Public Notice

U.S. Army Corps of Engineers
Baltimore District

In Reply to Application Number
CENAB-OPR-M (JEFFERSON PATTERSON PARK & MUSEUM/ SHORELINE STABILIZATION) 2017-61282

PN 17-47 Comment Period: October 5, 2017 to November 5, 2017

THE PURPOSE OF THIS PUBLIC NOTICE IS TO SOLICIT COMMENTS FROM THE PUBLIC REGARDING THE WORK DESCRIBED BELOW. NO DECISION HAS BEEN MADE AS TO WHETHER OR NOT A PERMIT WILL BE ISSUED AT THIS TIME.

This District has received an application for a Department of the Army permit pursuant to Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act (33. U.S.C. 1344) as described below:

APPLICANT: Mr. Mark Thompson, Executive Director
Jefferson Patterson Park & Museum
10515 Mackall Road
St. Leonard, Maryland 20685

WATERWAY AND LOCATION OF THE PROPOSED WORK: The project is located in St. Leonard Creek at the Jefferson Patterson Park and Museum in St. Leonard, Calvert County, Maryland.

PROJECT WORK DESCRIPTION: To construct eight (8) 9-foot wide by various side 100-224 linear feet long low profile stone sills along approximately 2,000 linear feet of shoreline to extend no more than 80 feet channelward of the approximate mean high water (MHW) shoreline; to deposit approximately 2,711 cubic yards of clean sloped sand fill to create approximately 1,200 square feet of beach, approximately 16,825 square feet of *Spartina alterniflora* marsh, and approximately 37,466 square feet of *Spartina patens* marsh to extend no more than 75 feet channelward of the approximate MHW shoreline; to encapsulate an existing timber bulkhead with a 32-foot wide by 138-foot long stone groin to extend approximately 115 feet channelward of the approximate MHW shoreline. All work will be completed in accordance with the enclosed plan(s). If you have any questions concerning this matter, please contact Mrs. Erica Schmidt at 410-962-6029 or Erica.Schmidt@usace.army.mil.

The applicant is not proposing mitigation because the proposed project is an enhancement/creation of tidal wetlands. To purpose of the project is shoreline stabilization to protect the existing park and museum property.

The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts 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 reasonable may be expected to 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, economic, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, flood plain values, land

use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, and consideration of property ownership and in general, the needs and welfare of the people.

The Corps of Engineers 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. Any comments received will be considered by the Corps of Engineers 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 provided will become part of the public record for this action. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity. Written comments concerning the work described above related to the factors listed above or other pertinent factors must be received by the District Engineer, U.S. Army Corps of Engineers, Attn: CENAB-OP-R, 10 S. Howard Street, Baltimore, Maryland 21201 within the comment period specified above.

The applicant is required to obtain a water quality certification in accordance with Section 401 of the Clean Water Act from the **Maryland Department of the Environment.** Any written comments concerning the work described above which relate to water quality certification must be received by the Wetlands and Waterways Program, Maryland Department of the Environment, Montgomery Park Business Center, 1800 Washington Boulevard, Suite 430, Baltimore, Maryland 21230-1708 within the comment period as specified above to receive consideration. The Section 401 certifying agency has a statutory limit of one year from the date of this public notice to make its decision.

Where applicable, the applicant has certified in this application that the proposed activity complies with and will be conducted in a manner consistent with the approved Coastal Zone Management (CZM) Program. By this public notice, we are requesting the State concurrence or objection to the applicant's consistency statement. It should be noted that the CZM Program has a statutory limit of 6 months to make its consistency determination.

The applicant must obtain any State or local government permits which may be required.

A preliminary review of this application indicates that the proposed work may affect but not likely to adversely affect Federal listed threatened or endangered species or their critical habitat, pursuant to Section 7 of the Endangered Species Act, as amended. As the evaluation of this application continues, additional information may become available which could modify this preliminary determination.

Review of the latest published version of the National Register of Historic Places indicates that no registered properties listed as eligible for inclusion, therein, are located at the site of the proposed work. Currently unknown archeological, scientific, prehistoric, or historical data may be lost or destroyed by the work to be accomplished under the request permit.

The evaluation of the impact of this project on the public interest will include application of the guidelines promulgated by the Administrator, U.S. Environmental Protection Agency, under authority of Section 404 of the Clean Water Act.

Any person who has an interest which may be adversely affected by the issuance of this permit may request a public hearing. The request, which must be in writing, must be received by the District Engineer, U.S. Army Corps of Engineers, Attn: CENAB-OP-R, 10 S. Howard Street, Baltimore, Maryland 21201, within the comment period as specified above to receive consideration. Also it must clearly set forth the interest which may be adversely affected by this activity and the manner in which the interest may be adversely affected.

It is requested that you communicate this information concerning the proposed work to any persons know by you to be interested and not being known to this office, who did not receive a copy of this notice.

FOR THE DISTRICT ENGINEER:

Kathy B. Anderson

Kathy B. Anderson
Chief, Maryland Section Southern

Approval Block

Department of Planning

Name Date

Department of General Services

Project Manager Date

Chief-Proj. Mgt. & Design Date

DESIGN CERTIFICATION

"I hereby certify that this plan has been designed in accordance with the 2011 Standards and Specifications for Soil Erosion and Sediment Control or current revisions thereof, and Department of the Environment Stormwater Management Regulations."

Glenn G. Gass 09 JUN 2017
Designer's Signature Date

#14544
Md. Registration No.

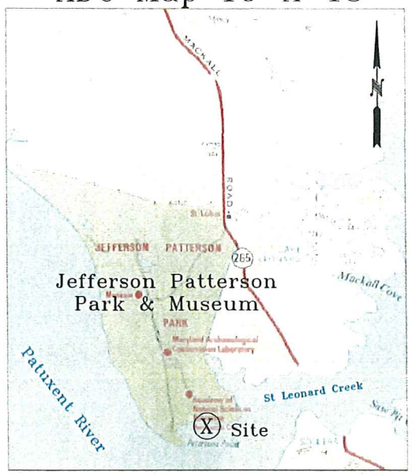
GLENN G. GASS
Printed Name

MD-ENG-6A 1/89 SCS USDA

Utility Notification

The Soil Conservation District makes no representation as to the existence or non-existence of any utilities on the construction site. Shown on these construction drawings are those utilities that have been identified. It is the responsibility of the landowner(s) or operators to assure themselves that no hazard exists or that no damage will occur to utilities. It is suggested that Miss Utility be contacted at: 1-800-257-7777.

Location Map:
ADC Map 16-A-13



NTS
Jefferson Patterson Park & Museum
10515 Mackall Road St. Leonard, MD 20685

Calvert Soil Conservation District
Calvert County, Maryland
Maryland Historical Trust
Division of Historical and Cultural Programs
Division of Maryland Department of Planning

Department of General Services
Ellington Churchill, Jr., Secretary
301 W. Preston Street, Suite 1401,
Baltimore, MD. 21201

Board of Public Works
Lawrence J. Hogan, Jr. Governor
Peter V. R. Franchot, Comptroller
Nancy K. Kopp, Treasurer

Jefferson Patterson Park & Museum
St. Leonard Creek Shoreline Erosion Control Project

Project # HT-000-160-001
March, 2017

JUN 09 2017

Sheet Index:

Professional Certification

I hereby certify that these documents were prepared or approved by me, and that I am a duly Licensed Professional Engineer under the laws of the State of Maryland, License No. 14544, Expiration Date: August 16, 2017

Glenn G. Gass 09 JUN 2017
Glenn G. Gass Date

AS BUILT CERTIFICATION

I hereby certify that the facilities shown hereon have been built in accordance with the approved plan unless otherwise noted. As Built changes are shown in red on these plans.

Signature Date

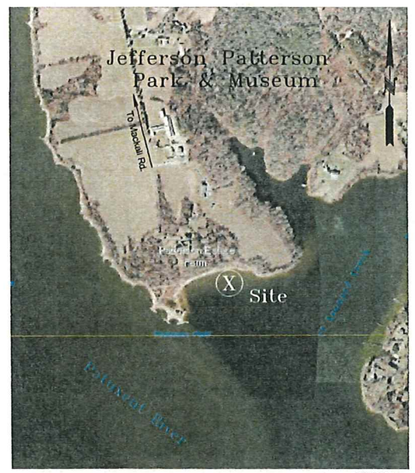
Name (Printed) Professional License #

MISS UTILITY

BEFORE YOU DIG CALL
1-800-441-8355
PROTECT YOURSELF, GIVE THREE
WORKING DAYS NOTICE

"The Soil Conservation District makes no representation as to the existence or Non-existence of any utilities at the construction site. Shown on these construction drawings are those utilities which have been identified. It is the responsibility of the landowners or operators and contractors to assure themselves that no hazard exists or damage will occur to utilities.

