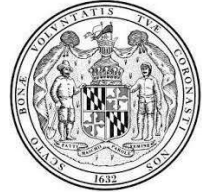




STATE OF MARYLAND
DEPARTMENT OF THE ENVIRONMENT
WATER AND SCIENCE ADMINISTRATION
WATER QUALITY CERTIFICATION
26-WQC-0015



EFFECTIVE DATE: **August 05, 2026**

CERTIFICATION HOLDER: **Matthew Miller**
410 Windy Hill Farm Ln
Centreville, MD 21617
Attn: Matthew Miller

PROJECT LOCATION: **410 Windy Hill Farm Ln**
Centreville, MD 21617

UNDER AUTHORITY OF SECTION 401 OF THE FEDERAL WATER POLLUTION CONTROL ACT AND ITS AMENDMENTS AND IN ACCORDANCE WITH §9-313 THROUGH §9-323, INCLUSIVE, OF THE ENVIRONMENT ARTICLE, ANNOTATED CODE OF MARYLAND, THE MARYLAND DEPARTMENT OF THE ENVIRONMENT (DEPARTMENT) HAS DETERMINED THAT THE REGULATED ACTIVITY DESCRIBED IN THE REQUEST FOR CERTIFICATION FOR MATTHEW MILLER AND ELIZABETH WEHRLE ASSOCIATED WITH U.S. ARMY CORPS OR ENGINEERS (CORPS) AUTHORIZATION NAB-2024-61457, WILL NOT VIOLATE MARYLAND'S WATER QUALITY STANDARDS, IF CONDUCTED IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF THIS CERTIFICATION.

THIS CERTIFICATION IS HEREBY GRANTED WITH CONDITIONS. THIS CERTIFICATION DOES NOT RELIEVE THE APPLICANT OF RESPONSIBILITY FOR OBTAINING ANY OTHER APPROVALS, LICENSES, OR PERMITS IN ACCORDANCE WITH FEDERAL, STATE, OR LOCAL REQUIREMENTS AND DOES NOT AUTHORIZE COMMENCEMENT OF THE PROPOSED PROJECT. A COPY OF THIS REQUIRED CERTIFICATION HAS BEEN SENT TO THE CORPS. THE CERTIFICATION HOLDER SHALL COMPLY WITH THE CONDITIONS LISTED BELOW.

PROJECT DESCRIPTION

Tracking Number: 202461457

Agency Interest Number: 125243

1. Remove an existing 302-foot long timber bulkhead;
2. Construct three vegetated low profile headland breakwaters;
 - a. Headland A: 74-foot long by 106-foot wide;
 - b. Headland B: 69-foot long by 110-foot wide;
 - c. Headland C: 81-foot long by 40-foot wide;
3. Nourish 2,445 square feet of beach;
4. Emplace eight anchor trees and;
5. Create 5,250 square feet of low marsh and 5,819 square feet of high marsh, all within a maximum of 80 feet channelward of the mean high water line.

This Water Quality Certification (Certification) is issued under authority of Section 401 of the Federal Water Pollution Control Act and its Amendments, Title 9, Subtitle 3 of the Environment Article, and Code of Maryland Regulations (COMAR) 26.08.02.10. The Department has determined from a review of the request application file that the project activities described in the above will not violate Maryland's water quality standards, provided that the following conditions are satisfied. The Department satisfied statutory and regulatory public notice requirements by placing this WQC on Public Notice from May 15th to June 15th on the Department's Public Notice webpage (and advertising in The Record Observer on May 22nd, 2026).

SPECIAL CONDITIONS

1. The Certificate Holder shall comply with all Critical Area requirements and obtain all necessary authorizations from local jurisdiction. This Certificate does not constitute authorization for disturbance in the 100-foot Critical Area Buffer. "Disturbance" in the Buffer means clearing, grading, construction activities, or removal of any size of tree or vegetation. Any anticipated Buffer disturbance requires prior written approval, before commencement of land disturbing activity, from local jurisdiction in the form of a Buffer Management Plan.
2. All work performed under this Tidal Wetlands Permit shall be conducted by a marine contractor licensed by the Marine Contractors Licensing Board (MCLB) in accordance with Title 17 of the Environment Article of Annotated Code of Maryland and COMAR 26.30. The licensed marine contractor shall be authorized for the appropriate license category to perform or solicit to perform the activities within this authorization, if applicable. A list of licensed marine contractors and their license category may be obtained by contacting the MCLB at 410-537- 3249, by e-mail at MDE.MCLB@maryland.gov, or by accessing the Maryland Department of the Environment, Environmental Boards webpage at <https://mde.maryland.gov/programs/water/WetlandsandWaterways/Pages/LicensedMarineContractors.aspx>.
3. The issuance of this Certificate is not a validation or authorization by the Department for any of the existing structures depicted on the plan sheets on the subject property that is not part of the authorized work description, nor does it relieve the Certificate Holder of the obligation to resolve any existing noncompliant structures and activities within tidal wetlands.
4. The Licensee shall deploy and maintain a turbidity curtain tightly around and channelward of the project area prior to the commencement of any excavation and backfilling along the shoreline through completion of any excavation and backfilling along the shoreline.
5. The Licensee shall not stockpile any material in State or private tidal wetlands.
6. The Licensee shall restore and revegetate all disturbed wetlands to original contours upon completion of construction.
7. The Licensee shall use marsh mats where access over marsh is required to protect the existing marsh.

8. The Licensee shall have all work proposed above the mean high water line reviewed and authorized by Queen Anne's County Department of Planning and Zoning.
9. The Licensee shall construct the beach nourishment area in accordance with the following conditions:
 1. The Licensee shall use clean substrate fill material, no more than 10% of which shall pass through a standard number 100 sieve.
 2. If the fill is graded hydraulically, the licensee shall use a turbidity curtain around the perimeter of the instream work.
 3. If the existing bank is to be cleared or graded:
 - a. The Licensee shall perform all work under and in accordance with an approved Soil Erosion and Sediment Control Plan from the applicable sediment and erosion control agency; and
 - b. The Licensee shall perform all work under and in accordance with the Critical Area requirements of the local jurisdiction in the form of an approved Buffer Management Plan.
10. The Licensee shall construct the marsh establishment area in accordance with the following conditions:
 1. The Licensee shall use clean substrate fill material, no more than 10% of which shall pass through a standard number 100 sieve.
 2. The marsh establishment area shall be planted within one year following completion of the filling operation.
 3. The marsh establishment project shall be maintained as a wetland, with non-nuisance species' aerial coverage of at least 85% for three consecutive years. If 85% coverage is not attained, the reasons for failure shall be determined, corrective measures shall be taken, and the area shall be replanted.
 4. If the fill is graded hydraulically, the licensee shall use a turbidity curtain around the perimeter of the instream work.
 5. If the existing bank is to be cleared or graded:
 - a. The Licensee shall perform all work under and in accordance with an approved Soil Erosion and Sediment Control Plan from the applicable sediment and erosion control agency; and
 - b. The Licensee shall perform all work under and in accordance with the Critical Area requirements of the local jurisdiction in the form of an approved Buffer Management Plan.
11. The Licensee shall accept the terms of the attached marsh maintenance plan by signing and returning the standard plan to the Water and Science Administration, Tidal Wetlands Division prior to commencement of any work authorized under this License. If the Licensee wishes to propose an alternative marsh maintenance plan, the alternative plan must be submitted to and approved by the Tidal Wetlands Division, Water and Science Administration, prior to commencement of any work authorized under this License. Any alternative plan must provide assurances of success that are at least equivalent to those of the standard plan, in terms of the extent of native marsh plant coverage, elimination of invasive species and timeframe for plant establishment.

GENERAL CONDITIONS

1. The Certification Holder shall comply with all water quality-related performance standards and conditions required by the Department or the Board of Public Works (BPW) in any state issued authorization for activities in tidal wetlands, nontidal wetlands, their 100-year floodplains, nontidal wetlands buffers, or nontidal wetland expanded buffers, to ensure that any discharges will not result in a failure to comply with water quality standards in COMAR 26.08.02 or any other water quality requirements of state law or regulation.
2. This Certification does not obviate the need to obtain required authorizations or approvals from other State, federal or local agencies as required by law.
3. The Certification Holder shall obtain and comply with all additional authorizations or approvals, including self-certifying General Permits issued by the Department.
4. The Project shall be constructed and activities conducted in accordance with the final plan approved by the Department or BPW (or if Department or BPW approval is not required, then in accordance with the plan approved by the Corps), and its approved revisions (Approved Plan).
5. This Certification does not authorize any injury to private property, any invasion of rights, or any infringement of federal, state, or local laws or regulations.
6. The Certification Holder shall allow authorized representatives of the Department access to the site of authorized activities during normal business hours to conduct inspections and evaluations of the operations and records necessary to assure compliance with this Certification.
7. Structures and activities may not interfere with movement of aquatic life, fish, and other wildlife nor cause their entanglement.
8. The Certification Holder may not conduct activities which result in the introduction of non-native species with adverse effects on the aquatic ecosystem into waters or wetlands.
9. No stockpiles of any material shall be placed in Waters of the U.S. or state or private tidal wetlands. All fill and construction materials not used in the project shall be removed and disposed of in a manner approved by the Department which will prevent their entry into waters of this State.
10. Temporary construction trailers or structures, staging areas and stockpiles may not be located within tidal wetlands, nontidal wetlands, nontidal wetlands buffers, nontidal wetland expanded buffers, or the 100-year floodplain unless specifically included on the Approved Plan.
11. The Certification Holder shall adhere to the construction time of year restrictions, unless waived or amended by the Department or BPW, as identified in a state authorization.
12. The Certification Holder shall obtain and comply with an erosion and sediment control plan approved by the appropriate authority (if applicable), including following the stabilization requirements set forth in COMAR 26.17.01.07 and "2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control," as may be amended for activities which result in an earth disturbance subject to the requirements in Annotated Code of Maryland, Environment Article, Title 4 and COMAR 26.17.01.
13. The disturbance of the bottom of the waterway and sediment transport into adjacent State waters shall be minimized.

