TOWN OF BRUNSWICK

STAFF REVIEW COMMITTEE

STAFF REVIEW COMMITTEE
- AGENDA -
BRUNSWICK TOWN HALL
85 UNION STREET
ROOM 206
WEDNESDAY, AUGUST 31, 2016, 10:00 A.M.

1. **Case #16-022 - Mid-Coast Health Services Final Plan:** The Staff Review Committee (SRC) will review and provide a recommendation to the Planning Board on a **Final Plan Major Development Review** application submitted by authorized representatives from Pine Tree Engineering for Mid-Coast Health Services to construct three (3) new parking areas containing one hundred fifteen (115) new parking spaces. The site is located at 123 Medical Center Drive within the **CC (Cooks Corner Center) Zoning District, the Medical Use Overlay Zone (MUZ).** The parcel contains the **Natural Resource Protection Zone (NRPZ),** and **Rural Brunswick Smart Growth Overlay District - Wildlife Habitat Block, (Map 45, Lot 32)**.

2. **Case #16-019 - Maine Street Station Apartments:** The Staff Review Committee (SRC) will review and provide a recommendation to the Planning Board on a **Sketch Plan Major Development Review** request submitted by authorized representatives from Sitelines, P.A. for Noble Street LLC to develop two (2), 3-story apartment buildings each with 12-units for lease at 16 Noble Street as part of the development of Maine Street Station (building Lot 5). The project is located within the **Town Center 1 (TC1) Zoning District, (Map U16, Lot 105)**.

3. **Case #16-041 - 12 Bunganuc Landing Road Shoreline Stabilization:** The Staff Review Committee (SRC) will review and provide a recommendation to the Planning Board on a combination **Sketch/Final Plan Major Development Review** application submitted by authorized representatives from Walsh Engineering for Benjamin Carey's shoreline stabilization activity that results in excess of 100 cubic yards of filling and earthmoving on a mapped highly unstable bluff, and the 100-year floodplain adjacent to tidal waters (coastal wetlands) as designated on the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Maps within the **Natural Resource Protection Zone (NRPZ)**. The project is located in the **Coastal Protection Zone (CP1) Zoning District, (Map 29, Lot 35)**.

4. **Adjourn**

This agenda is mailed to owners of property within 200 feet of proposed development sites. In cases where Committee action is pending this agenda serves as notice of same. In cases where the Committee's role is to advise the Planning Board, this agenda is mailed as a courtesy along with notice of the Planning Board meeting. The Staff Review Committee meeting is open to the public. All are invited to attend and participate. For further information call Anna Breinich at the Brunswick Department of Planning and Development (725-6660).

MAJOR DEVELOPMENT REVIEW
FINAL PLAN APPLICATION

Mid Coast Hospital
Parking Expansion
Brunswick, Maine

prepared for:

Mid Coast Health Services
123 Medical Center Drive
Brunswick, Maine 04011

prepared by:

Pine Tree Engineering, Inc.
53 Front Street
Bath, Maine 04530
(207) 443-1508

August 2016
Project No. 95041.17

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Executive Summary of Review Standards

Drawings

MAJOR DEVELOPMENT REVIEW
FINAL PLAN APPLICATION

1. Project Name: Mid Coast Hospital Parking Expansion

2. Project Applicant
   Name: Mid Coast Health Services
   Address: 123 Medical Center Drive
   Brunswick, ME 04011
   Phone Number: (207) 373-6701

3. Authorized Representative
   Name: Michael Pinkham
   Address: 123 Medical Center Drive
   Brunswick, ME 04011
   Phone Number: (207) 373-6701

4. List of Design Consultants. Indicate the registration number, address and phone number Of any engineer, surveyor, architect, landscape architect or planner used:

   1. Pine Tree Engineering, Inc., Robert L. Prue, P.E., Lic. 6092, 53 Front St., Bath, ME 04530
   2.
   3.

5. Physical location of property being affected: 81 and 123 Medical Center Drive, Brunswick, ME

6. Lot Size: 113 acres

7. Zoning District: Medical Use Zone, FF3, and CC

8. Indicate the interest of the applicant in the property and abutting property. For example, is the applicant the owner of the property and abutting property? If not, who owns the property subject to this application?
   Mid Coast Health Services is the owner of the subject property.

9. Assessor's Tax Map 45 Lot Number 32 of subject property.

10. Brief Description of proposed: Parking

11. Describe Specific Physical Improvements to be Done: Expansion of existing parking lots to include new paved areas, drainage systems, lighting, and landscaping.

Owner Signature:

Applicant Signature (*if different*): Michael S. Pinkham

Required Attachments (by Applicant):
- Final Plan Check List
- Final Plan Requirements for Open Space Developments (if applicable)
- Request for Waivers (if applicable)
- Required Copies of Final Plan

Required Attachment (by Planning and Development Department):
- Listing of all owners of property within 200-foot radius of property under review.

FINAL PLAN REQUIREMENTS

Key: "O" = omit; "S"=submit; "NA"=not applicable; "W" = waiver P=pending

Item	O	S	NA	W	P	**Comments**
Name of Development		X				
Scale, date, north point, area, number of lots (if subdivision)		X				
Boundaries of all lots and tracts with accurate distances and bearings, locations of all permanent monuments property identified as existing or proposed.			X			
Certification by a professional land surveyor that the land has been surveyed and the boundaries established in accordance with the State of Maine Board of Licensure for Professional Surveyors standards for Category 1 (Standard Boundary Survey), conditions 1, 2, or 3.		X				
Existing zoning district and overlay designation.		X				
Names of engineer and surveyor; and professional registration numbers of those who prepared the plan.		X				
Names of current owner(s) of subject parcel and abutting parcels.		X				
Name, location, width of paving and rights-of-way, profile, cross-section dimensions, curve radii of existing and proposed streets; profiles of center-lines of proposed streets, at a horizontal scale of 1" equals 50' and vertical scale of 1 inch equals 5 feet, with all elevations referred to in U.S.G.S. datum.			X			
A general road plan noting circulation, direction, traffic control devices, street lighting and type of lighting proposed.			X			
Existing and proposed easements associated with the development.			X			
Kind, location, profile and cross-section of all proposed drainage facilities, both within the development and outside of it, and a storm-water management plan which includes the submission requirements listed in the storm-water management checklist available in the Planning Department.		X				
Location of features, natural and artificial, such as water bodies, wetlands, streams, vegetation, railroads, ditches and buildings.		X				

Location of existing and proposed utilities; water, sewer, electrical lines, and profiles of underground facilities. Tentative locations of any private wells.		X				
Existing and proposed location, size, profile and cross section of sanitary sewers; description, plan and location of other means of sewage disposal with evidence of soil suitability.			X			
Topography with counter intervals of not more than 2 feet.		X				
A Class A (high intensity) Soil Survey prepared in accordance with the standards of the Maine Association of Professional Soil Scientists.		X				
Location of all existing trees over 10 inches in diameter, locations of tree stands, and a plan showing all trees to removed as a result of the development proposal.				X		
Lighting plan showing details of all proposed lighting and the location of that lighting in relation to the site.		X				
Existing locations and proposed locations, widths and profiles of sidewalks.		X				
Location map.		X				
Approximate locations and dimensions of proposed parking areas.		X				
Proposed ownership and approximate location and dimensions of open spaces for conservation and recreation.			X			
Grading, erosion control, and landscaping plan; proposed finished grades, slopes, swells, and ground cover or other means of stabilization.		X				
Reference to special conditions stipulated by the Planning Board, with conditions either set forth in full or on the plan or identified as specific documents filed with the Board.			X			
A wetlands map drawn by a specialist delineating wetland boundaries in accordance with the methods prescribed by the US Army Corps of Engineers.		X				
Dedicated public open specs, areas protected by conservation easements, and existing and proposed open spaces or recreation areas.			X			

For Open Space Development, a note indicating the total permitted lot count of the entire land tract based upon the destiny standards in this Ordinance, the number of lots created by the Plan, and the numebr of lots permitted to be subdivided in the future, as well as a table showing setback requirements and impervious surface coverage limits for each lot.			X			
Building envelops showing acceptable locations for principal and accessory structures.			X			

FINAL PLAN/SUPPORTING DOCCUMENTS

Key: "O" = omit; "S"=submit; "NA"=not applicable; "W" = waiver P=pending

Item	O	S	NA	W	P	**Comments**
Documentation of Ownership or contract.		X				
Drafts of legal documents appropriate to the application, including: deeds, easements, conservation easements, deed restrictions or covenants, home/property owners association declarations and by-laws, and such other agreements or documents as are necessary to show the manner in which conservation land will be owned, maintained, and protected.			X			
Draft performance guarantee or conditional agreement.			X			
Disclosure of any required permits from the Department of Environmental Protection, Marine Resources, US Army Corps of Engineers, Department of Inland Fisheries and Wildlife, or other agencies, as applicable; or, if a permit has already been granted, a copy of that permit.		X				
Any additional studies required by the Planning Baord, which are deemed necessary in accordance with this Ordiancne.			X			
Storm water management program for the propsed project prepared by a professional engineer.		X				
A storm water management checklist prepared by the Cumebrland County Soil and Water Conservation District made availabel at the Brunswick Department of Planning and Development.			X			

An erosion and sedimentation control checklist prepared by the Cumberland County Soil and Water Conservation District.			X			
A statement from the Brunswick-Topsham Water District of conditions under which water will be provided.			X			
A statement from the Brunswick-Topsham Water District of its review and comments on the proposed use if the project involves development within the Aquifer Protection Zone.			X			
A Statement from the Fire Chief recommending the number, size, and location of hydrants, available pressure levels, road layout and street and project name, and any other fire protection measures to be taken.			X			
A statement from the Superintendent of the Brunswick Sewer District of the conditions under wich the Sewer Disticit wil provide sewerage disposal service and approval of the santiary sewers proposed within the development.			X			
Where a septic system is to be used, evidence of soil suitablity.			X			
All applicable materials necessary for the reviewing entity to review the propsoal in accordance with the Criteria of Section 411.		X				
A plan of all buildings with new construction or expansion of an existing facility, including type, size, and footprint, floor layout, setback, elevation of first floor slab, storage, and loading areas.			X			
An elevation view of all sides of each building proposed indicating height, color, bulk, surface treatment, and signage.			X			
A circulation plan describing all pedestrian and vehicle traffic flow on surrounding road systems.		X				
The size and proposed location of water supply and sewage disposal systems.			X			
A site landscaping plan indicating grade change, vegetation to be preserved, new plantings used to stabilize areas of cut and fill, screening, the size, location and purpose and type of vegetation.		X				

EXECUTIVE SUMMARY
OF
REVIEW STANDARDS

411.1 Ordinance Provisions

The sites for the proposed parking lots are located within the Cook's Corner Center Zone, Medical Use Zone, and Farm Forest 3. The project has been designed to comply with the applicable provisions and requirements of the Brunswick Zoning Ordinance. The project meets use, density, and dimensional requirements of the zoning districts. Development of this project does not require a special permit, zoning variance, or special exception.

411.2 Preservation of Natural Features

The Natural Resource Protection Zone (NRPZ) located around the stream near the Medical Office Building has been preserved. As an alternative to a fill extension into the NRPZ, a retaining wall will be constructed. The proposed development of the site will preserve all of the numerous forested wetlands located throughout the site. The project does not include development of land areas within the flood hazard. The development avoids the numerous bedrock outcrops located on this site with the exception of the need to blast the face of the bedrock to expand the parking area closest to the hospital. This is required in order to connect to the existing parking lot and sidewalk, and keep the location within walking distance for the employees. A parking garage alternative has been investigated, but the cost is prohibitive.

411.3 Surface Waters, Wetlands, and Marine Resources

The proposed development will not adversely affect any water body or its shoreline. The project does not require wastewater disposal or public water supply, therefore impacts from groundwater extraction and sewage disposal are eliminated. The stormwater management plan has been designed in accordance with the DEP Stormwater Regulations. The stormwater run-off will discharge into underdrained soil filters (vegetated) to provide the treatment to meet the quality standard. The drainage system has been designed to provide for two smaller sub-areas to avoid discharge of large quantities of stormwater run-off to a single point.

411.4 Flood Hazard Area

The proposed development activity does not occur within a flood hazard area.

411.5 Stormwater Management

As discussed in paragraph 411.3, the proposed development satisfies the recommended stormwater quality standards described in *Stormwater Management for Maine,* published by the State of Maine Department of Environmental Protection, January 2006.

411.6 Groundwater

Due to the lack of need for wastewater disposal or water supply, the proposed development will not adversely affect the quality or quantity of groundwater.

411.7 Erosion and Sedimentation
The proposed development will be constructed in accordance with Best Management Practices. It will not cause unreasonable soil erosion on the site. The Erosion Control Plan is attached to this application. In addition, the large wooded buffers around the site will remain intact.

411.8 Sewage Disposal
Not applicable.

411.9 Water
Not applicable.

411.10 Aesthetic, Cultural and Natural Values
The site of the proposed development is not located on a historic site. An archaeological survey was completed, which did not identify any historic sites on the property. Through the development of the building area, the majority of the site will remain in its natural state, therefore, preserving the scenic and natural beauty of the area.

411.11 Community Impact
No Town services are required or impacted as a result of this development.

411.12 Traffic
This development will serve existing buildings, so no impact to traffic will result from this project.

411.13 Pedestrian and Bicycle Access and Safety
The site has been designed to accommodate bicycles and pedestrians, as well as providing safe access and circulation for passenger vehicles, delivery vehicles, and emergency vehicles. This development will connect to the existing facilities on site.

411.14 Development Patterns
This development is an expansion of an existing facility for off-street parking only, thus, it will not have an adverse impact on abutting properties or the neighborhood

411.15 Architectural Compatibility
In terms of size, scale, mass, and design, the elements of the development are compatible with the surroundings. The campus has been designed to blend into the wooded site and to take advantage of the large wooded buffers which shall remain on the site as part of the landscape design.

411.16 Municipal Solid Waste Disposal
Not applicable.

411.17 Recreational Needs
Not applicable.

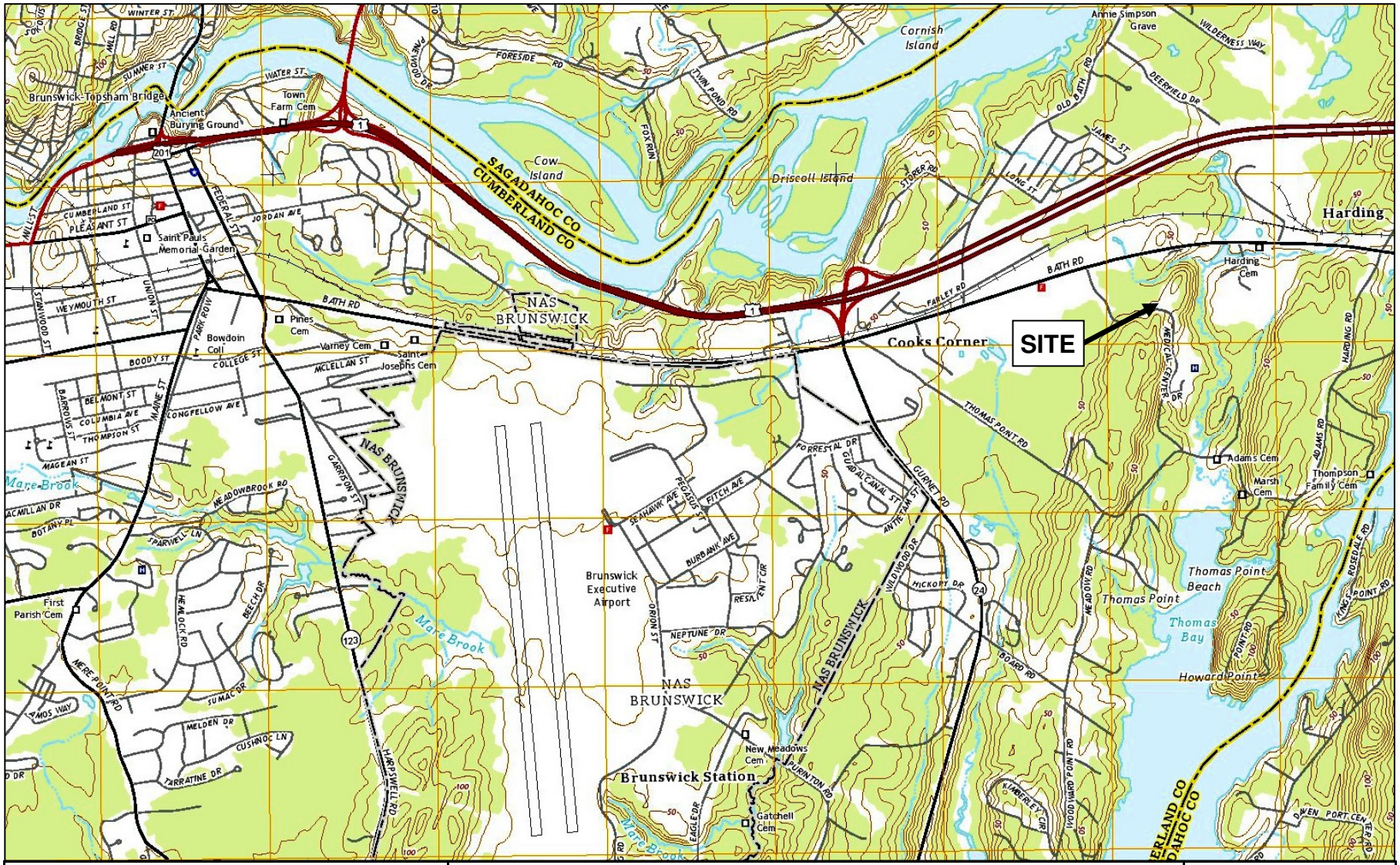
411.18 Access for Persons with Disabilities
The project design is in compliance with the Americans With Disabilities Act in order to provide access for persons with disabilities.

411.19 Financial Capacity and Maintenance
Mid Coast Health Services shall finance the construction of this project through their normal operating budget as detailed in the attached Financial Capacity section of this application.

411.20 Noise and Dust
The operation of the medical office building will not create any unreasonable noise and dust. To minimize dust during construction, the erosion and sedimentation control plan addresses items such as mud tracking onto existing roadways and the need to cover bare soil in a timely manner. The rural nature of the site will also assist in minimizing adverse impacts from noise and dust during the construction phase.

411.21 Title, Right and Interest
Mid Coast Health Services owns the property as shown on Map 45, Lot 32. See the deeds contained in Section 2.

411.22 Finding of Payment of Application Fee
The applicable development review fees have been paid.



[-1]

Pine Tree Engineering 53 Front Street Bath, Maine 04530 Tel: (207) 443-1508 Fax: (207) 442-7029 Civil/Environmental Engineering ◆ Surveying	**MID COAST HOSPITAL PARKING EXPANSION** SITE LOCATION MAP	DATE JANUARY 18, 2016
	PLACE: **81 MEDICAL CENTER DRIVE** TOWN: **BRUNSWICK** COUNTY: **CUMBERLAND** STATE: **MAINE**	APPLICATION BY: MID COAST HEALTH SERVICES 123 MEDICAL CENTER DRIVE BRUNSWICK, MAINE 04011
		SECTION 1

002450

Know All Men By These Presents.

That I, JOSEPH A. FOOTER, of Brunswick, in the County of Cumberland, and State of Maine,

in consideration of One Dollar and other good and valuable considerations,

paid by MID COAST HEALTH SERVICES CORPORATION, a corporation organized and existing under the laws of the State of Maine, with a place of business in Brunswick, in the County of Cumberland, and State of Maine,

the receipt whereof I *do hereby acknowledge, do hereby* give, grant, bargain, sell and convey *unto the said* MID COAST HEALTH SERVICES CORPORATION, 58 Baribeau Drive, Brunswick, Maine, 04011, its successors *heirs and assigns forever,*

A certain lot or parcel of land, situated in Brunswick, in the County of Cumberland and State of Maine, on the northwesterly side of the Adams Road, so-called, and being more specifically bounded and described as follows:

Beginning at a point in the northeast line of land now or formerly of Alvin B. Allen, Arthur Altschuler and David Altschuler and being the southerly corner of land now or formerly of H. William Sowles, John W. Sowles and Peter P. Sowles, recorded in the Cumberland County Registry of Deeds Book 6493, Page 111, and being the northwesterly corner of land herein conveyed by Joseph A. Footer, recorded in the Cumberland County Registry of Deeds Book 4609, Page 268; thence south eighty-nine degrees, five minutes, forty-four seconds east (S 89° 05' 44" E) along the southerly line of the said H. William Sowles et al. and along the southerly line of land now or formerly of Marian B. Washburn, recorded in the Cumberland County Registry of Deeds Book 2935, Page 528, and along the northerly line of land herein conveyed by the said Joseph A. Footer a distance of seven hundred forty-eight and twenty-nine hundredths feet (748.29') to a point being the southeasterly corner of land now or formerly of Earnest Washburn, recorded in the Cumberland County Registry of Deeds Book 1976, Page 277, and being the westerly corner of land now or formerly of Felton Pervier and Rita Pervier, recorded in the Cumberland County Registry of Deeds Book 2991, Page 178, and being the northeasterly corner of land herein conveyed by the said Joseph A. Footer; thence forty-one degrees, zero minutes, thirty-four seconds east (S 41° 00' 34" E) along the southwesterly line of the said Felton Pervier and Rita Pervier and the northeasterly line of land herein conveyed by the said Joseph A. Footer a distance of seven hundred sixteen and seventeen hundredths feet (716.17') to a point marked by an iron rod; thence continuing south forty-one degrees, zero minutes, thirty-four seconds east (S 41° 00' 34" E) along the southwesterly line of the said Felton Pervier and Rita Pervier and the northeasterly line of land herein conveyed by the said Joseph A. Footer a distance of approximately one hundred forty feet (140') more or less to the centerline of the brook; thence southwesterly by the centerline of said brook a distance of twenty-one hundred forty feet (2140') more or less to a point in the easterly property line of land now or formerly of Charles Warren Ring, recorded in the Cumberland County Registry of Deeds Book 2660, Page 135; thence

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REAL ESTATE TRANSFER TAX PAID

north forty-one degrees, thirty minutes, twenty-six seconds west (N 41° 30' 26" W) along the easterly line of the said Charles Warren Ring and the westerly line of land herein conveyed by the said Joseph A. Footer a distance of approximately twenty-three hundred forty feet (2340') more or less to a point marked by a 1 1/4" diameter iron pipe being the northeasterly corner of the said Charles Warren Ring and being the southeasterly line of said Alvin B. Allen et. al. and being the northwesterly corner of land herein conveyed by the said Joseph A. Footer; thence north forty-seven degrees, thirty-two minutes, thirty-eight seconds east (N 47° 32' 38" E) along the southeasterly line of said Alvin B. Allen et. al. and the northwesterly line of land herein conveyed by the said Joseph A. Footer a distance of five hundred twenty-nine and ninety-one hundredths feet (529.91') to a point marked by a 1 1/2" diameter iron pipe being the southwesterly corner of the said Alvin B. Allen et. al.; thence north forty-one degrees, thirty-seven minutes, fifty-three seconds west (N 41° 37' 53" W) along the northeasterly line of the said Alvin B. Allen et. al. and the southwesterly line of the said Joseph A. Footer a distance of four hundred sixty-five and eighty-four hundredths feet (465.84') to the point of beginning. Containing forty-three acres (43 ac.).

Subject, however, to the rights held by New England Telephone and Telegraph Company, by virtue of Easement dated January 21, 1911, and recorded in the Cumberland County Registry of Deeds in Book 868, Page 491.

For source of title reference may be had to the following instruments: Mary D. Footer to Joseph A. Footer, dated December 21, 1973, and recorded in the Cumberland County Registry of Deeds in Book 3498, Page 69; Mary D. Footer to Joseph A. Footer, dated February 1, 1974, and recorded in the Cumberland County Registry of Deeds in Book 3508, Page 150; and Mary A. Farnham to Joseph A. Footer, dated August 30, 1974, and recorded in the Cumberland County Registry of Deeds in Book 3594, Page 165. Reference may also be had to Judgment entered in the matter of Joseph A. Footer v. Nancy W. Footer, dated May 6, 1980, and recorded in the Cumberland County Registry of Deeds in Book 4598, Page 261; and Release Deed of Nancy Waterman f/k/a Nancy W. Footer to Joseph A. Footer, dated May 7, 1980, and recorded in the Cumberland County Registry of Deeds in Book 4609, Page 268.

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To Have and to Hold the aforegranted and bargained premises with all the privileges and appurtenances thereof to the said

MID COAST HEALTH SERVICES CORPORATION, its successors and assigns, to them and their use and behoof forever.

And I do COVENANT with the said Grantee, its successors and assigns, that I am lawfully seized in fee of the premises that they are free of all encumbrances:

that I have good right to sell and convey the same to the said Grantee to hold as aforesaid; and that I and my heirs shall and will WARRANT and DEFEND the same to the said Grantee, its successors and assigns forever, against the lawful claims and demands of all persons.

In Witness Whereof, I, the said JOSEPH A. FOOTER,

RECEIVED
RECORDED REGISTRY OF DEEDS
1989 JAN 17 AM 11:10
CUMBERLAND COUNTY

have hereunto set my hand and seal this 13th day of January in the year of our Lord one thousand nine hundred and eighty-nine.

Signed, Sealed and Delivered in presence of

Roger R. Theriault

Joseph A. Footer

State of Maine, SAGADAHOC } ss. January 13, 1989

Personally appeared the above named

JOSEPH A. FOOTER

and acknowledged the above instrument to be his free act and deed.

Before me,

Roger R. Theriault

Roger R. Theriault, Attorney At Law

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007393

MATTHEW B. ALLEN of Brookline, Massachusetts, DOUGLAS ALLEN of Brookline, Massachusetts, ELIZABETH ALLEN of New York, New York, EMILY ALLEN of New York, New York, MILTON ALTSCHULER of Houston, Texas, and GEORGE S. ABRAMS AS TRUSTEE OF THE ARTHUR ALTSCHULER IRREVOCABLE TRUST of Boston, Massachusetts

For consideration paid, grant(s) to MID COAST HEALTH SERVICES, a Maine corporation, with a principal place of business at 58 Baribeau Drive, Brunswick, Maine, the land in Brunswick, in the County of Cumberland and State of Maine, as follows:

A certain lot or parcel of land situated in the Town of Brunswick, County of Cumberland and State of Maine, lying on the southerly side of U.S. Route One, also known as the Bath Road, said lot or parcel of land being more particularly bounded and described as follows:

Beginning at a point in the southerly right of way of the Bath Road fifty and zero hundredths feet (50.00') southwesterly from the northwesterly corner of land now or formerly of Douglas Schmidt, et als. (by deed recorded in the Cumberland County Registry of Deeds, Book 4352, Page 66); thence south two degrees, three minutes, forty five seconds east (S 02° 03' 45" E) by and along remaining land of the Grantors a distance of two hundred forty one and zero hundredths feet (241.00') to a point of curve; thence by a curve concave to the northeast having a radius of six hundred fifty and zero hundredths feet (650.00') a delta angle of thirty nine degrees, twenty eight minutes, twenty four seconds (39° 28' 24") with a distance of four hundred forty seven and eighty one hundredths feet (447.81') by and along said remaining land of the Grantors to a

point; thence south forty one degrees, thirty two minutes, nine seconds east (S 41° 32' 09" E) by and along said remaining land of the Grantors a distance of five hundred twenty and ninety five hundredths feet (520.95') to a point in the northwesterly line of land now or formerly of Joseph A. Footer (by deed recorded in the Cumberland County Registry of Deeds, Book 4609, Page 268); thence south forty seven degrees, thirty two minutes, thirty eight seconds west (S 47° 32' 38" W) along land of said Footer a distance of fifty and one hundredths feet (50.01') to a point marked by a 1-1/4" diameter iron pipe marking the northwesterly corner of land of said Footer and being the northeast corner of land now or formerly of Charles Warren Ring (by deed recorded in the Cumberland County Registry of Deeds, Book 2660, Page 135); thence south forty seven degrees, thirty one minutes, thirteen seconds west (S 47° 31' 13" W) along the northerly line of land of said Ring a distance of one thousand, one hundred twenty nine and thirty five hundredths feet (1129.35') to a point marked by a granite monument in the northeasterly line of land of James T. Redding (by deed recorded in the Cumberland County Registry of Deeds, Book 3264, Page 322); thence north thirty seven degrees, twenty eight minutes, four seconds west (N 37° 28' 04" W) by and along land of said Redding and land now or formerly of William S. Dodge a distance of five hundred twenty and sixty nine hundredths feet (520.69') to a point; thence north forty seven degrees, thirty one minutes, thirteen seconds east (N 47° 31' 13" E) by and along said remaining land of the Grantors a distance of one thousand forty and seventeen hundredths feet (1040.17') to a point; thence north forty two degrees, twenty eight minutes, forty seven seconds west (N 42° 28' 47" W) by and along said remaining land of the Grantors a distance of five and ninety one hundredths feet (5.91') to a point of curve; thence by a curve concave to the northeast having a radius of seven hundred fifty and zero hundredths feet (750.00') a delta angle of thirty nine degrees nineteen minutes, fifty seconds (39° 19' 50") and a distance of five hundred fourteen and eighty four hundredths feet (514.84') by and along said remaining land of the Grantors to a point; Thence north two degrees, three minutes, forty five seconds west (N 02° 03' 45" W) along land of the said Grantors a distance of two hundred forty and twenty eight hundredths feet (240.28') to a point in the southerly right of way line of the Bath Road; Thence along a curve concave to the south having a radius of thirteen thousand, one hundred eighty nine and ten hundredths feet (13,189.10') a delta angle of zero degrees, twenty six minutes, four seconds (0° 26' 04") and a distance of one hundred and zero hundredths feet (100.00) by and along the southerly right of way of the Bath Road to the point of beginning.

The above described and conveyed premises contain fifteen and forty nine hundredths (15.49) acres and are more particularly shown on plan entitled "Proposed Property Acquisition, Mid Coast Health Services" by Kimball Chase Company, Inc. dated December 15, 1988 and to be recorded in the Cumberland County Registry of Deeds.

Grantors herein, for themselves and their heirs and assigns, in common with the Grantees, their successors, assigns and others, except and reserve a perpetual easement over, under and across a portion of the above described and conveyed parcel, said easement area being more particularly bounded and described as follows:

Beginning at a point in the southerly right of way of the Bath Road fifty and zero hundredths feet (50.00') southwesterly from the north westerly corner of land now or formerly of Douglas Schmidt, Robert Molean, Elmer Saltzman and Leo Loiselle (by deed recorded in the Cumberland County Registry of Deeds, Book 4352, Page 66); Thence south two degrees, three minutes, forty five seconds east (S 02° 03' 45" E) by and along remaining land of the Grantors a distance of two hundred forty one and zero hundredths feet (241.00') to a point of curve; Thence by a curve concave to the northeast having a radius of six hundred fifty and zero hundredths feet (650.00') a delta angle of thirty nine degrees, twenty eight minutes, twenty four seconds (39° 28' 24") with a distance of four hundred forty seven and eighty one hundredths feet (447.81') along said remaining land of the Grantors to a point; Thence south forty one degrees, thirty two minutes, nine seconds east (S 41° 32' 09" E) along land of said remaining land of the Grantors a distance of five hundred twenty and ninety five hundredths feet (520.95') to a point in the north westerly line of land now or formerly of Joseph A. Footer (by deed recorded in the Cumberland County Registry of Deeds, Book 4609, Page 268); Thence south forty seven degrees, thirty two minutes, thirty eight seconds west (S 47° 32' 38" W) along land of said Footer a distance of fifty and one hundredths feet (50.01') to a point marked by a 1-1/4" diameter iron pipe marking the northwesterly corner of land of said Footer and being the north east corner of land now or formerly of Charles Warren Ring (by deed recorded in the Cumberland County Registry of Deeds, Book 2660, Page 1350; thence South 47° 31' 13" West by and along said land of Ring fifty (50) feet, more or less, to a point; thence North 41° 32' 09" West across the property hereinabove described and conveyed five hundred twenty (520) feet, more or less, to a point at remaining land of the Grantors herein; Thence north forty two degrees, twenty eight minutes, forty seven seconds west (N 42° 28' 47" W) along land of the said Alvin B. Allen et. al. a distance of five and ninety one hundredths feet (5.91') to a point of curve; Thence by a curve concave to the north east

having a radius of seven hundred fifty and zero hundredths (750.00') a delta angle of thirty nine degrees nineteen minutes, fifty seconds (39° 19' 50") and a distance of five hundred fourteen and eighty four hundredths feet (514.84') along land of the said Grantors to a point; Thence north two degrees, three minutes, forty five seconds west (N 02° 03' 45" W) along land of the said Grantors a distance of two hundred forty and twenty eight hundredths feet (240.28') to a point in the southerly right of way line of the Bath Road; Thence along a curve concave to the south having a radius of thirteen thousand, one hundred eighty nine and ten hundredths feet (13,189.10') a delta angle of zero degrees, twenty six minutes, four seconds (0° 26' 04") and a distance of one hundred and zero hundredths feet (100.00) along the southerly right of way of the Bath Road to the point of beginning.

The above perpetual easement shall be for all purposes of an easement to benefit remaining land of the Grantors herein, including the following purposes: (A) as a roadway and means of ingress to and egress from other land of the Grantors herein by vehicular, pedestrian and all other modes of passage including the right to use any such roadway constructed and installed by the Grantee herein or its successors and assigns; and (B) to use and to connect to sewer and water lines, overhead and underground utility lines, wires and pipes, and any appurtenances to any of the foregoing, which are now or may hereafter be installed in said easement area by the Grantee herein, or its successors and assigns, and the right of the Grantors herein, their heirs, personal representatives, successors and assigns, to construct, install, lay, maintain, repair and replace sewer and water lines, overhead and underground utility lines, wires, and pipes, and appurtenances to any of the foregoing.

The above described and conveyed premises are a portion only of the premises conveyed to the Grantors herein by Alvin B. Allen and David Altschuler, as Trustees of the Brunswick Shopping Plaza Trust by deed dated February 3, 1989 and recorded in the Cumberland County Registry of Deeds, ~~in Book _____, Page _____~~ R.O.M.

TO HAVE AND TO HOLD the aforegranted and bargained premises, with all privileges and appurtenances thereof to the said MID COAST HEALTH SERVICES, its successors and assigns, forever, to them and their use and behoof forever.

AND we do hereby covenant with the said Grantee, its successors and assigns, that we are lawfully seized in fee of the premises; that they are free of all encumbrances, except as aforesaid; that we have good right to sell and convey the same to the said Grantee to hold as aforesaid, and that we and our heirs and assigns, shall and will WARRANT AND DEFEND the same

to the said Grantee, its successors and assigns forever, against the lawful claims and demands of all persons.

IN WITNESS WHEREOF, the said MATTHEW B. ALLEN, DOUGLAS ALLEN, ELIZABETH ALLEN, EMILY ALLEN, MILTON ALTSCHULER, and GEORGE S. ABRAMS AS TRUSTEE OF THE ARTHUR ALTSCHULER IRREVOCABLE TRUST have hereunto set our hands and seals this 3rd day of February, 1989

Matthew B. Allen
MATTHEW B. ALLEN

DOUGLAS ALLEN

ELIZABETH ALLEN
Matthew B. Allen atty. in fact
ELIZABEH ALLEN

EMILY ALLEN
Matthew B. Allen atty. in fact
EMILY ALLEN

MILTON ALTSCHULER BY HIS ATTORNEY-IN-FACT DAVID ALTSCHULER

THE ARTHUR ALTSCHULER IRREVOCABLE TRUST

By George S. Abrams, Trustee
GEORGE S. ABRAMS, TRUSTEE

COMMONWEALTH OF MASSACHUSETTS
COUNTY OF Middlesex

February 3, 1989

Then personally appeared the above named David Altschuler, attorney for Milton Altschuler and acknowledged the foregoing instrument to be his/her/their free act and deed, before me

Barbara Mayford SEAL
NOTARY PUBLIC

RECEIVED
RECORDED REGISTRY OF DEEDS
1989 FEB 16 PM 2:40
CUMBERLAND COUNTY
James S Walsh

BK8654PG0342

006513

SHORT FORM WARRANTY DEED

CHARLES WARREN RING, whose mailing address is RR#5, Adams Road, Brunswick, Maine 04011, FOR CONSIDERATION PAID, grants to MID COAST HEALTH SERVICES, a Maine corporation whose mailing address is 58 Baribeau Drive, Brunswick, Maine 04011, with WARRANTY COVENANTS, certain real property, located in Brunswick, Cumberland County, Maine, more particularly described on Exhibit A attached hereto and made a part hereof.

WITNESS my hand and seal this 10th day of February, 1989.

WITNESS:

Philip H. Gleason

Name: PHILIP H. GLEASON

Charles Warren Ring

Charles Warren Ring

State of Maine
County of Cumberland, ss.

February 10, 1989

PERSONALLY APPEARED the above-named Charles Warren Ring and acknowledged the foregoing instrument to be his free act and deed.

Before me,

Philip H. Gleason

Name: PHILIP H. GLEASON
Title: ATTORNEY AT LAW

19047002.021
205.286

EXHIBIT A

A CERTAIN LOT OR PARCEL OF LAND LOCATED SOUTHERLY OF THE BATH ROAD (OLD U.S. ROUTE ONE), BOUNDED AND DESCRIBED AS FOLLOWS:

Beginning at a point marked by granite being the southerly corner of land now or formerly Alvin B. Allen, Arthur Altschuler and David Altschuler and being the north westerly corner of land now or formerly Charles Warren Ring recorded in the Cumberland County Registry of Deeds Book 2660, Page 135;

thence north forty seven degrees, thirty one minutes, thirteen seconds east (N 47° 31′ 13" E) along the south easterly line of the said Alvin B. Allen and the north westerly line of the said Charles Warren Ring a distance of one thousand, one hundred twenty nine and thirty five hundredths feet (1129.35′) to a point marked by a 1 1/4" dia. iron pipe being the northerly corner of the said Charles Warren Ring and a north Westerly corner of land now or formerly Joseph A. Footer recorded in the Cumberland County Registry of Deeds Book 4609, Page 268;

thence south forty one degrees, thirty minutes, twenty six seconds east (S 41° 30′ 26" E) along the south westerly line of the said Joseph A. Footer and the north easterly line of the said Charles Warren Ring a distance of approximately two thousand three hundred forty feet (2340′±) to the center line of Thompson's Brook; thence south westerly by the centerline of the

EXHIBIT A

said Thompson's Brook a distance of fifteen hundred fifty feet (1550'±) to a point in the south westerly line of the said Charles Warren Ring;

thence north forty one degrees, thirty minutes, twenty six seconds west (N 41° 30' 26" W) along land of the said Charles W. Ring a distance approximately eight hundred feet (800'±) to a point being a north easterly corner of the said Charles W. Ring;

thence south twenty-one degrees, twenty three minutes, two seconds west (S 21° 23' 02" W) along a northerly line of the said Charles W. Ring a distance of one hundred sixty eight and fifty one hundredths feet (168.51') to a point being a south westerly corner of land of the said Charles W. Ring;

thence north forty one degrees, thirty minutes, twenty six seconds west (N 41° 30' 26" W) along the south westerly line of the said Charles Warren Ring a distance of one thousand, five hundred and thirteen hundredths (1500.13'±) to the point of beginning containing approximately fifty four and seven tenths acres (54.7± ac).

The grantor, Charles W. Ring, reserves the right to an access easement to a point of land on the northerly side of Thompson's Brook. The location of said easement to be determined by Mid Coast Health Services in conjunction with the facilities to be constructed on the property being conveyed herein.

EXHIBIT A

TOGETHER WITH THE PERPETUAL RIGHT AND EASEMENT, IN COMMON WITH THE GRANTOR, HIS HEIRS AND ASSIGNS, TO PASS AND REPASS ON FOOT AND WITH VEHICLES AT ANY AND ALL TIMES AND TO [illegible] MAY, REPAIR, MAINTAIN, REPLACE AND REMOVE UTILITY PIPES AND MAINS, [illegible] AND POLES AND WIRES WITH ALL [illegible] UPON, UNDER OR OVER ADJACENT LAND OF GRANTOR, BOUNDED AND DESCRIBED AS FOLLOWS:

EASEMENT ONE:

Beginning at a point marked by an iron pipe, being the south easterly corner of land now or formerly of James T. Reding, recorded in the Cumberland County Registry of Deeds, Book 3264, Page 322;

thence south thirty six degrees, twenty four minutes, fourteen seconds west (S 36° 24' 14" W) along the southerly line of the said James T. Reding parcel a distance of two hundred sixty four and eighty five hundredths feet (264.85'), to a point being the south westerly corner of the said James T. Reding parcel, also being the south easterly corner of land now or formerly of Charles W. Ring and recorded in the Cumberland County Registry of Deeds, Book 2473, Page 457;

thence south nineteen degrees, fifty four minutes, thirty four seconds west (S 19° 54' 34" W) along the southerly line of the said Charles W. Ring a distance of three hundred eight and eight hundredths feet (308.08') a point being the south westerly corner of the said Charles W. Ring and being in the easterly line of land now or formerly of Konover Family Limited recorded in the Cumberland County Registry of Deeds, Book 6812, Page 312 and being the north westerly corner of other land of Charles W. Ring recorded in the Cumberland County Registry of Deeds, Book 2660, Page 135;

BK06547P0345

thence south forty one degrees six minutes, forty nine seconds east (S 41° 06' 49" E) along the easterly line of the said Konover Family Limited a distance of fifty seven and fifteen hundredths feet (57.15') to a point in the easterly line of the said Konover Family Limited;

thence north nineteen degrees, fifty four minutes, thirty four east (N 19° 54' 34" E) a distance of three hundred twenty eight and fifty two hundredths feet (328.52') to a point;

thence north thirty six degrees, twenty four minutes, fourteen seconds east (N 36° 24' 14" E) a distance of two hundred forty six and eighty nine hundredths feet (246.89') to a point in the easterly line of other land of the said Charles W. Ring;

thence north forty one degrees, thirty minutes, twenty six seconds west (N 41° 30' 26" W) along the easterly line of other land of the said Charles W. Ring, a distance of fifty one and thirteen hundredths feet (51.13') to the point of beginning.

EXHIBIT A

EASEMENT TWO:

Beginning at a point in the northerly right-of-way of the Adams Road at the south easterly corner of land now or formerly of William M. Greene and Judith A. Greene and recorded in the Cumberland County Registry of Deeds, Book 3828, Page 246;

thence north twenty seven degrees, seventeen minutes, ten seconds east (N 27° 17' 10" E) along the easterly line of the said William M. Greene and Judith A. Greene a distance of twenty nine and seventy five hundredths feet (29.75') to an angle point in the easterly line of the said William M. Greene and Judith A. Greene;

thence north forty one degrees, zero minutes, five seconds west (N 41° 00' 05" W) along the easterly line of the said William M. Greene and Judith A. Greene a distance of four hundred ten and twenty seven hundredths feet (410.27') to the north easterly corner of the said William M. Greene and Judith A. Greene;

thence along land now or formerly Charles W. Ring and recorded in the Cumberland County Registry of Deeds, Book 2660, Page 135 by a curve concave to the east having a radius of three hundred and zero hundredths feet (300.00'), a delta angle of twenty seven degrees,

EXHIBIT A

twenty five minutes, seven seconds (27° 25' 07") a distance of one hundred forty three and fifty six hundredths feet (143.56') to a point;

thence north thirteen degrees, thirty four minutes, fifty nine seconds west (N 13° 34' 59" W) along land of the said Charles W. Ring a distance of forty two and five hundredths feet (42.05') to a point;

thence along land of the said Charles W. Ring by a curve concave south easterly having a radius of three hundred and zero hundredths feet (300.00'), a delta angle of thirty four degrees, fifty eight minutes, one second (34° 58' 01"), a distance of one hundred eighty three and nine hundredths feet (183.09') to a point;

thence north twenty one degrees, twenty three minutes, two seconds east (N 21° 23' 02" E) along land of the said Charles W. Ring a distance of four hundred thirty five and seventy five hundredths feet (435.75') to a point in the easterly line of land of the said Charles W. Ring;

thence south forty one degrees, thirty minutes, twenty six seconds east (S 41° 30' 26" E) along the easterly line of land of the said Charles W. Ring a distance of fifty six and seventeen hundredths feet (56.17') to a point in the easterly line of land of the said Charles W. Ring;

EXCIBIT A

thence south twenty one degrees, twenty three minutes, two seconds west (S 21° 23' 02" W) along land of the said Charles W. Ring a distance of four hundred ten and sixteen hundredths feet (410.16') to a point;

thence along land of the said Charles W. Ring by a curve concave south easterly having a radius of two hundred fifty and zero hundredths feet (250.00'), a delta angle of thirty four degrees, fifty eight minutes, one second (34° 58' 01"), a distance of one hundred fifty two and fifty seven hundredths feet (152.57') to a point;

thence south thirteen degrees, thirty four minutes, fifty nine seconds east (S 13° 34' 59" E) along land of the said Charles W. Ring a distance of forty and five hundredths feet (42.05') to point;

thence along land of the said Charles W. Ring by a curve concave to the east having a radius of two hundred fifty and zero hundredths feet (250.00'), a delta angle of twenty seven degrees, twenty five minutes, seven seconds (27° 25' 07"), a distance of one hundred nineteen and sixty four hundredths feet (119.64') to a point;

thence south forty one degrees, zero minutes, five seconds east (54° 00' 05" E) along land of the said Charles W. Ring also being parallel and fifty and zero hundredths feet (50.00') from the

EXHIBIT A

easterly line of the said William M. Greene and Judith A. Greene a distance of four hundred forty four and seventeen hundredths feet (444.17') to a point;

thence south twenty seven degrees, seventeen minutes, ten seconds west along land of said Charles W. Ring a distance of sixty four and eighty six hundredths feet (64.86') to a point in the northerly right-of-way line of the said Adams Road;

thence north sixty one degrees, twenty minutes, eleven seconds west (N 61° 20' 11" W) along the northerly right-of-way of the said Adams Road and southerly line of land of the said Charles W. Ring a distance of fifty and one hundredths feet (50.01') to the point of beginning.