Vicinity Map:



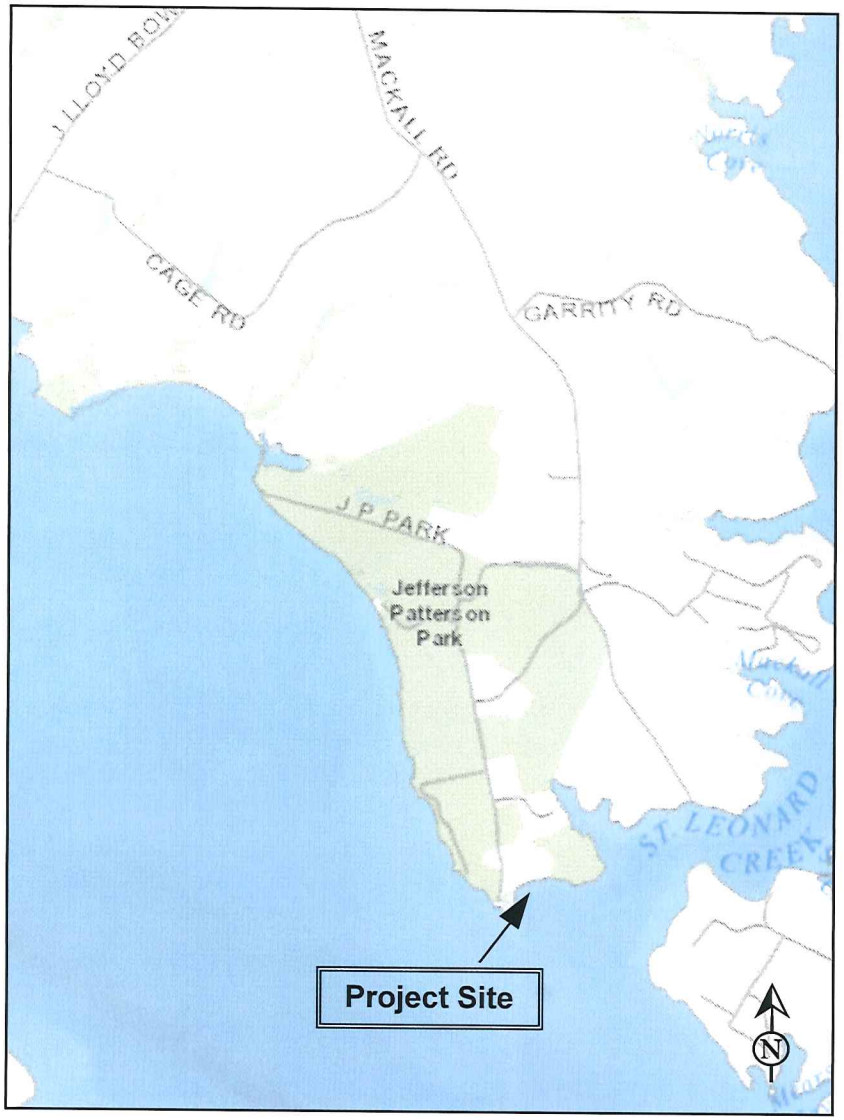
NTS

Approved by G. Gass
Title District Engineer
Title

DATE
Designed G. Gass 06/16
Drawn G. Westbrook 09/16
Revised 12/16
Checked B. Clark

JEFFERSON PATTERSON PARK
Title Sheet
Shoreline Stabilization Project
Calvert County, Maryland

CAD FILE JPP 2000.dwg
SHEET NO. 1
NO 1 OF 10



Vicinity Map & Aerial Photo

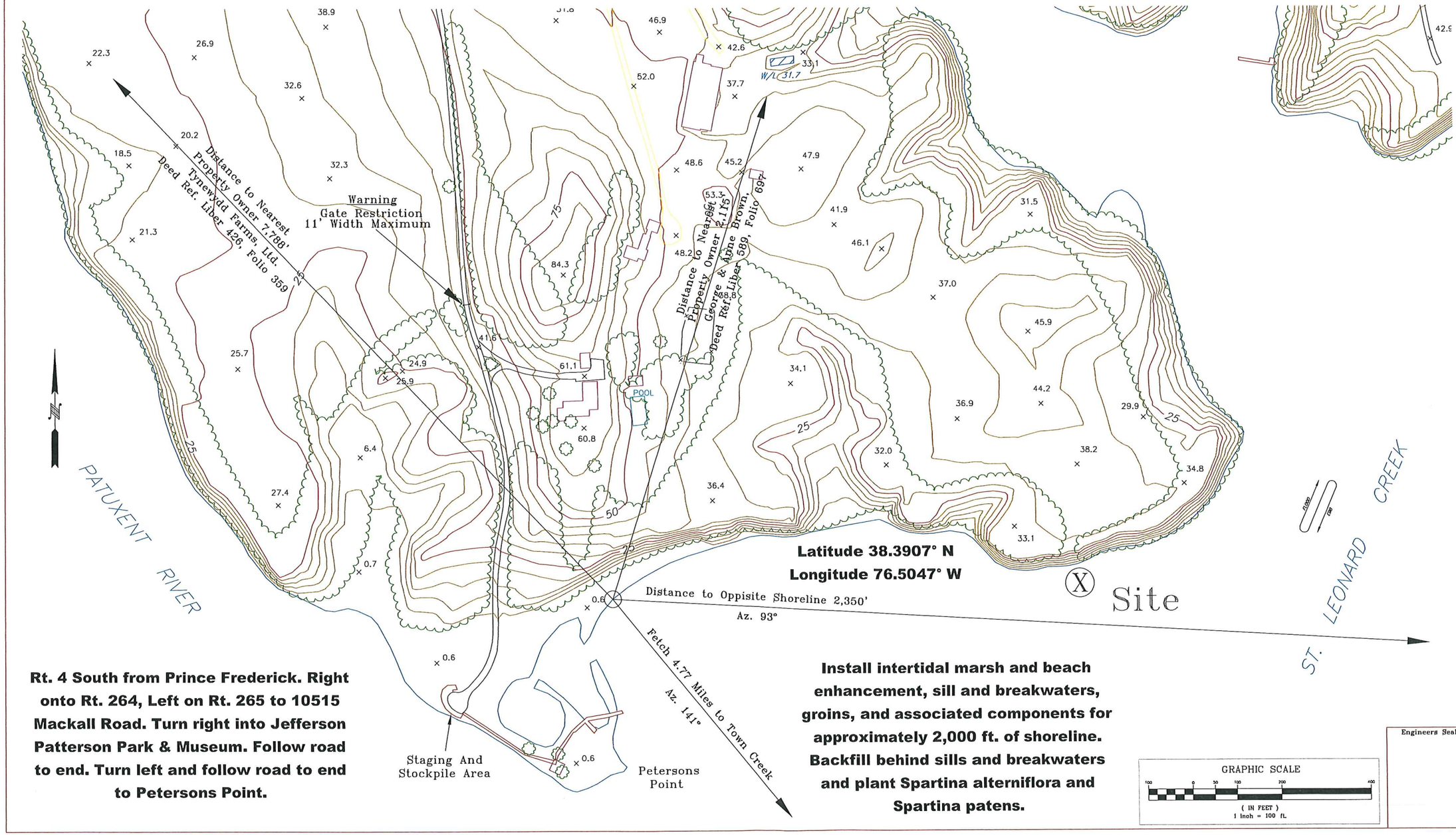
Project: St. Leonard Creek Shoreline Erosion Control Project

Proposed Project for: Jefferson Patterson Park & Museum
Applicant: Mark Thompson, Executive Director
Mailing Address: 10515 Mackall Road, St. Leonard, Calvert County, Maryland 20685

Site Overview

Scale: 1" = 100'

Calvert County 2006 Topographic and Wetland Delineation Map



Rt. 4 South from Prince Frederick. Right onto Rt. 264, Left on Rt. 265 to 10515 Mackall Road. Turn right into Jefferson Patterson Park & Museum. Follow road to end. Turn left and follow road to end to Petersons Point.

Install intertidal marsh and beach enhancement, sill and breakwaters, groins, and associated components for approximately 2,000 ft. of shoreline. Backfill behind sills and breakwaters and plant Spartina alterniflora and Spartina patens.

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 Inch = 100 ft.

Engineers Seal

Approved by G. Gass
Title District Engineer

	DATE
Designed G. Gass	06/16
Drawn G. Westbrook	09/16
Revised	
Checked B. Clark	12/16

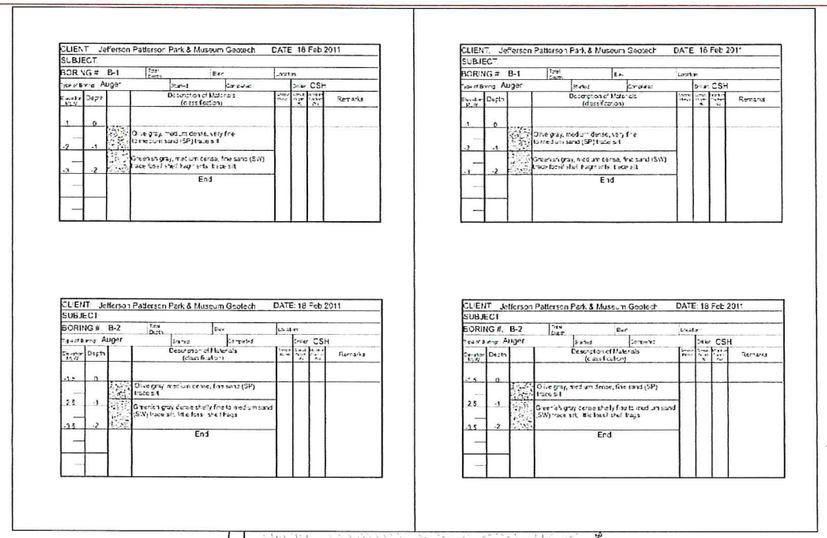
Title

JEFFERSON PATTERSON PARK
Site Overview
Shoreline Stabilization Project
Calvert County, Maryland

CAD FILE JPP2000.dwg
LAYOUT NO. 2
NO 2 OF 10

Existing Conditions

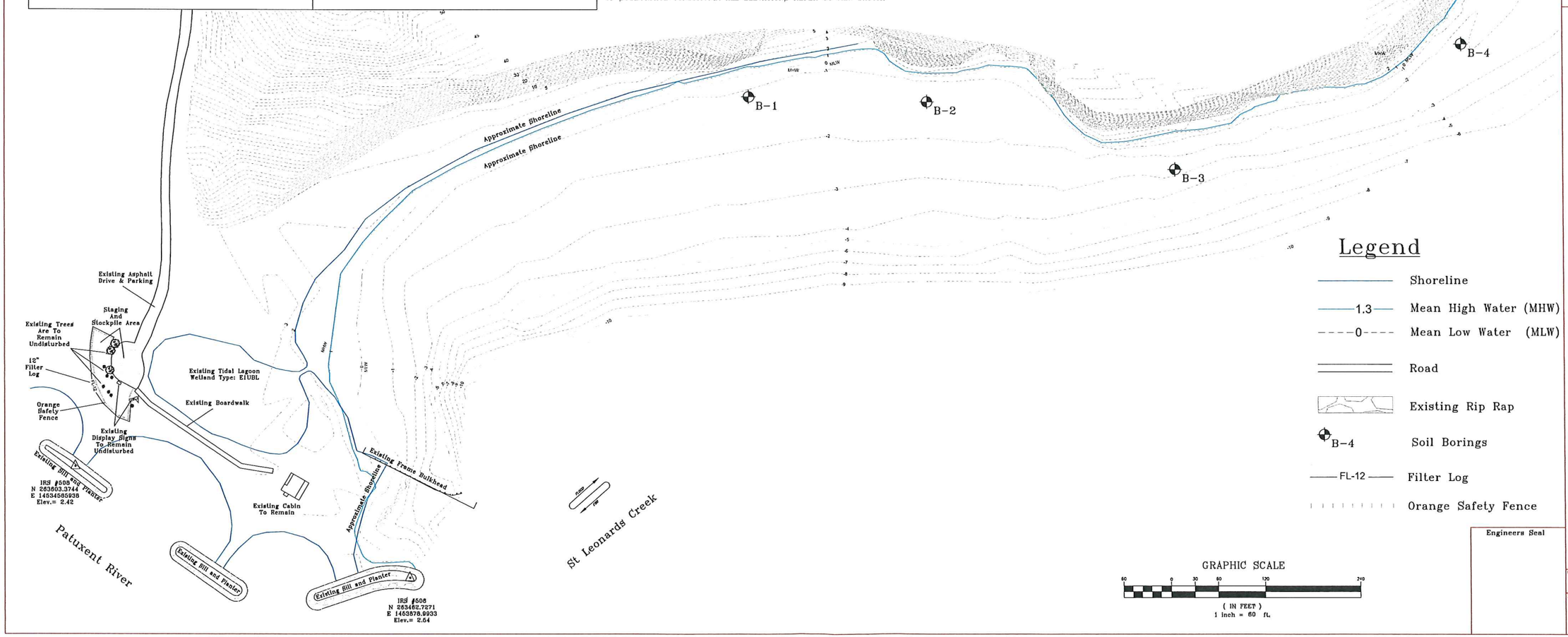
Scale: 1" = 60'