14. The Certification Holder shall notify the Compliance Program at mde.wsacompliance@maryland.gov a minimum of 2 weeks prior to commencement of regulated activities and discharges.
15. The Certification Holder shall notify the Water and Science Administration, Wetlands and Waterways Protection Program, in writing, upon transferring property ownership or responsibility for compliance with these conditions to another person. The new owner/operator shall request, in writing, transfer of this Certification to his/her name.
16. The Certification Holder shall ensure that a copy of this Certification, including the Approved Plans, is available at the site until the authorized work is complete.
17. This Certification is valid for the project identified herein and the associated Corps authorization NAB-2024-61457 until such time that the Corps authorization expires or is not administratively extended.

STATEMENTS OF NECESSITY AND CITATIONS

1. Statement of Necessity for General Conditions 1, 2, 3, 4, and 10, and Special Conditions 1 and 3: These conditions are necessary to ensure that water quality standards are met, and designated uses are maintained.

Citations: Federal and state laws which authorize this condition include but are not limited to: 33 U.S.C. § 1341(a), (b), & (d); 33 U.S.C. § 1251(b); 33 U.S.C. § 1370; Md. Ann. Code, Env. Article, Title 1, Subtitles 3 and 4; Md. Ann. Code, Env. Article, Title 5, Subtitles 5 and 9; Md. Ann. Code, Env. Article, Title 9, Subtitle 3; Md. Ann. Code, Env. Article, Title 16; COMAR 26.08; COMAR 26.08.02.10G(3); COMAR 26.23.02.06; COMAR 26.17.01; COMAR 26.23; COMAR 26.24

2. Statement of Necessity for General Condition 5: This condition is necessary to clarify the scope of this certification to ensure compliance with water quality regulations, without limiting restrictions through other requirements.

Citations: Federal and state laws which authorize this condition include but are not limited to: 33 U.S.C. § 1341(a), (b), & (d); 33 U.S.C. § 1251(b); 33 U.S.C. § 1370; Md. Ann. Code, Env. Article, Title 1, Subtitles 3 and 4; Md. Ann. Code, Env. Article, Title 5, Subtitles 5 and 9; Md. Ann. Code, Env. Article, Title 9, Subtitle 3; Md. Ann. Code, Env. Article, Title 16; COMAR 26.08, COMAR 26.08.02.10E; COMAR 26.23.02.06; COMAR 26.17.04; COMAR 26.23; COMAR 26.24

3. Statement of Necessity for General Condition 6: Conditions of certification involve precise actions to comply with water quality standards. Site inspection may be necessary to ensure that limits, methods, and other requirements are met to ensure that water quality standards are met and designated uses are maintained. These conditions are necessary to ensure that the activity was conducted, and project completed according to terms of the authorization/certification, while allowing for review of in-field modifications which may have resulted in discharges to ensure that water quality standards were met. Designated uses include support of estuarine and marine aquatic life and shellfish harvesting and for growth and propagation of fish, other aquatic life, and wildlife.

Citations: Federal and state laws that authorize this condition include but are not limited to: 33 U.S.C. § 1341(a), (b), & (d); 33 U.S.C. § 1251(b); 33 U.S.C. § 1370; Md. Ann. Code, Env. Article, Title 1, Subtitles 3 and 4; Md. Ann. Code, Env. Article, Title 5, Subtitles 5 and 9; Md. Ann. Code, Env. Article, Title 9, Subtitle 3; Md. Ann. Code, Env. Article, Title 16; COMAR 26.08; COMAR 26.08.02.03B(1)(b); COMAR 26.08.02.03B(2); COMAR 26.23.02.06; COMAR 26.23; COMAR 26.24; COMAR 26.17.04

4. Statement of Necessity for General Condition 7: Movement of aquatic life and passage of flows is essential for growth and propagation of aquatic life, fish, and other wildlife to meet these designated uses.

Citations: Federal and state laws that authorize this condition include but are not limited to: 33 U.S.C. § 1341(a), (b), & (d); 33 U.S.C. § 1251(b); 33 U.S.C. § 1370; Md. Ann. Code, Env. Article, Title 1, Subtitles 3 and 4; Md. Ann. Code, Env. Article, Title 5, Subtitles 5 and 9; Md. Ann. Code, Env. Article, Title 9, Subtitle 3; Md. Ann. Code, Env. Article, Title 16; COMAR 26.08; COMAR 26.08.02.10E; COMAR 26.08.02.02B(1); 26.08.02.03B(1)(b); 26.08.02.03B(2)(e); COMAR 26.17.01; COMAR 26.23.02.06; COMAR 26.23; COMAR 26.17.04

5. Statement of Necessity for General Condition 8: Nuisance or non-native species may spread and disrupt and dislodge native species from their habitat, leading to declines in distribution, density, growth and propagation. This may result in failure to support native species; and growth, propagation of fish, other aquatic life, and wildlife. Limitations on loss will sustain habitat for a variety of aquatic species. In addition to direct loss, turbidity created by construction or ongoing operation must be limited for support of aquatic life and to meet water quality standards. The conditions ensure that discharges will not result in failure to support designated uses.

Citations: COMAR 26.08; COMAR 26.08.02.02.B(5); COMAR 26.08.03.03-3.D; COMAR 26.23.02.06; COMAR 26.23; COMAR 26.17.04

6. Statement of Necessity for General Conditions 9, 10, and 12 and Special Condition 4, 5, 7, 8, and 9: Fill or construction material within or adjacent to regulated resources may cause discharges resulting in turbidity in excess of water quality standards and interfere with designated uses of growth and propagation of fish, other aquatic life, wildlife; and other designated uses; and fail to meet general water quality criteria that waters not be polluted by substances in amounts sufficient to be unsightly or create a nuisance.

Citations: 26.08.02.03B(1)-B(2); COMAR 26.23; COMAR 26.24; COMAR 26.17.04

7. Statement of Necessity for General Condition 11: The growth and propagation of fish, other aquatic life, and wildlife and support of estuarine and marine aquatic life and shellfish harvesting are dependent upon certain times during the year and specific environmental conditions. The condition is necessary to ensure that activities are restricted during the critical growth, propagation, movement, and harvesting periods to ensure that designated uses will be met.

Citations: Md. Ann. Code, Env. Article, Title 9, Subtitle 3; Md. Ann. Code, Env. Article, Title 16; COMAR 26.08; COMAR 26.08.02.02B(1)(d); COMAR 26.08.02.02B(3); COMAR 26.08.02B(4)

8. Statement of Necessity for General Condition 13: Restrictions on instream construction are necessary to protect designated uses for propagation and growth of fish, other aquatic life, and wildlife.

Citations: Federal and state laws which authorize this condition include but are not limited to: 33 U.S.C. § 1341(a), (b), & (d); 33 U.S.C. § 1251(b); 33 U.S.C. § 1370; Md. Ann. Code, Env. Article, Title 1, Subtitles 3 and 4; Md. Ann. Code, Env. Article, Title 5, Subtitles 5 and 9; Md. Ann. Code, Env. Article, Title 9, Subtitle 3; Md. Ann. Code, Env. Article, Title 16; COMAR 26.08; COMAR 26.08.02.03-3.D; COMAR 26.23.02.06.

9. Statement of Necessity for General Condition 14: The condition is necessary to ensure that Compliance personnel are aware of when discharges are taking place so that an inspection can be undertaken to ensure that water quality standards are met.

Citation: MD Env Code § 1-301 (2019)

10. Statement of Necessity for General Condition 15: In order to ensure that water quality standards will be met and conditions followed, a responsible party must be identified for accountability if needed. A change in ownership or other responsibility must be indicated as the new Certification Holder.

Citations: COMAR 26.08.02.10E(2)

11. Statement of Necessity for General Condition 16: This condition ensures that the Certification Holder and persons conducting work have the certification on the site for referral so that approved discharges will not result in violations of water quality standards.