RECEIVED
RECORDED REGISTRY OF DEEDS
1989 FEB 10 PM 3:38
CUMBERLAND COUNTY
James J Walsh

Section 3
Financial Capacity

Estimated Cost and Financing

The parking lot expansions at Mid Coast Hospital are estimated to cost $670,000. Mid Coast Hospital will fund the project through their Fiscal Year 2017 Capital Budget. Please see the letter from Mid Coast Hospital on the following page.

For a lifetime of caring

MID COAST HOSPITAL

123 Medical Center Drive
Brunswick, Maine 04011
(207) 729-0181
www.midcoasthealth.com

June 22, 2016

Ms. Chrstine Woodruff
Maine Department of Environmental Protection
312 Canco Road
Portland, Maine 04103

Dear Ms. Woodruff:

Mid Coast Hospital is submitting an application to the Department of Environmental Protection to construct parking facilities at our Medical Center Drive campus located in Brunswick, Maine. These facilities will increase our parking by 115 spaces at a cost of $670,000. Mid Coast Hospital intends to finance this project through our Fiscal Year 2017 Capital Budget.

If you have any questions, please feel free to call me at 207-373-6701.

Sincerely,

Michael S. Pinkham, CHFM
Director of Facilities Management

Section 4
Construction Schedule and Costs

Schedule

Construction is scheduled to begin in October 2016, with final completion expected in June 2017.

Costs

The project is estimated to cost $670,000.

Section 5
Disclosure of Permits

In addition to Site Plan approval from the Town of Brunswick, this project will require:

1. Minor Amendment to the existing Site Location of Development permit from the Department of Environmental Protection.

Section 6
List of Waivers

The only waiver requested is the requirement to locate all trees with a diameter of 10" or greater, since this site is entirely wooded.

Section 7
High Intensity Soils Report

The full soils report is on file with the Planning Department from the original site application. The High Intensity Soils Map was submitted with the Sketch Plan application, and is on file in the Planning Department.

Section 8
Wetlands Report

The full report is on file with the Planning Department from the original site application.

Section 9
Stormwater Management

A. Narrative

The location of the new medical office building is on the northern side of Medical Center Drive to the south of Bath Road. The existing site is wooded, with several bedrock outcrops. Surface water from the site is discharged through the forested wetlands and the perennial streams discharging into the coastal wetland along Thompson Brook. Thompson Brook is a tributary within the watershed of the tidal segment of the New Meadows River. A slope serves as the transition between the building area and Thompson Brook. Flooding is limited to the wetlands associated with Thompson Brook, which is the east boundary of the site. The alignment and channel geometry of the natural drainageways will not be altered due to the development of this site. The alterations to the existing land cover shall consist of clearing and grading for the new parking areas.

Permitting History of this Site
Since the stormwater runoff discharges to the ocean, this project received a variance from structural measures for water quantity control. Due to the project's location within the watershed of a coastal wetland most at risk from new development, the Sliding Scale TSS Standards were met on the site to reduce the impacts of site runoff on downstream water quality under regulations in effect at that time. The original project and subsequent amendments for parking expansions currently provide stormwater treatment through the use of buffers and manufactured stormwater treatment systems. The minimum TSS removal was 40%, and the site is operating at a TSS removal rate of 43.26% per the last amendment in 2004. The hospital expanded the emergency room in 2008, and the medical office building was constructed at 81 Medical Center Drive in 2008. The intent of the Stormwater Management Plan is to mitigate the development's impact on receiving waters and adjacent properties.

Proposed Amendment
The stormwater runoff from this additional area of development is designed to provide channel protection as well as stormwater treatment through the use of two vegetated underdrained soil filters. These filters will treat runoff from 96.4% of the impervious areas, and 84.6% of the developed area. The two underdrained soil filters drain into forested wetlands through level spreaders to disburse the flow.

B. Pre-Development Drainage Plan

The Existing Conditions Plan, sheet C-1, shows pre-development contours, land cover types and boundaries, existing roads and drives, natural and man-made drainage ways, wetlands, and survey benchmarks. The site is currently wooded, consisting of areas of exposed bedrock.

A 15" culvert drains the area to the south of Medical Center Drive to the east of this site to Thompson Brook at 123 Medical Center Drive. The parking expansions at 81 Medical Center Drive will drain into the perennial stream, which drains across the northeast property boundary.

C. Post-Development Drainage Plan

1. The proposed parking lot expansions will be constructed on the campus of Mid Coast Health Services. This project will involve development of approximately 1.4 acres, of which 0.9 acres will be comprised of impervious surfaces of the parking areas. In order to provide quality control and channel protection of the receiving waters, two vegetated underdrained soil filters will be installed. These underdrained soil filters will provide for slow release of runoff as well as cooling to reduce thermal impacts to the receiving waters.

   The two underdrained soil filters are sized to detain a runoff volume equal to 1-inch times the impervious area and 0.4-inch times the landscaped developed area draining to each filter. The details of the two vegetated underdrained soil filters are shown on Sheet C-6. Test pits were excavated at the site of each soil filter, see the letter report on the next page.

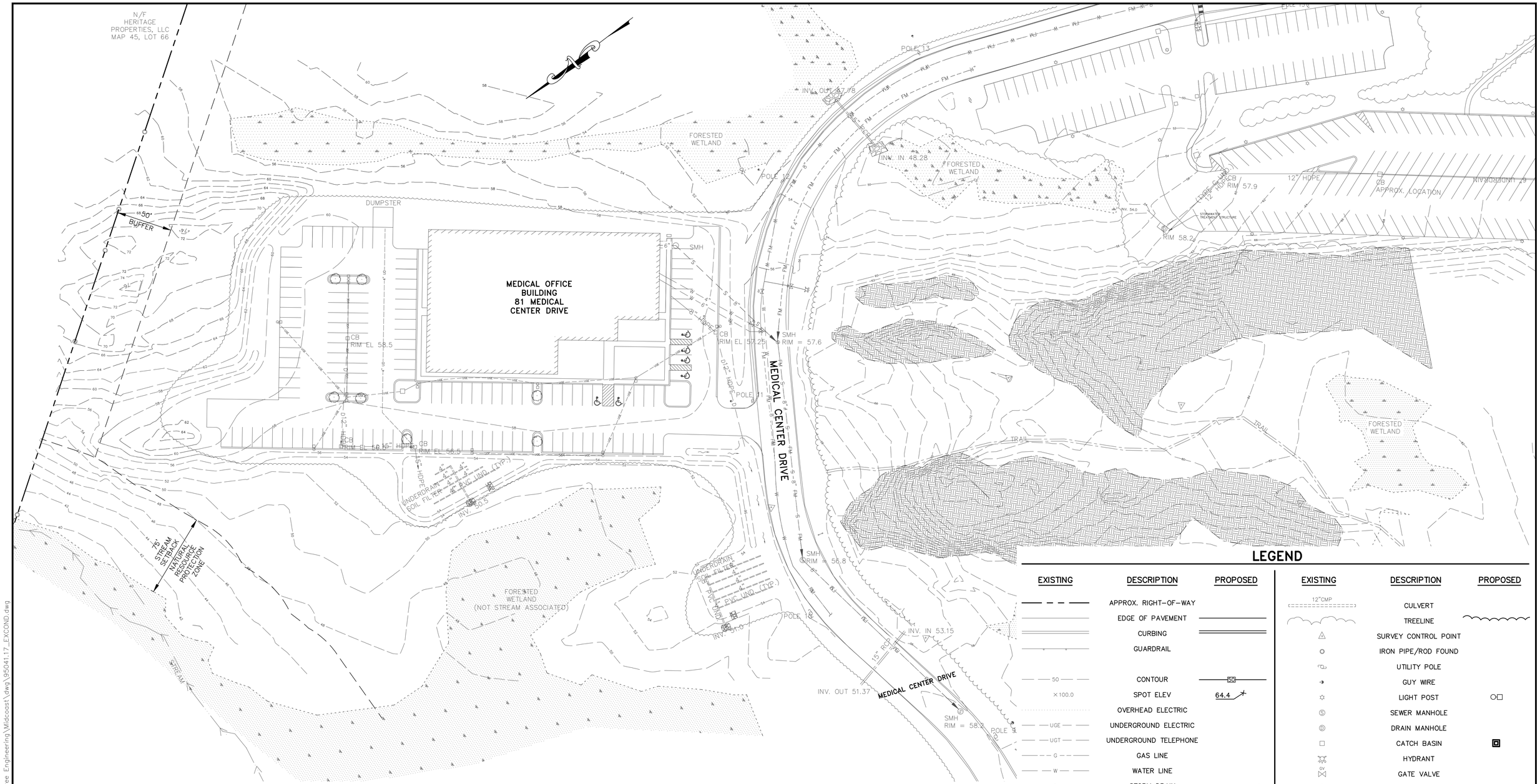
2. The sizing of the two vegetated underdrained soil filters is summarized below:

STORMWATER TREATMENT SUMMARY TABLE

IMPERVIOUS AREA			DEVELOPED AREA		
	Treated Area			Treated Area	
Total Area (sf)	sf	%	Total Area (sf)	sf	%
38,935	37,531	96.4	61,112	51,703	84.6
		>95%✓			>80%✓

UNDERDRAINED SOIL FILTER SIZING TABLE

SOIL FILTER NO. 1				SOIL FILTER NO. 2			
Impervious Area		Developed Area		Impervious Area		Developed Area	
5%	1" rain	2%	0.4" rain	5%	1" rain	2%	0.4" rain
1,127 sf	1,878 cf	86 sf	143 cf	750 sf	1,250 cf	198 sf	330 cf
Design:							
1,350 sf	>1,213 sf✓			1,054 sf	>948 sf✓		



LEGEND

EXISTING	DESCRIPTION	PROPOSED
	APPROX. RIGHT-OF-WAY	
	EDGE OF PAVEMENT	
	CURBING	
	GUARDRAIL	
50	CONTOUR	50
×100.0	SPOT ELEV	64.4
	OVERHEAD ELECTRIC	
UGE	UNDERGROUND ELECTRIC	
UGT	UNDERGROUND TELEPHONE	
G	GAS LINE	
W	WATER LINE	
D	STORM DRAIN	
	UNDERDRAIN	
S	GRAVITY SEWER MAIN	
FM	SEWER FORCE MAIN	
	DRAINAGE	
	DRAINAGE FLOW	
	WETLAND	

EXISTING	DESCRIPTION	PROPOSED
12"CMP	CULVERT	
	TREELINE	
	SURVEY CONTROL POINT	
	IRON PIPE/ROD FOUND	
	UTILITY POLE	
	GUY WIRE	
	LIGHT POST	
S	SEWER MANHOLE	
D	DRAIN MANHOLE	
	CATCH BASIN	
	HYDRANT	
GV	GATE VALVE	
	WATER SHUT-OFF	
	EXPOSED BEDROCK	
	RIPRAP	
	SIGN	
	BUILDING/STRUCTURE	

EXISTING CONDITIONS PLAN

SCALE: 1" = 40'

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)

REV	DATE	STATUS	BY	CHKD	APPD
1	8/10/2016	DEP REVIEW COMMENTS	DB	RLP	RLP

ROBERT L. PRUE, JR. No. 6052 STATE OF MAINE LICENSED PROFESSIONAL ENGINEER

DESIGNED BY:	RLP
DRAWN BY:	DB
CHECKED BY:	RLP
APPROVED BY:	RLP
DATE:	6/30/2016

Pine Tree Engineering
Civil/Environmental Engineering • Surveying
53 Front Street
Bath, Maine 04530
Tel: (207) 443-1508
Fax: (207) 442-7029

CLIENT
MID COAST HEALTH SERVICES
123 MEDICAL CENTER DRIVE
BRUNSWICK, MAINE 04011

PROJECT
MID COAST HOSPITAL
PARKING EXPANSION

TITLE
EXISTING CONDITIONS PLAN

SCALE	1"=40'
PROJECT NO.	95041.17
DRAWING NO.	95041.17_EXCOND
SHT. 1 of 6	REV. 1

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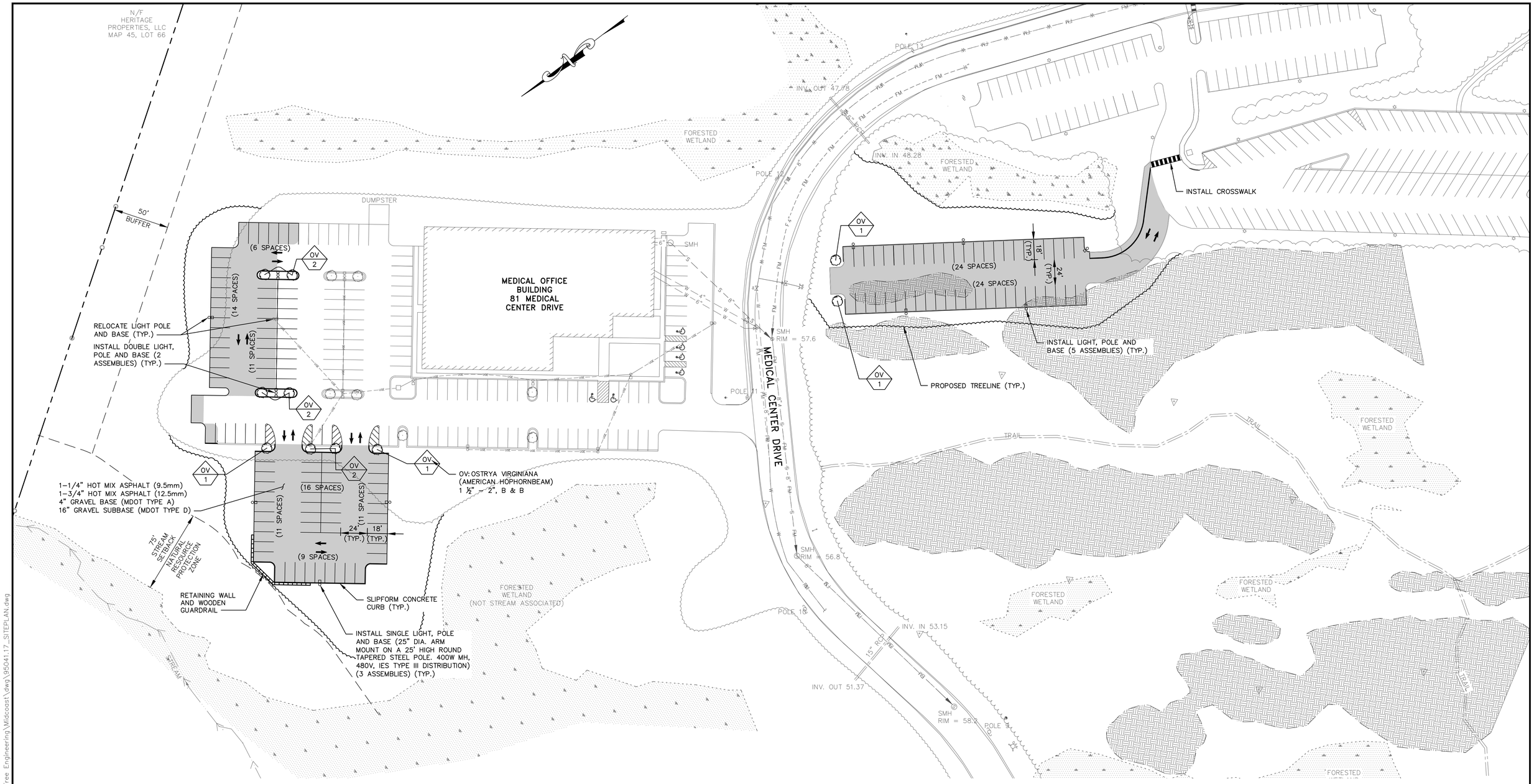

SITE PLAN

SCALE: 1" = 40'

PERFORMANCE STANDARDS		
	REQUIRED	PROPOSED
MIN. LOT SIZE	30,000 SF	113 AC
NET SITE AREA	–	84.4 AC
MAX. BUILDING HEIGHT	40 FT	N/A
MAX. FOOTPRINT FACTOR	25%	2.4%
MAX. GROSS DENSITY FACTOR	50%	20.1%
RESIDENTIAL BUFFER ZONE	50 FT	93 FT

NOTES:

1. OWNER: MID COAST HEALTH SERVICES (MAP 45, LOT 32).
2. ZONE: MEDICAL USE ZONE (OVERLAY)
   COOKS CORNER CENTER
   RURAL BRUNSWICK SMART GROWTH –
   WILDLIFE HABITAT BLOCK (OVERLAY)
3. WETLAND DELINEATION BY WOODLOT ALTERNATIVES AND STATEWIDE SURVEYS. SOILS MAPPED BY ALBERT FRICK ASSOCIATES.
4. STREAM LOCATED BY PINE TREE ENGINEERING.
5. PARKING: EXISTING 701 SPACES, PROPOSED 816 SPACES.

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)

REV	DATE	STATUS	BY	CHKD	APPD
1	8/10/2016	DEP REVIEW COMMENTS	DB	RLP	RLP

ROBERT L. PRUE, JR. No. 6062 LICENSED PROFESSIONAL ENGINEER STATE OF MAINE

DESIGNED BY:	RLP
DRAWN BY:	DB
CHECKED BY:	RLP
APPROVED BY:	RLP
DATE:	6/30/2016

Pine Tree Engineering
Civil/Environmental Engineering ♦ Surveying
53 Front Street
Bath, Maine 04530
Tel: (207) 443-1508
Fax: (207) 442-7029

CLIENT
MID COAST HEALTH SERVICES
123 MEDICAL CENTER DRIVE
BRUNSWICK, MAINE 04011

PROJECT
MID COAST HOSPITAL
PARKING EXPANSION

TITLE
SITE LAYOUT AND UTILITY PLAN

SCALE 1" = 40'
PROJECT NO. 95041.17
DRAWING NO. 95041.17_SITEPLAN
SHT. 2 of 6
REV. 1

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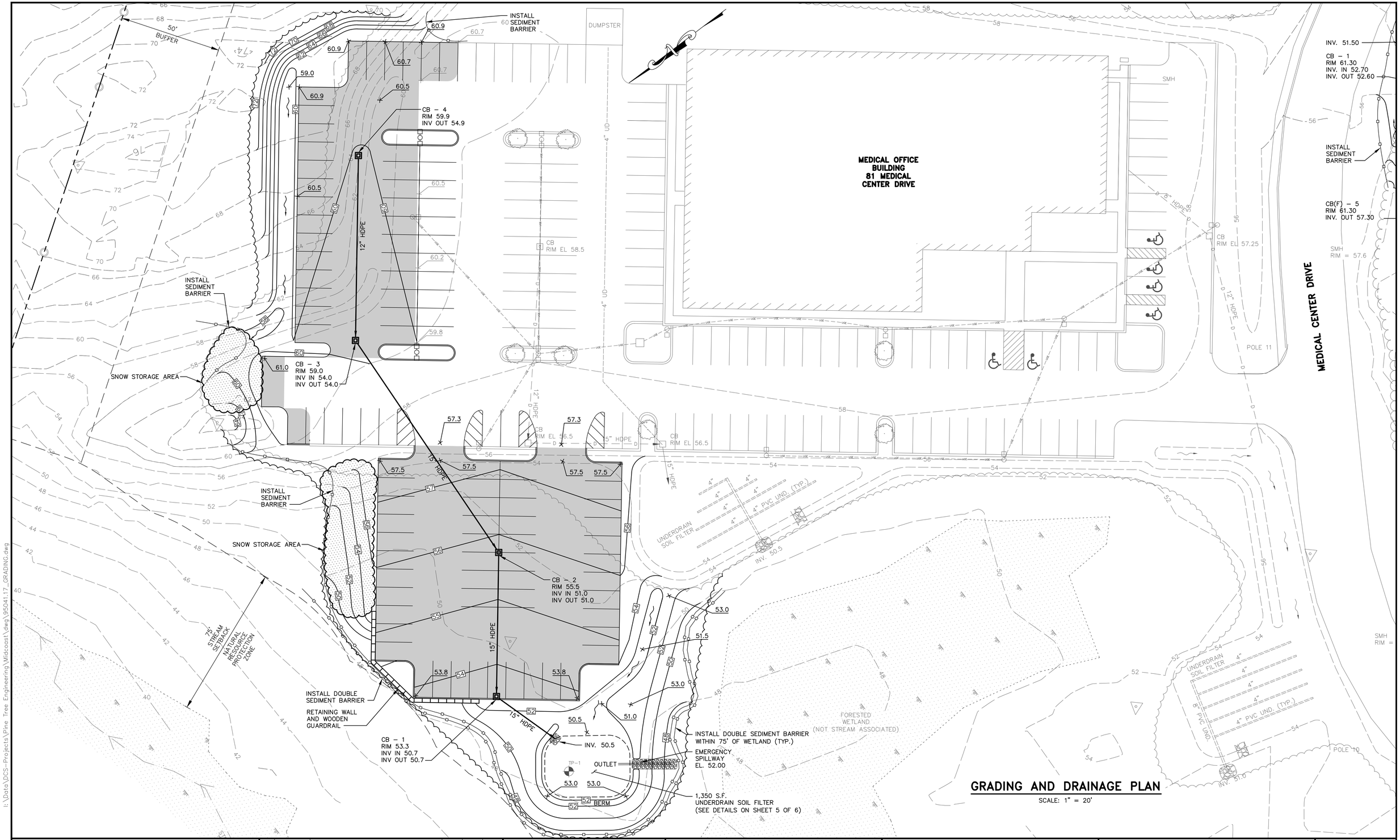

GRADING AND DRAINAGE PLAN

SCALE: 1" = 20'

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)

REV	DATE	STATUS	BY	CHKD	APPD
1	8/10/2016	DEP REVIEW COMMENTS	DB	RLP	RLP

STATE OF MAINE
ROBERT L. BRUE, JR
No. 6052
LICENSED PROFESSIONAL ENGINEER

DESIGNED BY:	RLP
DRAWN BY:	DB
CHECKED BY:	RLP
APPROVED BY:	RLP
DATE:	6/30/2016

Pine Tree Engineering
Civil/Environmental Engineering • Surveying
53 Front Street
Bath, Maine 04530
Tel: (207) 443-1508
Fax: (207) 442-7029

CLIENT
MID COAST HEALTH SERVICES
123 MEDICAL CENTER DRIVE
BRUNSWICK, MAINE 04011

PROJECT
MID COAST HOSPITAL
PARKING EXPANSION

TITLE
GRADING AND DRAINAGE PLAN

SCALE	1" = 20'
PROJECT NO.	95041.17
DRAWING NO.	95041.17_GRADING
SHT.	3 of 6
REV.	1

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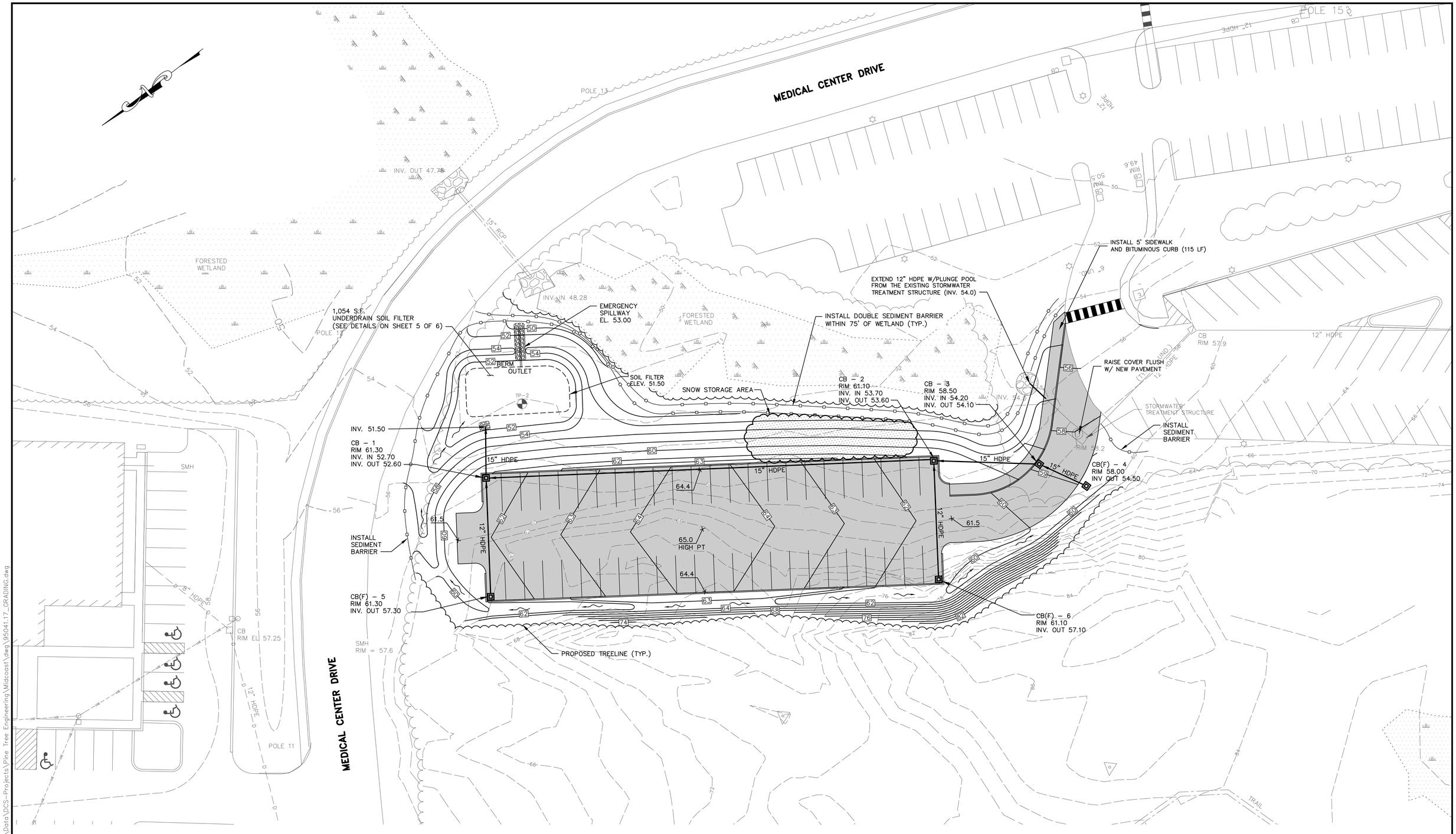

GRADING AND DRAINAGE PLAN

SCALE: 1" = 20'

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)

REV	DATE	STATUS	BY	CHKD	APPD
1	8/10/2016	DEP REVIEW COMMENTS	DB	RLP	RLP

STATE OF MAINE — ROBERT L. BRUE, JR. No. 6052 — LICENSED PROFESSIONAL ENGINEER

DESIGNED BY:	RLP
DRAWN BY:	DB
CHECKED BY:	RLP
APPROVED BY:	RLP
DATE:	6/30/2016

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PROJECT
MID COAST HOSPITAL
PARKING EXPANSION

TITLE
GRADING AND DRAINAGE PLAN

SCALE	1" = 20'
PROJECT NO.	95041.17
DRAWING NO.	95041.17_GRADING
SHT. 4 of 6	REV. 1

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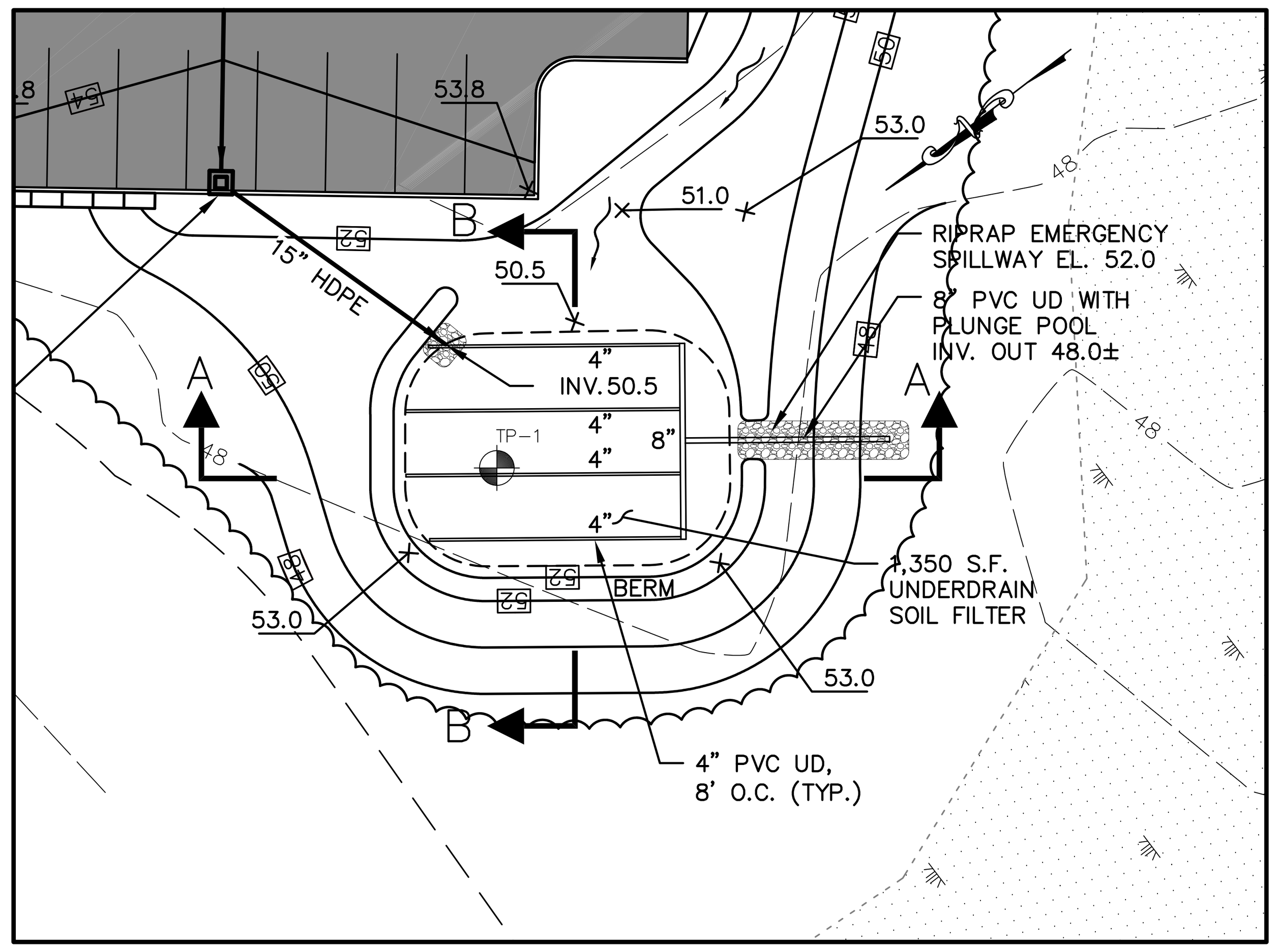
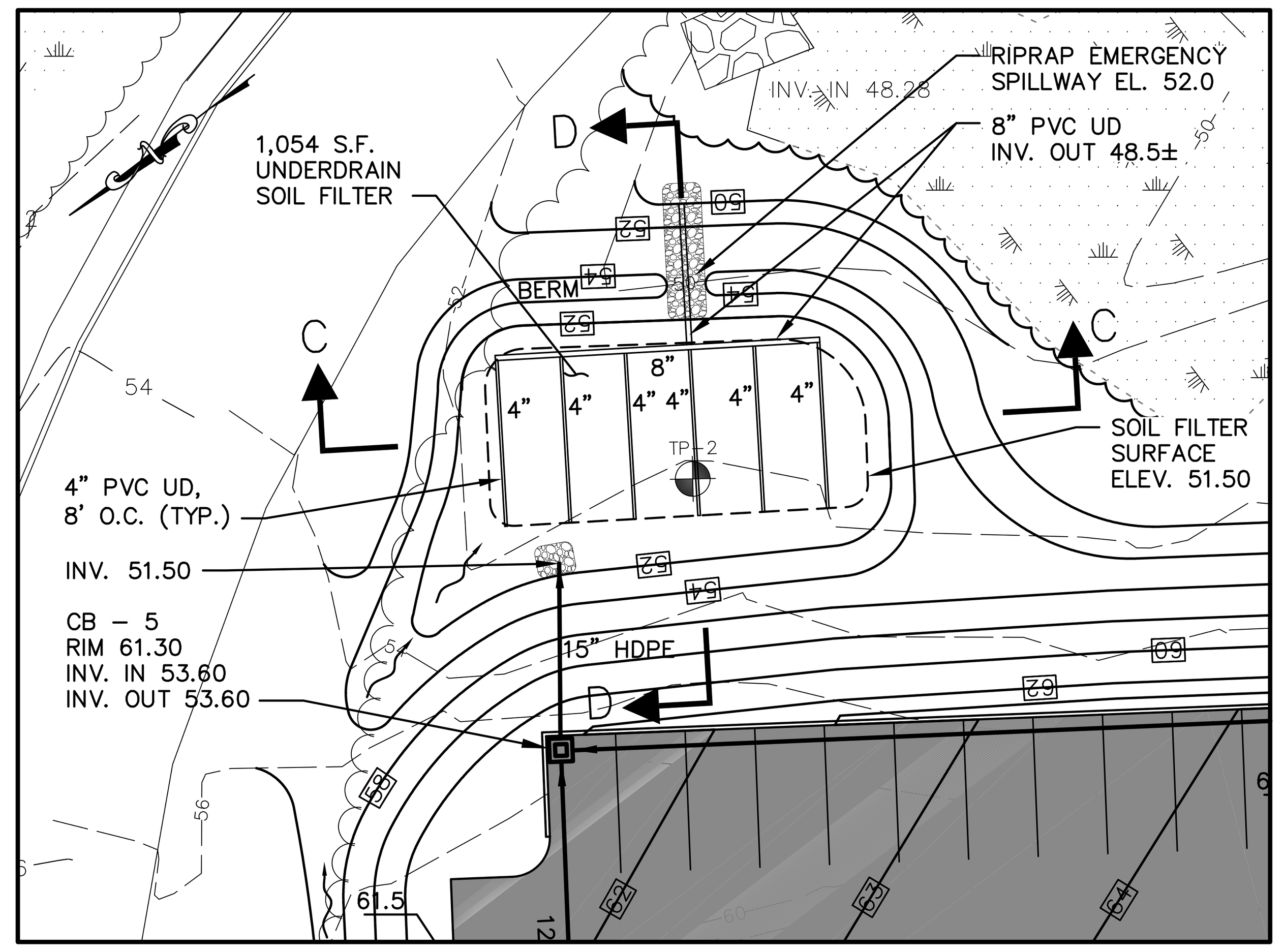


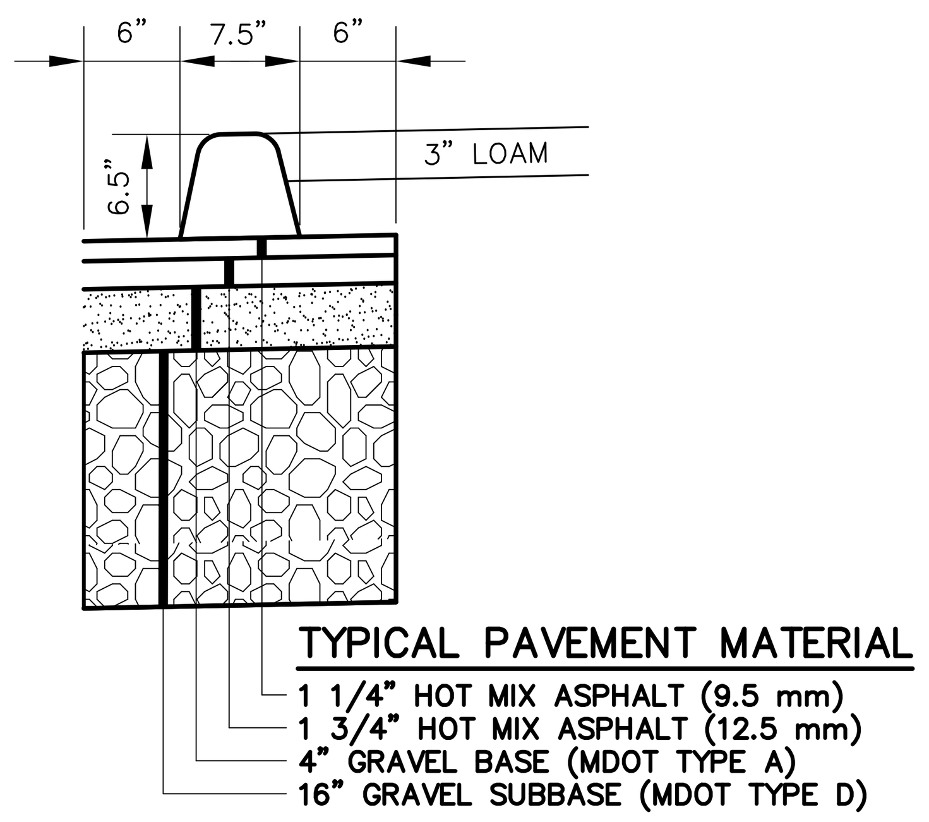
UNDERDRAIN SOIL FILTER NO. 1

SCALE: 1" = 20'



UNDERDRAIN SOIL FILTER NO. 2

SCALE: 1" = 20'



PAVED PARKING AREA

SCALE: 1" = 1'–0"

CONSTRUCTION OVERSIGHT

THE APPLICANT WILL RETAIN THE SERVICES OF A PROFESSIONAL ENGINEER TO INSPECT THE CONSTRUCTION AND STABILIZATION OF ALL STORMWATER MANAGEMENT STRUCTURES. IF NECESSARY, THE INSPECTING ENGINEER WILL INTERPRET THE POND'S CONSTRUCTION PLAN FOR THE CONTRACTOR. ONCE ALL STORMWATER MANAGEMENT STRUCTURES ARE CONSTRUCTED AND STABILIZED, THE INSPECTING ENGINEER WILL NOTIFY THE DEPARTMENT IN WRITING WITHIN 30 DAYS TO STATE THAT THE POND HAS BEEN COMPLETED. ACCOMPANYING THE ENGINEER'S NOTIFICATION MUST BE A LOG OF THE ENGINEER'S INSPECTIONS GIVING THE DATE OF EACH INSPECTION, THE TIME OF EACH INSPECTION, AND THE ITEMS INSPECTED ON EACH VISIT, AND INCLUDE ANY TESTING DATA OR SIEVE ANALYSIS DATA OF EVERY MINERAL SOIL AND SOIL MEDIA SPECIFIED IN THE PLANS AND USED ON SITE.

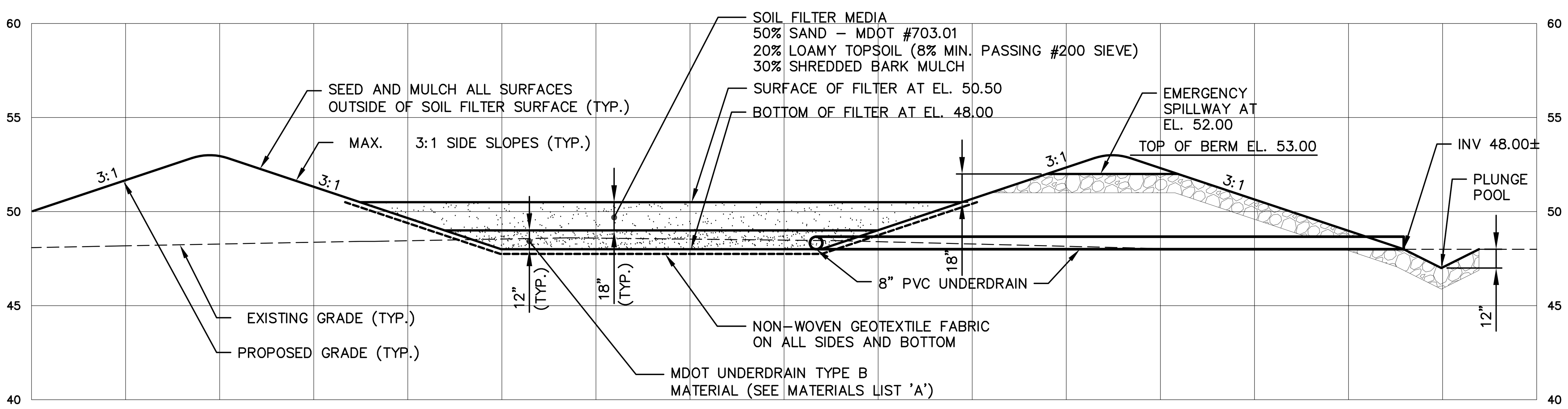
UNDERDRAINED FILTER BASINS
CONSTRUCTION SEQUENCE: THE SOIL FILTER MEDIA AND VEGETATION MUST NOT BE INSTALLED UNTIL THE AREA THAT DRAINS TO THE FILTER HAS BEEN PERMANENTLY STABILIZED WITH PAVEMENT OR OTHER STRUCTURE, 90% VEGETATION COVER, OR OTHER PERMANENT STABILIZATION UNLESS THE RUNOFF FROM THE CONTRIBUTING DRAINAGE AREA IS DIVERTED AROUND THE FILTER UNTIL STABILIZATION IS COMPLETED.

COMPACTION OF SOIL FILTER: FILTER SOIL MEDIA AND UNDERDRAIN BEDDING MATERIAL MUST BE COMPACTED TO BETWEEN 90% AND 92% STANDARD PROCTOR. THE BED SHOULD BE INSTALLED IN AT LEAST 2 LIFTS OF 9 INCHES TO PREVENT POCKETS OF LOOSE MEDIA.

CONSTRUCTION OVERSIGHT: INSPECTION BY A PROFESSIONAL ENGINEER WILL OCCUR AT A MINIMUM:

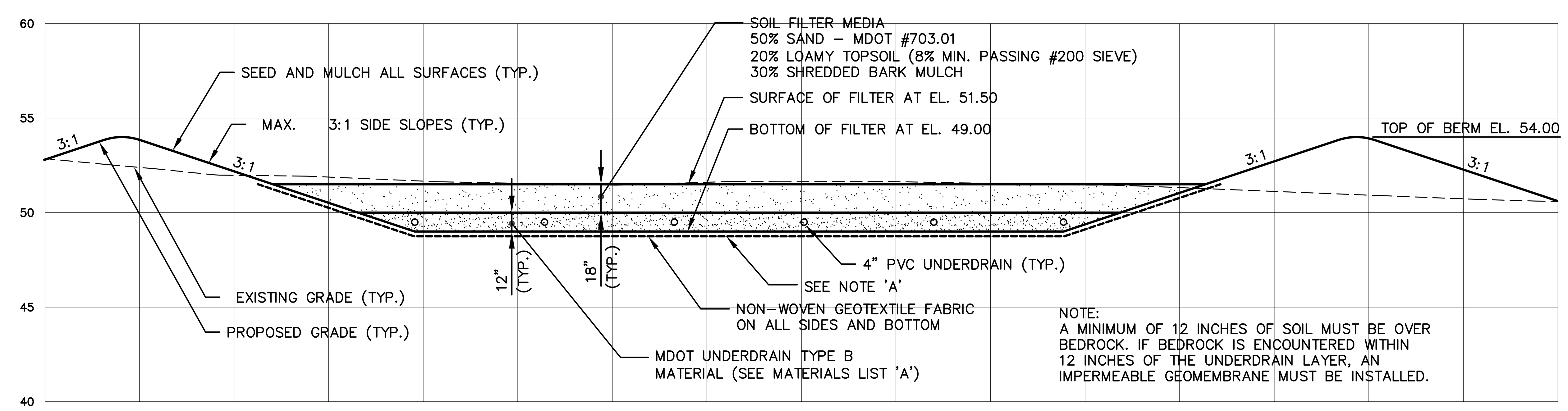
– AFTER THE PRELIMINARY CONSTRUCTION OF THE FILTER GRADES AND ONCE THE UNDERDRAIN PIPES ARE INSTALLED BUT NOT BACKFILLED,
– AFTER THE DRAINAGE LAYER IS CONSTRUCTED AND PRIOR TO THE INSTALLATION OF THE FILTER MEDIA,
– AFTER THE FILTER MEDIA HAS BEEN INSTALLED AND SEEDED. BIO–RETENTION CELLS MUST BE STABILIZED PER THE PROVIDED PLANTING SCHEME AND DENSITY FOR THE CANOPY COVERAGE OF 30 AND 50%.
– AFTER ONE YEAR TO INSPECT HEALTH OF THE VEGETATION AND MAKE CORRECTIONS, AND
– ALL THE MATERIAL USED FOR THE CONSTRUCTION OF THE FILTER BASIN MUST BE CONFIRMED AS SUITABLE BY THE DESIGN ENGINEER. TESTING MUST BE DONE BY A CERTIFIED LABORATORY TO SHOW THAT THEY ARE PASSING DEP SPECIFICATIONS.