BORING NOTE:

SOIL BORINGS WERE OBTAINED FOR DESIGN PURPOSES ONLY. BORING DATA IS PROVIDED FOR THE CONTRACTORS CONVENIENCE AND IS APPLICABLE ONLY AT THE SPECIFIED POINTS WHERE THE BORINGS WERE PERFORMED. NEITHER THE ENGINEER NOR THE GOVERNMENT WARRANT THE CONTINUITY OF SUBSURFACE CONDITIONS. ALL ELEVATIONS REFER TO MLW DATUM.

Survey Date: July 2016,
3rd Order Survey-Accuracy ± 0.10
Hub #1 = 59.90, IRS #503 = 60.32,
IRS #506 = 2.54



Legend

- Shoreline
- 1.3 — Mean High Water (MHW)
- 0 — Mean Low Water (MLW)
- Road
- Existing Rip Rap
- B-4 — Soil Borings
- FL-12 — Filter Log
- Orange Safety Fence

GRAPHIC SCALE

60 0 30 60 120 240

(IN FEET)
1 inch = 60 ft.

Engineers Seal

Approved by G. Gass
Title District Engineer

	DATE
Designed G. Gass	06/16
Drawn G. Westbrook	09/16
Revised	
Checked B. Clark	12/16

JEFFERSON PATTERSON PARK

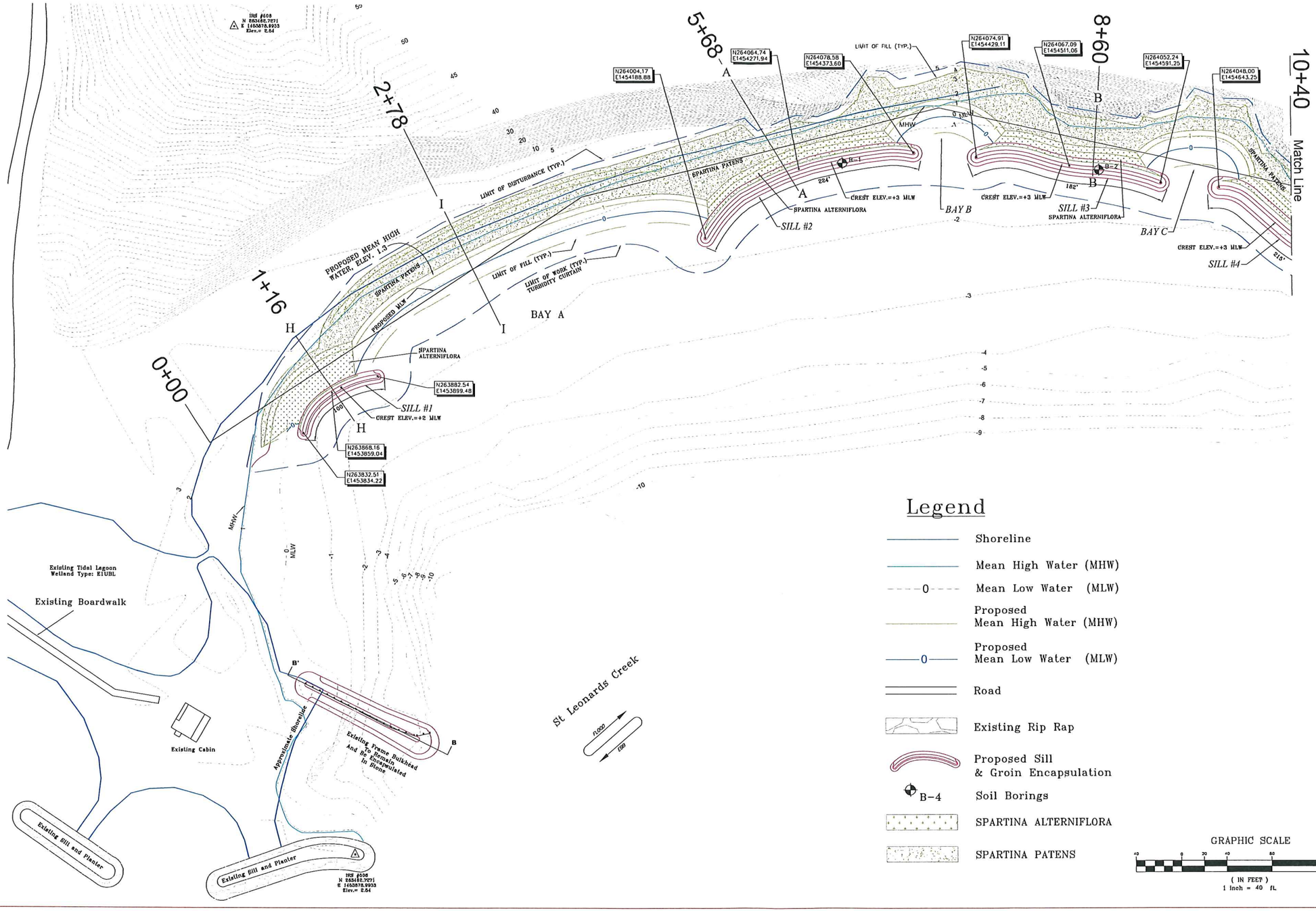
Existing Conditions
Shoreline Stabilization Project
Calvert County, Maryland

CAD FILE
JPP2000.dwg

LAYOUT NO.
3

NO 3 OF 10

Proposed Conditions - Section A-0+00 to 10+40



Legend

- Shoreline
- Mean High Water (MHW)
- Mean Low Water (MLW)
- Proposed Mean High Water (MHW)
- Proposed Mean Low Water (MLW)
- Road
- Existing Rip Rap
- Proposed Sill & Groin Encapsulation
- B-4 Soil Borings
- SPARTINA ALTERNIFLORA
- SPARTINA PATENS

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

Engineers Seal

Approved by G. Gass
Title District Engineer

	DATE
Designed G. Gass	06/16
Drawn G. Westbrook	09/16
Revised	12/16
Checked B. Clark	

JEFFERSON PATTERSON PARK

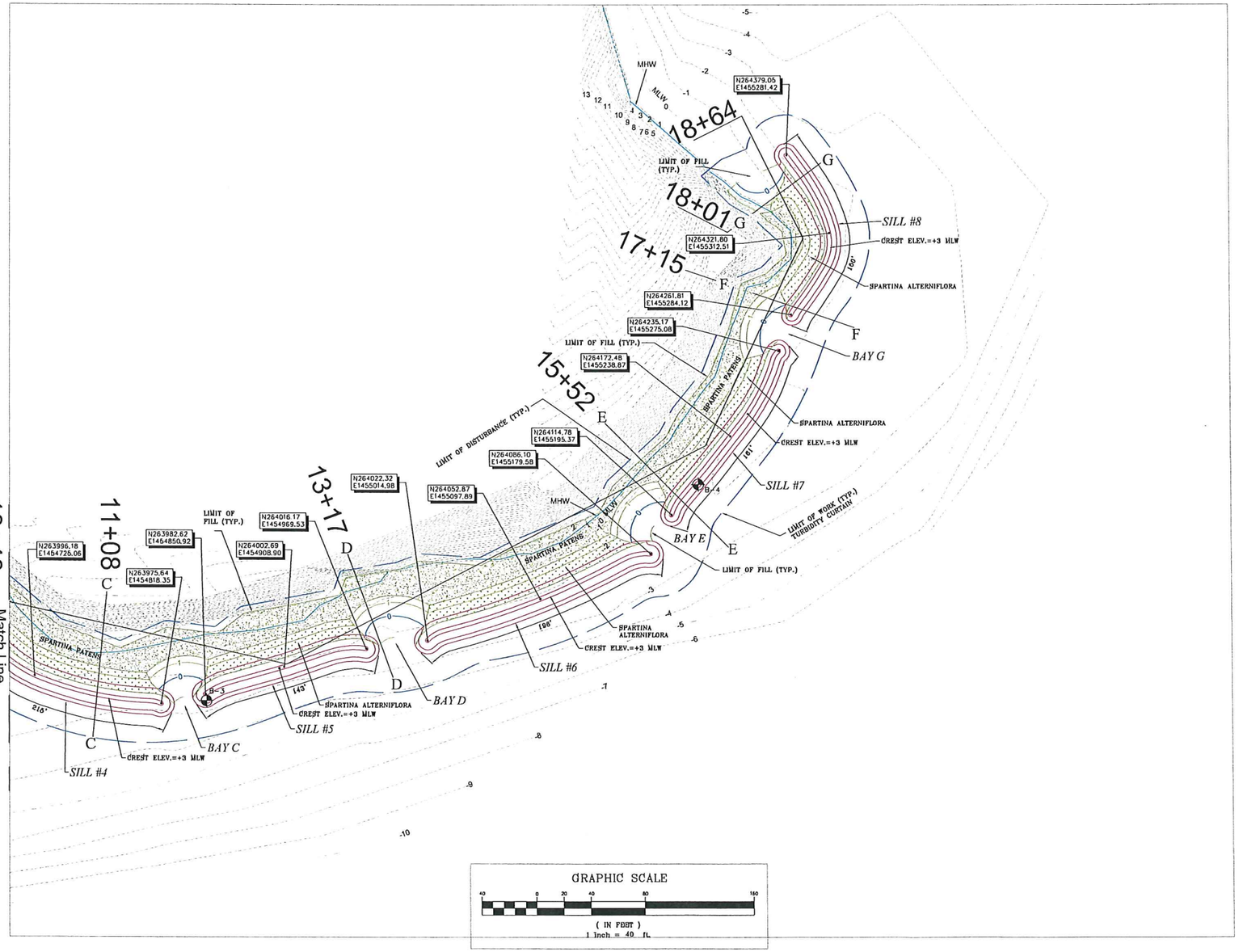
Proposed Conditions - Section A-0+00 to 10+40
Shoreline Stabilization Project
Calvert County, Maryland