Citations: Federal and state laws that authorize this condition include but are not limited to: 33 U.S.C. § 1341(a), (b), & (d); 33 U.S.C. § 1251(b); 33 U.S.C. § 1370; Md. Ann. Code, Env. Article, Title 1, Subtitles 3 and 4; Md. Ann. Code, Env. Article, Md. Ann. Code, Env. Article, Title 9, Subtitle 3; Md. Ann. Code, Env. Article, Title 16; COMAR 26.08; COMAR 26.08.02.10G(3); COMAR 26.24.

12. Statement of Necessity for General Condition 17: This condition is necessary to qualify the period of applicability of the terms and conditions of this Certification to be protective of Maryland water quality standards.

Citations: Federal and state laws which authorize this condition include but are not limited to: 33 U.S.C. § 1341(a), (b), & (d); 33 U.S.C. § 1251(b); 33 U.S.C. § 1370; 40 C.F.R. 121, 15 C.F.R. 930, Md. Ann. Code, Env. Article, Title 1, Subtitles 3 and 4; Md. Ann. Code, Env. Article, Title 5, Subtitles 5 and 9; Md. Ann. Code, Env. Article, Title 9, Subtitle 3; Md. Ann. Code, Env. Article, Title 16; COMAR 26.08; COMAR 26.17.04; COMAR 26.23; COMAR 26.24

13. Statement of Necessity for Special Condition 2: Expertise for conducting certain activities is required to ensure that there is no violation of water quality standards nor interference with designated uses. This condition is necessary to ensure that discharges will be conducted in a manner which does not violate water quality criteria nor interfere with designated uses.

Citations: COMAR 26.08.02.02B(2)- B(4); COMAR 26.08 02.03B(2)(d) – (e); COMAR

26.08.02.03B(1)(b); 26.08.02.03B(2); COMAR 23.02.04.04

14. Statement of Necessity for Special Conditions 6, 10, 11: Stabilization of the site with vegetation is required to ensure that waters continue to meet designated uses. Loss of substrate fill material may result in discharges which reduce water quality and interfere with designated uses, including the support of estuarine and marine aquatic life, and the protection of shellfish harvesting, shallow water submerged aquatic vegetation, and migratory fish spawning and nurseries in tidal wetlands. Loss limits will maintain the designated use.

Citations: 1) COMAR 26.08.02.02.B.(3) 2) COMAR 26.08.02.03-3.C.(2)d.(5); 33 U.S.C. § 1341(a), (b), & (d); 33 U.S.C. § 1251(b); 33 U.S.C. § 1370; Md. Ann. Code, Env. Article, Title 1, Subtitles 3 and 4; Md. Ann. Code, Env. Article, Title 9, Subtitle 3; Md. Ann. Code, Env. Article, Title 16; COMAR 26.08; COMAR 26.24.

CERTIFICATION APPROVED



Heather L. Nelson, Program Manager
Wetlands and Waterways Protection Program
Water and Science Administration

Effective Date: August 05, 2026

cc: WSA Inspection & Compliance Program
U.S. Army Corps of Engineers

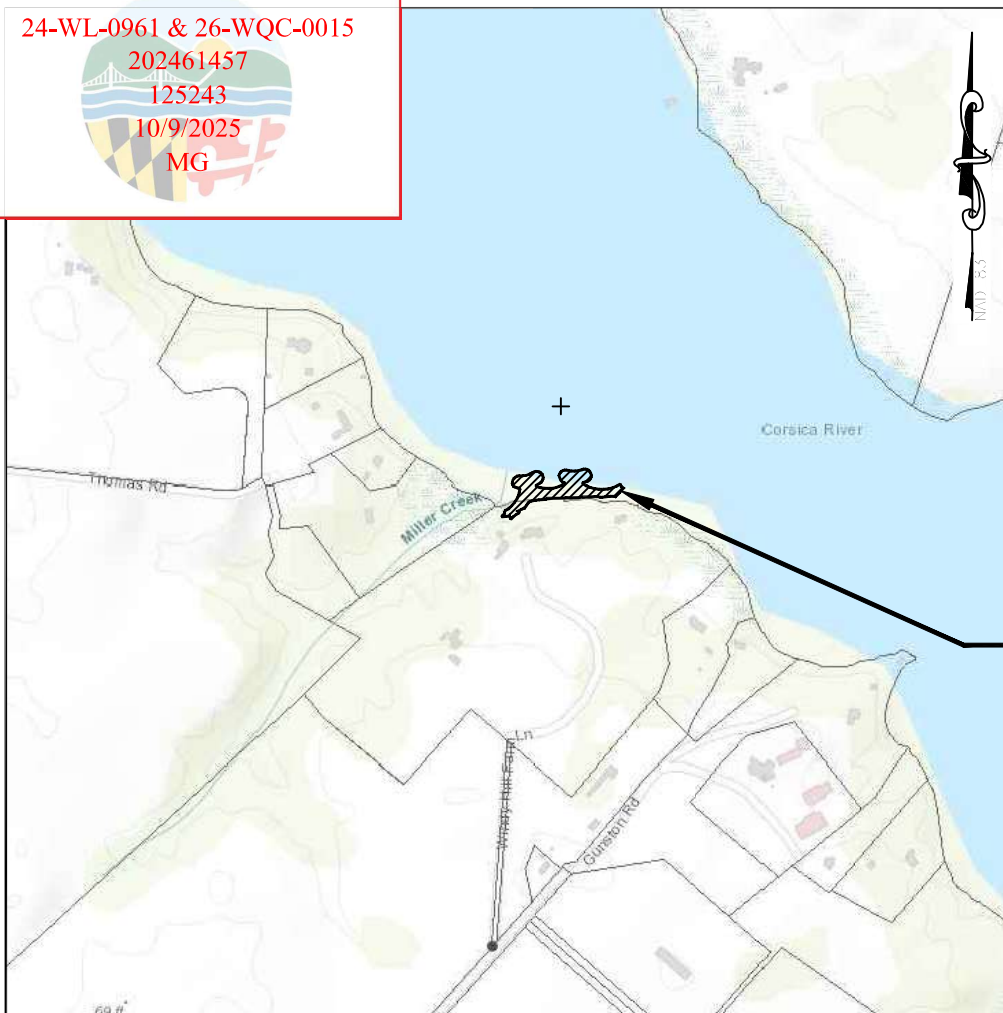
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202461457