TESTING AND SUBMITTALS: THE CONTRACTOR SHALL IDENTIFY THE LOCATION OF THE SOURCE OF EACH COMPONENT OF THE FILTER MEDIA. ALL RESULTS OF FIELD AND LABORATORY TESTING SHALL BE SUBMITTED TO THE PROJECT ENGINEER FOR CONFIRMATION. THE CONTRACTOR SHALL:
– SELECT SAMPLES FOR SAMPLING OF EACH TYPE OF MATERIAL TO BE BLENDED FOR THE MIXED FILTER MEDIA AND SAMPLES OF THE UNDERDRAIN BEDDING MATERIAL. SAMPLES MUST BE A COMPOSITE OF THREE DIFFERENT LOCATIONS (GRABS) FROM THE STOCKPILE OR PIT FACE. SAMPLE SIZE REQUIRED WILL BE DETERMINED BY THE TESTING LABORATORY.
– PERFORM A SIEVE ANALYSIS CONFORMING TO STM C136 (STANDARD TEST METHOD FOR SIEVE ANALYSIS OF FINE AND COURSE AGGREGATES 1996A) ON EACH TYPE OF THE SAMPLE MATERIAL. THE RESULTING SOIL FILTER MEDIA MIXTURE MUST HAVE 8% TO 12% BY WEIGHT PASSING THE #200 SIEVE, A CLAY CONTENT OF LESS THAN 2% (DETERMINED HYDROMETER GRAIN SIZE ANALYSIS) AND HAVE 10% DRY WEIGHT OF ORGANIC MATTER.
– PERFORM A PERMEABILITY TEST ON THE SOIL FILTER MEDIA MIXTURE CONFORMING TO ASTM D2434 WITH THE MIXTURE COMPACTED TO 90–92% OF MAXIMUM DRY DENSITY BASED ON ASTM D698.



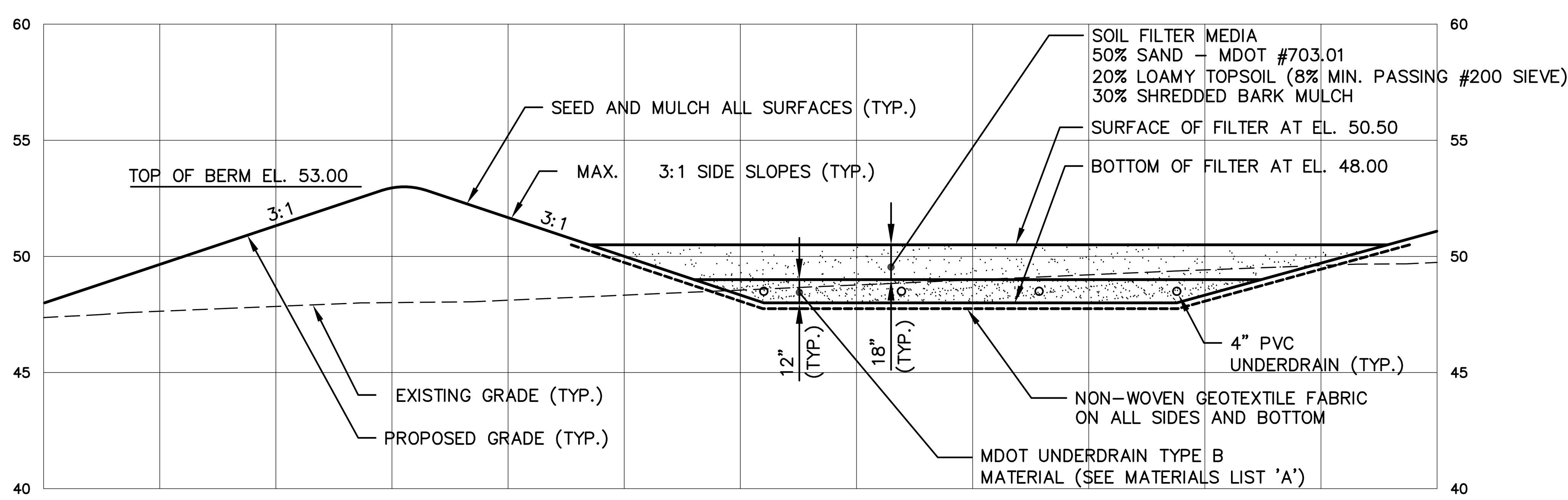
SECTION A–A

SCALE: 1" = 5'



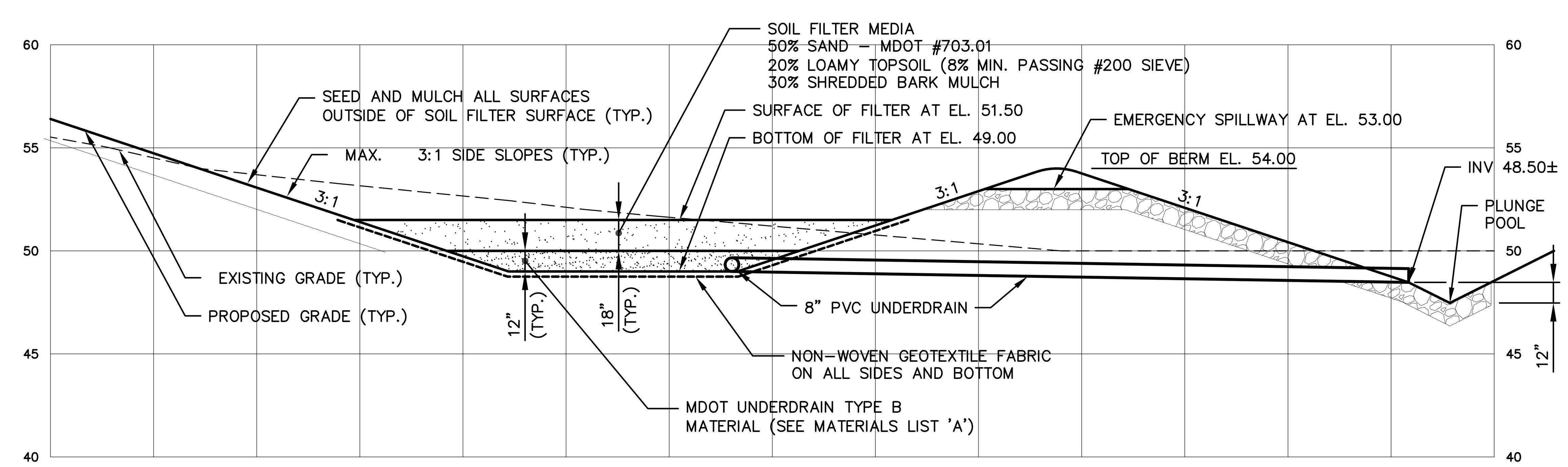
SECTION C–C

SCALE: 1" = 5'



SECTION B–B

SCALE: 1" = 5'



SECTION D–D

SCALE: 1" = 5'

GRAPHIC SCALE

(IN FEET)

REV	DATE	STATUS	BY	CHKD	APPD
2	8/18/2016	DEP REVIEW COMMENTS	JCD	RLP	RLP
1	8/10/2016	DEP REVIEW COMMENTS	DB	RLP	RLP

STATE OF MAINE
ROBERT L. PRUE, JR
No. 6092
LICENSED
PROFESSIONAL ENGINEER

[illegible]

DESIGNED BY:	RLP
DRAWN BY:	DB
CHECKED BY:	RLP
APPROVED BY:	RLP
DATE:	6/30/2016

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PROJECT
MID COAST HOSPITAL
PARKING EXPANSION

TITLE
UNDERDRAINED SOIL FILTER DETAILS

SCALE: AS SHOWN
PROJECT NO. 95041.17
DRAWING NO. 95045.17_SOIL FILTER
SHT. 5 of 6
REV. 2

CONSTRUCTION NOTES

A. EROSION AND SEDIMENTATION CONTROL

A PERSON WHO CONDUCTS, OR CAUSES TO BE CONDUCTED, AN ACTIVITY THAT INVOLVES FILLING, DISPLACING OR EXPOSING SOIL OR OTHER EARTHEN MATERIALS SHALL TAKE MEASURES TO PREVENT UNREASONABLE EROSION OF SOIL OR SEDIMENT BEYOND THE PROJECT SITE OR INTO A PROTECTED NATURAL RESOURCE AS DEFINED IN 38 M.R.S. §480–B. EROSION CONTROL MEASURES MUST BE IN PLACE BEFORE THE ACTIVITY BEGINS. MEASURES MUST REMAIN IN PLACE AND FUNCTIONAL UNTIL THE SITE IS PERMANENTLY STABILIZED. ADEQUATE AND TIMELY TEMPORARY AND PERMANENT STABILIZATION MEASURES MUST BE TAKEN. THE DEPARTMENT HAS PREPARED PROTOCOLS FOR THE CONTROL OF EROSION AND SEDIMENTATION. SEE "MAINE EROSION AND SEDIMENT CONTROL BMPS MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION."

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 BETWEEN 30 FEET AND 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. SEDIMENT BARRIERS. PRIOR TO CONSTRUCTION, PROPERLY INSTALL SEDIMENT BARRIERS AT THE DOWNGRADIENT EDGE OF ANY AREA TO BE DISTURBED AND ADJACENT TO ANY DRAINAGE CHANNELS WITHIN THE DISTURBED AREA. SEDIMENT BARRIERS SHOULD BE INSTALLED DOWNGRADIENT OF SOIL OR SEDIMENT STOCKPILES AND STORMWATER PREVENTED FROM RUNNING ONTO THE STOCKPILE. MAINTAIN THE SEDIMENT BARRIERS BY REMOVING ACCUMULATED SEDIMENT, OR REMOVING AND REPLACING THE BARRIER, UNTIL THE DISTURBED AREA IS PERMANENTLY STABILIZED. WHERE A DISCHARGE TO A STORM DRAIN INLET OCCURS, IF THE STORM DRAIN CARRIES WATER DIRECTLY TO A SURFACE WATER AND YOU HAVE AUTHORITY TO ACCESS THE STORM DRAIN INLET, YOU MUST INSTALL AND MAINTAIN PROTECTION MEASURES THAT REMOVE SEDIMENT FROM THE DISCHARGE.

3. STABILIZED CONSTRUCTION ENTRANCE. PRIOR TO CONSTRUCTION, PROPERLY INSTALL A STABILIZED CONSTRUCTION ENTRANCE (SCE) AT ALL POINTS OF EGRESS FROM THE SITE. THE SCE IS A STABILIZED PAD OF AGGREGATE, UNDERLAIN BY A GEOTEXTILE FILTER FABRIC, USED TO PREVENT TRAFFIC FROM TRACKING MATERIAL AWAY FROM THE SITE ONTO PUBLIC ROWS. MAINTAIN THE SCE UNTIL ALL DISTURBED AREAS ARE STABILIZED.

4. TEMPORARY STABILIZATION. WITHIN 7 DAYS OF THE CESSATION OF CONSTRUCTION ACTIVITIES IN AN AREA THAT WILL NOT BE WORKED FOR MORE THAN 7 DAYS, STABILIZE ANY EXPOSED SOIL WITH MULCH, OR OTHER NON–ERODIBLE COVER. STABILIZE AREAS WITHIN 75 FEET OF A WETLAND OR WATERBODY WITHIN 48 HOURS OF THE INITIAL DISTURBANCE OF THE SOIL OR PRIOR TO ANY STORM EVENT, WHICHEVER COMES FIRST.

5. REMOVAL OF TEMPORARY MEASURES. REMOVE ANY TEMPORARY CONTROL MEASURES, SUCH AS SILT FENCE, WITHIN 30 DAYS AFTER PERMANENT STABILIZATION IS ATTAINED. REMOVE ANY ACCUMULATED SEDIMENTS AND STABILIZE. IT IS RECOMMENDED THAT SILT FENCES BE REMOVED BY CUTTING THE FENCE MATERIALS AT GROUND LEVEL TO AVOID ADDITIONAL SOIL DISTURBANCE.

6. PERMANENT 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 DISTURBED SUBSOILS WITH TOPSOIL, COMPOST, OR FERTILIZERS; PROTECT SEEDED 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 SEEDED 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.

(a) SEEDED AREAS. FOR SEEDED AREAS, PERMANENT STABILIZATION MEANS A 90% COVER OF THE DISTURBED AREA WITH MATURE, HEALTHY PLANTS WITH NO EVIDENCE OF WASHING OR RILLING OF THE TOPSOIL.

(b) SODDED AREAS. FOR SODDED AREAS, PERMANENT STABILIZATION MEANS THE COMPLETE BINDING OF THE SOD ROOTS INTO THE UNDERLYING SOIL WITH NO SLUMPING OF THE SOD OR DIE–OFF.

(c) PERMANENT MULCH. FOR MULCHED AREAS, PERMANENT MULCHING MEANS TOTAL COVERAGE OF THE EXPOSED AREA WITH AN APPROVED MULCH MATERIAL. EROSION CONTROL MIX MAY BE USED AS MULCH FOR PERMANENT STABILIZATION ACCORDING TO THE APPROVED APPLICATION RATES AND LIMITATIONS.

(d) RIPRAP. FOR AREAS STABILIZED WITH RIPRAP, PERMANENT STABILIZATION MEANS THAT SLOPES STABILIZED WITH RIPRAP HAVE AN APPROPRIATE BACKING OF A WELL–GRADED GRAVEL OR APPROVED GEOTEXTILE TO PREVENT SOIL MOVEMENT FROM BEHIND THE RIPRAP. STONE MUST BE SIZED APPROPRIATELY. IT IS RECOMMENDED THAT ANGULAR STONE BE USED.

(e) AGRICULTURAL USE. FOR CONSTRUCTION PROJECTS ON LAND USED FOR AGRICULTURAL PURPOSES (E.G., PIPELINES ACROSS CROP LAND), PERMANENT STABILIZATION MAY BE ACCOMPLISHED BY RETURNING THE DISTURBED LAND TO AGRICULTURAL USE.

(f) PAVED AREAS. FOR PAVED AREAS, PERMANENT STABILIZATION MEANS THE PLACEMENT OF THE COMPACTED GRAVEL SUBBASE IS COMPLETED, PROVIDED IT IS FREE OF FINE MATERIALS THAT MAY RUNOFF WITH A RAIN EVENT

(g) DITCHES, CHANNELS, AND SWALES. FOR OPEN CHANNELS, PERMANENT STABILIZATION MEANS THE CHANNEL IS STABILIZED WITH A 90% COVER OF HEALTHY VEGETATION, WITH A WELL–GRADED RIPRAP LINING, TURF REINFORCEMENT MAT, 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 CHANNEL BANKS, OR DOWN–CUTTING OF THE CHANNEL.

7. WINTER CONSTRUCTION. "WINTER CONSTRUCTION" IS CONSTRUCTION ACTIVITY PERFORMED DURING THE PERIOD FROM NOVEMBER 1 THROUGH APRIL 15. IF DISTURBED AREAS ARE NOT STABILIZED WITH PERMANENT MEASURES BY NOVEMBER 1 OR NEW SOIL DISTURBANCE OCCURS AFTER NOVEMBER 1, BUT BEFORE APRIL 15, THEN THESE AREAS MUST BE PROTECTED AND RUNOFF FROM THEM MUST BE CONTROLLED BY ADDITIONAL MEASURES AND RESTRICTIONS.

(a) SITE STABILIZATION. FOR WINTER STABILIZATION, HAY MULCH IS APPLIED AT TWICE THE STANDARD TEMPORARY STABILIZATION RATE. AT THE END OF EACH CONSTRUCTION DAY, AREAS THAT HAVE BEEN BROUGHT TO FINAL GRADE MUST BE STABILIZED. MULCH MAY NOT BE SPREAD ON TOP OF SNOW.

(b) SEDIMENT BARRIERS. ALL AREAS WITHIN 75 FEET OF A PROTECTED NATURAL RESOURCE MUST BE PROTECTED WITH A DOUBLE ROW OF SEDIMENT BARRIERS.

(c) DITCH. ALL VEGETATED DITCH LINES THAT HAVE NOT BEEN STABILIZED BY NOVEMBER 1, OR WILL BE WORKED DURING THE WINTER CONSTRUCTION PERIOD, MUST BE STABILIZED WITH AN APPROPRIATE STONE LINING BACKED BY AN APPROPRIATE GRAVEL BED OR GEOTEXTILE UNLESS SPECIFICALLY RELEASED FROM THIS STANDARD BY THE DEPARTMENT.

(d) SLOPES. MULCH NETTING MUST BE USED TO ANCHOR MULCH ON ALL SLOPES GREATER THAN 8% UNLESS EROSION CONTROL BLANKETS OR EROSION CONTROL MIX IS BEING USED ON THESE SLOPES.

8. STORMWATER CHANNELS. DITCHES, SWALES, AND OTHER OPEN STORMWATER CHANNELS MUST BE DESIGNED, CONSTRUCTED, AND STABILIZED USING MEASURES THAT ACHIEVE LONG–TERM EROSION CONTROL. DITCHES, SWALES AND OTHER OPEN STORMWATER CHANNELS MUST BE SIZED TO HANDLE, AT A MINIMUM, THE EXPECTED VOLUME RUN–OFF. 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 DIVERSION BERMS MUST BE USED TO DIVERT STORMWATER AWAY FROM THE CHANNEL, PROPERLY–SPACED CHECK DAMS MUST BE INSTALLED IN THE CHANNEL TO SLOW THE WATER VELOCITY, AND A TEMPORARY LINING INSTALLED ALONG THE CHANNEL TO PREVENT SCOURING. PERMANENT STABILIZATION FOR CHANNELS IS ADDRESSED UNDER APPENDIX A(5)(G) ABOVE.

(a) THE CHANNEL SHOULD RECEIVE ADEQUATE ROUTINE MAINTENANCE TO MAINTAIN CAPACITY AND PREVENT OR CORRECT ANY EROSION OF THE CHANNEL'S BOTTOM OR SIDE SLOPES.

(b) WHEN THE WATERSHED DRAINING TO A DITCH OR SWALE IS LESS THAN 1 ACRE OF TOTAL DRAINAGE AND LESS THAN ¼ ACRE OF IMPERVIOUS AREA, DIVERSION OF RUNOFF TO ADJACENT WOODED OR OTHERWISE VEGETATED BUFFER AREAS IS ENCOURAGED WHERE THE OPPORTUNITY EXISTS.

9. ROADS. GRAVEL AND PAVED ROADS MUST BE DESIGNED AND CONSTRUCTED WITH CROWNS OR OTHER MEASURES, SUCH AS WATER BARS, TO ENSURE THAT STORMWATER IS DELIVERED IMMEDIATELY TO ADJACENT STABLE DITCHES, VEGETATED BUFFER AREAS, CATCH BASIN INLETS, OR STREET GUTTERS.

10. CULVERTS. CULVERTS MUST BE SIZED TO AVOID UNINTENDED FLOODING OF UPSTREAM AREAS OR FREQUENT OVERTOPPING OF ROADWAYS. CULVERT INLETS MUST BE PROTECTED WITH APPROPRIATE MATERIALS FOR THE EXPECTED ENTRANCE VELOCITY, AND PROTECTION MUST EXTEND AT LEAST AS HIGH AS THE EXPECTED MAXIMUM ELEVATION OF STORAGE BEHIND THE CULVERT. CULVERT OUTLET DESIGN MUST INCORPORATE MEASURES, SUCH AS APRONS, TO PREVENT SCOUR OF THE STREAM CHANNEL. OUTLET PROTECTION MEASURES MUST BE DESIGNED TO STAY WITHIN THE CHANNEL LIMITS. THE DESIGN MUST TAKE ACCOUNT OF TAILWATER DEPTH.

11. PARKING AREAS. PARKING AREAS MUST BE CONSTRUCTED TO ENSURE RUNOFF IS DELIVERED TO ADJACENT SWALES, CATCH BASINS, CURB GUTTERS, OR BUFFER AREAS WITHOUT ERODING AREAS DOWNSLOPE. THE PARKING AREA'S SUBBASE COMPACTION AND GRADING MUST BE DONE TO ENSURE RUNOFF IS EVENLY DISTRIBUTED TO ADJACENT BUFFERS OR SIDE SLOPES. CATCH BASINS MUST BE LOCATED AND SET TO PROVIDE ENOUGH STORAGE DEPTH AT THE INLET TO ALLOW INFLOW OF PEAK RUNOFF RATES WITHOUT BY–PASS OF RUNOFF TO OTHER AREAS.

B. INSPECTION AND MAINTENANCE

1. DURING CONSTRUCTION. THE FOLLOWING STANDARDS MUST BE MET DURING CONSTRUCTION.

(a) INSPECTION AND CORRECTIVE ACTION. INSPECT DISTURBED AND IMPERVIOUS AREAS, EROSION CONTROL MEASURES, MATERIALS STORAGE AREAS THAT ARE EXPOSED TO PRECIPITATION, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE. INSPECT THESE AREAS AT LEAST ONCE A WEEK AS WELL AS BEFORE AND WITHIN 24 HOURS AFTER A STORM EVENT (RAINFALL), AND PRIOR TO COMPLETING PERMANENT STABILIZATION MEASURES. A PERSON WITH KNOWLEDGE OF EROSION AND STORMWATER CONTROL, INCLUDING THE STANDARDS AND CONDITIONS IN THE PERMIT, SHALL CONDUCT THE INSPECTIONS.

(b) MAINTENANCE. IF BEST MANAGEMENT PRACTICES (BMPS) NEED TO BE REPAIRED, THE REPAIR WORK SHOULD BE INITIATED UPON DISCOVERY OF THE PROBLEM BUT NO LATER THAN THE END OF THE NEXT WORKDAY. IF ADDITIONAL BMPS OR SIGNIFICANT REPAIR OF BMPS ARE NECESSARY, IMPLEMENTATION MUST BE COMPLETED WITHIN 7 CALENDAR DAYS AND PRIOR TO ANY STORM EVENT (RAINFALL). ALL MEASURES MUST BE MAINTAINED IN EFFECTIVE OPERATING CONDITION UNTIL AREAS ARE PERMANENTLY STABILIZED.

(c) DOCUMENTATION. KEEP A LOG (REPORT) SUMMARIZING THE INSPECTIONS AND ANY CORRECTIVE ACTION TAKEN. THE LOG MUST INCLUDE THE NAME(S) AND QUALIFICATIONS OF THE PERSON MAKING THE INSPECTIONS, THE DATE(S) OF THE INSPECTIONS, AND MAJOR OBSERVATIONS ABOUT THE OPERATION AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROLS, MATERIALS STORAGE AREAS, AND VEHICLES ACCESS POINTS TO THE PARCEL. MAJOR OBSERVATIONS MUST INCLUDE BMPS THAT NEED MAINTENANCE, BMPS THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION, AND LOCATION(S) WHERE ADDITIONAL BMPS ARE NEEDED. FOR EACH BMP REQUIRING MAINTENANCE, BMP NEEDING REPLACEMENT, AND LOCATION NEEDING ADDITIONAL BMPS, NOTE IN THE LOG THE CORRECTIVE ACTION TAKEN AND WHEN IT WAS TAKEN.

THE LOG MUST BE MADE ACCESSIBLE TO DEPARTMENT STAFF AND A COPY MUST BE PROVIDED UPON REQUEST. THE PERMITTEE SHALL RETAIN A COPY OF THE LOG FOR A PERIOD OF AT LEAST THREE YEARS FROM THE COMPLETION OF PERMANENT STABILIZATION.

2. POST–CONSTRUCTION. THE FOLLOWING STANDARDS MUST BE MET AFTER CONSTRUCTION.

(a) PLAN. CARRY OUT AN APPROVED INSPECTION AND MAINTENANCE PLAN THAT IS CONSISTENT WITH THE MINIMUM REQUIREMENTS OF THIS SECTION. THE PLAN MUST ADDRESS INSPECTION AND MAINTENANCE OF THE PROJECT'S PERMANENT EROSION CONTROL MEASURES AND STORMWATER MANAGEMENT SYSTEM. THIS PLAN MAY BE COMBINED WITH THE PLAN LISTED IN SECTION 2(A) OF THIS APPENDIX. SEE SECTION 7(C)(2) FOR SUBMISSION REQUIREMENTS.

(b) INSPECTION AND MAINTENANCE. ALL MEASURES MUST BE MAINTAINED IN EFFECTIVE OPERATING CONDITION. A PERSON WITH KNOWLEDGE OF EROSION AND STORMWATER CONTROL, INCLUDING THE STANDARDS AND CONDITIONS IN THE PERMIT, SHALL CONDUCT THE INSPECTIONS. THE FOLLOWING AREAS, FACILITIES, AND MEASURES MUST BE INSPECTED AND IDENTIFIED DEFICIENCIES MUST BE CORRECTED. AREAS, FACILITIES, AND MEASURES OTHER THAN THOSE LISTED BELOW MAY ALSO REQUIRE INSPECTION ON A SPECIFIC SITE. INSPECTION OR MAINTENANCE TASKS OTHER THAN THOSE DISCUSSED BELOW MUST BE INCLUDED IN THE MAINTENANCE PLAN DEVELOPED FOR A SPECIFIC SITE.

(i) INSPECT VEGETATED AREAS, PARTICULARLY SLOPES AND EMBANKMENTS, EARLY IN THE GROWING SEASON OR AFTER HEAVY RAINS TO IDENTIFY ACTIVE OR POTENTIAL EROSION PROBLEMS. REPLANT BARE AREAS OR AREAS WITH SPARSE GROWTH. WHERE RILL EROSION IS EVIDENT, ARMOR THE AREA WITH AN APPROPRIATE LINING OR DIVERT THE EROSIVE FLOWS TO ON–SITE AREAS ABLE TO WITHSTAND THE CONCENTRATED FLOWS. SEE PERMANENT STABILIZATION STANDARDS IN APPENDIX A(5).

(II) INSPECT DITCHES, SWALES AND OTHER OPEN STORMWATER CHANNELS IN THE SPRING, IN LATE FALL, AND AFTER HEAVY RAINS TO REMOVE ANY OBSTRUCTIONS TO FLOW, REMOVE ACCUMULATED SEDIMENTS AND DEBRIS, TO CONTROL VEGETATED GROWTH THAT COULD OBSTRUCT FLOW, AND TO REPAIR ANY EROSION OF THE DITCH LINING. VEGETATED DITCHES MUST BE MOWED AT LEAST ANNUALLY OR OTHERWISE MAINTAINED TO CONTROL THE GROWTH OF WOODY VEGETATION AND MAINTAIN FLOW CAPACITY. ANY WOODY VEGETATION GROWING THROUGH RIPRAP LININGS MUST ALSO BE REMOVED. REPAIR ANY SLUMPING SIDE SLOPES AS SOON AS PRACTICABLE. IF THE DITCH HAS A RIPRAP LINING, REPLACE RIPRAP ON AREAS WHERE ANY UNDERLYING FILTER FABRIC OR UNDERDRAIN GRAVEL IS SHOWING THROUGH THE STONE OR WHERE STONES HAVE DISLODGED. THE CHANNEL MUST RECEIVE ADEQUATE ROUTINE MAINTENANCE TO MAINTAIN CAPACITY AND PREVENT OR CORRECT ANY EROSION OF THE CHANNEL'S BOTTOM OR SIDESLOPES.

(iii) INSPECT CULVERTS IN THE SPRING, IN LATE FALL, AND AFTER HEAVY RAINS TO REMOVE ANY OBSTRUCTIONS TO FLOW; REMOVE ACCUMULATED SEDIMENTS AND DEBRIS AT THE INLET, AT THE OUTLET, AND WITHIN THE CONDUIT; AND TO REPAIR ANY EROSION DAMAGE AT THE CULVERT'S INLET AND OUTLET.

(iv) INSPECT AND CLEAN OUT CATCH BASINS. CLEAN–OUT MUST INCLUDE THE REMOVAL AND LEGAL DISPOSAL OF ANY ACCUMULATED SEDIMENTS AND DEBRIS AT THE BOTTOM OF THE BASIN, AT ANY INLET GRATES, AT ANY INFLOW CHANNELS TO THE BASIN, AND AT ANY PIPES BETWEEN BASINS. IF THE BASIN OUTLET IS DESIGNED TO TRAP FLOATABLE MATERIALS, THEN REMOVE THE FLOATING DEBRIS AND ANY FLOATING OILS (USING OIL–ABSORPTIVE PADS).

(v) INSPECT RESOURCE AND TREATMENT BUFFERS ONCE A YEAR FOR EVIDENCE OF EROSION, CONCENTRATING FLOW, AND ENCROACHMENT BY DEVELOPMENT. IF FLOWS ARE CONCENTRATING WITHIN A BUFFER, SITE GRADING, LEVEL SPREADERS, OR DITCH TURN–OUTS MUST BE USED TO ENSURE A MORE EVEN DISTRIBUTION OF FLOW INTO A BUFFER. CHECK DOWN SLOPE OF ALL SPREADERS AND TURN–OUTS FOR EROSION. IF EROSION IS PRESENT, ADJUST OR MODIFY THE SPREADER'S OR TURNOUT'S LIP TO ENSURE A BETTER DISTRIBUTION OF FLOW INTO A BUFFER. CLEAN–OUT ANY ACCUMULATION OF SEDIMENT WITHIN THE SPREADER BAYS OR TURN–OUT POOLS.

(vi) INSPECT AT LEAST ONCE PER YEAR, EACH STORMWATER MANAGEMENT POND OR BASIN, INCLUDING THE POND'S EMBANKMENTS, OUTLET STRUCTURE, AND EMERGENCY SPILLWAY. REMOVE AND DISPOSE OF ACCUMULATED SEDIMENTS IN THE POND. CONTROL WOODY VEGETATION ON THE POND'S EMBANKMENTS.

(VII) INSPECT AT LEAST ONE PER YEAR, EACH UNDERDRAINED FILTER, INCLUDING THE FILTER EMBANKMENTS, VEGETATION, UNDERDRAIN PIPING, AND OVERFLOW SPILLWAY. REMOVE AND DISPOSE OF ACCUMULATED SEDIMENTS IN THE FILTER. IF NEEDED, REHABILITATE ANY CLOGGED SURFACE LININGS, AND FLUSH UNDERDRAIN PIPING.

(viii) INSPECT EACH MANUFACTURED SYSTEM INSTALLED ON THE SITE, INCLUDING THE SYSTEM'S INLET, TREATMENT CHAMBER(S), AND OUTLET AT LEAST ONCE PER YEAR, OR IN ACCORDANCE WITH THE MAINTENANCE GUIDELINES RECOMMENDED BY THE MANUFACTURER BASED ON THE ESTIMATED RUNOFF AND POLLUTANT LOAD EXPECTED TO THE SYSTEM FROM THE PROJECT. REMOVE AND DISPOSE OF ACCUMULATED SEDIMENTS, DEBRIS, AND CONTAMINATED WATERS FROM THE SYSTEM AND, IF APPLICABLE, REMOVE AND REPLACE ANY CLOGGED OR SPENT FILTER MEDIA.

(c) REGULAR MAINTENANCE

(i) CLEAR ACCUMULATIONS OF WINTER SAND IN PARKING LOTS AND ALONG ROADWAYS AT LEAST ONCE A YEAR, PREFERABLY IN THE SPRING. ACCUMULATIONS ON PAVEMENT MAY BE REMOVED BY PAVEMENT SWEEPING. ACCUMULATIONS OF SAND ALONG ROAD SHOULDERS MAY BE REMOVED BY GRADING EXCESS SAND TO THE PAVEMENT EDGE AND REMOVING IT MANUALLY OR BY A FRONT–END LOADER. GRADING OF GRAVEL ROADS, OR GRADING OF THE GRAVEL SHOULDERS OF GRAVEL OR PAVED ROADS, MUST BE ROUTINELY PERFORMED TO ENSURE THAT STORMWATER DRAINS IMMEDIATELY OFF THE ROAD SURFACE TO ADJACENT BUFFER AREAS OR STABLE DITCHES, AND IS NOT IMPEDED BY ACCUMULATIONS OF GRADED MATERIAL ON THE ROAD SHOULDER OR BY EXCAVATION OF FALSE DITCHES IN THE SHOULDER. IF WATER BARS OR OPEN–TOP CULVERTS ARE USED TO DIVERT RUNOFF FROM ROAD SURFACES, CLEAN–OUT ANY SEDIMENTS WITHIN OR AT THE OUTLET OF THESE STRUCTURES TO RESTORE THEIR FUNCTION.

(ii) MANAGE EACH BUFFER'S VEGETATION CONSISTENTLY WITH THE REQUIREMENTS IN ANY DEED RESTRICTIONS FOR THE BUFFER. WOODED BUFFERS MUST REMAIN FULLY WOODED AND HAVE NO DISTURBANCE TO THE DUFF LAYER. VEGETATION IN NON–WOODED BUFFERS MAY NOT BE CUT MORE THAN THREE TIMES PER YEAR, AND MAY NOT BE CUT SHORTER THAN SIX INCHES.

(d) DOCUMENTATION. KEEP A LOG (REPORT) SUMMARIZING INSPECTIONS, MAINTENANCE, AND ANY CORRECTIVE ACTIONS TAKEN. THE LOG MUST INCLUDE THE DATE ON WHICH EACH INSPECTION OR MAINTENANCE TASK WAS PERFORMED, A DESCRIPTION OF THE INSPECTION FINDINGS OR MAINTENANCE COMPLETED, AND THE NAME OF THE INSPECTOR OR MAINTENANCE PERSONNEL PERFORMING THE TASK. IF A MAINTENANCE TASK REQUIRES THE CLEAN–OUT OF ANY SEDIMENTS OR DEBRIS, INDICATE WHERE THE SEDIMENT AND DEBRIS WAS DISPOSED AFTER REMOVAL. THE LOG MUST BE MADE ACCESSIBLE TO DEPARTMENT STAFF AND A COPY PROVIDED TO THE DEPARTMENT UPON REQUEST. THE PERMITTEE SHALL RETAIN A COPY OF THE LOG FOR A PERIOD OF AT LEAST FIVE YEARS FROM THE COMPLETION OF PERMANENT STABILIZATION.

C. HOUSEKEEPING

THESE PERFORMANCE STANDARDS APPLY TO ALL PROJECTS EXCEPT FOR STORMWATER PBR PROJECTS.

1. SPILL PREVENTION. CONTROLS MUST BE USED TO PREVENT POLLUTANTS FROM CONSTRUCTION AND WASTE MATERIALS STORED ON SITE TO ENTER STORMWATER, WHICH INCLUDES STORAGE PRACTICES TO MINIMIZE EXPOSURE OF THE MATERIALS TO STORMWATER. THE SITE CONTRACTOR OR OPERATOR MUST DEVELOP, AND IMPLEMENT AS NECESSARY, APPROPRIATE SPILL PREVENTION, CONTAINMENT, AND RESPONSE PLANNING MEASURES.

NOTE: ANY SPILL OR RELEASE OF TOXIC OR HAZARDOUS SUBSTANCES MUST BE REPORTED TO THE DEPARTMENT. FOR OIL SPILLS, CALL 1–800–482–0777 WHICH IS AVAILABLE 24 HOURS A DAY. FOR SPILLS OF TOXIC OR HAZARDOUS MATERIAL, CALL 1–800–452–6446 WHICH IS AVAILABLE 24 HOURS A DAY. FOR MORE INFORMATION, VISIT THE DEPARTMENT'S WEBSITE AT: HTTP://WWW.MAINE.GOV/DEP/SPILLS/EMERGSPILLRESP/

2. GROUNDWATER PROTECTION. DURING CONSTRUCTION, LIQUID PETROLEUM PRODUCTS AND OTHER HAZARDOUS MATERIALS WITH THE POTENTIAL TO CONTAMINATE GROUNDWATER MAY NOT BE STORED OR HANDLED IN AREAS OF THE SITE DRAINING TO AN INFILTRATION AREA. AN "INFILTRATION AREA" IS ANY AREA OF THE SITE THAT BY DESIGN OR AS A RESULT OF SOILS, TOPOGRAPHY AND OTHER RELEVANT FACTORS ACCUMULATES RUNOFF THAT INFILTRATES INTO THE SOIL. DIKES, BERMS, SUMPS, AND OTHER FORMS OF SECONDARY CONTAINMENT THAT PREVENT DISCHARGE TO GROUNDWATER MAY BE USED TO ISOLATE PORTIONS OF THE SITE FOR THE PURPOSES OF STORAGE AND HANDLING OF THESE MATERIALS. ANY PROJECT PROPOSING INFILTRATION OF STORMWATER MUST PROVIDE ADEQUATE PRE–TREATMENT OF STORMWATER PRIOR TO DISCHARGE OF STORMWATER TO THE INFILTRATION AREA, OR PROVIDE FOR TREATMENT WITHIN THE INFILTRATION AREA, IN ORDER TO PREVENT THE ACCUMULATION OF FINES, REDUCTION IN INFILTRATION RATE, AND CONSEQUENT FLOODING AND DESTABILIZATION.

NOTE: LACK OF APPROPRIATE POLLUTANT REMOVAL BEST MANAGEMENT PRACTICES (BMPS) MAY RESULT IN VIOLATIONS OF THE GROUNDWATER QUALITY STANDARD ESTABLISHED BY 38 M.R.S.A. §465–C(1).

3. FUGITIVE SEDIMENT AND DUST. ACTIONS MUST BE TAKEN TO ENSURE THAT ACTIVITIES DO NOT RESULT IN NOTICEABLE EROSION OF SOILS OR FUGITIVE DUST EMISSIONS DURING OR AFTER CONSTRUCTION. OIL MAY NOT BE USED FOR DUST CONTROL, BUT OTHER WATER ADDITIVES MAY BE CONSIDERED AS NEEDED. A STABILIZED CONSTRUCTION ENTRANCE (SCE) SHOULD BE INCLUDED TO MINIMIZE TRACKING OF MUD AND SEDIMENT. IF OFF–SITE TRACKING OCCURS, PUBLIC ROADS SHOULD BE SWEPT IMMEDIATELY AND NO LESS THAN ONCE A WEEK AND PRIOR TO SIGNIFICANT STORM EVENTS. OPERATIONS DURING DRY MONTHS, THAT EXPERIENCE FUGITIVE DUST PROBLEMS, SHOULD WET DOWN UNPAVED ACCESS ROADS ONCE A WEEK OR MORE FREQUENTLY AS NEEDED WITH A WATER ADDITIVE TO SUPPRESS FUGITIVE SEDIMENT AND DUST.

NOTE: DEWATERING A STREAM WITHOUT A PERMIT FROM THE DEPARTMENT MAY VIOLATE STATE WATER QUALITY STANDARDS AND THE NATURAL RESOURCES PROTECTION ACT.

4. DEBRIS AND OTHER MATERIALS. MINIMIZE THE EXPOSURE OF CONSTRUCTION DEBRIS, BUILDING AND LANDSCAPING MATERIALS, TRASH, FERTILIZERS, PESTICIDES, HERBICIDES, DETERGENTS, SANITARY WASTE AND OTHER MATERIALS TO PRECIPITATION AND STORMWATER RUNOFF. THESE MATERIALS MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE.

NOTE: TO PREVENT THESE MATERIALS FROM BECOMING A SOURCE OF POLLUTANTS, CONSTRUCTION AND POST–CONSTRUCTION ACTIVITIES RELATED TO A PROJECT MAY BE REQUIRED TO COMPLY WITH APPLICABLE PROVISION OF RULES RELATED TO SOLID, UNIVERSAL, AND HAZARDOUS WASTE, INCLUDING, BUT NOT LIMITED TO, THE MAINE SOLID WASTE AND HAZARDOUS WASTE MANAGEMENT RULES; MAINE HAZARDOUS WASTE MANAGEMENT RULES; MAINE OIL CONVEYANCE AND STORAGE RULES; AND MAINE PESTICIDE REQUIREMENTS.

5. EXCAVATION DE–WATERING. EXCAVATION DE–WATERING IS THE REMOVAL OF WATER FROM TRENCHES, FOUNDATIONS, COFFER DAMS, PONDS, AND OTHER AREAS WITHIN THE CONSTRUCTION AREA THAT RETAIN WATER AFTER EXCAVATION. IN MOST CASES THE COLLECTED WATER IS HEAVILY SILTED AND HINDERS CORRECT AND SAFE CONSTRUCTION PRACTICES. THE COLLECTED WATER REMOVED FROM THE PONDED AREA, EITHER THROUGH GRAVITY OR PUMPING, MUST BE SPREAD THROUGH NATURAL WOODED BUFFERS OR REMOVED TO AREAS THAT ARE SPECIFICALLY DESIGNED TO COLLECT THE MAXIMUM AMOUNT OF SEDIMENT POSSIBLE, LIKE A COFFERDAM SEDIMENTATION BASIN. AVOID ALLOWING THE WATER TO FLOW OVER DISTURBED AREAS OF THE SITE. EQUIVALENT MEASURES MAY BE TAKEN IF APPROVED BY THE DEPARTMENT.

NOTE: DEWATERING CONTROLS ARE DISCUSSED IN THE "MAINE EROSION AND SEDIMENT CONTROL BMPS, MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION."

6. AUTHORIZED NON–STORMWATER DISCHARGES. IDENTIFY AND PREVENT CONTAMINATION BY NON–STORMWATER DISCHARGES. WHERE ALLOWED NON–STORMWATER DISCHARGES EXIST, THEY MUST BE IDENTIFIED AND STEPS SHOULD BE TAKEN TO ENSURE THE IMPLEMENTATION OF APPROPRIATE POLLUTION PREVENTION MEASURES FOR THE NON–STORMWATER COMPONENT(S) OF THE DISCHARGE. AUTHORIZED NON–STORMWATER DISCHARGES ARE:

(a) DISCHARGES FROM FIREFIGHTING ACTIVITY;

(b) FIRE HYDRANT FLUSHINGS;

(c) VEHICLE WASHWATER IF DETERGENTS ARE NOT USED AND WASHING IS LIMITED TO THE EXTERIOR OF VEHICLES (ENGINE, UNDERCARRIAGE AND TRANSMISSION WASHING IS PROHIBITED);

(d) DUST CONTROL RUNOFF IN ACCORDANCE WITH PERMIT CONDITIONS AND APPENDIX (C)(3);

(e) ROUTINE EXTERNAL BUILDING WASHDOWN, NOT INCLUDING SURFACE PAINT REMOVAL, THAT DOES NOT INVOLVE DETERGENTS;

(f) PAVEMENT WASHWATER (WHERE SPILLS/LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE NOT OCCURRED, UNLESS ALL SPILLED MATERIAL HAD BEEN REMOVED) IF DETERGENTS ARE NOT USED;

(g) UNCONTAMINATED AIR CONDITIONING OR COMPRESSOR CONDENSATE;

(h) UNCONTAMINATED GROUNDWATER OR SPRING WATER;

(i) FOUNDATION OR FOOTER DRAIN–WATER WHERE FLOWS ARE NOT CONTAMINATED;

(j) UNCONTAMINATED EXCAVATION DEWATERING (SEE REQUIREMENTS IN APPENDIX C(5));

(k) POTABLE WATER SOURCES INCLUDING WATERLINE FLUSHINGS; AND

(l) LANDSCAPE IRRIGATION.