CAD FILE JPP2000.dwg

LAYOUT NO. 4

NO 4 OF 10

Proposed Conditions - Section B-10+40 to 18+64



GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

Legend

- Shoreline
- Mean High Water (MHW)
- 0 Mean Low Water (MLW)
- Proposed Mean High Water (MHW)
- 0 Proposed Mean Low Water (MLW)
- Road
- Existing Rip Rap
- Proposed Sill & Groin Encapsulation
- B-4 Soil Borings
- SPARTINA ALTERNIFLORA
- SPARTINA PATENS

Engineers Seal

Approved by G. Gass
Title District Engineer

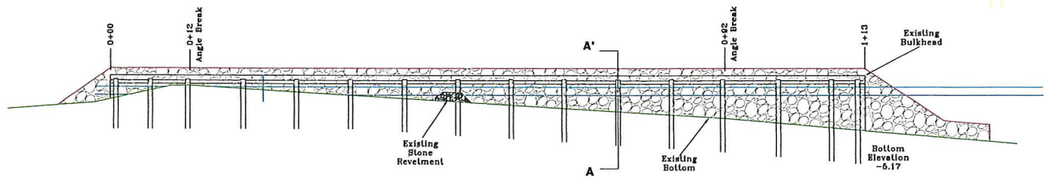
DATE
Designed G. Gass 06/16
Drawn G. Westbrook 09/16
Revised 12/16
Checked B. Clark

JEFFERSON PATTERSON PARK
Proposed Conditions - Section B-10+40 to 18+64
Shoreline Stabilization Project
Calvert County, Maryland

CAD FILE
JPP2000.dwg
LAYOUT NO.
5
NO 6 OF 10

Details and Cross Sections

Scale: As- Shown



Section B' B

Section A' A

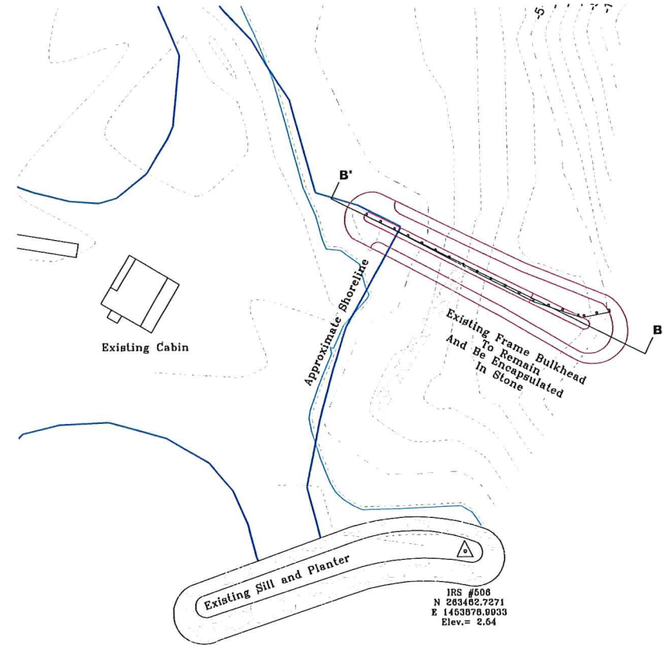
Groin Encapsulation Profile

Scale 1"= 10'

Project Summary Impact/Habitat Creation Table

Structure # or Area	Bay Width (ft)	Impacts Below MHW: Rock: Structure ft² (%)	Rock: Area (sq ft)	Rock: Volume (cy)	Rock: Encroach (%)	Sand: Area (sq ft)	Sand: Volume (cy)	Sand: Encroach (%)	Potential Impacts: Vegetated Wetland: Sq. Disturbance (sq ft)	Vegetated Wetland: Sq. Vegetation (sq ft)	Vegetated Wetland: Privacy (sq ft)	Habitat Created: Low Marsh (sq ft)	Habitat Created: High Marsh (sq ft)
1		170	1,200	67	65	2,500	463	45		2750		2,850	760
A	343					8,500	343	65					9,600
2		324	3,332	222	80	9,600	356	65				2,350	6,456
B	30					3,200	80	30					800
3		182	3,882	216	55	5,940	220	60				1,950	4,830
C	40					3,200	253	40					700
4		235	4,047	323	60	4,680	293	45				2,415	4,100
D	40					780	107	30					700
5		133	2,903	328	50	2,682	248	35				2,725	2,900
E	60					3,600	133	45					800
6		156	3,812	456	65	3,322	224	45				2,250	3,200
F	50					2,500	123	40					300
7		151	2,535	392	45	2,865	182	50				2,670	1,350
G	50					3,750	125	35					700
8		150	2,407	345	50	2,745	168	35				2,725	700
Groin		139	3,581	226	120								
Total		2,520	26,927	3,232		66 sq	2,722		0	2750	0	18,835	37,746

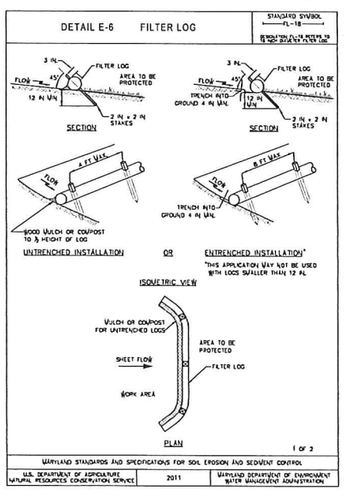
Habitat Creation Table

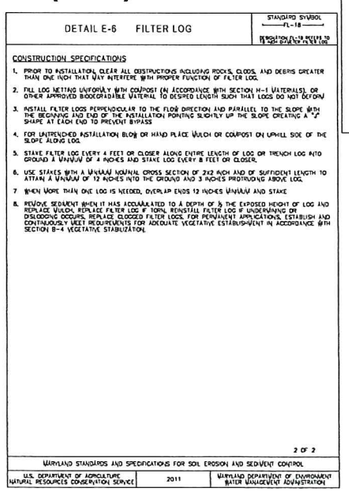


Groin Encapsulation Plan

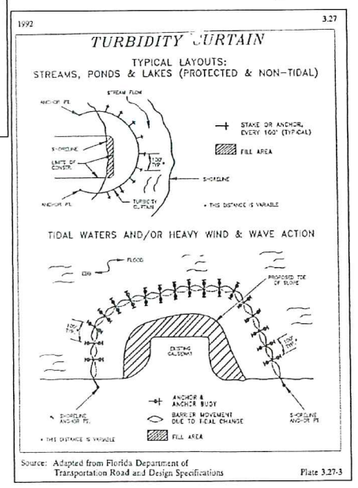
Scale: 1"= 30'

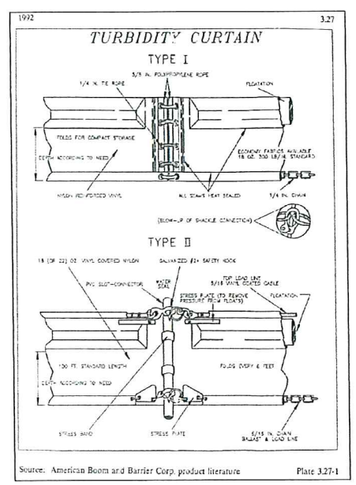
Filter Log Detail (NTS)





Turbidity Curtain Detail (NTS)





Approved by G. Gass
Title District Engineer
Title

DATE
Designed G. Gass 06/16
Drawn G. Westbrook 09/16
Revised 12/16
Checked B. Clark

JEFFERSON PATTERSON PARK

Details and Cross Sections

Shoreline Stabilization Project

Calvert County, Maryland

Engineer's Seal

CAD FILE
JPP2000.dwg

LAYOUT NO.
7

NO 7 OF 10

Construction & Material Specifications

Construction Notes

1. Mean tidal range is 1.3 feet.
2. Vertical control is established using base datum where 0.0 feet = MLW. Horizontal control is maintained using a Total Station using EDM (Electronic Distance Measurement).
3. Topographic and hydrologic data was obtained July 2016.
4. All dimensions and coordinates are given in feet.
5. Silt fence must be kept in good repair for duration of project. Silt fence shall be inspected after each rain event and maintained when bulges occur or when sediment accumulation reaches 25% (percent) of the fabric height.
6. During construction contractor will maintain and dress all roads used to access the construction site. At conclusion of project all roads will be graded, shaped and surfaced to prior existing condition.
7. All debris, including brush, logs, and woody vegetation within the limits of disturbance shall be hauled off site.
8. Prior to placement of geotextile, the contractor shall obtain from the manufacturer and submit to the District a certificate indicating the filter cloth meets the criteria of Geotextile in the Construction Specifications.
9. Prior to placement of the armor stone, the contractor shall obtain from the quarry and submit to the District a certificate indicating the armor stone meets the criteria of stone in the Construction Specifications. Stone must be quarried from a certified quarry operation. Selectively place smaller range of armor stone on the backside of the structure and selectively place larger armor stone at toe and face of the structure.
10. Contractor is responsible for locating and protecting all utilities. Contractor shall notify "Miss Utility" at 1-800-257-7777 prior to construction. The existing utilities and obstructions are from the best available records and shall be verified by the Contractor. Owner does not warrant or guarantee the completeness or the correctness of information given.
11. Contractor to keep disturbance of vegetation to a minimum. Trees are to remain undisturbed unless absolutely necessary to the completion of the project. The landowner is required to replant any trees or vegetation to meet Critical Areas Law.
12. The Contractor shall be responsible for coordination of his construction with any construction by other contractors.
13. "The issuance of county permits or approvals is a local process and does not imply the applicant has met state and federal requirements for wetlands under COMAR 08.05.04: The Federal Water Pollution Control Act, Section 404: or The Rivers and Harbors Act, Section 10."
14. The sand fill cap in front and behind the breakwater is to meet MDE specification of no more than five percent (5%) passing the number 200 sieve and no more than ten percent (10%) passing the number 100 sieve. Prior to placement of the sand cap the contractor shall obtain from the supplier and submit to the District a certificate indicating the sand meets the criteria in the Construction Specifications.
15. Fill materials shall contain no frozen soil, sod, brush, roots or other perishable materials. Rock particles larger than 6" shall be removed prior to compaction.

