



**US Army Corps
of Engineers®**
New England District
**696 Virginia Road
Concord, MA 01742-2751**

PUBLIC NOTICE

Comment Period Begins: March 5, 2019

Comment Period Ends: April 4, 2019

File Number: NAE-2018-00927

In Reply Refer To: Joshua Helms

Phone: (978) 318-8211

E-mail: joshua.m.helms@usace.army.mil

The District Engineer has received a permit application to conduct work in waters of the United States from City of Milford, Department of Public Works, 83 Ford Street, Milford, Connecticut 06460. This work is proposed in Long Island Sound between 110 and 132 Beach Avenue, Milford, Connecticut 06460. The site coordinates are: Latitude 41.223613°N, Longitude -72.993310°E.

The City of Milford seeks authorization to place approximately 26,800 (CY) cubic yards of clean sand over a 2.71-acre area below the high tide line (HTL) on Crescent Beach in order to implement a beach nourishment project. An additional 200 CY of sand would be placed in a .04-acre area above the HTL. Work would commence at the toe of an existing concrete seawall and would extend approximately 300-feet seaward from the seawall.

Work includes placement of sand along this 700 linear foot stretch of beach in order to construct a stable sand berm, nourish and grade the existing beach, and construct a dune waterward of the existing seawall. Sand would be sprayed on the beach during low-tide to desired grades.

The project would result in a significant elevation change. The new HTL would be relocated at an elevation of 4.46-feet mean low water (MLW), while mean high water would be set an elevation of 2.91-feet MLW and finally MLW would be relocated to approximately -3.38-feet MLW.

The seaward side of the dune would be planted with beach grass. Beach grass would be planted 8"-10" deep and would be spaced at a maximum of 12" on-center starting from the seaward end towards the landward side of the dune. Planting would take place October 15th - May 31st. Other resilient species (see figure 4 "dune planting details") would be planted on the landward side of the dune to further stabilize the structure.

The top of the dune is proposed at elevation 9.0 feet and would measure approximately 10-feet wide at its crest. 563 linear feet (LF) of sand fence would be placed at the seaward edge of dune in order to encourage sand deposition. Sand fence would be installed prior to planting the dune in two 4-foot tall rows that run parallel to the shoreline. Rows would be mounted to posts set at 10-feet apart that are driven to a 3-foot depth. Sand fencing would be weaved in front of and behind alternating posts. The posts would be pressure treated 2"x 4" dimensional lumber or 3"-diameter cedar posts. Fencing would be secured to the posts with four (4) wire ties \geq 12 gauge.

In order to ensure public access to the beach the City also proposes to construct one wooden walkover over the structure. The walkover would be constructed using five foot wide, 2" x 8" timber mats that would be anchored with continuous nylon rope affixed to a series of four concrete blocks each with a minimum weight of 2,000 pounds.

Finally, a new 50-foot wide, 195 LF (total LF jurisdictional and non-jurisdictional) stormwater outfall extending from the edge of HTL would be installed on the beach face and run in a southerly direction through the dune. A 195 LF (approx. 3,200 SF) rip rap apron, measuring two feet thick, and consisting of 8" to 12" stone would be constructed and would extend to the terminus of the beach face in order to maintain the structure in place. The entire outfall structure would be capped and with armored with large, 5-8 ton stones in two layers. A ramp of sand around the structure would allow for easy pedestrian crossing. Natural ledge outcroppings on either side of the outfall shield the structure from wave action and currents.

A 4"-thick tracking pad of 2"-stone would be constructed in accordance with the contractor submitted erosion and sediment and erosion control plan. The beach nourishment work would be staged from a barge situated in the nearshore environment. Stormwater improvements and dune walkover construction would be staged from the upland area on Beach Street. Silt fence would be erected where appropriate, according to the sediment and erosion control plan, and turbidity curtains would be installed and inspected daily.

The applicant has not proposed mitigation, but has stated that the project is expected to increase resiliency, reduce erosion, reduce coastal flood and storm impacts, reduce wave energy, and stabilize and rehabilitate the beach face.

The purpose of the project is to provide coastal resiliency, minimize erosion impacts, and protect the landward roadway and a number of single-family dwellings. The project has been designed to offer increased protection to the area against the 100-year storm. This project was developed in association with creation of a Coastal Resilience Plan (CRP) for the City of Milford that was prepared in 2016.

In addition to the proposed work above, the applicant considered the following alternatives to meet the purpose of the project:

1. The city considered replacing the vertical retaining wall with a sloped wall thereby minimizing refractive wave energy.
2. The creation of a breakwater or offshore shoal to break up the fetch of waves from prevailing winds.

The applicant has stated that they ultimately decided not to pursue these options due to financial and regulatory constraints and that the preferred alternative provided more coastal resiliency with less environmental impacts.

The applicant has worked to further reduce environmental impacts by incorporating project modifications that minimized the footprint of the project that include a reduction in the amount of proposed fill to be placed on site from 30,900 CY of sand fill below HTL to 26,800 CY that resulted in a reduction in the fill area below HTL from a 2.89-acre area to a 2.71-acre area. Further modifications were made to the SW pipe anchoring by placing a layer of sand over the horizontal and vertical extent of stone used to armor the outfall pipe.

Finally, the applicant proposed to use the following BMPs to further reduce impacts to aquatic resources, erosion and turbidity:

- There shall be no impacts to state-listed flora fauna
- There shall be no impacts to offshore and near-shore shellfisheries.
- No rocky shorefront areas would be covered with sand.
- There shall be no impacts to the tidal wetland on the site.

- Soil disturbance would be avoided to the extent practicable.
- Existing vegetation shall be protected to the extent practicable.
- All temporarily disturbed areas shall be restored to their original conditions and contour following completion on construction.
- The contractor shall install silt fencing and hay bales at the perimeter of the construction area prior to the commencement of construction activities.
- Stormwater flows onto the site would be minimized.
- The contractor shall install a turbidity curtain at the seaward extent of beach nourishment.
- Upon completion of work onsite, the silt fence, turbidity curtain and hay bales shall be removed.
- Posts for fencing would be installed in a zig zag pattern in order to retain sand.
- Dewatering areas and stockpiles would be protected with hay bales and would be lined with filter fabric.
- Dewatering and stormwater systems would be controlled in accordance dewatering regulations recommended in the Connecticut DEEP 410 Water Quality Certification.
- The City of Milford is working to develop monitoring and maintenance plan for the beach. Possible monitoring techniques include;
 - Monitoring the horizontal pipe and its armoring to measure both horizontal and vertical changes to the dune and beach.
 - Monitoring changes of the beach when compared to permanent structures to measure changes to the beach and dune.
 - Placing a measuring gage that can track the loss of sand over time.
 - Vertical gages can be secured to the pilings on which the walkovers would be built and to existing hard structures and used to measure changes to the dune. Vertical gages should also be installed at multiple locations along both sides of the outfall pipes.
 - Installing stand-alone measuring posts tied to survey benchmarks along the beach to account for localized aggradation and degradation.
 - Complete photo monitoring activities to determine the change in shoreline characteristics over time.
 - Complete an annual survey of the survey of the beach.
- Monitoring mechanisms listed above would help to inform the need for future maintenance.
- Maintenance guidelines for this project include
 - Fencing, walkovers, and plantings would be monitored and inspected for structural integrity monthly and after every coastal storm event
 - Dune vegetation shall be planted following any additional nourishment activities that affect the dunes.
 - Broken structures would be replaced within one month of storm damages.

The work is shown on the enclosed plans entitled “Crescent Beach Stabilization Project,” on eleven sheets, and dated “December 2017” and revised “”, “12/12/2017, 3/9/2018,9/11/201811/28/2018”.

AUTHORITY

Permits are required pursuant to:

- x Section 10 of the Rivers and Harbors Act of 1899
- x Section 404 of the Clean Water Act
- Section 103 of the Marine Protection, Research and Sanctuaries Act.
- x Section 14 of the Rivers and Harbors Act of 1899 (33 USC 408)

The decision whether to issue a permit will be based on an evaluation of the probable impact of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which may reasonably accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered, including the cumulative effects thereof; among those are: conservation, economics, aesthetics, general environmental concerns, wetlands, cultural value, fish and wildlife values, flood hazards, flood plain value, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food production and, in general, the needs and welfare of the people.

The U.S. Army Corps of Engineers, New England District (Corps), is soliciting comments from the public; Federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. The Corps will consider all comments received to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Where the activity involves the discharge of dredged or fill material into waters of the United States or the transportation of dredged material for the purpose of disposing it in ocean waters, the evaluation of the impact of the activity in the public interest will also include application of the guidelines promulgated by the Administrator, U.S Environmental Protection Agency, under authority of Section 404(b) of the Clean Water Act, and/or Section 103 of the Marine Protection Research and Sanctuaries Act of 1972, as amended.

The activities proposed herein will also require permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a Corps federally authorized Civil Works project known as the Woodmont Beach Erosion Control Project. The proposed alteration involves stabilization and re-nourishment of the existing beach, and the construction of a new vegetated sand dune, a storm water outfall pipe, an armored stone dune, and a wooden dune walkover bridge within the footprint of the federal project. The proposed alteration is located on Crescent Beach in Milford, Connecticut. An activity that requires §408 permission is not authorized by the Corps under Section 10 of the Rivers and Harbors Act of 1899, Section 404 of the Clean Water Act, or Section 103 of the Marine Protection, Research and Sanctuaries Act until the Corps issues the §408 permission to alter, occupy, or use the Corps project, and issues a written §10/404/103 permit. Through this public notice we are soliciting information necessary to inform the Corps evaluation and review. Comments on the §408 alteration shall be directed to Alex Garneau, Office of Levee Safety, 978-318-8389, Alex.R.Garneau@usace.army.mil.

ESSENTIAL FISH HABITAT

The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), requires all federal agencies to consult with the National Marine Fisheries Service on all actions, or proposed actions, permitted, funded, or undertaken by the agency, that may adversely affect Essential Fish Habitat (EFH). Essential Fish Habitat describes waters and substrate necessary for fish for spawning, breeding, feeding or growth to maturity.

This project will have an adverse effect on 2.71 acres of EFH. This habitat consists of mixed substrate. The sediment on the beach face is fine to medium-grained sand and gravel and cobble. The site exists between two bedrock headlands. Loss of this habitat may adversely affect species that use these waters and substrate. The District Engineer has made a preliminary determination that site-specific impacts may be substantial. Accordingly, the Corps has submitted an EFH assessment to the National Marine Fisheries Service, who in turn will provide conservation recommendations to the Corps. The Corps will coordinate with the applicant regarding implementation of these recommendations. The EFH consultation will be concluded prior to the final decision.

NATIONAL HISTORIC PRESERVATION ACT

Based on his initial review, the District Engineer has determined that little likelihood exists for the proposed work to impinge upon properties with cultural or Native American significance, or listed in, or eligible for listing in, the National Register of Historic Places. Therefore, no further consideration of the requirements of Section 106 of the National Historic Preservation Act of 1966, as amended, is necessary. This determination is based upon one or more of the following:

- a. The permit area has been extensively modified by previous work.
- b. The permit area has been recently created.
- c. The proposed activity is of limited nature and scope.
- d. Review of the latest published version of the National Register shows that no presence of registered properties listed as being eligible for inclusion therein are in the permit area or general vicinity.
- e. Coordination with the State Historic Preservation Officer and/or Tribal Historic Preservation Officer(s).

ENDANGERED SPECIES CONSULTATION

The Corps has reviewed the application for the potential impact on Federally-listed threatened or endangered species and their designated critical habitat pursuant to section 7 of the Endangered Species Act as amended. It is our preliminary determination that the proposed activity for which authorization is being sought is designed, situated or will be operated/used in such a manner that it is not likely to adversely affect a listed species or their critical habitat. We are coordinating with the National Marine Fisheries Service and/or U.S. Fish and Wildlife Service on listed species under their jurisdiction and the ESA consultation will be concluded prior to the final decision.

OTHER GOVERNMENT AUTHORIZATIONS

The states of Connecticut, Maine, Massachusetts, New Hampshire and Rhode Island have approved Coastal Zone Management Programs. Where applicable, the applicant states that any proposed activity will comply with and will be conducted in a manner that is consistent with the approved Coastal Zone Management Program. By this Public Notice, we are requesting the State concurrence or objection to the applicant's consistency statement.

The following authorizations have been applied for, or have been, or will be obtained:

- (x) Permit, license or assent from State.
- (x) Permit from local wetland agency or conservation commission.
- (x) Water Quality Certification in accordance with Section 401 of the Clean Water Act.

COMMENTS

In order to properly evaluate the proposal, we are seeking public comment. Anyone wishing to comment is encouraged to do so. Comments should be submitted in writing by the above date. If you have any questions, please contact Joshua Helms at (978) 318-8211, (800) 343-4789 or (800) 362-4367, if calling from within Massachusetts.

Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider the application. Requests for a public hearing shall specifically state the reasons for holding a public hearing. The Corps holds public hearings for the purpose of obtaining public comments when that is the best means for understanding a wide variety of concerns from a diverse segment of the public.

The initial determinations made herein will be reviewed in light of facts submitted in response to this notice. All comments will be considered a matter of public record. Copies of letters of objection will be forwarded to the applicant who will normally be requested to contact objectors directly in an effort to reach an understanding.

THIS NOTICE IS NOT AN AUTHORIZATION TO DO ANY WORK.