7. UNAUTHORIZED NON–STORMWATER DISCHARGES . THE DEPARTMENT'S APPROVAL UNDER THIS CHAPTER DOES NOT AUTHORIZE A DISCHARGE THAT IS MIXED WITH A SOURCE OF NON_STORMWATER, OTHER THAN THOSE DISCHARGES IN COMPLIANCE WITH APPENDIX C (6). SPECIFICALLY, THE DEPARTMENT'S APPROVAL DOES NOT AUTHORIZE DISCHARGES OF THE FOLLOWING:

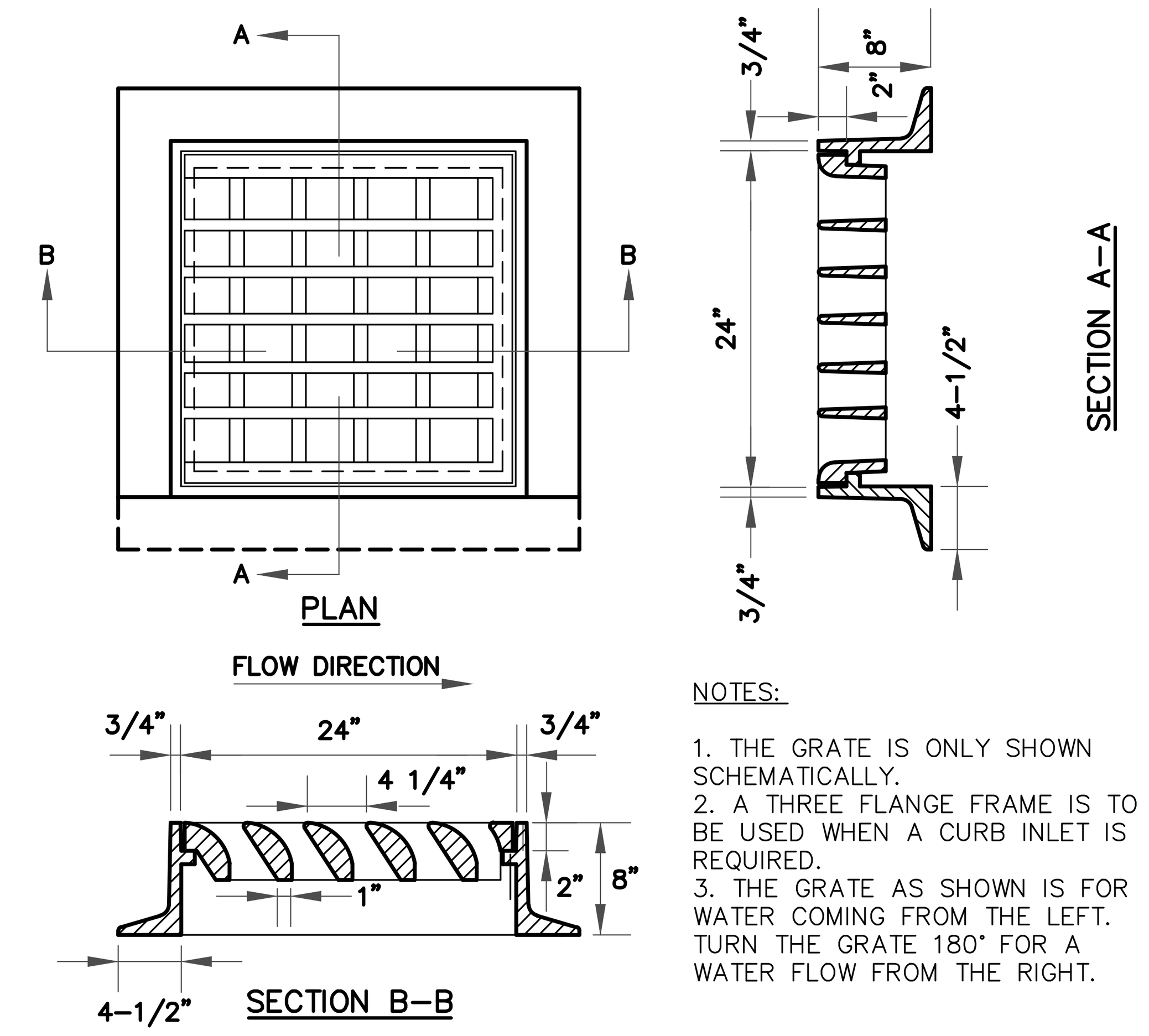
(a) WASTEWATER FROM THE WASHOUT OR CLEANOUT OF CONCRETE, STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS OR OTHER CONSTRUCTION MATERIALS;

(b) FUELS, OILS OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE;

(c) SOAPS, SOLVENTS, OR DETERGENTS USED IN VEHICLE AND EQUIPMENT WASHING; AND

(D) TOXIC OR HAZARDOUS SUBSTANCES FROM A SPILL OR OTHER RELEASE.

8. ADDITIONAL REQUIREMENTS. ADDITIONAL REQUIREMENTS MAY BE APPLIED ON A SITE–SPECIFIC BASIS.

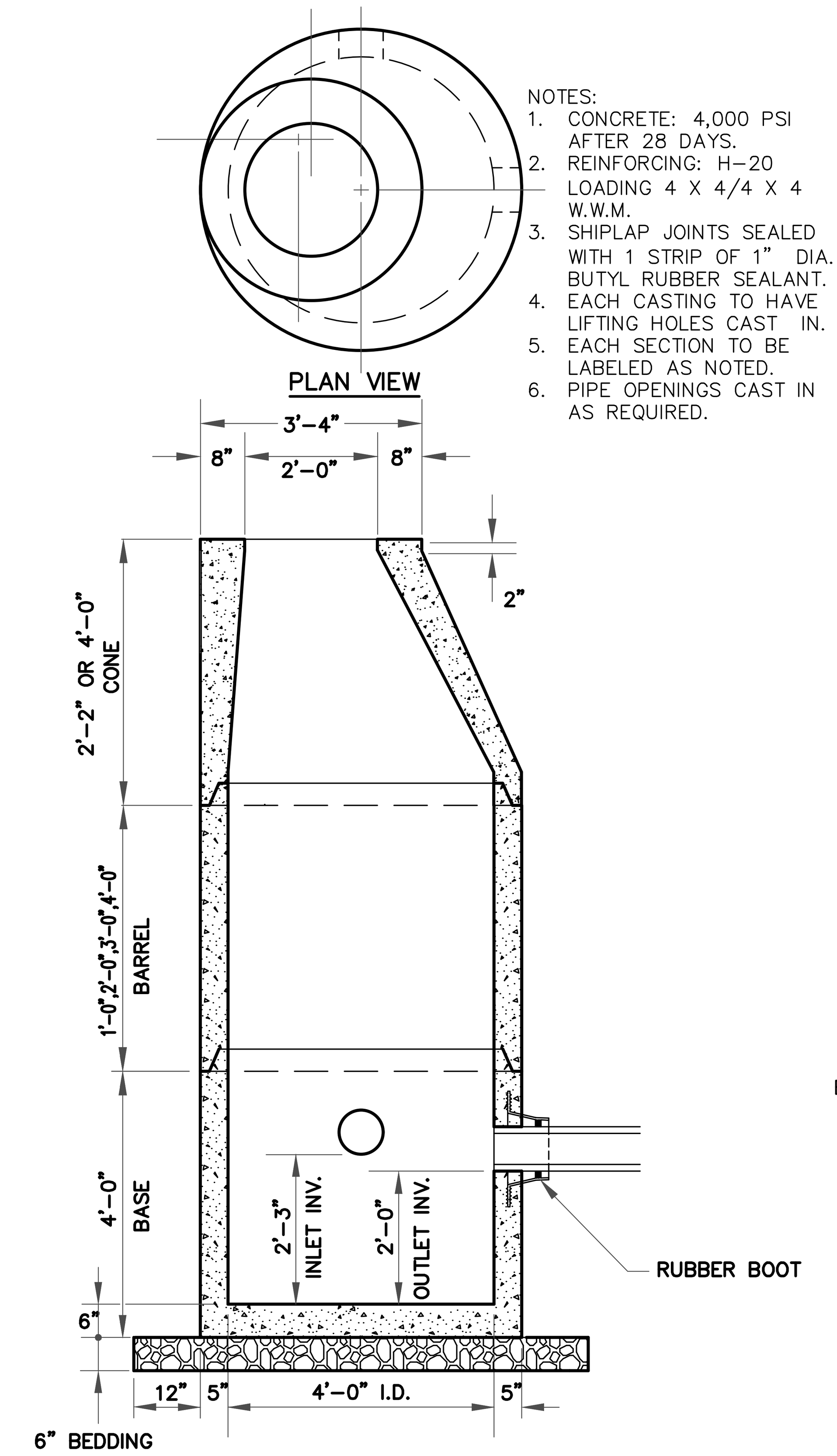


NOTES:

1. THE GRATE IS ONLY SHOWN SCHEMATICALLY.
2. A THREE FLANGE FRAME IS TO BE USED WHEN A CURB INLET IS REQUIRED.
3. THE GRATE AS SHOWN IS FOR WATER COMING FROM THE LEFT. TURN THE GRATE 180° FOR A WATER FLOW FROM THE RIGHT.

CATCH BASIN FRAME WITH CASCADE TYPE GRATE

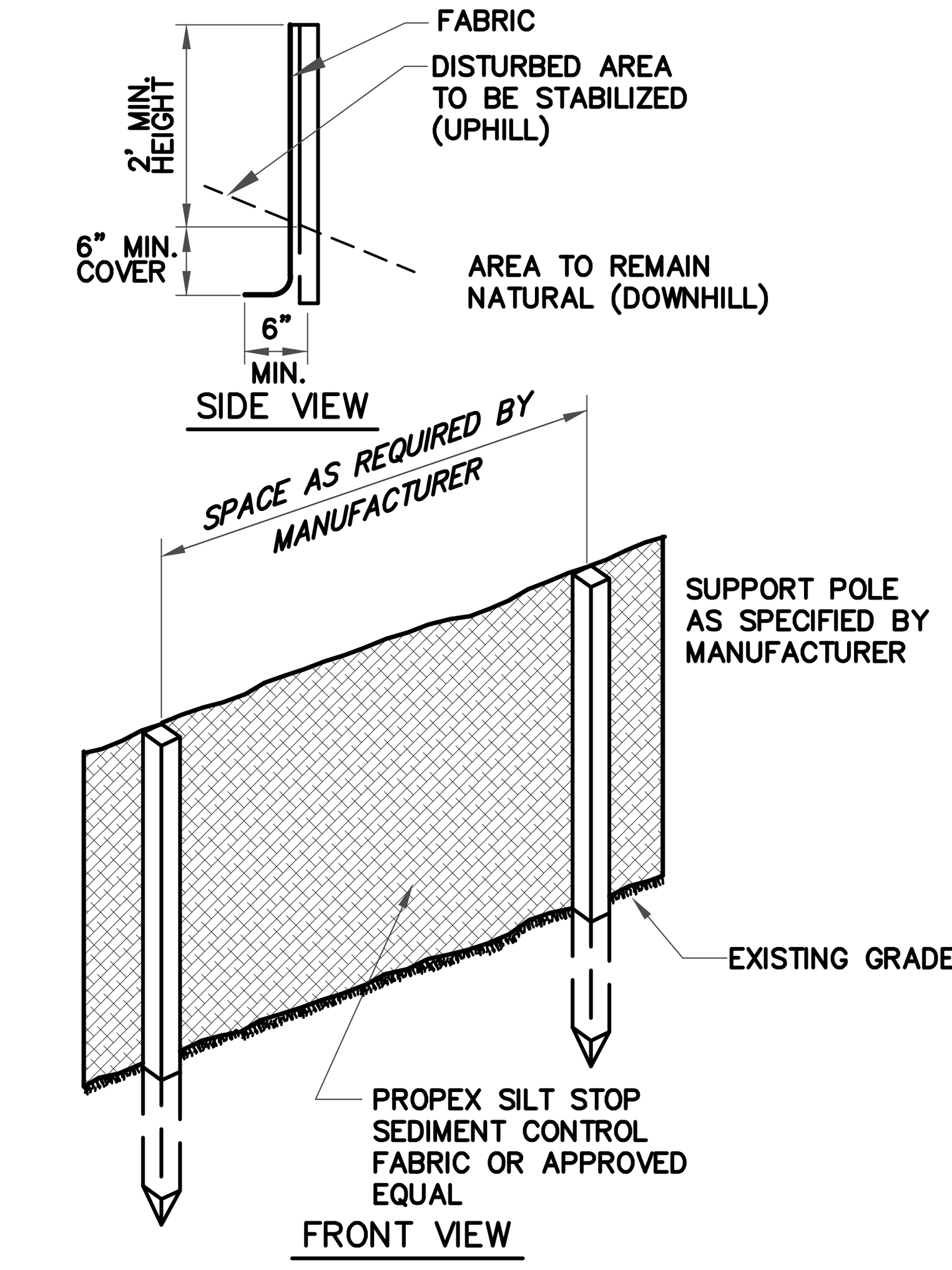
NOT TO SCALE



NOTES:
1. CONCRETE: 4,000 PSI AFTER 28 DAYS.
2. REINFORCING: H–20 LOADING 4 X 4/4 X 4 W.W.M.
3. SHIPLAP JOINTS SEALED WITH 1 STRIP OF 1" DIA. BUTYL RUBBER SEALANT.
4. EACH CASTING TO HAVE LIFTING HOLES CAST IN.
5. EACH SECTION TO BE LABELED AS NOTED.
6. PIPE OPENINGS CAST IN AS REQUIRED.

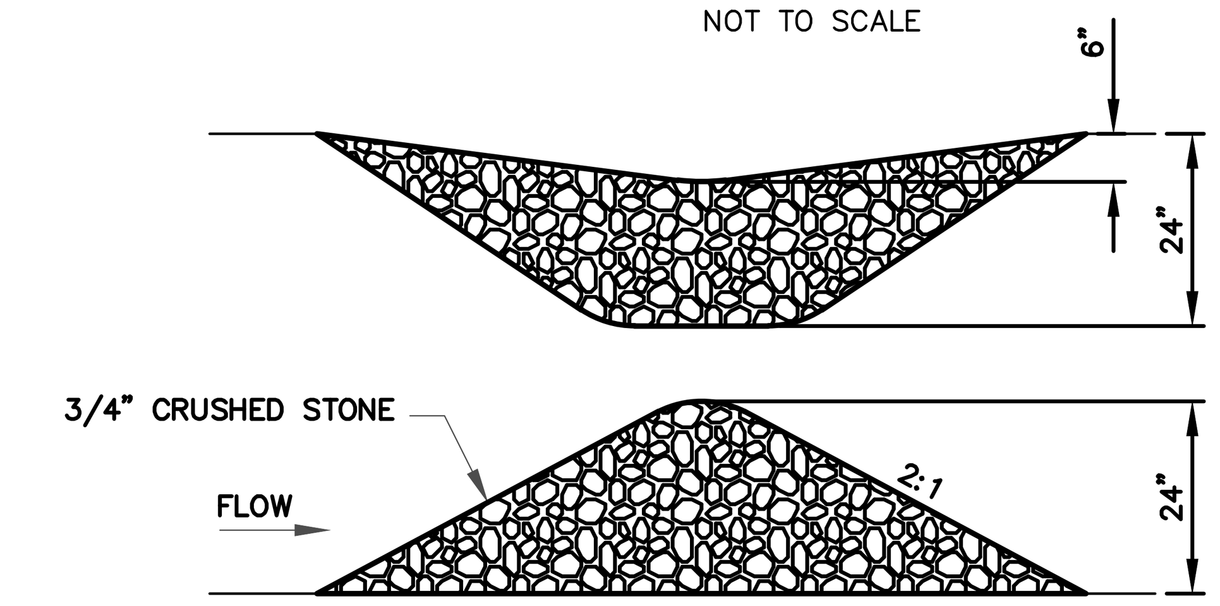
CATCH BASIN – ECCCENTRIC

NOT TO SCALE



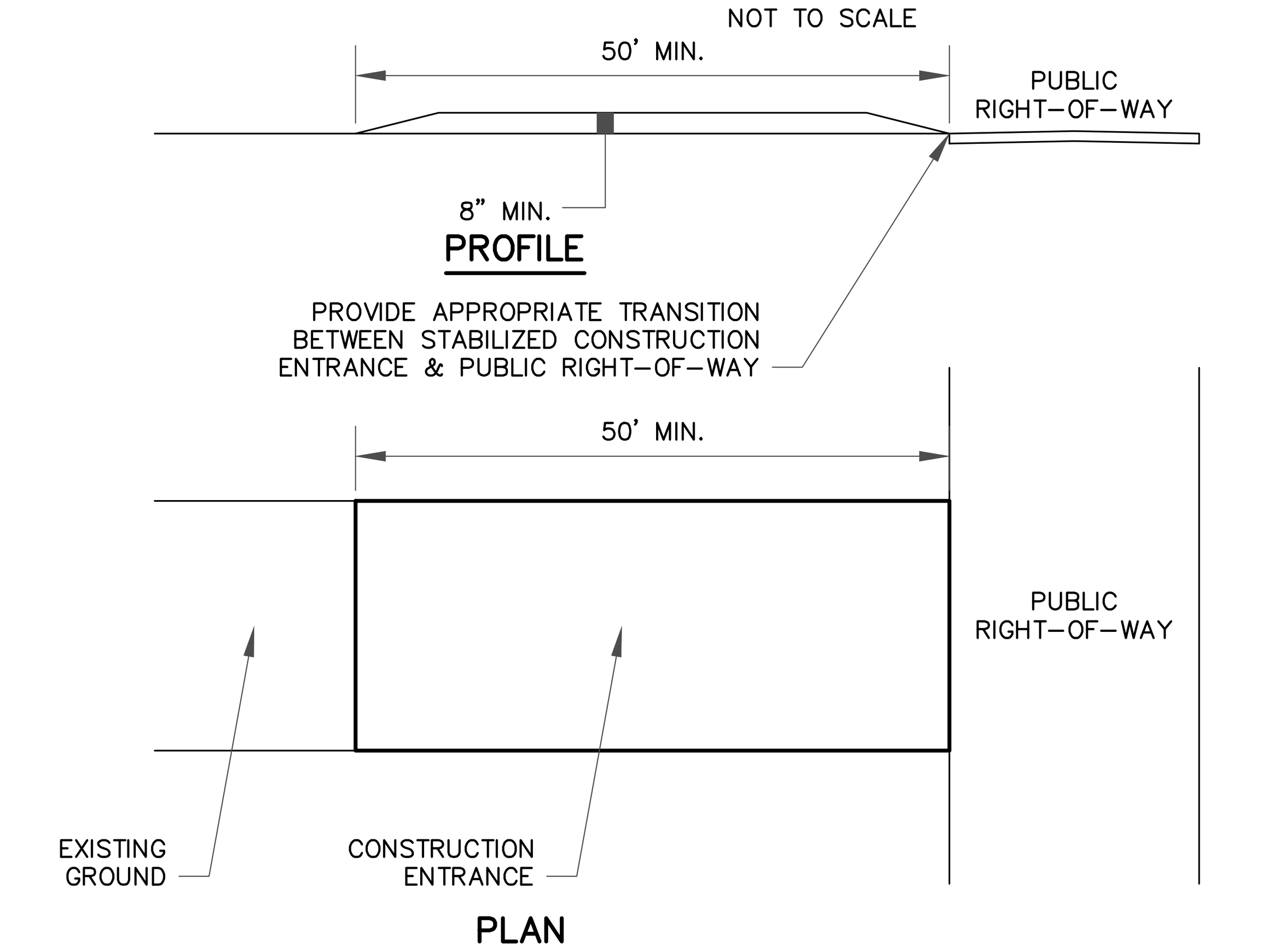
SILT FENCE DETAIL

NOT TO SCALE



STONE CHECK DAM

NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

1. STONE SIZE – AASHTO DESIGNATION M 43, SIZE NO. 2 (2 1/2" TO 1 1/2"). USE CRUSHED STONE.
2. LENGTH – AS EFFECTIVE, BUT NOT LESS THAN 50 FEET.
3. THICKNESS – NOT LESS THAN EIGHT (8) INCHES.
4. WIDTH – NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
5. WASHING – WHEN NECESSARY, WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT–OF–WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH, OR WATERCOURSE THROUGH USE OF SAND BAGS, GRAVEL, BOARDS OR OTHER APPROVED METHODS.
6. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH 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 CLEANOUT OF ANY MEASURES USE TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS–OF–WAY MUST BE REMOVED IMMEDIATELY.

CONSTRUCTION ENTRANCE

NOT TO SCALE

REV	DATE	STATUS	BY	CHKD	APPD
1	8/10/2016	DEP REVIEW COMMENTS	DB	RLP	RLP

STATE OF MAINE – ROBERT L. PRUE, JR – No. 6092 – LICENSED PROFESSIONAL ENGINEER

DESIGNED BY:	RLP
DRAWN BY:	DB
CHECKED BY:	RLP
APPROVED BY:	RLP
DATE:	6/30/2016

Pine Tree Engineering
53 Front Street
Bath, Maine 04530
Tel: (207) 443-1508
Fax: (207) 442-7029
Civil/Environmental Engineering • Surveying

CLIENT
MID COAST HEALTH SERVICES
123 MEDICAL CENTER DRIVE
BRUNSWICK, MAINE 04011

PROJECT
MID COAST HOSPITAL
PARKING EXPANSION

TITLE
DETAILS

SCALE: NOT TO SCALE
PROJECT NO. 95041.17
DRAWING NO. 95041.17_DETAILS
SHT. 6 of 6
REV. 1

August 23, 2016

1646.01

Mr. Jared Woolston, Town Planner
Town of Brunswick
28 Federal Street
Brunswick, Maine 04011

Re: Sketch Plan Application
NOBLE STREET APARTMENTS
16 NOBLE STREET
Tax Map U16, Lots 105

Dear Jared:

On behalf of *NOBLE STREET LLC*, Sitelines, PA is pleased to submit the enclosed Sketch Plan Application and supporting materials for the construction of 24 apartment units and associated parking located northerly of Noble Street in the Maine Street Station campus. This letter is intended to summarize the project in order to facilitate the review process.

PROPERTY

NOBLE STREET LLC owns the parcel of land located between Noble Street and Station Avenue (Tax Map U16, Lot 105). The parcel contains 0.43 acres and is currently developed, with a two-story residential building with access from Noble Street, and a small parking lot on the westerly side. The parcel was proposed as a residential use when the main Street station master plan was originally proposed. The property is located in the Town Center/Main Street (TC1) Zoning districts. The parcel was conceptually depicted as being completely occupied by a residential building having underground parking for 16 vehicles when the Maine Street Station project was originally approved.

SITE DESIGN

The proposed development will consist of two (2) 3-story buildings, each having 12 apartments for lease. The buildings will be joined by a common mechanical and trash room. Two (2) parking spaces will be provided for each apartment through a combination of dedicated parking on the lot adjacent to the building and shared parking in the adjacent parking lot for the McLellan building. The apartments will be serviced by public water, sewer and natural gas utilizing stubs extended to the parcel from Station Avenue. Electrical service will extend from overhead utilities in Noble Street. Access to the parking lot will be from an existing curb cut on Noble Street. Both buildings will have fire suppression sprinkler systems.

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Treatment for stormwater runoff from the site and building will be provided. The building will be collected via gutters and conveyed to a subsurface treatment system. The parking lot will drain via sheet flow to a rain garden/bio retention cell at the northerly end.

BUILDING LOCATION

The buildings are oriented such that one has its primary access from Noble Avenue, while the other has its access from Station Avenue. Parking is located to the side of the building consistent with other buildings in the Maine Street Station campus. Access to both buildings will be ADA compliant. Architectural elevations and a rendering prepared by Ryan Senatore Architecture is provided for reference to help visualize the intended scale and appearance of the buildings. Building materials and architectural elements have been designed to match the existing architecture within the Maine Street Station area.

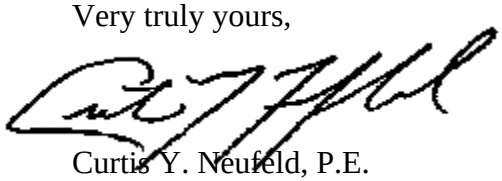
The proposed building has a maximum height of 39'10", which complies with the maximum allowed for the zone of 40'. The building height is measured between the eave and the peak, which allows for the maximum height to be greater on peaked roofs, such as the inn, train station and town offices. This is compatible with the station building directly across Station Avenue from the lot and the McLellan Building at the end of Station Avenue, which both have peaked roof element greater than 40 feet. The building is also lower than the inn at the easterly end of Noble Street.

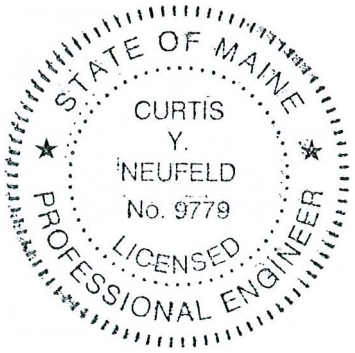
SUMMARY

We trust that this information satisfactorily addresses the requirements for Sketch Plan Review and we look forward to meeting with you and the Planning Board at the September 13, 2016 meeting to obtain their feedback.

We look forward to the opportunity to meet with the Board. With your initial review of this request, we will forward 18 copies for Planning Board purposes. If you have any questions or require additional information, please do not hesitate to call. Thank you for your assistance with this project.

Very truly yours,





Curtis Y. Neufeld, P.E.
Vice President

Enclosure

cc: J. Hilary Rocket, Noble Street LLC

MAJOR DEVELOPMENT REVIEW
SKETCH PLAN APPLICATION

1. Project Name: Maine Street Station Apartments

2. Project Applicant
   Name: Noble Street LLC
   Address: 40 South Street, Suite 305
   Marblehead, MA 01945
   Phone Number: 721-631-5015

3. Authorized Representative
   Name: Sitelines, P.A. Attn: Curt Neufeld, P.E.
   Address: 8 Cumberland Street
   Brunswick, ME 04011
   Phone Number: 207-725-1200 ext. 14

3. List of Design Consultants. Indicate the registration number, address and phone number Of any engineer, surveyor, architect, landscape architect or planner used:

   1. Surveyor: Bruce W. Martinson, PLS #2137 Sitelines, P.A., 207-725-1200 ext. 13
   2. Engineer: Curtis Y. Neufeld, PE #9779, Sitelines, P.A., 207-725-1200 ext. 18
   3. _____

5. Physical location of property being affected: 16 Noble Street

6. Lot Size: 0.43 Acres

7. Zoning District: Town Center/Maine St

8. Indicate the interest of the applicant in the property and abutting property. For example, is the applicant the owner of the property and abutting property? If not, who owns the property subject to this application? Refer to Cover Letter

9. Assessor's Tax Map U16 Lot Number 105 of subject property.

10. Brief description of proposed use: Refer to Cover Letter

11. Describe specific physical improvements to be done: Refer to Cover Letter

Owner Signature: _____

Applicant Signature (*if different*): _____

Required Attachments (by Applicant):

- Sketch Plan Check List
- Sketch Plan Requirements for Open Space Developments (if applicable)
- Request for Waivers (if applicable)
- Required Copies of Sketch Plan

Required Attachment (by Planning and Development Department):

- Listing of all owners of property within 200-foot radius of property under review.

SKETCH PLAN REQUIREMENTS

Key: "O"= omit; "S"=submit; "NA"=not applicable; "W" = waiver; "P"=pending

Item	O	S	NA	W	P	**Comments**
Indicate Variances Granted			X			
Indicate Special Permits			X			
Indicate Special Exceptions			X			
Date, north point, scale		X				
Land area, existing use of the property, location of proposed development, locations reserved for future development		X				
Tentative rights-of-way locations, lot lines, lot numbers, lot areas		X				
Estimated soil boundary locations from the Soil Conservation Service Medium Intensity Soil Survey noting areas of severe and very severe soil limitations			X			No severe/very severe soil limitations on-site.
Existing natural, topographical, and cultural features including areas of steep slopes, bedrock outcrops, ponds, streams, aquifers, and other water bodies, wetlands, groundwater recharge areas, slumps, flood hazard areas, trees, and other vegetation, excavation sites, stone walls, net site area, historic and archeological sites, structures, or districts, and any other pertinent features.		X				
Tentative locations of proposed structures, owners of existing structures, and neighboring land uses		X				
Special conservation and recreation areas			X			
Location map		X				
Zoning information, including the zoning district(s) in which the property is located and the location of any overlay zones depicted on the plan.		X				
Any conditions imposed by previous development on the site.		X	X			
Other information Planning Board/Staff Review Committee deems necessary to conduct an informed review.			X			
Letter of consent signed by property owner authorizing the development review application in cases where applicant is not the owner of the property.		X				Applicant is the owner of the property
Application Fee		X				Provided under separate cover
For Open Space Developments, sketch plan design review requirements indicated in Section 308.1			X			
Open Space Development: Request for Bonus Density			X			

State of Maine

Department of the Secretary of State

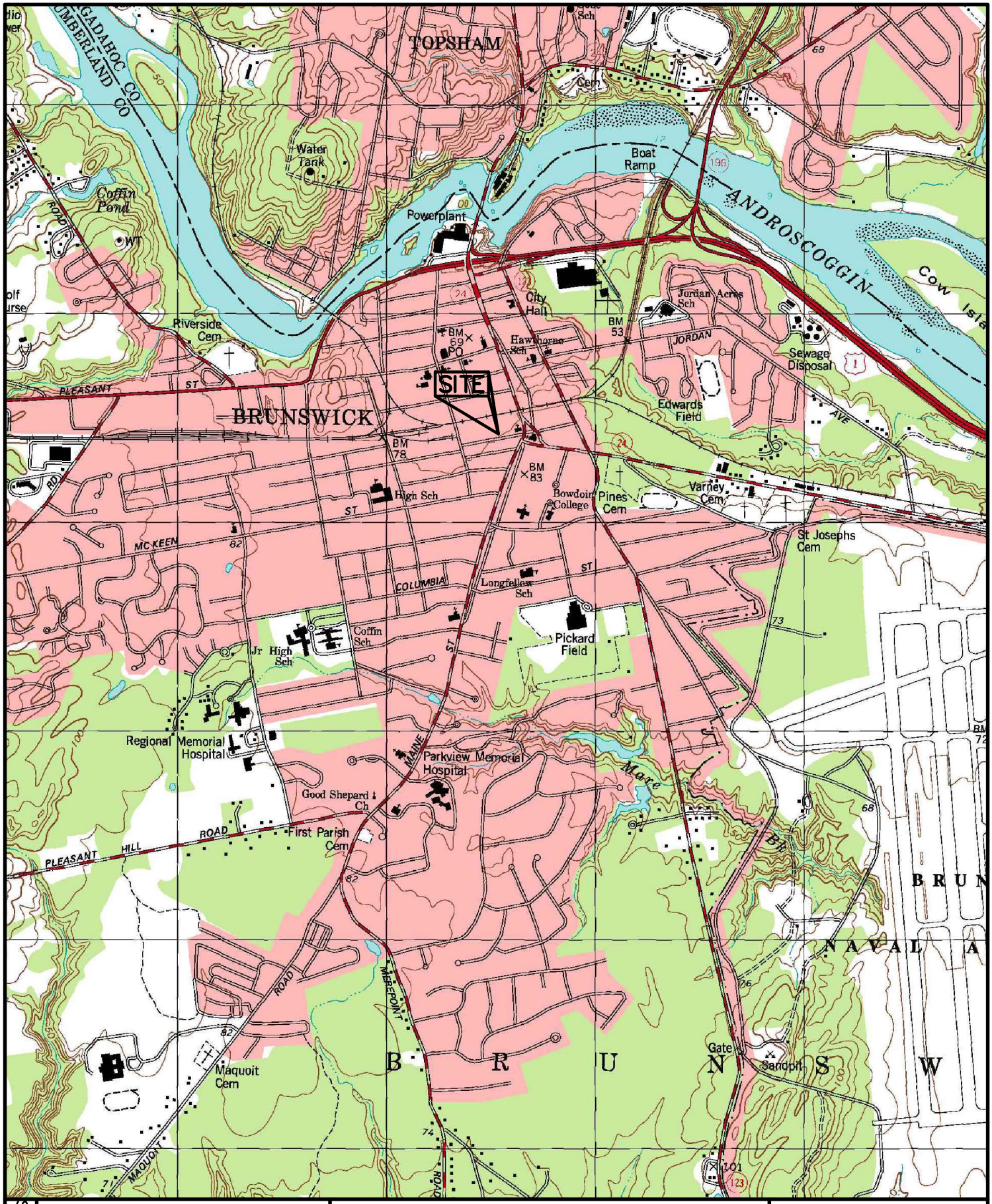
I, the Secretary of State of Maine, certify that according to the provisions of the Constitution and Laws of the State of Maine, the Department of the Secretary of State is the legal custodian of the Great Seal of the State of Maine which is hereunto affixed and that the paper to which this is attached is a true copy from the records of this Department.

In testimony whereof, I have caused the Great Seal of the State of Maine to be hereunto affixed. Given under my hand at Augusta, Maine, this eighteenth day of August 2016.

Matthew Dunlap
Secretary of State

Additional Addresses

Legal Name	Title	Name	Charter #	Status
NOBLE STREET, LLC	Registered Agent		20080218DC	GOOD STANDING
Home Office Address (of foreign entity)	**Other Mailing Address**			



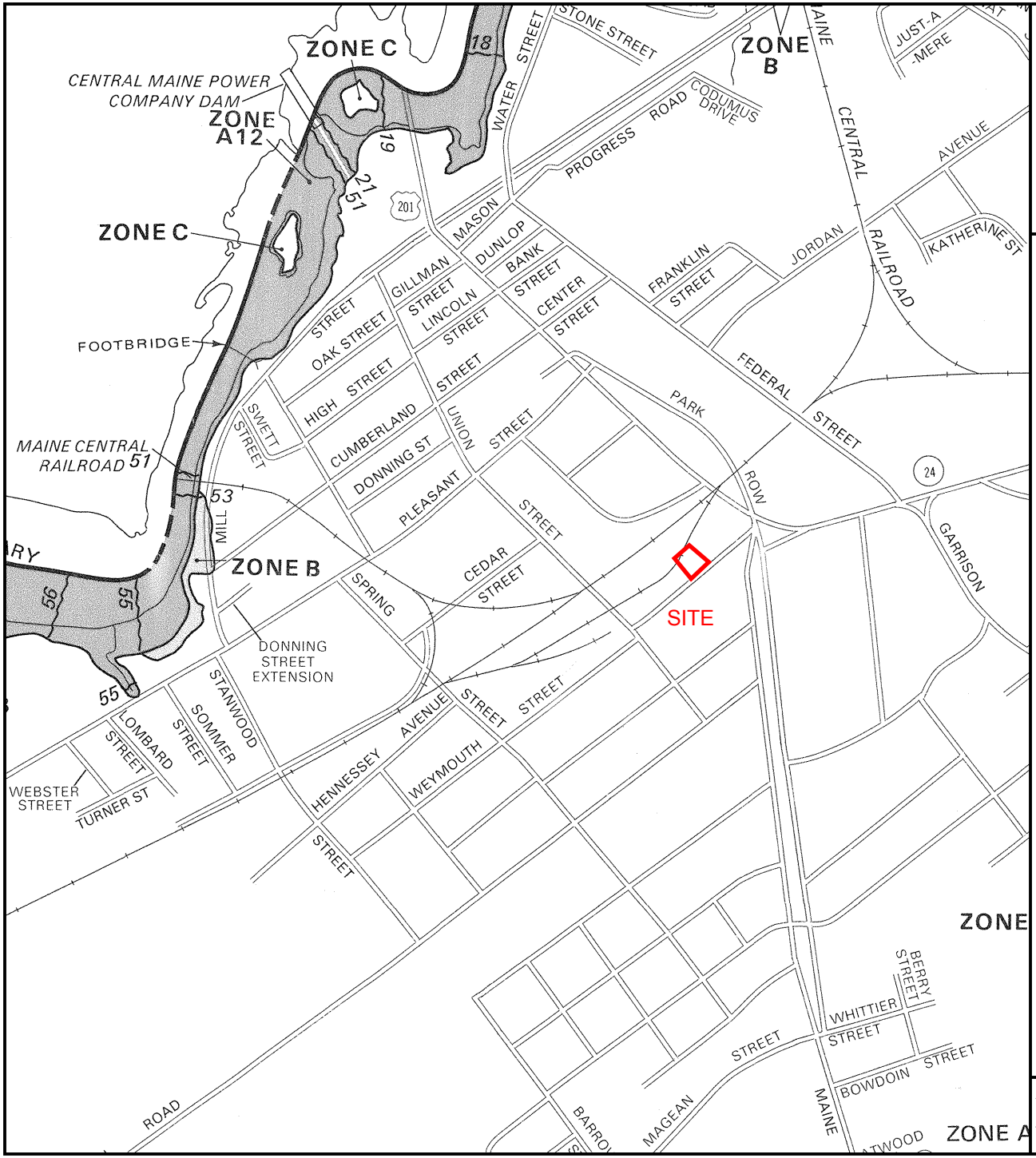
SHEET: 1 OF 1

SITELINES
ENGINEERS PLANNERS
8 CUMBERLAND ST. BRUNSWICK, ME 04011
(207) 725-1200 FAX 725-1114

USGS LOCATION MAP

MAINE STREET STATION APARTMENTS
16 NOBLE STREET
BRUNSWICK, MAINE

DATE: 08/18/16
SCALE: 1"=2000'
JOB: 1646.01
FILE: 1646.01-USGS



APPROXIMATE SCALE

1000 0 1000 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

TOWN OF
BRUNSWICK, MAINE
CUMBERLAND COUNTY

PANEL 15 OF 35
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
230042 0015 B

EFFECTIVE DATE:
JANUARY 3, 1986

Federal Emergency Management Agency

Town of
BRUNSWICK
Maine

Legend

- Public Road
- Private Road
- ROW
- Water
- Hydrography Line
- ROW Property Access
- Other Road
- Town Boundary
- Other Lot Boundary
- Parcels_Lines

N

1 inch = 100 feet

Revised To: April 1, 2015

Maps Prepared by:
Town of Brunswick

MAP U16

Soil Map—Cumberland County and Part of Oxford County, Maine
(16 Noble Street)

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

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

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

Soil Survey Area: Cumberland County and Part of Oxford County, Maine
Survey Area Data: Version 11, Sep 17, 2015

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

Date(s) aerial images were photographed: Jul 17, 2010—Jul 27, 2010

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

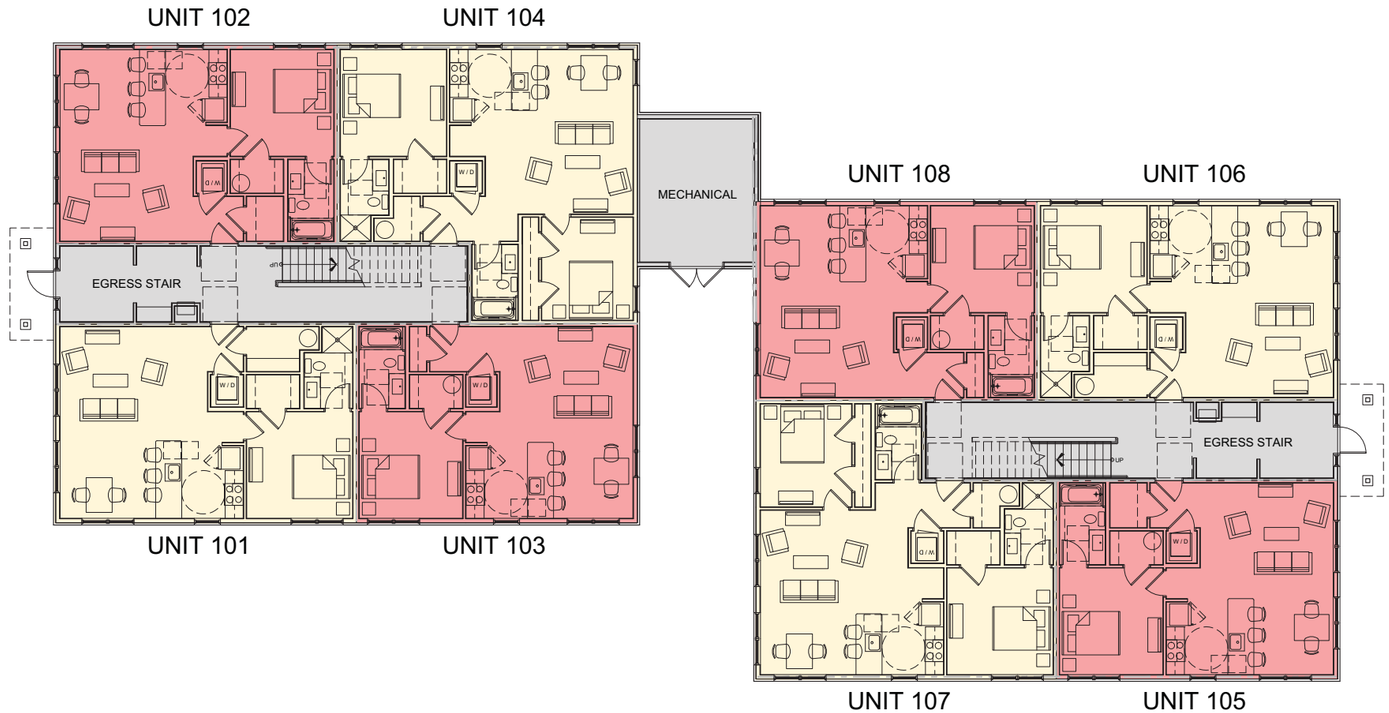
Map Unit Legend

Cumberland County and Part of Oxford County, Maine (ME005)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
DeB	Deerfield loamy sand, 3 to 8 percent slopes	0.2	25.1%
WmB	Windsor loamy sand, 0 to 8 percent slopes	0.7	74.9%
Totals for Area of Interest		**0.9**	**100.0%**

RESIDENCES

NOBLE STREET, BRUNSWICK, MAINE

AUGUST 18, 2016



0 2' 4' 8' 16' 32'

FIRST FLOOR PLAN
SCALE 1/8" = 1'-0"

PROGRESS PRINT ONLY
Not for Construction

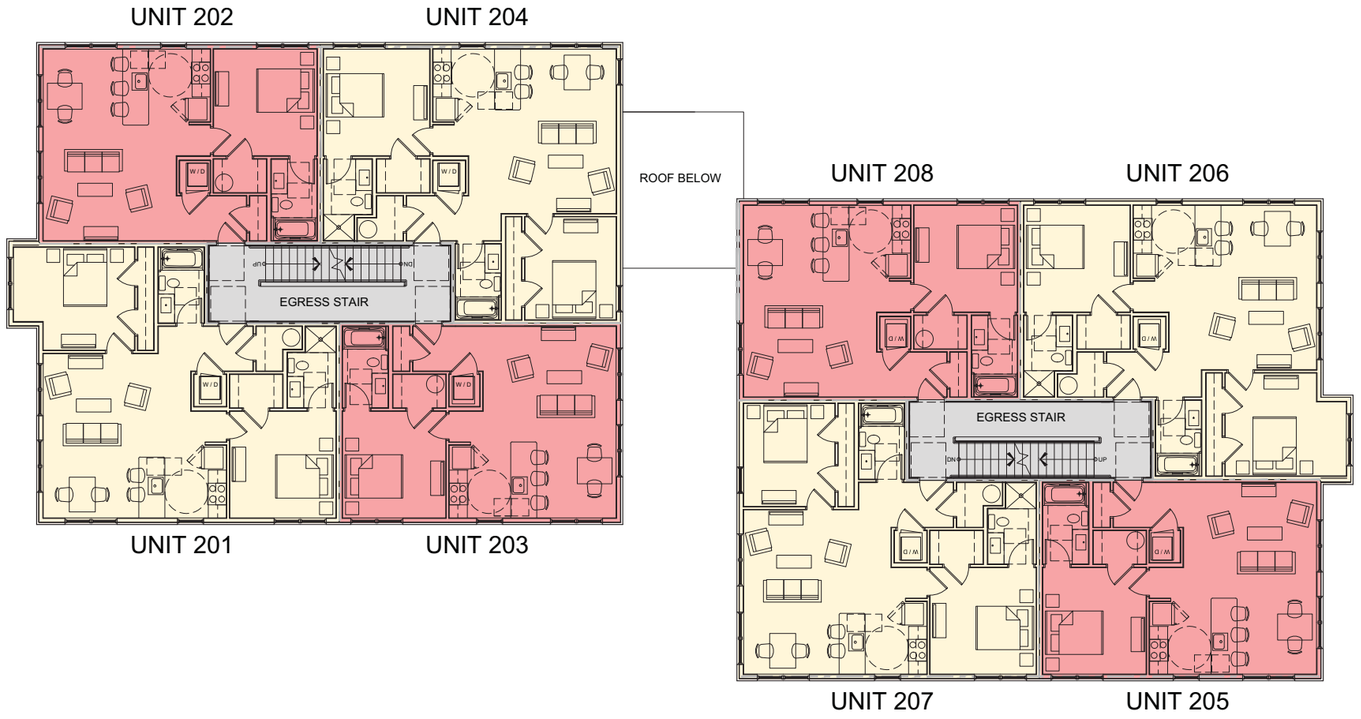
JHR Development

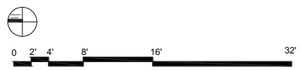
RYAN SENATORE **ARCHITECTURE**

RESIDENCES

NOBLE STREET, BRUNSWICK, MAINE

AUGUST 18, 2016





SECOND FLOOR PLAN
SCALE 1/8" = 1'-0"

