



Initial Review: _____
Updated On: _____
Complete: _____
Official Use Only

Coastal Zone Management Act Federal Consistency Form

This document provides the Delaware Coastal Management Program (DCMP) with a Federal Consistency Determination or Certification for activities regulated under the Coastal Zone Management Act of 1972, as amended, and NOAA's Federal Consistency Regulations, 15 C.F.R. Part 930. Federal agencies and other applicants for federal consistency are not required to use this form; it is provided to applicants to facilitate the submission of a Consistency Determination or Consistency Certification. In addition, federal agencies and applicants are only required to provide the information required by NOAA's Federal Consistency Regulations.

Project/Activity Name: Murderkill River Jetties Rehabilitation

I. Federal Agency or Non-Federal Applicant Contact Information:

Contact Name/Title: Douglas W. Mann, P.E., Lead Coastal Engineer, agent for the applicant

Federal Agency Contractor Name (if applicable): n/a

Federal Agency: US Army Corps of Engineers- Philadelphia District
(either the federal agency proposing an action or the federal agency issuing a federal license/permit or financial assistance to a non-federal applicant)

Mailing Address: 100 South Independence Mall West

City: Philadelphia State: PA Zip Code: 19106-3400

E-mail: c/o michale.d.yost@usace.army.mil Telephone #: 267-240-5278

II. Federal Consistency Category:

- Federal Activity or Development Project (15 C.F.R. Part 930, Subpart C)
- Outer Continental Shelf Activity (15 C.F.R. Part 930, Subpart E)
- Federal Financial Assistance (15 C.F.R. Part 930, Subpart F)
- Federal License or Permit Activity (15 C.F.R. Part 930, Subpart D)
- Federal License or Permit Activity which occurs wholly in another state (interstate consistency activities identified in DCMP's Policy document)

III. Detailed Project Description (attach additional sheets if necessary):

see the USACE permit application and other project descriptions (attached).

IV. General Analysis of Coastal Effects (attach additional sheets if necessary):

see attached

V. Detailed Analysis of Consistency with DCMP Enforceable Policies (attach additional sheets if necessary):

Policy 5.1: Wetlands Management

While the project involves lands that meet the physical definition included in 5.17, the tidal currents and wave action prevent the development of the wetland vegetative requirements identified in 5.17. As such the project is in compliance with section 5.1

Policy 5.2: Beach Management

The project is intended to reduce erosional losses from beaches and uplands into the channel which is in compliance with 5.2.1. The State has applied for a State permit in compliance with 5.2.4.1 and other sections. The project is in compliance with the remainder of 5.2

Policy 5.3: Coastal Waters Management (includes wells, water supply, and stormwater management. Attach additional sheets if necessary)

The project will temporarily generate small quantities of turbidity that will be managed through the use of turbidity barriers and or cofferdams. It is unlikely that long term degradation of State waters will occur. The project will not degrade the waters of the State in compliance with the applicable subsections of section 5.3. A wetland and sub-aqueous lands permit has been applied for.

Policy 5.4: Subaqueous Land and Coastal Strip Management

No commercial activity is proposed within the coastal strip. State permits have been applied for (Section 5.4.20). The project is in compliance with all other applicable sections of 5.4.

Policy 5.5: Public Lands Management

The south jetty sits on public lands and will be constructed for public purposes. The north jetty sits on private uplands within an easement to the State, and sovereign submerged lands. The north jetty will be constructed for public purposes.

Policy 5.6: Natural Lands Management

The project does not involve designated nature preserves. The south jetty currently and proposed sits on or is adjacent to State owned land. Aside from the jetty, the land can continue to function as a preserve(Section 5.6.1.2). Section 5.6.2 is not applicable.

Policy 5.7: Flood Hazard Areas Management

This section is not applicable to the project.

Policy 5.8: Port of Wilmington

The project is not located within the Port of Wilmington.

Policy 5.9: Woodlands and Agricultural Lands Management

The project will not affect woodlands. The project does not involve silviculture. The project will not impact agricultural lands. No tax ditching is included within the project.

Policy 5.10: Historic and Cultural Areas Management

There are no known historic or cultural resources within the footprint of the site. Both sites have been previously impacted by similar construction.

Policy 5.11: Living Resources

5.11.1.1.1 The project is designed to not reduce or increase the ebb and flood of the tide within the Murderkill River.
5.11.1.1.2: The deteriorated south jetty current supports algae growth, a few barnacles, and limited oysters . The proposed granite armor stones will support algae growth, and limited barnacles, but not likely oysters. The interstitial spaces of the proposed armor stone may better support fin fish than the current jetty. 5.11.3: No impacts to endangered species are expected. A full review will be performed by the USACE/USFWS/NMFS.

Policy 5.12 Mineral Resources Management

Mineral resources will not be affected by the project.

Policy 5.13: State Owned Coastal Recreation and Conservation

The State owned land south of the south jetty is expected to be better protected from erosion by the reconstruction of the south jetty. The State also owns a few small parcels adjacent to the north jetty and these will also be better protected by erosion from construction of the jetty repair.

Policy 5.14: Public Trust Doctrine

The project will not prevent the public's right to navigation within the Murderkill River and or fish along its banks.

Policy 5.15: Energy Facilities

The project does not include any type of energy facility.

Policy 5.16: Public Investment

5.16.1.1 is not applicable to this project. 5.16.1.2. The project involves the removal of concrete bags which may be recycled as waste concrete, or reincorporated into the foundation layer of the proposed structure.

Policy 5.17: Recreation and Tourism

Not applicable to this project.

Policy 5.18: National Defense and Aerospace Facilities

Not applicable to this project.

Policy 5.19: Transportation Facilities

Not applicable to this project.

Policy 5.20: Air Quality Management

Construction of the project will require the use of diesel engine based equipment. The temporary operation of this equipment is not expected to significantly affect air quality. Operation of the project will not generate air contaminants.

Policy 5.21: Water Supply Management

Not applicable to this project.

Policy 5.22: Waste Disposal Management

The majority of this section is not applicable to the project. The contractor who builds the jetties will be prohibited by contract from disposing of waste in the Murderkill River or Delaware Bay per Section 5.22.3.1.

Policy 5.23: Development

Not applicable to this project.

Policy 5.24: Pollution Prevention

Not applicable to this project. The generation of pollution during construction will be managed via the construction contract.

Policy 5.25: Coastal Management Coordination

The current permit applications for this project are being circulated and review in compliance with this section.

VI. JPP and RAS Review (Check all that apply):

Has the project been reviewed in a monthly Joint Permit Processing and/or Regulatory Advisory Service meeting?

JPP

RAS

None

*If yes, provide the date of the meeting(s): July 2022

VII. Statement of Certification/Determination and Signature (Check one and sign below):

FEDERAL AGENCY CONSISTENCY DETERMINATION. Based upon the information, data, and analysis included herein, the federal agency, or its contracted agent, listed in (I) above, finds that this proposed activity is consistent to the maximum extent practicable with the enforceable policies of the Delaware Coastal Management Program.

OR

FEDERAL AGENCY NEGATIVE DETERMINATION. Based upon the information, data, and analysis included herein, the federal agency, or its contracted agent, listed in (I) above, finds that this proposed activity will not have any reasonably foreseeable effects on Delaware's coastal uses or resources (Negative Determination) and is therefore consistent with the enforceable policies of the Delaware Coastal Management Program.

OR

NON-FEDERAL APPLICANT'S CONSISTENCY CERTIFICATION. Based upon the information, data, and analysis included herein, the non-federal applicant for a federal license or permit, or state or local government agency applying for federal funding, listed in (I) above, finds that this proposed activity complies with the enforceable policies of the Delaware Coastal Management Program and will be conducted in a manner consistent with such program.

Signature:	Douglas W Mann	<small>Digitally signed by Douglas W Mann Date: 2023.05.02 10:11:28 -04'00'</small>	
Printed Name:	Douglas W. Mann, P.E.	Date:	04/28/23

Pursuant to 15 C.F.R. Part 930, the Delaware Coastal Management Program must provide its concurrence with or objection to this consistency determination or consistency certification in accordance with the deadlines listed below. Concurrence will be presumed if the state's response is not received within the allowable timeframe.

Federal Consistency Review Deadlines:

Federal Activity or Development Project (15 C.F.R. Part 930, Subpart C)	60 days with option to extend an additional 15 days or stay review (15 C.F.R. § 930.41)
Federal License or Permit (15 C.F.R. Part 930, Subpart D)	Six months, with a status letter at three months. The six month review period can be stayed by mutual agreement. (15 C.F.R. § 930.63)
Outer Continental Shelf Activity (15 C.F.R. Part 930, Subpart E)	Six months, with a status letter at three months. If three month status letter not issued, then concurrence presumed. The six month review period can be stayed by mutual agreement. (15 C.F.R. § 930.78)
Federal Financial Assistance to State or Local Governments (15 C.F.R. Part 930, Subpart F)	State Clearinghouse schedule

OFFICIAL USE ONLY:

Reviewed By:	Fed Con ID:	Date Received:
Public notice dates: _____ to _____	Comments Received: <input type="checkbox"/> NO <input checked="" type="checkbox"/> YES <i>[attach comments]</i>	
Decision type: <small>(objections or conditions attach details)</small>	Decision Date: _____	

U.S. Army Corps of Engineers (USACE) APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT For use of this form, see 33 CFR 325. The proponent agency is CECW-CO-R.	<i>Form Approved -</i> OMB No. 0710-0003 Expires: 08-31-2023
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The public reporting burden for this collection of information, OMB Control Number 0710-0003, is estimated to average 11 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR APPLICATION TO THE ABOVE EMAIL.

PRIVACY ACT STATEMENT

Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Programs of the Corps of Engineers; Final Rule 33 CFR 320-332. Principal Purpose: Information provided on this form will be used in evaluating the application for a permit. Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public and may be made available as part of a public notice as required by Federal law. Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued. One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and/or instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned. System of Record Notice (SORN). The information received is entered into our permit tracking database and a SORN has been completed (SORN #A1145b) and may be accessed at the following website: <http://dpcld.defense.gov/Privacy/SORNsIndex/DOD-wide-SORN-Article-View/Article/570115/a1145b-ce.aspx>

(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETE
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(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME First - State of Delaware Middle - Last - Company - Department Of Natural Resources & Environmental Control E-mail Address - Joseph.faries@delware.gov	8. AUTHORIZED AGENT'S NAME AND TITLE (agent is not required) First - Douglas Middle - W Last - Mann Company - Aptim Coastal Planning & Engineering, LLC E-mail Address - douglas.mann@aptim.com
6. APPLICANT'S ADDRESS: Address- 285 Beiser Boulevard Suite 102 City - Dover State - DE Zip - 19904 Country - USA	9. AGENT'S ADDRESS: Address- 6401 Congress Avenue, Suite 140 City - Boca Raton State - FL Zip - 33487 Country - USA
7. APPLICANT'S PHONE NOS. w/AREA CODE a. Residence b. Business c. Fax N/a 302-900-1546 N/a	10. AGENTS PHONE NOS. w/AREA CODE a. Residence b. Business c. Fax 561-400-7766 561-361-3148 n/a

STATEMENT OF AUTHORIZATION

11. I hereby authorize, Aptim Coastal Planning & Engineering, LLC to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.

 03/24/2023
 SIGNATURE OF APPLICANT DATE

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME OR TITLE (see instructions) Murderkill River Jetty Rehabilitation Project	
13. NAME OF WATERBODY, IF KNOWN (if applicable) Murderkill River at Delaware Bay	14. PROJECT STREET ADDRESS (if applicable) Address see attached
15. LOCATION OF PROJECT Latitude: °N 39 deg 3'32" Longitude: °W 75deg 23'41"	City - State- Zip-
16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions)	
State Tax Parcel ID <u>See Attached</u> Municipality <u>Milford and Frederica</u> Section - <u>N/A</u> Township - <u>N/A</u> Range - <u>N/A</u>	

17. DIRECTIONS TO THE SITE
see attached

18. Nature of Activity (Description of project, include all features)
see attached

19. Project Purpose (Describe the reason or purpose of the project, see instructions)
see attached

USE BLOCKS 20-23 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED

20. Reason(s) for Discharge
see attached

21. Type(s) of Material Being Discharged and the Amount of Each Type in Cubic Yards:

Type Amount in Cubic Yards	Type Amount in Cubic Yards	Type Amount in Cubic Yards
granite armor stones (14000 cy)	Excavated sediment (12,000 cy)	Includes volumes above MHW.

22. Surface Area in Acres of Wetlands or Other Waters Filled (see instructions)

Acres South Jetty Total area =0.67 acres; North jetty total area=0.38 acres- see attached discussion

or

Linear Feet South jetty lenth =550 feet; North jetty length =300 feet- see attached discusssion

23. Description of Avoidance, Minimization, and Compensation (see instructions)
see attached

24. Is Any Portion of the Work Already Complete? Yes No IF YES, DESCRIBE THE COMPLETED WORK

25. Addresses of Adjoining Property Owners, Lessees, Etc., Whose Property Adjoins the Waterbody (if more than can be entered here, please attach a supplemental list)

a. Address- **See attached**

City - State - Zip -

b. Address-

City - State - Zip -

c. Address-

City - State - Zip -

d. Address-

City - State - Zip -

e. Address-

City - State - Zip -

26. List of Other Certificates or Approvals/Denials received from other Federal, State, or Local Agencies for Work Described in This Application.