Sequence of Construction

1. Contact Calvert Soil Conservation District (410) 535-1521 x 3 at 489 Main Street, Suite 101, Prince Frederick, Maryland 20678 to schedule a Preconstruction Meeting Ten (10) days prior to the beginning of any work.
2. Install SCE and perimeter Erosion and Sediment Control measures. Before proceeding with construction, contact MDE for inspection of Erosion and Sediment installation. Per Maryland 2011 Standards, and Specifications for Erosion and Sediment Control, all sediment controls shall be regularly inspected and maintained weekly, and after each rain event for the duration of the project.
3. Install stockpile and lay-down area.
4. Install turbidity curtain in areas of active fill placement to control sediment during construction. (Turbidity curtain can be moved with the current work area)
5. Remove all debris interfering with shoreline construction. Clear vegetation within designated areas as construction proceeds
6. Install stone revetment.
   All sand, rock, and core stone shall be brought in by barge .
   (a) Coordinate installation and placement of gravel/sand in vegetated planting areas with revetment construction.
   (b) Install vegetative cover per specifications.
7. Stabilize and seed all upland disturbed areas as specified.
8. Remove and relocate turbidity curtain to active fill areas (continuous). Call for inspections after moving curtain.
9. After establishment of vegetative cover on-site, remove silt fence and other erosion and sediment control measures after the approval of the Agency Having Jurisdiction (AHJ).
10. Demobilization

Material Specifications

CONSTRUCTION AND MATERIAL SPECIFICATIONS CONTENTS

DIVISION I

STONE PROTECTION

1.1 **Scope**

The work covered by this section consists of furnishing all labor, plant, equipment and materials, and performing all operations in connection with the hauling and placement of stone as shown on the Drawings, and in strict accordance with this Specification.

1.2 **Materials**

All stone for the protection work shall be durable quarried stone. The stone shall be hard and angular, free from either laminations, weak cleavages or undesirable weathering, and of such character that it will not disintegrate from the action of air, salt water, or handling. Sedimentary stone will generally be unacceptable. Individual stones will be approximately rectangular in cross-section and free from thin slabby pieces having a maximum dimension of more than three and one-half times the least dimension. Existing rock may be reused as fill or armor if it meets size and material specifications. Existing on-site broken concrete maybe reused as fill material if it meets size specifications.

1.3 **Size And Weight:** Stone shall meet the following requirements:

1.3.1. **Stone:** Sizes for the following structures:

A. **Breakwater:**
Armor stone sizes shall be such that a minimum of 90% of the individual stones shall weigh from 600 lbs. to 1,600 lbs. and shall have a well graded distribution of these sizes through these limits. Not more than 10% of the individual stones shall weigh more than 1,600 lbs. No armor stones shall weigh less than 600 lbs. Core stone shall be approximately 3" up to 15" in size with an even distribution between these limits.

1.3.2. **Unit weight:**

The stone shall have a minimum unit weight of 165 lbs. per cubic foot.

1.4 **Field Samples**

The Contractor shall supply samples of stone to be displayed at the site with appropriate weights marked for the minimum, maximum and one-half (50%) weight range specified. These samples of stone shall be from the same quarry and of the same type of stone as that to be supplied for the job, and shall be delivered to the site in advance of the time when placing the stone is expected to begin. The Contractor will not be granted an extension of time or extra compensation due to delay caused by sampling, testing, approval, or disapproval of stone protection material to complete the requirements of the Specifications.

1.5 **Certification**

The Contractor shall obtain from the quarry and submit to the Agent for the Owner a certificate indicating the following:
A. Stone classification
B. Stone weight per cubic foot
C. The stone furnished will meet the requirement of Sections 1.2 and 1.3 of these Specifications

1.6 **Placement**

Stone shall be placed in such a manner as to produce a well-graded mass of rock with a minimum percentage of voids, and shall be constructed to the specified lines and grades shown on the Drawings. Stones shall be placed such that there is a well-graded distribution of the various sizes throughout the structure. Any oversized stones shall be placed at the toe of the structure. The finished structure shall be free from pockets of small stones and clusters of large stones. Rearranging of individual stones by mechanical equipment or by hand will be required to the extent necessary to obtain a well-graded distribution of stone size, to obtain contact between adjacent armor stones, and to achieve the lines and grades shown on the Drawings. The Contractor shall maintain the structure until it is accepted and any material displaced by any cause shall be replaced at the Contractor's expense to the lines and grades shown on the Drawings. A tolerance of +/-0.30 feet measured normal to the faces will be allowed. No negative or positive tolerance will be allowed over an area greater than fifty (50) square feet.

DIVISION II

FILTER CLOTH

2.1 **Scope**

The work covered by this section consists of furnishing all labor, plant, equipment, and materials and performing all operations required to complete the installation of filter cloth as shown on the Drawings and in strict accordance with this Specification.

2.2 **Materials**

2.2.1. **Filter Cloth:**

The plastic filter fabric shall be porous, plastic sheets woven, calendared and palmered filament yarn. The plastic yarn shall consist of a long-chain synthetic polymer composed of at least 85% by weight of propylene, ethylene, ester, amide or vinylidene chloride, and shall contain stabilizers and or inhibitors added to the base plastic if necessary to make the filaments resistant to deterioration due to ultra-violet and heat exposure. The fabric shall conform to the following minimum requirements:

Property	Test Method	Criteria
Seam Breaking Strength	ASTM D-4884	>90%
Tensile Strength	ASTM D-4632	400 x 315 lbs.
Burst Strength	ASTM D-3786	800 psi
CBR Puncture Strength	ASTM D-6241	1,150 lbs.
Elongation@Break	ASTM D-4632	15 x 15%.
Wide Width Tensile	ASTM D-4595	250 x 230 lbs.
Trapezoidal Tear	ASTM D-4533	150 x 165 lbs.
AOS	ASTM D-4751	40 U.S. Sieve
Permittivity	ASTM D-4491	.90 Sec-1
Flow Rate	ASTM D-4491-85	70gal/min/ft.
U.V. Resistance @ 500 hrs.	ASTM D-4355	90%

One material equal to the above requirement is "Mirafi FW 404" as manufactured by US Fabrics, Inc., 3904 Virginia Ave., Cincinnati, OH 45227

2.2.2. **Seams:**

Seams of fabric shall be sewn with thread meeting or exceeding specifications given for plastic yarn, and shall be bonded by cementing or calendaring. Seams shall be tested in accordance with method ASTM D-1683, and the seam strength shall meet the strength specified herein but shall not be less than 90% of the tensile strength of the imaged fabric in any principal direction.

2.2.3. **Securing pins:**

Securing pins shall be 3/16 inch in diameter, of steel pointed on one end, and fabricated such that the head retains a steel washer 1.5 inches in diameter or more. Pins shall be no less than 18 inches in length. In cases where stone protection will be placed adjacent to timber bulkheads, galvanized staples or roofing nails placed at 24 inch o.c.e.w. shall be used to fasten the filter cloth to the bulkhead. Alternate anchoring methods may be used, subject to approval by the Agent for the Owner.

2.2.4. **Certification of fabric:**

All plastic filter fabrics to be used shall be tested for compliance with the above Specifications. Before installing the filter cloth, the Contractor shall submit to the Agent for the Owner a certificate or affidavit signed by a legally-authorized representative of the company manufacturing the fabric. The certificate shall state that the chemical, physical, and manufacturing requirements of this Specification are met. In addition, a manufacturer's statement showing evidence of a service record of the filter cloth shall be submitted proving successful performance in projects of similar scope.

2.3 **Installation**

2.3.1. **Placement of filter cloth:**

The strips of plastic filter cloth shall be spread parallel to the major axis of the structure on the prepared foundation as shown on the Drawings. The cloth shall be loosely laid (not stretched). Rolls of as great a length as it economical for the Contractor to handle shall be used whenever possible in order to minimize the number of overlaps perpendicular to the major axis of the structure. The cloth shall be securely fastened in place to prevent slippage during construction with securing pins placed thirty (30) inches apart each way.

2.3.2. **Placement of stones on filter cloth:**

Adequate precaution shall be taken to prevent damage to the plastic filter cloth from placement of overlaying materials. No stone will be dropped onto the filter cloth. Care shall be taken in placing plastic filter cloth onto prepared subgrade of rock or broken concrete. This subgrade shall be prepared to prevent cloth damage from below. Any filter cloth damaged or displaced before or during placement of overlaying materials or improper subgrade preparations shall be replaced or repaired to the satisfaction of the Agent for the Owner at the Contractor's expense.

Engineers Seal

Approved by G. Gass
Title District Engineer
Title

	DATE
Designed G. Gass	06/16
Drawn G. Westbrook	09/16
Revised	12/16
Checked B. Clark	

JEFFERSON PATTERSON PARK
Construction & Material Specifications
Shoreline Stabilization Project
Calvert County, Maryland

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Material Specifications Continued

DIVISION III

WETLANDS PLANTING TERRACE

3.1 **Scope**

The work covered in this section consists of furnishing all labor, plant, equipment, and materials, and performing all operations required to obtain, transport, place, and grade the beach fill material as shown on the Drawings and in strict accordance with this Specification.

