

**U.S. Army Corps  
of Engineers**

Baltimore District  
PN-24-19

# Public Notice

**In Reply to Application Number  
NAB-2024-60334-M54 (AA County DPW/London Town &  
Gardens/Revetment, Living Shoreline, Pier, Groins,  
Piles)**

**Comment Period: July 1, 2024 to July 31, 2024**

---

**THE PURPOSE OF THIS PUBLIC NOTICE IS TO INFORM INTERESTED PARTIES OF THE PROPOSED ACTIVITY AND TO SOLICIT COMMENTS. 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 (33 USC 403) and Section 404 of the Clean Water Act (33 USC 1344), as described below:

**APPLICANT:**

Anne Arundel County  
Department of Public Works  
2662 Riva Road  
Annapolis, Maryland 21401

**WATERWAY AND LOCATION OF THE PROPOSED WORK:**

The proposed project is located in the South River at the Historic London Town & Gardens Park, 839 Londontown Road, Edgewater, Anne Arundel County, Maryland (38.941779, -76.539811).

**OVERALL PROJECT PURPOSE:**

To provide navigable access, protect existing culturally significant archeological objects, provide shoreline protection, create ecological uplift, and provide coastal resiliency along the shoreline in the South River at the Historic London Town & Gardens Park, 839 Londontown Road, Edgewater, Anne Arundel County, Maryland.

**PROJECT DESCRIPTION:**

The applicant proposes, in accordance with the attached plans, to stabilize approximately 800 linear feet of existing deteriorated bulkhead and eroding shoreline utilizing a living shoreline design within an approximate 42,158 square feet (0.97 acre)

impact area as follows: to construct approximately 871 linear feet of stone sill structures by emplacing 1,642 cubic yards of stone and 3,424 cubic yards of clean sand and cobble backfill stabilized with approximately 15,264 square feet of low marsh plantings and approximately 2,234 square feet of high marsh plantings. The living shoreline design incorporates approximately 56 linear feet of stone toe protection along the existing peninsula consisting of 172 square feet of cascade stone, 207 square feet of riprap with shoreline plantings, and 33 square feet of coarse woody debris. Further, the applicant proposes to remove the existing pier and structures and install a fixed pier measuring 267-feet-long by 10-feet-wide, a "T-head" fixed pier consisting of two pier sections measuring 40-feet-long by 10-feet-wide, a platform measuring 10-feet-long by 11-feet-wide that connects to a fixed pier measuring 68-feet-long by 8-feet-wide, aluminum gangway measuring 22-feet-long by 5-feet-wide that connects to two floating pier sections measuring 27-feet-long by 10-feet-wide and 100-feet-long by 8-feet-wide, and four timber dolphin piles, with all work and structures extending a maximum of 263 feet channelward of the approximate mean high-water shoreline in the South River, Edgewater, Anne Arundel County, Maryland (38.941779, -76.539811).

All work is proposed in accordance with the attached plans prepared by BayLand Consultants & Designers, Inc., dated June 2024, sheets 1 through 20. Please refer to the table below for a summary of aquatic resource impacts.

#### **EFFECTS ON AQUATIC RESOURCES:**

Activity (i.e.: culvert)	Aquatic Resource Impact (sq.ft.)	Aquatic Resources Type	Authority (Section 10/404)
Construction of Stone Sill Structures	9,734	Open Water/Intertidal	Section 10/404
Placement of Sand/Cobble Fill	32,012	Open Water/Intertidal	Section 10/404
Placement of Riprap with Shoreline Plantings	207	Open Water/Intertidal	Section 10/404
Placement of Cascade Stone	172	Open Water/Intertidal	Section 10/404
Placement of Woody Debris	33	Open Water/Intertidal	Section 10/404
Removal of Existing Pier and Associated Structures	1,523	Open Water/Intertidal	Section 10
Construction of New Pier and Associated Structures	5,350	Open Water/Intertidal	Section 10

**LEAD FEDERAL AGENCY:**

The United States Army Corps of Engineers, as the lead federal agency, is responsible for all coordination pursuant to applicable federal authorities.

**APPLICANT'S PROPOSED AVOIDANCE, MINIMIZATION, AND COMPENSATORY MITIGATION:**

As part of the planning process for the proposed project, steps were taken to ensure avoidance and minimization of impacts to aquatic resources to the maximum extent practicable based on the existing site conditions.

The applicant considered several alternative designs to meet the projects goals of providing long term shoreline protection of the property from sea level rise and coastal resiliency to climate change, protecting culturally significant archeological objects, and creating/enhancing ecological uplift and water quality while also avoiding and minimizing impacts to the South River. Alternative designs considered include replacing the existing bulkhead, creating a narrow living shoreline design with low profile sills, and a shingle beach living shoreline design without low profile sills. Coastal modeling was conducted to optimize the stone sill size and width of marsh terrace so that the smallest possible footprint achieves the project goals. The proposed living shoreline design described above provides shoreline erosion protection, protection from sea level rise and resiliency to climate change, protection of culturally significant archeological objects, and creating/enhancing ecological uplift and water quality while minimizing impacts to the South River to the maximum extent practicable.

The proposed pier has been designed to minimize open water impacts to the maximum extent practicable while providing Americans with Disabilities Act accessibility and safety for large educational groups. The pier has been designed to provide navigable access for the public to the Historic London Town & Gardens Park for a wide range of vessel sizes; from larger vessels such as the Pride of Baltimore and smaller vessels like kayaks and dinghies. Further, the pier has been designed to provide adequate draft depths without the need for additional impacts associated with dredging.

No compensatory mitigation is proposed. No wetlands or submerged aquatic vegetation would be permanently impacted as a result of the proposed project. The proposed project upon completion would result in a net gain of approximately 17,498 square feet of intertidal marsh.

**CORPS EVALUATION REQUIREMENTS:**

This project will be evaluated pursuant to Corps Regulatory Program Regulations (33 CFR Parts 320-332). 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 evaluation of the impact of this project will also include application of the Clean Water Act Section 404(b)(1) Guidelines promulgated by the Administrator, United States Environmental Protection Agency.

**ENDANGERED SPECIES:**

A preliminary review of this application indicates that the proposed work is not likely to adversely affect federally 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.

**ESSENTIAL FISH HABITAT:**

The Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA), as amended by the Sustainable Fisheries Act of 1996 (Public Law 04-267), requires all federal agencies to consult with the National Marine Fisheries Service on all actions, or proposed actions, permitted, funded, or undertaken by the agency that may adversely affect Essential Fish Habitat (EFH), including species of concern, life cycle habitat, or Habitat Areas of Particular Concern. The project site lies in or adjacent to EFH as described under MSFCMA for managed species under the MSFCMA. The Baltimore District has made a preliminary determination that the project will have no adverse effect on EFH. The Baltimore District has made a preliminary determination that mitigative measures are not required to minimize adverse effects on EFH at this time. This determination may be modified if additional information indicates otherwise.

**HISTORIC RESOURCES:**

Pursuant to Section 106 of the National Historic Preservation Act of 1966 and applicable guidance, the Corps has reviewed the latest published version of the National Register of Historic Places and initially determined that no registered properties listed as eligible for inclusion, therein, are located at the site of the proposed work. The Corps has made the preliminary determination that the proposed project would have no effect on historic properties. The Corps final eligibility and effect determination will be based on coordination with the State Historic Preservation Office as appropriate and required, and with full consideration given to the proposed undertaking's potential direct and indirect effects on historic properties within the Corps' identified permit area.

**TRIBAL RESOURCES:**

Section 106 of the National Historic Preservation Act also requires federal agencies to consult with federally recognized American Indian tribes that attach religious and cultural significance to historic properties that may be affected by the agency's undertaking. Corps Tribal Consultation Policy mandates an open, timely, meaningful, collaborative, and effective deliberative communication process that emphasizes trust, respect, and shared responsibility. The policy further emphasizes that, to the extent practicable and permitted by law, consultation works toward mutual consensus and begins at the earliest planning stages before decisions are made and actions taken. The Corps final eligibility and effect determination will be based on coordination with interested tribes, in accordance with the Corps current tribal standard operating procedures as appropriate and required, and with full consideration given to the proposed undertaking's potential direct and indirect effects on tribal resources.

**MODIFICATION OF CIVIL WORKS PROJECTS: 33 USC 408 (SECTION 408):**

All Section 408 proposals will be coordinated internally at the United States Army Corps of Engineers. The Section 408 decision will be issued along with the Section 404 and/or Section 10 decision. Please see the following link for more information regarding Section 408: <https://www.nab.usace.army.mil/Missions/Regulatory/Section-408-Requests/>.

**WATER QUALITY CERTIFICATION:**

The applicant is required to obtain a water quality certification in accordance with Section 401 of the Clean Water Act.

**COASTAL ZONE MANAGEMENT PROGRAMS:**

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 Program. By this public notice, we are requesting the State concurrence or objection to the applicant's consistency statement.

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

**SUBMISSION OF COMMENTS:**

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 and are subject to release to the public through the Freedom of Information Act. 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 United States Army Corps of Engineers, Baltimore District within the comment period specified above through postal mail at the address below or electronic submission to the project manager email address below. Written comments should reference the Application Number NAB-2024-60334-M54.

**PUBLIC HEARING REQUESTS:**

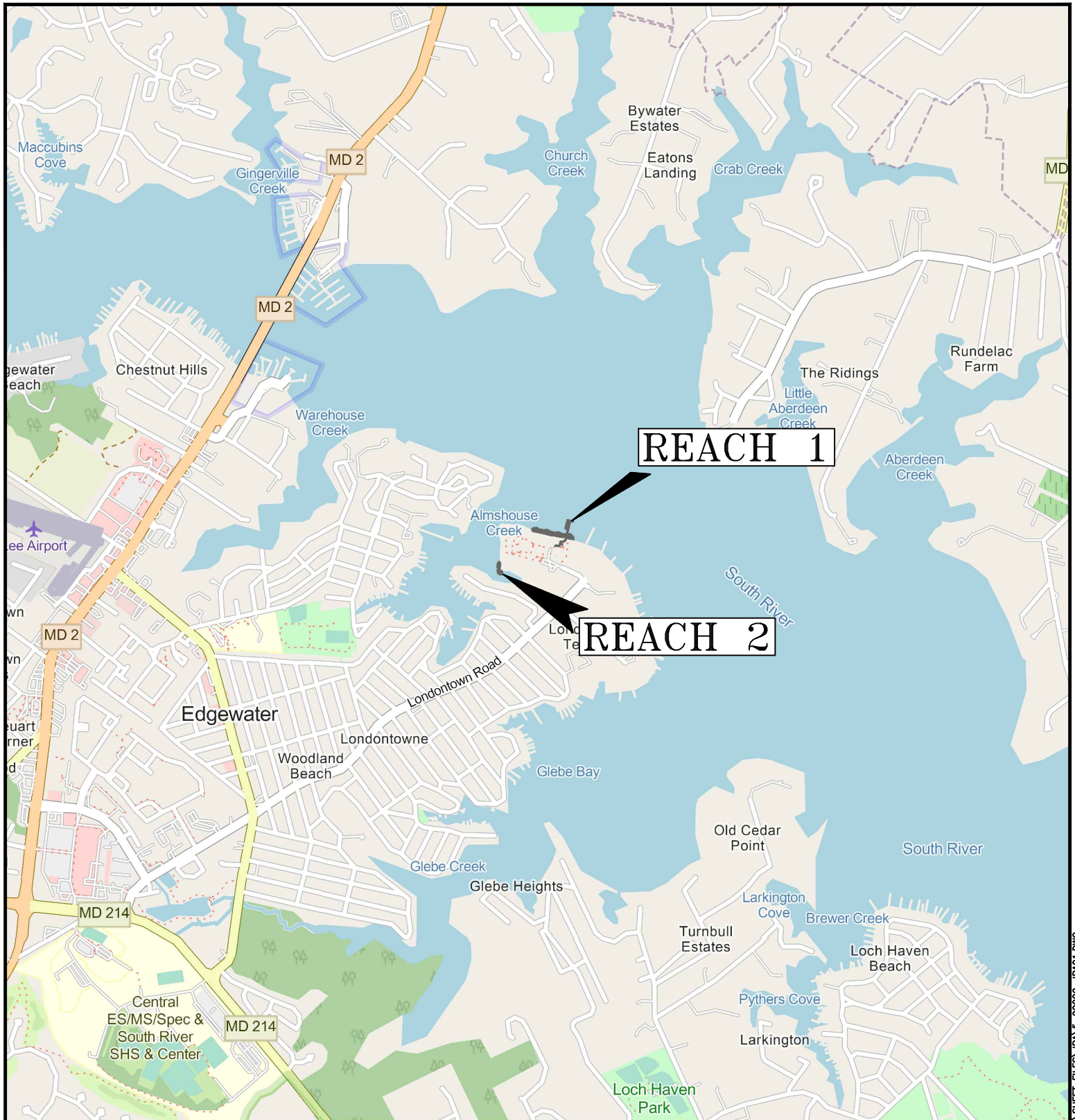
Any person who has an interest which may be adversely affected by the issuance of this permit may request a public hearing. The request, which must be in writing, must be received within the comment period as specified above to receive consideration. Also, it must clearly set forth the interest which may be adversely affected by this activity and the manner in which the interest may be adversely affected. The public hearing request may be submitted by electronic mail or mailed to the following address:

Mr. Zachary Fry  
[zachary.t.fry@usace.army.mil](mailto:zachary.t.fry@usace.army.mil)  
United States Army Corps of Engineers, Baltimore District  
Regulatory Branch  
2 Hopkins Plaza  
Baltimore, Maryland 21201

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

General information regarding the Corps' permitting process can be found on our website at <https://www.nab.usace.army.mil/Missions/Regulatory.aspx>. This public notice has been prepared in accordance with Corps implementing regulations at 33 CFR 325.3. If you have any questions concerning this specific project or would like to request a paper copy of this public notice, please contact Mr. Zachary Fry at (410) 962-6080, or at [zachary.t.fry@usace.army.mil](mailto:zachary.t.fry@usace.army.mil) with NAB-2024-60334-M54 in the subject line. This public notice is issued by the Chief, Regulatory Branch.