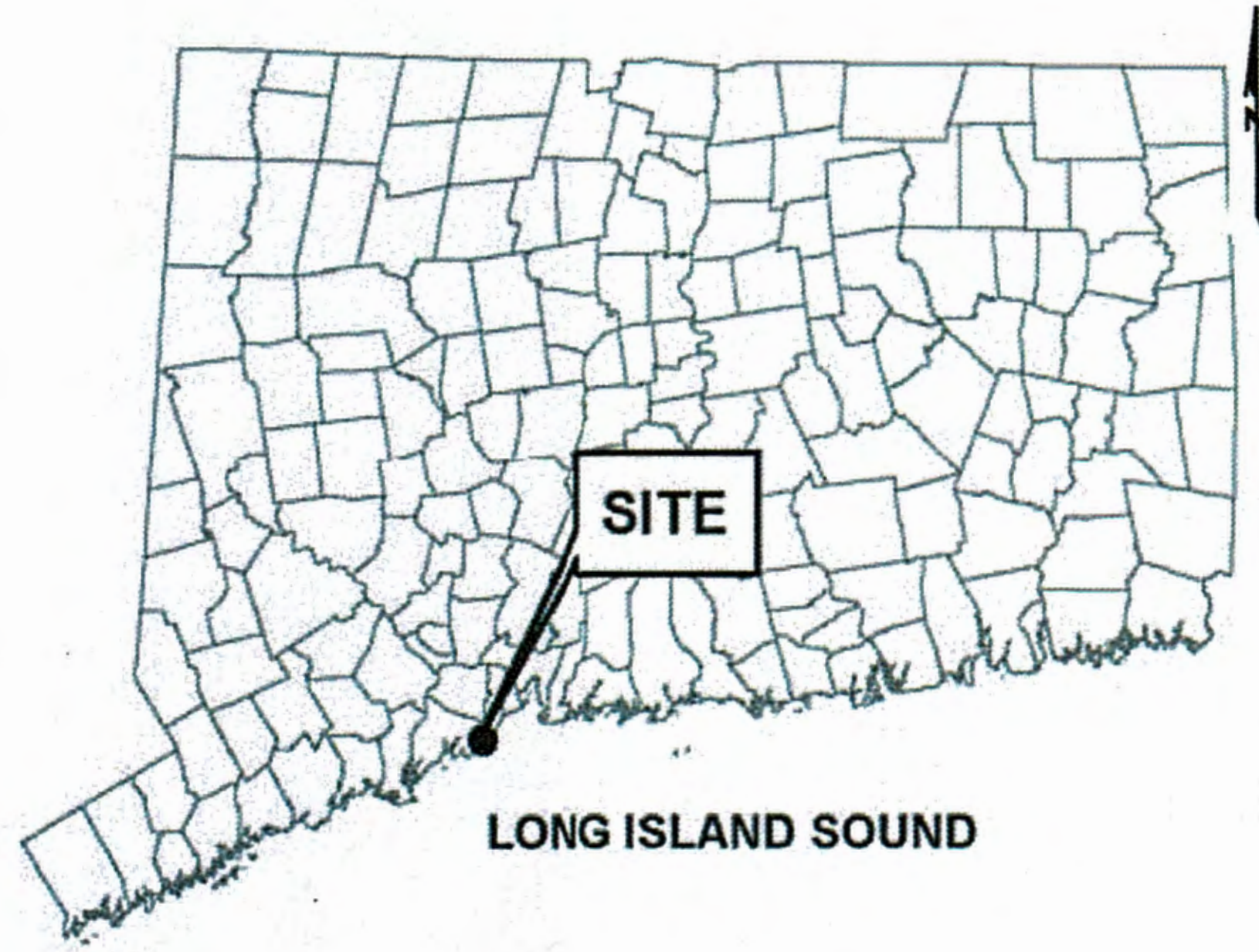


Kevin R. Kotelly, P.E.
Chief, Permits & Enforcement Branch
Regulatory Division

If you would prefer not to continue receiving Public Notices by email, please contact Ms. Tina Chaisson at (978) 318-8058 or e-mail her at bettina.m.chaisson@usace.army.mil. You may also check here () and return this portion of the Public Notice to: Bettina Chaisson, Regulatory Division, U.S. Army Corps of Engineers, 696 Virginia Road, Concord, MA 01742-2751.

NAME: _____
ADDRESS: _____
PHONE: _____

CRESCENT BEACH STABILIZATION PROJECT MILFORD, CONNECTICUT



STATE MAP
0 15mi 30mi 60mi
1" = 30mi

PREPARED BY:



REGIONAL MAP
0 2000 4000
SCALE: 1" = 2000'

**PREPARED FOR:
CITY OF MILFORD
MILFORD, CONNECTICUT**

SCHEDULE OF DRAWINGS

1. BEACH NOURISHMENT PLAN
2. SECTIONS AT STATIONS 0+60, 2+00, 4+00, AND 6+75
3. STORM DRAIN OUTFALL DETAILS
4. DUNE PLANTING DETAILS
5. DUNE CROSS-OVERS
6. EROSION AND SEDIMENT CONTROL DETAILS
7. PROJECT NOTES AND STORM DRAIN DATA TABLE

NOTE: THESE PLANS HAVE BEEN DEVELOPED SOLELY FOR THE PURPOSE OF PERMIT REVIEW AND CONTAIN A LEVEL OF DETAIL COMMENSURATE WITH PERMIT REVIEW REQUIREMENTS.

NO.	DATE	ISSUE/REVISION	APP
1	3/9/2018	REVISIONS PER MILFORD FECB	JM
0	12/12/2017	ISSUED FOR FOR PERMIT REVIEW	JM



Designed: JM
Checked: BG
Drawn: DE
Approved By: JM

Crescent Beach Stabilization Project
Milford, Connecticut
City of Milford
Milford, Connecticut

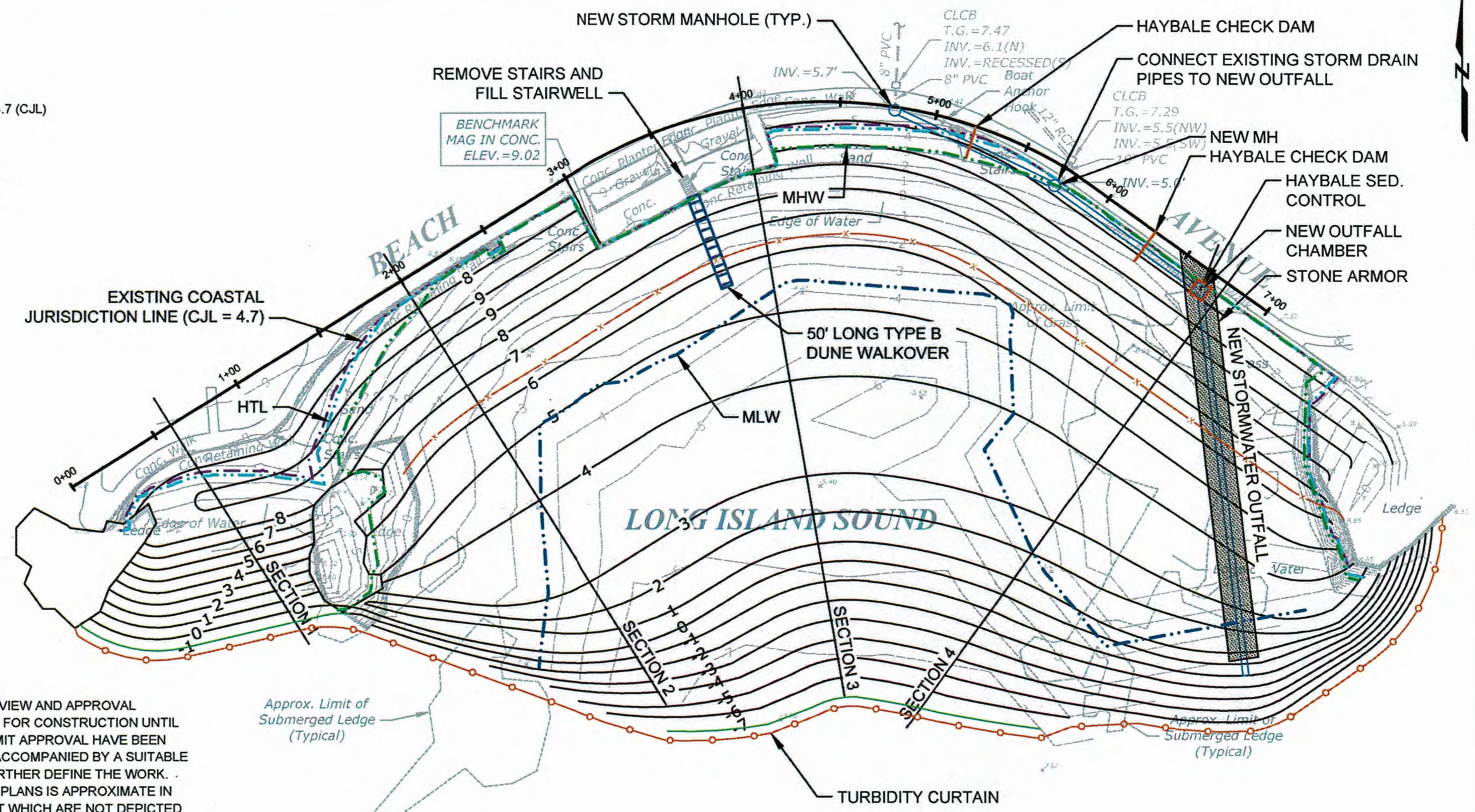


COVER/INDEX SHEET
Project 1700457
December 2017
Index

PLAN VIEW

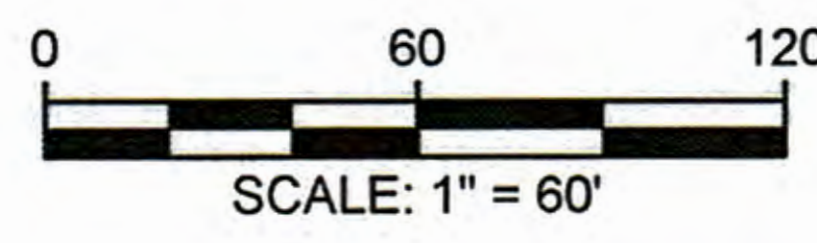
LEGEND:

- TURBIDITY CURTAIN
- MANHOLE
- COASTAL JURISDICTION LINE +4.7 (CJL)
- HIGH TIDE LINE +4.46 (HTL)
- MEAN HIGH WATER +3.15 (MHW)
- MEAN LOW WATER -3.60 (MLW)
- SAND FENCE



GENERAL NOTES:

1. THESE PLANS ARE INTENDED FOR PERMIT REVIEW AND APPROVAL PURPOSES ONLY. THEY ARE NOT TO BE USED FOR CONSTRUCTION UNTIL ALL FINAL DETAILS AND CONDITIONS OF PERMIT APPROVAL HAVE BEEN INCORPORATED, AND UNTIL THE PLANS ARE ACCOMPANIED BY A SUITABLE SET OF CONTRACT SPECIFICATIONS THAT FURTHER DEFINE THE WORK.
2. ALL UTILITY INFORMATION SHOWN ON THESE PLANS IS APPROXIMATE IN NATURE. UNDERGROUND UTILITIES MAY EXIST WHICH ARE NOT DEPICTED ON THESE PLANS, OR WHICH ARE NOT IN THE LOCATIONS SHOWN. THE CONTRACTOR ULTIMATELY SELECTED FOR THIS WORK SHALL PERFORM UTILITY IDENTIFICATION AND LOCATION PRIOR TO CONSTRUCTION USING CALL-BEFORE-U-DIG (CBUD) AND OTHER PRIVATE UTILITY IDENTIFICATION SERVICES TO ENSURE THAT ALL UTILITIES ARE LOCATED.
3. PROPERTY LINE INFORMATION SHOWN HAS BEEN OBTAINED FROM CITY OF MILFORD ASSESSOR RECORDS AND IS CONSIDERED RELEVANT FOR THESE PERMIT LEVEL DRAWINGS.
4. BASE SURVEY PREPARED BY MILONE & MACBROOM, INC. TO T-2 TOPOGRAPHIC STANDARDS, AND A-2 STANDARDS FOR HORIZONTAL LOCATIONS.
5. VERTICAL DATUM ON THESE PLANS IS NAVD88.



NO.	DATE	ISSUE/REVISION	APP
1	3/9/2018	REVISIONS PER MILFORD FECB	JM
0	12/12/2017	ISSUED FOR FOR PERMIT REVIEW	JM



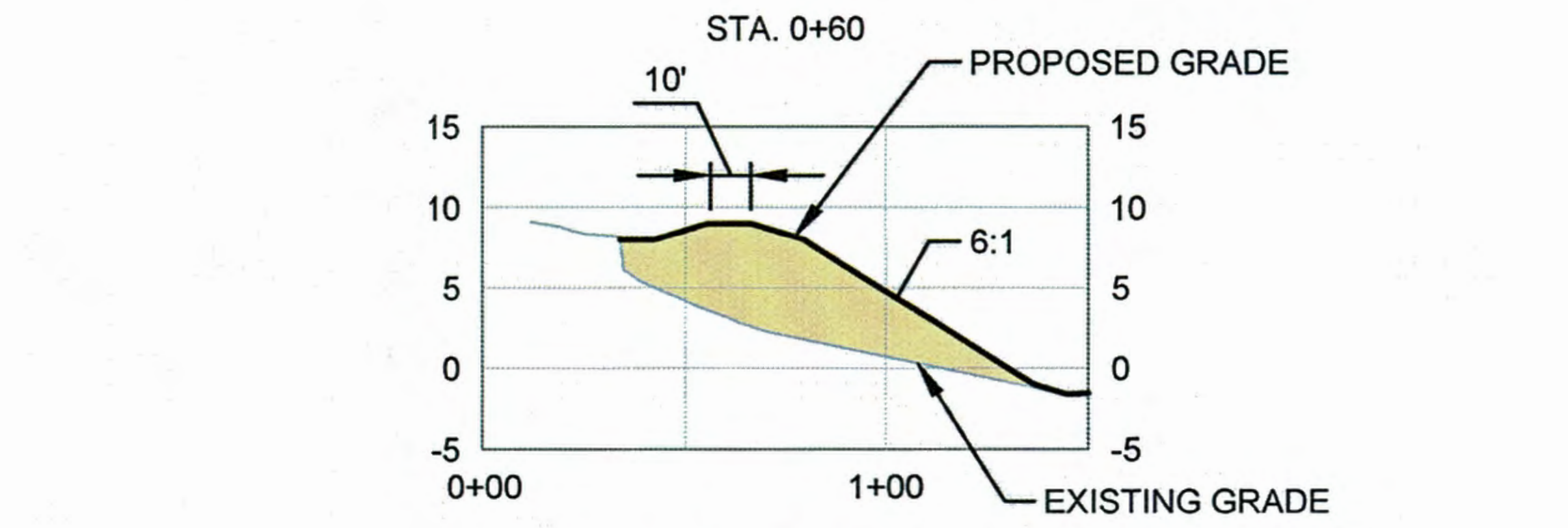
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 Checked: BG
 Drawn: DE
 Approved By: JM