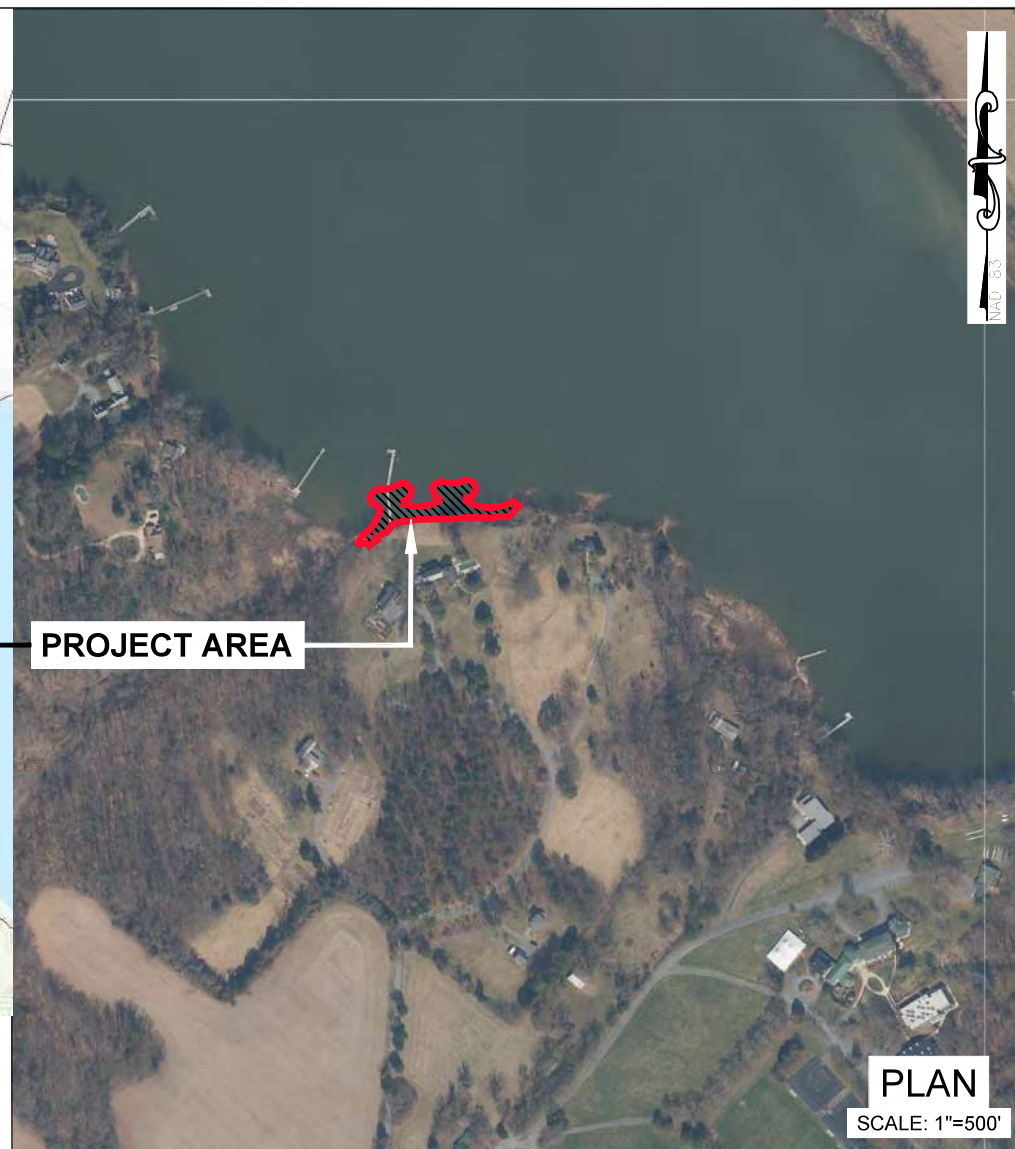
125243

10/9/2025

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VICINITY MAP



PROJECT AREA

PLAN

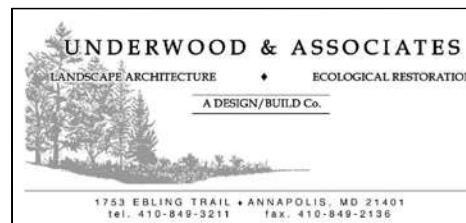
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SHEET INDEX

DESCRIPTION	SHEET
VICINITY MAP AND AERIAL PHOTO	1
PROJECT VICINITY CONDITIONS	2
EXISTING CONDITIONS	3
PROPOSED CONDITIONS	4
PROJECT CROSS SECTIONS	5-7
PROJECT DETAILS	8-9
PROJECT DATA TABLES	10-11

NOTES:

MHHW= 1.80' / MHW= 1.51' /
MLW= -0.00'
CONTROL STATION: NOAA
BALTIMORE, MD STATION
8574680
MLW DATUM



OCTOBER 9, 2025		
Scale	AS SHOWN	VICINITY MAP AND AERIAL PHOTO WINDY HILL SHORELINE MATTEW B. & ELIZABETH M. WEHRLE 410 WINDY HILL FARM ROAD, CENTREVILLE, MD 21617 FORMERLY MAP 0035, GRID 0008, PARCEL 0006 2RD ELECTION DISTRICT, QUEEN ANNE COUNTY
Drawn By	K.B./J.K./B.L.	
Approved By	D.W.	
Sheet No.	1 Of 11	
Project No.	22-056	
Proposal No.	...	

24-WL-0961 & 26-WQC-0015

202461457

125243

10/9/2025

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Corsica River

Fetch Length: 4,392 ft OR 0.80 mi

Corsica River

PROPERTY LINES

CORSICA RIVER

0
1000
2000

Fetch Calculations

Angle	Fetch Length	
	(feet)	(miles)
313	2,398	0.45
316	2,743	0.52
319	2,852	0.54
322	4,252	0.81
325	4,182	0.79
328	4,237	0.80
331	4,197	0.79
334	3,960	0.75
337	3,823	0.72
Average	3,627	0.69

PLAN

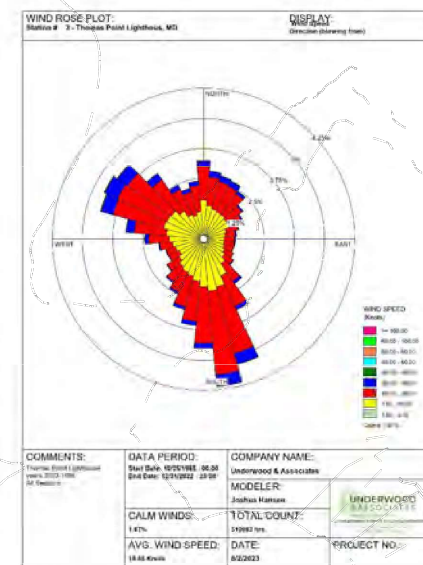
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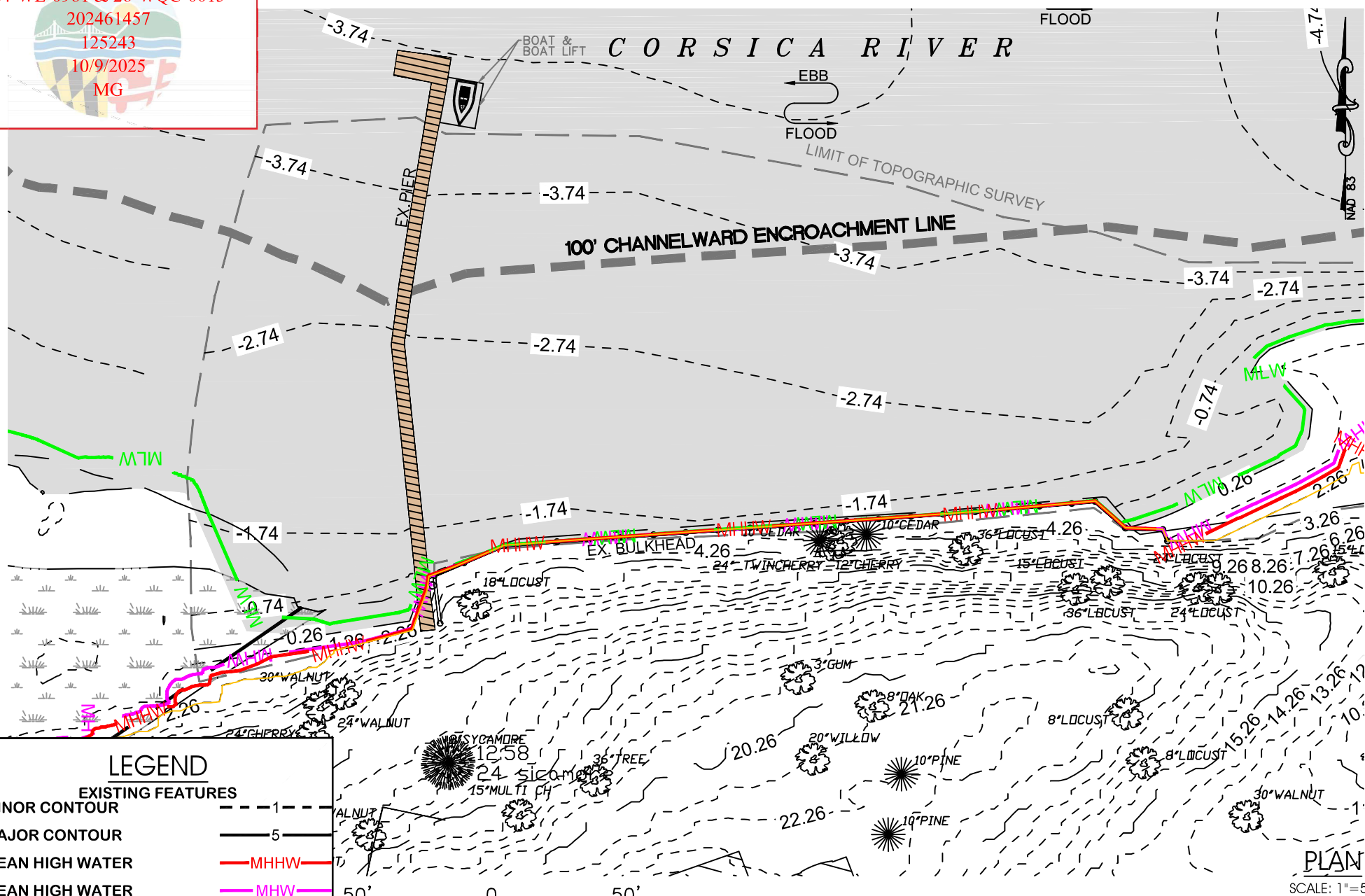
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Drawn By	K.B./J.K./B.L.
Approved By	D.W.
Sheet No.	2 Of 11
Project No.	22-056
Proposal No.	...

PROJECT VICINITY CONDITIONS

WINDY HILL SHORELINE
MATTEW B. & ELIZABETH M. WEHRLE
410 WINDY HILL FARM ROAD, CENTREVILLE, MD 21617
FORMERLY MAP 0035, GRID 0008, PARCEL 0006
2RD ELECTION DISTRICT, QUEEN ANNE COUNTY



MG



LEGEND

EXISTING FEATURES

MINOR CONTOUR ——— 1 ———
MAJOR CONTOUR ——— 5 ———
MEAN HIGH WATER ——— MHHW ———
MEAN HIGH WATER ——— MHW ———
MEAN LOW WATER ——— MLW ———
TREE CANOPY ———
PROPERTY LINE ———
1972 JURISDICTIONAL BOUNDARY ——— 1972 ———
75' CHANNELWARD ENCROACHMENT ———

50' 0 50'

SCALE: 1"=50'

NOTES:

MHHW= 1.80' / MHW= 1.51' / MLW= -0.00'
MHW AND MLW ARE BASED ON NOAA
BALTIMORE, MD STATION 8574680
MLW DATUM

UNDERWOOD & ASSOCIATES

LANDSCAPE ARCHITECTURE • ECOLOGICAL RESTORATION

A DESIGN/BUILD Co.