AGENCY	TYPE APPROVAL*	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED
Delaware DNREC	Wetland and Submerged Lands Permit		concurrently	pending	

* Would include but is not restricted to zoning, building, and flood plain permits

27. Application is hereby made for permit or permits to authorize the work described in this application. I certify that this information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

Terry L. Deputy
SIGNATURE OF APPLICANT

03/24/2023
DATE

[Signature]
SIGNATURE OF AGENT

3/7/03
DATE

The Application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.

Nationwide 3 Application Attachments

Block 14. Project Site Address with Block 16. Other Location Descriptions

South Jetty:

Owner: State of Delaware

Mailing address: 89 Kings Highway Dover DE 19901

Property Address South Bowers Road, Milford DE 19963 - no street number

Parcel number is 5 00 11517 01 2900 000

Subdivision: None in Kent County records

North Jetty: The north jetty will sit on private uplands own by several individuals. The State of Delaware holds a jetty maintenance easement over a portion of the private uplands to address jetty issues. The upland owners include:

Lot 68 Owner: State of Delaware

Mailing Address: 89 Kings Highway Dover DE 19901

Parcel 8 01 11517 02 6800 000

Subdivision: Cooper Farm -2

Lot 69: Owner Ada L. Carter and Mark Puzzo

Mailing Address: 158 Cooper Avenue Frederica DE 19946

Property Address: Cooper Avenue Frederica DE 19946

Parcel 8 01 11517 02 6900 000

Subdivision: Cooper Farm -1

Lot 70 Owner Ada L. Carter and Mark Puzzo

Mailing Address: 158 Cooper Avenue Frederica DE 19946

Property Address: Cooper Avenue Frederica DE 19946

Parcel 8 01 11517 02 7000 000

Subdivision: Cooper Farm -2

Lot 71 Owner Ada L. Carter and Mark Puzzo

Mailing Address: 158 Cooper Avenue Frederica DE 19946

Property Address: 158 Cooper Avenue Frederica DE 19946

Parcel 8 01 11517 02 7100 000

Subdivision: None in Kent County record

Lot 72 Owner Barbara Graham and Harry Uhlhorn (LTR)

Mailing Address 1019 Sage Road South, West Chester PA 19382

Property Address: 162 Cooper Avenue Frederica DE 19946

Parcel 8 01 11517 02 7200 000

Subdivision: None in Kent County record

Lot 50 Owner: Stacy Maillie and Thomas Mahoney

Mailing Address: 1 Mansion Road Springfield PA 19064

Property Address 168 Cooper Avenue Frederica DE 19946
Parcel 8 01 11517 02 5000 000
Subdivision: None in Kent County record

Lot 74 Owner: Thomas and Anne Bateman
Mailing Address 3656 Haywood Street Philadelphia PA 19129
Property Address 178 Cooper Avenue Frederica DE 19946
Parcel 8 01 11517 02 7400 000
Subdivision: None in Kent County record

Lot 75 Owner George and Janice Clark
Mailing Address: PO Box 28 Boalsburg PA 16827
Property Address Cooper Avenue Frederica DE 19946
Parcel 8 01 11517 02 7500 000
Subdivision: None in Kent County record

Lot 78 Scott and Norayma Kessel, Co-Trustees
Mailing address: 66 Rydal Circle Magnolia DE 19962
Property Address Cooper Avenue Frederica DE 19946
Parcel 8 01 11517 02 7800 000
Subdivision: None in Kent County record

Lot 78.01 Owner Diana and Hayes Penn
Mailing Address: 1204 Old Wyomissing Road Reading PA 19611
Property Address 198 Cooper Avenue Frederica DE 19946
Parcel 8 01 11517 02 7801 000
Subdivision: None in Kent County record

A combined survey is included within the drawings.

Block 17. Driving Directions

North Jetty: From Delaware 1: East on Bowers Beach Road (Rt. 18) which turns into Main Street within the Town of Bowers Beach;
Then South on Clifton Cabbage Drive;
Then east on Murderkill Avenue to the Murderkill River.

South Jetty: From Delaware 1: Easterly on Milford Neck Road;
Turn left (northeasterly) at the fork onto Mosley Road;
At the intersection of Road 121 and Brockam Bridge Road, continue northeasterly on Road 121 (aka South Bowers Beach Road);
At the intersection of South Bowers Beach Road and Webbs' Cut Off, turn left onto South Bowers Road;
Proceed around 3000 feet, then turn right into the alley between 4376 and 4384 South Bowers Road.
Proceed on foot to the Murderkill River.

Block 18. Project Description

There are two existing concrete filled geotextile bags (circa 1970's?) serving as jetties to the Murderkill River entrance to Delaware Bay. The Murderkill River is a federally authorized navigation channel of 60 feet width at -7 feet MLW, but the adjacent jetty structures are not part of the federal project. The concrete filled bags are deteriorating and require replacement at this time.

On the south side of the Murderkill River, the concrete bags will be excavated and removed.



Northeasterly view of the seaward end of the south jetty.

A stone (rubblemound) cross section will be placed above and below mean low water. The length of the structure will be approximately the same as the existing structure. A waterward (easterly) extension of the south jetty will be constructed to achieve the required (engineered) slope. The length of the south jetty project is approximately 550 long. Details are provided in the engineering drawings. Sand excavated as part of the construction will remain on the beach south of the south jetty and graded smooth. For purposes of this application, it assumed that this excavation is not dredging and filling.

On the north side of the Murderkill River, the concrete bags will be excavated and removed. There is a 6 bag pyramid of bags to be removed.



Northeasterly view of the north jetty at hightide. The 2016 reconstructed jetty head section is in the background.

A stone (rubblemound) cross section will be placed above and below mean low water. The length of the structure will be approximately 300 feet and connect to the 2016 waterward jetty and an existing bulkhead to the west. Behind the rubblemound section excavated sand will be placed and vegetated with salt tolerant vegetation. A majority of the sand will be placed landward of the jetty and above mean high water. A small percentage will be placed landward of the jetty and below mean high water. Access paths through the vegetation will be provided from the private property to the jetty. A sandy pathway along the north jetty will be maintained as well. Details are provided in the engineering drawings. There is one existing private dock along the north jetty. The jetty structure will be constructed around the dock and access across and or through the jetty will be provided to the upland landowner.

Block 19 Purpose:

The south jetty is overtopped by wave action and the tides resulting in beach sand washing into the navigation channel. The 300 foot section of the north jetty currently is losing sediment through gaps in the concrete bags. Both jetty reconstructions will reduce the loss of sand and sediment into the Murderkill River, reducing the need for dredging of the entrance channel.

Construction:

The project will most likely be constructed from the uplands using land-based equipment.

Block 20 Discharges and Block 21 Materials

In order to construct the project, the following placements of material will occur for purposes of erosion control:

North Jetty: 5000 cubic yards of sediment will be excavated and then replaced upland of the jetty
13,000 tons of granite stone will be placed to create the structural cross sections.

South Jetty: 7000 cubic yards of sediment will be excavated and replaced to the south of the jetty.
18,500 tons of granite will be placed to create the structural cross sections.

No sediment will be imported to the site.

Block 22. Surface Areas of Wetlands or Other Waters.

North jetty. The existing jetty structure area consists of concrete bags partially holding back upland sediments which are mostly unvegetated (see picture above). Approximately 0.38 acres will be filled by the project. This includes existing submerged areas (consisting of concrete bags, and sandy substrate), and dry uplands above the mean high water line.

South jetty. The existing south jetty is over 550 long and is exposed on the seaward end and buried on the landward end. The structure consists of concrete bags resting on a sandy substrate. Approximately 0.67 acre of surface will be affected by the project. This includes existing submerged areas (consisting of concrete bags, and sandy substrate), and dry uplands above the mean high water line. The area to the south of the jetty is an unconsolidated sandy beach. The project will avoid the vegetated areas.

Block 23. Avoidance and Minimization

Avoidance of impacts to the waters of the US and associated habitats include the following:

1. It is anticipated that the majority of the work will be completed using land based equipment and land delivered materials.
2. The majority of the north jetty structure will be landward of the -5 foot NAVD contour, and a substantive portion will be above or landward of the mean high water line.
3. The majority of the south jetty structure is buried within the existing beach; therefore, that portion of the work will not directly affect waters of the US.
4. The use of silt curtains or temporary cofferdams will isolate the construction from the adjacent waters.
5. The existing concrete bag structures support only barnacles, limited oysters, and algae growth. Little to no macro benthic impact will occur.
6. Removal of the concrete bags prevents continued leaching of the concrete into waters of the US. These will be replaced with (chemically stable) granite boulders.

7. Construction will occur in the fall and winter months to reduce impacts to a range of threatened species that are known to be in the general region of the project at some time during the year.

Due to minimal impact on the environment during construction, no mitigation is proposed.

Block 25. Adjacent Owners

South Jetty. The closest adjacent owners to the project are lots 14 and 19

Lot 19: Owner: RBD (2010) LLC

Mailing Address: PO Box 207, Harrington DE 19952

Property Address: 4376 S. Bowers Road, Milford DE 19963

Lot 14: Owner: Lorraine Ferrara

Mailing Address: 6809 Lancaster Pike Hockessin DE 19707

Property Address: 4384 South Bowers Road, Milford DE 19963

North Jetty. Adjacent owners are:

Lot 67

Owner: William and Margaret Poulin

Mailing address: 111 Church Street Frederica DE 19946

Property Address: 130 Murderkill Avenue Frederica, DE 19946

Lot 79

Owner: William and Shirley Aurand

Mailing address: 906 Perry Road Lititz, PA 17543

Property address: 202 Cooper Ave Frederica DE 19946

General Assessment

“Federal agencies, their contracted agents, or applicants for federal licenses, permits, or funding, should describe, pursuant to NOAA’s regulations, the reasonably foreseeable effects on Delaware’s coastal resources and uses with sufficient detail to allow for adequate DCMP review of the consistency certification or determination. Coastal effects include cumulative and secondary indirect effects that may be displaced in time or distance from the occurrence of the proposed activity. “

Coastal Resources

The (re) construction of the jetties will have a positive impact on the coastal resources of the project area. The jetties will reduce the sedimentation of the Murderkill River channel and reduce the need for dredging within the river mouth. In reducing erosion of the uplands (north side) and the beach (southside) the adjacent lands will be better preserved, and better suited to meet the needs of humans.

The project will cause a localized, minor, and temporary impact to water quality of the Murderkill River and nearshore Delaware Bay. This small impact to water quality is not expected to impact fish or fish habitats. Water quality impacts are proposed to be minimized through the use of turbidity curtains or cofferdams.

There are a few endangered species, and or species of concern in the general vicinity of the project. These species may individually be in the vicinity of the project at specific times of the year. Due to the number of species of interest, there is no time when all species of interest are absent from the project area. It is of general consensus that construction of projects of this type is best performed during the winter months as impacts to species of interest are minimized. No impact or “take” of endangered or threatened species is expected.

Coastal Uses

The communities of Bowers Beach and South Bowers are small waterfront communities. The communities generate small recreational uses through recreational beach visitation, recreational boating, and fishing from the beaches and publicly accessible structures. There will be no negative impact to these uses from the construction of the project.

There is a public boat ramp on the north side of the Murderkill River just west of the project area. The construction of the south jetty will create safer navigation within the jetties during periods of high tides, storm surges, and southerly waves.

Cumulative

There are no definable cumulative impacts are attributable to the project.

Secondary Impacts

One secondary impact attributable to the project is derived from better beach performance in the vicinity of the south jetty. By maintaining more sand south of the jetty, total alongshore volumes will be better maintained, and the beach nourishment volumetric needs of South Bowers will be lessened. This is defined as a secondary impact because the reduction in nourishment need (volume) will be minor. The South Bowers erosional hot spot is around 800 feet south of the jetty. The effects of an elevated sand tight jetty will diminish with distance from the jetty.

Specific Assessment

Specific assessments relative to the goals of the Delaware Coastal Management Plan are described in the consistency review form.

ENVIRONMENTAL QUESTIONNAIRE
FOR CORPS OF ENGINEERS PERMIT APPLICATIONS
Philadelphia District, Corps of Engineers
Philadelphia, Pennsylvania 19107
CENAP-OP-R

INTRODUCTION AND INSTRUCTIONS

The District Engineer is required by law to assess the initial, cumulative, and long-term effects of any proposed permit on all aspects of the environment.

To speed the analysis of the probable impact of the proposed work, each applicant is required to submit appropriate environmental data as part of a permit application. We ask that you provide a thorough description of your proposed project and answer each question as it applies to the work and the results of that work. Complete and accurate answers will prevent unnecessary delays in processing your permit application

Parts I and II will be filled out by all applicants. Part I is self-explanatory. In Part II, the Environmental Impact Checklist, you should indicate the impacts of your project on all aspects of the environment that are listed. Use the space under "Qualifying Remarks" to indicate the specific impacts that your project will have. This may include types of plants or animals affected, specific adverse, beneficial, or mitigative effects, changes to existing conditions, etc. Although space for answers has been provided, you may wish to supply additional information on attached pages. If you do not anticipate an impact on a certain item, simply place a check in the "No" column.