PROGRESS PRINT ONLY
Not for Construction

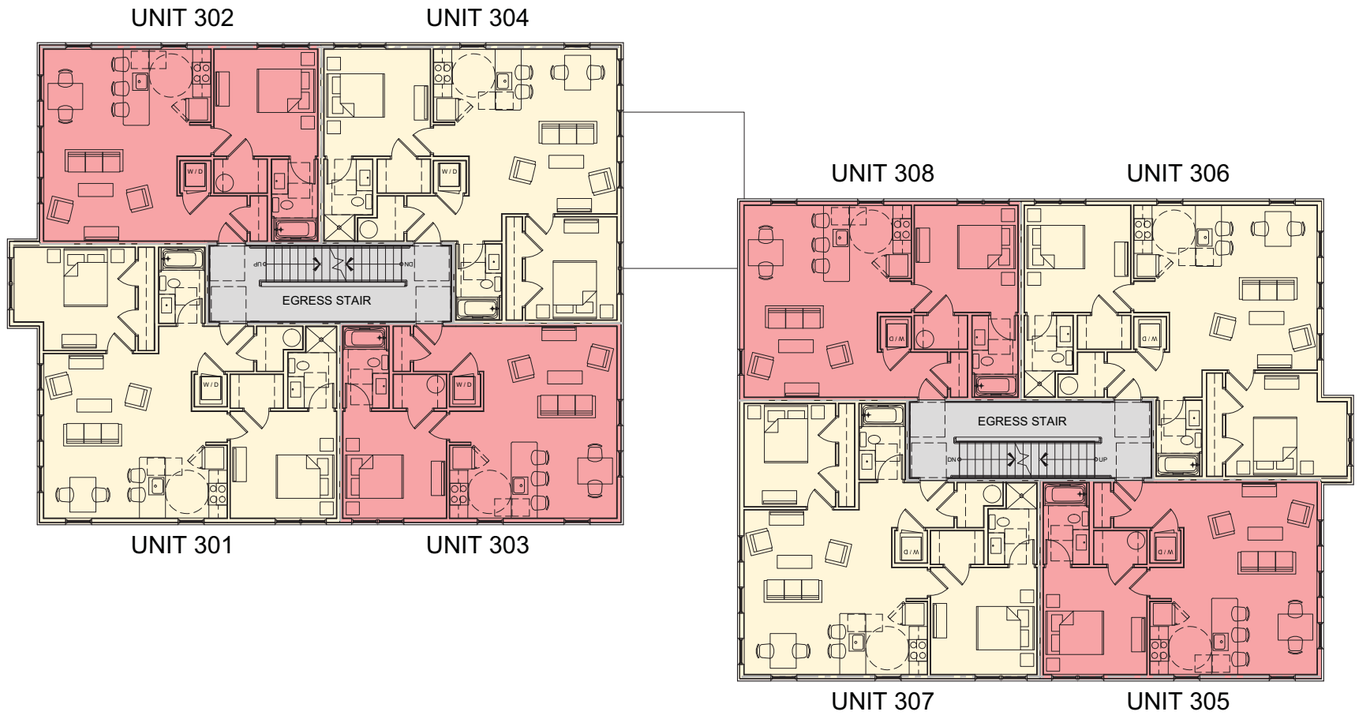
JHR Development

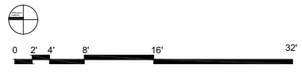
RYAN SENATORE **ARCHITECTURE**

RESIDENCES

NOBLE STREET, BRUNSWICK, MAINE

AUGUST 18, 2016





THIRD FLOOR PLAN
SCALE 1/8" = 1'-0"

PROGRESS PRINT ONLY
Not for Construction

JHR Development

RYAN SENATORE **ARCHITECTURE**

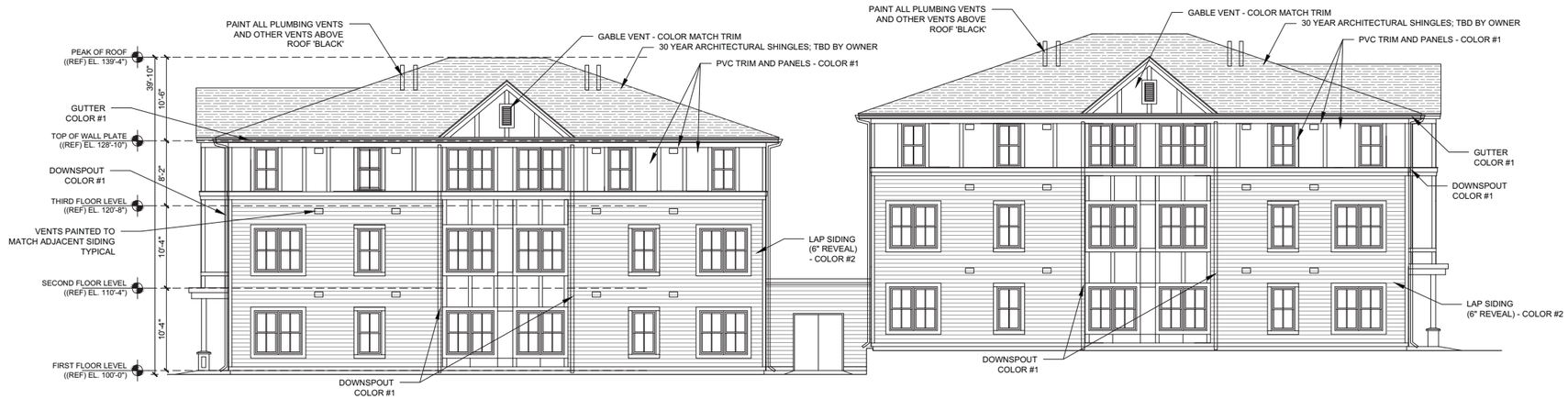
RESIDENCES

NOBLE STREET, BRUNSWICK, MAINE

AUGUST 18, 2016

NORTH ELEVATION

SCALE 1/8" = 1'-0"



WEST ELEVATION

SCALE 1/8" = 1'-0"

PROGRESS PRINT ONLY
Not for Construction

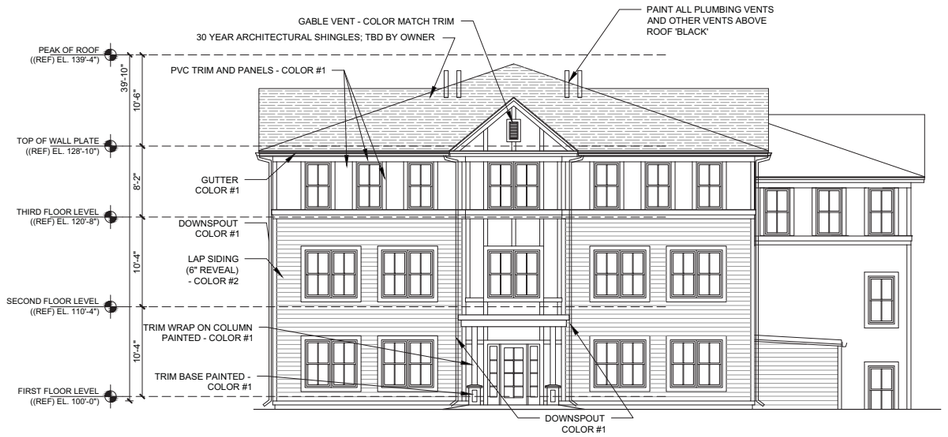
JHR Development

RYAN SENATORE **ARCHITECTURE**

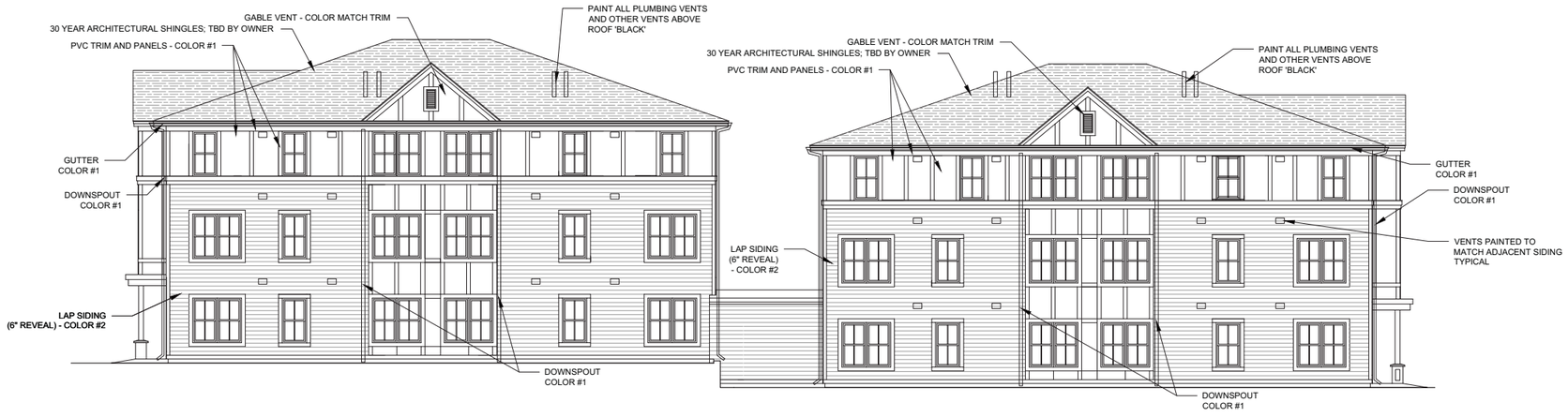
RESIDENCES

NOBLE STREET, BRUNSWICK, MAINE

AUGUST 18, 2016



SOUTH ELEVATION
SCALE 1/8" = 1'-0"



EAST ELEVATION
SCALE 1/8" = 1'-0"

PROGRESS PRINT ONLY
Not for Construction

JHR Development

RYAN SENATORE **ARCHITECTURE**

RESIDENCES

NOBLE STREET, BRUNSWICK, MAINE

AUGUST 18, 2016

VIEW LOOKING EAST ON STATION AVENUE

PROGRESS PRINT ONLY
Not for Construction

JHR Development

RYAN SENATORE **ARCHITECTURE**

RESIDENCES

NOBLE STREET, BRUNSWICK, MAINE

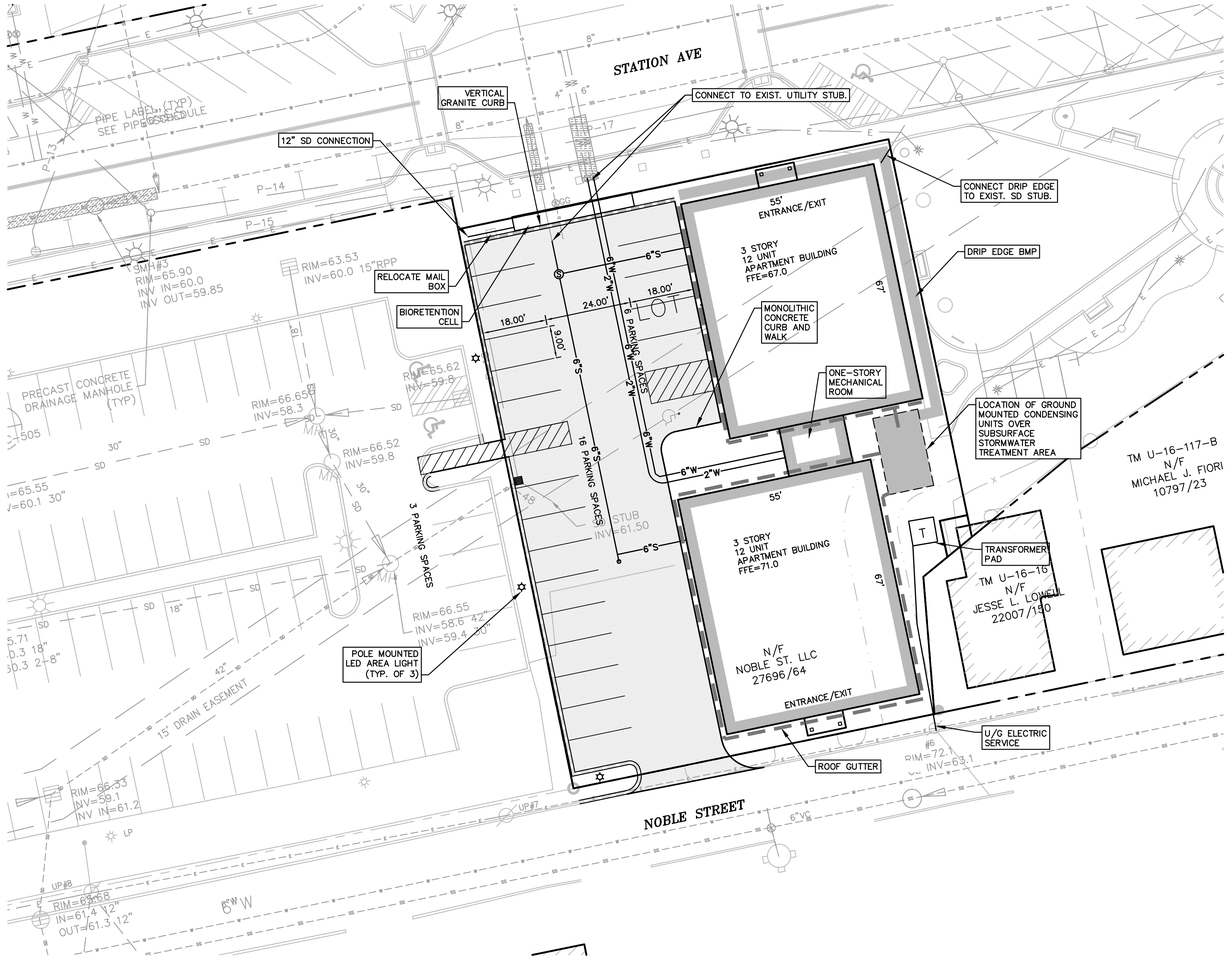
AUGUST 18, 2016

VIEW LOOKING EAST ON NOBLE STREET

JHR Development

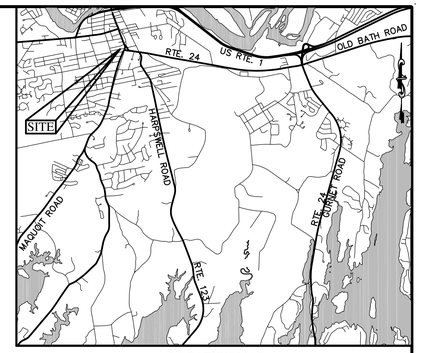
PROGRESS PRINT ONLY
Not for Construction

RYAN SENATORE **ARCHITECTURE**



LAYOUT NOTES:

1. ALL DIMENSIONING, UNLESS NOTED OTHERWISE, IS TO THE FACE OF CURB OR FOUNDATION.
2. BOUNDARY INFORMATION ON LAYOUT PLAN IS FOR REFERENCE ONLY, REFER TO CERTIFIED BOUNDARY PLANS FOR BOUNDARY INFORMATION.
3. ALL HANDICAP ACCESSIBLE PARKING SPACES, RAMPS AND SIDEWALKS SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA).
4. ALL SITE SIGNAGE AND PAVEMENT MARKINGS SHALL CONFORM TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. (MUTCD)
5. BUILDING FOUNDATION SHOWN IS NOT FOR FOUNDATION LAYOUT. COORDINATE SITE WORK WITH ARCHITECTURAL DRAWINGS INCLUDING BUILDING FEATURES AND FOUNDATION PLAN.?



LOCATION MAP
SCALE: 1" = 5000'

TOWN CENTER 1 MAINE STREET ZONING DISTRICT (TC1)		
ZONING STANDARD	REQUIRED	PROPOSED
MIN. LOT SIZE:	NA	18,736 S.F.
MIN. LOT WIDTH:	NA	102'
YARD DEPTH:		
FRONT:	NA	0'
REAR:	NA	0'
SIDE:	NA	0'
MAX. HEIGHT:	40'	39'-10"
MAX. FOOTPRINT:	30,000 S.F.	3,685 S.F.
MAX. FOOTPRINT FACTOR:	100%	20%
LANDSCAPE FACTOR:	0%	18%
PARKING REQUIRED	2 PER DWELLING UNIT	2 / D.U.

GENERAL NOTES:

1. TITLE REFERENCE FOR SURVEYED PARCEL:

   BK 27696, PG 64

2 AREA INFORMATION:

   LOT AREA: 18736 S.F. (0.43 ACRES)

3 TAX MAP REFERENCE:

   TAX MAP U16, LOTS 105.

4 BASIS OF BEARINGS:

   BEARINGS ARE REFERENCED TO MAGNETIC.

5. FLOOD ZONE INFORMATION:

   PARCEL IS LOCATED WITHIN ZONE C (AREAS OF MINIMAL FLOODING) OF THE FLOOD INSURANCE RATE MAPS FOR CUMBERLAND COUNTY, MAINE. THE PROJECT IS LOCATED ON PANEL 15 OF 35 (COMMUNITY PANEL 230042 0015 B, EFF. DATE JANUARY 3, 1986).

UTILITY NOTES:

1. INFORMATION REGARDING THE LOCATION OF EXISTING UNDERGROUND UTILITIES IS A COMPILATION OF THAT FOUND IN THE FIELD AND THAT SHOWN ON A PREVIOUS PLANS, AND SHALL NOT BE CONSIDERED AN AS-BUILT PLAN. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING UTILITY LOCATIONS PRIOR TO COMMENCING WORK. NOTIFY ENGINEER OF ANY DISCREPANCY BETWEEN UTILITIES AS SHOWN AND AS FOUND. CONTRACTOR SHALL NOTIFY DIG-SAFE PRIOR TO EXCAVATION. 1-888-344-7233

1. 08-3-16 SUBMITTED TO TOWN OF BRUSWICK FOR SKETCH PLAN CYN

SKETCH PLAN

MAINE STREET STATION LOT 5
BRUNSWICK, MAINE

JHR DEVELOPMENT OF MAINE, LLC
40 SOUTH STREET, MARBLEHEAD, MA 01945

PROGRESS PRINT
THIS PLAN IS ISSUED FOR REVIEW AND INFORMATION PURPOSES ONLY. THIS PLAN IS SUBJECT TO CHANGE AND IS NOT FOR PRICING OR CONSTRUCTION. PRICING BASED ON THIS PLAN IS NOT BINDING UNLESS SIGNED BY BOTH CONTRACTOR AND OWNER.

CALL DIG SAFE UTILITY LOCATION
1-888-344-7233
STATE LAW REQUIRES ADVANCE NOTICE OF AT LEAST 3 BUSINESS DAYS BEFORE YOU DIG, GRADE OR EXCAVATE FOR THE MARKING OF UNDERGROUND UTILITIES

GRAPHIC SCALE
20 0 10 20 2X
(IN FEET)
1 inch = 20 ft.

STATE OF MAINE
CURTIS Y. NEUFELD
9779
LICENSED
PROFESSIONAL ENGINEER

SITELINES, PA
ENGINEERS ▪ PLANNERS ▪ SURVEYORS
LANDSCAPE ARCHITECTS
8 CUMBERLAND STREET, BRUNSWICK, ME 04011
207.725.1200 www.sitelinespa.com

FIELD WK:	SCALE: 1"=20'	SHEET:
DRN BY: CYN	JOB #: 1646	
CH'D BY:	MAP/LOT: U16/105	
DATE: 07-18-16	FILE: 1646-SITE	

WALSH
ENGINEERING ASSOCIATES, INC.

Sketch/Final Major Project Review Application Town of Brunswick, Maine

for

Benjamin Carey
Shoreline Stabilization
12 Bunganuc Landing Road
Brunswick, Maine

August 22, 2016

Applicant
Benjamin Carey
1302 Waugh Drive #322
Huston, TX 77019

Prepared By
Walsh Engineering Associates, Inc.
1 Karen Drive, Suite 2A
Westbrook, Maine 04092

WALSH
ENGINEERING ASSOCIATES, INC.

August 22, 2016

Ms. Anna Breinich
Director of Planning and Development
Town of Brunswick
85 Union Street
Brunswick, Maine 04011

RE: Sketch/ Final Major Project Review Application
Benjamin Carey Shoreline Stabilization
12 Bunganuc Landing Road
Brunswick, Maine 04011

Dear Ms. Breinich,

Walsh Engineering Associates, Inc. (WEA) is pleased to submit this Sketch/Final Major Project Review Application (one copy) on behalf of Benjamin Carey (Applicant) for the proposed shoreline stabilization at his property at 12 Bungunuc Landing Road, in Brunswick. The proposed project includes the construction of a revetment wall and drainage channels to stabilize the shoreline embankment. The property lies in the Town's Coastal Protection Zone 1 Zoning District (CP1). The proposed project complies with applicable sections of Chapter 2, 4 and 5 of the Brunswick Land Use Ordinance.

On behalf of Benjamin Carey, we look forward to working with you to make this project a success. We request that the project be placed on the next available Planning Board agenda. Please find enclosed the required Major Project Review application materials. Please contact us at your earliest convenience if you require any additional information.

Respectfully,

William R. Walsh, III, PE
Walsh Engineering Associates, Inc.

cc: Benjamin Carey
Steve Carey

Enc: Letter of Agent Authorization
Check for Review Fee ($170)
Sketch/Final Major Project Review Application
Plan Set:
C1.0 Existing Conditions and Removals Plan
C2.0 Site Plan
C2.1 Sections & Details
C2.2 Sections & Details
L1.0 Landscaping Plan

One Karen Drive, Suite 2A | Westbrook, Maine 04092
phone 207.553.9898 | www.walsh-eng.com

MAJOR DEVELOPMENT REVIEW
SKETCH PLAN APPLICATION

1. Project Name: Maine Street Station Apartments

2. Project Applicant
   Name: Noble Street LLC
   Address: 40 South Street, Suite 305
   Marblehead, MA 01945
   Phone Number: 721-631-5015

3. Authorized Representative
   Name: Sitelines, P.A. Attn: Curt Neufeld, P.E.
   Address: 8 Cumberland Street
   Brunswick, ME 04011
   Phone Number: 207-725-1200 ext. 14

3. List of Design Consultants. Indicate the registration number, address and phone number Of any engineer, surveyor, architect, landscape architect or planner used:

   1. William Walsh - Walsh Engineering - ME Engineer #8204
   2. Peter Biegel - Land Design - ME Landscape Architech #2624
   3. _____

5. Physical location of property being affected: 16 Noble Street

6. Lot Size: 0.43 Acres

7. Zoning District: Town Center/Maine St

8. Indicate the interest of the applicant in the property and abutting property. For example, is the applicant the owner of the property and abutting property? If not, who owns the property subject to this application? Refer to Cover Letter

9. Assessor's Tax Map U16 Lot Number 105 of subject property.

10. Brief description of proposed use: Refer to Cover Letter

11. Describe specific physical improvements to be done: Refer to Cover Letter

Owner Signature: _____

Applicant Signature (*if different*): _____

Required Attachments (by Applicant):

- Sketch Plan Check List
- Sketch Plan Requirements for Open Space Developments (if applicable)
- Request for Waivers (if applicable)
- Required Copies of Sketch Plan

Required Attachment (by Planning and Development Department):

- Listing of all owners of property within 200-foot radius of property under review.

SKETCH PLAN REQUIREMENTS

Key: "O"= omit; "S"=submit; "NA"=not applicable; "W" = waiver; "P"=pending

Item	O	S	NA	W	P	**Comments**
Indicate Variances Granted			X			
Indicate Special Permits		X				
Indicate Special Exceptions			X			
Date, north point, scale		X				
Land area, existing use of the property, location of proposed development, locations reserved for future development		X				
Tentative rights-of-way locations, lot lines, lot numbers, lot areas		X				
Estimated soil boundary locations from the Soil Conservation Service Medium Intensity Soil Survey noting areas of severe and very severe soil limitations		X				Surveyor: Bruce W. Martins
Existing natural, topographical, and cultural features including areas of steep slopes, bedrock outcrops, ponds, streams, aquifers, and other water bodies, wetlands, groundwater recharge areas, slumps, flood hazard areas, trees, and other vegetation, excavation sites, stone walls, net site area, historic and archeological sites, structures, or districts, and any other pertinent features.		X				
Tentative locations of proposed structures, owners of existing structures, and neighboring land uses		X				
Special conservation and recreation areas		X				
Location map		X				
Zoning information, including the zoning district(s) in which the property is located and the location of any overlay zones depicted on the plan.		X				
Any conditions imposed by previous development on the site.		X				
Other information Planning Board/Staff Review Committee deems necessary to conduct an informed review.			X			Engineer: Curtis Y. Neufeld
Letter of consent signed by property owner authorizing the development review application in cases where applicant is not the owner of the property.		X				
Application Fee		X				
For Open Space Developments, sketch plan design review requirements indicated in Section 308.1			X			
Open Space Development: Request for Bonus Density			X			

MAJOR DEVELOPMENT REVIEW
FINAL PLAN APPLICATION

1. Project Name: Carey Shoreline Stabilization

2. Project Applicant
   Name: Benjamin Carey
   Address: 1302 Waugh Drive #322
   Huston, TX 77019
   Phone Number: _____

3. Authorized Representative
   Name: Bill Walsh, Walsh Engineering Associate, Inc
   Address: 1 Karen Drive, Suite 2A
   Westbrook, Maine 04092
   Phone Number: 207-553-9898

4. List of Design Consultants. Indicate the registration number, address and phone number Of any engineer, surveyor, architect, landscape architect or planner used:

   1. William Walsh - Walsh Engineering - ME Engineer #8204
   2. Peter Biegel - Land Design - ME Landscape Architech #2624
   3. _____

5. Physical location of property being affected: 12 Bunganuc Landing Road

6. Lot Size: 5 Acres +-

7. Zoning District: CP1

8. Indicate the interest of the applicant in the property and abutting property. For example, is the applicant the owner of the property and abutting property? If not, who owns the property subject to this application? Applicant owns the property and is a member of the Homeowners association, which own's the road and Map 29, Lot 37.

9. Assessor's Tax Map 29 Lot Number 35 of subject property.

10. Brief Description of proposed: Residential

11. Describe Specific Physical Improvements to be Done: Drainage and embankment stabilization

Owner Signature: _____

Applicant Signature (*if different*): _____

Required Attachments (by Applicant):

- Final Plan Check List
- Final Plan Requirements for Open Space Developments (if applicable)
- Request for Waivers (if applicable)

- Required Copies of Final Plan

Required Attachment (by Planning and Development Department):
- Listing of all owners of property within 200-foot radius of property under review.

FINAL PLAN REQUIREMENTS

Key: "O" = omit; "S"=submit; "NA"=not applicable; "W" = waiver P=pending

Item	O	S	NA	W	P	**Comments**
Name of Development		X				
Scale, date, north point, area, number of lots (if subdivision)		X				
Boundaries of all lots and tracts with accurate distances and bearings, locations of all permanent monuments property identified as existing or proposed.		X				
Certification by a professional land surveyor that the land has been surveyed and the boundaries established in accordance with the State of Maine Board of Licensure for Professional Surveyors standards for Category 1 (Standard Boundary Survey), conditions 1, 2, or 3.		X				
Existing zoning district and overlay designation.		X				
Names of engineer and surveyor; and professional registration numbers of those who prepared the plan.		X				
Names of current owner(s) of subject parcel and abutting parcels.		X				
Name, location, width of paving and rights-of-way, profile, cross-section dimensions, curve radii of existing and proposed streets; profiles of center-lines of proposed streets, at a horizontal scale of 1" equals 50' and vertical scale of 1 inch equals 5 feet, with all elevations referred to in U.S.G.S. datum.			X			
A general road plan noting circulation, direction, traffic control devices, street lighting and type of lighting proposed.			X			
Existing and proposed easements associated with the development.		X				
Kind, location, profile and cross-section of all proposed drainage facilities, both within the development and outside of it, and a storm-water management plan which includes the submission requirements listed in the storm-water management checklist available in the Planning Department.		X				
Location of features, natural and artificial, such as water bodies, wetlands, streams, vegetation, railroads, ditches and buildings.		X				

Location of existing and proposed utilities; water, sewer, electrical lines, and profiles of underground facilities. Tentative locations of any private wells.			X			
Existing and proposed location, size, profile and cross section of sanitary sewers; description, plan and location of other means of sewage disposal with evidence of soil suitability.			X			
Topography with counter intervals of not more than 2 feet.		X				
A Class A (high intensity) Soil Survey prepared in accordance with the standards of the Maine Association of Professional Soil Scientists.			X			
Location of all existing trees over 10 inches in diameter, locations of tree stands, and a plan showing all trees to removed as a result of the development proposal.		X				
Lighting plan showing details of all proposed lighting and the location of that lighting in relation to the site.			X			
Existing locations and proposed locations, widths and profiles of sidewalks.			X			
Location map.		X				
Approximate locations and dimensions of proposed parking areas.			X			
Proposed ownership and approximate location and dimensions of open spaces for conservation and recreation.			X			
Grading, erosion control, and landscaping plan; proposed finished grades, slopes, swells, and ground cover or other means of stabilization.		X				
Reference to special conditions stipulated by the Planning Board, with conditions either set forth in full or on the plan or identified as specific documents filed with the Board.					X	No Requests
A wetlands map drawn by a specialist delineating wetland boundaries in accordance with the methods prescribed by the US Army Corps of Engineers.		X				
Dedicated public open specs, areas protected by conservation easements, and existing and proposed open spaces or recreation areas.		X				

For Open Space Development, a note indicating the total permitted lot count of the entire land tract based upon the destiny standards in this Ordinance, the number of lots created by the Plan, and the numebr of lots permitted to be subdivided in the future, as well as a table showing setback requirements and impervious surface coverage limits for each lot.			X			
Building envelops showing acceptable locations for principal and accessory structures.			X			

FINAL PLAN/SUPPORTING DOCCUMENTS

Key: "O" = omit; "S"=submit; "NA"=not applicable; "W" = waiver P=pending

Item	O	S	NA	W	P	**Comments**
Documentation of Ownership or contract.		X				
Drafts of legal documents appropriate to the application, including: deeds, easements, conservation easements, deed restrictions or covenants, home/property owners association declarations and by-laws, and such other agreements or documents as are necessary to show the manner in which conservation land will be owned, maintained, and protected.						
Draft performance guarantee or conditional agreement.					X	
Disclosure of any required permits from the Department of Environmental Protection, Marine Resources, US Army Corps of Engineers, Department of Inland Fisheries and Wildlife, or other agencies, as applicable; or, if a permit has already been granted, a copy of that permit.		X				
Any additional studies required by the Planning Baord, which are deemed necessary in accordance with this Ordiancne.					X	
Storm water management program for the propsed project prepared by a professional engineer.		X				
A storm water management checklist prepared by the Cumebrland County Soil and Water Conservation District made availabel at the Brunswick Department of Planning and Development.			X			

An erosion and sedimentation control checklist prepared by the Cumberland County Soil and Water Conservation District.						
A statement from the Brunswick-Topsham Water District of conditions under which water will be provided.			X			
A statement from the Brunswick-Topsham Water District of its review and comments on the proposed use if the project involves development within the Aquifer Protection Zone.			X			
A Statement from the Fire Chief recommending the number, size, and location of hydrants, available pressure levels, road layout and street and project name, and any other fire protection measures to be taken.			X			
A statement from the Superintendent of the Brunswick Sewer District of the conditions under wich the Sewer Disticit wil provide sewerage disposal service and approval of the santiary sewers proposed within the development.			X			
Where a septic system is to be used, evidence of soil suitablity.			X			
All applicable materials necessary for the reviewing entity to review the propsoal in accordance with the Criteria of Section 411.		X				
A plan of all buildings with new construction or expansion of an existing facility, including type, size, and footprint, floor layout, setback, elevation of first floor slab, storage, and loading areas.			X			
An elevation view of all sides of each building proposed indicating height, color, bulk, surface treatment, and signage.			X			
A circulation plan describing all pedestrian and vehicle traffic flow on surrounding road systems.			X			
The size and proposed location of water supply and sewage disposal systems.			X			
A site landscaping plan indicating grade change, vegetation to be preserved, new plantings used to stabilize areas of cut and fill, screening, the size, location and purpose and type of vegetation.		X				

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ENGINEERING ASSOCIATES, INC.

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Attachments

1 Project Description

1.1 Project Overview

Benjamin Carey (Applicant) owns the property located at 12 Bunganuc Landing Road, Map 29, Lot 35, which is located on the south side of Bunganuc Landing Road, on Maquoit Bay, in Brunswick, Maine. The Applicant has owned the 5 acre parcel since 2014 (see Deed). The property is located along Maquoit Bay. Due to significant erosion and slope failure of the south facing slope, Mr. Carey is proposing a shoreline stabilization project to halt the continued failure and thereby protect his residence. The project requires Major Project Review from the Town of Brunswick Planning Board since it will move more than 100 cu yds of material and is located within the resource protection zone. The project will also require approval from the Town Council for the work within the town owned conservation easement along the shoreline. The Conservation Commission reviewed the plan at their August 10 meeting and voted to recommend that the Council allow the work.

The project site is located on a south facing bluff that is approximately 40 feet above mean high water. The existing embankment is steep, ranging from 1:1 to 3:1 slopes and has a history of failures. A previous failure on this property and a more recent one on the abutting property prompted the owner to investigate the possibility of stabilization of the slope. A geotechnical study was commissioned and completed in June of 2015. The results of that study indicate that the site is predominantly marine clay with the water table about 10' below the surface (elevation 30). Above the water table the clay is "stiff" and below it the clay is significantly softer and can liquefy easily if disturbed.

At high tide, the water level is about 2 to 3 feet above the mudflat and the water is against a near vertical face of eroded clay at the toe of slope. This action constantly erodes the embankment base until it becomes steep enough to fail. The geotechnical analysis indicates that this can occur when the slope becomes steeper than about 3:1. This became abundantly clear when on March 20, 2016 approximately 2,000 cubic yards of material slid down slope onto the mudflat below in a massive rotational failure. During this slide clay and vegetation was pushed approximately 100 feet into Maquoit Bay. The slide moved the top edge of the embankment 25 feet closer to the house, resulting in the house being 50 feet from the top edge of the embankment. The stone patio on the south side of the house is 40' from the top of the embankment.

1.2 Existing Conditions

The site is comprised of a five acre± parcel identified on the Town of Brunswick Assessor's Map as Map 29, Lot 35 and lies within the CP1, Coastal Protection 1 Zoning District. The parcel is located on the southern side of Bunganuc Landing Road with approximately 457 linear feet of shoreline frontage and a conservation easement that runs along the base of the slope that was established when the property was subdivided in 1982. The parcel is bordered by residential properties. The site experienced a large embankment failure (approximately 2,000 yds) on March 20, 2016.

The base of the embankment generally follows the High Average Tide (HAT) which is at elevation 6.6 except for the area of the March 20, 2016 slide. The top of the embankment is at elevation 40±. The intertidal area at the base of the embankment consists of sediment from the embankment slide and intertidal mudflats bordered by a sparsely vegetated area of salt marsh cordgrass (Spartina Alterniflora), with no aquatic vegetation within the project area. Based on the Wetlands Functional Assessment conducted by Jones Associates, (see Attachment F) the condition of the existing mud flat wetland at the base of the embankment is assumed to be unhealthy as a result of ongoing erosion.

The site is currently connected to private sewer & water, electrical and communication services from Bunganuc Landing Road.

1.3 Proposed Project

To mitigate the chance of further failures from occurring, the geotechnical report recommends that the factor of safety be brought above 1.3. In order to achieve this, the slope of the soft marine clay will need to be 4:1 or flatter. However, the stiffer, less saturated, clay in the top 10 feet of the embankment can stand at 2:1 and remain stable.

We are proposing to stabilize the embankment with a riprap revetment wall sloped at 1:1. The toe of the wall will be set about 2 feet below the bottom of the existing embankment and will be placed far enough out in the resource to minimize excavation of the current embankment. The geotechnical engineer has recommended that the existing slope be reworked as little as possible because the soft marine clays will become even less stable in that condition. The upper (10'±) embankment can then be excavated to the 2:1 slope as shown on the plans and the excess material can be used to fill behind the revetment wall bringing the slope up to 4:1.

The current flood insurance rate map (FIRM) for this area is 13 NGVD29 (12.4 NAVD88) and the preliminary DFIRM maps indicate a 100 year flood elevation of 19.0 NAVD88. Typical engineering design would be to bring the top of the revetment to elevation 19.0. However, in designing this structure WEA has adjusted the top of the wall below the DFIRM elevation of 19.0 to elevation 15.0. Between the elevation of 15.0 and 19.0 a turf reinforcement mat (TRM) will be utilized. This mat has been specified in order to reduce the amount of rip rap required and limit the visual impact of the rap on the shoreline. The TRM will be planed and will provide a mat of vegetation that will resist occasional inundation of the area.

In the area of the March 2016 slide, the revetment will be cut through the material sitting on the former mudflat at nearly the same elevation and location as the shoreline prior to the failure. The clay excavated seaward of the revetment will not be replaced and the clay remaining will remain, eroding over time which will serve to replenish the mudflats.

On the east end of the revetment wall the riprap will be turned back in toward the property line to match grade and tie into riprap that remains in the resource from failure of a neighboring repair years ago. On the west end, the wall will be turned into the embankment and ended about 50

feet from the property line to minimize impacts on the adjoining property. Then, 2 foot diameter stones will be placed in front of the eroded bank face to within about 10 feet of the property line. At the top of the slope, in this area the grades will be cut back to 2:1 while in the middle portion of the slope (between elevation 20.0 ± and 35.0 ±) will be left in a natural state as indicated on the plans.

An underdrain will be placed in the embankment at the existing groundwater table at elevation (30.0 ft. ±). These will be connected to two chimney drains that will bring the water down the slope to be discharged at the base of the slope. The chimney drains will double as equipment access to reach the bottom of the embankment during construction activities.

After regrading the embankment, the slope will be loamed and seeded and stabilized with erosion control blanket and turf reinforced matting as shown on the design plans. Trees and shrubs will be planted as shown on the landscaping plan. The trees are to be planted low on the embankment behind the revetment wall and low shrubs and grasses higher up. Experience shows that if a tree on the embankment fails, it will pull down a large portion of the embankment with its roots.

All of the proposed activity will impact 3,604.00 square feet below the highest annual tide elevation. This was needed in order to create the minimum slopes on the embankment recommended in the geotechnical report

The proposal will not require any additional utilities.

Access to the site will be from Bunganuc Landing Road. No equipment will be used in the water.

1.4 Project Schedule:

Construction to begin in the late fall and continue into the winter as weather permits. The site will be stabilized; trees and shrubs will be planted in the spring when the embankment is dry enough to access.

2 Evidence of Right, Title, and Interest

Benjamin Carey currently owns the subject property per Cumberland County Registry of Deeds, Book 39155, Pages 53-55 (see Attachment A).

Mr. Carey has authorized Walsh Engineering Associates, Inc. to act as his agent for permitting the shoreline stabilization (see Attachment B).

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ENGINEERING ASSOCIATES, INC.

Attachment A
Deed

One Karen Drive, Suite 2A | Westbrook, Maine 04092
phone 207.553.9898 | www.walsh-eng.com

Warranty Deed

{Statutory Short Form}

MAINE REAL ESTATE TAX PAID

KNOW ALL MEN BY THESE PRESENTS, that **JUAN CARLOS JARAMILLO AND ANA MARIA RODRIGUEZ-ORTIZ, TRUSTEES OF THE JUAN CARLOS JARAMILLO REVOCABLE TRUST DATED JUNE 28, 2012** and **ANA MARIA RODRIGUEZ-ORTIZ AND JUAN CARLOS JARAMILLO, TRUSTEES OF THE ANA MARIA RODRIGUEZ-ORTIZ REVOCABLE TRUST DATED JUNE 28, 2012**, with an address at 1327 30th Street NW, Washington, DC 20000 in consideration of One Dollar ($1.00) and other good and valuable consideration paid by **BENJAMIN S. CAREY,** with an address at 1302 Waugh Drive #322, Houston, TX 77019, the receipt whereof is hereby acknowledged, do hereby GIVE, GRANT, BARGAIN, SELL AND CONVEY unto the said **BENJAMIN S. CAREY**, his heirs and assigns forever, with Warranty Covenants, as follows:

A certain lot or parcel of land together with any buildings and improvements thereon situated at 12 Bunganuc Landing Road, so-called, Brunswick, Maine, and being all that property described on the attached Exhibit A.

Meaning and intending to convey, and hereby conveying, all that property described in a deed from Juan C. Jaramillo and Ana M. Rodriguez to Juan Carlos Jaramillo and Ana Maria Rodriguez-Ortiz, Trustees of the Juan Carlos Jaramillo Revocable Trust dated June 28, 2012 and Ana Maria Rodriguez-Ortiz and Juan Carlos Jaramillo, Trustees of the Ana Maria Rodriguez-Ortiz Revocable Trust dated June 28, 2012, which deed was dated June 28, 2012 and recorded in the Cumberland County Registry of Deeds at Book 29739, Page 107. Reference is also made to deed from Susan Gear Carter to Juan C. Jaramillo and Ana M. Rodriguez, dated December 16, 2011 and recorded at Book 29207, Page 283.

TO HAVE AND TO HOLD the aforegranted and bargained premises, with all the privileges and appurtenances thereof, to the said **BENJAMIN S. CAREY**, his heirs, successors and assigns, to their own use and behoof forever.

IN WITNESS WHEREOF, **JUAN CARLOS JARAMILLO AND ANA MARIA RODRIGUEZ-ORTIZ,** TRUSTEES OF THE JUAN CARLOS JARAMILLO REVOCABLE TRUST DATED JUNE 28, 2012 and **ANA MARIA RODRIGUEZ-ORTIZ AND JUAN CARLOS JARAMILLO,** TRUSTEES OF THE ANA MARIA RODRIGUEZ-ORTIZ REVOCABLE TRUST DATED JUNE 28, 2012 have hereunto placed their hand and seal this 18 day of August 2014.

JUAN CARLOS JARAMILLO REVOCABLE TRUST DATED JUNE 28, 2012

Witness

Witness

Juan Carlos Jaramillo, *Trustee*

Ana Maria Rodriguez-Ortiz, *Trustee*

ANA MARIA RODRIGUEZ-ORTIZ REVOCABLE TRUST DATED JUNE 28, 2012

Witness

Witness

Ana Maria Rodriguez-Ortiz, *Trustee*

Juan Carlos Jaramillo, *Trustee*

STATE OF MAINE
COUNTY OF SAGADAHOC

AUGUST 18, 2014

Then personally appeared the above named **JUAN CARLOS JARAMILLO AND ANA MARIA RODRIGUEZ-ORTIZ, TRUSTEES OF THE JUAN CARLOS JARAMILLO REVOCABLE TRUST DATED JUNE 28, 2012** and **ANA MARIA RODRIGUEZ-ORTIZ AND JUAN CARLOS JARAMILLO, TRUSTEES OF THE ANA MARIA RODRIGUEZ-ORTIZ REVOCABLE TRUST DATED JUNE 28, 2012** and acknowledged the foregoing instrument to be their free act and deed,

Before me,

Notary Public/Attorney at Law

NICOLE L. CHIPMAN
Notary Public-State of Maine
My Commission Expires August 9, 2019

Exhibit A

A certain lot or parcel of land with the building thereon, in the Town of Brunswick County of Cumberland and State of Maine, and being more particularly bounded and described as follows:

Being Lot No. 5 as shown on Final Plan Subdivision Plan of Bunganuc Landing, Bunganuc Road, Brunswick, Maine, dated December 30, 1982, and recorded in the Cumberland County Registry of Deeds in Plan Book 136, Page 55, as amended by Amended Subdivision Plan and Standard Boundary Survey of Lots 4 and 5 Bunganuc Landing, dated January 30, 1995 and recorded at Plan Book 195, Page 51.

The above described premises are conveyed subject to, and with the benefit of, the Declaration of Covenants and Restrictions for Bunganuc Landing Subdivision dated February 17, 1983, and recorded in the Cumberland County Registry of Deeds in Book 6126, Page 281, and to Bunganuc Landing Homeowners Association Declaration dated February 17, 1983, recorded in the Cumberland County Registry of Deeds in Book 6126, Page 284.

EXCEPTING that portion of the property conveyed by deed of Robert T. Pritchard to James Vander Schaaf and Marilyn Vander Schaaf dated April 11, 1995, and recorded in the Cumberland County Registry of Deeds in Book 11879, Page 332. Together with premises as conveyed to Robert T. Pritchard by James Vander Schaaf et al., dated April 11, 1995 and recorded in the Cumberland County Registry of Deeds in Book 11879, Page 334.

Meaning and intending to describe the premises conveyed in a deed from Juan C. Jaramillo and Ana M. Rodriguez to Juan Carlos Jaramillo and Ana Maria Rodriguez-Ortiz, Trustees of The Juan Carlos Jaramillo Revocable Trust dated June 28, 2012, and Ana Maria Rodriguez-Ortiz and Juan Carlos Jaramillo, Trustees of The Ana Maria Rodriguez-Ortiz Revocable Trust dated June 28, 2012, said deed dated June 28, 2012 and recorded in the Cumberland County Registry of Deeds at Book 29739, Page 107.

Received
Recorded Register of Deeds
Aug 21,2014 02:24:59P
Cumberland County
Pamela E. Lovley

WALSH
ENGINEERING ASSOCIATES, INC.

Attachment B
Agent Authorization

One Karen Drive, Suite 2A | Westbrook, Maine 04092
phone 207.553.9898 | www.walsh-eng.com

Date: July 7, 2016

To Whom It May Concern,

By this letter, the undersigned authorizes Walsh Engineering Associates, Inc. to act as the agent for the undersigned in the preparation and submission of all Federal, State, and Local City permit applications and relevant documents and correspondence for all necessary permits for the site stabilization on the property at 12 Bunganuc Landing Road, Brunswick, Maine; to attend meetings and site visits; to appear before all boards, commissions, and committees, and to provide such other services as are necessary and appropriate in furtherance of the aforementioned project.

Sincerely,

Signature

BENJAMIN CAREY

Benjamin Carey

7/12/16

Date

3 Evidence of State and/or Federal Approvals

The project will require a Natural Resources Protection Act Permit from Maine Department of Environmental Protection and U.S. Army Corps of Engineers. The application has been submitted and is under review at this time.