3.2 **Satisfactory Fill Material for Wetlands/ Dune Planting Terrace**

Medium-to-coarse-grained sandy soils classified as SW and SP in "ANSI/ASTM D-247-69, Classification of Soils for Engineering Purposes" are satisfactory. Crushed stone or slag will not be acceptable. The beach nourishment and wetlands/dune planting terrace material must contain no more than five percent (5%) passing the number 200 sieve and no more than ten percent (10%) passing the number 100 sieve. The material shall consist of rounded or semi-rounded grains having a median diameter of 0.6 mm (+/- 0.25mm).

3.3 **Inspection and Testing**

Prior to constructing the wetlands planting terrace, the Contractor will furnish samples of the proposed fill material to the Agent for the Owner. The Contractor will also obtain from an inspection firm acceptable to the Agent for the Owner, and submit to the Agent for the Owner, a certificate indicating the following:

A. Sand classification and gradation curves of the proposed fill material;
B. Weight per cubic yard of the proposed fill material;
C. The fill materials furnished will meet the requirements of Section 3.2 of these Specifications.

The cost for obtaining certifications and test results shall be included in the Lump Sum Price Bid for beach fill material on the Special Form of Proposal. Sand will be tested every 1,000 cubic yards by Contractor to confirm compliance. Test results will be supplied to the Agent for the Owner for approval.

3.4 **Placement of Wetlands Terrace**

The proposed wetland planting terrace shall be constructed uniformly to the lines and grades indicated on the Drawings. The final surface shall be reasonably smooth graded, and free of irregular areas which can collect water or other debris. The Contractor shall remove, and properly dispose of, all excess waste materials, rubbish, construction debris, etc., from the area within the Limit of Contract prior to the placement of the fill.

3.5 **Acceptance**

The final graded surface shall not vary from the lines and grades indicated on the Drawings by more than +0.2 feet or -0.2 feet (plus or minus two-tenths feet).

DIVISION IV

FILL AND GRADING

4.1 **Scope**

The work covered in this section consists of furnishing all labor, plant, equipment, and materials, and performing all operations required to perform the upland fill and grading to the lines and grades shown on the Drawings, and in strict accordance with this Specification. Unsuitable or excess material shall be disposed of off-site.

4.2 **Fill**

Where the depth of fill behind or above the proposed breakwater or sill substrate may exceed 3" the Contractor shall bring the area to 3" under-grade with sand fill. Sand fill shall consist of earth materials, free from perceptible amounts of wood and debris. It shall be free of frost at the time of placement and shall not contain marl or other elements which tend to keep it in a plastic state. All backfill shall be placed from the bottom up in successive 8" horizontal layers and compacted to the approval of the Agent for the Owner. Upland berm fill shall contain enough silt and/or clay so as to be impervious and will be placed in 6 inch lifts and compacted to 90% density per ASTM 1557D.

4.3 **Grading**

A. The Contractor shall grade all areas shown on the Drawings and all areas disturbed by construction activities, uniformly to the lines and grades shown on the Drawings. The finish surface shall be smooth, compacted, and free of irregular surface changes and areas which collect water.

B. The Contractor shall remove all excess stone and construction debris from the construction site prior to final grading to an approved disposal area. This shall include all waste larger than one inch in its largest dimension which may be embedded in the soil.

DIVISION V

RESTORATION OF GRADED AND DISTURBED AREAS

5.1 **Scope**

The work covered in this section consists of furnishing all labor, plant, equipment, and materials, and performing all operations required to: (i) furnish, spread, and rake topsoil for seeding; and (ii) complete the restoration of all graded and disturbed areas within the Limit of Contract, as shown on the Drawings and in strict accordance with this Specification.

5.2 **Contractor's Responsibility**

5.2.1. The Contractor will accomplish the upland seeding and mulching operation:

A. Within three (3) calendar days after completion of the fill and grading work or all slopes greater than 3:1;

B. Within seven (7) calendar days for all other disturbed areas within the Limit of Contract at the Project Site.

5.2.2. The Contractor shall submit to the Agent for the Owner evidence of the type of seed used.

5.2.3. Once the finished project has been accepted, the Contractor shall be required to re-seed any areas which do not show the proper 85% density of grass.

5.3 **Topsoiling (if necessary)**

5.3.1. **General:**
Upon completion and compaction of fill to subgrade (three inches below finished grade), three (3) inches of topsoil shall be placed, spread to a uniform thickness, graded, and raked to remove large stones (fist size or larger), root mat, and other foreign materials, and left ready for seeding.

5.3.2. **Material:**
Topsoil shall consist of natural surface soil from well-drained areas from which no topsoil has previously been stripped. The topsoil shall be homogeneous in nature, free from any material harmful to plant growth, and have an organic content of not less than 1.5% by weight. Testing results shall be supplied to the Agent for the Owner for approval. The Contractor shall strip and stockpile all existing topsoil in areas to be graded. The Contractor shall be responsible for supplying additional topsoil if needed.

5.4 **Seeding (if necessary)**

5.4.1. **Temporary Upland Seeding:**
The Contractor shall undertake temporary upland seeding to minimize soil loss when it is expected that the area within the Limit of Contract will be disturbed again before completion of construction.

Site preparation: The Contractor shall grade as needed and feasible to permit the use of conventional equipment for seedbed preparation, seeding, and mulch application.

Seedbed preparation: The Contractor shall apply 4,000 pounds per acre of pulverized dolomitic limestone, and 1,000 pounds per acre of 10-10-10 or equivalent fertilizer. The lime and fertilizer shall be worked into the top three inches of topsoil by raking or use of other conventional equipment.

Seeding: The contractor shall apply forty-three (43) pounds per acre of annual rye. The seed shall be worked into the top ½ inch of topsoil by raking.

Planting season: Temporary seedbed preparation and seeding shall be accomplished between February 1 and April 30, and between August 15 and November 30, within fourteen (14) days after the completion of the fill, grading, and topsoiling operations, except when the ground is frozen. Between Fall and Spring seeding, the Contractor will only apply mulch in accordance with Section 5.5 of these Specifications.

5.4.2. **Permanent Upland Seeding:**
The Contractor shall undertake permanent upland seeding of any area within the Limit of Contract once all work has been completed according to the Drawings and Specifications and the area will not be disturbed again before the completion of construction activities.

Site preparation: The Contractor shall grade as needed and feasible to permit the use of conventional equipment for seedbed preparation, seeding and mulch application.

Seedbed preparation: The Contractor shall apply 4,000 pounds per acre of pulverized dolomitic limestone, and 1,000 pounds per acre of 10-10-10 or equivalent fertilizer. The lime and fertilizer shall be worked into the top three (3) inches of topsoil by raking or use of conventional equipment.

Seeding: The Contractor shall apply sixty (60) pounds per acre of tall fescue. The seed will be applied uniformly with cyclone seeder, drill, culti-packer seeder or hydro-seeder (slurry includes seed, fertilizer, lime, cellulose fibers with binder and water) preferably on a firm, moist seedbed. Normal coverage is 1/4 to ½ inch. Where feasible (except when a culti-packer seeder is used), the seedbed shall be firmed following seeding operations with a light roller.

Planting season: Permanent upland seedbed preparation and seeding shall be accomplished between February 1, and April 30, or between August 15 and November 30, within fourteen (14) days after completion of fill, grading, and topsoiling operations, except when the ground is frozen. Between Fall and Spring seeding, the Contractor will only apply mulch in accordance with Section 5.5 of these Specifications.

5.5 **Mulching**

A. Mulch materials shall be unweathered, unchopped small grain straw (preferably wheat straw) applied at the rate of 1-1/2 to 2 tons per acre. Oat straw is less desirable, since it may contain viable seed which may provide serious competition for grass and legum seedlings unless clipped.

B. Mulch shall be spread uniformly by hand or mechanically so that approximately 85% of the soil will be covered.

C. Mulch anchoring shall be accomplished immediately after placement of mulch to minimize loss by wind or water. Liquid mulch binders, including synthetic mulch binders, may be used provided they receive advance approval by the Agent for the Owner. No asphalt shall be used for mulch anchoring. If synthetic mulch binders are used, the mixing procedures and method of application shall be in accordance with the manufacturer's latest technical bulletins. In lieu of liquid mulch binders, ground stabilization nets may be used provided they receive advance approval by the Agent of the Owner.

5.6 **Soil Stabilization Blanket**

For slopes 3 ft horizontal to 1 ft vertical or steeper:

Material: Soil stabilization blanket material shall be a dense mate of curled and seasoned Aspen wood excelsior of which at least 80% shall be six inches or longer in fiber length with a consistent thickness. The fiber shall be evenly distributed over the entire area of the blanket. The top side of each blanket shall be covered with a photodegradable extruded plastic mesh. The blanket shall be made smolder resistant without the use of chemical additives.

One material equal to the above requirements is "Curlex Blankets" as manufactured by American Excelsior Company, P.O. Box 25, Annapolis Junction, Maryland 20701.

DIVISION VI

WETLANDS VEGETATION

6.1 **Scope**

The work covered in this section will include furnishing all labor, plant, equipment and materials, and performing all operations required to complete the installation of the wetlands vegetation as shown on the Drawings and in strict accordance with this Specification.

6.2 **Contractor's Responsibilities**

The Contractor will be responsible for replanting any areas which do not show the proper density of wetland vegetation for a period of one (1) year from the date of acceptance of the finished project. The minimum acceptable density of surviving wetland species vegetation will be 85% for every 25 linear feet measured along the shoreline. It is up to the Contractor to determine if they want to install goose exclusion fence to help meet the survival requirement of this specification.

6.3 **Wetlands Planting**

6.3.1. **Spartina patens and Spartina alterniflora**

A. **Materials:**

a. Fertilizer: Each transplant site will be fertilized with one ounce of "Osmocote 3 - 4 Month 19-6-21" (or equivalent slow-release) fertilizer placed in the planting hole at the time of planting.

b. Plant Stock: Plant stock will be **Spartina patens and Spartina alterniflora** grown in peat pots. Prior to installing plants at the project site, the Contractor will be required to show proof of a valid Maryland Nursery Inspection Certificate or Plant Dealers License (or comparable certification for out-of-state installers). All shipments of nursery stock into Maryland must be accompanied by a valid certificate of inspection issued at the state of origin, and acceptable to the Maryland Department of Agriculture Office of Plant Industries and Resource Conservation. Plants will be three to six months old and approximately 12 inches high. Individual pots will contain three or more plants.

c. It will be the responsibility of the Contractor to maintain the vigor of the plants held at the site during site preparation work and construction. Plants held at the site will be watered by sprinkling with fresh water at least once a day.

d. Planting will be done with moist, but not saturated, root masses. Plants will not be removed from the peat pots.