Part III will be filled out by all applicants applying for a permit to perform dredging.

Part IV will be filled out by all applicants applying for a permit to perform filling operations. This includes activities such as filling behind bulkheads.

Refer any questions you may have concerning this supplemental form to the Regulatory Branch at (215) 656-6728.

PART I

I. PROJECT DESCRIPTION:

- A. General Site Location: Accurately locate the project site with respect to State, county, or other subdivision, and in relation to streams and rivers.

See Attached

- B. Specific Site Locations: Completely locate the project site with respect to cove, creek, property owner, plot number, etc.

See Attached

- C. Description of Proposed Action: Carefully describe the action proposed, including the method of construction, equipment, and materials to be used. Details in your description are important. Attach additional sheets if necessary.

See Attached

- D. Purpose of Proposed Action: Define the purpose of the proposed structure or work. For example, the purpose of bulkheading may be to stabilize an eroding bank; whereas, the purpose for a pier may be for the mooring of a private boat, for access to a public or private facility, for a marina, or for another purpose.

See Attached

- E. Submit color photographs of the site, with explanations of the views shown (prints only). Photographs help us to better understand your project. The more photographs you provide, the easier it is to understand and process your application.

See Attached

PART II – ENVIRONMENTAL IMPACT CHECKLIST

ENVIRONMENTAL IMPACT	YES	NO	QUALIFYING REMARKS
A. Physical			
1. Topography	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Jetty construction
2. Geological Elements and Leaching	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3. Air	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4. Transportation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	long term improvements to navigation through reduced shoaling
5. Handling of Hazardous Materials	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
6. Spoil Disposal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Incidental movement of sediments as part of the jetty construction
7. Sewage and Solid Wastes	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
8. Water Resources			
a. Water Quality	<input checked="" type="checkbox"/>	<input type="checkbox"/>	minimal
b. Hydrography, Circulation, Littoral Drift.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Improvements in reduced channel shoaling
c. Ground Water	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Biological			
1. Vegetation			
a. Terrestrial	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
b. Aquatic	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2. Fish and Wildlife			
a. Mammals	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
b. Birds	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
c. Amphibians	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
d. Reptiles	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
e. Fish	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
f. Shellfish	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
g. Invertebrates	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3. Rare or Endangered Species	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Proposing winter construction to reduce impacts to all species that may be in the general vicinity of the site.

ENVIRONMENTAL IMPACT	YES	NO	QUALIFYING REMARKS
C. Cultural			
1. Land Use	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2. Population Density and Trends	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3. Regional Development	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4. Historic Places	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
5. Archaeological Sites	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
6. Aesthetics	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
7. Utilities	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
8. Transportation Systems	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
9. Recreation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
10. Public Health	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
D. Other Factors			
1. Secondary Effects	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2. Controversiality	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3. Is significant dredging involved?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4. Is significant filling involved?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Part III

Considerations of a Dredging Proposal:

- A. Describe characteristics and locations of the proposed dredged material disposal site. Provide photographs.

see attached

- B. Is there a comprehensive plan for disposal sites that takes into account the accumulative effect over time and the decreasing amount of suitable sites for disposal?

N/A

- C. Describe the present land use of the disposal site.

public coastal structure adjacent to public and private lands

- D. Describe characteristics of the material to be disposed, including:

1. Physical source of material (i.e. sand, silt, clay, etc.) Give percentages of the various fractions if available.

Details not known

2. Chemical composition of material: Many areas, especially marinas, highly industrialized areas, etc., have sediments with high concentrations of pollutants (chemicals, organic material, etc.). These materials may be re-suspended or reintroduced into the water and result in serious environmental damage. If your proposed dredging is in an area such as described above, a chemical analysis of the material to be dredged should be provided.

N/A

3. Dewatering properties of the material to be disposed.

N/a

4. Compactability of material and settling rates of material to be disposed.

N/a

5. Dredging and disposal schedule to insure that operations do not degrade water quality during times of anadromous fish migration.

Winter construction proposed.

- E. When the project involves land disposal, discuss the following:

1. Method of disposal to be utilized, i.e., pipeline discharge, barge, hopper (underway or stationary).

Mechanical excavation

2. Describe method of dredged material containment (i.e. embankment, behind bulkhead, etc.)

Behind jetty

3. What type of leachates will be produced from the spoil material and what is planned for protection of the groundwater?
n/a
4. Methods to insure that spoil water does not adversely affect water quality, both during construction and after completion of the project.
Silt curtains and or cofferdams to control turbidity
5. Provisions for monitoring during discharge: water quality, sediment transport, and precautions to prevent “short-circuiting” dumping.
Water quality monitoring as required by permits

F. Consider and discuss the following for water disposal:

1. Describe methods to be used for water disposal, including volumes and site selection.
Mechanical dredging- minimal water
2. Describe the existing water characteristics at the site, including chemical analysis for water quality.
Estuarine waters of Delaware Bay and the Murderkill River

G. Discuss the frequency and amount of maintenance dredging which will be required; discuss the resulting impacts.

None proposed.- one time event

H. Alternatives.

1. Discuss all alternatives to the project, including the “no action” alternative.
No action will result in further degradation of existing structures and continued shoaling of the Murderkill River entrance channel.
2. Discuss alternative types and methods of dredging and disposal, such as pipeline discharge, barging, or hopper method.
Project is for jetty construction, dredging is incidental to support the jetty construction. All material will be moved upland viua mechanical means.
3. Discuss alternatives to dredging.
See previous response.
4. Discuss alternative areas of sites for spoil disposal.
The proposed location is the only sites considered.
5. Discuss impact of port docking patterns upon the demand for dredging. Can alternative patterns reduce the amount of dredging required to support port operations?
n/a
6. Support alternative means of construction that would prevent or minimize water quality degradation using EPA standards for guidance.
Use turbidity curtains and or cofferdams to isolate the construction from adjacent waters.
7. State in detail impacts resulting in alternative locations for the proposed project.
No alternative locations considered.

Part IV

CONSIDERATIONS OF A FILLING PROPOSAL:

- A. Describe in detail the existing characteristics of the area proposed for filling (i.e. aquatic area, marsh, mudflat, swamp, etc.). In your description, be sure to include the types of vegetation present and the types of animals that use the area. Provide photographs.
See attached
- B. Give the following information in regard to the project size:
1. Total area to be filled.
1.1 acres
 2. Size of underwater area to be filled.
Approximately 0.75 acres
 3. Area of intertidal zone to be filled.
Approximately 0.25 acres
 4. Area of wetlands to be filled.
approximately 0.75 acres of submerged lands; no jurisdictional or environmentally sensitive wetlands.
 5. Proposed height of fill.
+6 feet NAVD
 6. Volume of material that will be used in filling.
31,000 cy
- C. Describe in detail the material to be used as fill including as follows:
1. Type of fill to be used (sand, stone, rubble, etc.). If the material is a composite (i.e., rubble), list the types of materials it will contain.
granite armor stones, granite foundation stones, crushed concrete,excavated sediments
 2. Give the specific location of the source of this material.
No importation of sediment; granite from commercial quarries (likley located near Port Deposit/Havre De Grace, Maryland
 3. What types of leachates will be produced from the fill material and what is planned for protection of surface and groundwater?
N/A
- D. Carefully describe the method of fill, including the following:
1. Method of fill placement, including equipment used in deposition and grading.
Excavator
 2. Method of stabilization of banks from erosion, sloughing, wave action, boat wakes, etc.
Rubblemound Jetty construction
 3. Method of stabilization of the surface of the fill.
Salt tolerant vegetation upon completion.

4. Length of time needed for completion of the project. State if filling will be continuous, intermittent, etc.
6 months
5. Method of controlling turbidity when filling an underwater area.
Silt curtains or cofferdams

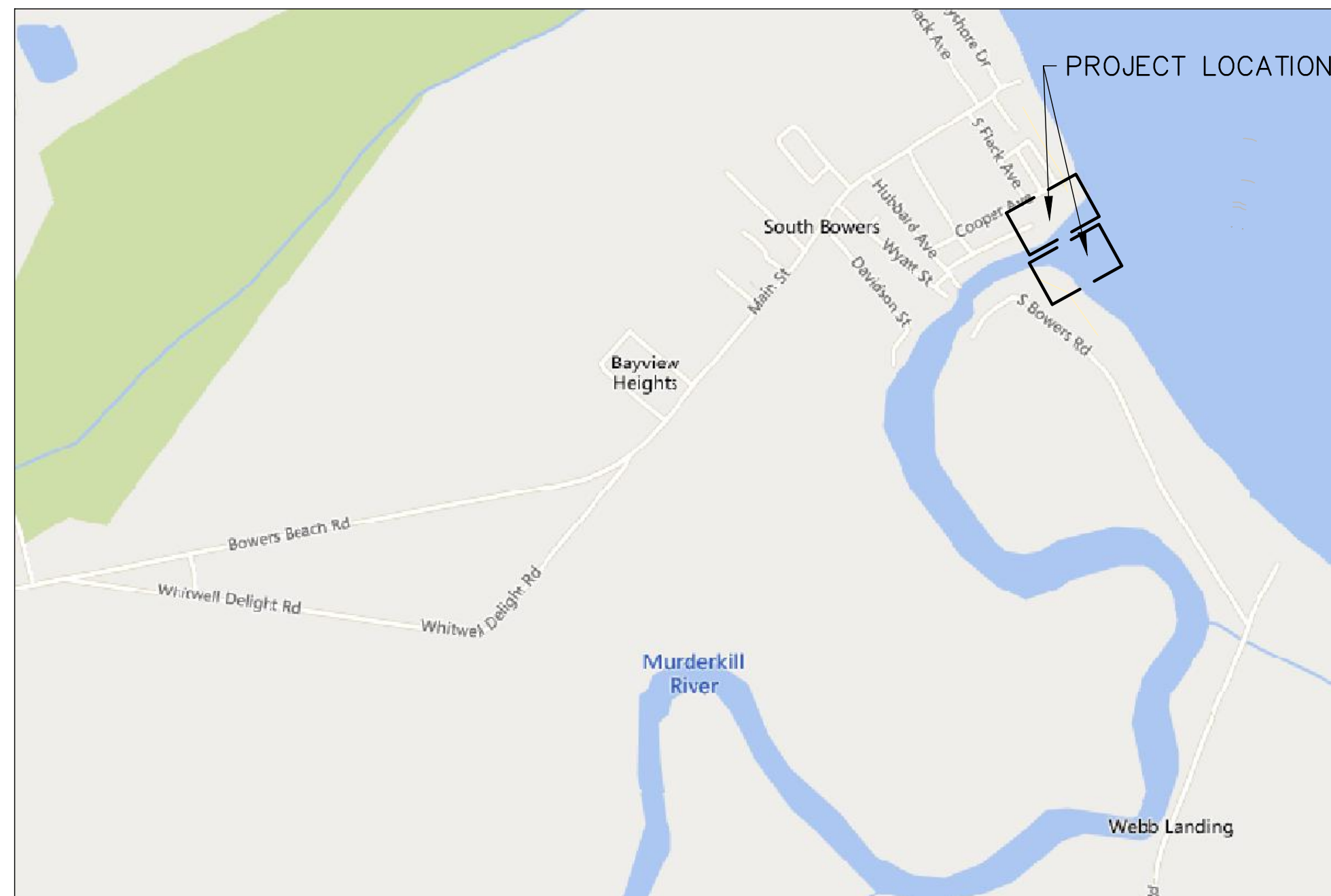
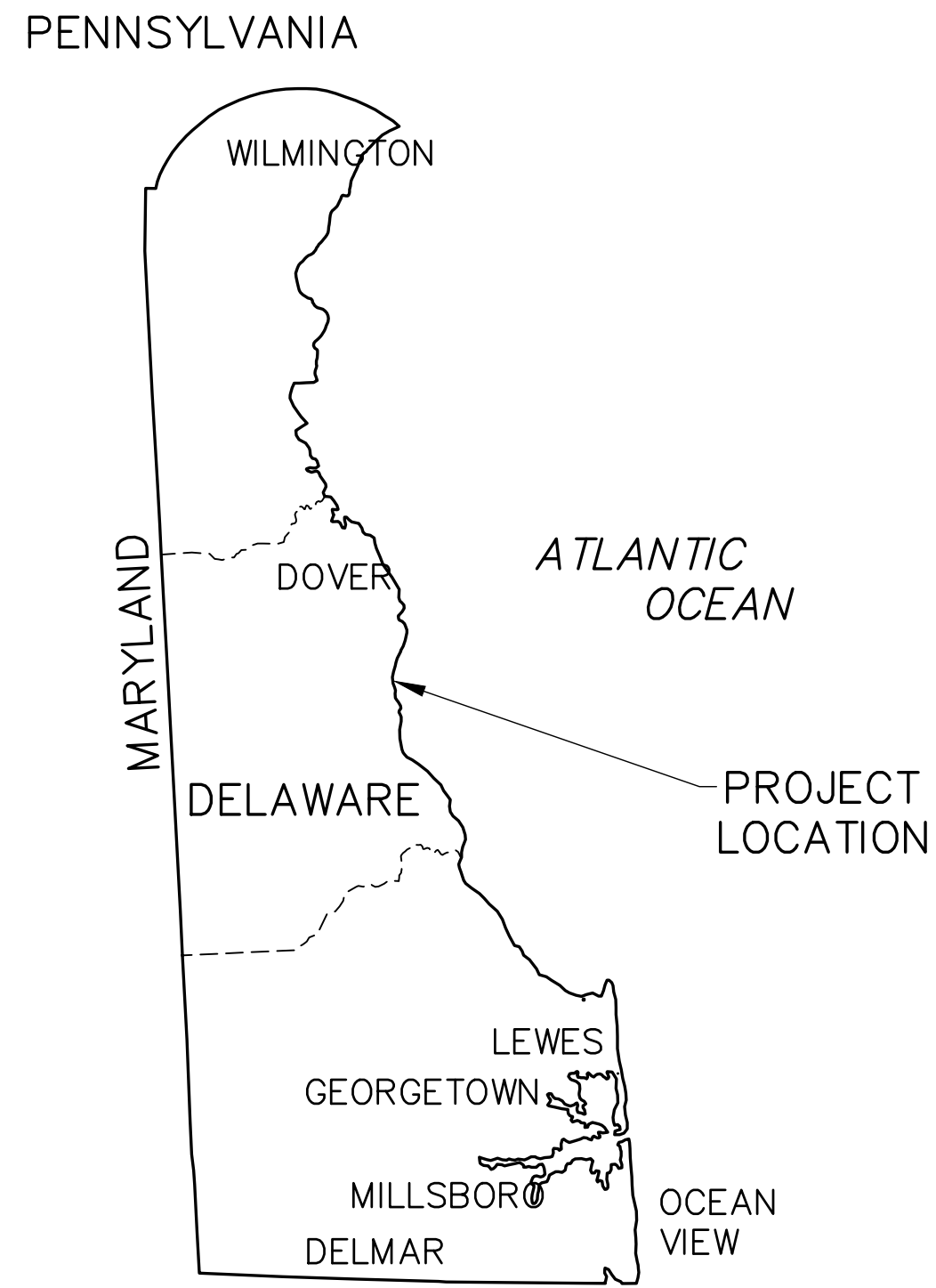
E. Purpose of the Project:

1. What is the intended use of the filled area?
Public jetty
2. What structures, if any, will be constructed on the fill?
n/a
3. What benefits would you gain from the proposed fill?
restore previous erosion

F. Alternatives

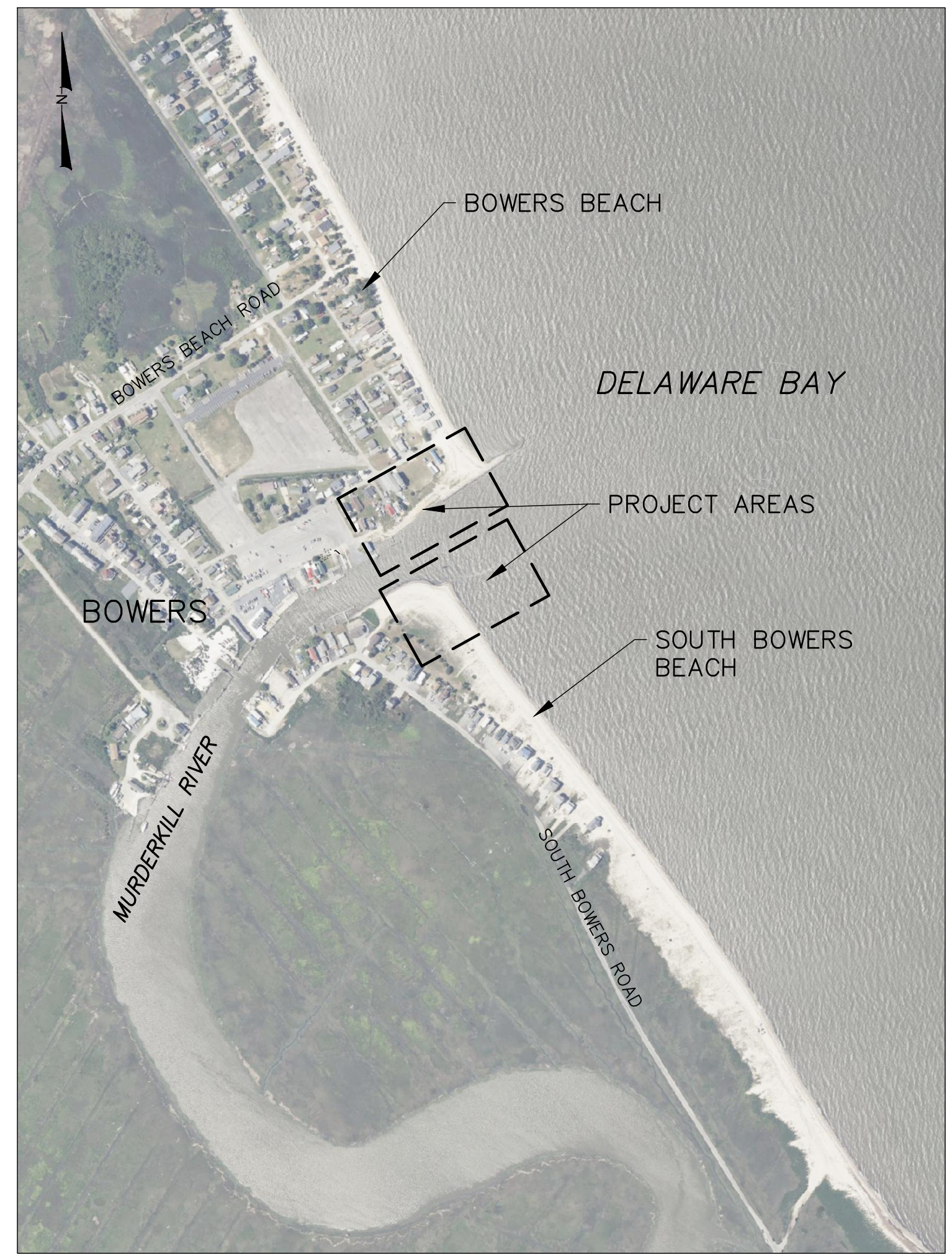
1. Discuss the “no action” alternative and how this would affect your present and future plans for the development of the area.
No action will result in further degradation of existing structures and continued shoaling of the Murderkill River entrance channel.
2. Discuss alternative locations for the proposed fill.
no equivalent alternatives are available.
3. Discuss the use of elevated structures (i.e. causeways, elevated platforms, etc.) in place of the proposed fill.
n/a
4. Discuss any other alternatives you have considered prior to formulating the presently submitted proposal.
No action. Jetties may go through value engineering to reduce project costs. Environmental impacts are equivalent.

STATE OF DELAWARE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL MURDERKILL RIVER JETTIES REHABILITATION

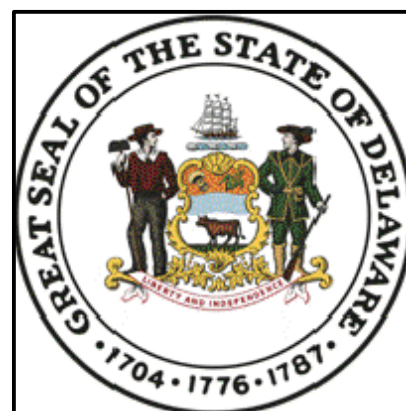


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GRAPHIC SCALE IN FT
VICINITY MAP

INDEX TO SHEETS	
CS-1	COVER SHEET
PV-1	OVERALL EXISTING CONDITIONS
PV-2	NORTH JETTY EXISTING CONDITIONS
PV-3	SOUTH JETTY EXISTING CONDITIONS
PV-4	NORTH JETTY PROPOSED IMPROVEMENTS
PV-5	SOUTH JETTY PROPOSED IMPROVEMENTS
XS-1	NORTH JETTY CROSS-SECTIONS
XS-2	NORTH JETTY CROSS-SECTIONS
XS-3	SOUTH JETTY CROSS-SECTIONS



0 250 500
GRAPHIC SCALE IN FT
AERIAL MAP



DOUGLAS W. MANN P.E. NO. 12949
DATE _____

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REVISIONS	No.	Date	Description

Reference Files:	Designed by: DM	Checked by: JA
	Drawn by: AY	Reviewed by: DM
	Date: 2/17/23	Submitted by: DM
	Plot Scale: AS NOTED	Comm. No.: 636024742

MURDERKILL RIVER JETTIES REHABILITATION
COVER SHEET

DRAWING NO.
CS-1
SHEET 1 OF 9



NOTES:

1. TOPOGRAPHIC INFORMATION BY PENNONI ASSOCIATES, INC.
2. STAND ALONE SURVEY ON FILE WITH DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL.
3. DATE OF AERIAL PHOTOGRAPHY: 2022.
4. COORDINATES SHOWN HEREON ARE IN FEET BASED ON THE DELAWARE STATE PLANE 1983 COORDINATE SYSTEM.
5. ELEVATIONS SHOWN HEREON ARE IN FEET BASED ON NAVD88.
6. SOUTH BOWERS TOPOGRAPHIC INFORMATION IS FROM 2014 SURVEY.
7. ELEVATION CONTOURS ARE CREATED FROM 2022 SURVEY

SITE CONTROL

POINTS PROVIDED BY OTHERS
 50 N 385510.61 E 661556.31 ELEV=4.39 GPS MON
 51 N 386140.82 E 661211.74 ELEV=6.23 GPS PK

POINTS SET BY PENNONI
 400 N 385088.0303 E 661623.3327 ELEV=5.07 PK
 401 N 384605.2230 E 662253.5409 ELEV=2.17 PK

LEGEND

- 10 - ELEVATION CONTOUR (2022 SURVEY)
- UTILITY POLE
- SIGN
- ⊙ FIRE HYDRANT
- ∞ CLEAN OUTE
- ⊗ WATER VALVE
- ⊕ WELL
- ⊙ SANITARY MANHOLE
- △ TRAVERSE POINT
- ⊙ CORE BORING
- - - DUNE VEGETATION LIMIT
- x - x - FENCE LINE
- OHW — OHW OVERHEAD WIRE
- — — PROPERTY LINE

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No.	Date	Description

Reference Files	Designed by	Checked by
DM	JIA	JIA
Drawn by	Reviewed by	Submitted by
RAY	DM	DM
Date:	Comm. No.:	Plot Scale:
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MURDERKILL RIVER JETTIES REHABILITATION

OVERALL EXISTING CONDITIONS

DRAWING NO.
PV-1

SHEET 2 OF 9



- NOTES:**
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MURDERKILL RIVER JETTIES REHABILITATION
 NORTH JETTY EXISTING CONDITIONS

DRAWING NO.
PV-2
 SHEET 3 OF 9



- NOTES:**
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SITE CONTROL

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POINTS SET BY PENNONI
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 DOUGLAS W. MANN P.E. NO. 12949

 DATE

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	Date: 2/17/23	Submitted by: DM
	Plot Scale: AS NOTED	Comm. No.: 636024742

MURDERKILL RIVER JETTIES REHABILITATION

SOUTH JETTY EXISTING CONDITIONS


DRAWING NO.
PV-3

SHEET 4 OF 9



- NOTES:**
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LEGEND:

 CREST EL.=8.5 FT NAVD

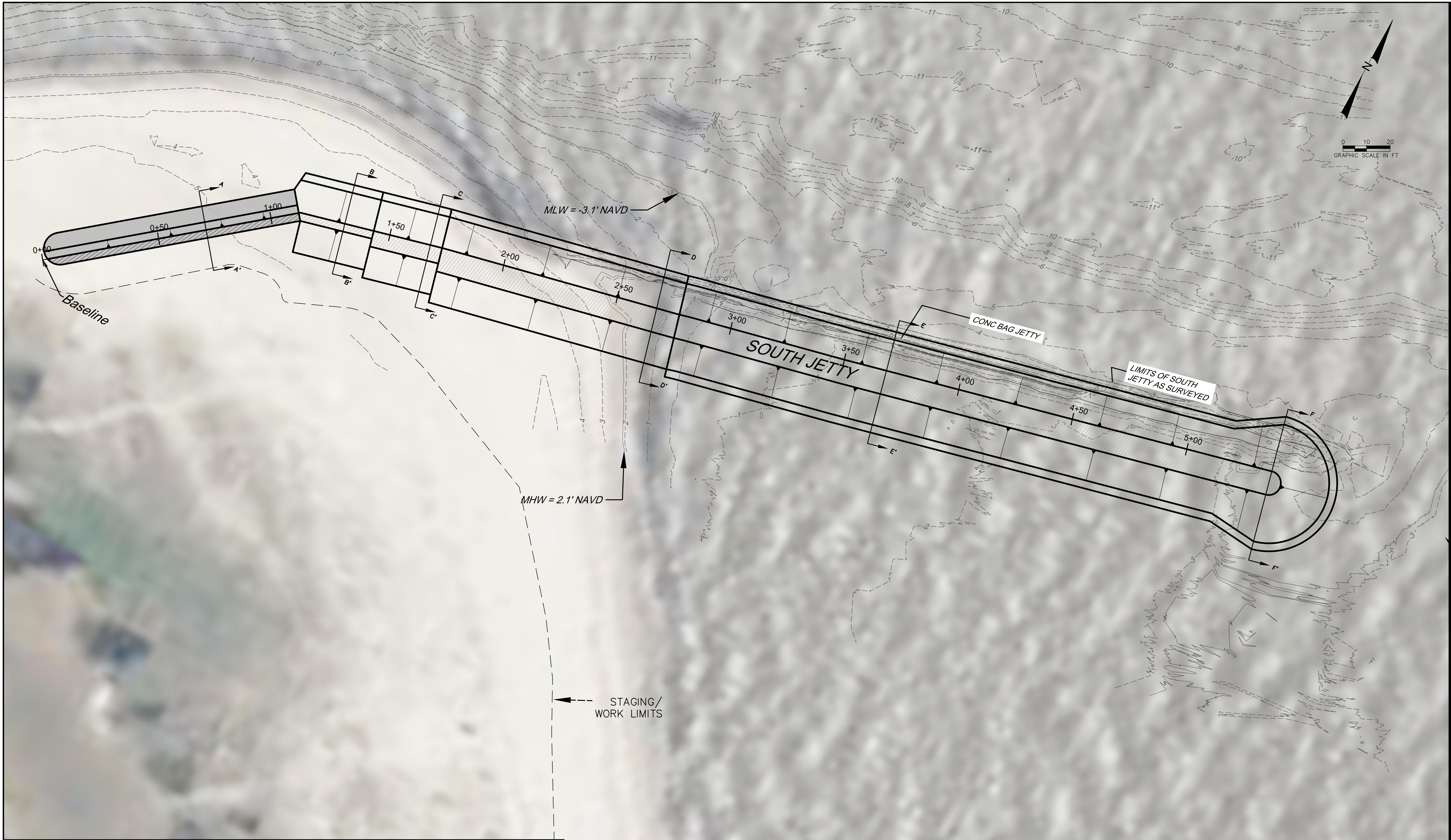
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Reference files:	Designed by: DM	Checked by: JJA
	Drawn by: AY	Reviewed by: DM
	Date: 2/17/23	Submitted by: DM
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MURDERKILL RIVER JETTIES REHABILITATION
 NORTH JETTY
 PROPOSED IMPROVEMENTS