1753 EBLING TRAIL • ANNAPOLIS, MD 21401
tel. 410-849-3211 fax. 410-849-2136

SCALE: 1"=50'

OCTOBER 9, 2025

EXISTING CONDITIONS

WINDY HILL
SHORELINE

MATTHEW B. & ELIZABETH M. WEHRLE
410 WINDY HILL FARM ROAD, CENTREVILLE, MD 21617
FORMERLY MAP 0035, GRID 0008, PARCEL 0006
2RD ELECTION DISTRICT, QUEEN ANNE COUNTY

Regenerative Stream Channel (RSC)

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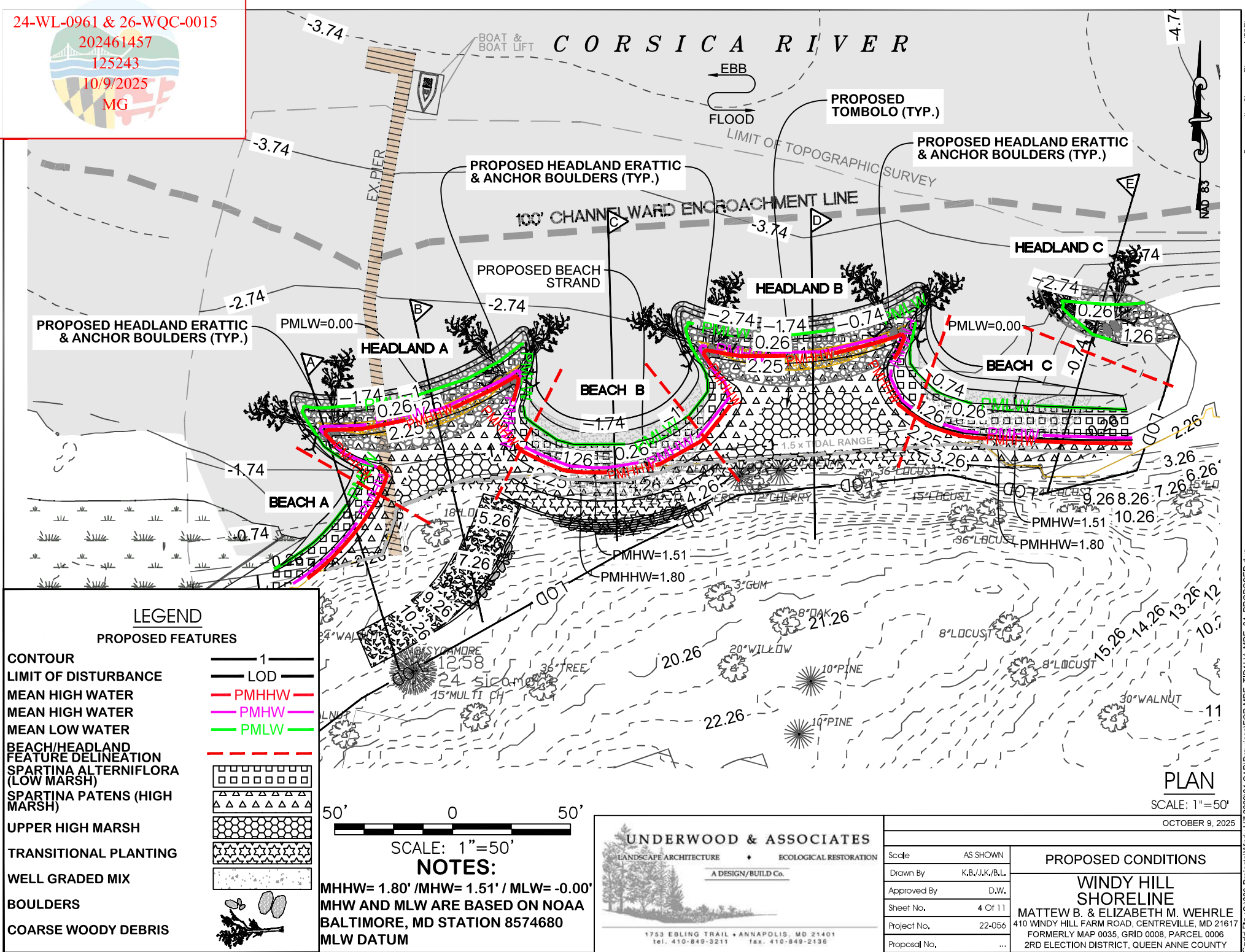
24-WL-0961 & 26-WQC-0015

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10/9/2025

MG



LEGEND

PROPOSED FEATURES

CONTOUR	1
LIMIT OF DISTURBANCE	LOD
MEAN HIGH WATER	PMHW
MEAN HIGH WATER	PMHW
MEAN LOW WATER	PMLW
BEACH/HEADLAND FEATURE DELINEATION	
SPARTINA ALTERNIFLORA (LOW MARSH)	
SPARTINA PATENS (HIGH MARSH)	
UPPER HIGH MARSH	
TRANSITIONAL PLANTING	
WELL GRADED MIX	
BOULDERS	
COARSE WOODY DEBRIS	

50' 0 50'

SCALE: 1"=50'

NOTES:

MHHW = 1.80' / MHW = 1.51' / MLW = -0.00'
MHW AND MLW ARE BASED ON NOAA
BALTIMORE, MD STATION 8574680
MLW DATUM

UNDERWOOD & ASSOCIATES

LANDSCAPE ARCHITECTURE • ECOLOGICAL RESTORATION

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1753 EBLING TRAIL • ANNAPOLIS, MD 21401
Tel. 410-849-3211 Fax. 410-849-2138

PLAN

SCALE: 1"=50'

OCTOBER 9, 2025

Scale	AS SHOWN
Drawn By	K.B./J.K./B.L.
Approved By	D.W.
Sheet No.	4 Of 11
Project No.	22-056
Proposal No.	...

PROPOSED CONDITIONS

WINDY HILL SHORELINE

MATTHEW B. & ELIZABETH M. WEHRLE
410 WINDY HILL FARM ROAD, CENTREVILLE, MD 21617
FORMERLY MAP 0035, GRID 0008, PARCEL 0006
2RD ELECTION DISTRICT, QUEEN ANNE COUNTY