B. **Soil Preparation and Planting:**

a. Grass, weeds and debris will be cleaned from all areas to be planted, and the ground surface will be smoothed.

b. After grading, the Mid-tide and Mean High Water (MHW) lines will be marked on the ground, and plantings made in rows generally parallel to and between these lines, or according to the elevations as specified on the Drawings. Rows will be 1.5 feet apart, and plants will be 1.5 feet apart in the rows.

c. Plantings will be made by hand with dibble, spade or shovel by opening a hole at the planting site, placing the fertilizer and then the plant in the hole, closing the hole and firming the soil around the plant so that the surface soil is three to four inches above the top of the root mass.

6.4 **Planting Season**

6.4.1. **Spartina patens and Spartina alterniflora:**
Sprigging will be accomplished between August 15 and October 15 or between April 1 and June 30 during periods of low tide.

Approved by G. Gass
Title District Engineer
Title

DATE
06/16
09/16
12/16

Designed C. Cass
Drawn C. Westbrook
Revised
Checked B. Clark

JEFFERSON PATTERSON PARK
Material Specifications
Shoreline Stabilization Project
Calvert County, Maryland

Engineers Seal

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Erosion and Sediment Control Notes

MDE Standard Notes

1) The contractor shall notify the Administration (WMA) at (410)537-3510 seven (7) days before commencing any land disturbing activity and, unless waived by the Administration, shall be required to hold a preconstruction meeting between project representatives and a representative of WMA (Some counties policies may differ from State guidelines).

2) The contractor must notify WMA in writing and by telephone at the following points.
   A.) The required preconstruction meeting.
   B.) Following installation of sediment control measures.
   C.) During the installation of sediment basins (to be converted into permanent stormwater management structures) at the required inspection points (see Inspection Checklist on plan). Notification prior to commencing construction of each step is mandatory.
   D.) Prior to removal or modification of any sediment control structure(s).
   E.) Prior to removal of all sediment control devices.
   F.) Prior to final acceptance.

3) The contractor shall construct all erosion and sediment control measures per the approved plan and construction sequence and shall have them inspected and approved by the agency inspector or WMA Inspector prior to beginning any other land disturbances. Minor sediment control device location adjustments may be made in the field with the approval of the WMA Inspector. The contractor shall ensure that all runoff from disturbed areas is directed to the sediment control devices and shall not remove any erosion or sediment control measure without prior permission from WMA Inspector and agency inspector. The contractor must obtain prior agency and WMA approval for changes to the Sediment Control Plan and/or Sequence of Construction.

4) The contractor shall protect all points of construction ingress and egress to prevent the deposition of materials onto public roads. All material deposited onto public roads shall be removed immediately.

5) The contractor shall inspect daily and maintain continuously in an effective operating condition all erosion and sediment control measures until such times as they are removed with prior permission from WMA Inspector and agency inspector.

6) All sediment basins, trap embankments and slopes, perimeter dikes, swales and all disturbed slopes steeper or equal to 3:1 shall be stabilized with sod or seed and anchored straw mulch, or other approved stabilization measures, as soon as possible but no later than seven (7) calendar days after establishment. All areas disturbed outs de of the perimeter sediment control system must be minimized. Maintenance must be performed as necessary to ensure continued stabilization. (Requirement for stabilization may be reduced to three (3) days for sensitive areas.)

7) The contractor shall apply sod or seed and anchored straw mulch, or other approved stabilization measures to all disturbed areas and stockpiles within Seven (7) calendar days after stripping and grading activities have ceased in the area. Maintenance shall be performed as necessary to ensure continued stabilization. (Requirement may be reduced to Three (3) days for sensitive areas.)

8) Prior to removal of sediment control measures, the contractor shall stabilize and have established permanent stabilization for all contributory disturbed areas using sod or an approved permanent seed mixture with required soil amendments and an approved anchored mulch. Wood fiber mulch may only be used in seeding season where the slope does not exceed 10% and grading has been done to promote sheet flow drainage. Areas brought to finished grade during the seeding season shall be permanently stabilized as soon as possible, but not later than fourteen (14) calendar days after establishment. When property is brought to finished grade during the months of November through February, and permanent stabilization is found to be impractical, temporary seed and anchored straw mulch shall be applied to disturbed areas. The final permanent stabilization of such property shall be applied by March 15 or earlier if ground and weather conditions allow.

9) The site's approval letter, approved Erosion and Sediment Control Plans, daily log books, and test reports shall be available at the site for inspection by duly authorized officials of WMA and the agency responsible for project.

10) Surface drainage flows over unstabilized cut and fill slopes shall be controlled by either preventing drainage flows from traversing the slopes or by installing protective devices to lower the water downslope without causing erosion. Dikes shall be installed and maintained at the top of a cut or fill slope until the slope and drainage area to it are fully stabilized, at which time they must be removed and final grading done to promote sheet flow drainage. Protective methods must be provided at points of concentrated flow where erosion is likely to occur.

11) Permanent swales or other points of concentrated water flow shall be stabilized with sod or seed with an approved erosion control matting, riprap, or by other approved stabilization measures.

12) Temporary sediment control devices may be removed, with permission of WMA Inspector and agency inspectors, within thirty (30) calendar days following establishment of permanent stabilization in all contributory drainage areas. Stormwater management structures used temporarily for sediment control shall be converted to the permanent configuration within this time period as well.

13) No permanent cut or fill slope with a gradient steeper than 3:1 will be permitted in lawn maintenance areas. A slope gradient of up to 2:1 will be permitted in nonmaintenance areas provided that those areas are indicated on the erosion and sediment control plan with a low-maintenance ground cover specified for permanent stabilization. Slope gradient steeper than 2:1 will not be permitted with vegetative stabilization.

14) For finished grading, the contractor shall provide adequate gradients to prevent water from ponding for more than twenty four (24) hours after the end of a rainfall event. Drainage courses and swale flow areas may take as long as forty-eight (48) hours after the end of a rainfall event to drain. Areas designed to have standing water shall not be required to meet this requirement.

15) Sediment traps or basins are not permitted within 20 feet of a foundation that exists or is under construction. No structure may be constructed within 20 feet of an active sediment trap or basin.

16) The WMA Inspector has the option of requiring additional safety or sediment control measures, if deemed necessary.

17) All trap depth dimensions are relative to the outlet elevation. All traps must have a stable outfall. All traps and basins shall have stable inflow points.

18) Vegetative stabilization shall be performed in accordance with the Standards and Specifications for Soil Erosion and Sediment Control. Refer to appropriate specifications for temporary seeding, permanent seeding, mulching, sodding, and ground covers.

19) Sediment shall be removed and the trap or basin restored to its original dimensions when the sediment has accumulated to one quarter of the total depth of the trap or basin. Total depth shall be measured from the trap or basin bottom to the crest of the outlet.

20) Sediment removed from traps (and basins) shall be placed and stabilized in approved areas, but not within a floodplain, wetland or tree-save area. When pumping sediment laden water, the discharge must be directed to a sediment trapping device prior to release from the site. A sump pit may be used if sediment traps themselves are being pumped out.

21) All water removed from excavated areas shall be passed through a WMA approved dewatering practice or pumped to a sediment trap or basin prior to discharge to a functional storm drain system or to stable ground surface.

22) Sediment control for utility construction for areas outside of designed controls or as directed by engineer or WMA Inspector.
   A.) Call "Miss Utility" at 1-800-257-7777 48 hours prior to the start of work.
   B.) Excavated trench material shall be placed on the high side of the trench.
   C.) Trenches for utility installation shall be backfilled, compacted, and stabilized at the end of each working day. No more trench shall be opened than can be completed the same day, unless;
   D.) Temporary silt fence shall be placed immediately downstream of any disturbed area intended to remain disturbed for more than one day.

23) Where deemed appropriate by the engineer or inspector, sediment basins and traps may need to be surrounded with an approved safety fence. The fence must conform to local ordinances and regulations. The developer or owner shall check with local building officials on applicable safety requirements. Where safety fence is deemed appropriate and local ordinances do not specify fencing sizes and types, the following shall be used as a minimum standard: The safety fence must be made of welded wire and at least 42 inches high, have posts spaced no farther apart than 8 feet, have mesh openings no greater than 2 inches in width and 4 inches in height with a minimum of 14 gauge wire. Safety fence must be maintained and in good condition at all times.

24) Off-site spoil or borrow areas on State or federal property must have prior approval by WMA and other applicable State, federal, and local agencies; otherwise approval must be granted by the local authorities. All waste and borrow areas off-site must be protected by sediment control measures and stabilized.

25) Sites where infiltration devices are used for the control of stormwater, extreme care must be taken to prevent runoff from unstabilized areas from entering the structure during construction. Sediment control devices placed in infiltration areas must have bottom elevations at least two (2) feet higher than the finish grade bottom elevation of the infiltration practice. When converting a sediment trap to an infiltration device, all accumulated sediment must be removed and disposed of prior to final grading of infiltration device.

26) When a storm drain system outfall is directed to a sediment trap or sediment basin and the system is to be used for temporarily conveying sediment laden water, all storm drain inlets in non-sump areas shall have temporary asphalt berms constructed at the time of base paving to direct gutter flow into the inlets to avoid surcharging and overflow of inlets in sump areas.

27) Site Information Block

a.	Total area of Facility (base, campus, park, etc.)	560	Acres
b.	Area Disturbed	44.256	Acres
c.	Area to be Roofed or Paved	-0-	Acres
d.	Total Cut	-0-	Cubic Yards
e.	Total Fill	2,711	Cubic Yards
f.	Off-Site Waste / Borrow Area Location	N/A	

Soil Conservation District Standard Notes

28) All erosion and sediment control measures, including practice application, installation, maintenance, and plan approvals, modifications, and project termination shall be in accordance with the following regulations, ordinances, and guidelines:

- COMAR 26.17 and all other current, approved, or additional Maryland Regulations pertaining to erosion and sediment control.
- "2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control," including all addendums, updates, and revisions.
- Current "Calvert County Erosion and Sediment Control Ordinance," including all addendums, updates, and revisions.
- Current "Guidelines used by Calvert Soil Conservation District for erosion and sediment control plan reviews," including all addendums, updates, and revisions.
- In addition, all site work shall comply with the Maryland Stormwater Management Act of 2007, including compliance with Environmental Site Design (ESD) criteria.