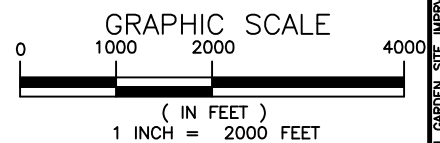
# **HISTORIC LONDON TOWN & GARDENS SHORELINE IMPROVEMENTS**

ANNE ARUNDEL COUNTY, MD

APPL. BY: ANNE ARUNDEL COUNTY  
DEPARTMENT OF PUBLIC WORKS

## **VICINITY MAP**

DATE: JUNE 2024 SHEET 1 OF 20

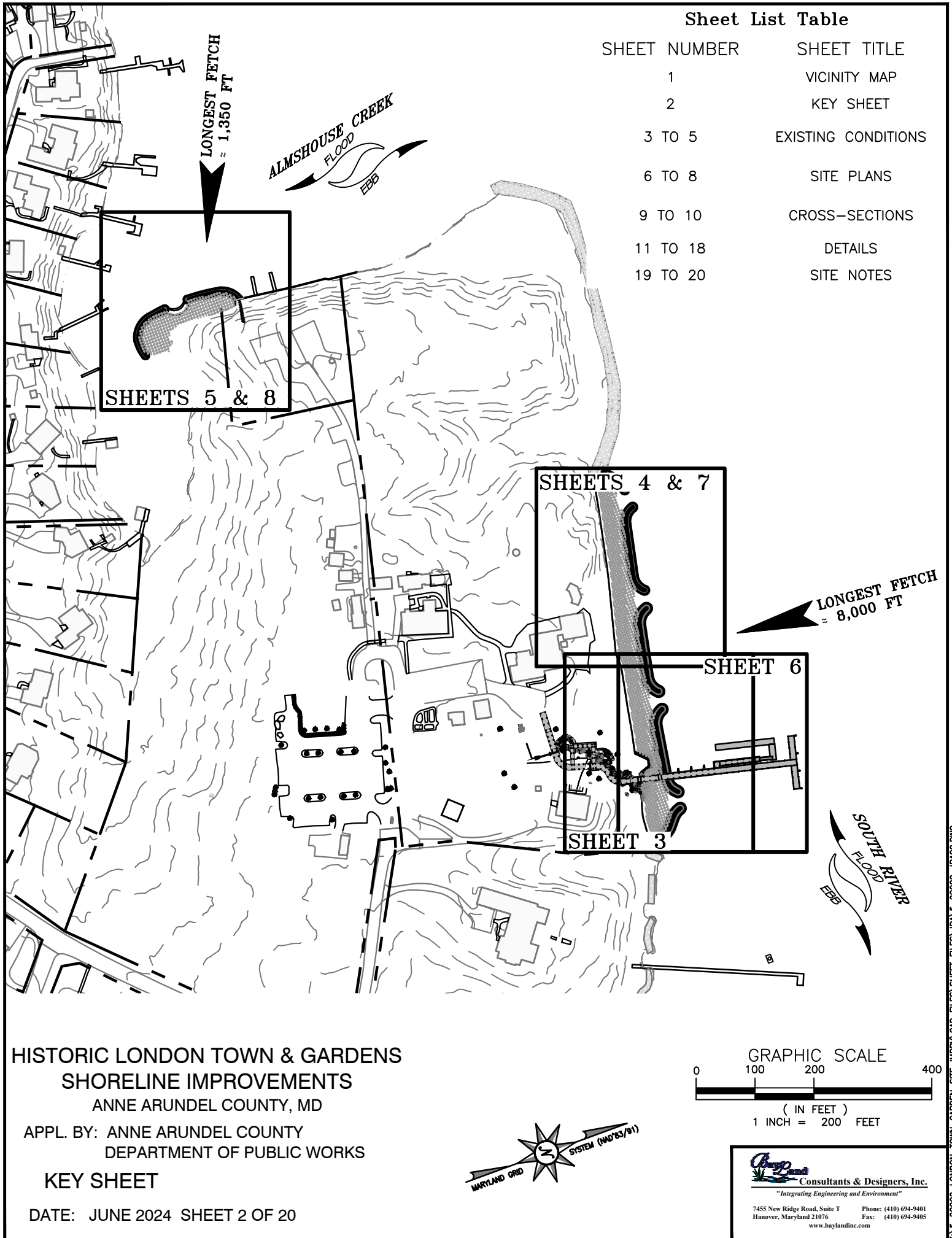


**Consultants & Designers, Inc.**

"Integrating Engineering and Environment"

7455 New Ridge Road, Suite 1 Phone: (410) 694-9401  
Hanover, Maryland 21076 Fax: (410) 694-9405  
www.baylandinc.com





### Sheet List Table

SHEET NUMBER	SHEET TITLE
1	VICINITY MAP
2	KEY SHEET
3 TO 5	EXISTING CONDITIONS
6 TO 8	SITE PLANS
9 TO 10	CROSS-SECTIONS
11 TO 18	DETAILS
19 TO 20	SITE NOTES

## HISTORIC LONDON TOWN & GARDENS SHORELINE IMPROVEMENTS

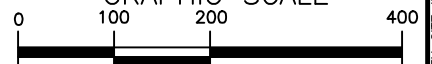
ANNE ARUNDEL COUNTY, MD

APPL. BY: ANNE ARUNDEL COUNTY  
DEPARTMENT OF PUBLIC WORKS

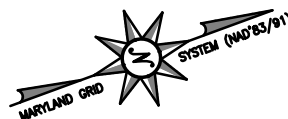
KEY SHEET

DATE: JUNE 2024 SHEET 2 OF 20

### GRAPHIC SCALE



( IN FEET )  
1 INCH = 200 FEET

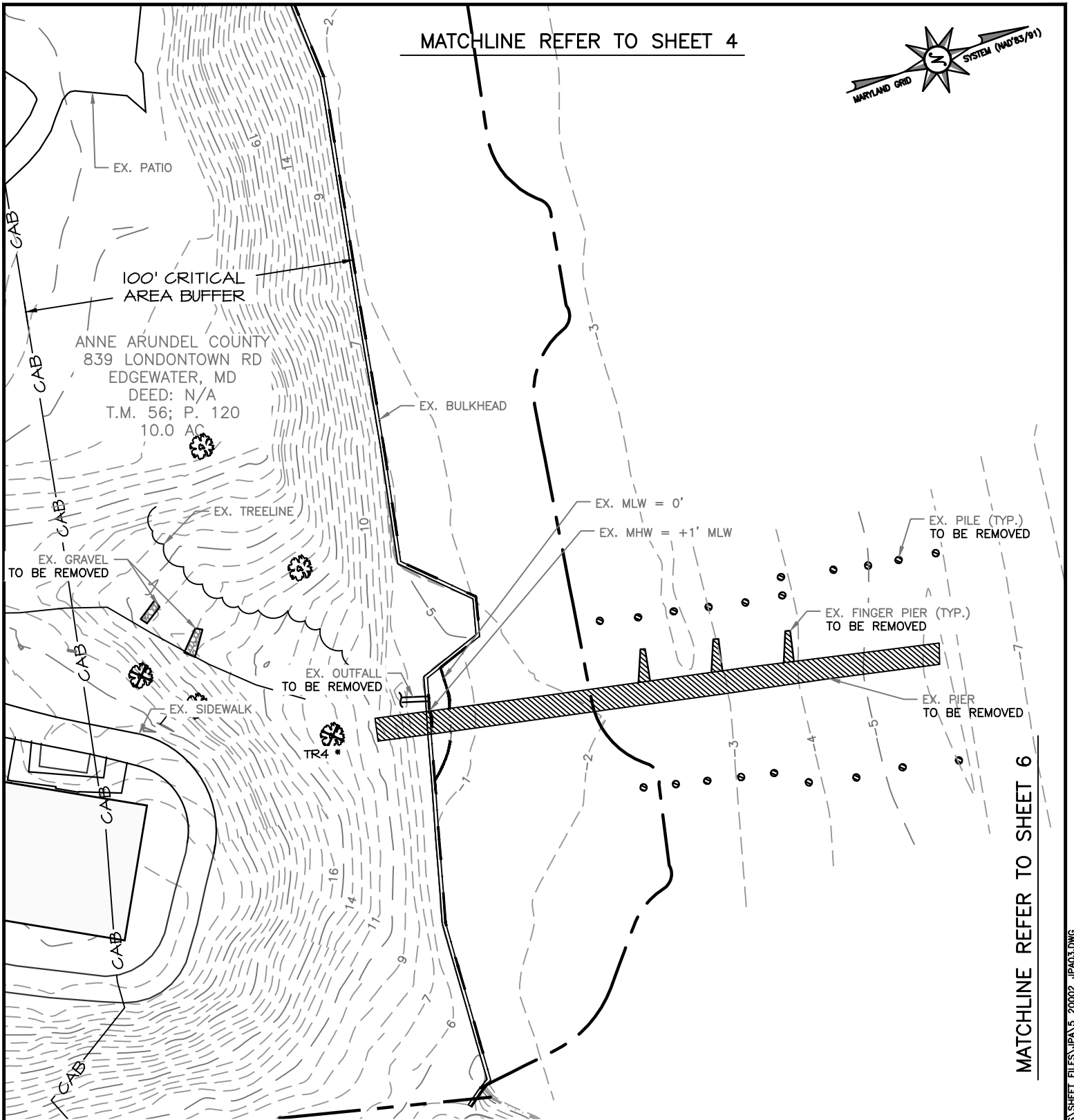
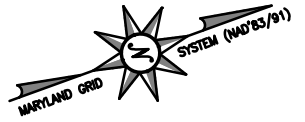


Consultants & Designers, Inc.