24-WL-0961 & 26-WQC-0015

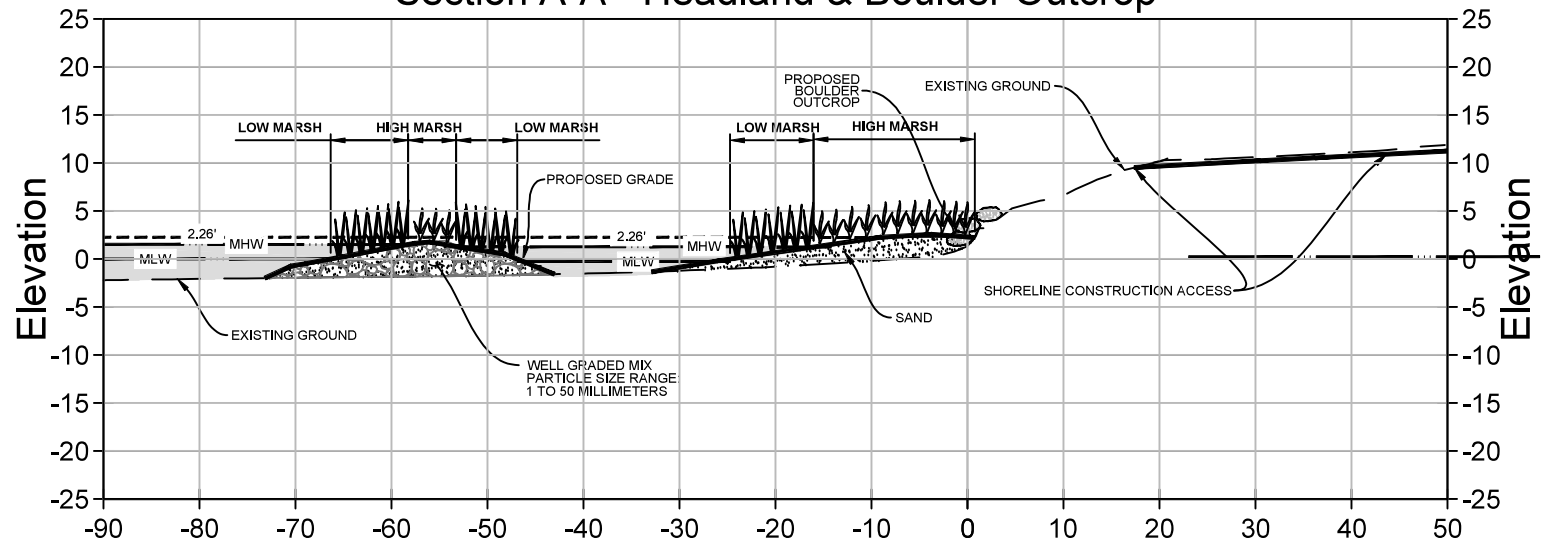
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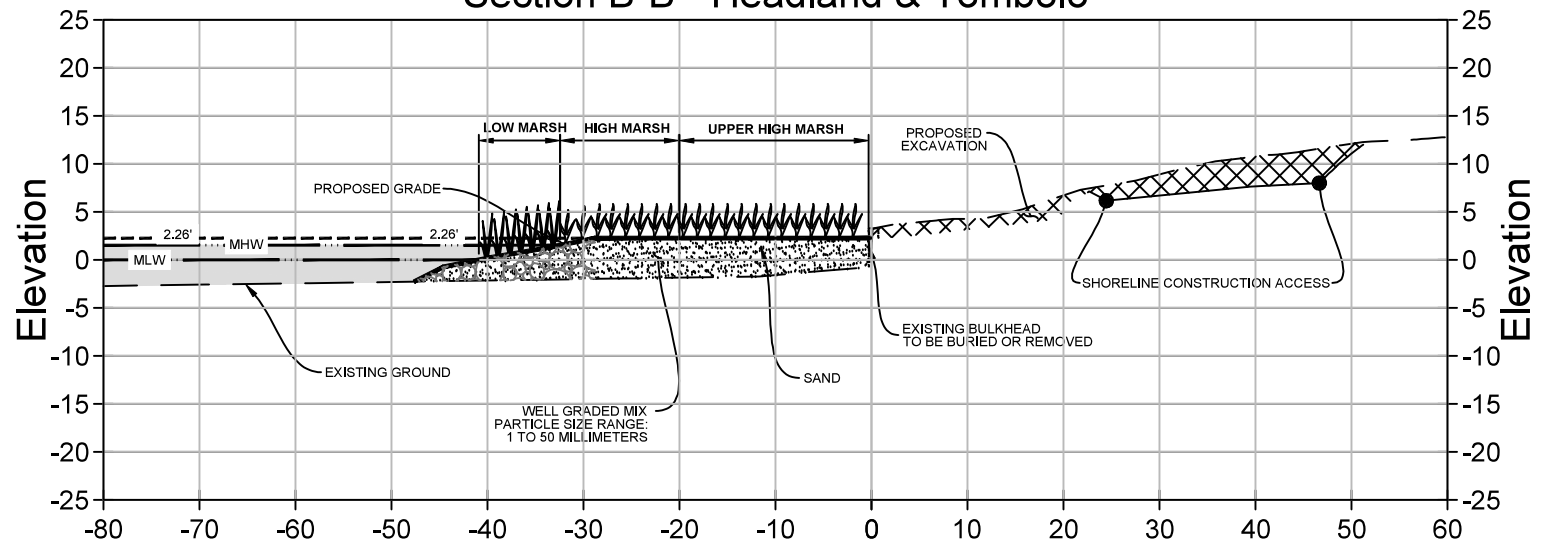
Section A-A - Headland & Boulder Outcrop



CROSS SECTIONS

SCALE: 1"=20' "

Section B-B - Headland & Tombolo



NOTES:

MHHW= 1.80' / MHW= 1.51'

/ MLW= 0.00'

CONTROL STATION:

NOAA BALTIMORE, MD

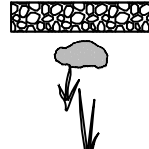
STATION 8574680

MLW DATUM

LEGEND

EXISTING GRADE
PROPOSED GRADE
MEAN HIGH WATER (MHW)
MEAN LOW WATER (MLW)
SAND/WOOD CHIP MIX

SUBMERGED COBBLE
BOULDER OUTCROP
SPARTINA PATENS
SPARTINA ALTERNIFLORA



UNDERWOOD & ASSOCIATES

LANDSCAPE ARCHITECTURE • ECOLOGICAL RESTORATION
A DESIGN/BUILD Co.

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Tel. 410-849-3211 Fax. 410-849-2138

OCTOBER 9, 2025

Scale AS SHOWN
Drawn By K.B./J.K./B.L.
Approved By D.W.
Sheet No. 5 Of 11
Project No. 22-056
Proposal No. ...

PROJECT CROSS SECTION

WINDY HILL SHORELINE

MATTHEW B. & ELIZABETH M. WEHRLE
410 WINDY HILL FARM ROAD, CENTREVILLE, MD 21617
FORMERLY MAP 0035, GRID 0008, PARCEL 0006
2RD ELECTION DISTRICT, QUEEN ANNE COUNTY