4 Assessment of Review Standards

411.1 In order to grant approval of this application, the Planning Board must find that it satisfies the following Review Standards in the Ordinance :

411.2 Preservation of Natural Features: The existing property is fully developed with buildings, driveways, fences and lawn areas. It is located in a Natural Resource Protection Zone, and there are steep slopes along the coastal bluff. The proposal would stabilize the slope, no other natural landscape features would be impacted by the proposed project.

411.3 Surface Waters, Wetlands and Marine Resources: The proposed project is located in a Natural Resource Protection and Coastal Protection Zone. The proposed project will stabilize the embankment, minimize erosion and allow the mudflats to become a healthy habitat. This project will not have an adverse impact on surface waters, wetlands or marine resources.

411.4 Flood Hazard Area: The shoreline of the property is in a mapped flood zone. See the Flood Insurance rate Map, Attachment C.

411.5 Storm Water Management: This project has been designed with stormwater management features meeting the Basic Standards of the *Maine Stormwater Best Practices Manual* prepare by the Maine DEP.

411.6 Groundwater: The proposed project will have little impact on groundwater. It is not located in an Aquifer Protection Zone. Sewage from the property is treated in an on site septic field. Stormwater will sheet flow through the lawn area before entering the drainage channels in the slope of the embankment and discharge to the shoreline.

411.7 Erosion and Sedimentation: After construction of the revetment wall the site will be stabilized with vegetation. See the Erosion Control Plan, Attachment D, and site plan drawings in Section 8 for details.

411.8 Sewage Disposal: No new sewage will be produced in connection with this project.

411.9 Water: No new water demand will be created in connection with this project.

411.10 Aesthetic, Cultural and Natural Values: The proposed project will have minimal impacts on the scenic or natural features in the vicinity. The project as proposed will reduce erosion and stabilize the embankment and is designed to be aesthetically pleasing. There are no know historic sites on or adjacent to this property and the Maine DEP has no mapped wildlife habitats nearby.

411.11 Community Impact: The project will have little impact on community facilities.

a. As noted above, the site has on-site septic facilities.
b. As noted above, the site has a private well and will not impact water pressure in the vicinity.
c. The project will have no effect on traffic post construction.
d. There will be no impact on the school system.
e. The project will have no impact on public safety providers.
f. The project does not create new town roads, so there will not be any additional plowing or road maintenance.
g. The project will not generate additional waste.
h. There will be no impact to the municipal storm sewer system.
i. The proposed project will not require any additional recreational resources.
j. The project will not require additional lighting.

411.12 Traffic: There will be no effect on traffic, once this project has completed construction.

411.13 Pedestrian and Bicycle Access and Safety: The proposed project is located on a dead end street and will not impact bicycle or pedestrian traffic, nor will it provide any additional facilities.

411.14 Project Patterns: The project is compatible with current uses in the area.

411.15 Architectural Compatibility: The proposed project does not propose any building.

411.16 Municipal Solid Waste: The project will not increase solid waste rates from the site.

411.17 Recreational Needs: The proposed project will have no impact on the town's ability to provide recreational services.

411.18 Access for Persons With Disabilities: This is not applicable to this type of project.

411.19 Financial Capacity and Maintenance: The Applicant and Owner have the financial and technical capacity to complete the project and the resources to maintain it after construction.

411.20 Noise and Dust:

a. Noise will be kept to reasonable levels and hours during construction. After construction, the proposed project will not generate noise.
b. Erosion and sediment control measures will be used to minimize generation of dust during construction. Once the site is stabilized with vegetation it will not generate any significant amount of dust.

411.21 Finding of Right, Title and Interest: The Applicant and Owner have sufficient rights to develop the project. We are currently seeking approval from the conservation commission and town counsel. See the deed for the property in Attachment A and agent authorization in Attachment B.

411.22 Finding of Payment of Applicable Fees: The applicant has paid the appropriate application fee.

411.23 Additional Requirements of BNAS Reuse and Conservation Districts: This project is not located in either the BNAS Reuse or BNAS Conservation Districts.

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Attachment C
Flood Insurance Rate Map

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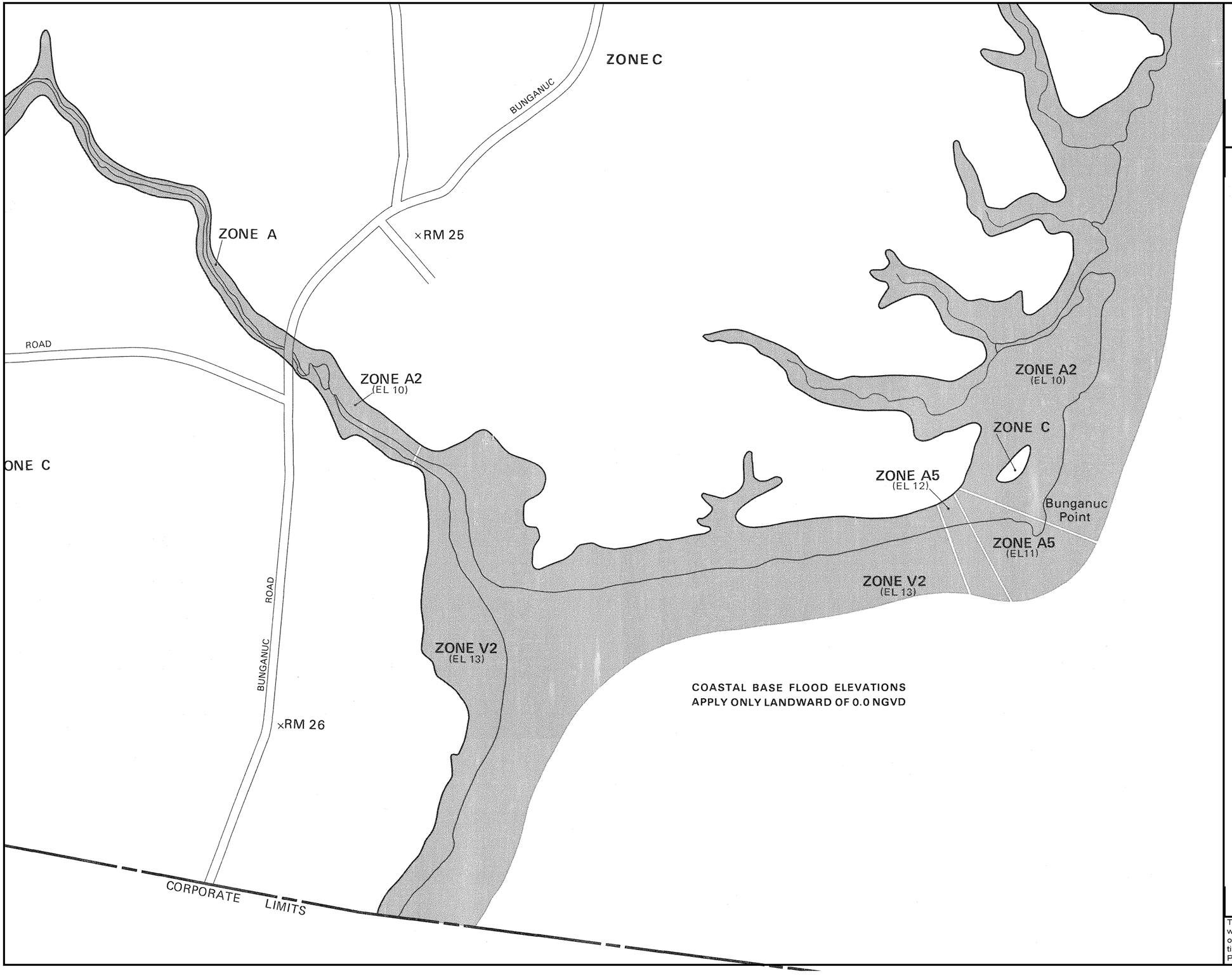
phone 207.553.9898 | www.walsh-eng.com



KEY TO MAP

500-Year Flood Boundary	ZONE B
100-Year Flood Boundary	ZONE A1 / ZONE A5
Zone Designations*	
100-Year Flood Boundary	
500-Year Flood Boundary	ZONE B
Base Flood Elevation Line With Elevation In Feet**	513
Base Flood Elevation in Feet Where Uniform Within Zone**	(EL 987)
Elevation Reference Mark	RM7×
Zone D Boundary	
River Mile	•M1.5

**Referenced to the National Geodetic Vertical Datum of 1929

*EXPLANATION OF ZONE DESIGNATIONS

ZONE	EXPLANATION
A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
A0	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined.
AH	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.
A1-A30	Areas of 100-year flood; base flood elevations and flood hazard factors determined.
A99	Areas of 100-year flood to be protected by flood protection system under construction; base flood elevations and flood hazard factors not determined.
B	Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood. (Medium shading)
C	Areas of minimal flooding. (No shading)
D	Areas of undetermined, but possible, flood hazards.
V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.
V1-V30	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined.

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Attachment D
Erosion Control Plan

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phone 207.553.9898 | www.walsh-eng.com

EROSION AND SEDIMENTATION CONTROL PLAN
for
12 Bunganuc Landing Road
Brunswick, Maine

July 2016

The following plan for controlling sedimentation and erosions is based on conservation practices found in the latest edition of the Maine Erosion & Sediment Control BMP's Manual, Maine Department of Environmental Protection. The Contractor who implements this plan shall be familiar with this publication and adhere to it and the practices presented herein.

The contractor will prepare a construction plan and review it with the geotechnical engineer prior to beginning construction. The embankment below about elevation 30 is comprised of soft, wet clay and when reworked can be highly unstable and could cause another major landslide.

GENERAL EROSION AND SEDIMENTATION CONTROL PRACTICES

Erosion and sedimentation control during construction will be accomplished by timing construction to take place during low tide conditions and working on small sections at a time that can be completed in one day. Therefore, the construction site will be permanently stabilized at the end of each working day. Based on experience with similar projects, WEA does not recommend the installation of silt fence downgradient of the revetment because it could be washed out during high tide/storm events. The application of the working schedule and practices described above will prevent erosion downgradient of the wall.

The following is a list of general erosion control practices that will be use to prevent erosion and sedimentation before, during, and after the construction of this project. In addition, special care shall be used at all times to:

1) Limit disturbance at the area of proposed shoreline stabilization that can be constructed in a tide cycle,
2) Do not work any equipment within the water,
3) Prepare the site each day for the incoming tide,
4) Install wood mats in mud flat below HAT,
5) Excavate area that can be stabilized in one tide cycle,
6) Correct any erosion problems immediately,
7) Regularly monitor the implemented practices, especially after every rainfall,
8) Re-vegetate disturbed areas as soon as possible after construction,
9) Conform to all requirements/standards of Natural Resources Protection Act (NRPA).

Construction Entrance, Haybales, Silt Fence and/or Erosion Control Mix Sediment Barriers
A construction entrance will be installed in the lawn before the driveway. Haybales, silt fence, and/or erosion control mix sediment barriers will be installed along disturbed areas as need to minimize transport of sediment.

Emergency Provisions
Should a storm be predicted, the contractor shall cover any excavated areas with TRM and straw matting to prevent erosion.

Straw Matting at 2:1 Vegetated Slope

Loam and seed the embankment and install TRM and straw matting per plan and details when sections of the embankment are brought to final grade.

MONITORING SCHEDULE

The contractor shall be responsible for installing, monitoring, maintaining, repairing, replacing and removing all of the erosion and sedimentation controls or appointing a qualified subcontractor to do so.

Maintenance measures will be applied as needed during the entire construction cycle. Immediately following any significant rainfall, and at least once a week, a visual inspection will be made of all erosion and sedimentation controls as follows:

1. Construction entrance shall be visually inspected and repaired as needed. Any areas subject to rutting shall be stabilized immediately. If the voids of the construction entrance become filled with mud, more crushed stone shall be added as needed. The public roadway shall be swept should mud be deposited/tracked onto them.

2. Any areas of erosion adjacent to the shoreline shall be stabilized with stone immediately.

EROSION CONTROL REMOVAL

An area is considered stable when 90% growth of planted seeds is established. Once an area is considered stable, the erosion control measures can be removed.

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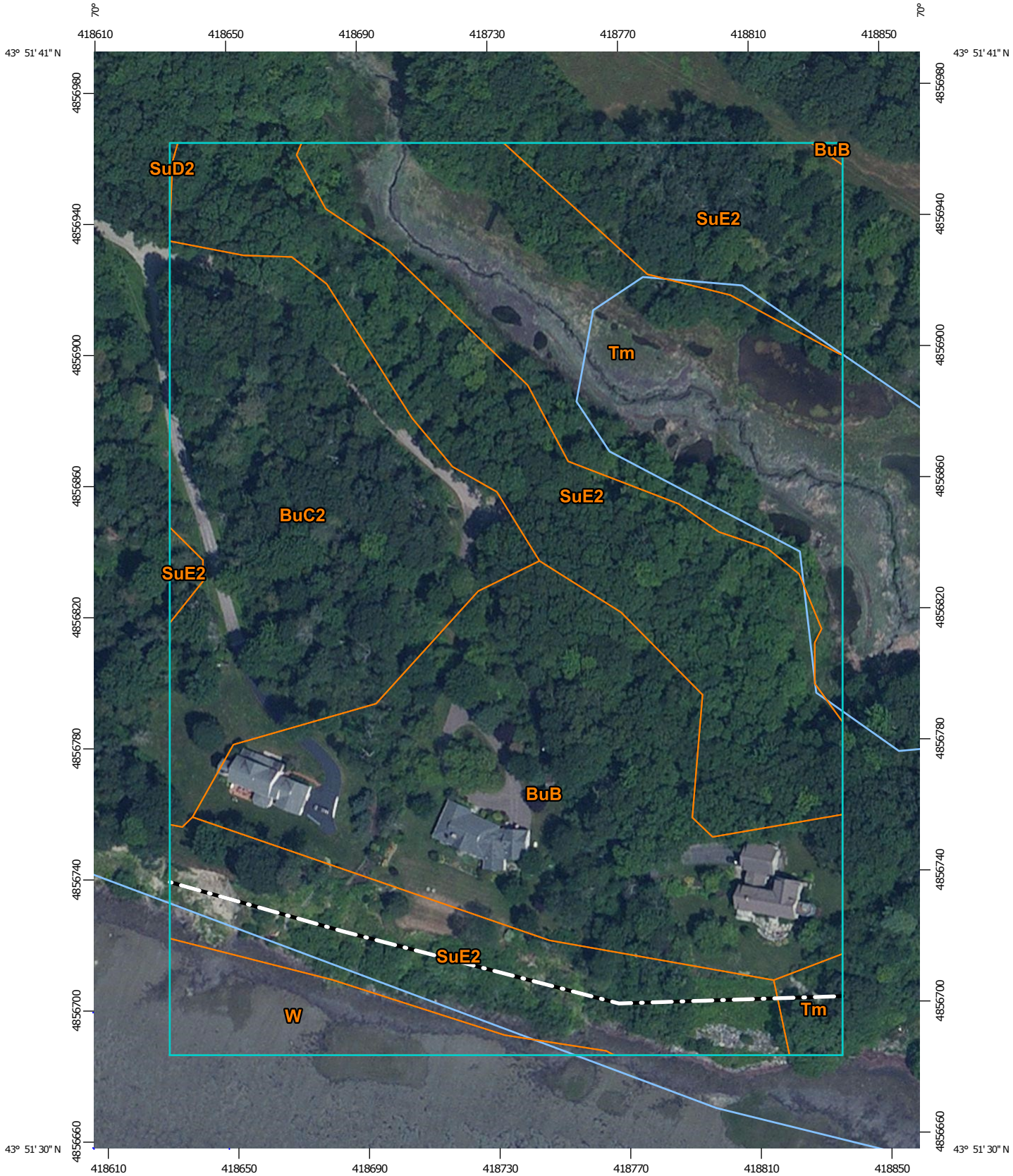
Attachment E
Soils & Geotechnical Information

One Karen Drive, Suite 2A | Westbrook, Maine 04092
phone 207.553.9898 | www.walsh-eng.com



Map Scale: 1:1,630 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 20 40 80 120

Feet
0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

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

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

Soil Survey Area: Cumberland County and Part of Oxford County, Maine
Survey Area Data: Version 11, Sep 17, 2015

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

Date(s) aerial images were photographed: Jun 20, 2010—Jul 18, 2010

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

Map Unit Legend

Cumberland County and Part of Oxford County, Maine (ME005)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
BuB	Buxton silt loam, 3 to 8 percent slopes	3.3	23.1%
BuC2	Buxton silt loam, 8 to 15 percent slopes, eroded	2.8	19.8%
SuD2	Suffield silt loam, 15 to 25 percent slopes, eroded	0.0	0.0%
SuE2	Suffield silt loam, 25 to 45 percent slopes, eroded	4.9	34.4%
Tm	Tidal marsh	2.6	18.5%
W	Water	0.6	4.1%
Totals for Area of Interest		**14.2**	**100.0%**

SUMMIT
GEOENGINEERING SERVICES

GEOTECHNICAL REPORT

SLOPE EVALUATION
12 BUNGANUC LANDING ROAD
BRUNSWICK, MAINE

Prepared for:

Steve Carey
12 Bunganuc Landing Road
Brunswick, Maine 04011

Prepared by:

Summit Geoengineering Services
Project #14180
June 2015

SUMMIT
GEOENGINEERING SERVICES

June 4, 2015
Summit #14180

Steve Carey
12 Bunganuc Landing Road
Brunswick, Maine 04011

Reference: Geotechnical Engineering Services
Slope Evaluation – 12 Bunganuc Landing Road Brunswick, Maine

Dear Mr. Carey;

We have completed our geotechnical investigation for the slope evaluation at 12 Bunganuc Landing Road in Brunswick, Maine. Our scope of services included performing subsurface explorations and preparing this report summarizing our findings and geotechnical evaluation.

1.0 Project Description

Summit Geoengineering Services (SGS) was asked to conduct a geotechnical investigation for recent landslide activity at 12 Bunganuc Landing Road in Brunswick, Maine. The slope is approximately 300 feet in length with a height of approximately 40 feet above tidal flats extending towards Maquoit Bay. We understand slope disturbance (slide activity) occurred at the site in August 2014.

We understand previous slide activity occurred for at a residence adjacent to the site in 1998. Slide activity occurred during stabilization construction being performed to reinforce the existing slope. Subsequent to the slide additional geotechnical studies were performed by Dames & Moore Group Company. Results of the geotechnical study are summarized in report 39489-001-5010 dated August 21, 1998 and have been made available to SGS.

The purpose of this investigation is to determine the cause of the slides at 12 Bunganuc Landing Road, to evaluate the potential for further slide activity, and to provide preliminary recommendations for stabilization as deemed appropriate based on the geotechnical findings.

2.0 Field Explorations

Summit Geoengineering Services (SGS) observed the subsurface conditions at the site with the drilling of 2 test borings and 3 cone penetration tests on May 6 and 7, 2015 using a rubber track mounted Power Probe 9500 VTR. Two test borings were conducted using a 3-inch diameter hand auger at the bottom of the slope on May 15, 2015. Vane shear testing was conducted within the hand borings performed to depths of 10 to 15 feet. Drilled test borings were advanced to depths of 40 to 50 feet using 3-inch direct push casing with SPT split spoon sampling, shelby tube sampling, and vane shear testing. Groundwater observation wells consisting of 1-inch diameter PVC were installed at borings B-1 and B-2.

Cone penetration tests were performed using a Vertek 5 ton digital cone pushed to a depth of 100 feet. Parameters obtained include cone resistance (q_c), sleeve friction (f_s), and piezocone pore pressure (u). Shear wave velocity (V_s) testing and dissipation testing were conducted for CPT-3.

The exploration locations are shown on the Exploration Location Plan in Appendix A. Photographs and logs of the explorations are provided in Appendix B.

3.0 Laboratory Testing

Three samples of the glacial marine deposits were tested in accordance with ASTM D4318 Atterberg Limits and ASTM D2475 One Dimensional Consolidation. Fifteen samples of the glacial marine deposits were tested in accordance with ASTM D2216 Moisture Content with results ranging from 21.0 to 38.3 percent. One sample of the glacial marine deposits was tested in accordance with ASTM D3080 Direct Shear. Results of the laboratory tests are in Appendix C. Summary of the laboratory tests are presented below:

LABORATORY TESTING SUMMARY TABLE			
Test Value	**UT-1 (20 ft)**	**UT-2 (30 ft)**	**UT-3 (40 ft)**
Moisture Content (MC)	35.2%	35.4%	32.3%
Liquid Limit (LL)	34	36	32
Plastic Index (PI)	14	13	12
Over Consolidation Ratio (OCR)	1.6	1.5	1.4
Drained Friction Angle (ϕ')	--	32.9°	--
Drained Cohesion (c')	--	288 psf	--

4.0 Site Geology

The site is located within Bunganuc bluff located on Maquoit Bay in Brunswick, Maine. Bunganuc bluff is approximately ½ mile in length with a height of approximately 40 feet above the tidal flats and a slope inclination of 25 to 35 degrees. Visual observation of the bluff suggests active slumping and localized landslide activity. Mapping by the Maine Geological Survey indicates the bluff is a "landslide site" with "highly unstable bluffs".

The soils at the site consist of glacial marine deposits referred to as Presumpscot Formation, commonly composed of silt, clay, and minor sand. Cone penetration tests performed at the site indicate the marine deposits are greater than 100 feet in depth. Mapping by the Maine Geological Survey indicates the bedrock underlying the site is part of the Cushing Formation consisting of quartz-plagioclase-biotite granofels. Bedrock outcrops are visible at the eastern edge of Bunganuc bluff.

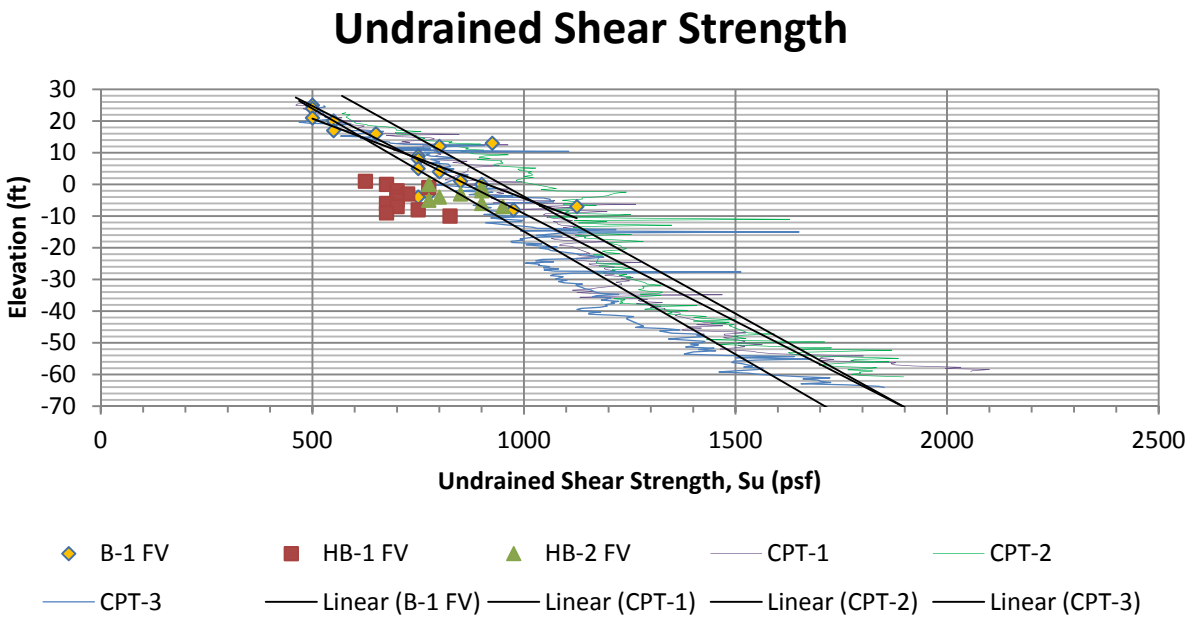
5.0 Subsurface Conditions

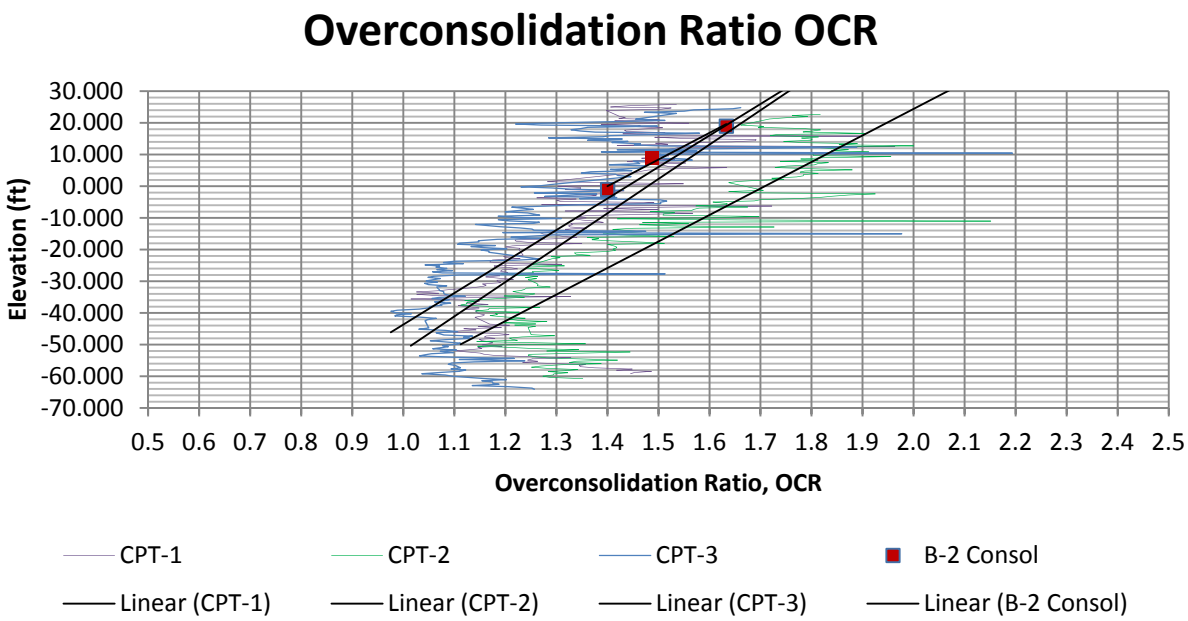
The subsurface conditions at the site consist of thin topsoil overlying glacial marine deposits (Presumpscot Formation) explored to a depth of 100 feet. The topsoil consists of 5 to 6 inches of dark brown silt with some organics and trace rootlets. The topsoil is visually classified as ML in accordance with the Unified Soil Classification System (USCS).

The upper glacial marine deposits (0 to 12 ft) consists olive brown to gray clayey silt to silty clay with fine sand seams and is classified as ML and CL in accordance with the Unified Soil Classification System (USCS). Uncorrected SPT-N values for the upper marine deposit ranged from 8 to 1 blow per foot (bpf) and averaged 4 bpf. Estimated overburden pressures and corrected SPT N-values indicate firm to soft conditions. Pocket penetrometer tests for approximate unconfined compression strength (q_u) from split spoon samples ranged from 4,000 to 1,000 psf and averaged 2,375 psf indicating firm to soft conditions. The upper glacial marine deposits are damp to moist becoming wet at a depth of 10 to 12 feet.

The lower glacial marine deposit consists of gray silty clay with trace fine sand and is classified as CL in accordance with the Unified Soil Classification System (USCS). The lower glacial marine deposits are considered soft to very soft and wet. The liquid limit ranges from 32 to 36, plasticity index ranges from 12 to 14, and moisture content ranges from 32.3 to 38.3 percent. Drained strength parameters obtained from laboratory shear testing indicate a peak friction angle (ϕ') of 32.9° at a cohesive intercept (c') of 288 psf.

Geotechnical properties of the lower glacial marine deposits for undrained shear strength (Su) were estimated from field vane shear tests conducted in test borings and from interpretation of cone penetration shear resistance using a correction factor N_{kt} of 16. Estimation of the over consolidation ratio was determined from results of the laboratory one dimensional consolidation tests and from interpretation of cone penetration test resistance using a correction factor k of 0.30. Graphic representation of the undrained shear strength (Su) and over consolidation ratio (OCR) are presented below:





Groundwater was measured at a depth range of 9.5 to 12.9 feet, elevations 26 to 31 feet, at groundwater observation wells installed at borings B-1 and B-2. Recharge of the groundwater is influenced by local runoff from rain and snowmelt. Seasonal perched groundwater is anticipated to be confined within the upper marine deposits and may fluctuate during wet periods. Lower portions of the marine deposits are likely influenced by permanent groundwater flow and tidal fluctuations at the toe of the slope.

6.0 Slope Stability Evaluation

Slope stability analysis was performed using Slide 6.0 for the existing bluff to evaluate global factor of safety. Parameters for our slope stability analysis were obtained from the exploration data, hydrologic data, and site topography available from lidar survey data provided by Walsh Engineering Associates, Inc. The results of the global stability analysis are included at the end of this report in Appendix D. The following parameters were used for our slope stability analysis:

- Stability analysis was performed for the existing slope conditions at inclination of 33° (1.5 horizontal to 1 vertical).
- Stability analysis was performed using the Bishop and Janbu methods for conventional circular (rotational) analysis.
- Subgrade material properties are based on laboratory and field investigation data.
- Stability analysis was performed to determine the critical hydrologic elevation between the mean, high, and low water level (groundwater and tidal) based on sensitivity analysis.
- Stability analysis was performed for both total stress (short-term) and effective stress (long-term) loading conditions.
- Stability analysis includes sensitivity analysis for material properties to evaluate the effects of tension cracks, soil creep, soil softening, and excess pore water pressure during rapid drawdown.
- Stability analysis includes sensitivity analysis using USGS peak ground acceleration mapping for predicted earthquake seismic activity in Brunswick.

Slope Stability Analysis Summary Table		
Analysis	**Method**	**Factor of Safety**
Effective Stress	Bishop Simplified	1.30
Effective Stress	Janbu Corrected	1.24
Total Stress	Bishop Simplified	1.15
Total Stess	Janbu Corrected	1.25

The factor of safety for the existing site conditions is estimated at 1.15 to 1.30 for rotational failure under steady state conditions for the embankment bluff. A factor of safety less than 1.0 is considered unstable (failure). This factor of safety is associated with slip plane curves located within the underlying glacial marine deposits. A slope with a factor of safety equal to or greater than 1.5 is generally considered safe for engineering design. Based on this the slope is considered to have a factor of safety below engineering design standards.

Slide 6.0 sensitivity analyses indicates the existing slope stability is greatly affected by the (drained) cohesion intercept of the lower glacial marine deposits for effective stress analysis, the (undrained) shear strength within the glacial marine deposits for total stress analysis, and the steepness of the embankment toe slopes. Sensitivity analysis suggests a small decrease of cohesion (drained) or shear strength (undrained) indicates a quick drop in factor of safety to near 1.0 representing failure. Conditions which can result in reduced cohesion (drained) or shear strength (undrained) include:

- Tension cracks from surface wetting/drying
- Soil creep due to increased global toe erosion
- Localized softening where soil is exposed due to previous slumping and erosion
- Excess pore water pressure during rapid drawdown (tidal ebb and flow)
- Soil scour due to tidal hydraulic conditions and fluctuations

These conditions typically occur close to the embankment surface, as observed by the presence of widespread slumping along the face of Bunganuc bluff. Visual observation of the embankment toe indicates significant soil erosion during tidal ebb and flow. Increase in frequency of storm events and the loss of slope vegetation (where slumping has occurred) will contribute to increasing the rate of toe erosion.

The peak horizontal ground acceleration for Brunswick is mapped as 0.12 by the United States Geological Survey (USGS). Slope stability analysis during earthquake indicates a drop in factor of safety to 1.0 occurs slightly below this peak ground acceleration value. Based on this, it is possible for local slumping or landslide activity to be triggered by larger earthquake activity.

In summary, results of the slope stability analysis indicate that the existing embankment where approaching inclination of 33° generates a low factor of safety. While the static factor of safety against landslide activity is estimated at 1.15 to 1.30, which is above a failure value of 1.0, it is still considered below engineering design standards. Small fluctuation in cohesion (drained) or shear strength (undrained) can influence this factor of safety. Larger earthquake activity may also trigger slide activity. Slope reinforcement should be considered to improve the embankment factor of safety against landslide activity.

7.0 Geotechnical Recommendations

To prevent further slumping and potential landslide, slope stabilization is recommended. Options for slope stabilization include Riprap Reinforcement (buttress) and Pile Reinforcement (sheetpile). Preliminary cross sections for design of the riprap reinforcement and pile reinforcement are provided in Appendix E.

Due to the sensitivity of the glacial marine deposit, excavation within the existing embankment should be minimized to prevent triggering slide activity. We understand previous slide activity occurred for an adjacent residence in 1998 while stabilization construction was being performed. Slope stability analysis suggests slope failure would occur when remolded strength values are introduced through construction disturbance. For this reason significant slope re-grading is not recommended since it would require significant excavation within the existing embankment.

Riprap Reinforcement (Buttress)

Riprap reinforcement would include the placement of angular (quarried) rock having a blended gradation ranging from approximately 6 to 18 inches in diameter (D_{50} = 12 inches). Riprap would be placed along the toe of the existing embankment with a heel elevation of approximately 5 feet. Riprap would extend upward along the face of the existing slope to elevation 12 feet (present 100 year flood) or 19 feet (anticipated 100 year flood). Riprap would extend outward into the tidal flat from elevation 5 feet to elevation 2 feet for a width of 10 to 20 feet. The length of shoreline (site) for stabilization is approximately 350 feet. Riprap would be underlain by geotextile filter fabric and/or a soil filter (gravel or similar) to minimize the effects of soil erosion. Preliminary details for riprap stabilization are provided in Appendix E.

The advantages to riprap stabilization include ease of construction using standard excavation equipment, versatility in placement, and protection of the shoreline against wave actions. The disadvantage in using riprap alone is the higher quantity needed to sufficiently create a buttress wedge to resist the sliding forces of the slope against possible landslide activity. Resistance to landslide is created by the total weight of the riprap and geometry of the riprap placement.

Modifications to the riprap design might include the use of pocket planting vegetation where slopes are flat enough to permit its use. A combination of riprap, granular fill, and geosynthetics can also be considered to create suitable buttress reinforcement. It is recommended that a design plan be prepared by a professional engineer to evaluate the effectiveness and cost value associated with buttress reinforcement.

Pile Reinforcement (Sheetpile)

Pile reinforcement would include the installation of driven sheetpile (steel or composite) along the toe of the embankment at an elevation of approximately 5 feet. Sheetpile would be driven to a depth of approximately 40 feet or as deemed sufficient to resist buckling against anticipated sliding forces imposed by the embankment. Riprap would be placed along the slope up to elevation 12 feet (present 100 year flood) or 19 feet (anticipated 100 year flood). Riprap would be underlain by geotextile filter fabric and/or a soil filter (gravel or similar) to minimize the effects of soil erosion. Preliminary details for pile stabilization are provided in Appendix E.

The advantages to pile reinforcement include a smaller disturbance footprint and protection from erosion provided by both the sheetpiles and riprap facing. The disadvantages to using pile reinforcement include the need for special installation equipment and higher material costs. Resistance to landslide is created by the combination of the shear strength of the sheetpiles and the weight of the riprap facing.

Modifications to the pile design might include the use of driven timber, concrete, or steel piles at sufficient spacing to reinforce the slope against slide activity. A combination of piles, tiebacks, cribbing, riprap, granular fill, and geosynthetics can also be considered to create suitable pile reinforcement. It is recommended that a design plan be prepared by a professional engineer to evaluate the effectiveness and cost value associated with pile reinforcement.

Slope Monitoring

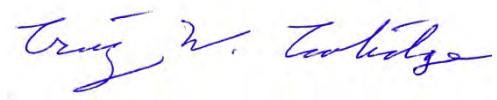
Slope monitoring should be considered for the embankment to evaluate the magnitude of movements and potential for slope failure during construction. Recommended slope monitoring would include installation and monitoring of slope inclinometers to measure slope lateral deflections. Visual inspection or survey surface point monitoring of erosion and slumping activity should also be performed to determine if significant changes in slope geometry occur which might destabilize or create potential for landslide activity. A geotechnical engineer should perform the slope monitoring during construction.

8.0 Closure

This report has been prepared for the evaluation of the landslide activity at 12 Bunganuc Landing Road in Brunswick, Maine. Our evaluation is based on professional judgment and generally accepted principles of geotechnical engineering. No other warranty is expressed or implied. Analyses and evaluations include project information provided by others. Some changes in subsurface conditions from those presented in this report may occur and would not be evident until construction. Should subsurface conditions or project information differ materially from those described in this report, Summit should be notified so that we can re-evaluate our findings and recommendations.

We appreciate the opportunity to serve you during this phase of your project. If there are any questions or additional information is required, please do not hesitate to call.

Sincerely yours,
Summit Geoengineering Services



Craig W. Coolidge, P.E.
Vice President
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WALSH
ENGINEERING ASSOCIATES, INC.

Attachment F
Jones Associates Functional Assessment

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JONES ASSOCIATES

Foresters, Surveyors and Environmental Consultants

WETLAND FUNCTIONAL ASSESSMENT

Carey Property

12 Bunganuc Landing Road

Brunswick, Maine

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JAI# 15-034BR
February 2016

FUNCTIONAL ASSESSMENT OF IMPACTED WETLANDS

INTRODUCTION

This report analyses functions and values of an intertidal mudflat associated with the proposed armament of a failing slope off the Bunganuc Landing Road in Brunswick, Maine. Functions and Values of wetlands within the project area were evaluated by Jones Associates Inc. Jones Associates Inc. also evaluated the project area for freshwater wetlands. Identification and delineation was completed in accordance with US Army Corps of Engineers (ACOE) *1987 Wetland Delineation Manual*. No freshwater wetlands were delineated.

The information below will be used to assess changes in the area's pre-alteration functioning and will serve as a guide for the purposes of wetland impact compensation work. All wetland habitats within the study area were evaluated using an adaptation of the ACOE *Highway Methodology Workbook for Wetland Functions and Values; A Descriptive Approach.*

The "Descriptive Approach" to wetland functions and values is twofold and incorporates both wetland science and human judgment of values. The evaluator first determines if particular functions and values are present and why, followed by a determination of what functions and values are principal and why. Functions and values can be principal if they are an important physical component of a wetland ecosystem (function only), and/or are considered of special value to society, from a local, regional, and/or national perspective.

Wetland functions are self-sustaining properties of a wetlands ecosystem that exist in the absence of society. Functions result from both biotic and abiotic components of specific wetlands and include all processes necessary for the self-maintenance of the wetlands ecosystem, such as primary production and nutrient cycling. Functions relate to the ecological significance of wetland properties without regard to subjective human values. Wetland values are benefits to society that derive from one or more wetland functions.

The 13 functions and values that are considered by the Regulatory Division for any Section 404-wetland permit are listed below and are adapted for this report:

1. Ground Water Recharge/Discharge
2. Floodflow Alteration
3. Fish & Shellfish Habitat
4. Sediment/Toxicant/Pathogen Retention
5. Nutrient Removal/Retention/Transformation
6. Production Export
7. Sediment/Shoreline Stabilization
8. Wildlife Habitat
9. Recreation
10. Educational/Scientific Value
11. Uniqueness/Heritage
12. Visual Quality/Aesthetics
13. Threatened or Endangered Species Habitat

WETLAND DESCRIPTION

Observations of the intertidal mudflat were conducted at a landscape level as well as a more narrow scope, focusing on the area of mudflat proposed to be disturbed. Maquoit Bay is a sub-embayment of Casco Bay; an inlet Gulf of Maine of the Atlantic Ocean. The focus area for the proposed project is located in the northern portion of Maquoit Bay near the outlet of Bunganuc Creek. Exposure of the project area is restricted to Maquoit Bay and has no direct exposure to the Gulf of Maine. The intertidal mudflat within the project area is adjacent to sparsely vegetated area of saltwater cord grass (*Spartina Alterniflora)*, with no aquatic vegetation observed within the project area.

The area proposed to be disturbed is small in size and is located immediately adjacent to the failing shoreline. Using Cowardin's definition this area it is considered a M2US3 (M-Marine, 2-Intertidal, US-Unconsolidated Shore, 3-Mud). Erosion potential for the mudflat is low; however, daily sediment transportation occurs with natural ebb and flow. Other areas of sediment transportation come from groundwater discharge sites at the toe of the adjacent bank. These areas are not significant and only contribute to small linear depressions observed during low tide. Recent and historical disturbances to the project area are from the failing bank. Little to no evidence is present of any recent man made disturbance to the project area. The terrestrial vegetation within the project area is comprised of scrub shrubs, grasses, and small trees. No large vegetation can become established within the project area as the soils and slope are too unstable to support larger vegetation.

Existing literature was evaluated prior to the field investigation to identify wildlife-habitat relationships within and around the proposed project area. During the field study, evidence of animal activity (i.e., animal dens, birds' nest, animal tracks, and droppings/scat) and species observed in the field was correlated with information from the office-based research. Wildlife values that were considered in this assessment include important foraging habitats, nesting or denning areas, escape cover from predators, and seasonal food sources.

Maquoit Bay and Middle Bay are "Focus Areas of Statewide Ecological Significance" as determined by a collaborative program of federal, state and local agencies and non-governmental

organizations. Known rare and significant plants and animals exist within the "Focus Area" and include; bald eagle, saltmarsh sharp-tailed sparrow, wild leak. Special attention was given to identify any areas within the proposed project area that may exhibit signs of habitat or presence of those species. Field investigations also included subsurface observations of marine life habitat for presence or absence.

Overall, the functional values of intertidal mudflats are high and therefore are an important factor in the food web. Intertidal mudflats support fish habitat as well as subsistence and passive recreation; however, it does not perform water quality functions well.

EVALUATION OF WETLAND FUNCTIONS

Groundwater Recharge/Discharge: This function considers the potential for a wetland to serve as a groundwater recharge/discharge area. Based on observations made during the field investigation it appears the mudflats within the project area do not support groundwater recharge or discharge. Though some ground water discharge was observed on the slope and small flows were observed across the project area. Groundwater recharge/discharge thus is not a principal function of that portion of the wetland associated with the proposed disturbance.

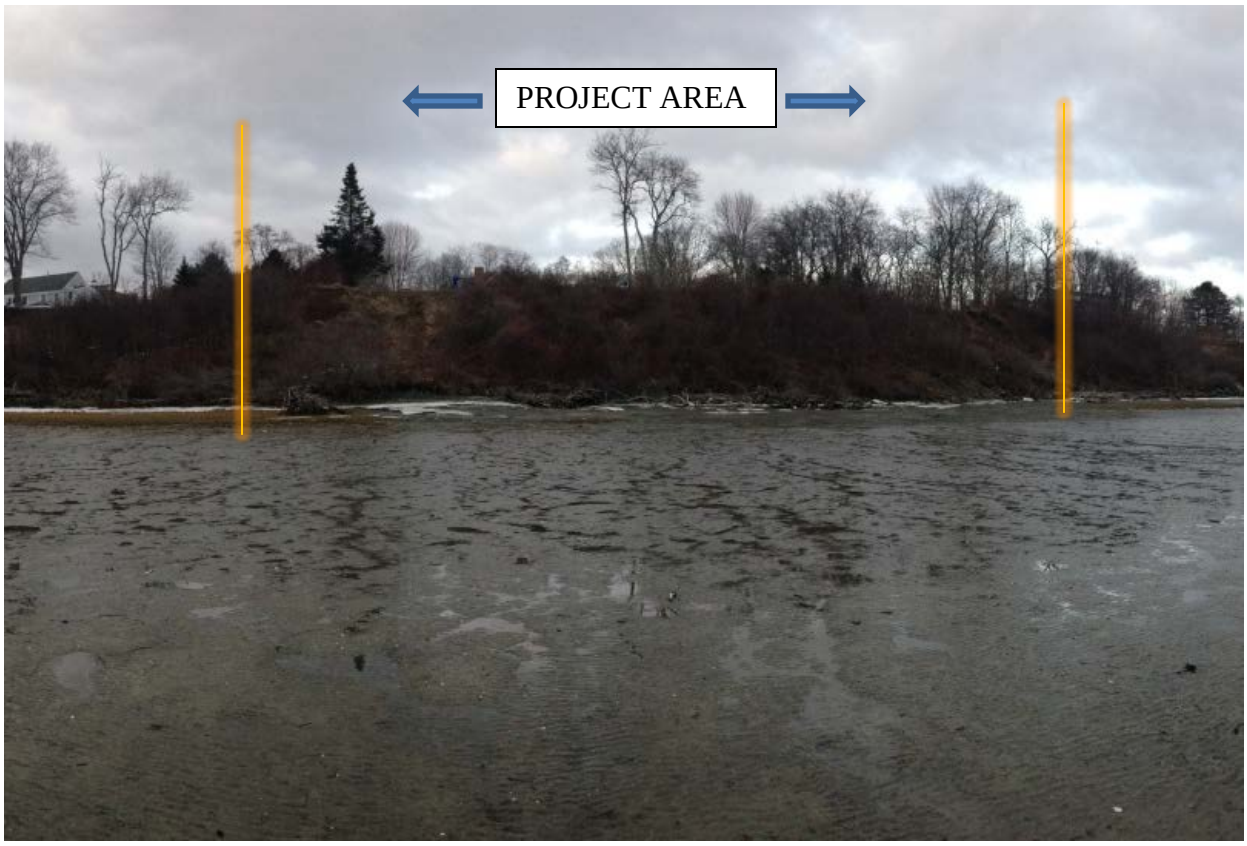


Photo Taken By: Rick Jones Date:01/13/2016

Photo shows eroding bank, mudflat, and adjacent properties. The mudflats are not a suspected groundwater discharge or recharge site.