"Integrating Engineering and Environment"

7455 New Ridge Road, Suite 1 Phone: (410) 694-9401  
Hanover, Maryland 21076 Fax: (410) 694-9405  
www.baylandinc.com

MATCHLINE REFER TO SHEET 4



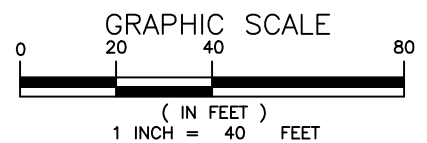
# HISTORIC LONDON TOWN & GARDENS SHORELINE IMPROVEMENTS

ANNE ARUNDEL COUNTY, MD

APPL. BY: ANNE ARUNDEL COUNTY  
DEPARTMENT OF PUBLIC WORKS

## EXISTING CONDITIONS

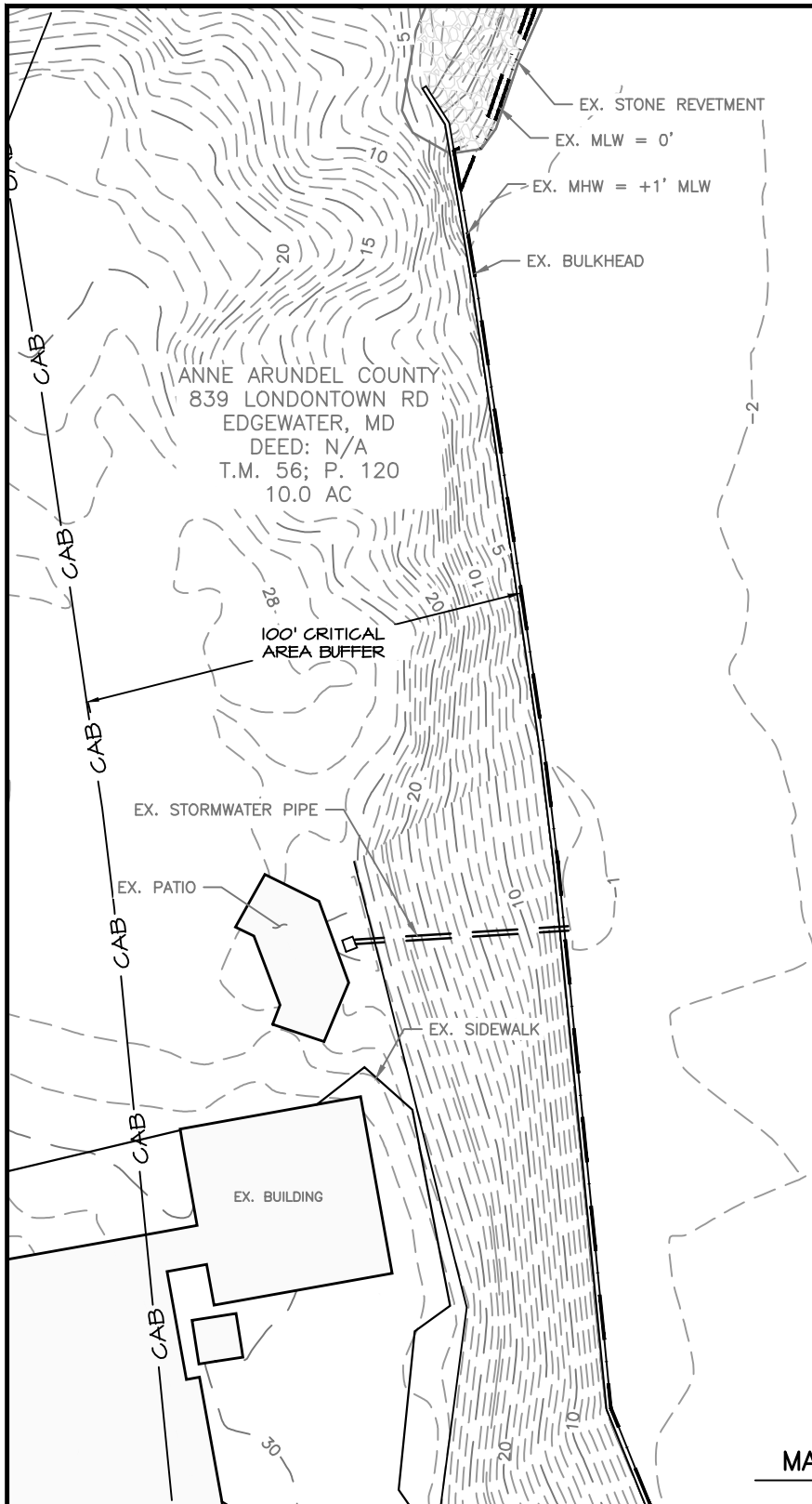
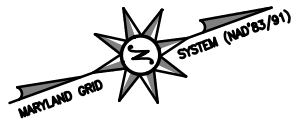
DATE: JUNE 2024 SHEET 3 OF 20



Consultants & Designers, Inc.

"Integrating Engineering and Environment"

7455 New Ridge Road, Suite 1 Phone: (410) 694-9401  
Hanover, Maryland 21076 Fax: (410) 694-9405  
www.baylandinc.com



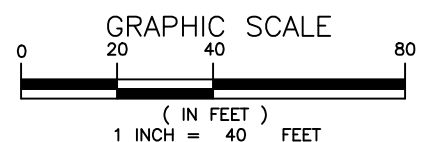
# HISTORIC LONDON TOWN & GARDENS SHORELINE IMPROVEMENTS

ANNE ARUNDEL COUNTY, MD

APPL. BY: ANNE ARUNDEL COUNTY  
DEPARTMENT OF PUBLIC WORKS

## EXISTING CONDITIONS

DATE: JUNE 2024 SHEET 4 OF 20



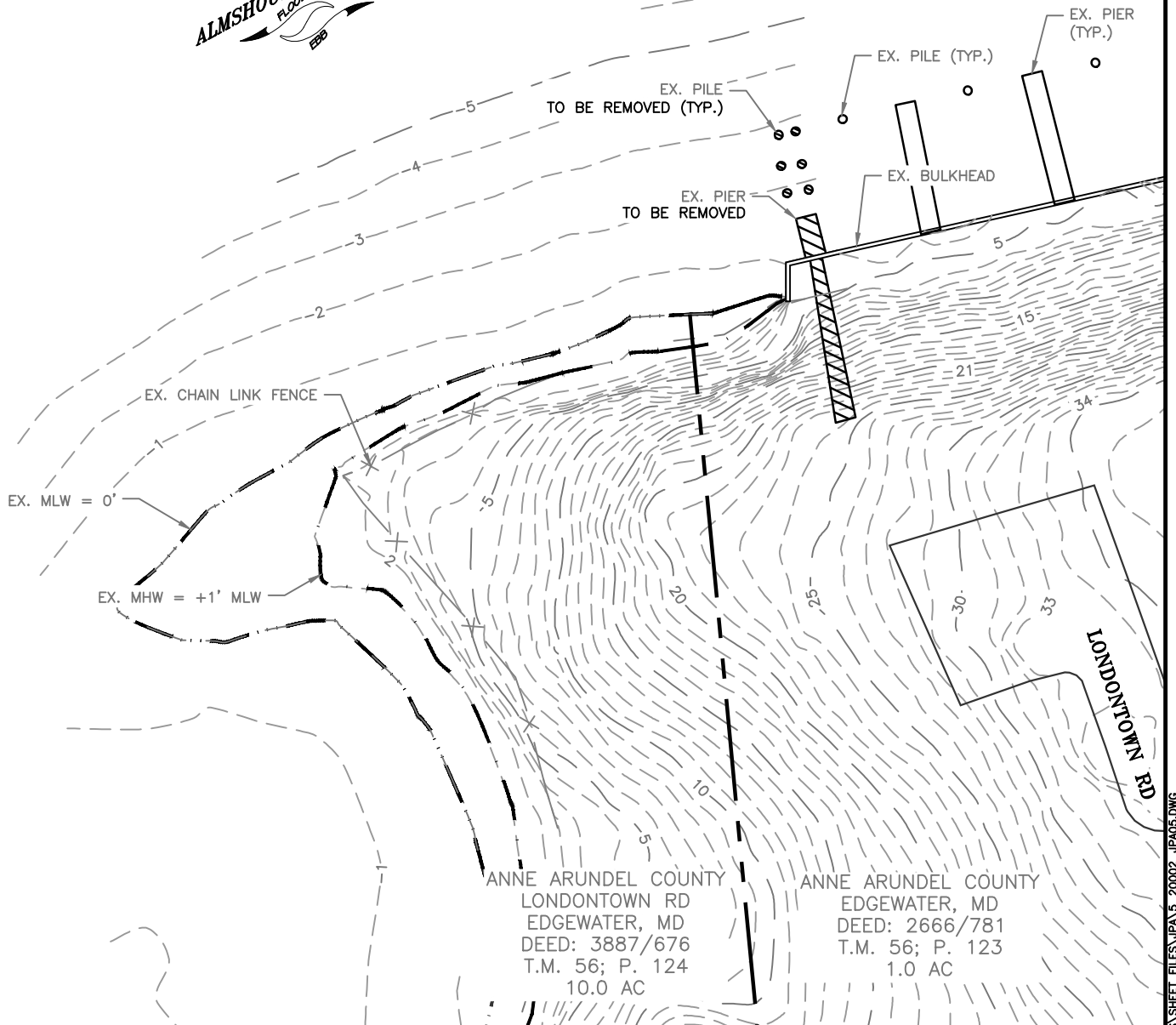
Consultants & Designers, Inc.

"Integrating Engineering and Environment"

7455 New Ridge Road, Suite T Phone: (410) 694-9401  
Hanover, Maryland 21076 Fax: (410) 694-9405  
www.baylandinc.com



ALMSHOUSE CREEK  
FLOOD  
EBB



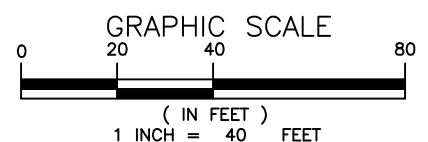
# HISTORIC LONDON TOWN & GARDENS SHORELINE IMPROVEMENTS

ANNE ARUNDEL COUNTY, MD

APPL. BY: ANNE ARUNDEL COUNTY  
DEPARTMENT OF PUBLIC WORKS

## EXISTING CONDITIONS

DATE: JUNE 2024 SHEET 5 OF 20

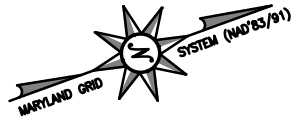


Consultants & Designers, Inc.

"Integrating Engineering and Environment"

7455 New Ridge Road, Suite T Phone: (410) 694-9401  
Hanover, Maryland 21076 Fax: (410) 694-9405  
www.baylandinc.com

MATCHLINE REFER TO SHEET 7



SOUTH RIVER  
FLOOD

PR. STONE SILL (TYP.)  
172 LF  
ELEV. +2.5' MLW

PR. HIGH MARSH

PR. LOW MARSH

PR. POCKET BEACH

PR. COASTAL SHRUBS

PR. GREEN RIPRAP = 56 LF

PR. STONE SILL (TYP.)  
172 LF  
ELEV. +2.5' MLW

PR. 100' X 8'  
FLOATING PIER

PR. 60' X 8'  
FIXED PIER

PR. 10' X 11'  
FIXED PLATFORM

PR. ADA TIMBER  
HAND RAIL

FIXED 10' PIER SLOPE  
23:1 FOR 91 LF

PR. 267' X 10' MAIN FIXED PIER

PR. 27' X 10'  
FLOATING PIER

PR. 8' X 8'  
FIXED PLATFORM

PR. TIMBER DOLPHIN  
PILES (TYP.)

PR. 40' X 10'  
T-HEAD FIXED PIER

PR. 22' X 5'  
ALUMINUM GANGWAY

PR. 40' X 10'  
T-HEAD FIXED PIER

MAX ENCROACHMENT  
= 263 LF (PIER)

MAX CHANNELWARD EXTENT = 73'  
(ENTIRE SITE)

PR. MLW = 0'

PR. MHW = +1' MLW

EX. MHW = +1' MLW

PR. STONE SILL (TYP.)  
90 LF  
ELEV. +2.5' MLW

PR. CASCADE  
(TYP.)

PR. COARSE  
WOODY DEBRIS  
(TYP.)