29) The scope of work shall consist of installing measures or performing work to control erosion and minimize the production of sediment and other pollutants to water and air during construction operations.

30) All materials furnished shall meet the requirements of the Material Specifications.

31) The measures and works shall include, but are not limited to the following:

a. The excavation and moving of soil materials shall be scheduled so that the smallest possible areas will be unprotected from erosion for the shortest time feasible.

b. Seeding to protect disturbed areas.

c. Mulching to provide temporary protection of soil surfaces from erosion.

d. Diversions to divert water away from work areas and to collect runoff from work areas for treatment and safe disposition. These works are temporary and shall be removed and the area restored to its original state when they are no longer needed or permanent measures are installed.

e. There shall be culverts or bridges where equipment must cross streams. These works are temporary and shall be removed and the area restored to its original state when they are no longer needed or permanent measures are installed.

f. Sediment traps shall be used to settle and filter out sediment from eroding areas to protect properties and streams below the construction site. These works are temporary and shall be removed and the area restored to its original state when they are no longer needed or permanent measures are installed.

g. Geotextile Silt Fences shall be used to trap sediment from areas of limited runoff. Sediment filters shall be properly keyed in to prevent erosion under them. These works are temporary and shall be removed and the area restored to its original state when they are no longer needed or permanent measures are installed.

h. Waterways shall be used for the safe disposal of runoff from fields, diversions, and other structures or measures. These works are temporary and shall be removed and the area restored to its original state when they are no longer needed or permanent measures are installed.

32) To dispose of chemical pollutants such as drained lubricating or transmission oils, greases, soaps, concrete mixer wash water, asphalt, etc., produced as a by-product of the construction work, the Contractor shall provide watertight tanks or barrels or construct a sump sealed with plastic sheets to be used. At the completion of the construction work, sumps shall be voided without causing pollution as specified.

33) Sanitary facilities such as chemical toilets, or septic tanks shall not be placed adjacent to live streams, wells, or springs. They shall be located at a distance sufficient to prevent contamination of any water sources. At the completion of construction work, facilities shall be disposed of without causing pollution.

34) The burning of brush or slash or disposal of other materials shall adhere to local and state regulations.

a. Fire prevention measures shall be taken to prevent the start or the spreading of wild fires, which result from project work. Firebreaks or guards shall be constructed at locations shown on the drawings.

b. All public access or haul roads used by the contractor during construction of the project shall be sprinkled or otherwise treated to fully suppress dust. All dust control methods shall ensure safe operations at all times. If chemical dust suppressants are used, the material shall be a commercially available product specifically designed for dust suppression and the application shall follow manufacturer's requirements and recommendations. A copy of the product data sheet and manufacturer's recommended application procedures shall be provided to the Engineer five working days before use.

35) All pollution control measures and works shall be adequately maintained in a functional condition as long as needed during the construction operation. All temporary measures shall be removed and the site restored to as nearly original conditions as practicable.

36) Temporary Seeding and Mulching Specifications:

a. All temporary seeding and mulching shall comply with 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control, standards and specifications for vegetative stabilization. Seeding shall conform to the "Temporary Seeding For Site Stabilization, depths, and dates" - Table B.1. This includes the planting of Barley, Oats, Rye, Foxtail Millet, Wheat, and Annual Rye Grass in rates as prescribed.

37) Permanent Seeding Specifications:

a. Seedbed Preparation: Apply 90 lbs. per 1,000 sq. ft. of pulverized dolomitic limestone and 12 lbs. per 1,000 sq. ft. of 10-10-10 equivalent fertilizer. Harrow or disc on the contour into the soil to a depth of 3 to 4 inches. Continue tillage until a reasonably fine seedbed has been prepared. Slope areas (greater than 3:1) should be raked, leaving the surface in an irregular condition with ridges running parallel to the contours.

b. Seeding: Use Kentucky 31 tall fescue at the rate of 5 to 7 lbs. per 1,000 sq. ft. on a moist seedbed with a minimum coverage of ¼ inch. Stabilize by mulching with unweathered, unchopped, small grain straw spread at the rate of 2 tons per acre. Mulch to be anchored by asphalt tie-down method. Seeding to be done only between February 15 to April 30 or August 15 to October 20. Temporary seeding to be done on completion of construction.

c. Sodding: Use rooted Kentucky 31 tall fescue. Sod shall be transplanted within 36 hours of harvesting. Each strip of sod is to be placed with long edges parallel to contours and staked with at least 2 stakes spaced not more than 2 feet apart.

d. Application for Approval of Erosion and Sediment Control Plans require the applicant to submit details of temporary and permanent stabilization measures including placement of the following statement on the plan.

Following initial soil disturbance or re-d isturbance, permanent or temporarily stabilization shall be completed within:

(aa) Three (3) calendar days as to the surface of all perimeter control dikes, swales, ditches, perimeter slopes and all slopes greater than 3 horizontal to 1 vertical (3:1) and;

(bb) Seven (7) days as to all other disturbed or graded areas on the project site.

(v) The requirements do not apply to those areas that are shown on the plan and are currently being used for material storage, or for those areas where construction activities are currently being performed or to interior areas of a surface mine site where the stabilization material would contaminate the recoverable resource. Maintenance shall be performed as necessary to ensure that stabilized areas continuously meet the appropriate requirements of the *2011 Standards and Specifications for Erosion and Sediment Control*, or the latest revision, which is incorporated by reference in Regulation.

As construction proceeds, additional measures may be employed with the Engineer's approval, if conditions warrant, to ensure effective erosion and sediment control on site.

38) Utility Installation. All trenches or holes created for utility installation shall be backfilled, compacted, and stabilized at the end of each working day. Excavated trench material shall be placed on the high side of the trench or hole. No more trench/hole shall be opened than can be stabilized the same day. If an area must be left unstabilized

39) Utility Notification. Calvert Soil Conservation District makes no representation as to the existence or nonexistence of any utilities at the construction site. Shown on these construction drawings are those utilities that have been identified. It is the responsibility of the landowners or operators and contractors to assure themselves that no hazard exists or damage will occur to utilities. It is suggested that Miss Utility be contacted at 1-800-257-7777.

40) Best Management Practices for working in nontidal wetlands, wetland buffers, waterways, and 100-year flood plain:

a. No excess fill, construction material, or debris shall be stockpiled or stored in the wetlands buffer.

b. Place materials in a location and manner that does not adversely impact surface or subsurface water flow into or out of the nontidal wetland.

c. Do not use the excavated material as backfill if it contains waste metal products, unsightly debris, toxic material, or any other deleterious substance. If additional backfill is required, use clean material free of waste metal products, unsightly debris, toxic material, or any other deleterious substance.

d. Place heavy equipment on mats or suitably operate the equipment to prevent damage to the nontidal wetlands or buffer.

e. Repair and maintain any serviceable structure or fill so there is no permanent loss of nontidal wetlands in excess of nontidal wetlands lost under the original structure or fill.

f. Restify any nontidal wetlands temporarily impacted by any construction.

g. All stabilization in the wetland and buffer shall be of the following recommended species: Annual Rye Grass (Lolium multiflorum), Millet (Setaria Italica), Barley (Hordeum sp.), Oats (Uniola sp.), and/or Rye (Secale cereale). These species will allow for the stabilization of the site while also allowing for the voluntary revegetation of natural wetland species. Other nonpersistent vegetation may be acceptable, but must be approved by the District. Kentucky 31 fescue shall not be utilized in the wetland or buffer areas. The area should be seeded and mulched to reduce erosion after construction activities have been completed.

h. After installation has been completed, make postconstruction grades and elevations of nontidal wetlands the same as the original grades and elevations in temporarily impacted areas.

i. To protect aquatic species, in-stream work is prohibited as determined by the classification of the stream. Class I Waters: in-stream work shall not be conducted during the period March 1 through June 15, inclusive, during any year.

j. Stormwater runoff from impervious surfaces shall be controlled to prevent the washing of debris into the waterway.

k. Culverts shall be constructed and any riprap placed so as not to obstruct the movement of aquatic species, unless that purpose of the activity is to impound water.

Engineers Seal

Approved by G. Gass
Title District Engineer
Title

DATE
Designed G. Gass 06/16
Drawn G. Westbrook 09/16
Revised 12/16
Checked B. Clark

JEFFERSON PATTERSON PARK
Erosion and Sediment Control Notes
Shoreline Stabilization Project
Calvert County, Maryland

CAD FILE
JPP2000.dwg

LAYOUT NO.
10
NO 10 OF 10

Project Summary Impact/Habitat Creation Table

Structure# or Bay	Bay Width (ft)	Impacts below MHW							Potential Impacts Vegetated Wetland			Habitat Created	
		Rock				Sand							
		StructLength (ft)	Area (sq.ft)	Volume (cy)	Encroach (ft)	Area (sq.ft)	Volume (cy)	Encroach (ft)	Ex. LowMarsh (sq.ft)	Ex. HighMarsh (sq.ft)	Phrag (sq.ft)	LowMarsh (sq.ft)	HighMarsh (sq.ft)
1		100	1,200	67	60	2,300	40	45		1,750		2,800	760
A	340					8,500	340	40					9,600
2		224	3,330	222	80	5,600	251	65				2,550	6,456
B	30					1,200	80	30					800
3		182	2,880	216	55	3,960	230	40				1,950	4,800
C	40					1,200	230	40					700
4		215	4,047	511	60	4,680	298	45				2,475	4,000
D	40					700	100	35					700
5		143	2,603	328	50	2,640	168	35				1,725	2,400
E	60					1,800	150	45					800
6		196	3,610	456	65	3,520	224	45				2,250	3,200
F	50					1,500	125	40					300
7		161	2,575	372	45	2,860	182	30				1,800	1,950
G	50					1,500	125	35					300
8		150	2,400	345	50	2,640	168	35				1,275	700
Groin		139	3,982	705	120								
Total		1,510	26,627	3,222		44,600	2,711		0	1,750	0	16,825	37,466