Crescent Beach Stabilization Project
 Milford, Connecticut
 City of Milford
 Milford, Connecticut

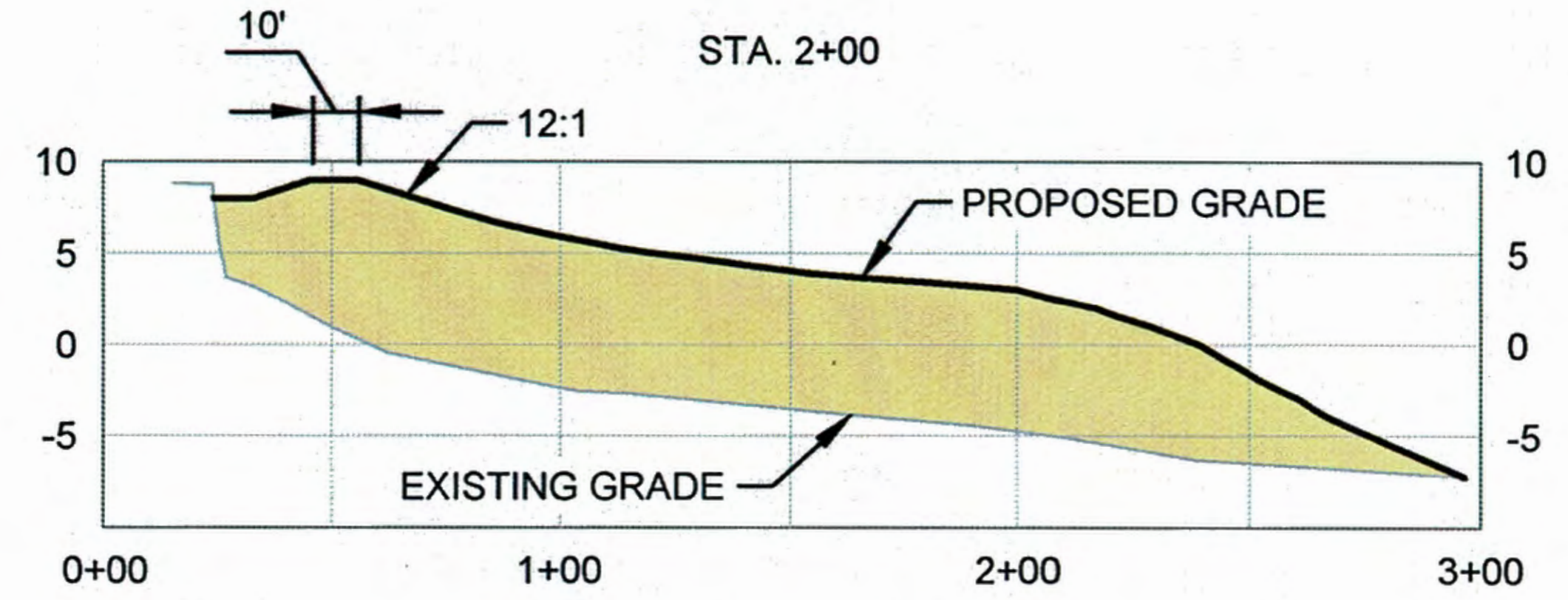


BEACH NOURISHMENT PLAN
 Project 1700457
 December 2017
 Fig. 1

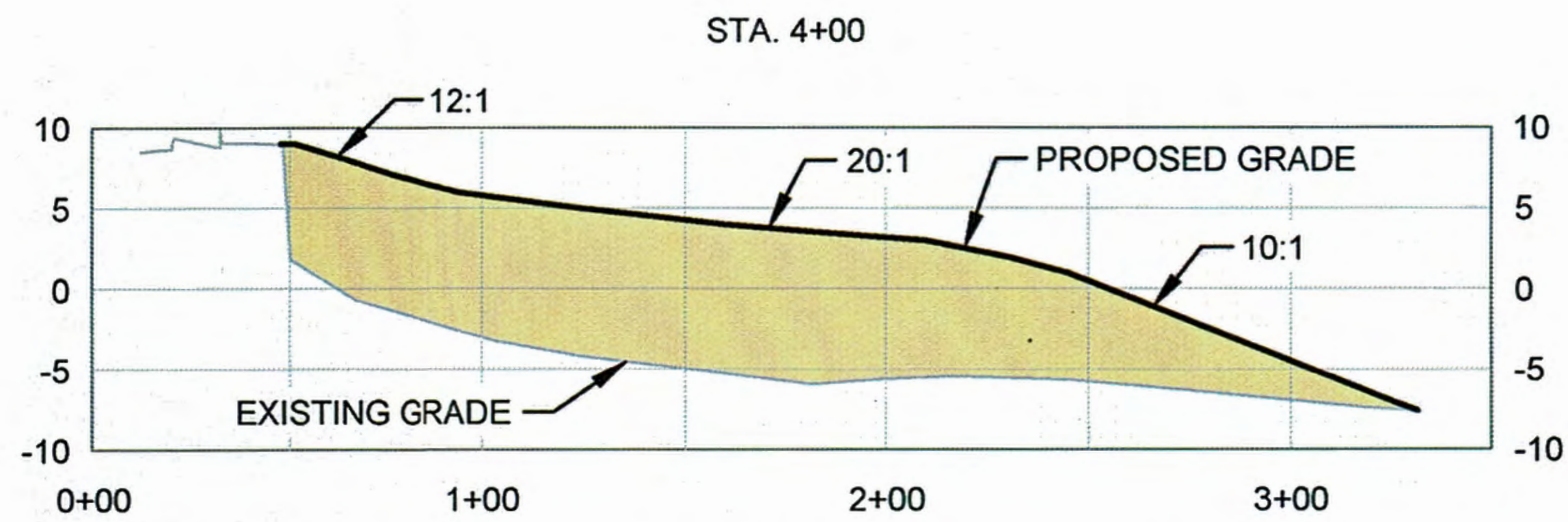
CROSS-SECTION



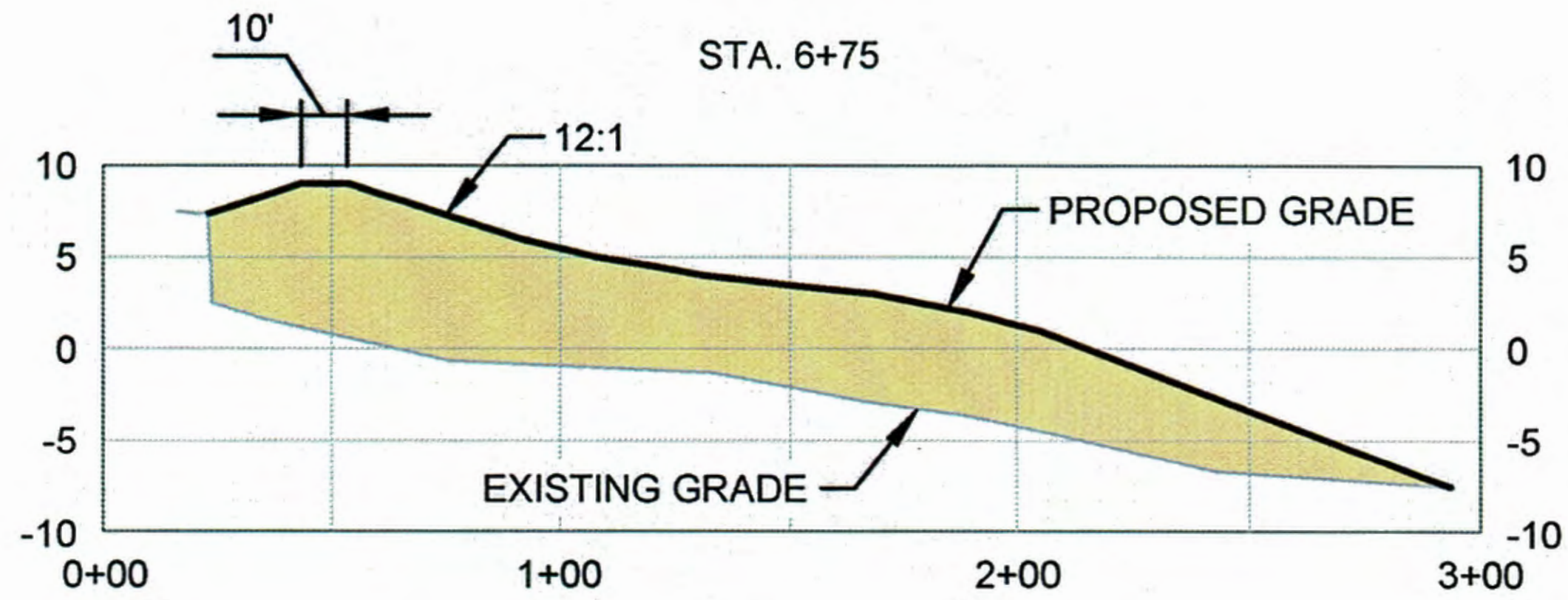
SECTION 1



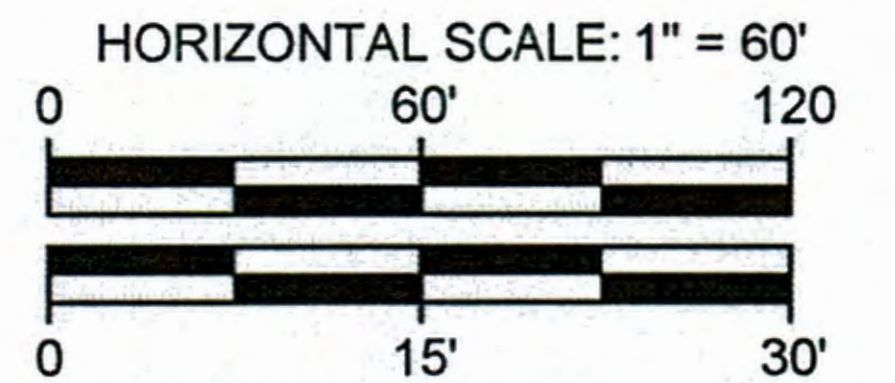
SECTION 2



SECTION 3



SECTION 4



VERTICAL SCALE: 1" = 15'
NOTE: 4x VERTICAL EXAGGERATION

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Drawn: DE
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Crescent Beach Stabilization Project
Milford, Connecticut