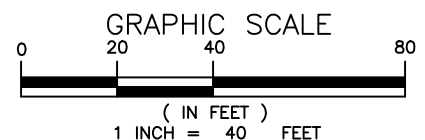
## HISTORIC LONDON TOWN & GARDENS SHORELINE IMPROVEMENTS

ANNE ARUNDEL COUNTY, MD

APPL. BY: ANNE ARUNDEL COUNTY  
DEPARTMENT OF PUBLIC WORKS

### SITE PLAN

DATE: JUNE 2024 SHEET 6 OF 20

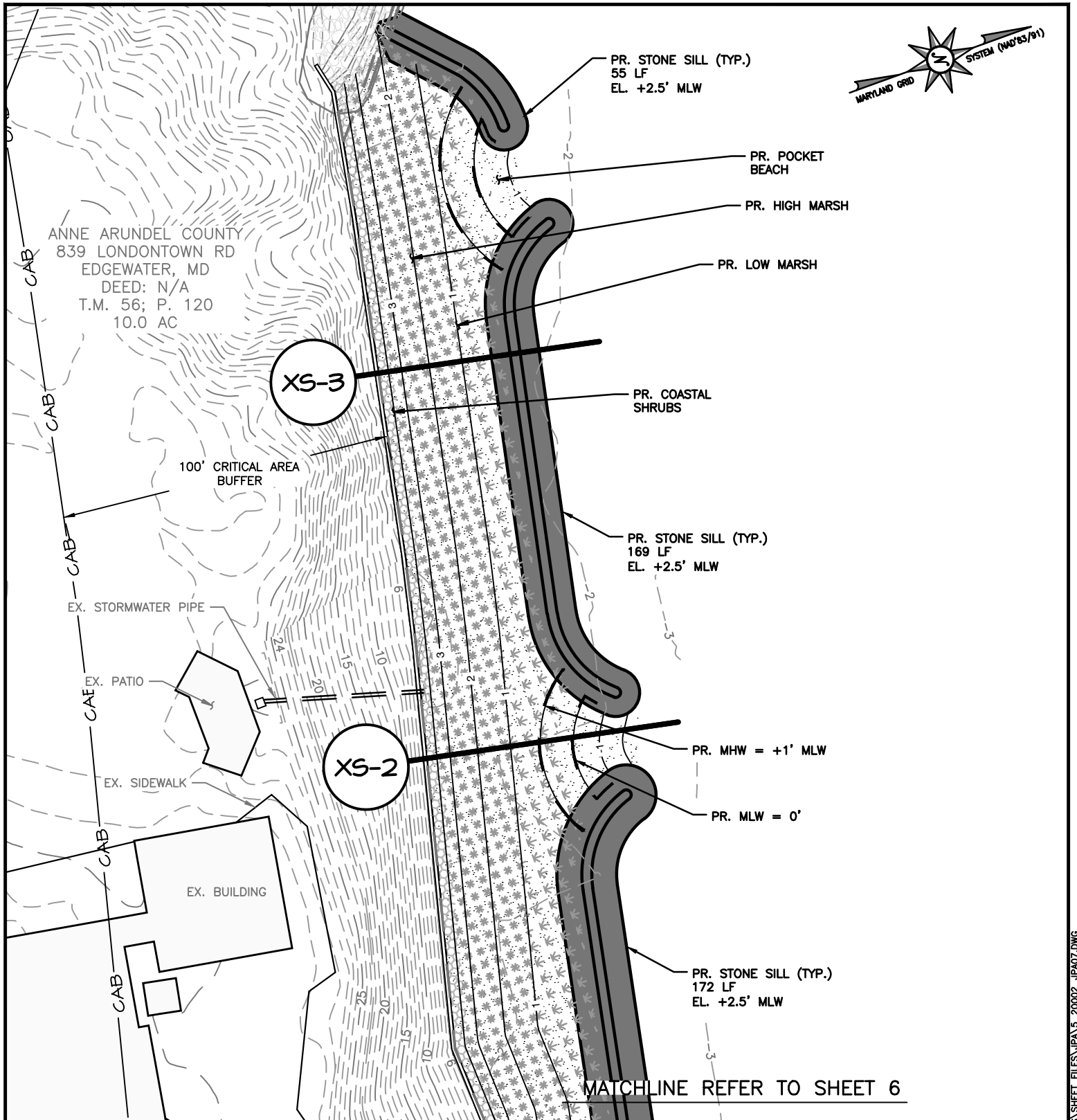


Consultants & Designers, Inc.

"Integrating Engineering and Environment"

7455 New Ridge Road, Suite T Phone: (410) 694-9401  
Hanover, Maryland 21076 Fax: (410) 694-9405  
www.baylandinc.com





# HISTORIC LONDON TOWN & GARDENS SHORELINE IMPROVEMENTS

ANNE ARUNDEL COUNTY, MD

APPL. BY: ANNE ARUNDEL COUNTY  
DEPARTMENT OF PUBLIC WORKS

## SITE PLAN

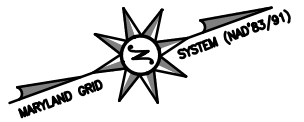
DATE: JUNE 2024 SHEET 7 OF 20



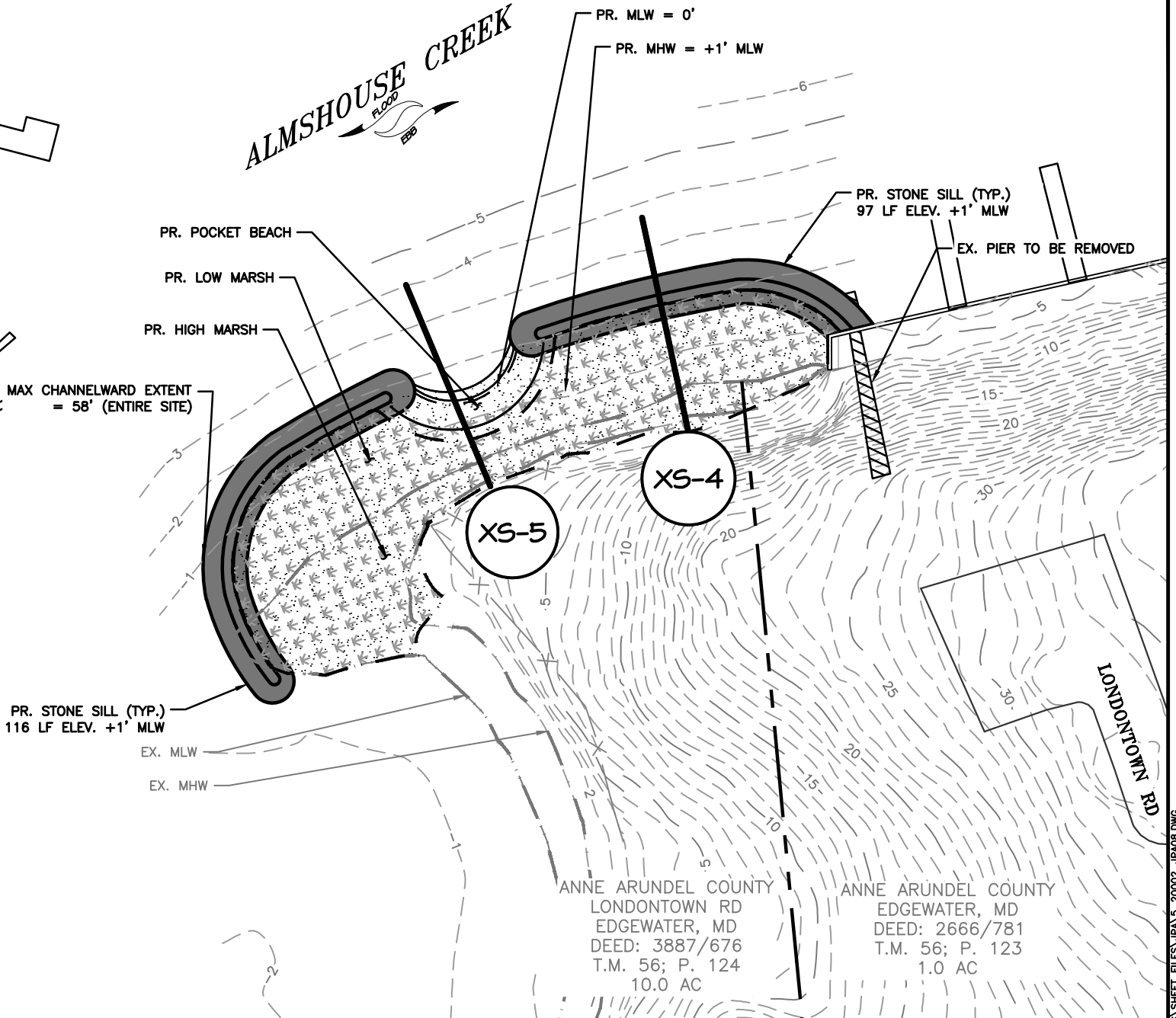
Consultants & Designers, Inc.

"Integrating Engineering and Environment"

7455 New Ridge Road, Suite 1 Phone: (410) 694-9401  
Hanover, Maryland 21076 Fax: (410) 694-9405  
www.baylandinc.com



ALMSHOUSE CREEK



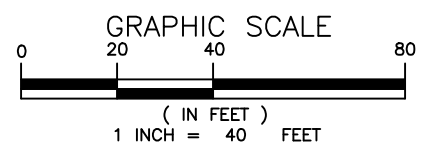
# HISTORIC LONDON TOWN & GARDENS SHORELINE IMPROVEMENTS

ANNE ARUNDEL COUNTY, MD

APPL. BY: ANNE ARUNDEL COUNTY  
DEPARTMENT OF PUBLIC WORKS

## SITE PLAN

DATE: JUNE 2024 SHEET 8 OF 20

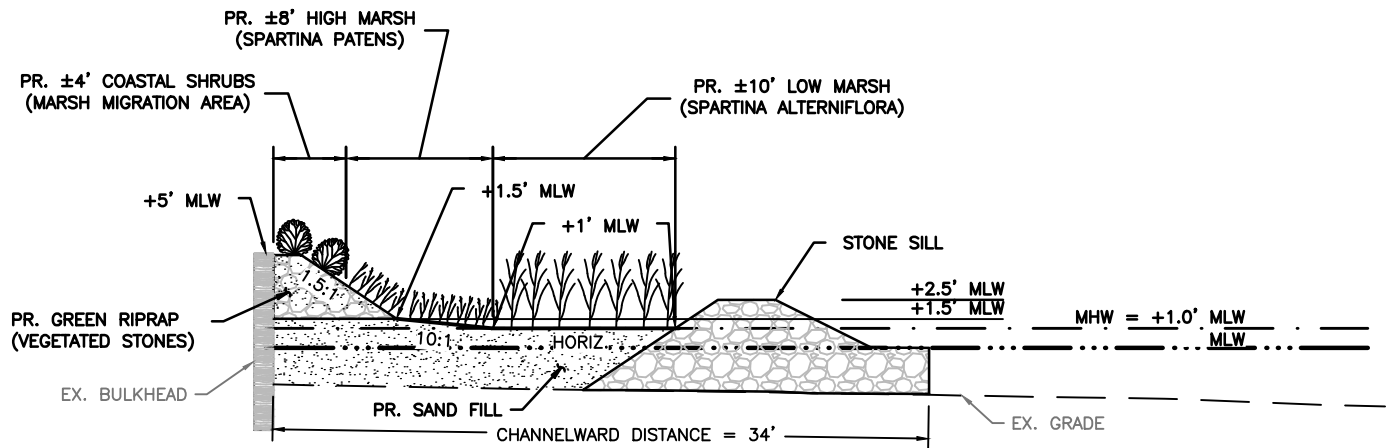


Consultants & Designers, Inc.