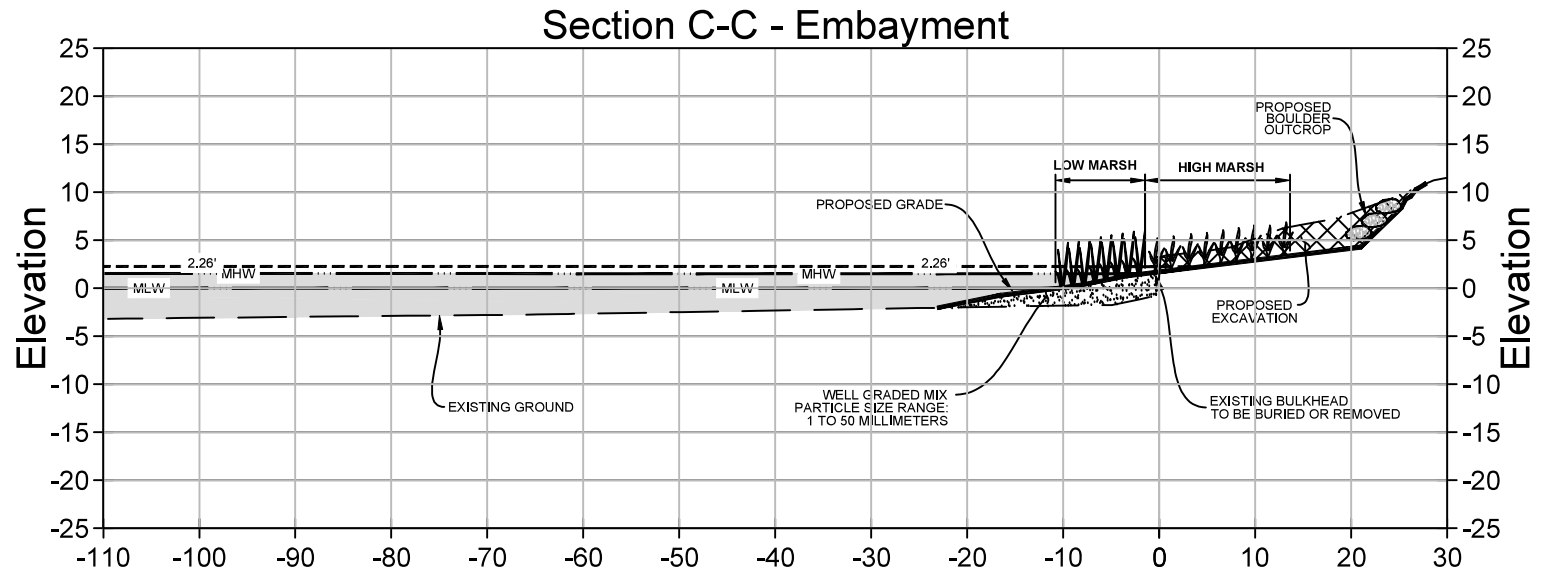
24-WL-0961 & 26-WQC-0015

202461457

125243

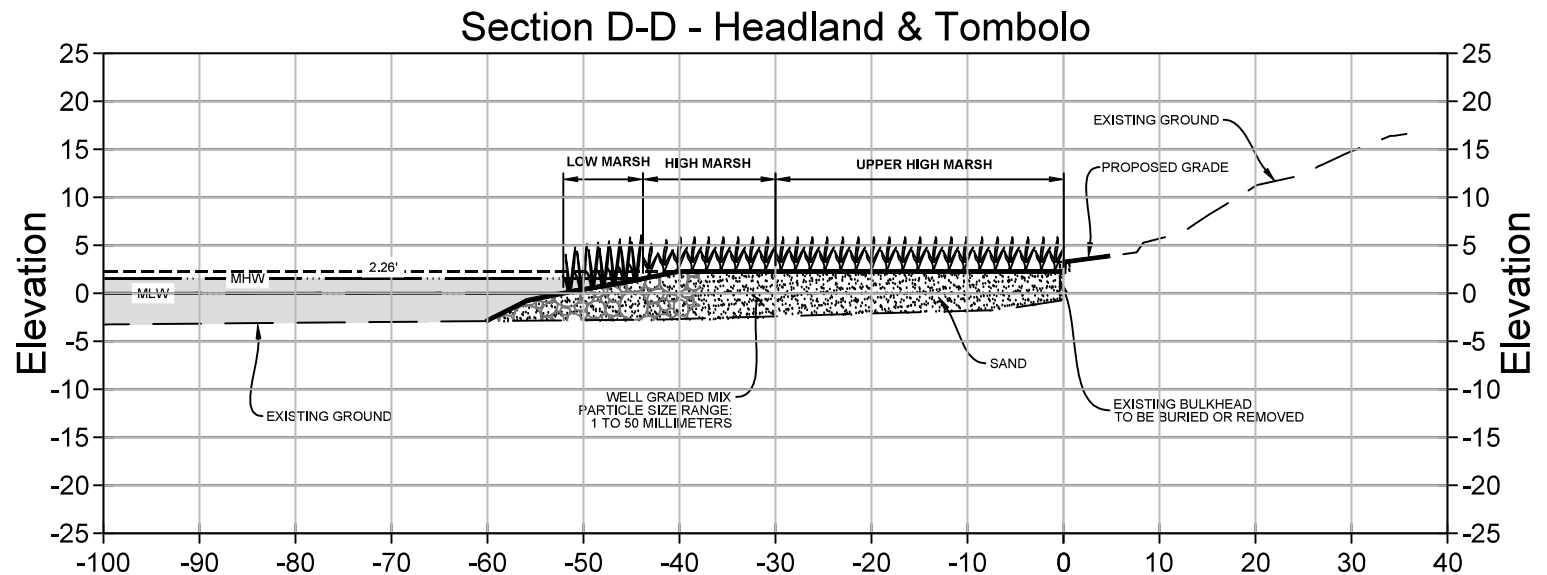
10/9/2025

MG



CROSS SECTIONS

SCALE: 1"=20' "



NOTES:

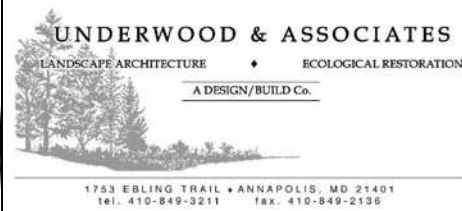
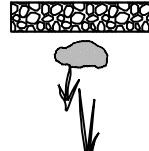
MHHW= 1.80' /MHW= 1.51'
/ MLW= 0.00'

CONTROL STATION:
NOAA BALTIMORE, MD
STATION 8574680
MLW DATUM

LEGEND

EXISTING GRADE
PROPOSED GRADE
MEAN HIGH WATER (MHW)
MEAN LOW WATER (MLW)
SAND/WOOD CHIP MIX

— — — SUBMERGED COBBLE
— — — BOULDER OUTCROP
— — — SPARTINA PATENS
— — — SPARTINA ALTERNIFLORA



OCTOBER 9, 2025

Scale	AS SHOWN
Drawn By	K.B./J.K./B.L.
Approved By	D.W.
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PROJECT CROSS SECTION

WINDY HILL SHORELINE

MATTEW B. & ELIZABETH M. WEHRLE
410 WINDY HILL FARM ROAD, CENTREVILLE, MD 21617
FORMERLY MAP 0035, GRID 0008, PARCEL 0006
2RD ELECTION DISTRICT, QUEEN ANNE COUNTY

24-WL-0961 & 26-WQC-0015

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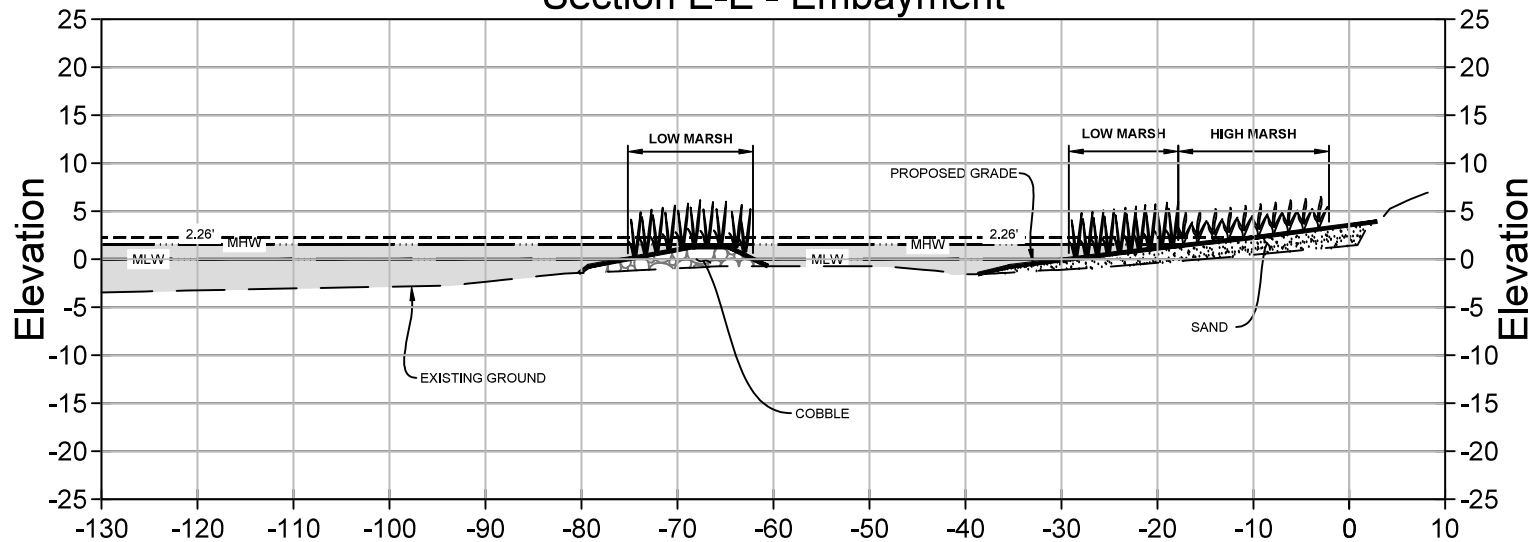
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10/9/2025

MG



Section E-E - Embayment



CROSS SECTIONS

SCALE: 1"=20' "

NOTES:

MHHW= 1.80' /MHW= 1.51'

/ MLW= 0.00'

CONTROL STATION:

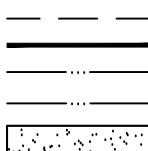
NOAA BALTIMORE, MD

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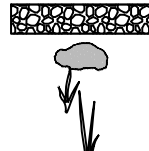
MLW DATUM

LEGEND

EXISTING GRADE
PROPOSED GRADE
MEAN HIGH WATER (MHW)
MEAN LOW WATER (MLW)
SAND/WOOD CHIP MIX



SUBMERGED COBBLE
BOULDER OUTCROP
SPARTINA PATENS
SPARTINA ALTERNIFLORA



OCTOBER 9, 2025

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Approved By	D.W.
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Project No.	22-056
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PROJECT CROSS SECTION

WINDY HILL SHORELINE

MATTEW B. & ELIZABETH M. WEHRLE
410 WINDY HILL FARM ROAD, CENTREVILLE, MD 21617
FORMERLY MAP 0035, GRID 0008, PARCEL 0006
2RD ELECTION DISTRICT, QUEEN ANNE COUNTY

WOODY MATERIAL ANCHORING (TYP.) - PLAN VIEW

TOMBOLO (TYP.)

24-WL-0961 & 26-WQC-0015

202461457

125243

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EMBEDDED TREE
(EXPOSED CROWN)

BOULDER TO ANCHOR
DEBRIS AT TRUNK INTERSECTION

PROJECT DETAILS

UNDERWOOD & ASSOCIATES

LANDSCAPE ARCHITECTURE

ECOLOGICAL RESTORATION

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Drawn By	K.B./J.K./B.L.
Approved By	D.W.
Sheet No.	8 Of 11
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PROJECT DETAILS

WINDY HILL SHORELINE

MATTEW B. & ELIZABETH M. WEHRLE
410 WINDY HILL FARM ROAD, CENTREVILLE, MD 21617
FORMERLY MAP 0035, GRID 0008, PARCEL 0006
2RD ELECTION DISTRICT, QUEEN ANNE COUNTY