City of Milford
Milford, Connecticut



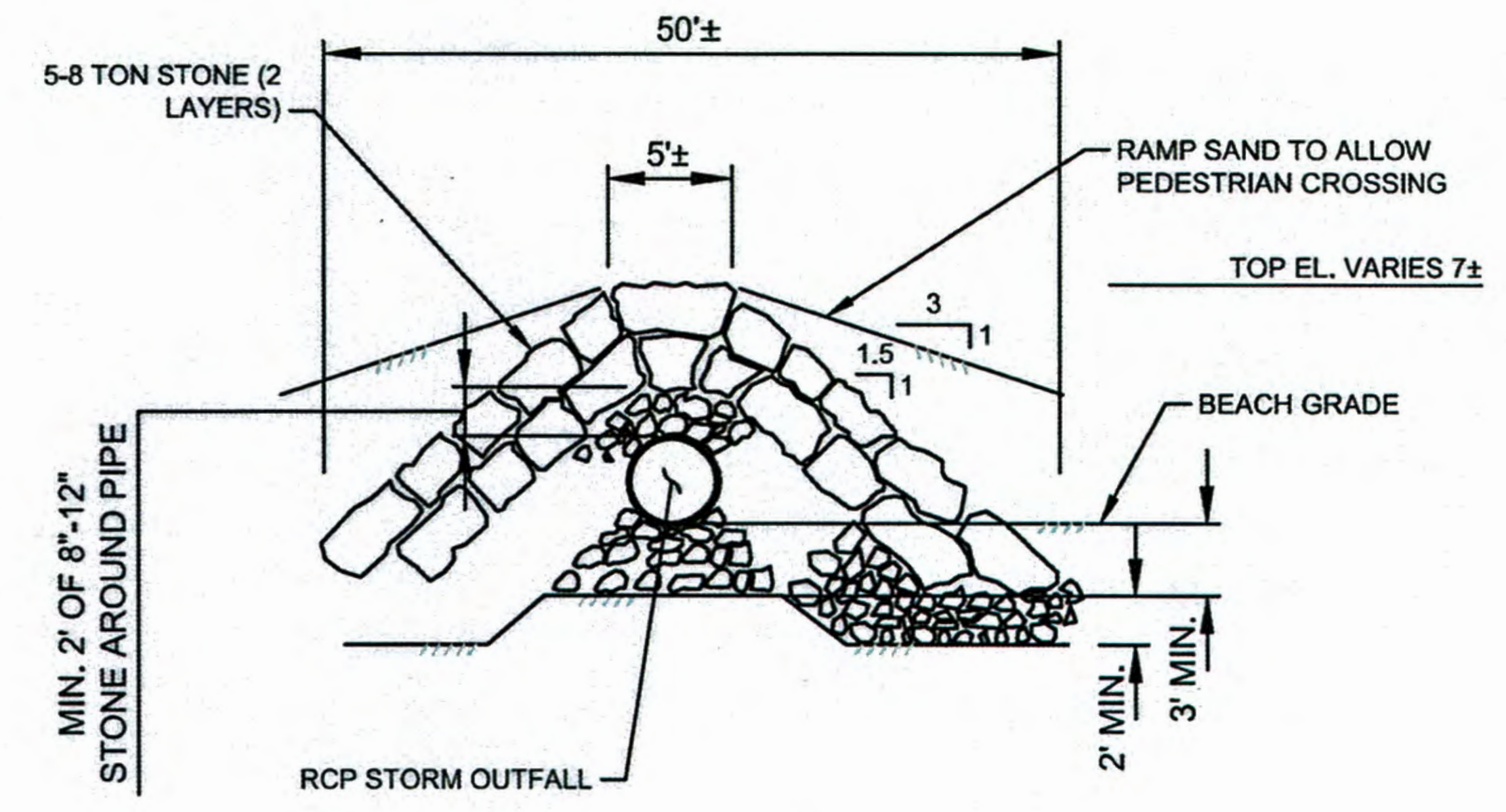
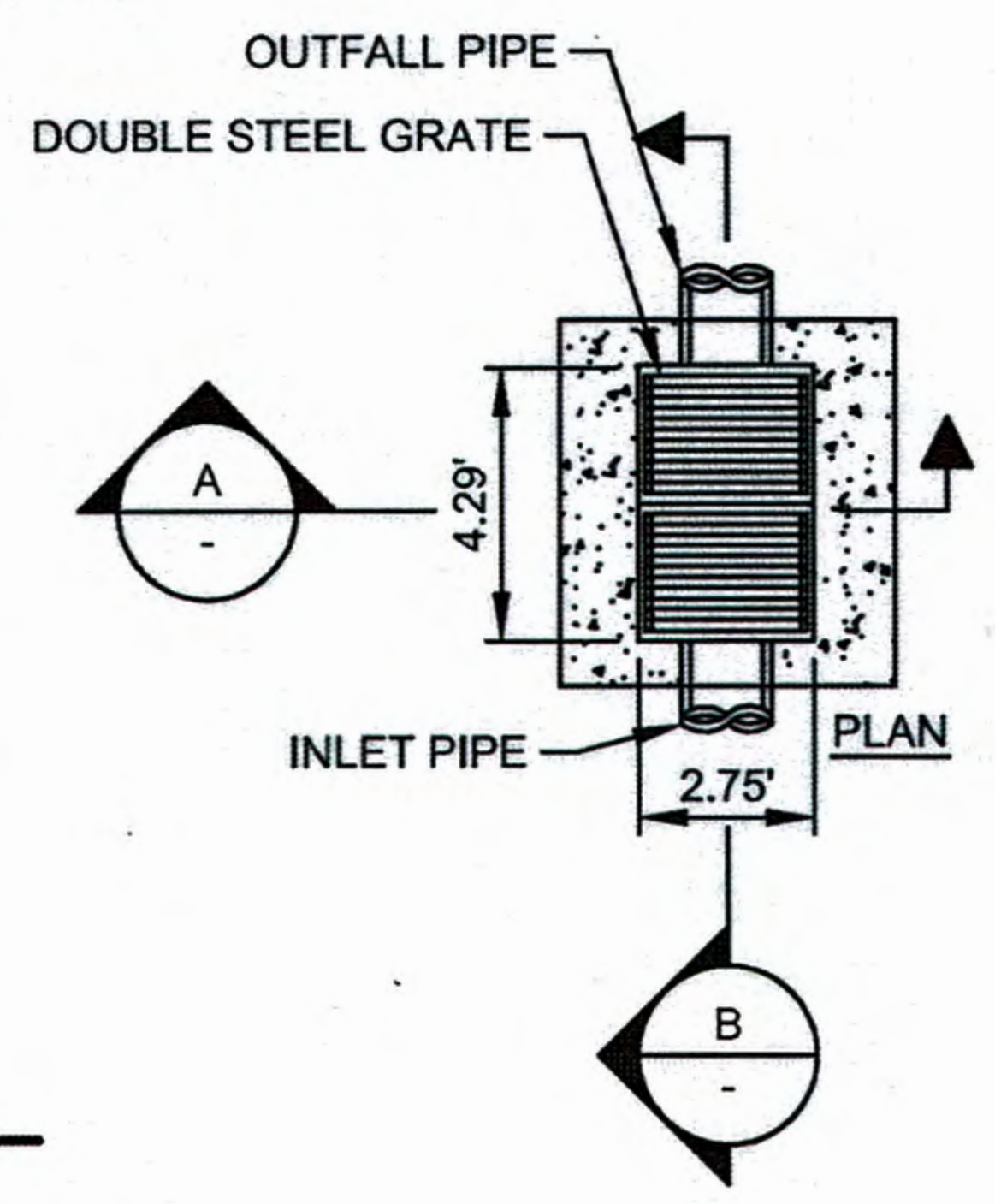
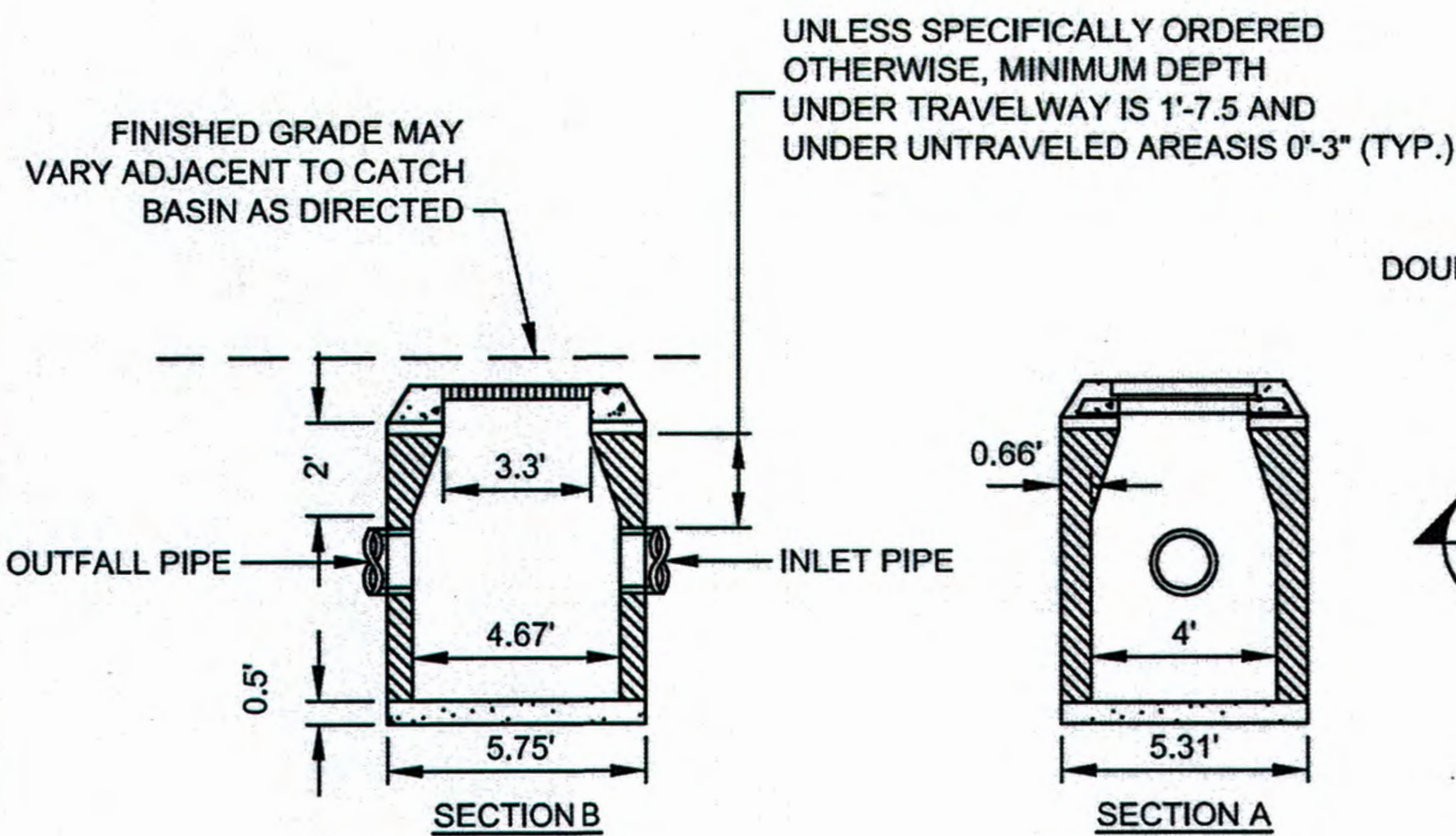
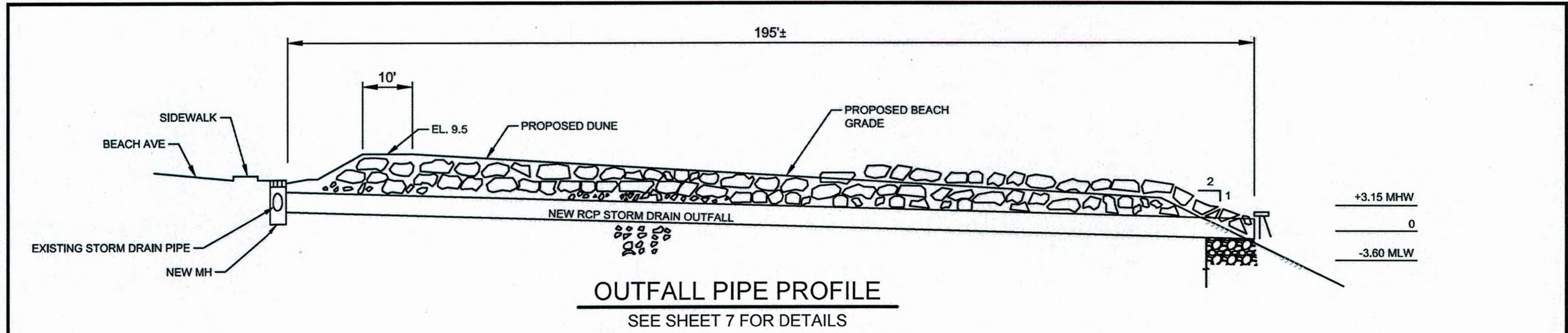
Project 1700457

SECTIONS AT STATIONS
0+60, 2+00, 4+00, AND 6+75

December 2017

Fig. 2

CROSS SECTION



NO.	DATE	ISSUE/REVISION	APP
1	3/9/2018	REVISIONS PER MILFORD FECB	JM
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Attention: If this scale bar does not measure 1" then drawing is not original scale.

Designed: JM
Checked: BG
Drawn: DE
Approved By: JM

Crescent Beach Stabilization Project
Milford, Connecticut

City of Milford
Milford, Connecticut

Project 1700457

STORM DRAIN
OUTFALL DETAILS

December 2017

Fig. 3

CROSS SECTION

DUNE PLANTING NOTES:

- DORMANT BEACHGRASS STEMS SHALL BE HELD IN COLD STORAGE PRIOR TO DELIVERY TO SITE.
- DELIVER PLANTS IMMEDIATELY PRIOR TO PLANTING ON SITE. STORE ALL PLANT MATERIALS, NOT INSTALLED IMMEDIATELY AFTER DELIVERY, OUT OF DIRECT EXPOSURE TO SUN AND WIND. MAINTAIN MOISTNESS OF PLANT CONTAINERS OR ROOT BALLS BY PERIODICALLY COVERING WITH WET STRAW OR CLOTH UNTIL TIME OF PLANTING.
- DO NOT STACK PLANTS DURING TRANSPORT OR TEMPORARY STORAGE TO AVOID CRUSHING.
- INSTALL SAND FENCE PRIOR TO PLANTING DUNE. INSTALL TWO (2) ROWS OF SAND FENCE PARALLEL TO THE SHORELINE, AS DEPICTED IN THE PLANS. SPACE POSTS 10 FT. APART AND SET POSTS A MINIMUM OF 3 FOOT DEPTH. WEAVE SAND FENCING IN FRONT OF AND BEHIND ALTERNATING POSTS TO ATTAIN MAXIMUM STRENGTH, AND ATTACH FENCING TO EACH POST WITH FOUR (4) WIRE TIES (≥ 12 GA.).
- STAKE OUT EDGES OF PLANTING ZONE AND CONTACT THE PROJECT ENGINEER OR LANDSCAPE ARCHITECT FOR INSPECTION PRIOR TO PLANT INSTALLATION.
- PLANT HARVESTED DORMANT BEACHGRASS STEMS FROM OCTOBER 15th THROUGH APRIL 15th; OR NURSERY-GROWN BEACHGRASS PLUGS FROM APRIL 15th TO May 31st.
- PLANT THE DUNE STARTING FROM THE SEAWARD SIDE (TOE OF THE DUNE) TOWARDS THE LANDWARD SIDE.
- INSTALL TWO (2) DORMANT BEACHGRASS (AMMOPHILA BREVILIGULATA) STEMS/CULMS, OR ONE PLUG PER PLANTING HOLE, APPROXIMATELY 8"-10" DEEP, SPACED A MAXIMUM OF 12" ON-CENTER.
- PLANT A MINIMUM OF TEN (10) PARALLEL ROWS, AND STAGGER/OFFSET THE PLANTS IN ALTERNATING ROWS TO MAXIMIZE PROTECTION.