"Integrating Engineering and Environment"

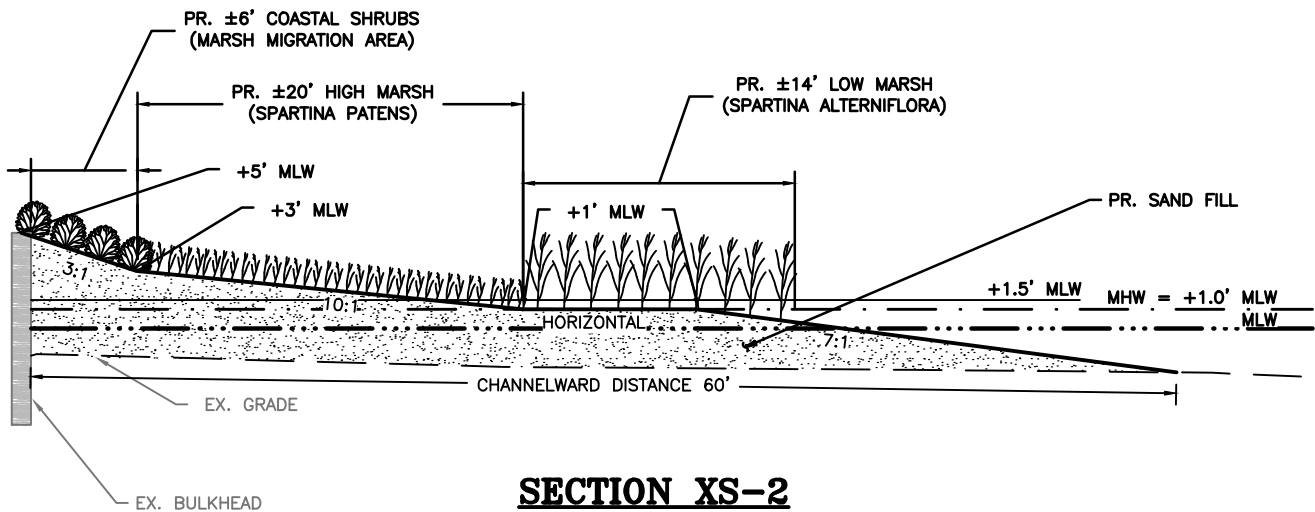
7455 New Ridge Road, Suite 1 Phone: (410) 694-9401  
Hanover, Maryland 21076 Fax: (410) 694-9405  
www.baylandinc.com





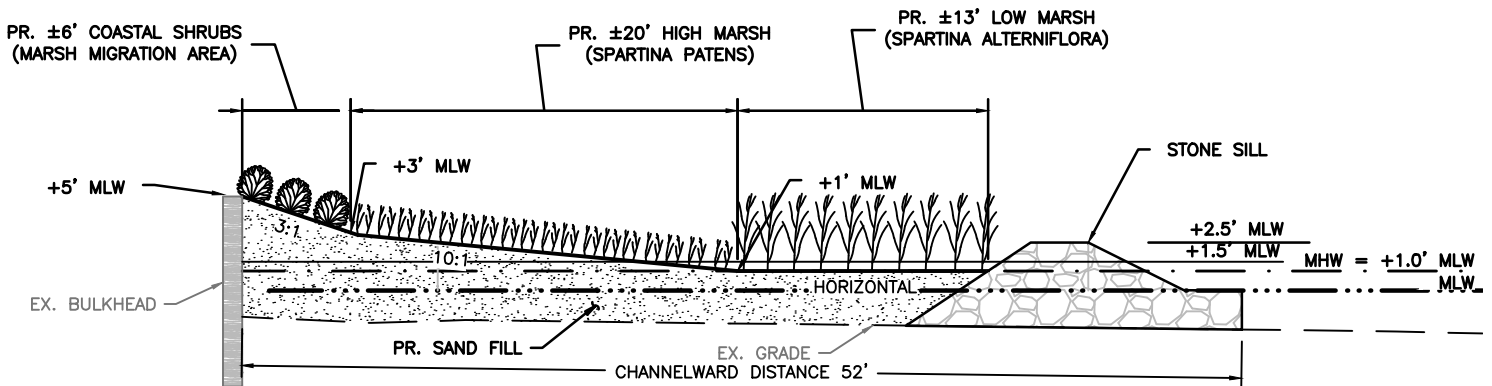
### SECTION XS-1

SCALE: NTS



### SECTION XS-2

SCALE: NTS



### SECTION XS-3

SCALE: NTS

## HISTORIC LONDON TOWN & GARDENS SHORELINE IMPROVEMENTS

ANNE ARUNDEL COUNTY, MD

APPL. BY: ANNE ARUNDEL COUNTY  
DEPARTMENT OF PUBLIC WORKS

## CROSS SECTIONS

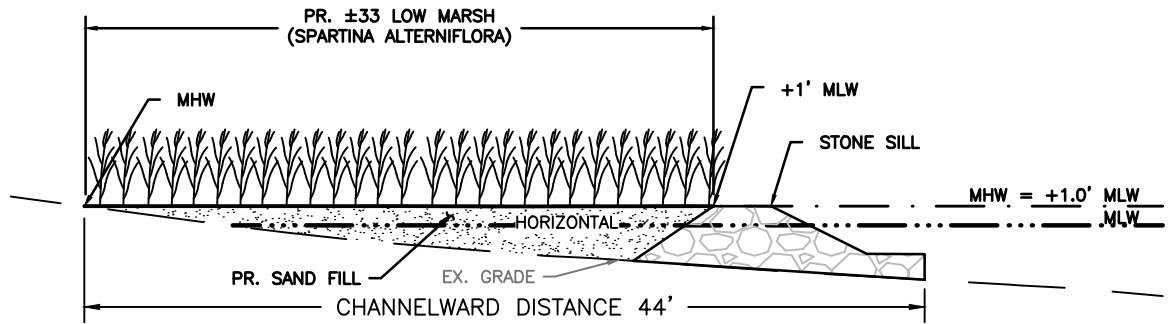
DATE: JUNE 2024 SHEET 9 OF 20



Consultants & Designers, Inc.

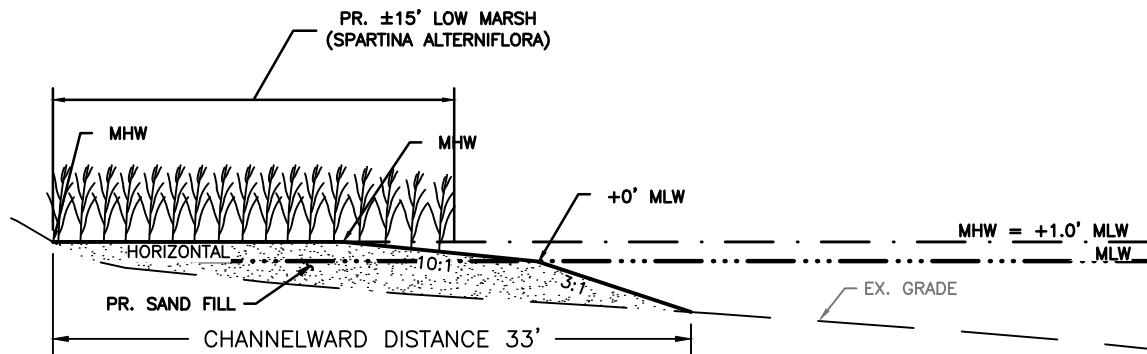
"Integrating Engineering and Environment"

7455 New Ridge Road, Suite T Phone: (410) 694-9401  
Hanover, Maryland 21076 Fax: (410) 694-9405  
www.baylandinc.com



### **SECTION XS-4**

SCALE: NTS



### **SECTION XS-5**

SCALE: NTS

## HISTORIC LONDON TOWN & GARDENS SHORELINE IMPROVEMENTS

ANNE ARUNDEL COUNTY, MD

APPL. BY: ANNE ARUNDEL COUNTY  
DEPARTMENT OF PUBLIC WORKS

## CROSS SECTIONS

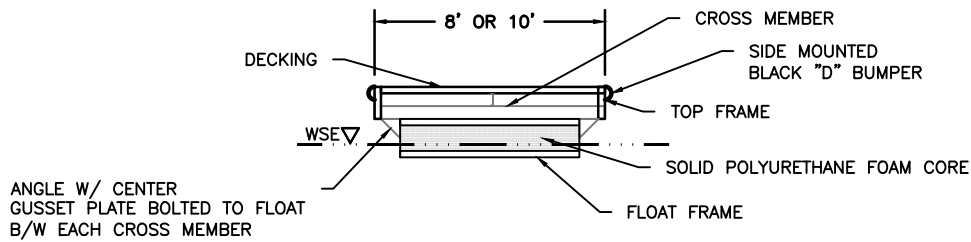
DATE: JUNE 2024 SHEET 10 OF 20



**Consultants & Designers, Inc.**

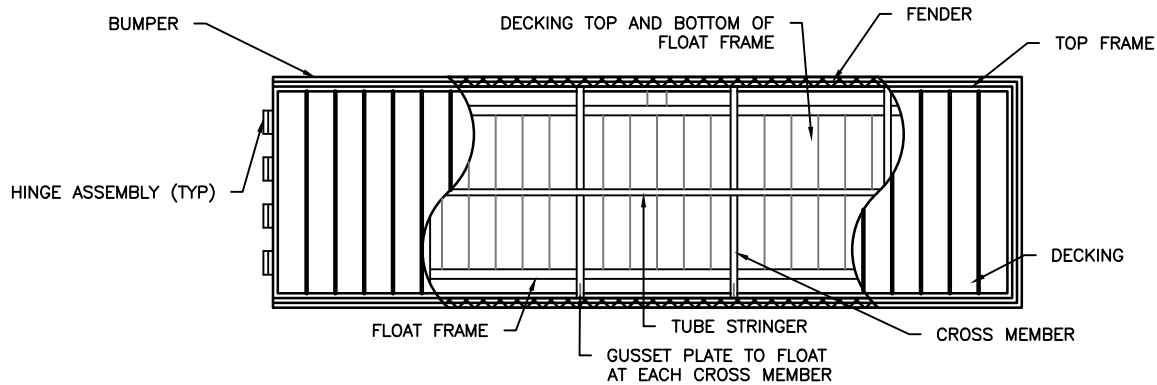
"Integrating Engineering and Environment"

7455 New Ridge Road, Suite T Phone: (410) 694-9401  
Hanover, Maryland 21076 Fax: (410) 694-9405  
www.baylandinc.com



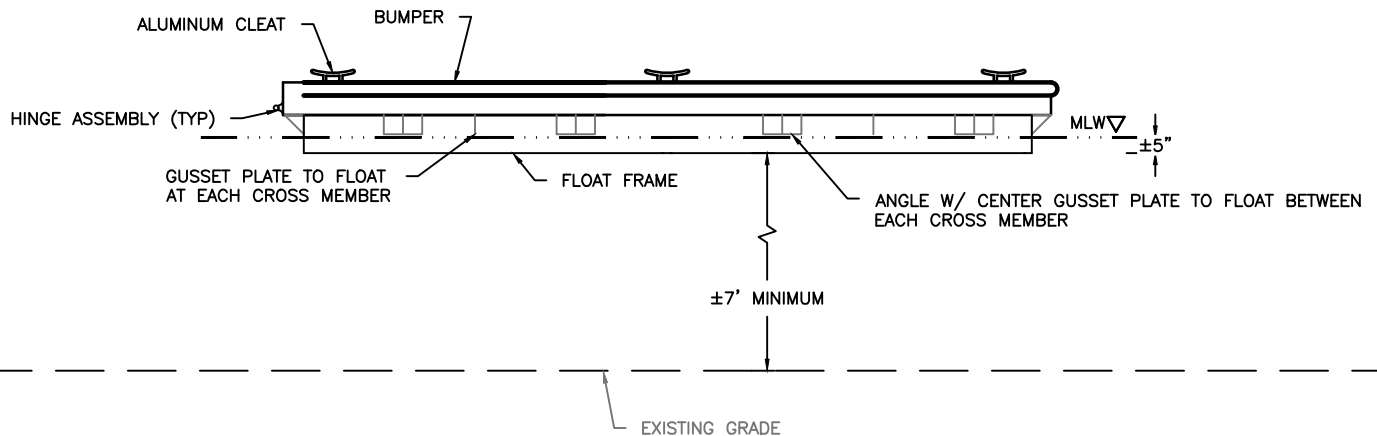
## **TYPICAL 8' OR 10' FLOATING PIER SECTION**

SCALE: NTS



## **TYPICAL FLOATING PIER PLAN**

SCALE: NTS



## **TYPICAL FLOATING PIER PROFILE**

SCALE: NTS

HISTORIC LONDON TOWN & GARDENS  
SHORELINE IMPROVEMENTS  
ANNE ARUNDEL COUNTY, MD

APPL. BY: ANNE ARUNDEL COUNTY  
DEPARTMENT OF PUBLIC WORKS

**FLOATING PIER DETAILS**

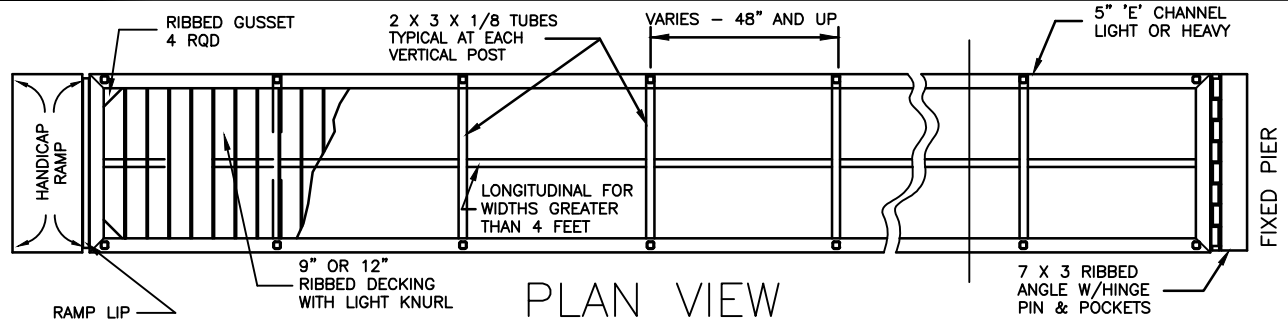
DATE: JUNE 2024 SHEET 11 OF 20



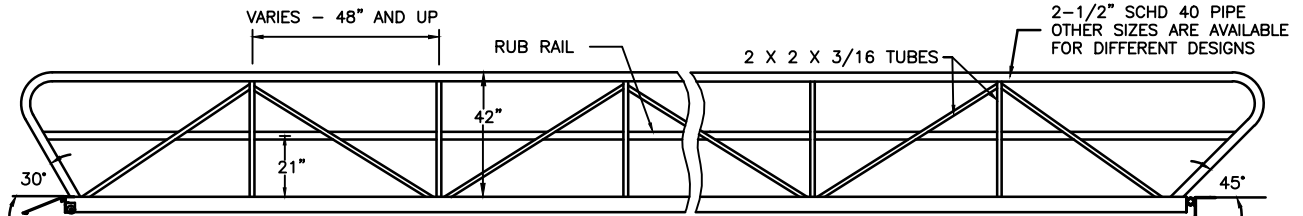
**Consultants & Designers, Inc.**

"Integrating Engineering and Environment"