WOODY MATERIAL ANCHORING (TYP.) - PROFILE VIEW

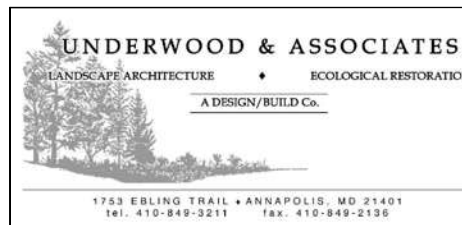
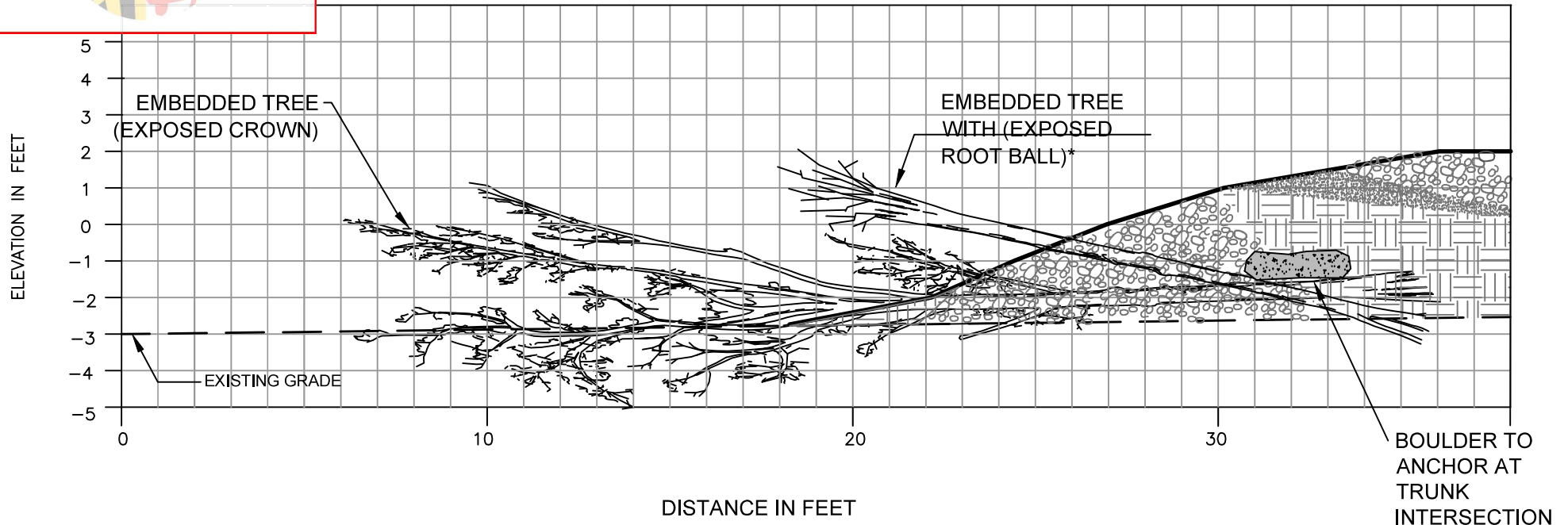
24-WL-0961 & 26-WQC-0015

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OCTOBER 9, 2025

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Drawn By	K.B./J.K./B.L.
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Sheet No.	9 Of 11
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PROJECT DETAILS

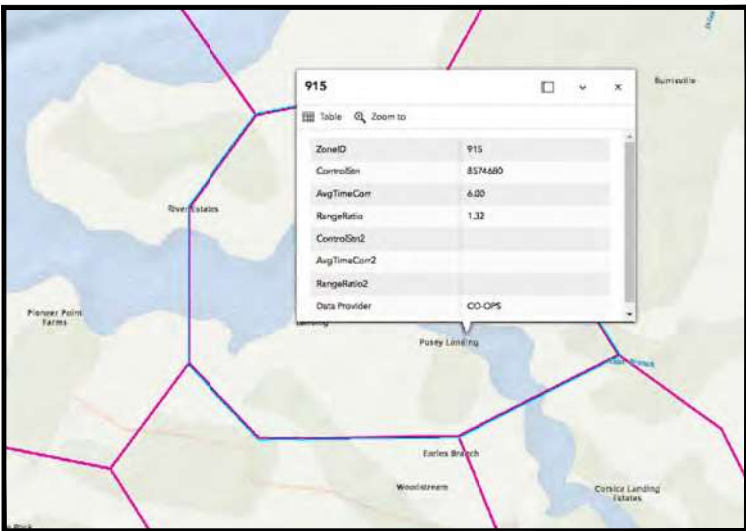
WINDY HILL SHORELINE

MATTHEW B. & ELIZABETH M. WEHRLE
410 WINDY HILL FARM ROAD, CENTREVILLE, MD 21617
FORMERLY MAP 0035, GRID 0008, PARCEL 0006
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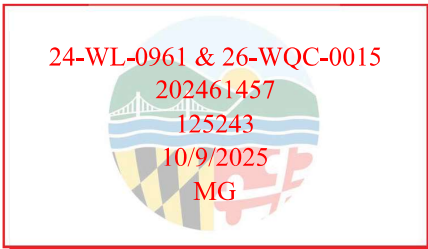
Planting Schedule												
Planting Zone	Symbol	Total Area (SF)	Common Name	Scientific Name	Type	Size	Distribution	Avg Spacing (ft)	Quantity	Credit Area (SF per plant)	Total Credit Area (SF)	Description
Low Marsh	□ □ □ □ □ □ □ □ □ □ □ □ □ □ □	4,952	Lowmarsh Coregrass	<i>Spartina alterniflora</i>	Herbaceous	QT	Random	2	1,238	2	2,476	Between MLW and MHW
High Marsh	△ △ △ △ △ △ △ △ △ △	8,950	Highmarsh Cordgrass	<i>Spartina patens</i>	Herbaceous	QT	Random	2	2,238	2	4,476	Above MHW to 1.5 x tidal range (within jurisdiction for living shoreline)
Upper High Marsh	⬢ ⬢ ⬢ ⬢ ⬢ ⬢ ⬢ ⬢ ⬢ ⬢ ⬢ ⬢ ⬢ ⬢ ⬢	2,043	Highmarsh Cordgrass	<i>Spartina patens</i>	Herbaceous	QT	Random	2	511	2	1,022	Headland Diverse Planting - Above MHW to 1.5 x tidal range (within jurisdiction for living shoreline)
			*cardinal flower	<i>Loebelia cardinalis</i>	Herbaceous	Qt	Random	5	12	2	24	
			*Path rush	<i>Juncus tenuis</i>	Herbaceous	Qt	Random	5	12	2	24	
			*Switchgrass	<i>Panicum virgatum</i>	Herbaceous	Qt	Random	5	12	2	24	
			*Milkweed	<i>Asclepias incarnata</i>	Herbaceous	Qt	Random	5	12	2	24	
Transitional	☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆	1,935	broomsedge	<i>Andropogon glomeratus</i>	Herbaceous	Qt	Random	5	12	2	24	Near intermittently flooded areas.
			New england aster	<i>Symphotrichum novae angliae</i>	Herbaceous	Qt	Random	5	12	2	24	
			dense blazing star	<i>Liatris spicata</i>	Herbaceous	Qt	Random	5	12	2	24	
			cardinal flower	<i>Loebelia cardinalis</i>	Herbaceous	Qt	Random	5	12	2	24	
			Path rush	<i>Juncus tenuis</i>	Herbaceous	Qt	Random	5	12	2	24	
			Switchgrass	<i>Panicum virgatum</i>	Herbaceous	Qt	Random	5	12	2	24	
			Milkweed	<i>Asclepias incarnata</i>	Herbaceous	Qt	Random	5	12	2	24	
			Wax myrtle	<i>Myrica cerifera</i>	Understory tree	6'	Random	12	14	75	1,050	
			Atlantic White Cedar	<i>Chamaecyparis thyoides</i>	Canopy tree	1" cal. o., 6'	Random	25	4	100	400	
			Annual Rye	-	Grass	Seed (as)	N/A	5 lbs/1,000 sqft	As needed	-	-	
Open Areas	As needed	As needed	Chewings Red Fescue	-	Grass	Seed (as)	N/A	5 lbs/1,000 sqft	As needed	-	-	Replanting of disturbed upland open fields

Windy Hill Living Shoreline - Project Data			
Feature	Existing	Proposed	Difference (Net)
High Marsh (measured above PR 1.5x tidal range) (SF)	0	1,127	1,127
High Marsh (measured from MHW to PR 1.5x tidal range) (SF)	0	5,819	5,819
Low Marsh (measured from MLW to MHW) (SF)	0	5,250	5,250
Total Credited Tidal Wetlands (between MLW & 1.5x tidal range) (SF)	0	11,069	11,069
Bulkhead (LF)	302	0	-302
Shoreline at MHW (LF)	393	567	174

Tidal Disturbance (channelward of existing MHW)		
Fill area channelward of existing MHW (SF)	16,429	SF
Total vegetated area (between PR MLW & 1.5x tidal range)	13,096	SF
Coarse Woody Material	8	Trees
SAV Impact (2018- 2024 composite) *no SAV present	0	SF
Vegetated Rock Fill Area (SF)	4,344	SF
Sand Fill Area (SF)	11,104	SF
Fill Material Volumes (channelward of existing MHW)		
Total Fill	1,738	CY
Sand	1,181	CY
Gravel	98	CY
Cobble	393	CY
Boulders	33	CY
Wood Chips	143	CY



NOAA CO-OPS Discrete Tidal Zoning Map showing a range ratio of 1.32 in reference to the Baltimore, MD Control Station



ES		OCTOBER 9, 2025	
RAT	Scale	AS SHOWN	PROJECT DATA TABLES
	Drawn By	K.B./J.K./B.L.	
	Approved By	D.W.	
	Sheet No.	10 Of 11	
	Project No.	22-056	
	Proposal No.	...	WINDY HILL SHORELINE
			MATTEW B. & ELIZABETH M. WEHRLE
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