Floodflow Alteration: This function considers the effectiveness of the wetland in reducing flood damage by water retention for prolonged periods following precipitation events. Due to the ebb and flow nature of the wetland it is suspected that there is little to no flood flow alteration conducted by the wetland. The mudflat is a temporary flood water storage and detention area. However, the natural ebb and flow of the area can reverse the storage potential and can contribute to flooding. The project area contains a high bank that is at little risk to flooding. However, during extreme high tides and storm surges, the bank experiences higher than normal buffeting from the ocean exacerbating the ongoing erosion causing sediment to enter the wetland. Floodflow alteration thus is not a principal function of that portion of the wetland associated with the proposed disturbance.

Photo Taken By: Mike Hartman Date:09/09/2015

Photo Shows: Eroding bank only capable of supporting small woody and herbaceous vegetation from excessive slope failure.

Fish and Shellfish Habitat: This function considers the effectiveness of seasonal watercourses or permanent waterbodies associated with the wetland in question for fish and shellfish habitat. This wetland is part of a larger mudflat and is located relatively near the outlet of Bunganuc Stream, which contains fish habitat. The wetland within and immediately adjacent to the proposed project area contains shellfish and marine worm habitat. During high tide the area is used by fish species for feeding. During site visits exoskeletons of horseshoe crab were observed and are theorized to be just the molted exoskeleton washed ashore during high tide as many were located at or very near to the wrack line. Field studies included test trenches determining the presence and absence of shellfish and marine worms within the proposed project area and the surrounding wetland. Findings concluded that shellfish are present within the proposed project area as well as within the surrounding area. It is not determined to be a significant resource for either shellfish or marine worms as the area proposed to be impacted is small and would not adversely affect the area in the long term. Fish and shellfish habitat is a principle function of this wetland.

A sub surface analysis for the presence or absence of marine clams and marine worms was conducted. The sampling was made in a total of 8 separate trenches with an average depth of 6-8 inches were located within and adjacent to the project area. Findings of these samplings are found below:

Sample Trench	**Clams Found**	**Marine Worms Found**	**Dimensions**
1	0	1	L24'xW14"
2	2	0	L17'xW14"
3	0	0	L14'xW14"
4	6	0	L16'xW14"
5	6	0	L14'xW14"
6	1	1	L16'xW14"
7	2	2	L17'xW14"
8	1	2	L19'xW14"

Soil borings were taken at random intervals inside and outside of the project area. These borings are used to determine organic material presence deposited within the mudflat from the adjacent failing bank. Findings of these borings are found below:

Boring	**0-6”**	**6-12”**	**12-18”**	**18-24”**
1	Clay/Silt with lite organics (0-25%) mixed	Clay/Silt	Clay	Clay
2	Clay/Silt with lite organics (0-25%) mixed	Clay/Silt	Clay	Clay
3	Clay/Silt with lite organics (0-25%) mixed	Clay/Silt	Clay	Clay
4	Clay/Silt with moderate organics (25-50%) mixed	Clay/Silt	Clay	Clay
5	Clay/Silt with moderate organics (25-50%) mixed	Clay/Silt	Clay	Clay
6	Clay/Silt with moderate organics (25-50%) mixed	Clay/Silt	Clay	Clay
7	Clay with thick organic layer @ 2”	Clay/Silt	Clay	Clay
8	Clay/Silt with moderate organics (25-50%) mixed	Clay/Silt	Clay	Clay
9	Clay/Silt	Clay/Silt with lite organics (0-25%) mixed	Clay with a layer of organic @18”	Clay
10	Clay/Silt with moderate organics (25-50%) mixed	Clay	Clay	Clay

Photo Taken By: Garin M. Peck Date:02/08/2016

Photo shows Trench dug during field investigation for the presence or absence of shellfish and marine worms.

Sediment/Toxicant/Pathogen Retention: This function reduces or prevents degradation of water quality. It relates to the effectiveness of the wetland as a trap for sediment, toxicants, or pathogens in runoff from surrounding uplands, or upstream eroding wetland areas. A mudflat can be defined as coastal wetlands within sheltered intertidal zone consisting of inorganic particles and organic particles covered during high tide and exposed during low tide. This muddy bottom is formed by deposits of sediment from tides and or rives. Small patches of marine grasses form where enough organic material concentrates for these species to become established. As a whole the mudflat is a vast area functioning as a sediment/toxicant/pathogen retention zone. Sediment/Toxicant/Pathogen Retention is a principal function of this wetland.

Photo Taken By: Rick Jones Date:01/08/2016

Photo shows the mudflat with marine grasses Aquatic vegetation and mucky bottom provide and area of sediment, toxicants, or pathogens retention.

Nutrient Removal/Retention/Transformation: This function considers the effectiveness of the wetland as a trap for nutrients in runoff water from surrounding uplands or contiguous wetlands, and the ability of the wetland to process these nutrients into other forms or trophic levels. This wetland has some ability at retaining and processing any excess nutrients that enter the wetland from adjacent upland runoff. The potential impacted wetland area is located adjacent to development to the north. While the wetland as a whole has great value for nutrient removal, retention, and transformation the potential impacted wetland area does not. This is due to its relative location to the developed area, small size, and lack of significant source of upslope runoff. Nutrient removal, retention, and/or transformation are not a principle function of this wetland.

Photo Taken By: Mike Hartman Date:09/09/2015

Photo shows the adjacent upland, the proposed wetland impact area, and part of the whole mudflat. The effectiveness of the potential area of wetland impact in Nutrient Removal/Retention/Transformation is negligible compared to the rest of the mudflat.

Production Export: This function evaluates the effectiveness of the wetland to produce food or usable products for man or other living organisms. Food sources within this wetland range from small macro invertebrates, to worms, to shellfish consumed by man. Access by man is very limited in this area and shellfish export is almost entirely limited to other higher trophic level consumers. Detritus from the failing bank is found in layers and mixed throughout areas of the proposed project area as well as in other parts of the surrounding mudflat. Production export is a principal function of this wetland. However, the failing bank is deteriorating the fertility of the project area and surrounding mudflat.

Sediment/Shoreline Stabilization: This function considers the effectiveness of a wetland to stabilize stream banks and shorelines against erosion. The potential impacted wetland area is not providing any protection to the shoreline and is actively contributing to the degradation of upslope banks. Sample borings were taken at random intervals throughout the project area and the surrounding mudflat. Findings of these borings indicated periodic layering of organic

material from the surrounding upland. This is caused by large amounts of upland soils being eroded and deposited into the mudflat. Field observations indicated that marine life was not found in areas of higher concentrations of organic soils. Sediment/Shoreline Stabilization is not a principal function of the wetland.

Photo Taken By: Garin M. Peck Date:10/06/2015

Photo shows erosion at top of bank. Armament is necessary to provide protection to the bank and to prevent sedimentation from entering the mudflat.

Wildlife Habitat: This function considers the effectiveness of the wetland to provide habitat for various types and populations of animals typically associated with a wetland and/or the wetland edge. The proposed area of wetland impact is providing wildlife habitat on a small scale. The upland bank and proposed impact area provides limited wildlife habitat with primarily usage from avian species. Wildlife habitat is a minor function of this wetland.

Recreation: This value considers the suitability of the wetland and associated watercourses to provide recreational opportunities. The proposed impact area is small in size and provides minimal recreational opportunity. As a whole the mudflat provides a great number of opportunities from boating to fishing to clamming and worming. Access limitations makes

recreation limited for the general public. Recreation is not a function of the proposed impact area and will not be impacted by this project.

Educational/Scientific Value: This value considers the suitability of the wetland as a site for an "outdoor classroom" or as a location for scientific study or research. Due to the limited access, Education/Scientific value is not a primary function of this wetland.

Uniqueness/Heritage: This value considers the effectiveness of the wetland or associated waterbodies to provide certain special values. The potential wetland impact area has little to no unique value. Surrounding areas are nearly identical. This project will preserve and enhance those functions.

Visual Quality/Aesthetics: This value considers the visual and aesthetic quality or usefulness of the wetland. The potential area of wetland impact is small and does not contain significant high value visual quality. However, the entire mudflat does provide scenic beauty. This will not be significantly impacted by the proposed project, and will be enhanced by the project. Any armament added to the bank, will in time, meld into the surrounding landscape and provide preservation to the bank and wetland. Particularly if plantings are incorporated in the revetment. Visual Quality/Aesthetics value is low for the potential wetland impact area.

Endangered Species: Endangered or threatened plant and wildlife species are not known to occur within the project area. The wetlands and uplands on this property were dominated by plant communities typical of this region of Maine.

CONCLUSION:

This wetland contains a number of functions and values which are enhanced by its proximity to Maquoit Bay and associated mudflat. Functions that occur in the potential area of wetland impact include Fish and Shellfish Habitat, Sediment/Toxicant Retention, Nutrient Removal, Production Export, Wildlife Habitat, Recreation, and Visual Quality Aesthetics. The

principle functions of the potential area of wetland disturbance are fish and shellfish habitat and sediment/toxicant retention. With nutrient removal, production export, and wildlife habitat being recognized, but to a lesser degree. Overall, Maquoit Bay and associated mudflat provide the area with a majority of the 13 functions and values evaluated, with many being principle functions. However, the proposed wetland impact area is small in size and provides a comparatively limited area for these functions and values. The armament of the failing bank does not pose a significant risk to the degradation of the surrounding wetlands functions and values.

Wetland Function-Value Evaluation Form

Total area of wetland ?_____ Human made? No Is wetland part of a wildlife corridor? _Y__ or a "habitat island"? No

Adjacent land use Developed Distance to nearest roadway or other development Adjacent

Dominant wetland systems present M2US3 Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? Bottom

How many tributaries contribute to the wetland? N/A Wildlife & vegetation diversity/abundance (see attached list)

Wetland **I.D.** **Bunganuc-Carey**

Latitude 43°51'N Longitude 70°0'W

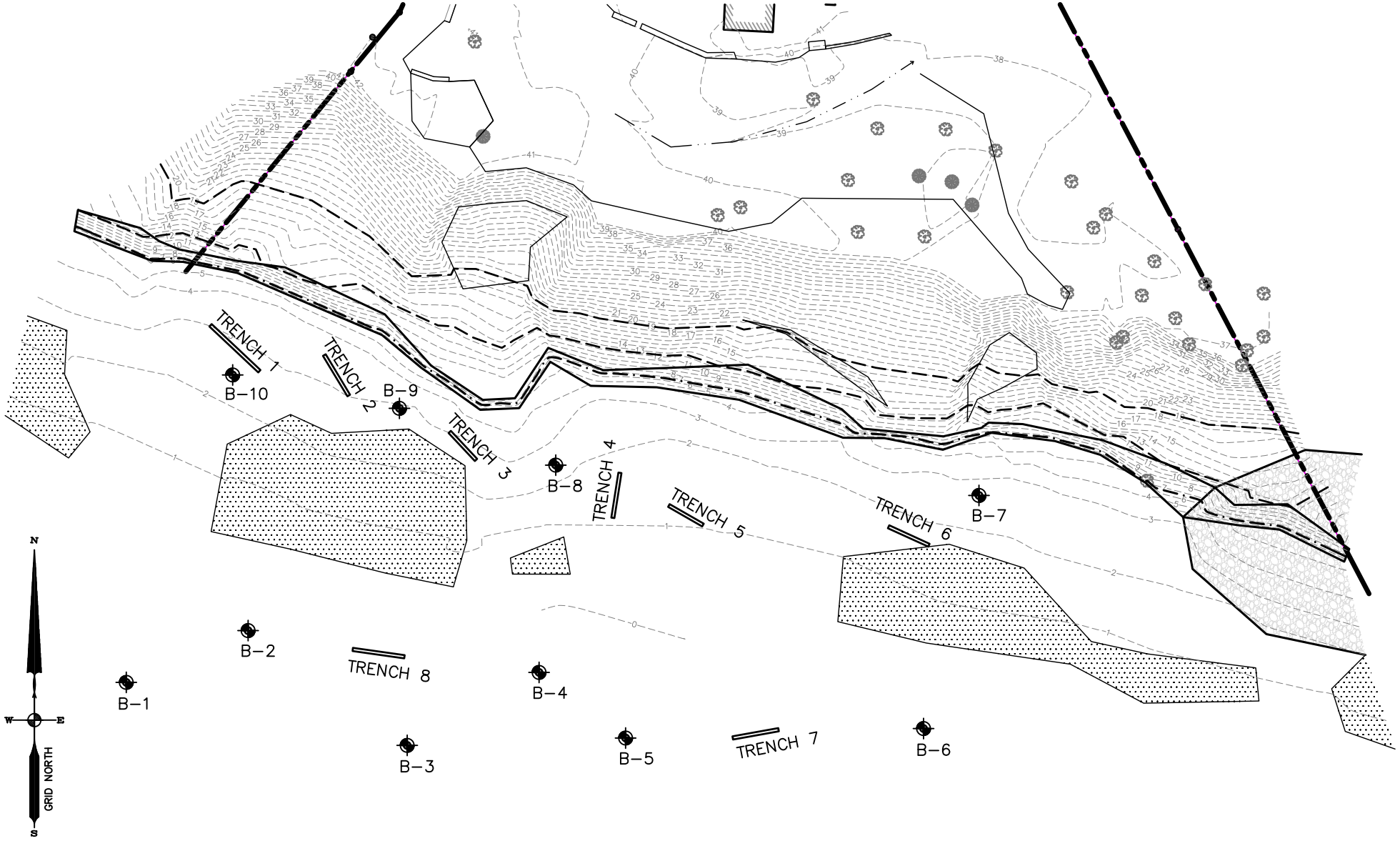
Prepared by**: GMP** Date: 02/08/2016

Wetland **Impact:** Type: M2US3 Area: +/- S.F.

Evaluation based on: Office: X Field: X

Corps manual wetland delineation completed? YES

Function / Value	Y	N	Occurrence Rationale (Reference #)*	Principal Function	Comments
Groundwater Recharge/Discharge		X	4,5,13,15		No Discharge or recharge sites found within the wetland. Surrounding upland has discharge into the wetland. The natural ebb and flow of the wetland do not allow for recharge or discharge.
Floodflow Alteration		X	3,5,6,7,8,9,10,11,12,13		The wetland is part of the intertidal zone and during low tide can aid in storage of vast quantities of flood water.
Fish and Shellfish Habitat (Marine)	Y		1,3,4,5	Y	The mudflat as a whole contains valuable shellfish and fish habitat. However, the small size of the project area contains minimal value as habitat to the whole area.
Sediment/Toxicant Retention			1,3,4,8,9,14	Y	The mudflat is made by sediment retention and can also retain toxicants. Detritus from adjacent uplands can be found mixed within the mud.
Nutrient Removal	Y		3,4,5,6,10		Function is minimal due to relative size of potential area of wetland disturbance
Production Export	Y		1,2,3,4,5,6,13		Function is minimal due to relative size of potential area of wetland disturbance. The majority of this function is present outside of the project area.
Sediment/Shoreline Stabilization	Y		1,3,7,11		Function is minimal due to relative size of potential area of wetland disturbance. This project will maintain and improve the immediate bank stabilization.
Wildlife Habitat	Y		3,5,6,8,10,16,17,18,21		Function is minimal due to relative size of potential area of wetland disturbance. The majority of this function is present outside of the project area.
Recreation	Y		2,3,5,7,8		Recreation is limited by public access
Educational Scientific Value		X	5,10,14		Site is not suitable as outdoor classroom as access is limited
Uniqueness/Heritage	Y		2,6,13,14,16,17,19,24,27		Function is minimal due to relative size of potential area of wetland disturbance. The majority of this function is present outside of the project area..
Visual Quality/Aesthetics	Y		1,2,7,8,10,12		Function is minimal due to relative size of potential area of wetland disturbance. The majority of this function is present outside of the project area.
ES Endangered Species Habitat	Y		2		Habitat is present for threatened or endangered species. However, area in question is very small and contains little value to those species.
Other					



GRAPHIC SCALE

0 25 50 100

1 inch = 50 ft.

PLAN TITLE:

CAREY SKETCH

12 BUNGANUC LANDING ROAD
BRUNSWICK, MAINE

PREPARED BY:

JONES ASSOCIATES INC.
Foresters, Surveyors And
Environmental Consultants

280 POLAND SPRING ROAD, AUBURN, MAINE 04210
(207) 241-0235

PLAN DATE:
FEBRUARY 18, 2016

FIELD WORK DATE:
FEBRUARY 8, 2016

SCALE: 1"=50'

PROJ. #: 15-034BR

WALSH
ENGINEERING ASSOCIATES, INC.

Attachment G
Financial and Technical Capacity

One Karen Drive, Suite 2A | Westbrook, Maine 04092
phone 207.553.9898 | www.walsh-eng.com

WALSH
ENGINEERING ASSOCIATES, INC.

Financial Capacity

The applicant has the capacity to obtain the necessary financing for the project. We request that as a condition of approval a letter of financial capacity will be provided to the town prior to beginning work. The estimated construction cost for the project is approximately $275,000.

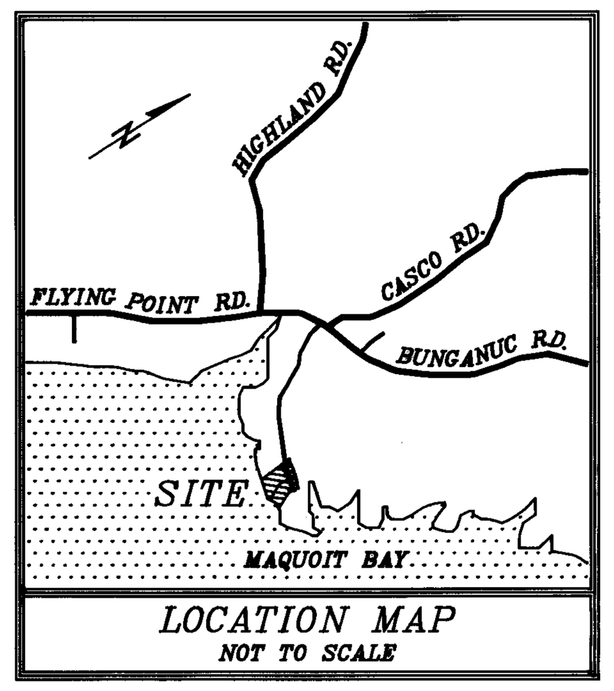
Technical Capacity

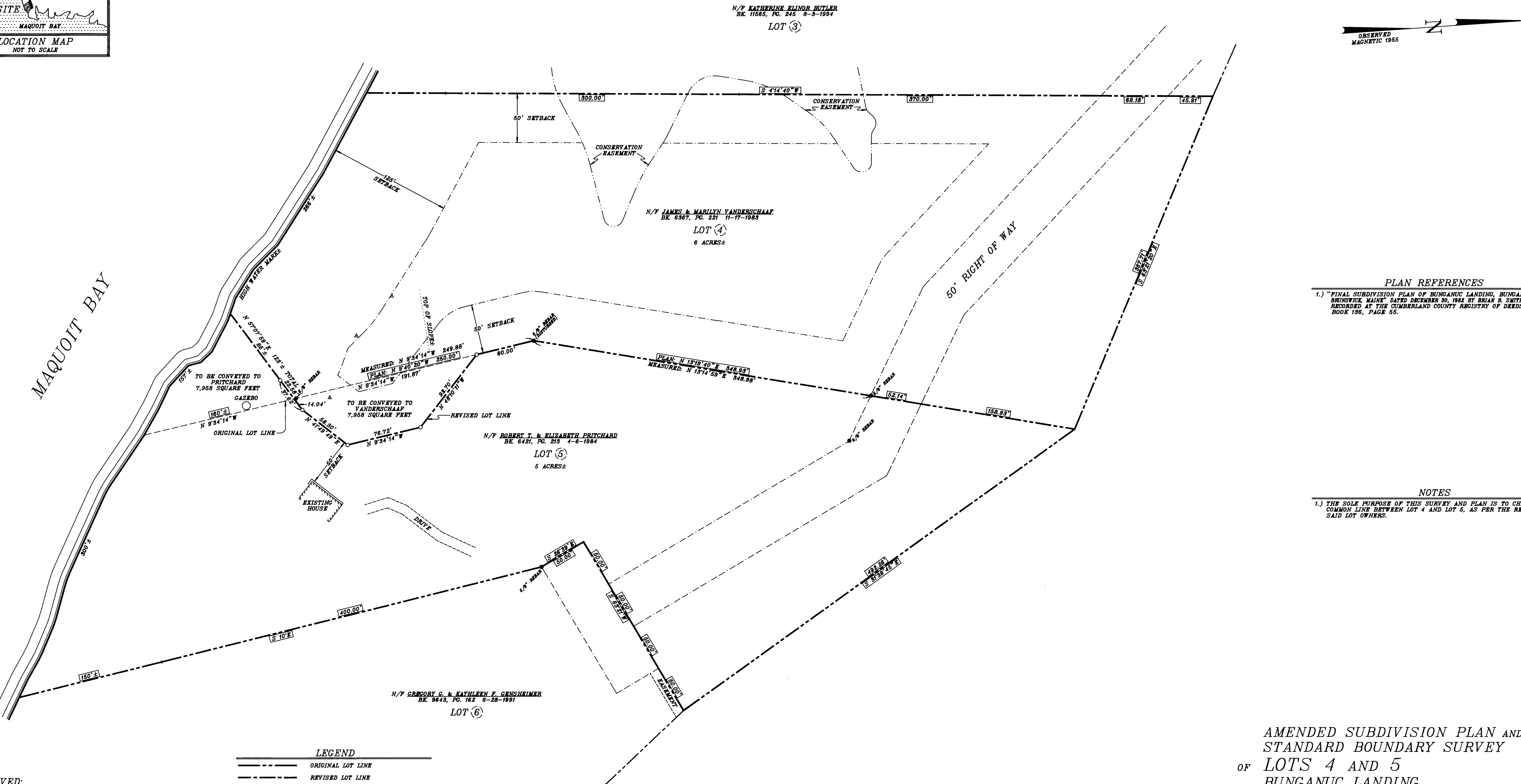
The Applicant has assembled a team of qualified professionals for the design and permitting of the project. Each team member has extensive experience in the design and permitting of project in Portland and throughout the State of Maine. The consultant team consists of the following members:

Civil Engineer:	William R. Walsh, III, PE #8204 Walsh Engineering Associates, Inc. 1 Karen Drive, Suite 2A Westbrook, Maine 04092 207-553-9898 norm@walsh-eng.com
Surveyor:	Michael A. Hartman, PLS #2433
Wetlands:	Rick Jones, Jones Associates, Inc. 280 Poland Spring Road Auburn, Maine 04210 207-998-5242
Geotechnical:	Craig Coolidge, PE #11569 Summit Geoengineering Services 145 Lisbon Street Lewiston, Maine 04243 207-576-3313

5 Boundary Survey

A copy of the approved original subdivision and amended subdivision (lot line reconfiguration) approved by the Planning Board is Section 7.





PLAN REFERENCES

1.) "FINAL SUBDIVISION PLAN OF BUNGANUC LANDING, BUNGANUC ROAD, BRUNSWICK, MAINE" DATED DECEMBER 30, 1982 BY BRIAN B. SMITH, L.S. #1175 RECORDED AT THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN PLAN BOOK 136, PAGE 55.

NOTES

1.) THE SOLE PURPOSE OF THIS SURVEY AND PLAN IS TO CHANGE THE COMMON LINE BETWEEN LOT 4 AND LOT 5, AS PER THE REQUEST OF SAID LOT OWNERS.

APPROVED:
BRUNSWICK STAFF REVIEW COMMITTEE

Philip J. Carey 3/2/95
DATE
John A. Foster
Clark Lobb
Robert G. Grupp
Alan J. Houston

LEGEND

- ORIGINAL LOT LINE
- REVISED LOT LINE
- BUILDING SETBACK LINE
- RIGHT OF WAY LINE
- ● PIPE OR PIN FOUND
- IRS ○ 5/8" REBAR SET CAPPED AND MARKED B. SMITH - JOHNSON #2079
- △ APPROXIMATE 125' SETBACK FLAGGED BY TOWN OF BRUNSWICK CODES ENFORCEMENT OFFICER & GEOLOGIST
- N/F NOW OR FORMERLY
- S 26°39'E 50.00' PLAN BEARING & DISTANCE (SEE PLAN REFERENCE 1)

RECORDING INFORMATION
STATE OF MAINE, CUMBERLAND
COUNTY REGISTRY OF DEEDS
RECEIVED: March 2, 1995
RECORDED IN BK 195 PG 51 Time 12:20 P.M
ATTEST: John B. O'Brien
REGISTRAR

50 25 0 50 100 150
SCALE IN FEET

CERTIFICATION
TO THE BEST OF MY KNOWLEDGE THIS SURVEY CONFORMS TO THE MAINE BOARD OF REGISTRATION FOR LAND SURVEYOR STANDARDS FOR CATEGORY I CONDITION III WITH THE FOLLOWING EXCEPTIONS:

1.) NO REPORT

SEAL

Douglas A. Johnson
DOUGLAS A. JOHNSON P.L.S. #2079

AMENDED SUBDIVISION PLAN AND STANDARD BOUNDARY SURVEY OF LOTS 4 AND 5
BUNGANUC LANDING
BUNGANUC ROAD, BRUNSWICK, MAINE

SCALE: 1"=50' DATE: JANUARY 30, 1995

FOR JAMES VANDERSCHAAF
BY BRIAN SMITH SURVEYING, INC.
R.R. #1, BOX 2121, BOWDOINHAM, MAINE 04008

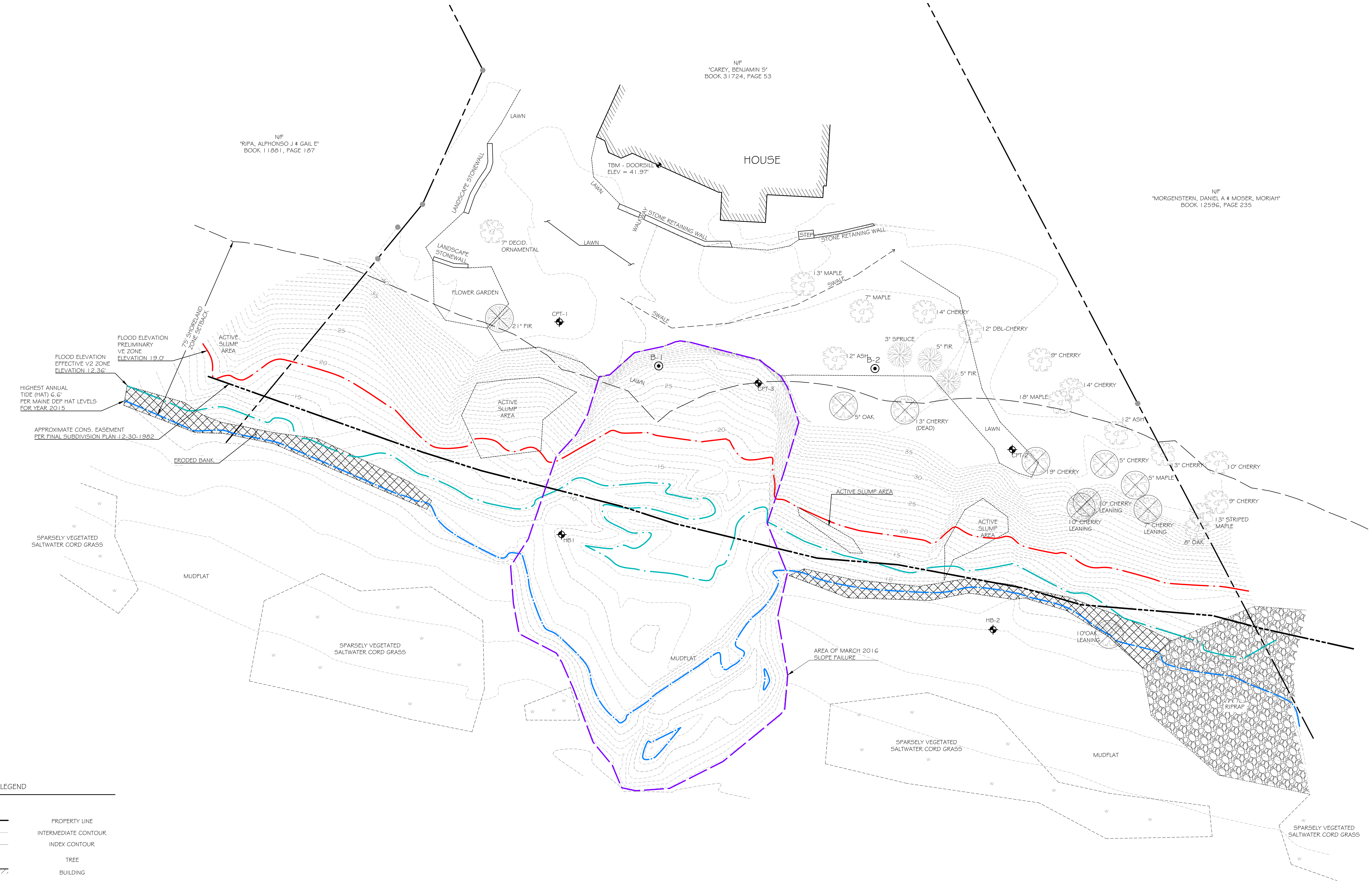
JOB # \SURVEY\95-10\PLAN
ROTATION ANGLE: -86°
DRAWN BY: DAVID E. SHAW

FINAL SUBDIVISION PLAN
OF BUNGANUC LANDING
BUNGANUC ROAD, BRUNSWICK, MAINE
SCALE 1"=100' DECEMBER 30, 1982
FOR JOHN & EVELYN KANWIT
KEITH & GENEVIEVE REITER
OWNER - DEVELOPER
THIS PROPERTY IS NOW OWNED BY MARY F. VANVARICK
SEE BOOK 2257 PAGE 139 10-3-1955
BY BRIAN B. SMITH L.S. #1175
BOWDOINHAM, MAINE
CONSERVATION EASEMENT ON LOT 5
COMMON LAND - 26 AC. TOTAL
(TO BE OWNED IN COMMON BY OWNERS OF LOTS 1-6)
MARSH AREA AND LAND BELOW 10' CONTOUR TO BE COVERED BY CONSERVATION EASEMENT.
50' PRIVATE RIGHT OF WAY
(COMMON TO LOTS 1-6)
WALTER & RUTH GAMMON
BK. 2932 PG. 21 10-30-1965
FERNAND N. CARON
BK. 1882 PG. 188 8-28-1947
BK. 4437 PG. 96 6-11-1979
JOSEPH & JOAN GOODWIN
BK. 2947 PG. 432 2-25-1966
STEPHEN LASKEY
BK. 4179 PG. 19 6-28-1976
BK. 3880 PG. 339 7-16-1976
THIS LOT AND BUILDINGS RECENTLY CONVEYED BY VANVARICK TO CLARK
11.2 AC.±
CASCO ROAD
BUNGANUC ROAD
BUNGANUC BROOK
MAQUOIT BAY
TO FREEPORT
CONSERVATION EASEMENT
① 18 AC.±
② 5 AC.±
③ 5 AC.±
④ 6 AC.±
⑤ 5 AC.±
⑥ 5 AC.±
NOTES
1. Line A-B surveyed in 1955 to establish boundary. See plan of division line between Van Varick, Caron and Carruthers dated October 1955. No survey of this line has been conducted by Brian Smith. Dimensions shown on line A-B were taken from 1955 survey plan. See agreement recorded in Cumberland County Registry Of Deeds Book 2266 Page 75.
2. NOTICE: Prospective Purchasers And Other Interested Parties - Please Note: Approval of the subdivision as shown on this plan was based on a certain "conditional agreement" dated February 10, 1983 between the subdivider and the Town of Brunswick, a copy of which is on file in the office of the Brunswick Town Manager, under the terms of which the subdivider has agreed not to sell any lots of the subdivision - except Lot 2 - until the terms of the agreement have been complied with by the subdivider.
3. See restrictive covenants to be recorded herewith.
AREA
11.2 Ac.± To Clark
44 Ac.± Lots 1-6
26 Ac.± Common
81.2 Ac.± Total VanVarick Land
APPROVED: TOWN OF BRUNSWICK PLANNING BOARD
CHAIRMAN DATE
2/10/83
2/10/83
2/10/83
2/10/83
LEGEND
Property Line
Lot Line
Easement & R/W Line
R Not Surveyed
Pipe Found
Pin Set
Marsh
Lot Number
Large Evergreen Tree
Large Deciduous Tree
State of Maine, Cumberland ss.
Registry of Deeds
Received February 17, 1983
at 9 h 33 m A M and recorded in
Plan Book 136 Page 55
Attest: Register
SCALE
FEET
METERS
MAGNETIC 1955
de: WM W. BRIGGS
JOB #82-53

6 Plans

The following plans are included with this submission.

C1.0 Existing Conditions and Removals Plan
C2.0 Site Plan
C2.1 Sections & Details
C2.2 Sections & Details
L1.0 Landscaping Plan



LEGEND

- PROPERTY LINE
- INTERMEDIATE CONTOUR
- INDEX CONTOUR
- TREE
- BUILDING
- RIPRAP
- EFFECTIVE FLOOD ZONE
- PRELIMINARY FLOODZONE
- HIGHEST ANNUAL TIDE
- TREE TO BE REMOVED
- SALTWATER CORD GRASS
- ERODED BANK
- BORING
- LAWN LINE

PLAN REFERENCES:

1. TOPOGRAPHIC AND PROPERTY BOUNDARY INFORMATION TAKEN FROM A COMPILATION OF THE FOLLOWING:
   - 1.1. PROPERTY LINES SHOWN ARE APPROXIMATE BASED ON PLAN REFERENCES 1.2 AND 1.3 BELOW. THIS IS NOT A BOUNDARY SURVEY.
   - 1.2. A PLAN TITLED "CAREY PLAN TO WALSH", PREPARED BY JONES ASSOCIATES OF AUBURN ME, DATED 9-14-2015.
   - 1.3. A PLAN TITLED "CAREY PLAN TO WALSH", PREPARED BY JONES ASSOCIATES OF AUBURN ME, DATED 3-23-2016.
   - 1.4. A PLAN TITLED "FINAL SUBDIVISION PLAN", PREPARED BY BRIAN B. SMITH OF BOWDOINHAM ME, DATED 12-30-1982.
   - 1.5. A PLAN TITLED "AMENDED SUBDIVISION PLAN AND STANDARD BOUNDARY SURVEY", PREPARED BY BRIAN SMITH SURVEYING INC. OF BOWDOINHAM ME, DATED 1-30-1995.
   - 1.6. BENCHMARK IS SOUTHWEST DOORSILL ELEVATION = 41.97' (NAVD88 DATUM).
   - 1.7. BEACH TOPOGRAPHY SUBJECT TO CHANGE BASED ON TIDAL ACTION.
   - 1.8. HIGHEST ANNUAL TIDE DEPICTED IS ELEVATION 6.6' OBTAINED FROM MAINE DEP HAT LEVELS FOR YEAR 2016.
   - 1.9. "FLOOD INSURANCE RATE MAP - TOWN OF BRUNSWICK, MAINE, CUMBERLAND COUNTY - COMMUNITY PANEL #2300420026B, EFFECTIVE JANUARY 3, 1986.
   - 1.10. "PRELIMINARY FLOOD INSURANCE RATE MAP - TOWN OF BRUNSWICK, MAINE, CUMBERLAND COUNTY - COMMUNITY PANEL #2300420557F, PRELIMINARY NOVEMBER 5, 2013.
   - 1.11. FIELD OBSERVATIONS BY WALSH ENGINEERING ASSOCIATES, INC. ON MULTIPLE SITE VISITS IN 2015 & 2016.
   - 1.12. GEOTECHNICAL BORINGS LOCATED BY JONES ASSOCIATES (SEE 1.2 & 1.3 ABOVE). REFERENCE IS MADE TO GEOTECHINCAL REPORT PREPARED BY SUMMIT GEOTECHNICAL ENGINEERING, INC. DATED JUNE 4, 2015 AND REVISIONS DATED MARCH 28, 2016.

CASCO BAY (MAQUOIT BAY)

GENERAL NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING "DIG SAFE" AND LOCAL UTILITY COMPANIES AT LEAST THREE (3) BUSINESS DAYS, BUT NOT MORE THAN 30 CALENDAR DAYS, PRIOR TO THE COMMENCEMENT OF ANY EXCAVATION, IN ACCORDANCE WITH MAINE STATE LAW. "DIG SAFE" TELEPHONE NUMBER IS 1-888-344-7233.
2. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL AND ANY MEANS, METHODS, AND TECHNIQUES EMPLOYED TO PERFORM THE WORK SHOWN ON THE PLANS.
3. ALL WORK SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS INCLUDING ALL SAFETY REGULATIONS (OSHA).
4. THE CONTRACTOR SHALL SECURE ALL NECESSARY PERMITS FOR THE WORK SHOWN ON THESE PLANS PRIOR TO CONSTRUCTION.
5. ALL WORK SHALL COMPLY WITH THE TOWN OF BRUNSWICK REQUIREMENTS.
6. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY SITE EXCAVATION OR REGRADING. REFER TO THE WRITTEN EROSION CONTROL PLAN AND DRAWINGS FOR FURTHER EROSION CONTROL GUIDELINES.
7. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS SHOWN ON THE DRAWINGS. IF ANY DISCREPANCIES ARE FOUND, THE OWNER OR OWNER'S REPRESENTATIVE SHALL BE NOTIFIED IMMEDIATELY.
8. PROVIDE A SMOOTH TRANSITION WHERE NEW WORK MEETS EXISTING.

N

GRAPHIC SCALE

1 inch = 20 ft.

PERMITTING DOCUMENT - NOT FOR CONSTRUCTION

WALSH ENGINEERING ASSOCIATES, INC.
One Karen Dr., Suite 2A | Westbrook, Maine 04092
ph: 207.553.9898 | www.walsh-eng.com

STATE OF MAINE — WILLIAM R. WALSH, III — No. 8204 — LICENSED PROFESSIONAL ENGINEER — 7/28/16

Carey Residence Shoreline Stabilization

12 Bunganuc Landing Road
Brunswick, Maine

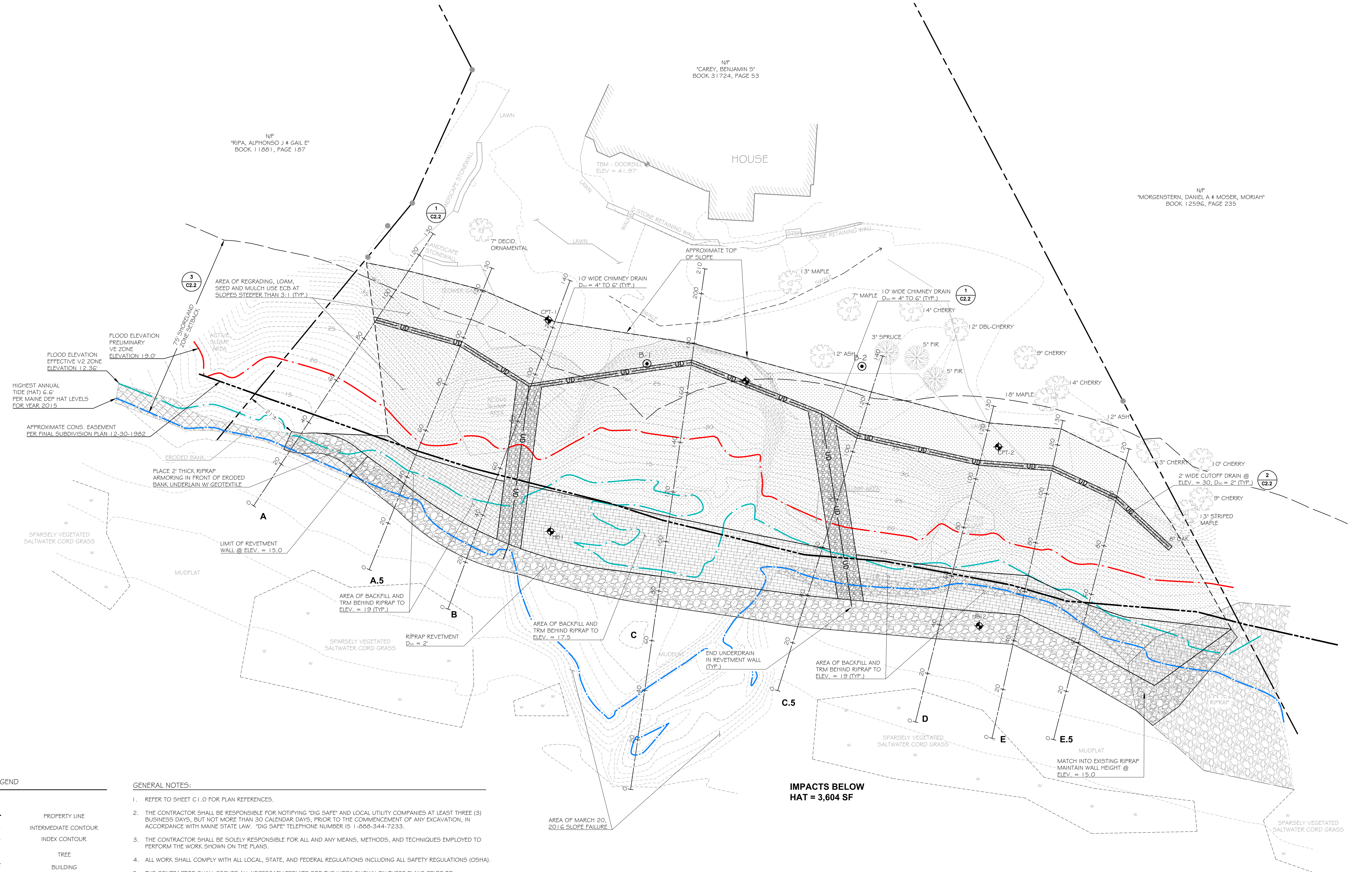
Client:
Benjamin Carey
1302 Waugh Drive #322
Houston, Texas 77019

Rev.	Date	Description	Drawn	Check

Sheet Title:

EXISTING CONDITIONS AND REMOVALS PLAN

Job No.:	272	Sheet No.:
Date:	July 28, 2016	C1.0
Scale:	1" = 20'	
Drawn:	NGC	
Checked:	WRW	



CASCO BAY
(MAQUOIT BAY)

LEGEND

- PROPERTY LINE
- INTERMEDIATE CONTOUR
- INDEX CONTOUR
- TREE
- BUILDING
- RIPRAP
- EFFECTIVE FLOOD ZONE
- PRELIMINARY FLOODZONE
- HIGHEST ANNUAL TIDE
- SALTWATER CORD GRASS
- ERODED BANK
- BORING (HB1, B-1)
- LAWN LINE

GENERAL NOTES:

1. REFER TO SHEET C1.0 FOR PLAN REFERENCES.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING "DIG SAFE" AND LOCAL UTILITY COMPANIES AT LEAST THREE (3) BUSINESS DAYS, BUT NOT MORE THAN 30 CALENDAR DAYS, PRIOR TO THE COMMENCEMENT OF ANY EXCAVATION, IN ACCORDANCE WITH MAINE STATE LAW. "DIG SAFE" TELEPHONE NUMBER IS 1-888-344-7233.
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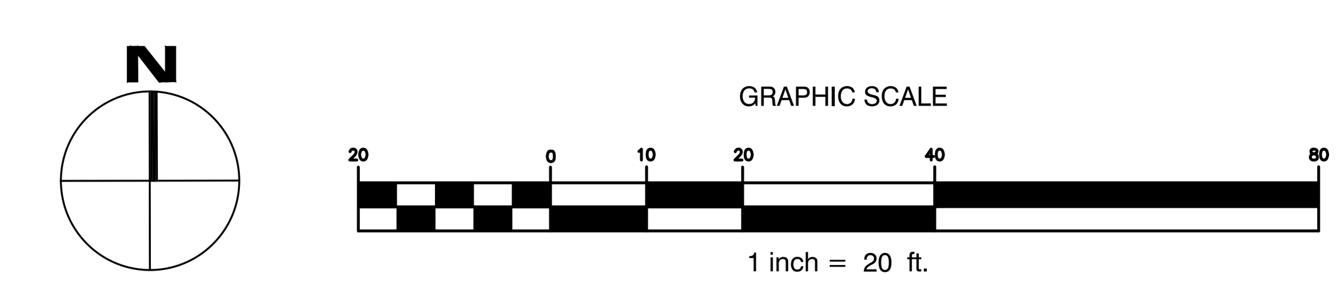
7. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY SITE EXCAVATION OR REGRADING. REFER TO THE WRITTEN EROSION CONTROL PLAN AND DRAWINGS FOR FURTHER EROSION CONTROL GUIDELINES.
8. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS SHOWN ON THE DRAWINGS. IF ANY DISCREPANCIES ARE FOUND, THE OWNER OR OWNER'S REPRESENTATIVE SHALL BE NOTIFIED IMMEDIATELY.
9. PROVIDE A SMOOTH TRANSITION WHERE NEW WORK MEETS EXISTING.