7455 New Ridge Road, Suite T Phone: (410) 694-9401  
Hanover, Maryland 21076 Fax: (410) 694-9405  
www.baylandinc.com



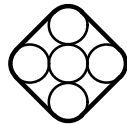
PLAN VIEW



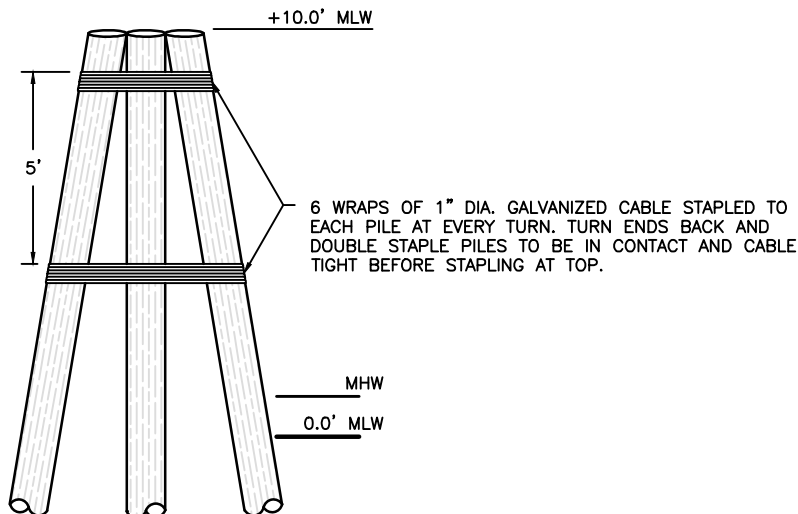
ELEVATION

### **GANGWAY DETAILS**

SCALE: NTS



PLAN



ELEVATION

### **TYPICAL DOLPHIN PILES DETAIL**

SCALE: NTS

HISTORIC LONDON TOWN & GARDENS

SHORELINE IMPROVEMENTS

ANNE ARUNDEL COUNTY, MD

APPL. BY: ANNE ARUNDEL COUNTY

DEPARTMENT OF PUBLIC WORKS

**GANGWAY & DOLPHIN PILES DETAILS**

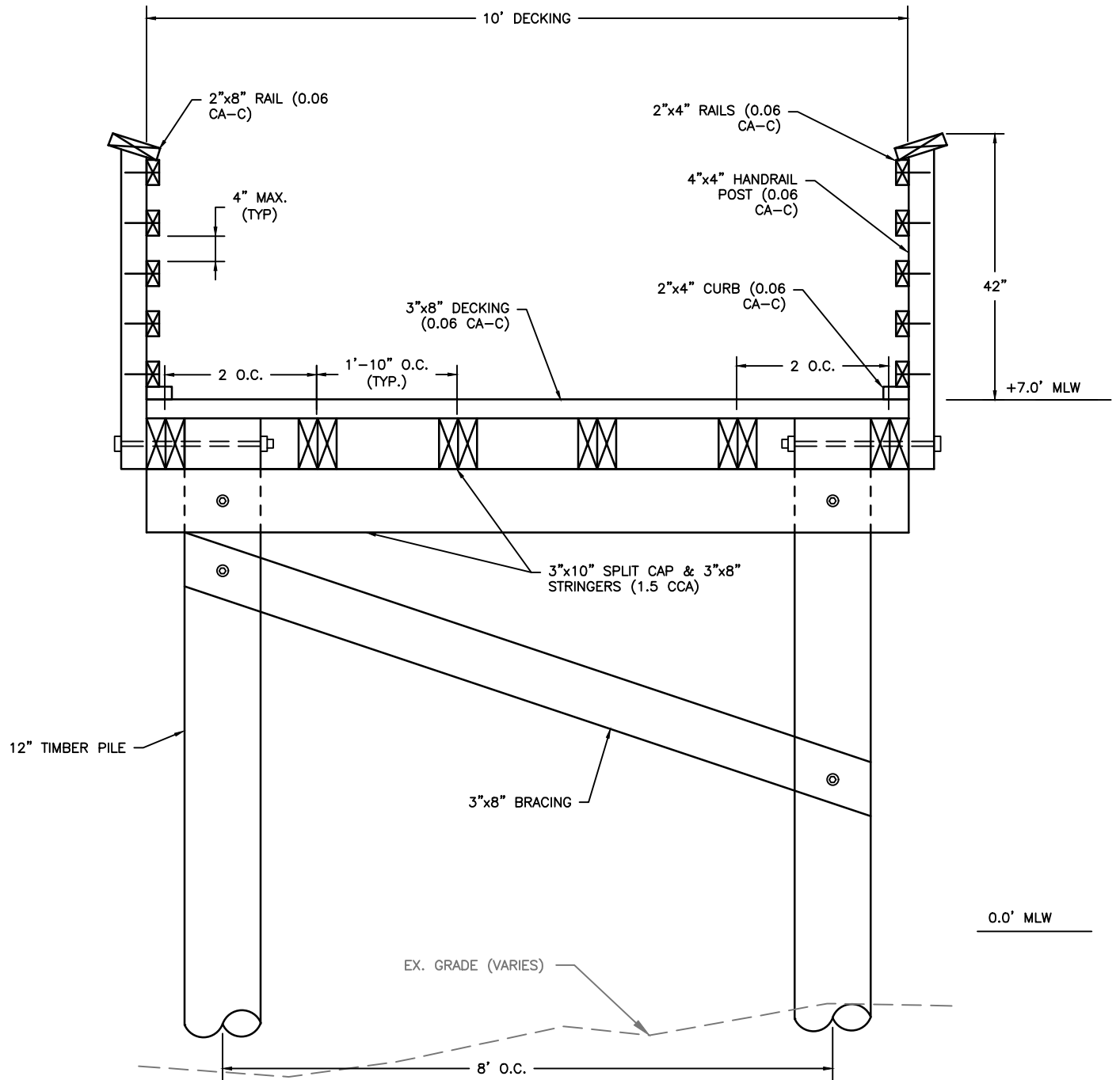
DATE: JUNE 2024 SHEET 12 OF 20



Consultants & Designers, Inc.

"Integrating Engineering and Environment"

7455 New Ridge Road, Suite T Phone: (410) 694-9401  
Hanover, Maryland 21076 Fax: (410) 694-9405  
www.baylandinc.com



## **TYPICAL 10' FIXED PIER CROSS SECTION**

SCALE: NTS

HISTORIC LONDON TOWN & GARDENS  
SHORELINE IMPROVEMENTS  
ANNE ARUNDEL COUNTY, MD

APPL. BY: ANNE ARUNDEL COUNTY  
DEPARTMENT OF PUBLIC WORKS

### **FIXED PIER DETAILS**

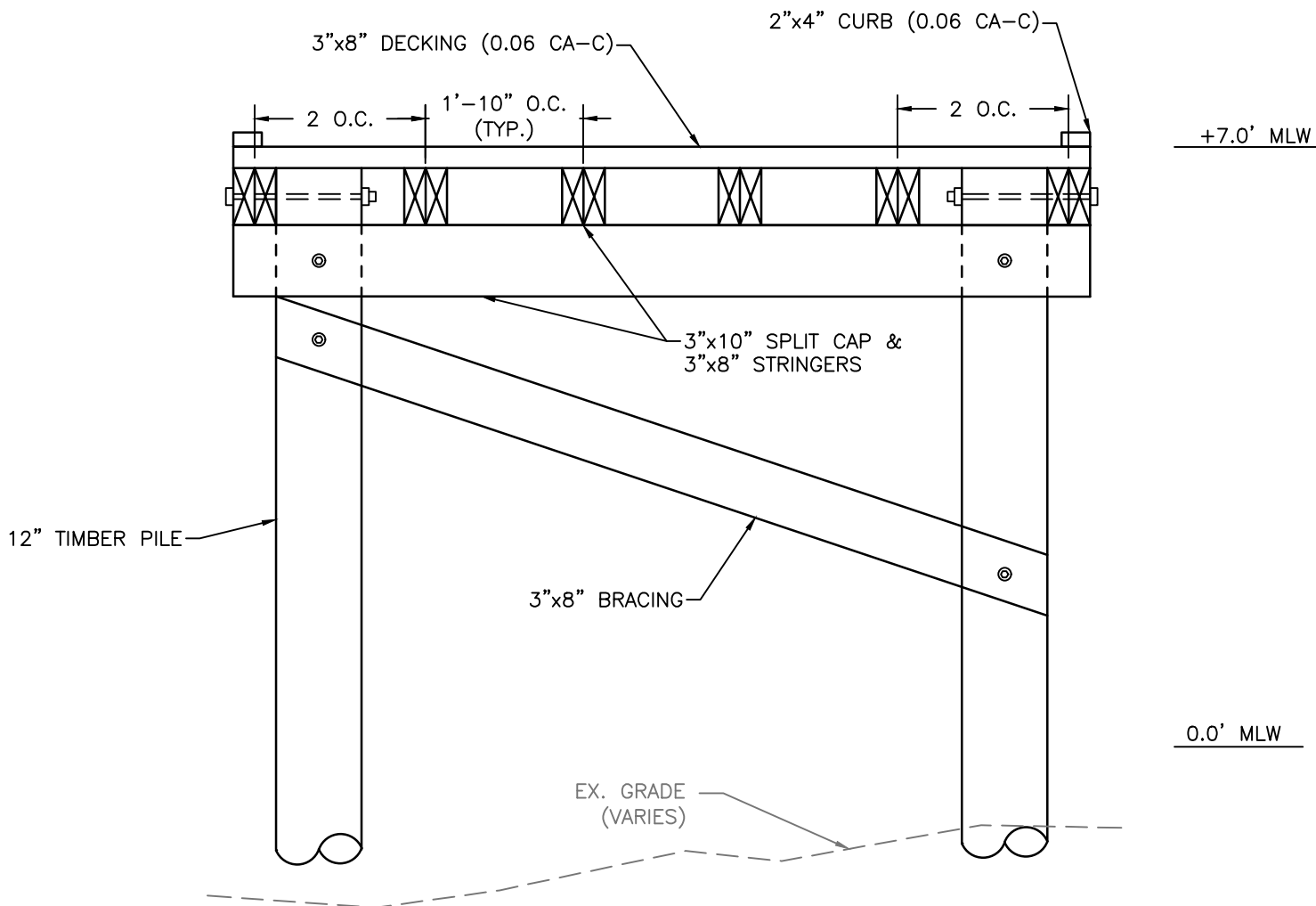
DATE: JUNE 2024 SHEET 13 OF 20



**Consultants & Designers, Inc.**

"Integrating Engineering and Environment"

