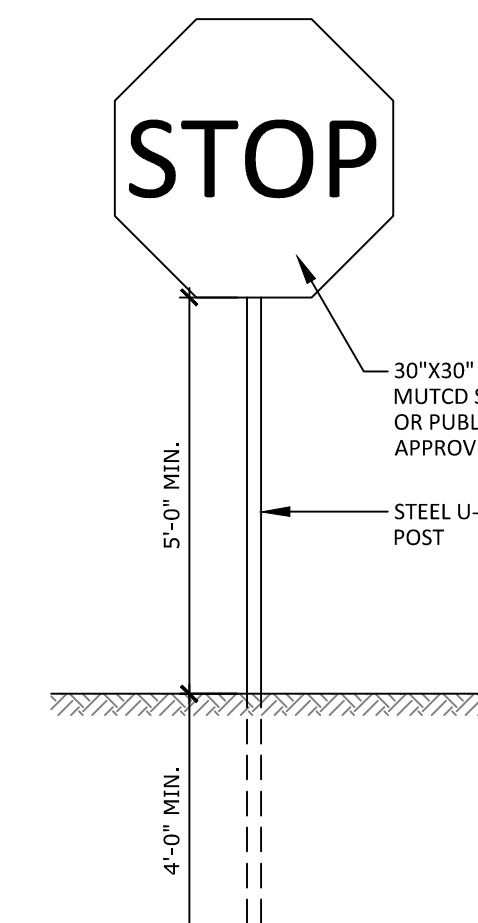
UTILITY TRENCH DETAIL  
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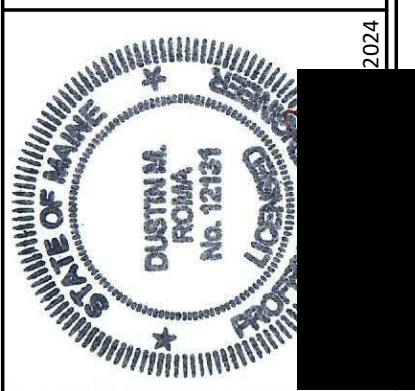
ROOF DRIP EDGE  
NOT TO SCALE



TYPICAL TRENCH SECTION  
NOT TO SCALE



STOP SIGN INSTALLATION  
NOT TO SCALE



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