PERMITTING DOCUMENT - NOT FOR CONSTRUCTION

WALSH
ENGINEERING ASSOCIATES, INC.
One Karen Dr., Suite 2A | Westbrook, Maine 04092
ph: 207.553.9898 | www.walsh-eng.com

STATE OF MAINE
WILLIAM R. WALSH, III
No. 8204
LICENSED PROFESSIONAL ENGINEER
7/28/16

Carey Residence Shoreline Stabilization

12 Bunganuc Landing Road
Brunswick, Maine

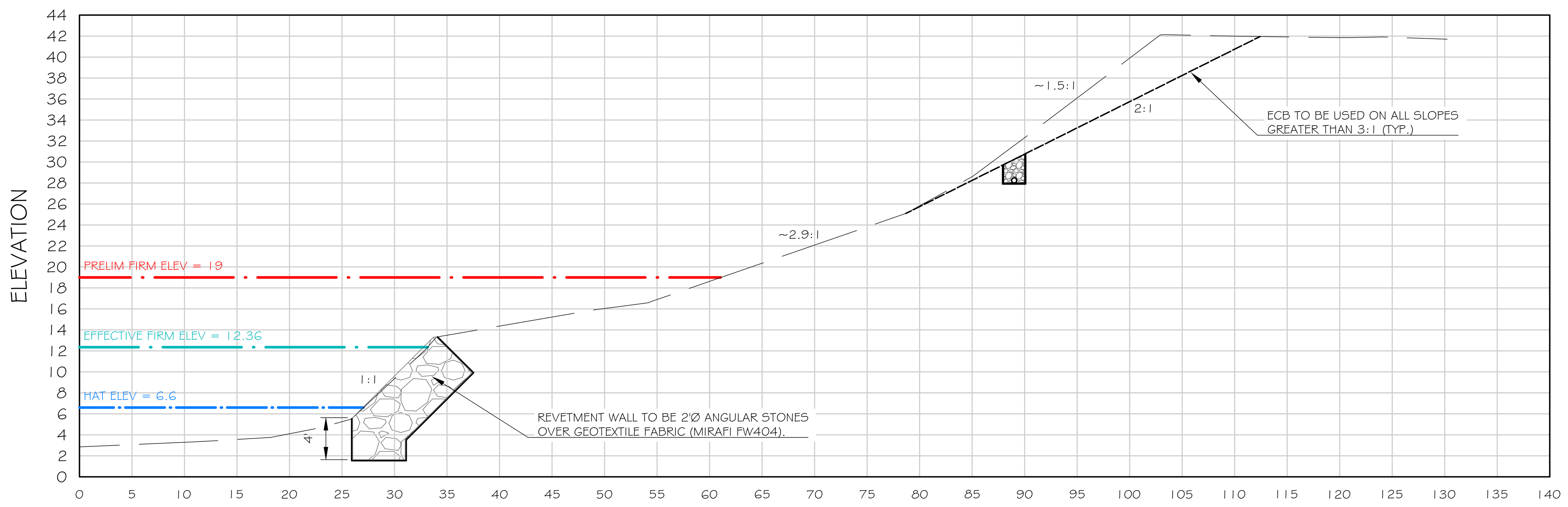
Client:
Benjamin Carey
1302 Waugh Drive #322
Houston, Texas 77019

Rev.	Date	Description	Drawn	Check

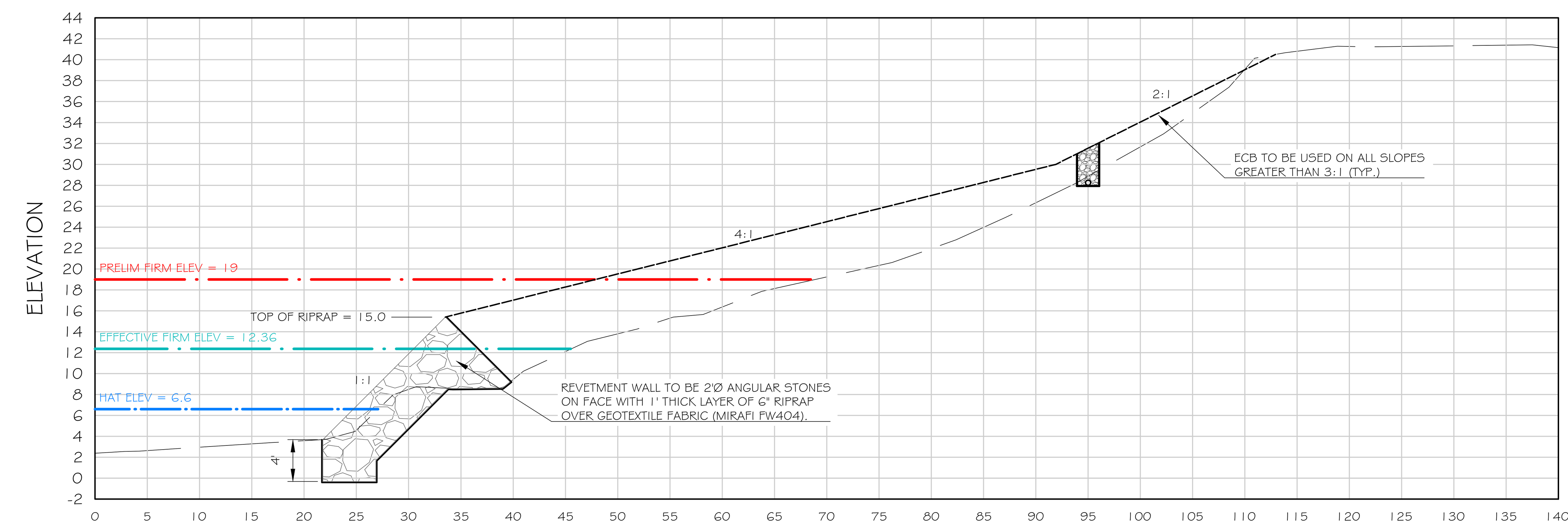
Sheet Title:
SITE PLAN

Job No.:	272
Date:	July 28, 2016
Scale:	1" = 20'
Drawn:	NGC
Checked:	WRW

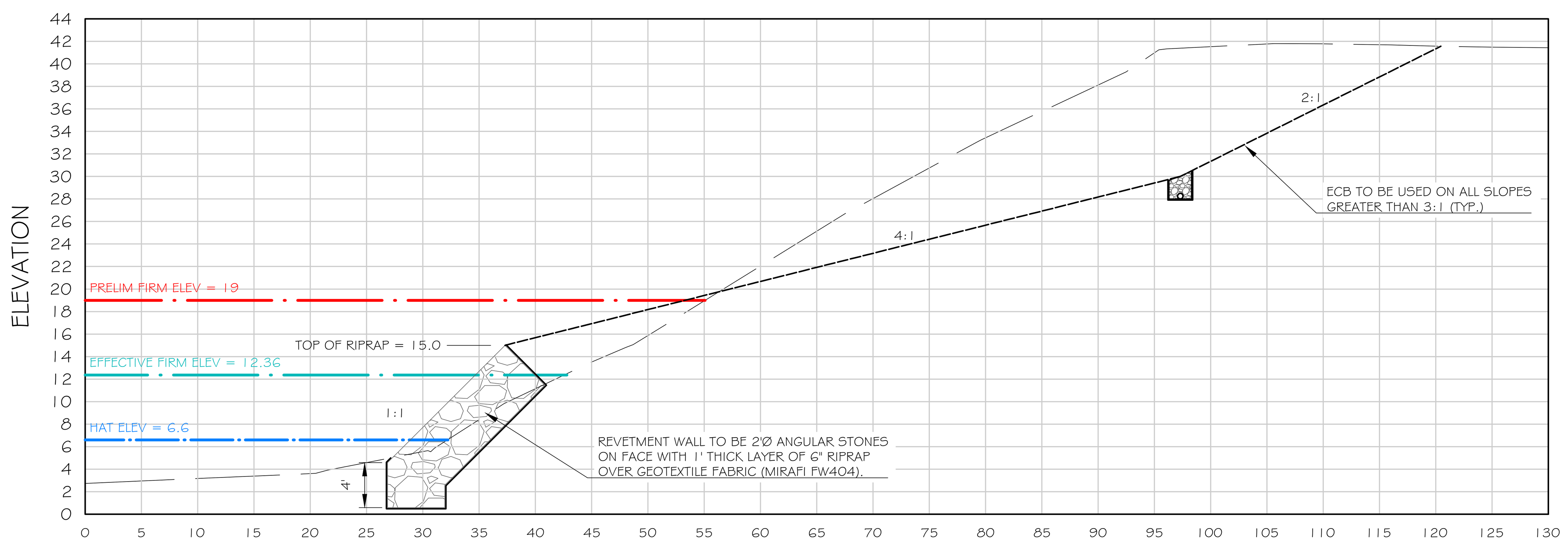
Sheet No.:
C2.0



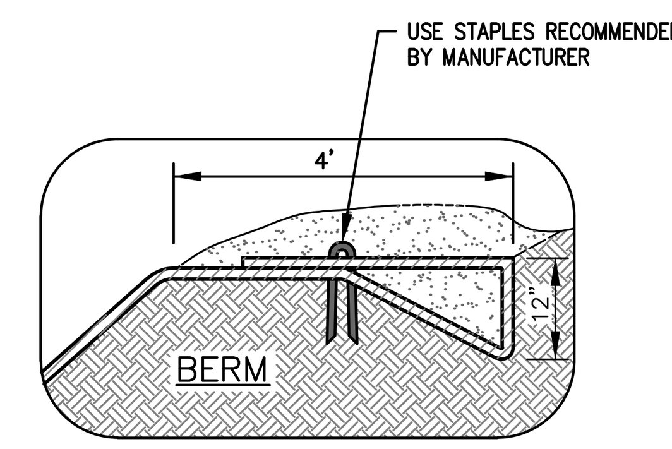
STATION
SECTION A

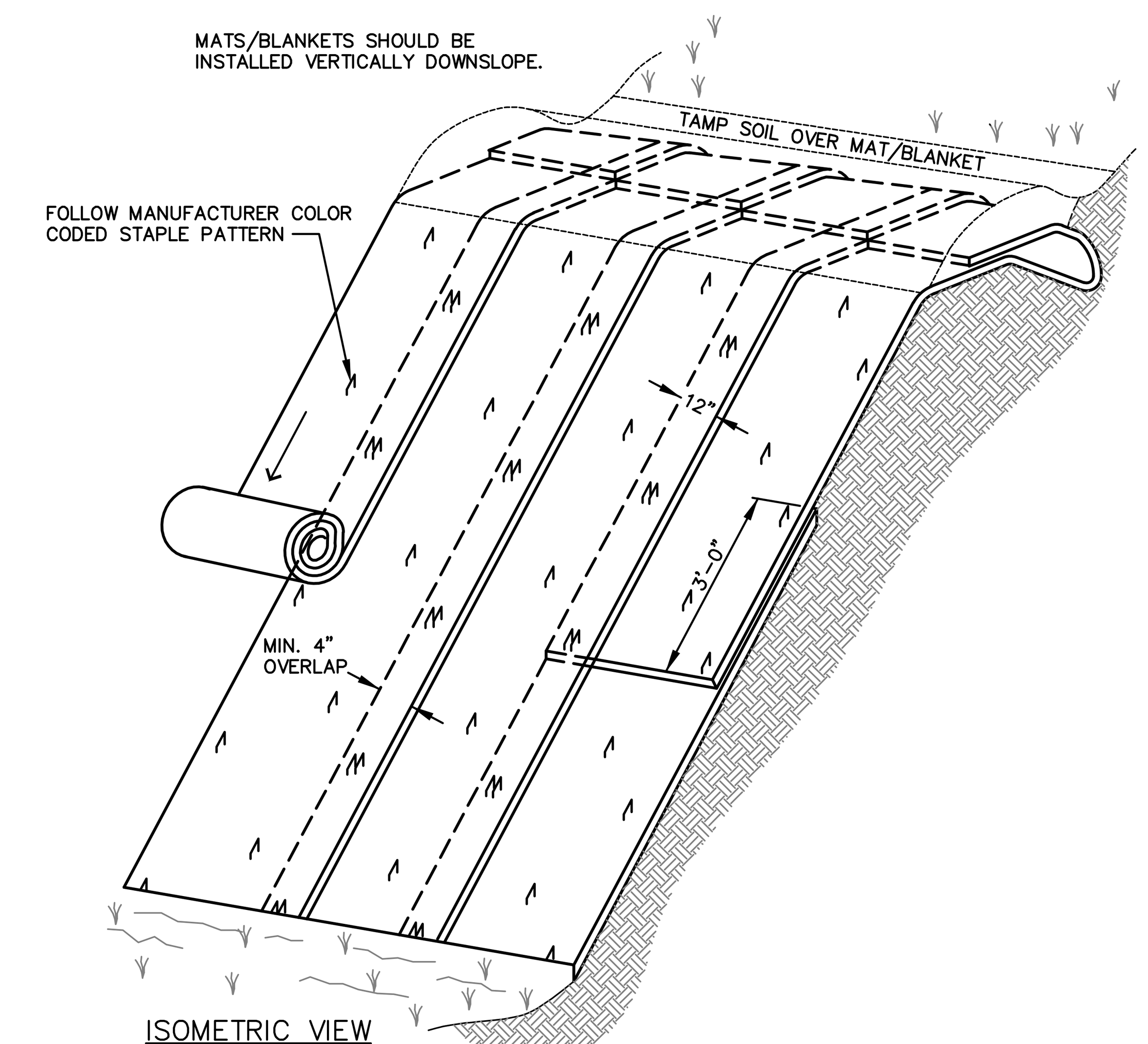


STATION
SECTION B



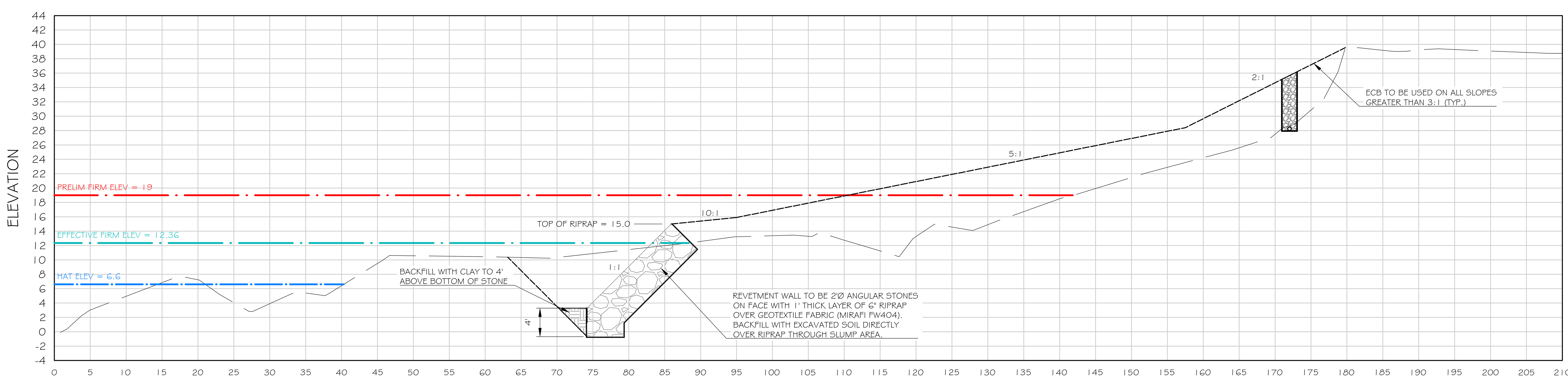
STATION
SECTION A.5





INSTALLATION INSTRUCTIONS:
1. TURF REINFORCEMENT MAT (TRM) MATERIAL SHALL BE ENKAMAT 7020, OR APPROVED EQUAL.
2. EROSION CONTROL BLANKET (ECB) SHALL BE BIONET SC150 ERONET BY NORTH AMERICAN GREEN OR APPROVED EQUAL.
3. FOR TRM INSTALLATION ONLY:
   3.1. APPLY 5" OF LOAM ONTO THE GROUND SURFACE.
   3.2. OVER TOP THE 5" OF LOAM, UNROLL MAT IN THE DIRECTION OF WATER FLOW.
4. MAT SHOULD LIE FLAT. DO NOT STRETCH MAT OVER GROUND. STRETCHING MAY CAUSE MAT TO BRIDGE DEPRESSIONS IN THE SURFACE AND ALLOW EROSION UNDERNEATH.
5. BURY TRANSVERSE TERMINAL ENDS OF MAT TO SECURE AND PREVENT EROSIVE FLOW UNDERNEATH.
6. SECURE MAT SNUGLY INTO ALL TRANSVERSE CHECK SLOTS.
7. BACKFILL AND COMPACT TRENCHES AND CHECK SLOTS AFTER STAKING THE MAT IN BOTTOM OF TRENCH.
8. OVERLAP ROLL ENDS BY THREE (3) FEET (MIN.) WITH UPSLOPE MAT ON TOP TO PREVENT UPLIFT OF MAT END BY WATER FLOW. IF INSTALLING IN THE DIRECTION OF A CONCENTRATED WATER FLOW, START NEW ROLLS IN A TRANSVERSE DITCH.
9. OVERLAP ADJACENT EDGES OF MAT BY THREE (3) INCHES (MIN.) AND STAKE.
10. USE WOOD STAKES OR STAPLES FOR PINNING MAT TO THE GROUND SURFACE, PER MANUFACTURER'S RECOMMENDATIONS.
11. IN ALL TRANSVERSE TERMINAL TRENCHES AND CHECK SLOTS, STAKE EACH MAT AT ITS CENTER AND OVERLAP EDGES BEFORE BACKFILLING AND COMPACTING.
12. STAKE OVERLAPS LONGITUDINALLY AT THREE (3) TO FIVE (5) FOOT INTERVALS.
13. FOR TRM ONLY: WORK ADDITIONAL 1" OF LOAM INTO THE MAT AND THEN SEED AND MULCH.

1 / C2.1
EROSION CONTROL BLANKET AND TRM EROSION CONTROL
NOT TO SCALE



STATION
SECTION C

GRAPHIC SCALE
10 0 5 10 20 40
1 inch = 10 ft.

PERMITTING DOCUMENT - NOT FOR CONSTRUCTION

WALSH ENGINEERING ASSOCIATES, INC.
One Karen Dr., Suite 2A | Westbrook, Maine 04092
ph: 207.553.9898 | www.walsh-eng.com

STATE OF MAINE
WILLIAM R. WALSH, III
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LICENSED PROFESSIONAL ENGINEER
7/28/16

Carey Residence Shoreline Stabilization
12 Bunganuc Landing Road
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Client:
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1302 Waugh Drive #322
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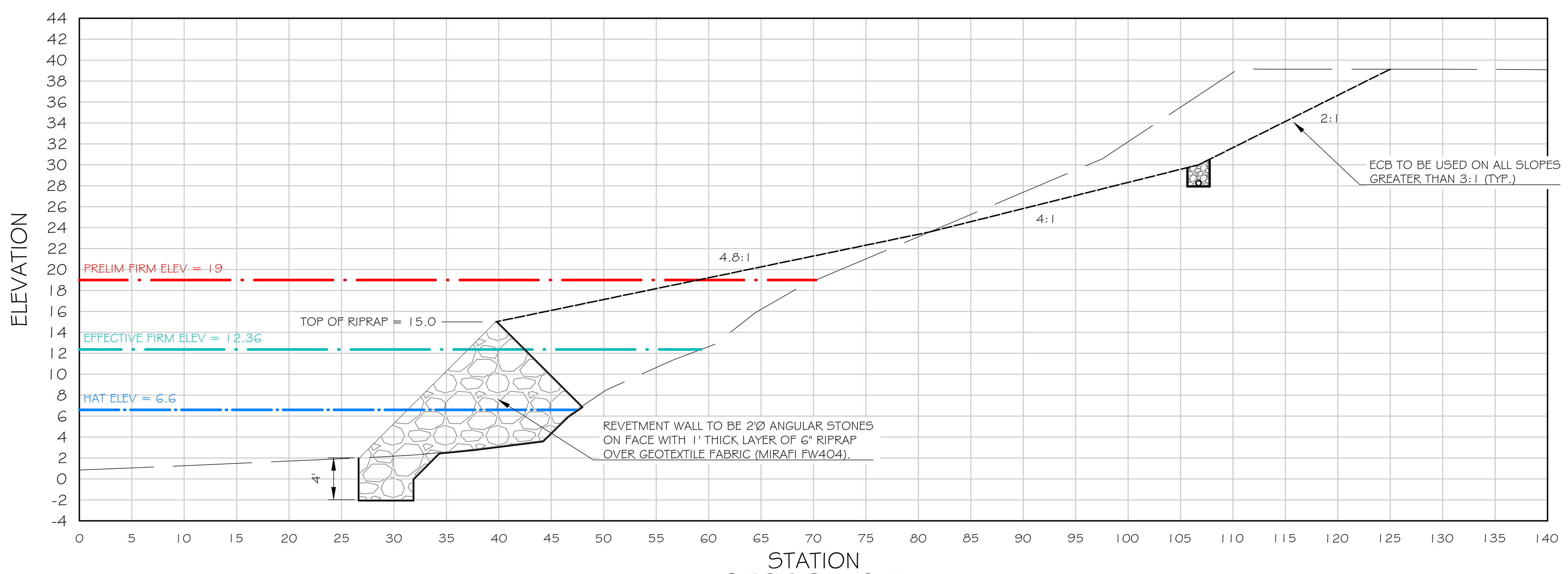
Rev.	Date	Description	Drawn	Check

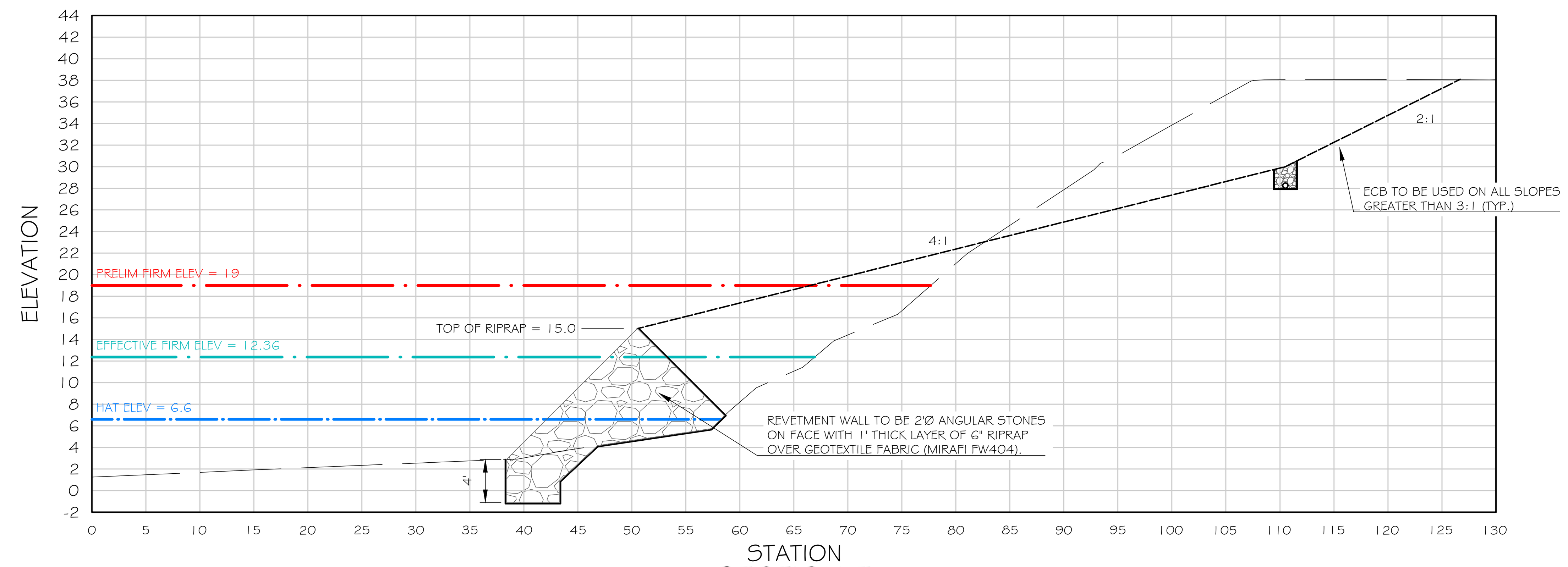
Sheet Title:
SECTIONS & DETAILS

Job No.:	272
Date:	July 28, 2016
Scale:	1" = 10'
Drawn:	NGC
Checked:	WRW

Sheet No.: C2.1



SECTION C.5



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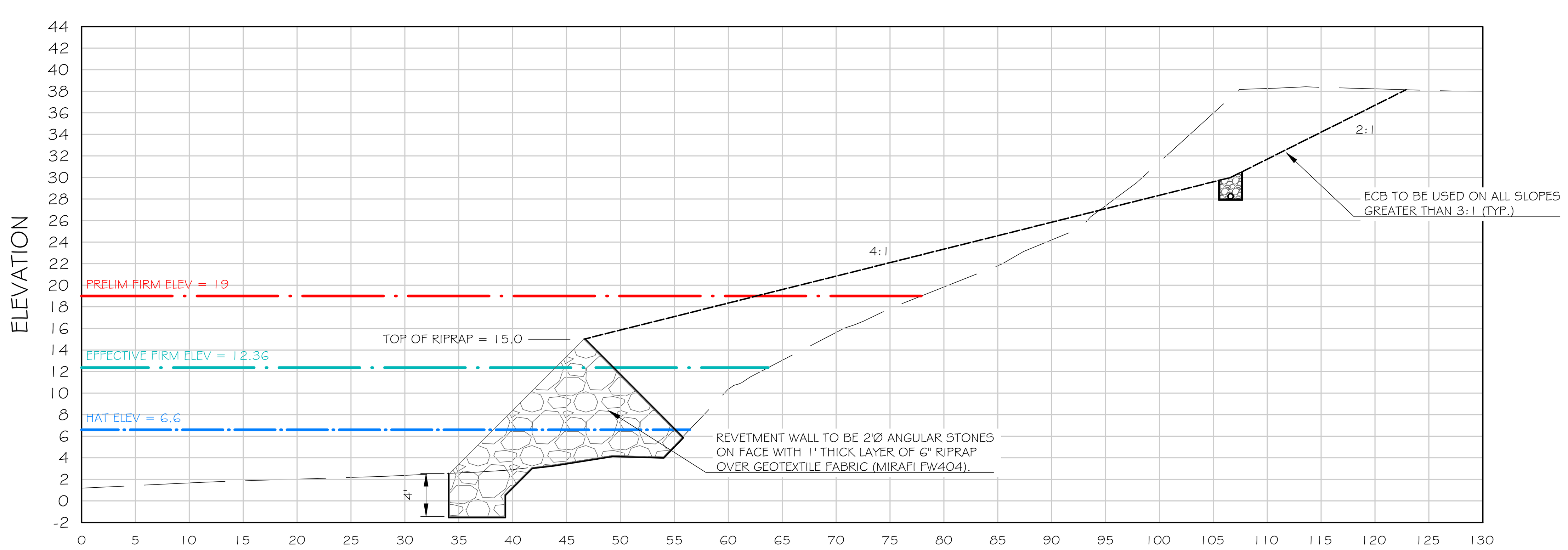

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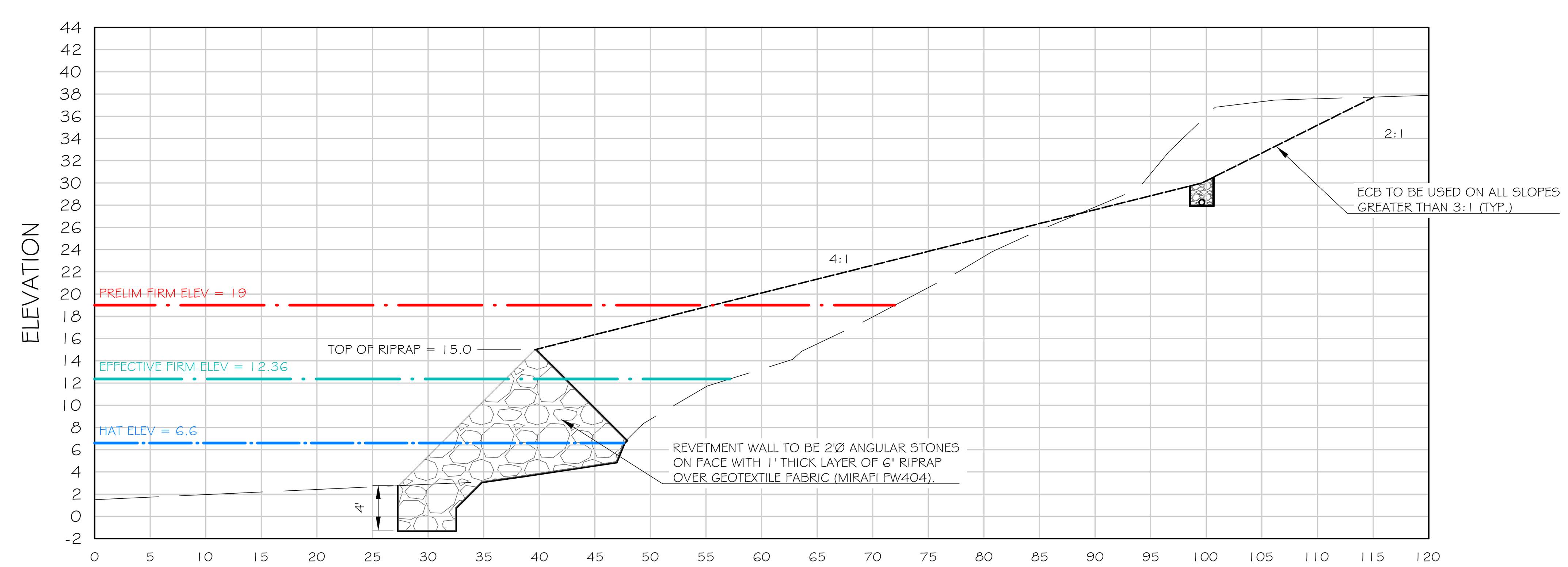

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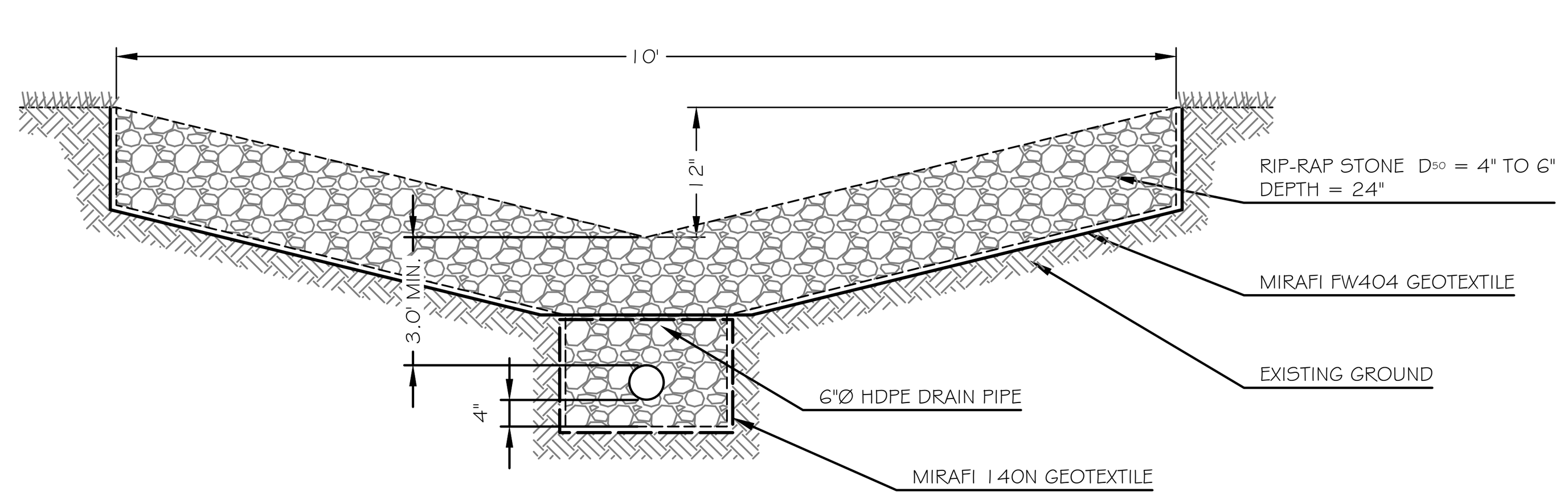
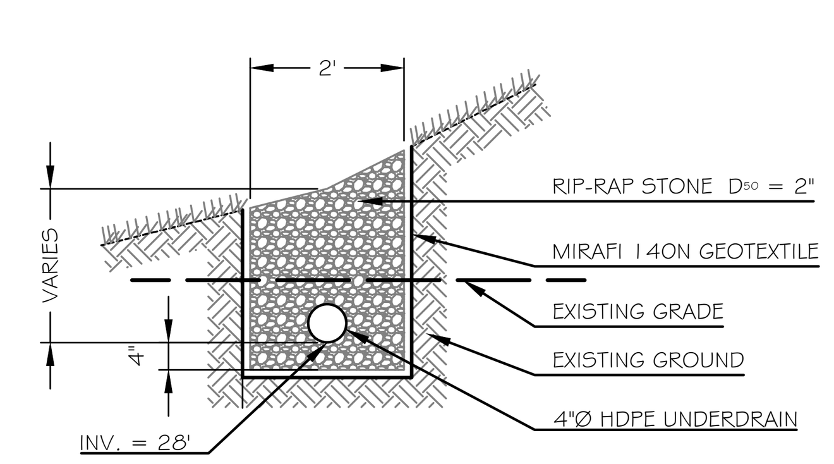


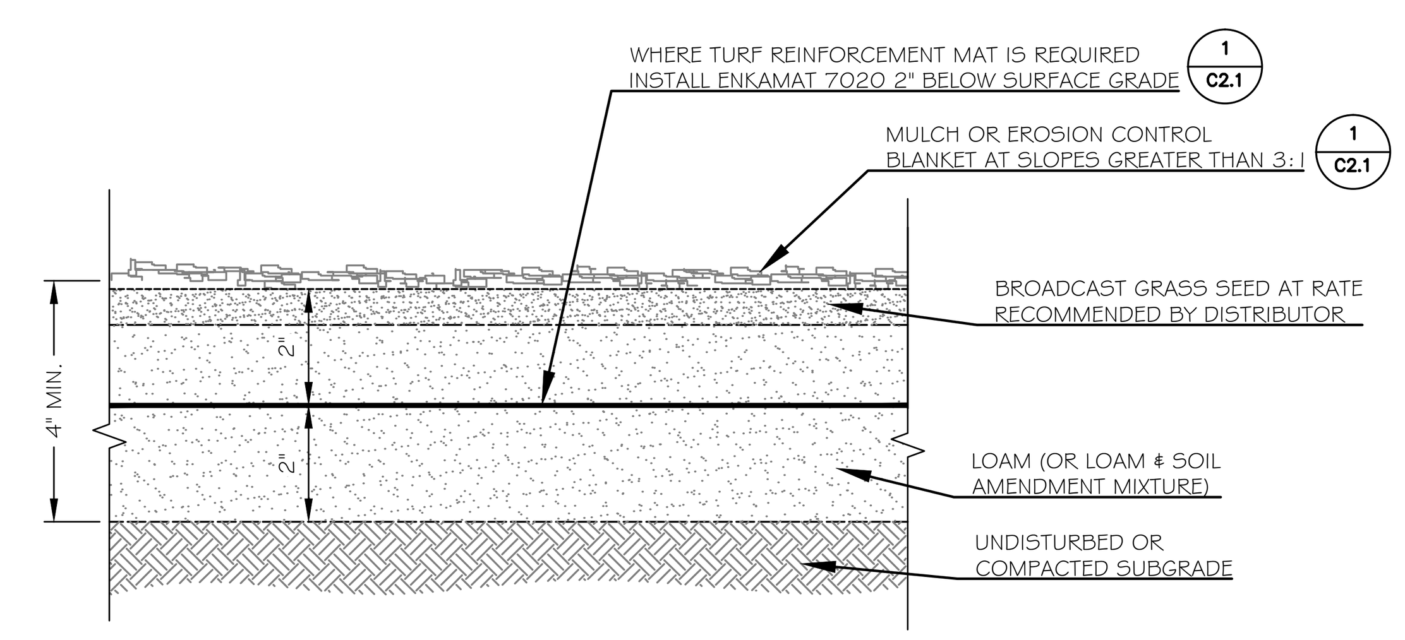
1 C2.2 CHIMNEY DRAIN DETAIL

NOT TO SCALE



2 C2.2 CUTOFF DRAIN DETAIL

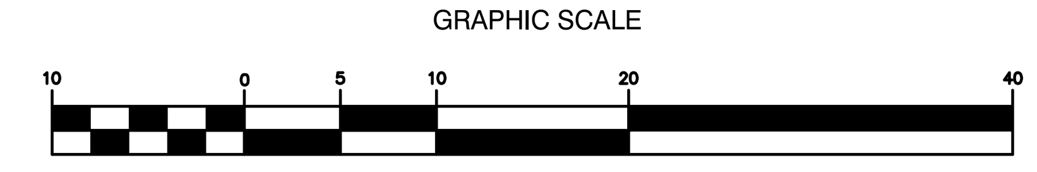
NOT TO SCALE



3 C2.2 LOAM AND SEED DETAIL

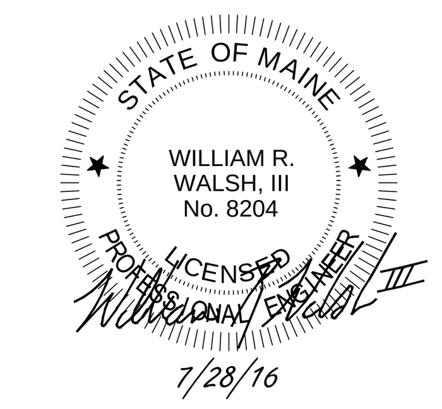
NOT TO SCALE

GRAPHIC SCALE



PERMITTING DOCUMENT - NOT FOR CONSTRUCTION

WALSH ENGINEERING ASSOCIATES, INC.
One Karen Dr., Suite 2A | Westbrook, Maine 04092
ph: 207.553.9898 | www.walsh-eng.com



Carey Residence Shoreline Stabilization

12 Bunganuc Landing Road
Brunswick, Maine

Client:
Benjamin Carey
1302 Waugh Drive #322
Houston, Texas 77019

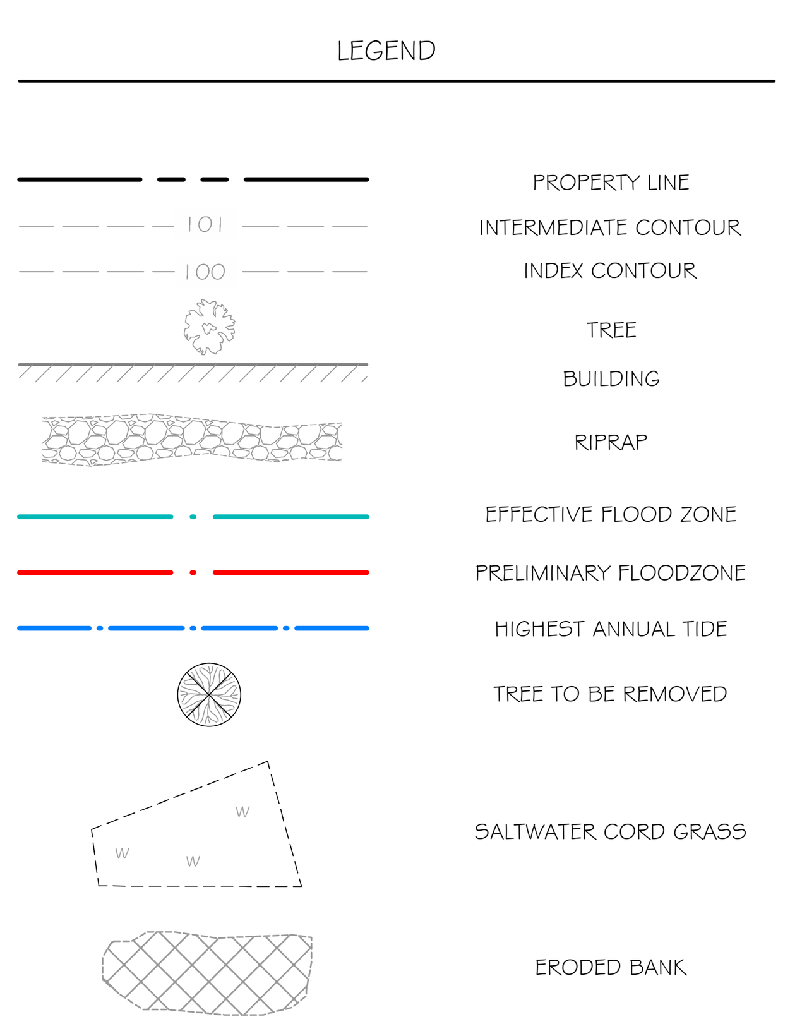
Rev.	Date	Description	Drawn	Check

Sheet Title:

SECTIONS & DETAILS

Job No.:	272
Date:	July 28, 2016
Scale:	1" = 10'
Drawn:	NGC
Checked:	WRW

Sheet No.: C2.2



PLANT LIST:

SYMBOL	BOTANICAL NAME	COMMON NAME	QTY	SIZE	COMMENTS
AC	AMELANCHIER CANADENSIS	SHADLOW	14	1" CAL.	SINGLE STEM, B&B
CR	CRATAEGUS CRUSGALLI VAR. INERMIS	COCKSPUR THORNLESS HAWTHORN	3	1" CAL.	SINGLE STEM, B&B
MP	MYRICA PENNSYLVANICA	NORTHERN BAYBERRY	34	24" HT.	FULL & BUSHY
QR	QUERCUS RUBRA	RED OAK	1	1" CAL.	SINGLE STEM, B&B
VA	VACCINIUM ANGUSTIFOLIUM	LOWBUSH BLUEBERRY	89	1 GAL.	-
VL	VIBURNUM LENTAGO	NANNYBERRY VIBURNUM	18	30" HT.	FULL & BUSHY

P:\272 - 12 Bunganuc Ldg Rd, Brunswick\3. CAD\272 - Base.dwg plot date: 7/28/2016 11:31 AM

PLANTING NOTES:

1. THE LANDSCAPE CONTRACTOR SHALL SUPPLY ALL PLANT MATERIALS IN QUANTITIES SUFFICIENT TO COMPLETE ALL PLANTINGS SHOWN GRAPHICALLY ON THIS DRAWING. CLARIFY ANY DISCREPANCIES WITH THE LANDSCAPE ARCHITECT PRIOR TO PRICING ANY PLANT MATERIAL.
2. ALL PLANT MATERIALS SHALL CONFORM TO THE GUIDELINES ESTABLISHED BY THE LATEST EDITION OF THE AMERICAN ASSOCIATION OF NURSERYMEN'S "AMERICAN STANDARD OF NURSERY STOCK".
3. PLANT LOCATIONS ARE SUBJECT TO ADJUSTMENT BY THE OWNER'S REPRESENTATIVE BASED ON IN THE FIELD CONDITIONS.
4. SEED MIX FOR THE EMBANKMENT SHALL BE THE "NEW ENGLAND COASTAL SALT TOLERANT GRASS MIX (CANADA WILD RYE, SIDE OATS GRAMA, CREEPING RED FESCUE, BIG BLUESTEM, INDIAN GRASS, SWITCH GRASS, SAND DROPSEED, SAND LOVEGRASS)" AS DISTRIBUTED BY NEW ENGLAND WETLAND PLANTS, INC. OF AMHERST, MA. APPLY PER THE DISTRIBUTORS RECOMMENDATIONS BASED ON THE TIME OF YEAR.
5. THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIALS FOR ONE (1) FULL YEAR FROM DATE OF FINAL ACCEPTANCE.

N

GRAPHIC SCALE

20 0 10 20 40 80

1 inch = 20 ft.

PERMITTING DOCUMENT - NOT FOR CONSTRUCTION

WALSH
ENGINEERING ASSOCIATES, INC.
One Karen Dr., Suite 2A | Westbrook, Maine 04092
ph: 207.553.9898 | www.walsh-eng.com

LICENSED LANDSCAPE ARCHITECT
PETER B. BIEGEL
No. 2624
STATE OF MAINE
7/28/16

Carey Residence Shoreline Stabilization

12 Bunganuc Landing Road
Brunswick, Maine

Client:
Benjamin Carey
1302 Waugh Drive #322
Houston, Texas 77019

Rev.	Date	Description	Drawn	Check

Sheet Title:
Landscaping Plan

Job No.: 272
Date: July 28, 2016
Scale: 1" = 20'
Drawn: NGC
Checked: WRW

Sheet No.:
L1.0