7455 New Ridge Road, Suite T Phone: (410) 694-9401  
Hanover, Maryland 21076 Fax: (410) 694-9405  
www.baylandinc.com



## **TYPICAL 10' FIXED PIER CROSS SECTION (WITHOUT HANDRAILS)**

SCALE: NTS

HISTORIC LONDON TOWN & GARDENS  
SHORELINE IMPROVEMENTS  
ANNE ARUNDEL COUNTY, MD

APPL. BY: ANNE ARUNDEL COUNTY  
DEPARTMENT OF PUBLIC WORKS

### **FIXED PIER DETAILS**

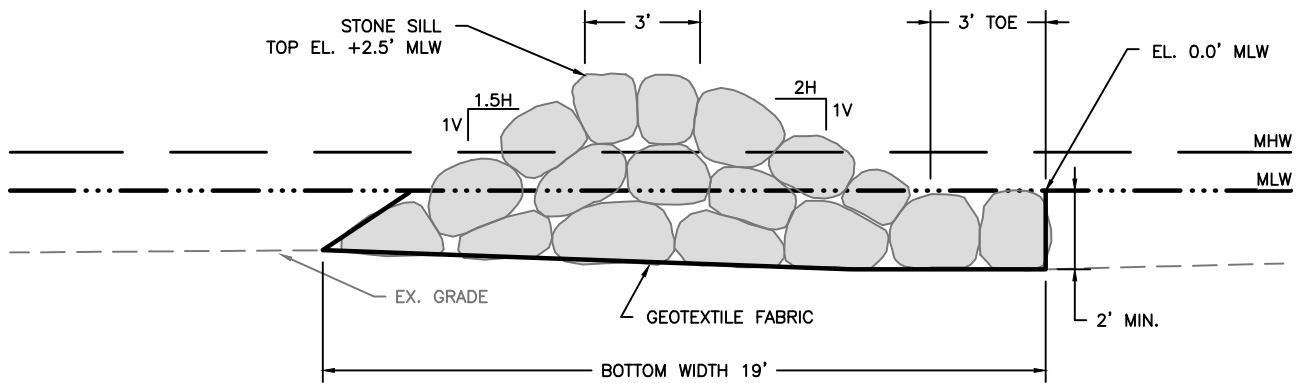
DATE: JUNE 2024 SHEET 14 OF 20



**Consultants & Designers, Inc.**

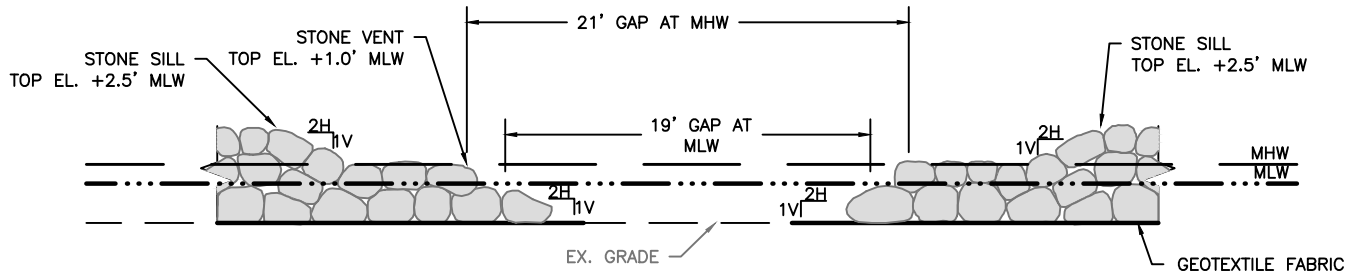
"Integrating Engineering and Environment"

7455 New Ridge Road, Suite T Phone: (410) 694-9401  
Hanover, Maryland 21076 Fax: (410) 694-9405  
www.baylandinc.com



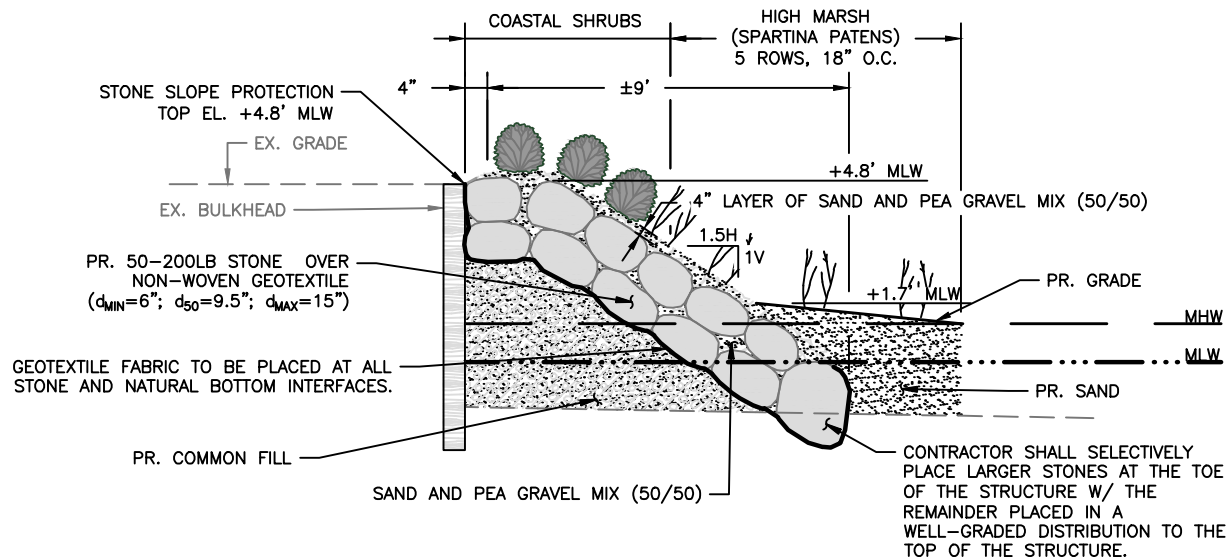
### **REACH 1: TYPICAL STONE SILL DETAIL**

SCALE: NTS



### **REACH 1: TYPICAL VENT**

SCALE: NTS



### **REACH 1: TYPICAL GREEN RIPRAP**

SCALE: NTS

HISTORIC LONDON TOWN & GARDENS  
SHORELINE IMPROVEMENTS  
ANNE ARUNDEL COUNTY, MD

APPL. BY: ANNE ARUNDEL COUNTY  
DEPARTMENT OF PUBLIC WORKS

**BREAKWATER DETAILS**

DATE: JUNE 2024 SHEET 15 OF 20

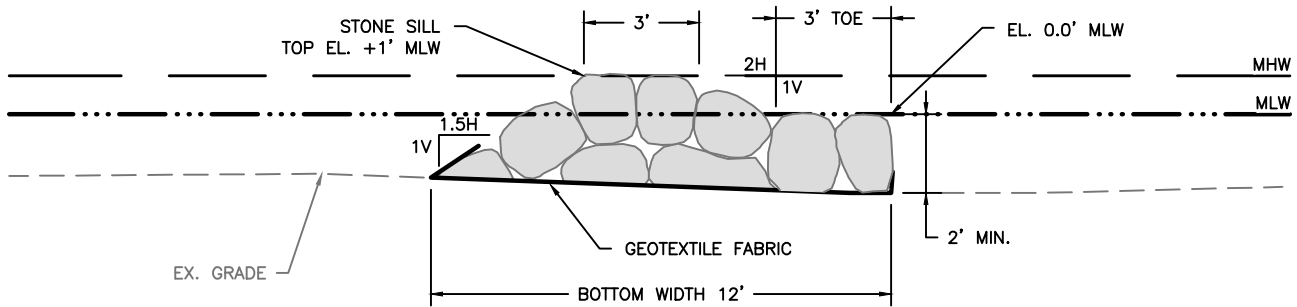


**Consultants & Designers, Inc.**

"Integrating Engineering and Environment"

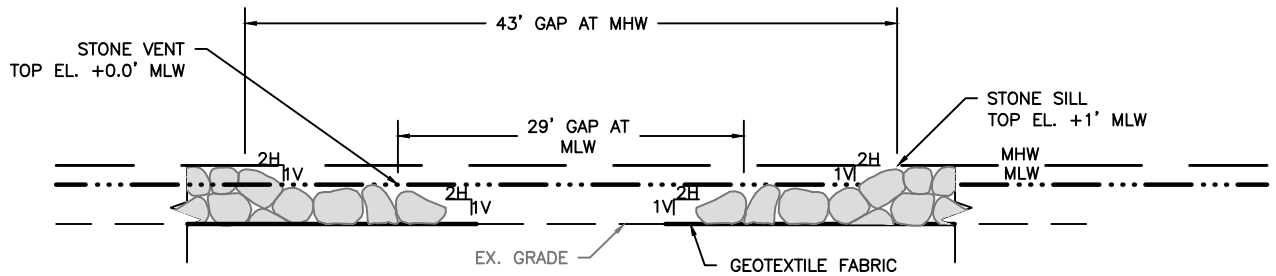
7455 New Ridge Road, Suite T Phone: (410) 694-9401  
Hanover, Maryland 21076 Fax: (410) 694-9405  
www.baylandinc.com





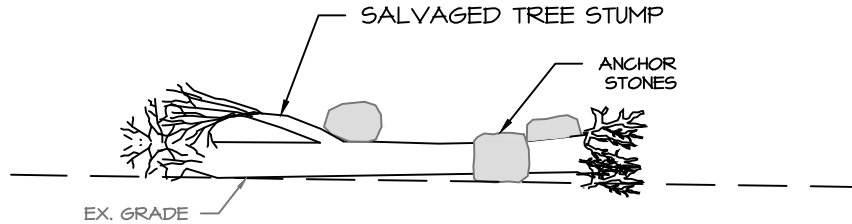
## **REACH 2: TYPICAL STONE SILL DETAIL**