DRAWING NO.
PV-4
 SHEET 5 OF 9



NOTES:

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LEGEND:

-  CREST EL. VARIES
-  ROCK OVERLAY

SITE CONTROL

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 51 N 386140.82 E 661211.74 ELEV=6.23 GPS PK

POINTS SET BY PENNONI
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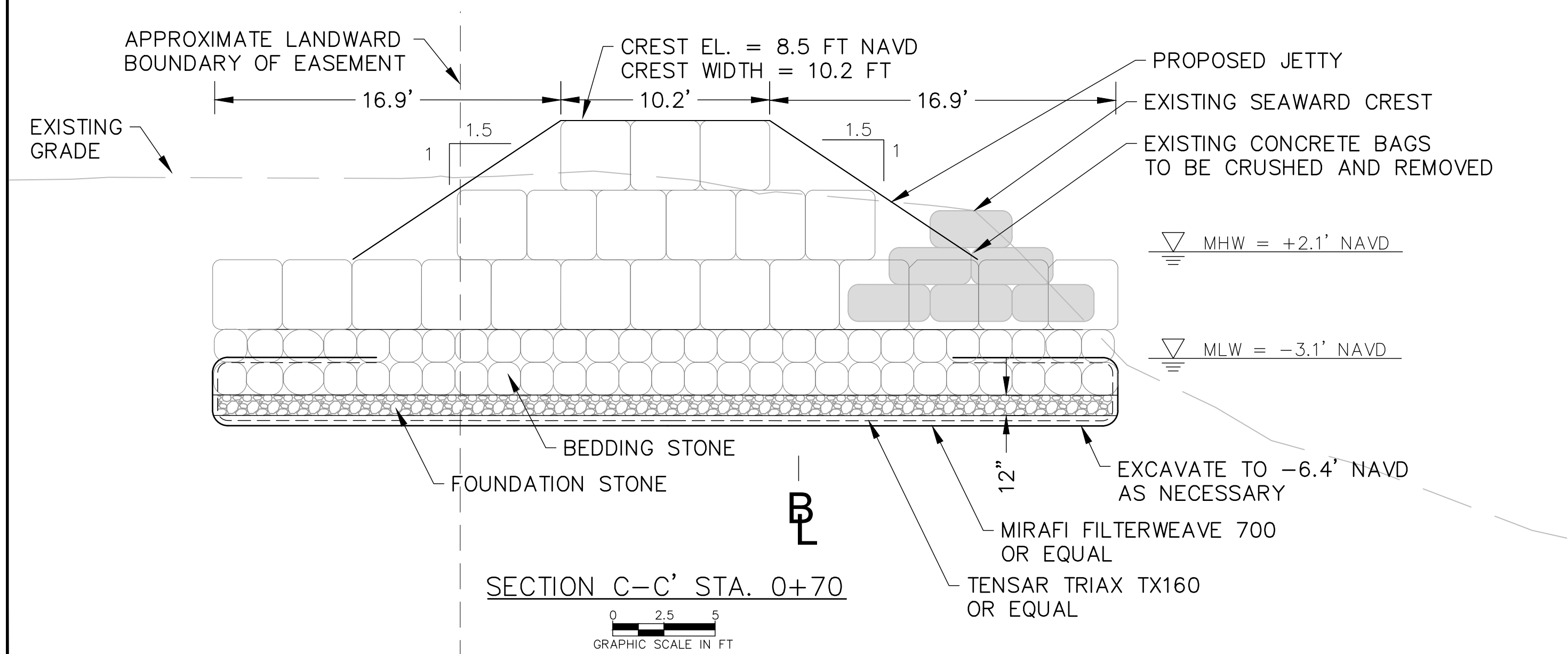
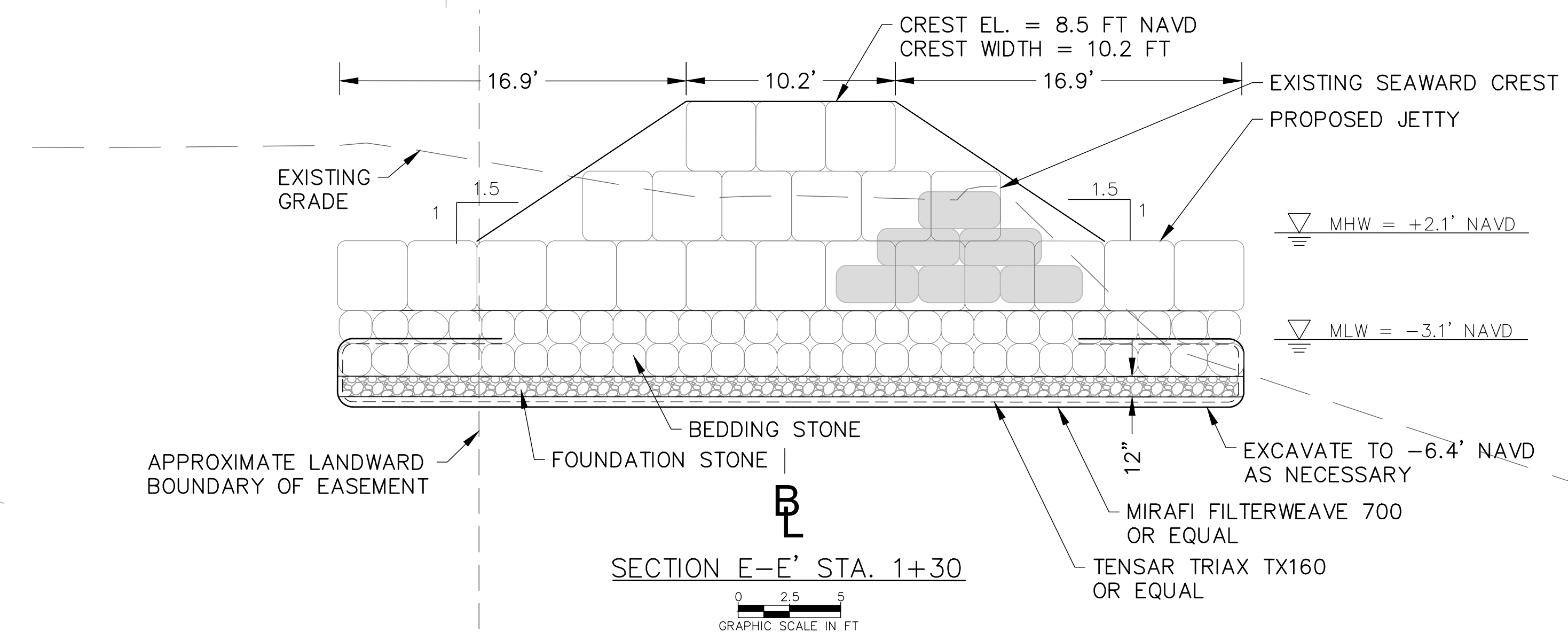
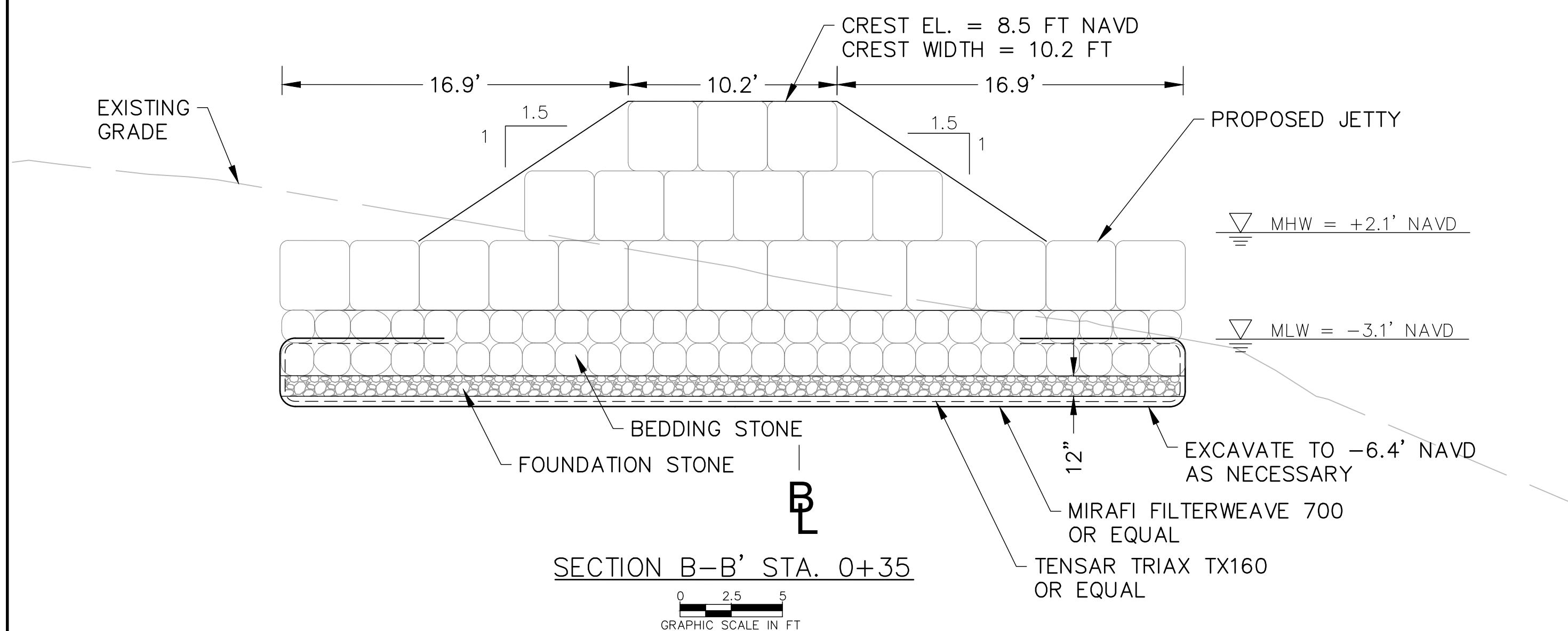
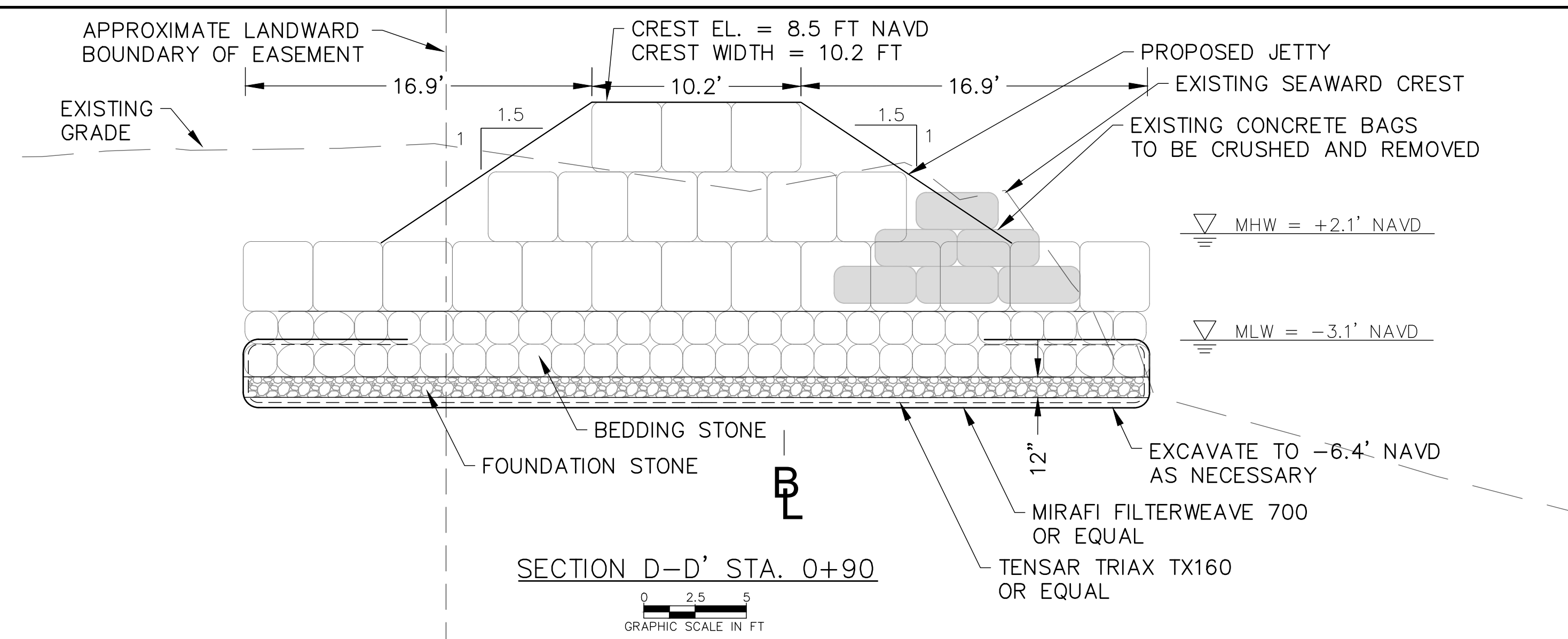
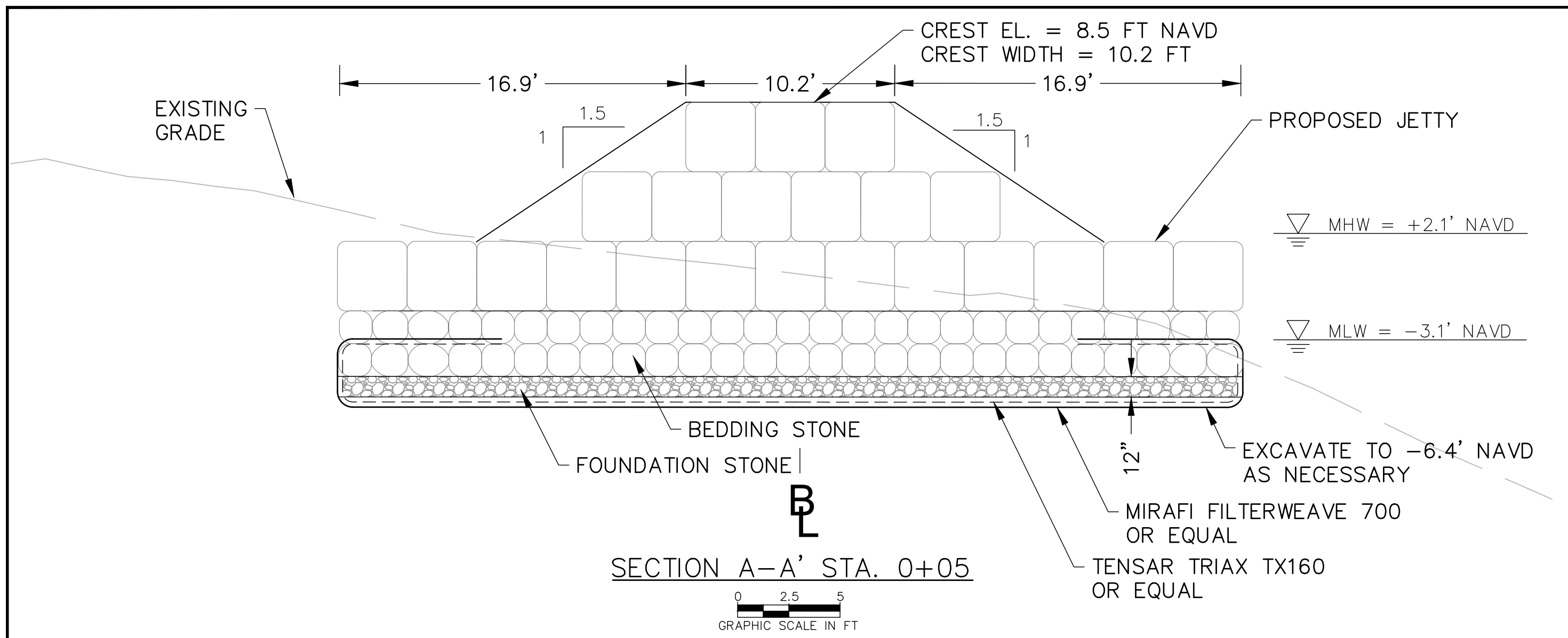
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Reference Files:	Designed by: DM	Checked by: JA
	Drawn by: AY	Reviewed by: DM
	Date: 2/17/23	Submitted by: DM
	Plot Scale: AS NOTED	Comm. No.: 636024742