SAND FENCING REQUIREMENTS:

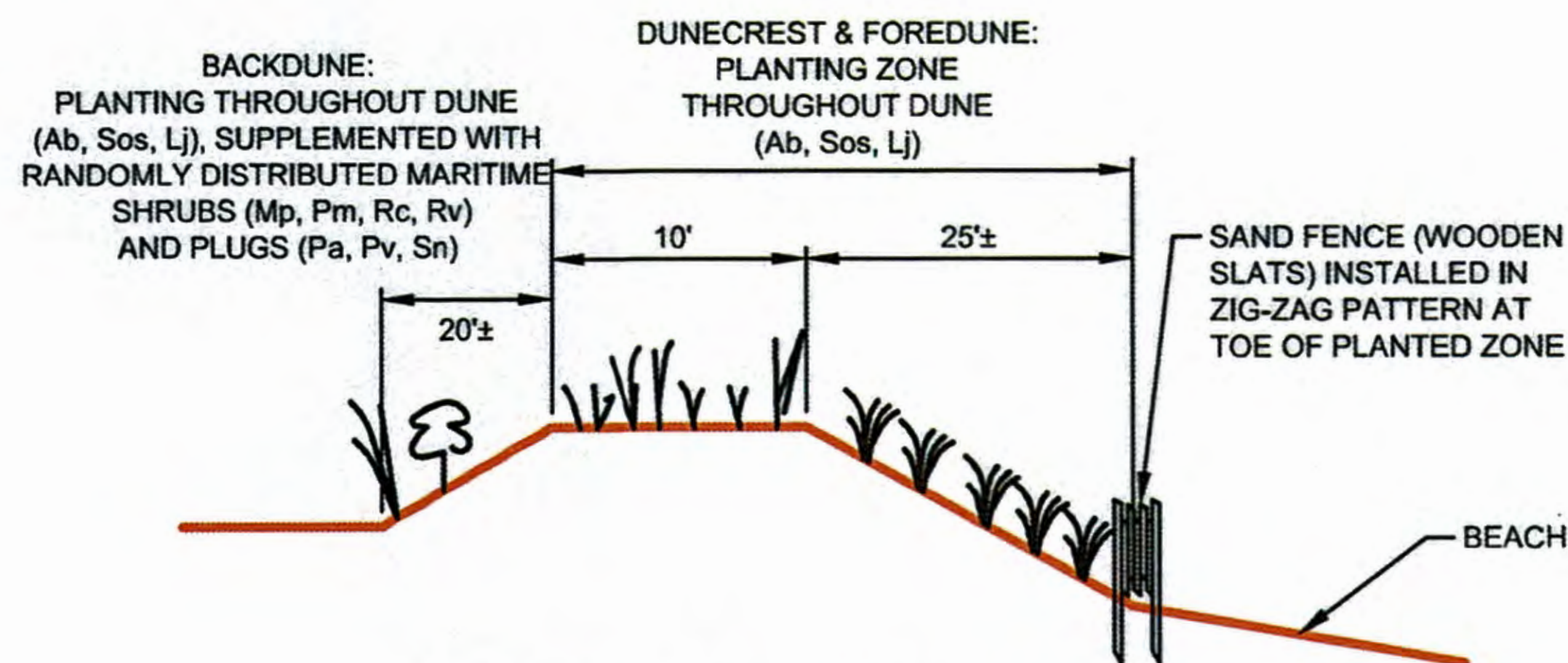
- STANDARD FOUR (4) FOOT SLATTED WOOD SNOW FENCING.
- WOODEN POSTS:
 - POSTS SHALL BE BLACK LOCUST, EASTERN RED CEDAR ATLANTIC WHITE CEDAR OR OTHER SPECIES OF SIMILAR DURABILITY AND STRENGTH.
 - WOODEN POSTS MUST BE GREATER THAN 6 1/2 FEET IN LENGTH (7 TO 8 FT. TYP.).
- INSTALL POSTS IN A REPEATING ZIG-ZAG PATTERN SO THAT SAND FENCE SECTIONS ARE PLACED AT A 45 DEGREE ANGLE TO THE SHOREFRONT. THIS PATTERN WILL MAXIMIZE SAND ENTRAPMENT ALONG THE BEACHFRONT.
- SAND WILL TYPICALLY FILL FENCING TO 3/4 OF ITS TOTAL HEIGHT.
- REPLACE DAMAGED SAND FENCING AND POSTS WITHIN ONE MONTH OF STORM DAMAGE TO MAINTAIN A CONTINUOUS DUNE LINE.

DUNE PLANTING SCHEDULE

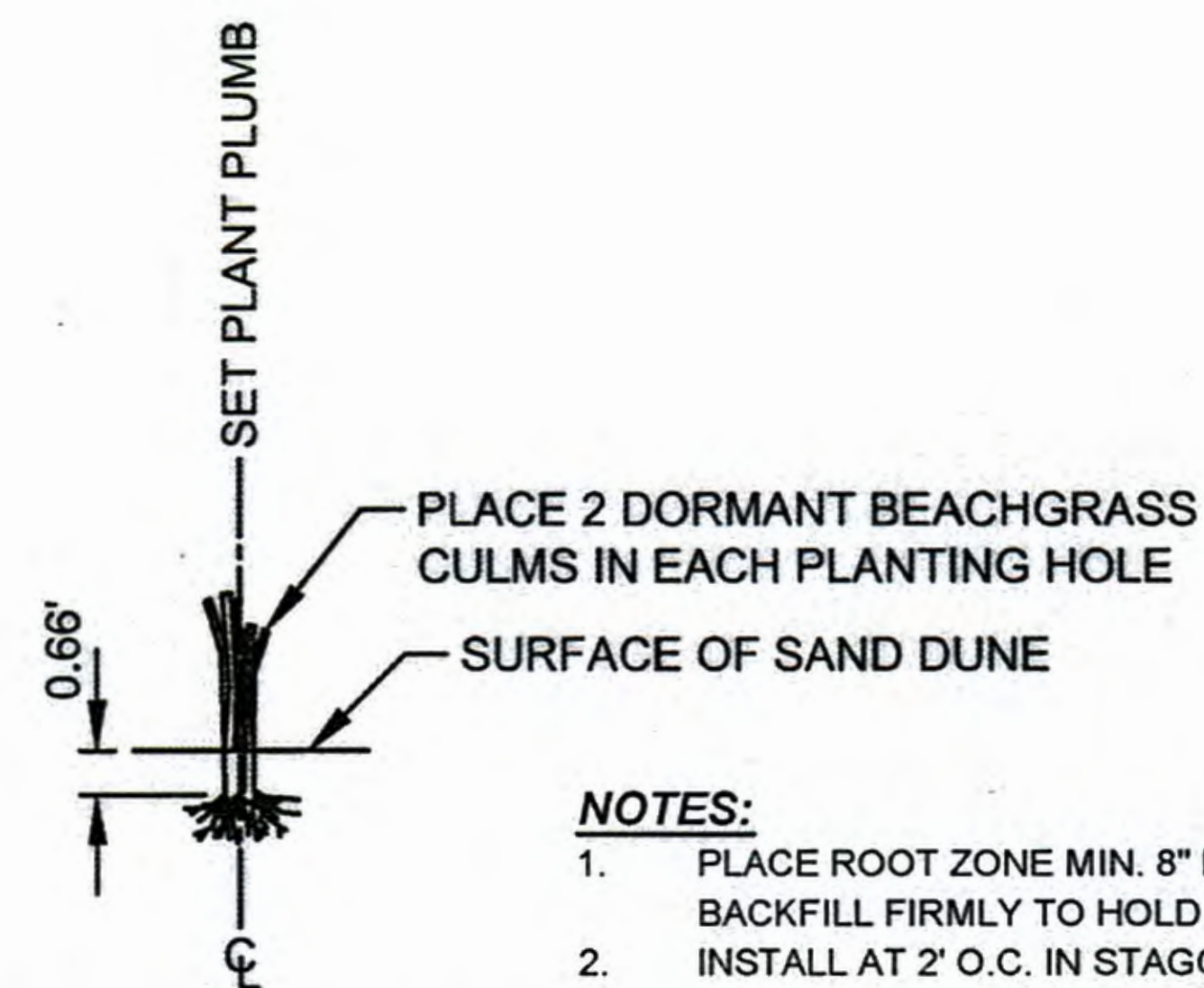
Abv.	Botanical Name	Common Name	Location	Size	Spacing	Qty.
Shrubs						
BhT	<i>Baccharis halimifolia</i>	Groundselbush	Vegetated rip-rap, Wildemere	2 yr. tubeling	2' O.C.	
lft	<i>Iva frutescens</i>	Marsh Elder	Vegetated rip-rap, Wildemere	2 yr. tubeling	2' O.C.	
Mp	<i>Morella pensylvanica</i>	Northern Bayberry	Backdune & Planting Berm	1 Gal. Cont.	4' O.C.	
Pm	<i>Prunus maritima</i>	Beach Plum	Backdune & Planting Berm	2 Gal. Cont.	4' O.C.	
Rc	<i>Rosa carolina</i>	Carolina Rose	Backdune & Planting Berm	1 Gal. Cont.	2' O.C.	
Rv	<i>Rosa virginiana</i>	Virginia Rose	Backdune & Planting Berm	1 Gal. Cont.	2' O.C.	
Herbaceous Plugs						
Ab	<i>Ammophila breviligulata</i>	American Beachgrass	Foredune & backdune throughout	Dormant culm	1' O.C.	
Pa	<i>Panicum amarulum</i>	"Atlantic" Coastal Panicgrass	Backdune & Planting Berm	2" Plug	2' O.C.	
Pv	<i>Panicum virgatum</i>	Switchgrass	Backdune & Planting Berm	2" Plug	2' O.C.	
Sn	<i>Sorghastrum nutans</i>	Indiangrass	Backdune & Planting Berm	2" Plug	2' O.C.	
Sos	<i>Solidago sempervirens</i>	Seaside Goldenrod	Foredune & backdune throughout	2" Plug	2' O.C.	
Vines						
Lj	<i>Lathyrus japonicus var. maritimus</i>	Beach Pea	Foredune & backdune throughout	2" Plug	2' O.C.	

PLANTING TABLE NOTES:

CONT. = CONTAINER
GAL. = GALLON
O.C. = ON CENTER



DUNE PLANTING DETAIL



NOTES:

- PLACE ROOT ZONE MIN. 8" BELOW SURFACE AND BACKFILL FIRMLY TO HOLD CULMS IN PLACE.
- INSTALL AT 2' O.C. IN STAGGERED ROWS.

DORMAM CULM PLANTING DETAIL

NO.	DATE	ISSUE/REVISION	APP
1	3/9/2018	REVISIONS PER MILFORD FECB	JM
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Approved By: JM