MURDERKILL RIVER JETTIES REHABILITATION
 SOUTH JETTY
 PROPOSED IMPROVEMENTS

DRAWING NO.
PV-5



- NOTES:**
- ELEVATIONS SHOWN HEREON ARE IN FEET BASED ON NAVD88.
 - STONE DENSITY = 165 PCF MINIMUM.
 - ARMOR STONE: 4800 lbs. TO 8000 lbs. W/ 50% > 6400 lbs.
 - BEDDING STONE: 500 lbs. TO 800 lbs W/ 50% > 650 lbs.
 - MHW AND MLW ARE APPROXIMATE. LOCAL VARIATIONS MAY OCCUR.

DOUGLAS W. MANN P.E. NO. 12949 DATE

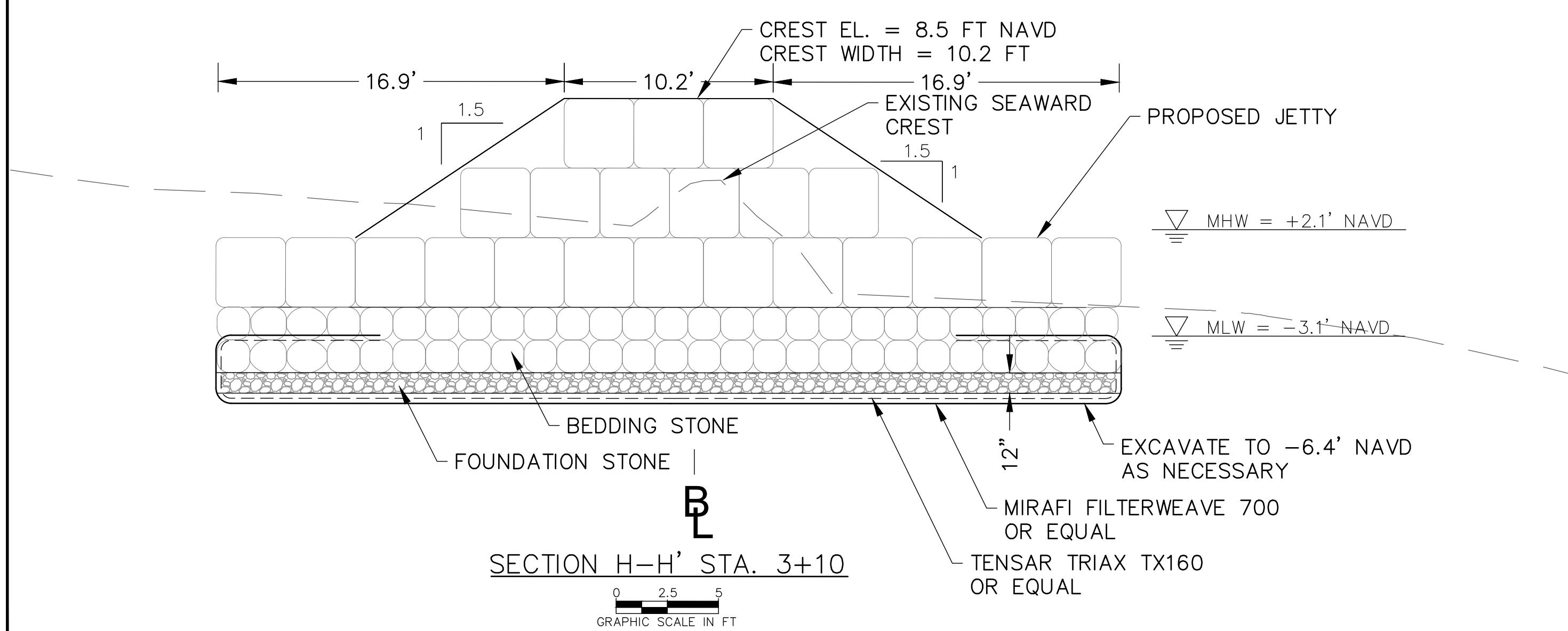
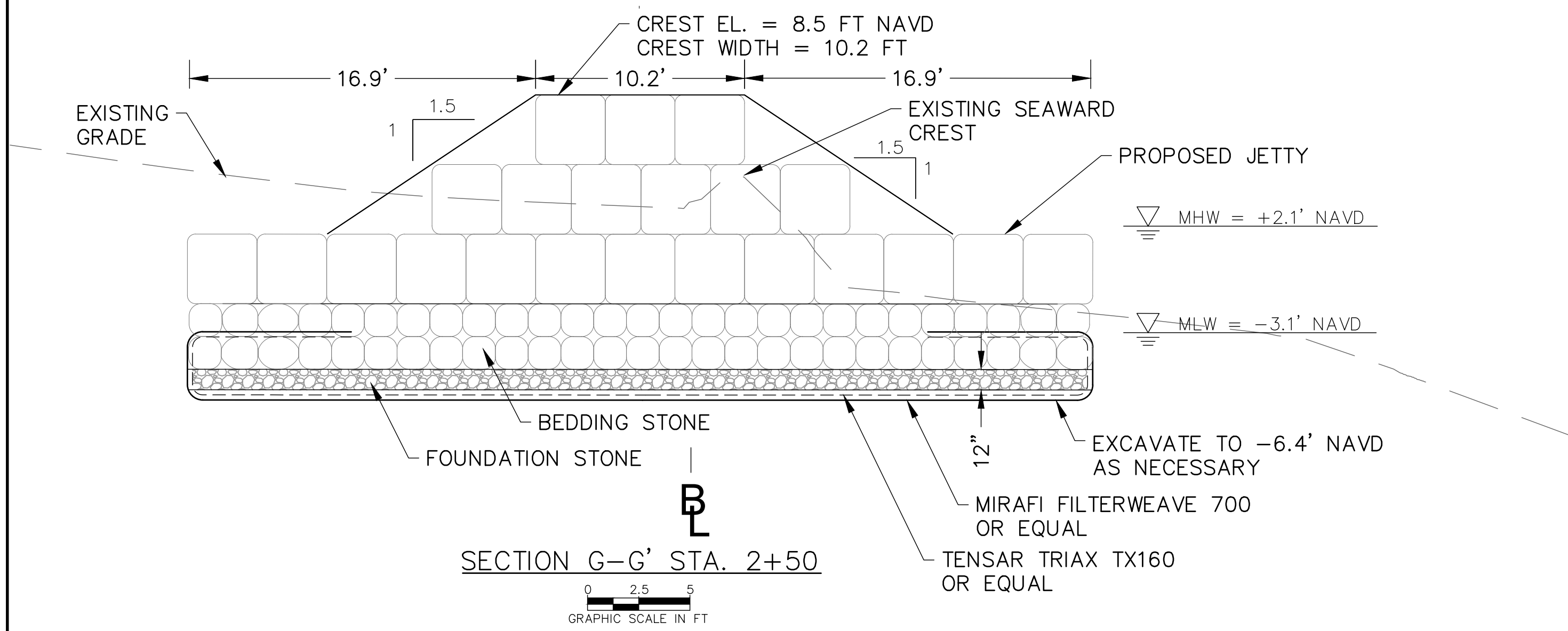
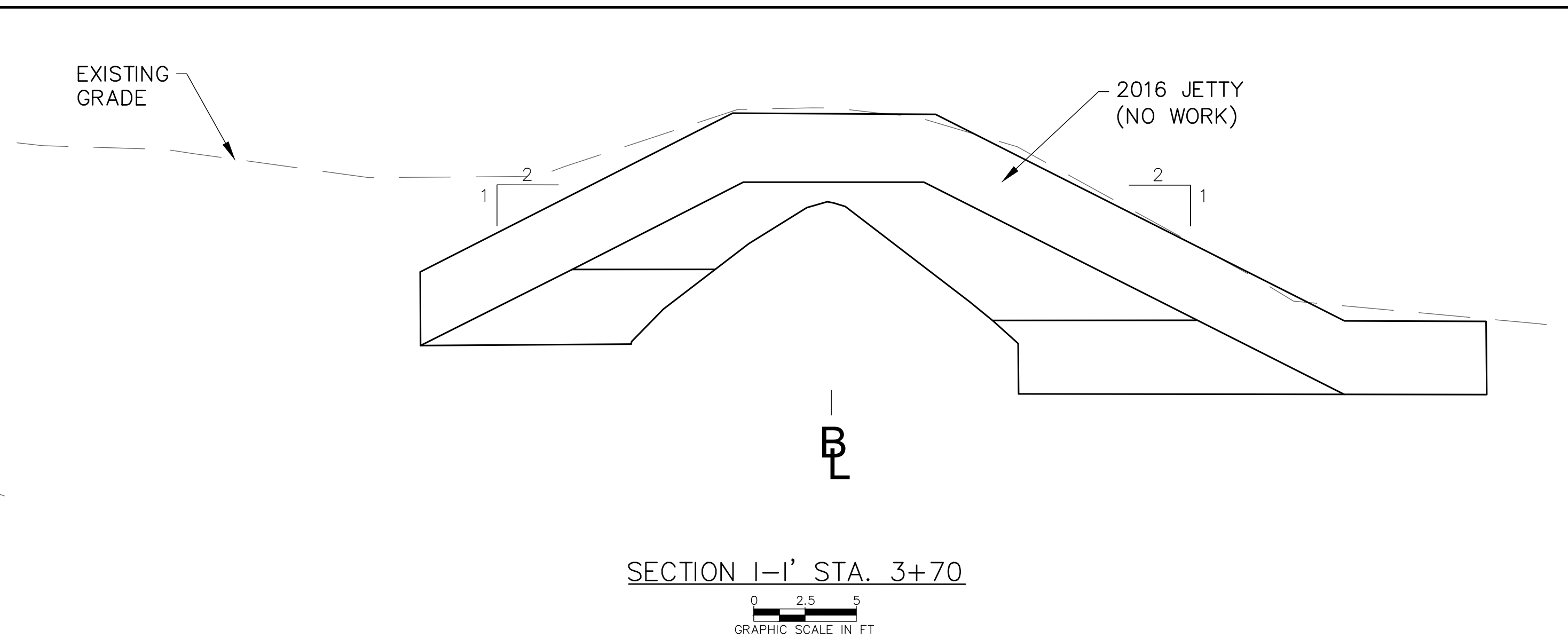
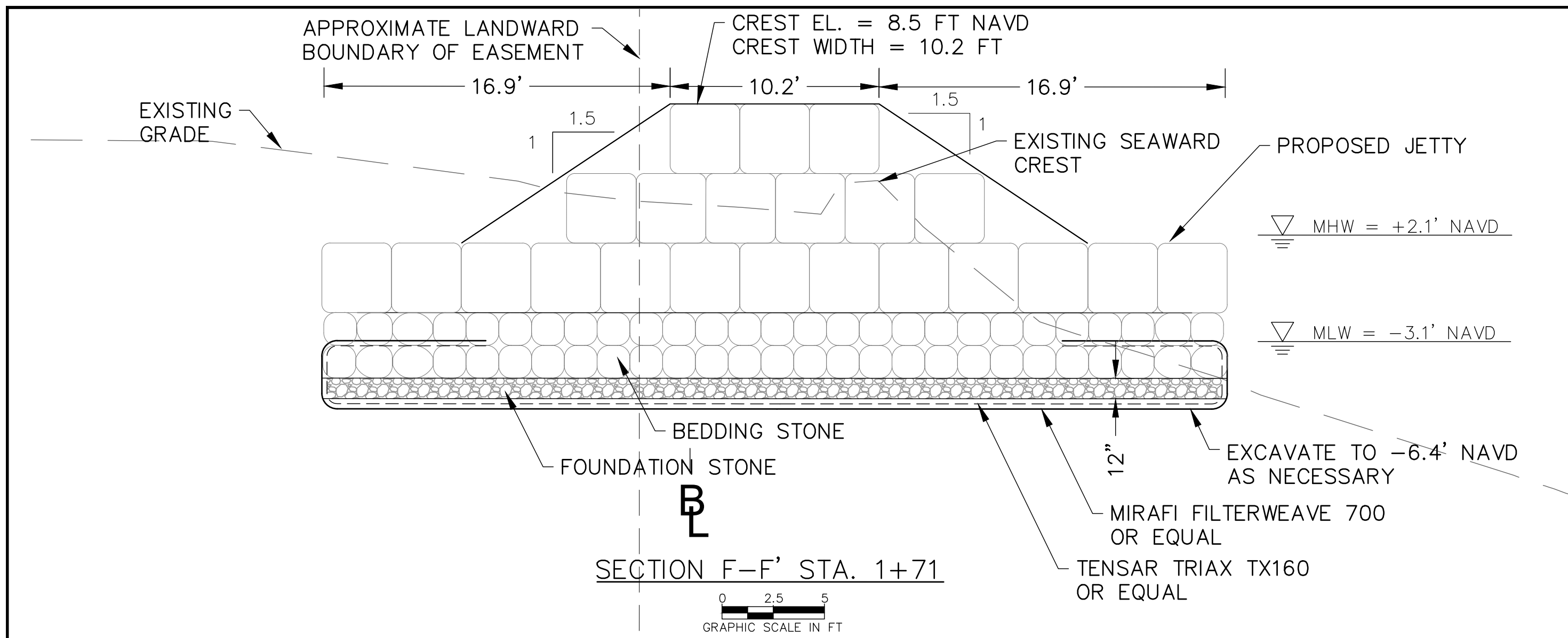
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No.	Date	Description

Checked by:	J.A.
Designed by:	D.M.
Drawn by:	A.Y.
Date:	2/17/23
Submitted by:	D.M.
Comm. No.:	636024742
Plot Scale:	AS NOTED

MURDERKILL RIVER JETTIES REHABILITATION
 NORTH JETTY CROSS-SECTIONS

DRAWING NO.
XS-1
 SHEET 7 OF 9



- NOTES:**
- ELEVATIONS SHOWN HEREON ARE IN FEET BASED ON NAVD88.
 - STONE DENSITY = 165 PCF MINIMUM.
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 - MHW AND MLW ARE APPROXIMATE. LOCAL VARIATIONS MAY OCCUR.

DOUGLAS W. MANN P.E. NO. 12949

DATE

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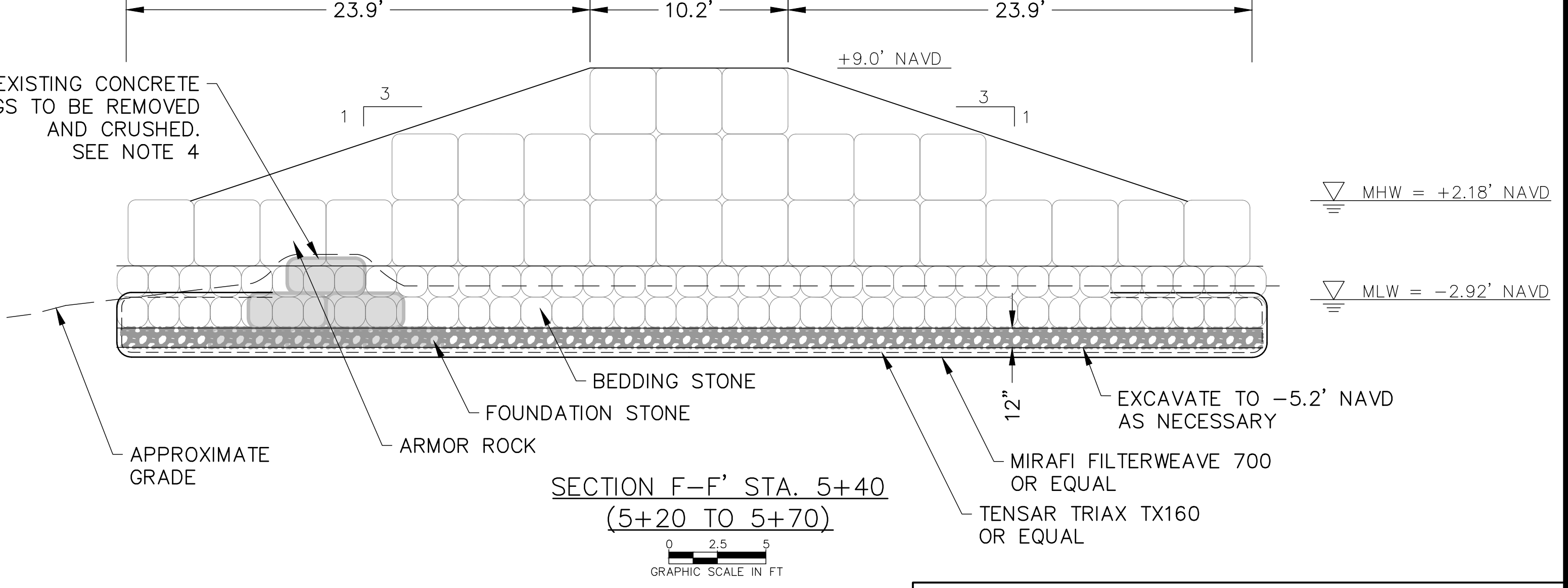