Crescent Beach Stabilization Project
Milford, Connecticut

City of Milford
Milford, Connecticut



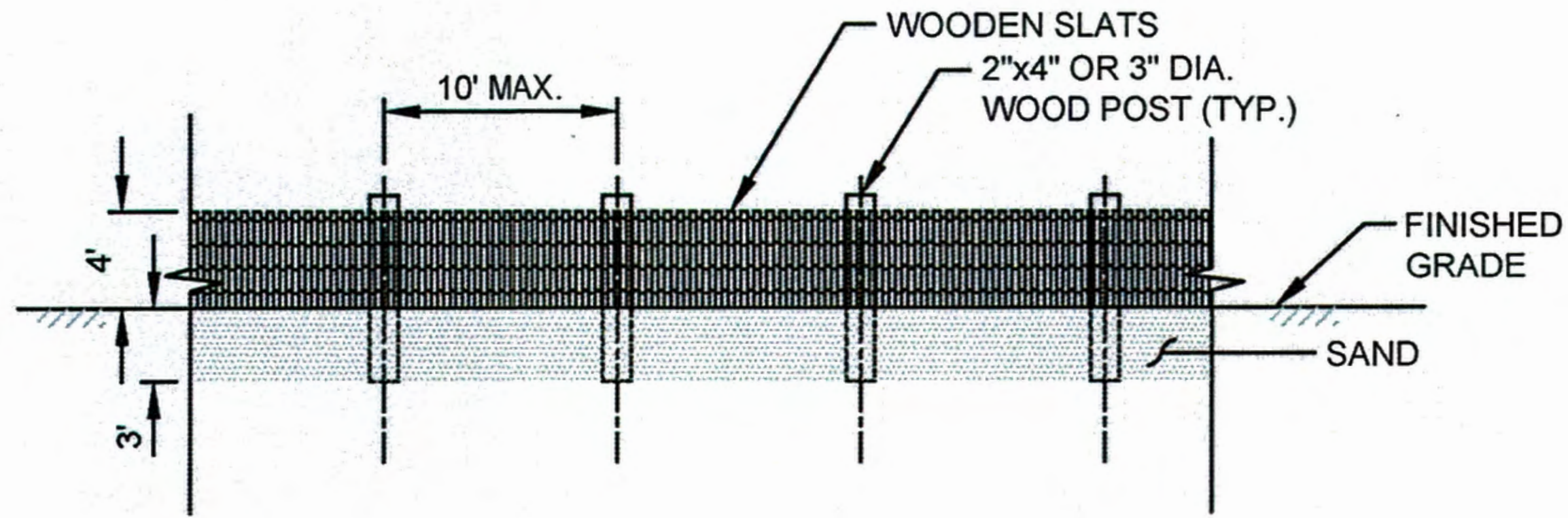
DUNE PLANTING DETAILS

Project 1700457

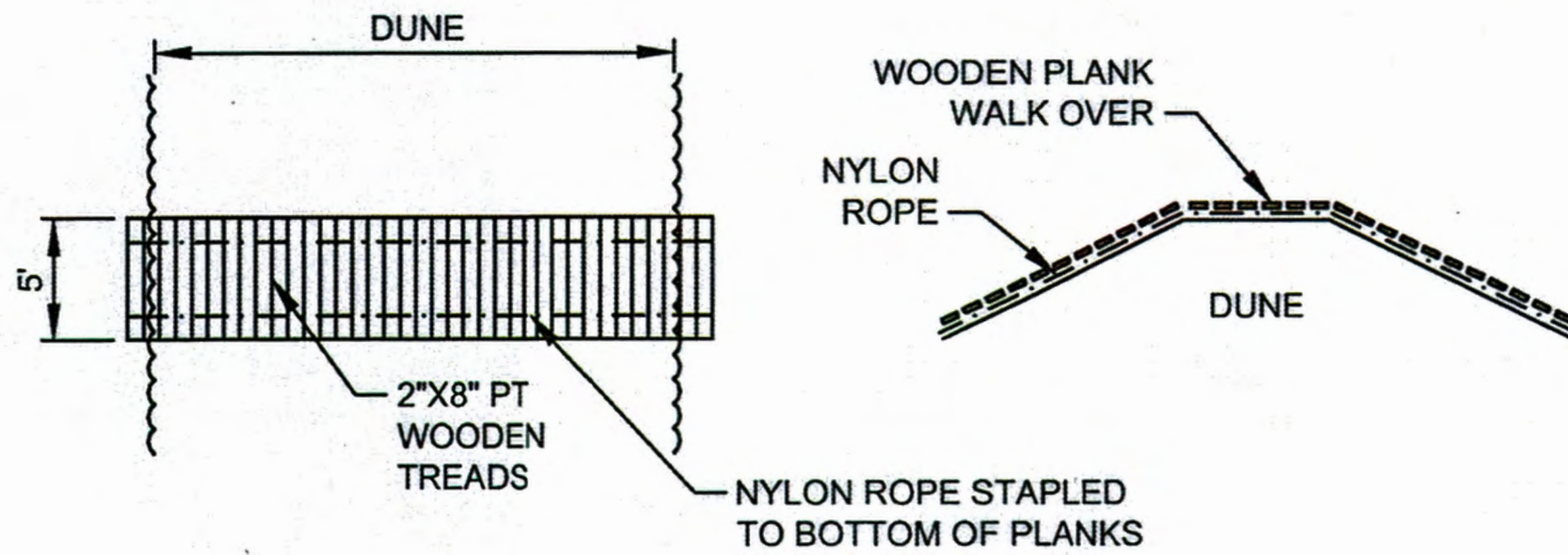
December 2017

Fig. 4

EROSION CONTROL



SAND FENCE

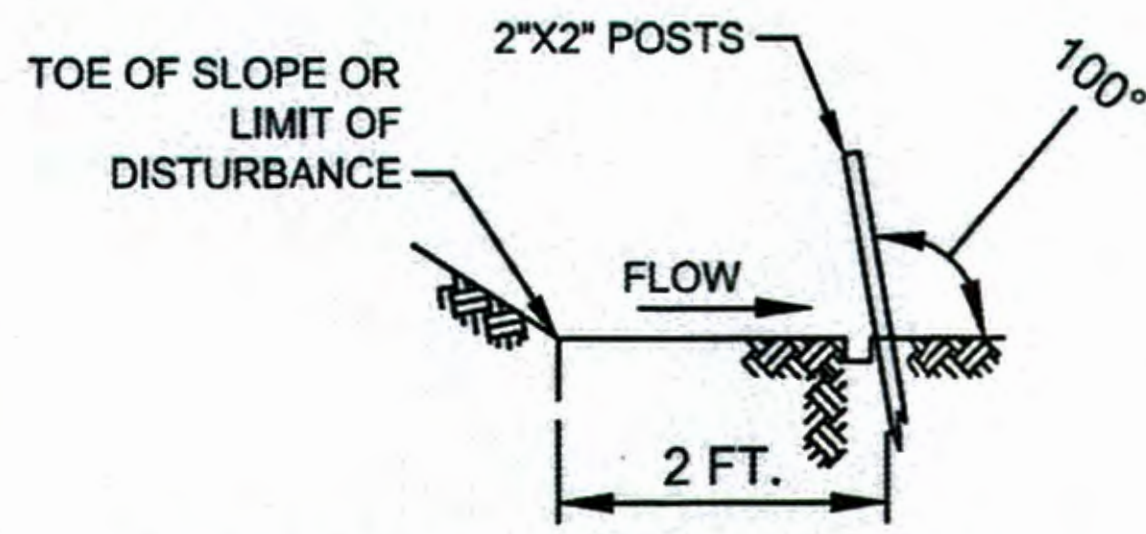


WOODEN WALKOVER DETAIL (TYPE B)

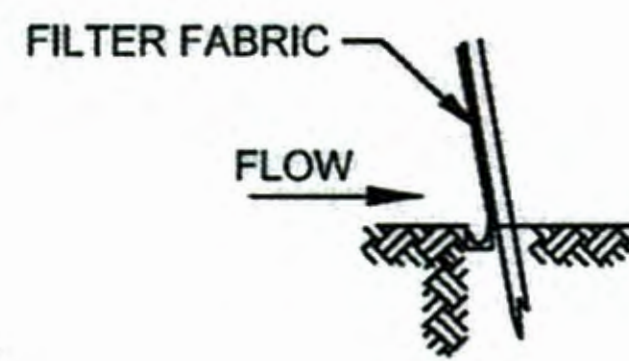
FOR MINOR PUBLIC CROSSINGS AND "PRIVATE" WALK-OVERS

Attention: If this scale bar does not measure 1" then drawing is not original scale.							Designed: JM	Crescent Beach Stabilization Project Milford, Connecticut City of Milford Milford, Connecticut	 GEI Consultants	DUNE CROSS-OVERS Project 1700457 December 2017	Fig. 5
	1	3/9/2018	REVISIONS PER MILFORD FECB	JM	Checked: BG						
	0	12/12/2017	PERMIT REVIEW	JM	Drawn: DE						
	NO.	DATE	ISSUE/REVISION	APP	Approved By: JM						

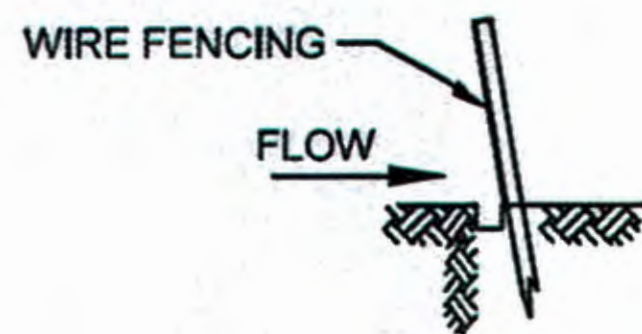
CROSS SECTION



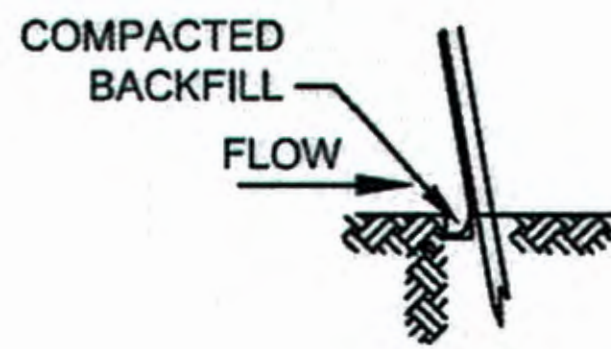
1. SET POSTS AND EXCAVATE A 6"x6" TRENCH. SET POSTS DOWN SLOPE. ANGLE 10° UPSLOPE FOR STABILITY AND SELF CLEANING



3. ATTACH FILTER FABRIC TO THE WIRE FENCING AND EXTEND IT TO THE TRENCH.

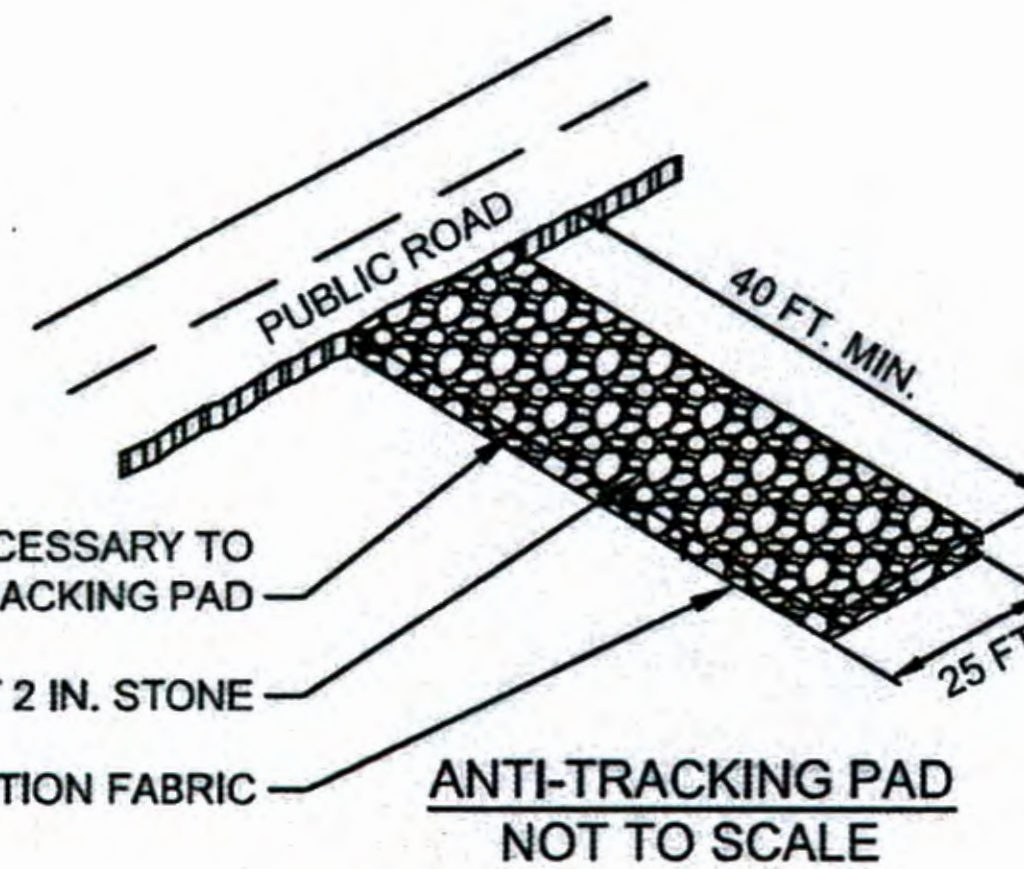


2. ATTACH THE WIRE MESH FENCING TO POST.



4. BACKFILL THE TRENCH AND COMPACT THE EXCAVATED SOIL.

**FILTER FABRIC FENCE SYSTEM
SEDIMENTATION CONTROL SYSTEM INSTALLATION
NOT TO SCALE**



EXCAVATE AS NECESSARY TO INSTALL ANTI-TRACKING PAD

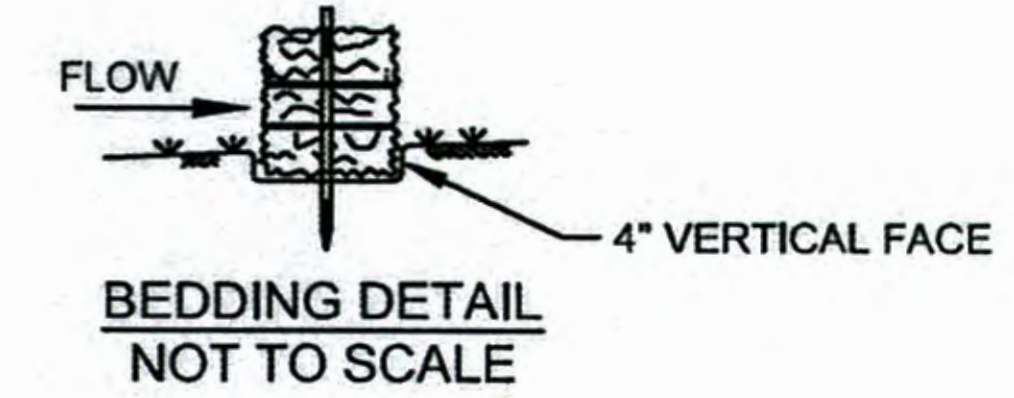
CONDOT 2 IN. STONE

SEPARATION FABRIC

**ANTI-TRACKING PAD
NOT TO SCALE**

NOTES:

1. TRACKING PAD 4" MIN. THICK.
2. PLACEMENT/LOCATION OF ANTI-TRACKING PADS WILL BE CONTAINED IN A CONTRACTOR SUBMITTED DETAILED EROSION AND SEDIMENT CONTROL PLAN.



**BEDDING DETAIL
NOT TO SCALE**

ANGLE FIRST STAKE TOWARDS PREVIOUSLY LAID BALE

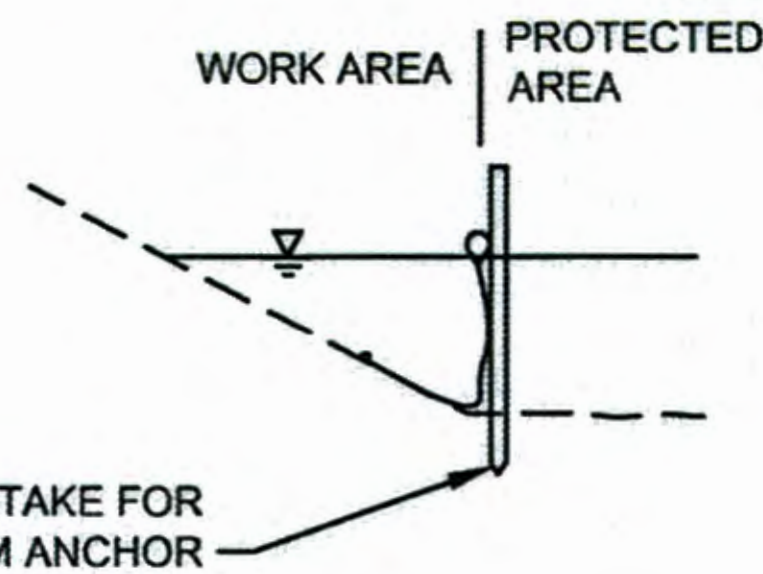


SOURCE: NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION.