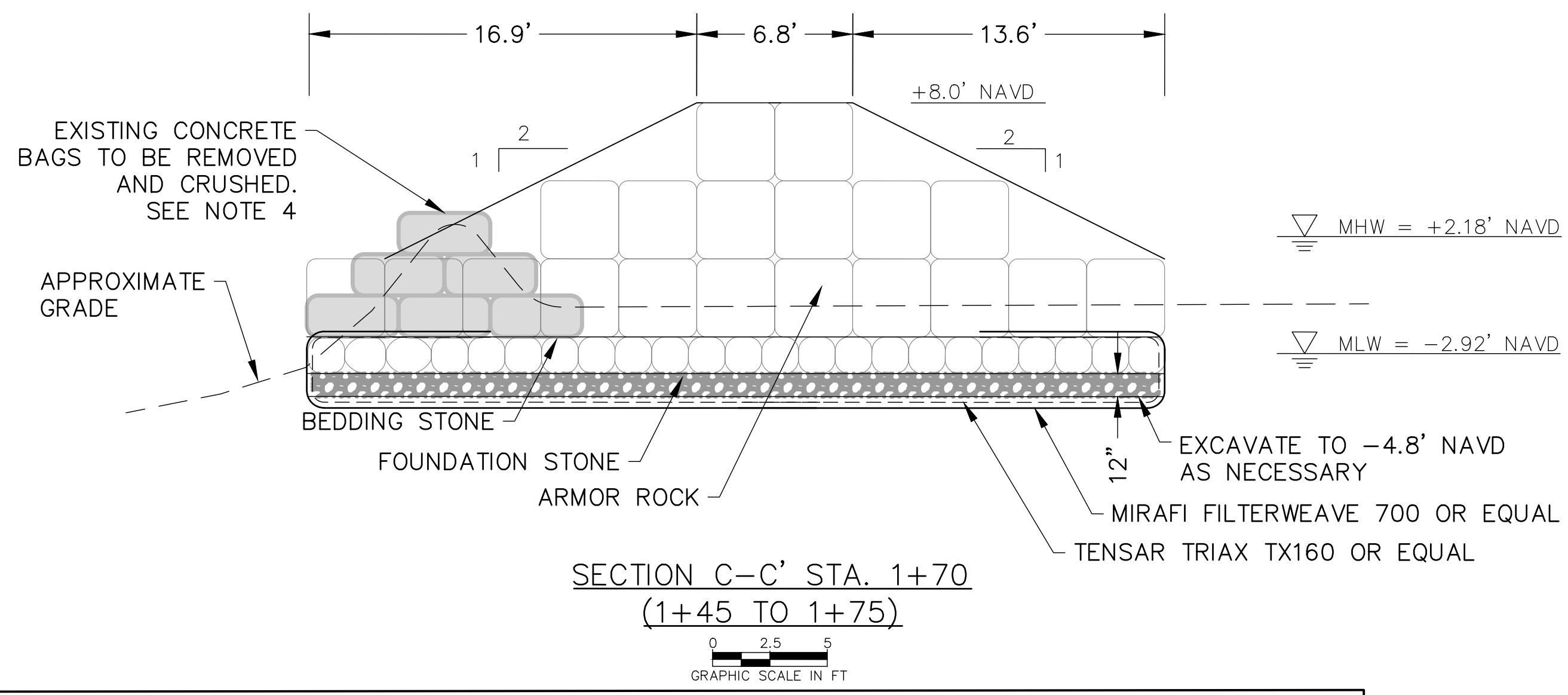
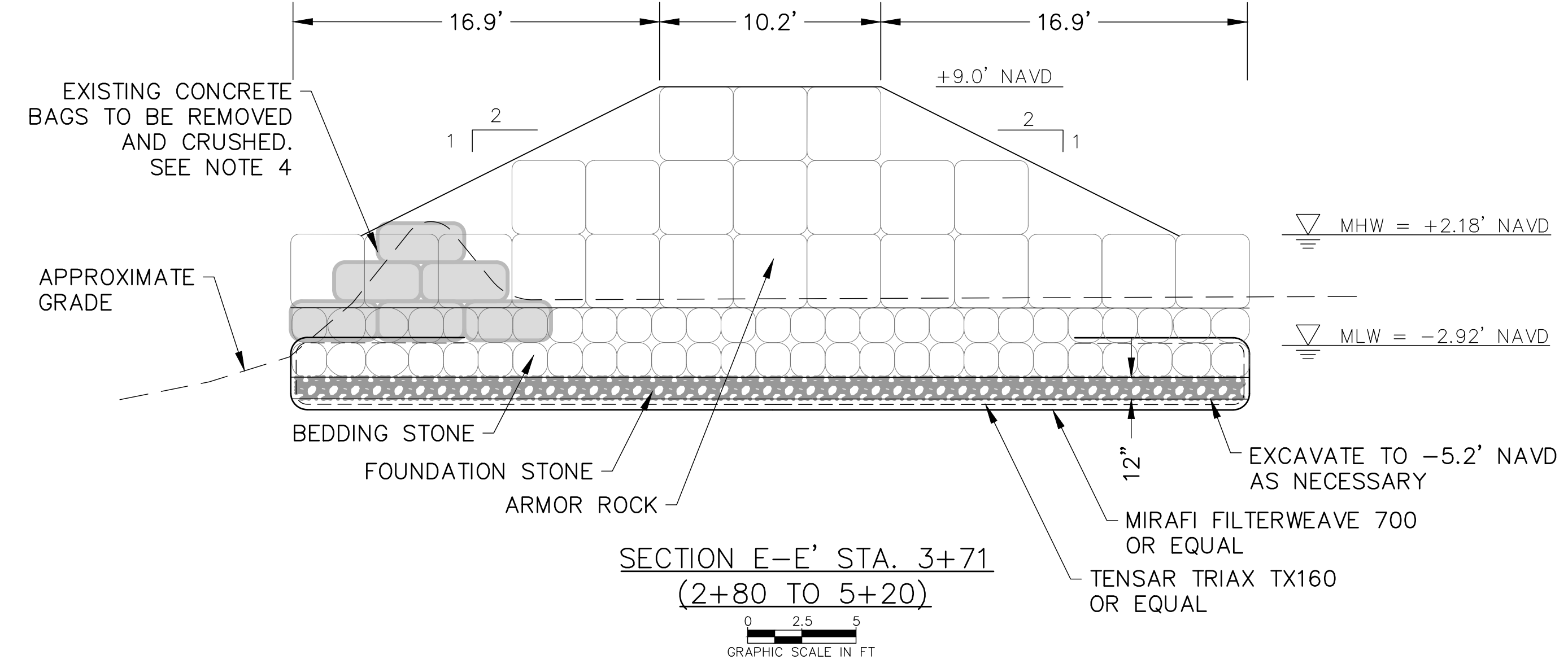
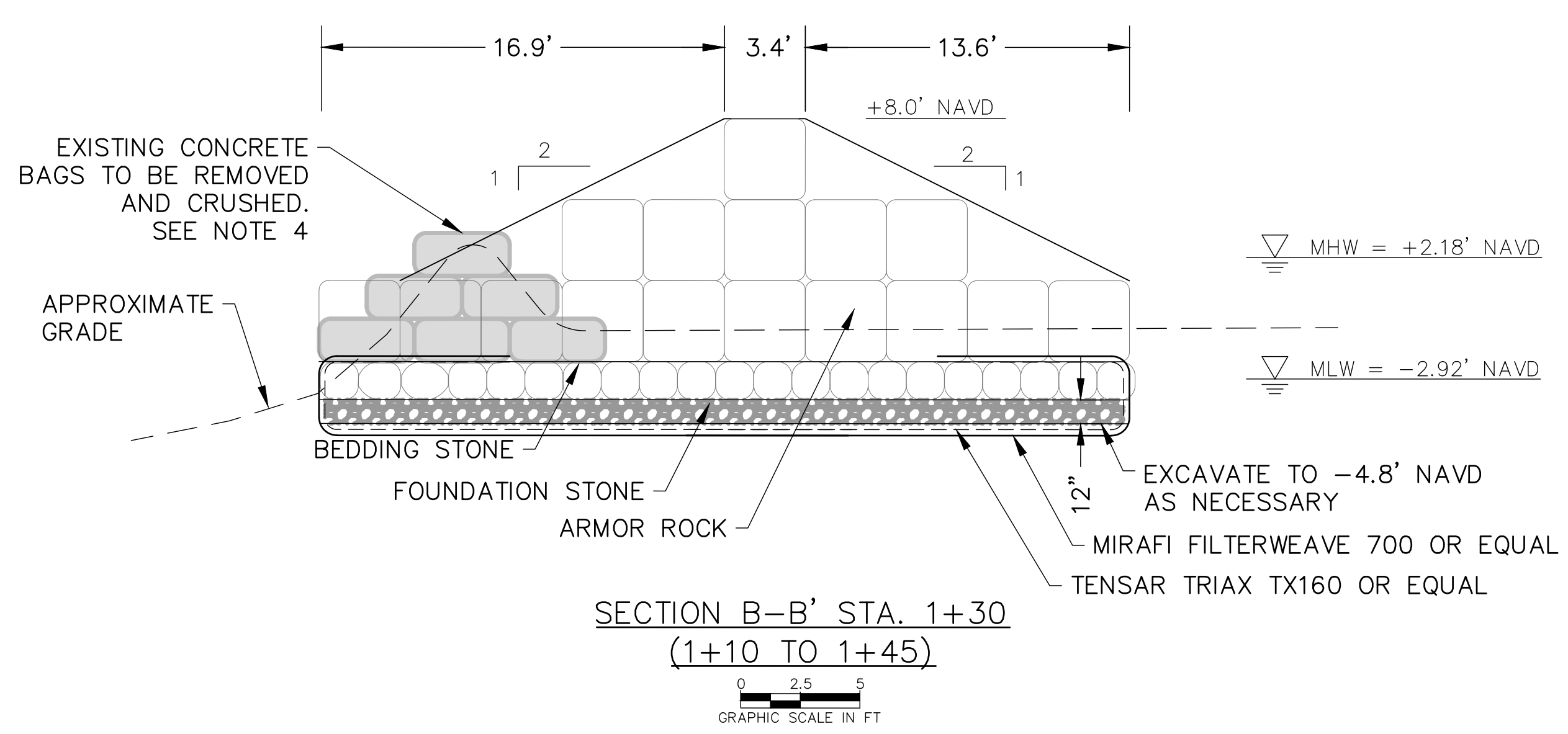
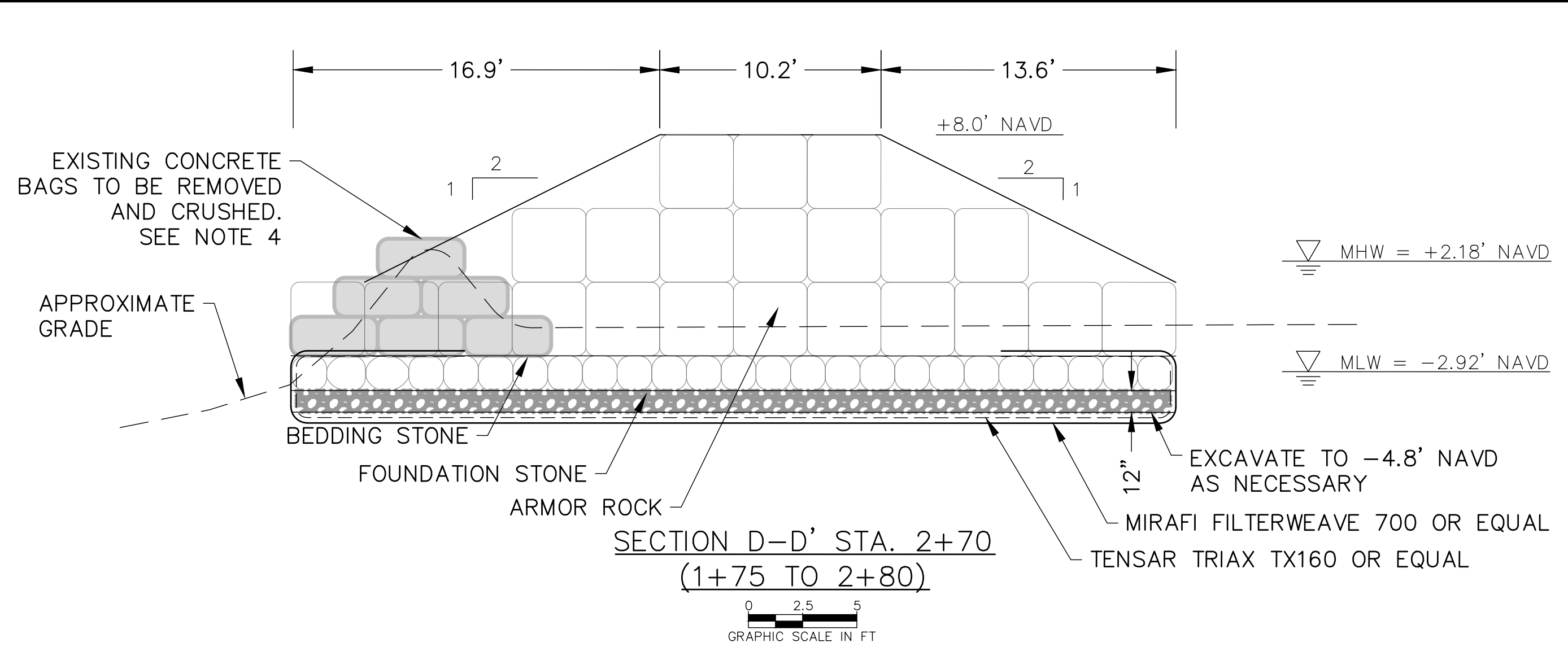
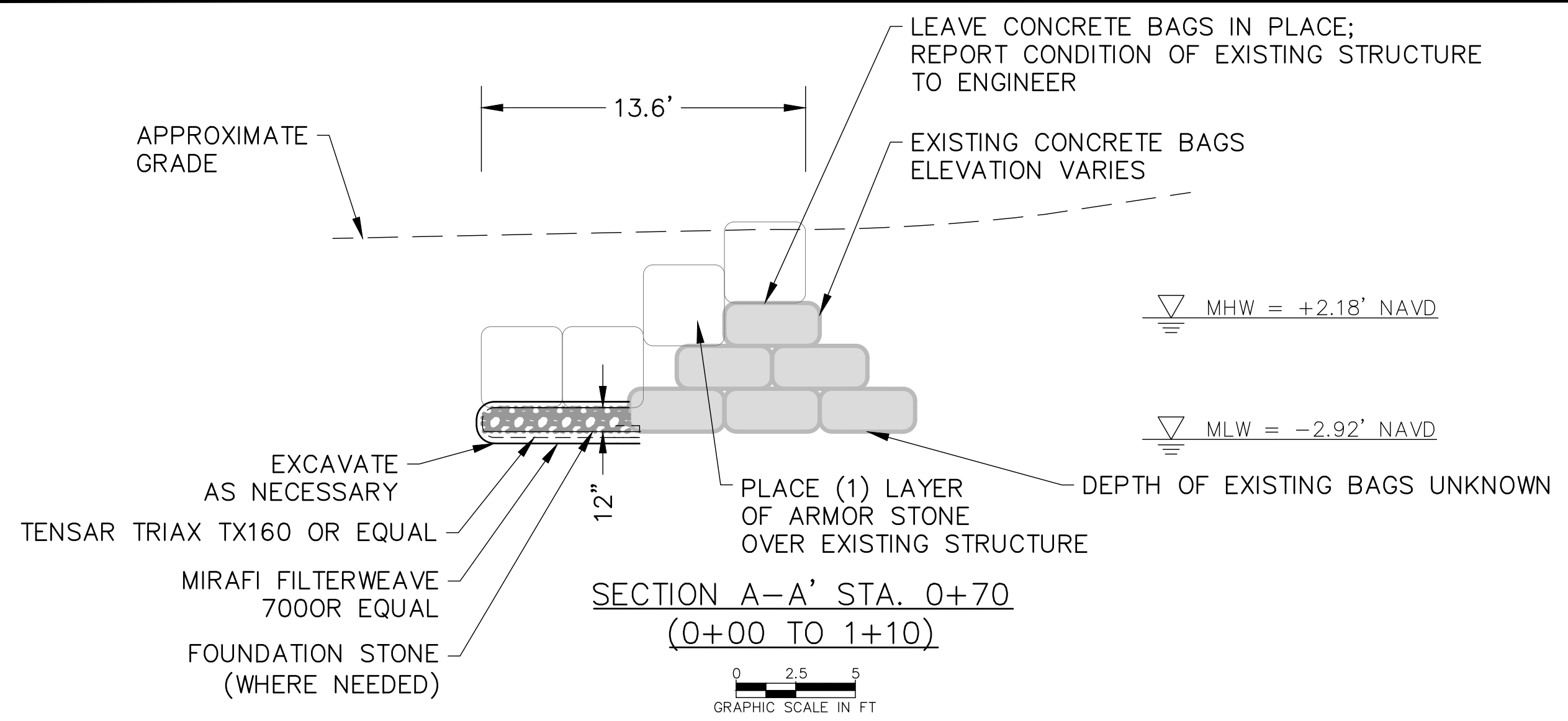
REVISIONS	No.	Date	Description

MURDERKILL RIVER JETTIES REHABILITATION

NORTH JETTY CROSS-SECTIONS

DRAWING NO. XS-2

SHEET 7 OF 9



- NOTES:**
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DOUGLAS W. MANN P.E. NO. 12949
 DATE _____
 SHEET 9 OF 9

REVISIONS	No.	Date	Description