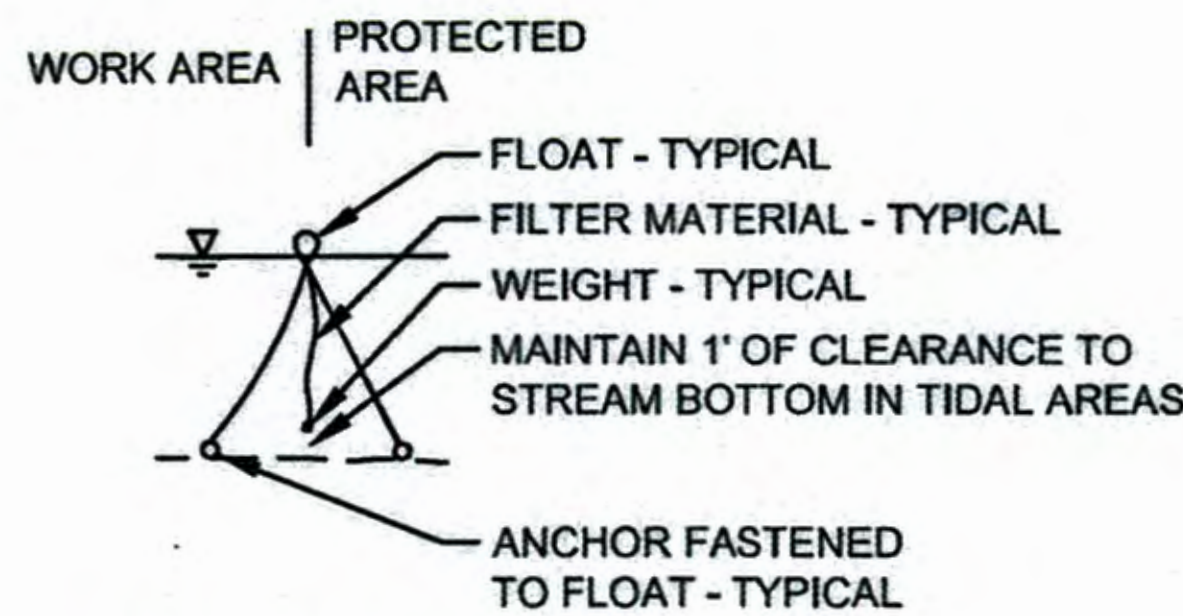
**ANCHORING DETAIL
SINGLE-STACKED STRAW BALE DIKE DETAIL
NOT TO SCALE**

TURBIDITY CURTAIN NOTES:

1. CURTAIN FABRIC SHALL BE A BRIGHTLY COLORED, TIGHTLY WOVEN, GEOSYNTHETIC OR IMPERVIOUS REINFORCED THERMOPLASTIC MATERIAL.
2. CONTRACTOR SHALL SUBMIT SHOP DRAWING OF FLOATING SEDIMENT BARRIER TO ENGINEER FOR REVIEW AND APPROVAL.
3. FLOATING SEDIMENT BARRIER AND ANCHORS SHALL BE CAREFULLY REMOVED FROM WATERCOURSE AND ACCUMULATED SEDIMENT SHALL BE DISPOSED OF IN AN OFF-SITE UPLAND AREA.
4. FLOATING SEDIMENT BARRIER SHALL BE INSPECTED DAILY FOR DAMAGE AND SEDIMENT LOAD. DEPENDING ON THE DURATION OF THE PROJECT, SEDIMENT SHALL BE REMOVED WHEN ITS ACCUMULATION INTERFERES WITH THE FUNCTION OF THE FLOATING SEDIMENT BARRIER.

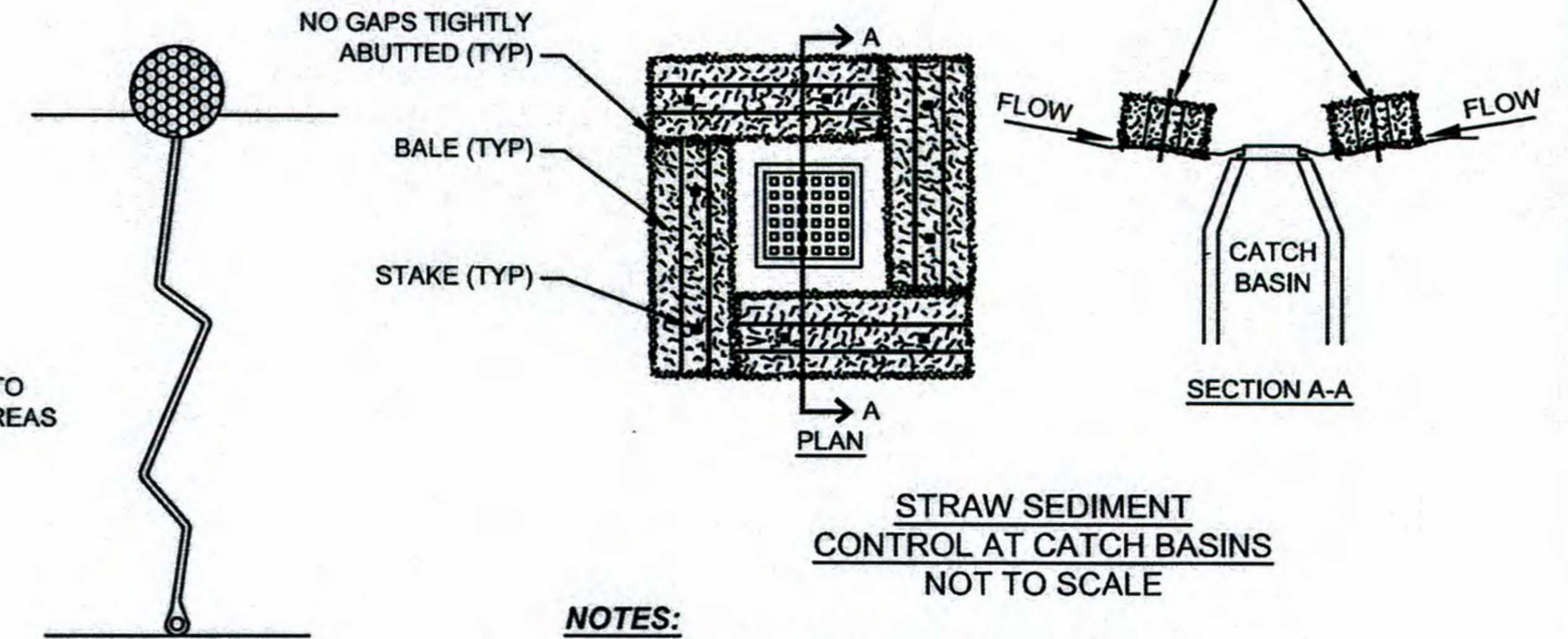


SHALLOW INSTALLATION



DEEP INSTALLATION

**TURBIDITY CURTAIN DETAIL
NOT TO SCALE**



**STRAW SEDIMENT CONTROL AT CATCH BASINS
NOT TO SCALE**

NOTES:

1. BALES ARE TO BE PLACED 4 INCHES IN THE SOIL, TIGHTLY ABUTTING WITH NO GAPS, STAKED AND BACKFILLED AROUND THE ENTIRE OUTSIDE PERIMETER.

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Drawn: DE
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Crescent Beach Stabilization Project
Milford, Connecticut

City of Milford
Milford, Connecticut



Project 1700457

EROSION AND SEDIMENT CONTROL DETAILS

December 2017

Fig. 6

PROJECT NOTES




PROJECT NOTES:

1. THE CONTRACTOR ULTIMATELY SELECTED SHALL COMPLY WITH THE DEEP PERMIT FOR THE DISCHARGE OF STORMWATER AND DEWATERING WASTEWATERS ASSOCIATED WITH CONSTRUCTION ACTIVITIES, AND BE RESPONSIBLE FOR OVERSEEING THE INSTALLATION AND MAINTENANCE OF ALL SEDIMENTATION AND EROSION CONTROL MEASURES. CONTRACTOR WILL BE RESPONSIBLE FOR PREPARING AND OBTAINING THIS PERMIT, AND FOR COMPLIANCE DURING CONSTRUCTION.
2. THE CONTRACTOR ULTIMATELY SELECTED WILL BE REQUIRED TO PROVIDE A SUBMITTAL WHICH PROVIDES DETAILS, PROCEDURES, AND WORK METHODS TO PROPERLY EXECUTE THE WORK, PROTECT THE ENVIRONMENT, AND MINIMIZE DISRUPTION TO ADJACENT PROPERTIES AND PUBLIC FACILITIES. THIS PLAN SHALL INCLUDE, BUT IS NOT LIMITED TO:
 - PREPARATION OF VARIOUS PLANS AND OTHER WRITTEN SUBMITTALS REQUIRED FOR PROPER CONTROLS DURING CONSTRUCTION.
 - IDENTIFICATION OF STAGING AND STOCKPILE AREAS.
 - LOCATION AND PLACEMENT OF ANTI TRACKING PADS TO CONTROL SEDIMENTS.
 - SEQUENCING OF PLACEMENT AND REMOVAL OF TURBIDITY CURTAINS THAT WILL BE INSTALLED IN PHASES ALONG DUNE AND BEACH NOURISHMENT SECTIONS IN A "ROLLING" FASHION.
 - TRUCK ROUTES AND ACCESS POINTS FOR PORTIONS OF THE PROJECT REQUIRING OVERLAND DELIVERY OR REMOVAL OF MATERIAL.
 - FOR MATERIAL DELIVERED OR REMOVED FROM SITE USING WATERBORNE MEANS (BARGES, ETC.) A DETAILED SUBMITTAL WILL BE REQUIRED.
3. SEDIMENTATION AND EROSION CONTROL MEASURES ARE PROPOSED TO ADEQUATELY CONTROL THE ACCELERATED EROSION AND SEDIMENTATION AND REDUCE THE DANGER FROM STORMWATER RUNOFF AT THE SITE. THE RUNOFF SHALL BE CONTROLLED BY THE INTERCEPTION, DIVERSION, AND SAFE DISPOSAL OF PRECIPITATION. RUNOFF SHALL ALSO BE CONTROLLED BY STAGING CONSTRUCTION ACTIVITY AND PRESERVING NATURAL VEGETATION WHENEVER POSSIBLE.
4. EXISTING DUNE VEGETATION SHALL BE PROTECTED AND ONLY THAT CLEARING AND GRUBBING THAT IS ABSOLUTELY NECESSARY FOR THE PROPOSED DUNE CONSTRUCTION, DRAINAGE INSTALLATION, AND BEACH NOURISHMENT SHALL BE PERFORMED. ALL DISTURBED AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AND CONTOUR, UNLESS OTHERWISE INDICATED ON THE PLANS. THE CONTRACTOR SHALL TAKE SPECIAL CARE WITH HIS DUNE CONSTRUCTION, BEACH NOURISHMENT, AND DREDGING METHODS AND SHALL COMPLY WITH SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROLS.

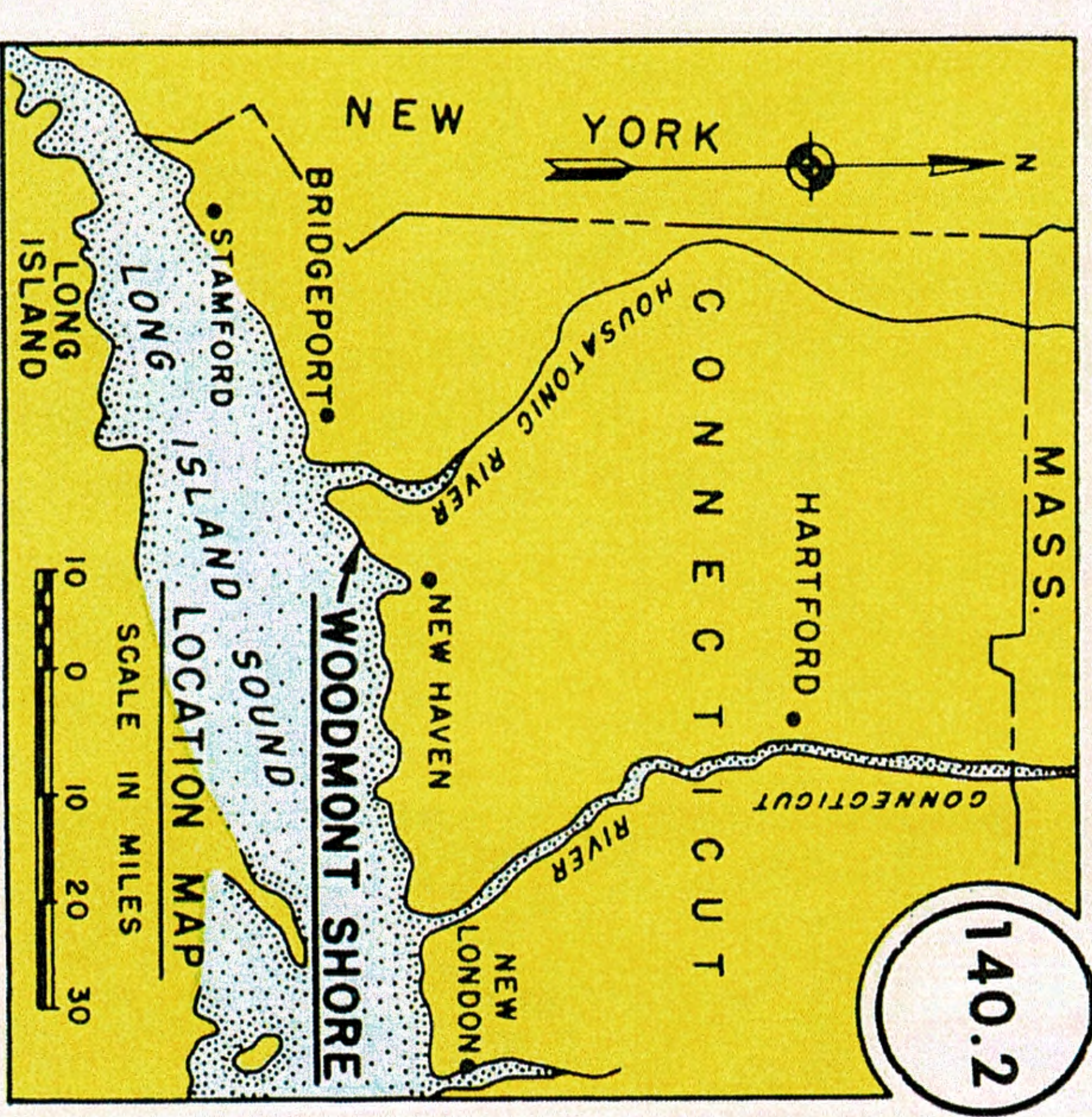
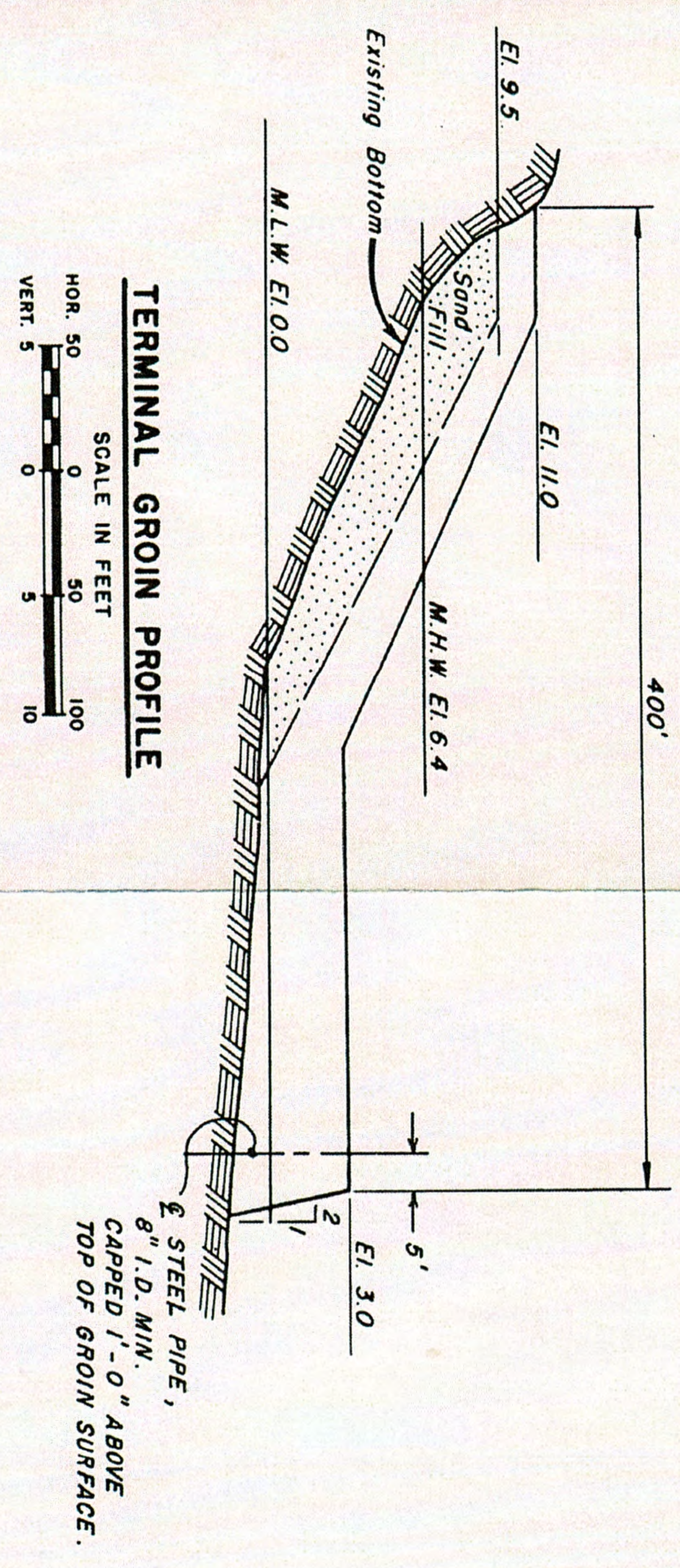
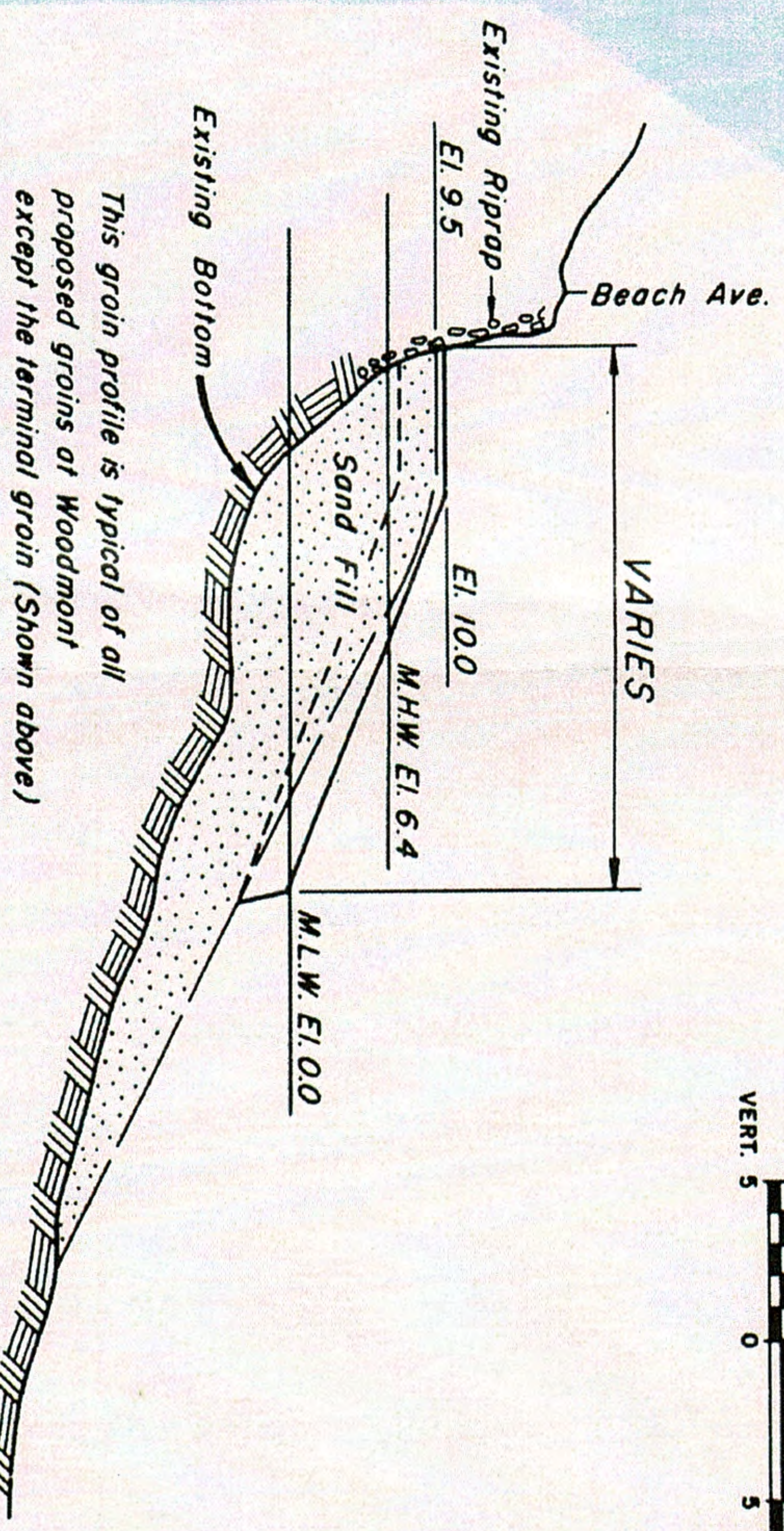
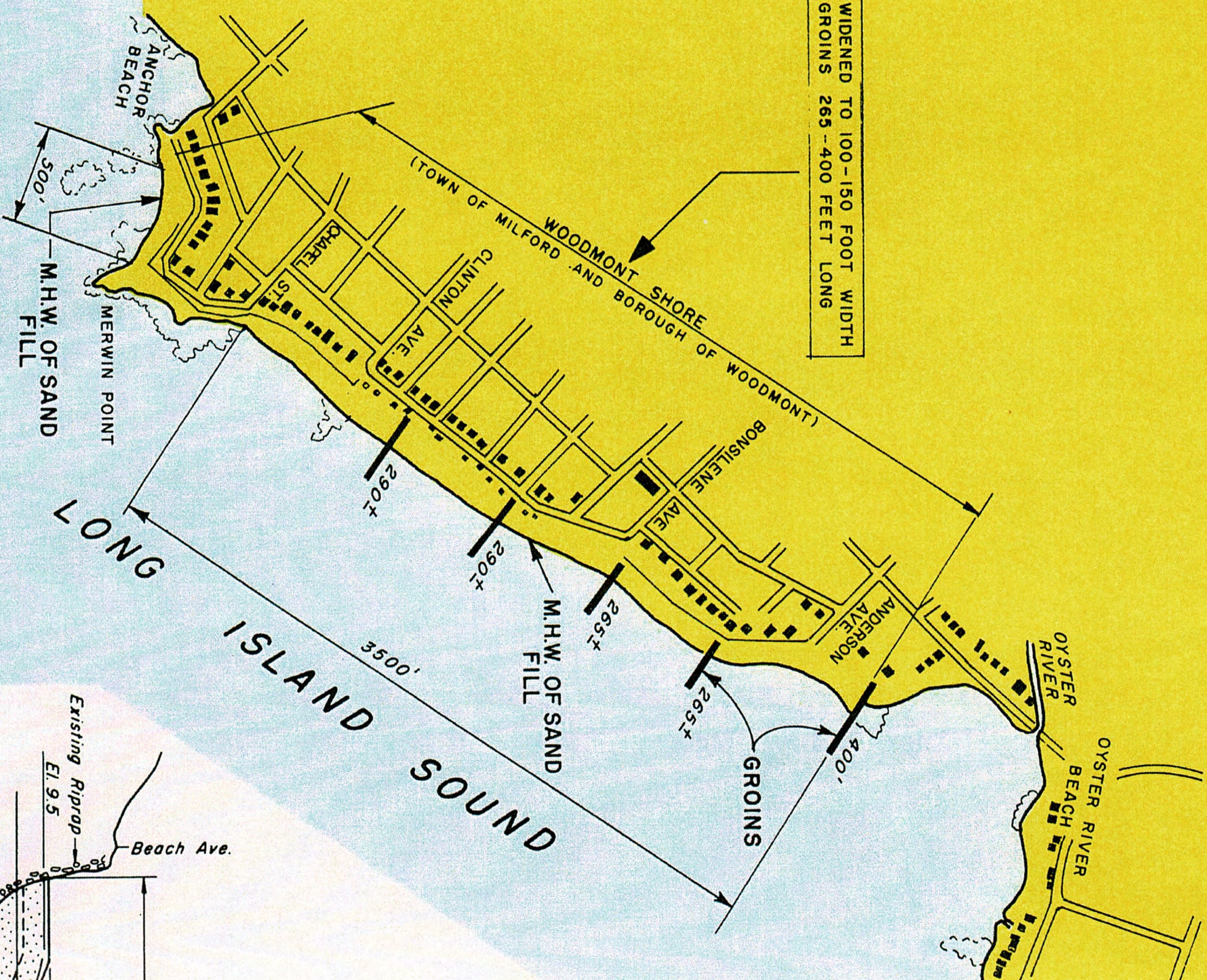
5. ALL AREAS SHALL BE PROTECTED FROM SEDIMENTATION DURING AND AFTER DREDGING, INCLUDING THE CORRESPONDING STORAGE AND HANDLING AREAS FOR DREDGED SEDIMENT. STOCKPILES MUST BE ADEQUATELY PROTECTED WITH HAY BALES AND/OR FILTER FABRIC FENCE AS INDICATED.
6. FREQUENTLY INSPECT EROSION CONTROLS. REPAIR/REPLACE DEFICIENT EROSIONS CONTROLS PROMPTLY, AS NEEDED.
7. STONE STABILIZED VEHICLE ANTI-TRACKING PADS SHALL BE LOCATED AT POINTS OF VEHICULAR INGRESS AND EGRESS FROM THE CONSTRUCTION SITE TO REDUCE TRACKING OR FLOWING OF SEDIMENT INTO PUBLIC RIGHTS-OF-WAY. FILTER FABRIC SHALL BE PLACED ON SUBGRADE PRIOR TO PLACEMENT OF STONE. STONE SHALL BE PLACED TO THE DIMENSIONS SHOWN ON THE PLAN. PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH, AS CONDITIONS DEMAND, MAY BE REQUIRED TO ENSURE THAT THE ENTRANCE FUNCTIONS AS INTENDED. PUBLIC ROADWAYS SHALL BE CLEANED OF DIRT AND DEBRIS AS NECESSARY, OR AS DIRECTED BY THE ENGINEER.
8. IN ALL AREAS, REMOVAL OF TREES, BUSHES AND OTHER VEGETATION, AND DISTURBANCE OF THE SOIL, IS TO BE KEPT TO AN ABSOLUTE MINIMUM WHILE ALLOWING PROPER DEVELOPMENT OF THE SITE.
9. DURING DREDGING OPERATIONS REQUIRED FOR INSTALLATION OF DRAINAGE, ROCK CORE BASE, AND OTHER COMPONENTS, THE AREA AND DURATION OF SEDIMENT EXPOSURE SHALL BE MINIMIZED, AND THE SEQUENCE OF DREDGING OPERATION SHALL ACT TO MINIMIZE THE EXPOSURE.
10. ALL SEDIMENTATION AND EROSION CONTROL DEVICES SHALL BE INSPECTED DURING CONSTRUCTION AND THE CONTRACTOR SHALL MAINTAIN AND MAKE REPAIRS AND REMOVE SEDIMENT IF IT HAS ACCUMULATED AND RENDERED THE SEDIMENT CONTROL NON-FUNCTIONAL. THE CONTRACTOR SHALL IN ADDITION MAINTAIN AND MAKE REPAIRS AND REMOVE SEDIMENT AS REQUESTED BY THE ENGINEER. THE CONTRACTOR SHALL CLEAN SEDIMENT AND DEBRIS FROM ALL DRAINAGE STRUCTURES AND PIPES AT THE COMPLETION OF THE DREDGING ACTIVITIES AND AS REQUESTED BY THE ENGINEER TO KEEP THE DRAINAGE SYSTEM PROPERLY FUNCTIONING.

STORM DRAIN DATA TABLE

Outfall Name	Location	Approx. Pipe Size	Approx. Length	Outfall Invert EL*	Pipe Material
Outfall #1	Beach Street	24" +/-	195'	-1.0	RCP

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BEACH WIDENED TO 100-150 FOOT WIDTH
5 GROINS 265-400 FEET LONG



WOODMONT SHORE
MILFORD, CONNECTICUT
30 SEPTEMBER 1988

IN 1 SHEET

SCALE IN FEET

500 0 500 1000

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
WALTHAM, MASS.