SCALE: NTS



## **REACH 2: TYPICAL VENT**

SCALE: NTS



## **TYPICAL WOODY DEBRIS SECTION**

SCALE: NTS

# **HISTORIC LONDON TOWN & GARDENS SHORELINE IMPROVEMENTS**

ANNE ARUNDEL COUNTY, MD

APPL. BY: ANNE ARUNDEL COUNTY  
DEPARTMENT OF PUBLIC WORKS

## **SILL DETAILS**

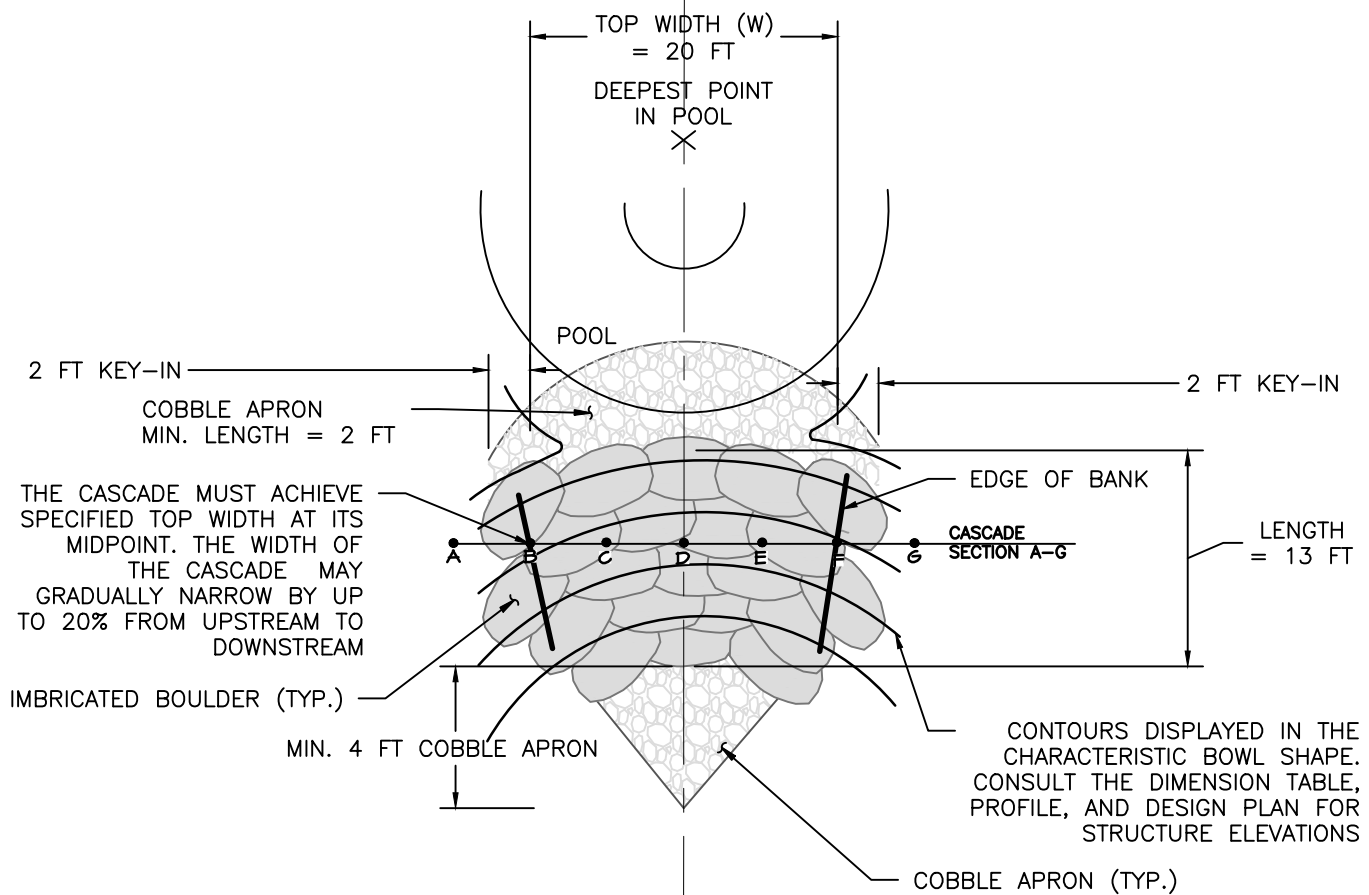
DATE: JUNE 2024 SHEET 16 OF 20



**Consultants & Designers, Inc.**

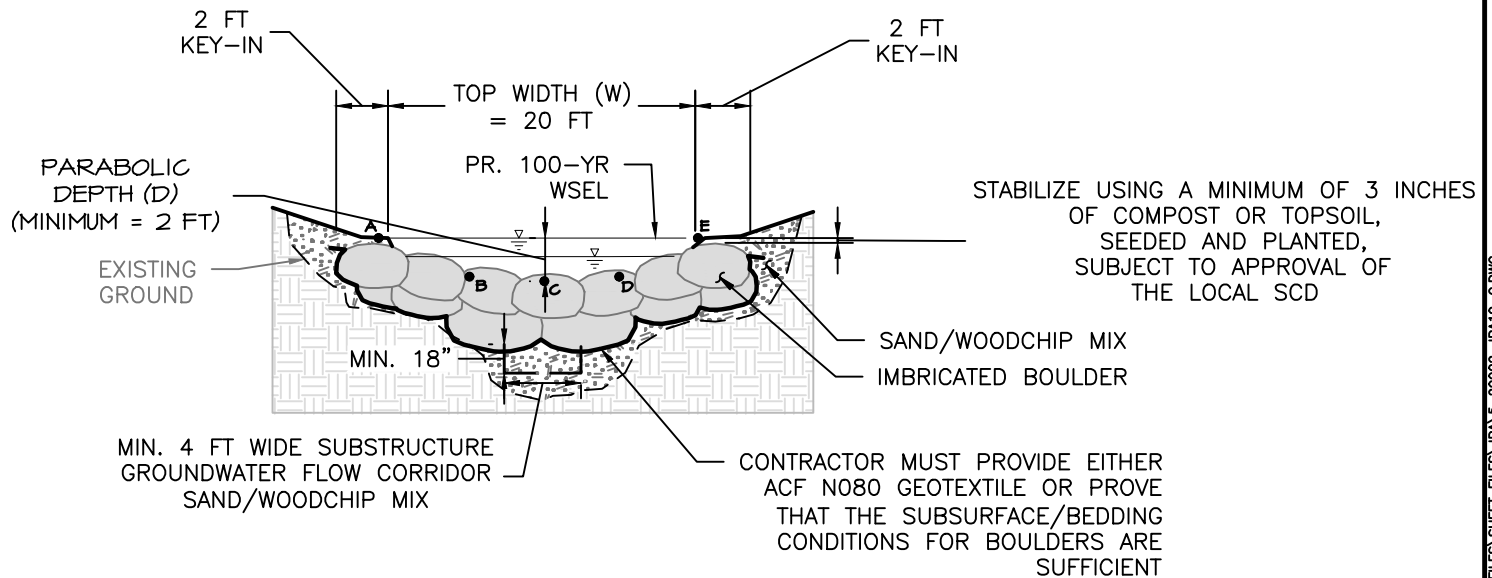
"Integrating Engineering and Environment"

7455 New Ridge Road, Suite T Phone: (410) 694-9401  
Hanover, Maryland 21076 Fax: (410) 694-9405  
www.baylandinc.com



## **BOULDER CASCADE TYPICAL PLANVIEW**

SCALE: NTS



## **BOULDER CASCADE TYPICAL CROSS-SECTION A-G**

SCALE: NTS

HISTORIC LONDON TOWN & GARDENS  
SHORELINE IMPROVEMENTS  
ANNE ARUNDEL COUNTY, MD

APPL. BY: ANNE ARUNDEL COUNTY  
DEPARTMENT OF PUBLIC WORKS

### **CASCADE DETAILS**

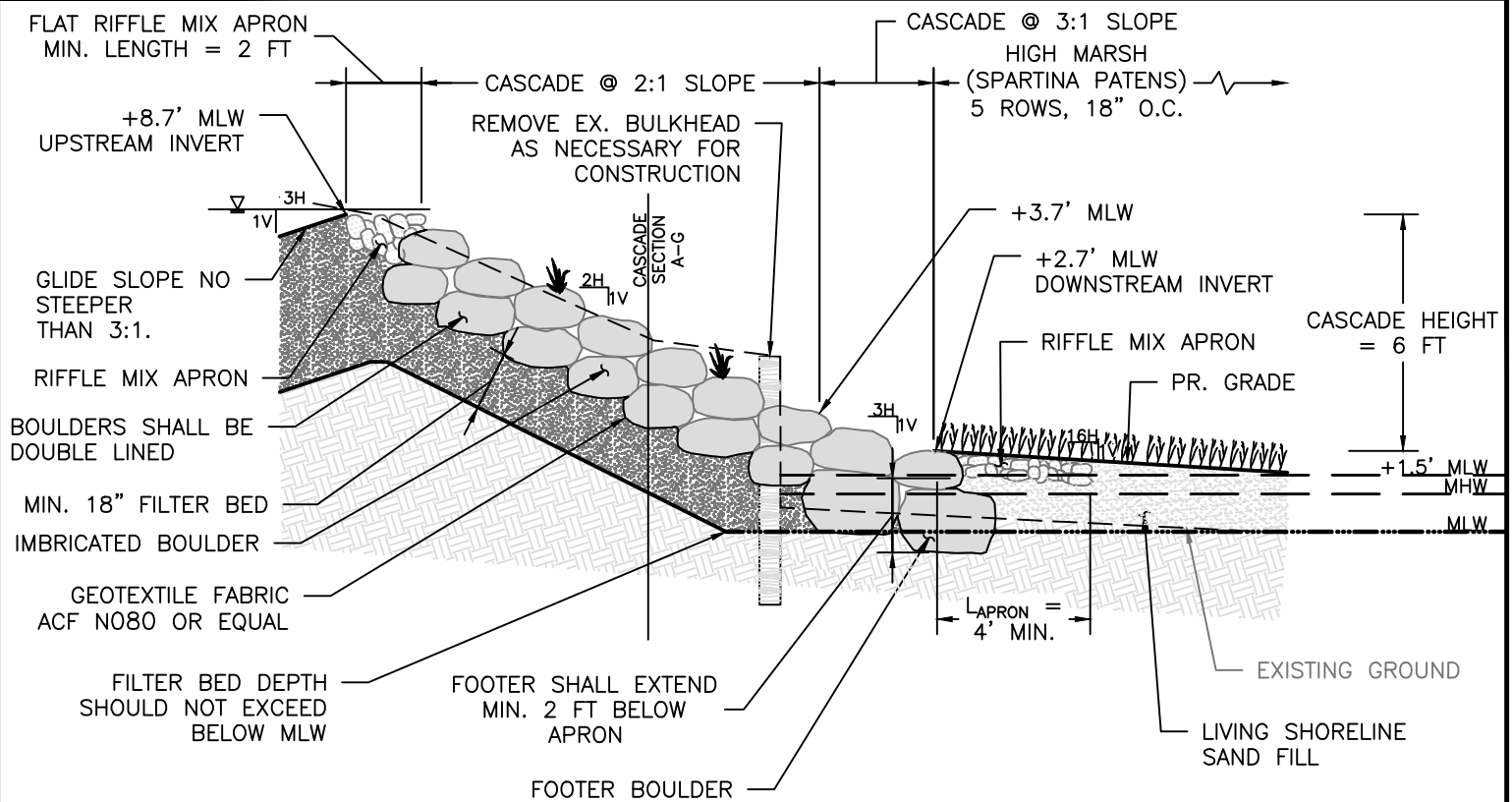
DATE: JUNE 2024 SHEET 17 OF 20



Consultants & Designers, Inc.

"Integrating Engineering and Environment"

7455 New Ridge Road, Suite T Phone: (410) 694-9401  
Hanover, Maryland 21076 Fax: (410) 694-9405  
www.baylandinc.com



## **BOULDER CASCADE TYPICAL PROFILE**

SCALE: NTS

### **HISTORIC LONDON TOWN & GARDENS SHORELINE IMPROVEMENTS**

ANNE ARUNDEL COUNTY, MD

APPL. BY: ANNE ARUNDEL COUNTY  
DEPARTMENT OF PUBLIC WORKS

### **CASCADE DETAILS**

DATE: JUNE 2024 SHEET 18 OF 20



**Consultants & Designers, Inc.**

"Integrating Engineering and Environment"

7455 New Ridge Road, Suite T Phone: (410) 694-9401  
Hanover, Maryland 21076 Fax: (410) 694-9405  
www.baylandinc.com

# Reach One Impacts by Area in WOTUS\*

Feature		Max Length, LF	Max Width, FT	Max Channelward Distance, FT	Unveg. Intertidal, SQ.FT	Unveg. Shallow Water, SQ.FT	Total Area SQ.FT
PR Stone Fill	West Hook	55	13	51	10	589	599
	Sill 1	169	15	66	0	1,841	1,841
	Sill 2	172	16	68	0	2,150	2,150
	Sill 3	172	16	71	0	2,235	2,235
	East Hook	90	16	73	0	1,083	1,083
	Green Riprap	56	7	7	0	207	207
	Final SPSC Cascade	49	10	10	147	204	172
	Total Stone				157	8,309	8,466
PR Sand Fill		629	69	69	65	25,635	25,700
PR Low Marsh				54	0	8,952	8,952
PR High Marsh				28	0	2,234	2,234
Total PR Tidal Wetlands					0	11,186	11,186
PR Upland Plantings				26	152	12,750	12,902
PR Coarse Woody Debris						33	33

## TABLE NOTES

- \*ALL MEASUREMENTS TAKEN CHANNELWARD OF EXISTING MHW.  
 1. THE RATIO OF PR. REACH ONE TIDAL WETLANDS (MARSH PLANTED SEAWARD OF 1.5' MLW) TO REACH ONE TIDAL IMPACTS IS 0.44 TO 1.  
 2. THE PROJECT-WIDE RATIO OF TOTAL PR. TIDAL WETLANDS (MARSH PLANTED SEAWARD OF 1.5' MLW) TO TOTAL PR. TIDAL IMPACTS IS 0.63 TO 1.

## GENERAL NOTES

- BASEMAP COMPILED FROM ANNE ARUNDEL COUNTY 2018 PLANIMETRICS AND AERIAL PHOTOGRAPHY.
- ALL CONTOURS ARE IN FEET AND REFER TO MLW.
- TIDAL RANGE IS 1.00'
- BATHYMETRIC & TOPOGRAPHIC SURVEY PERFORMED BY BAYLAND CONSULTANTS & DESIGNERS MARCH 20-21, 2023.
- THESE ARE PERMIT DRAWINGS ONLY AND SUBJECT TO CHANGE DURING THE PERMIT PROCESS. DESIGN DRAWINGS ARE TO BE PREPARED SEPARATELY.

## DATUM CONVERSION

	NAVD88	MLW
MHW	0.3	1
NAVD88	0	0.7
MLW	-0.7	0

TO CONVERT FROM NAVD88 TO MLW, ADD 0.7' TO NAVD88 VALUE.

## HISTORIC LONDON TOWN & GARDENS SHORELINE IMPROVEMENTS ANNE ARUNDEL COUNTY, MD

APPL. BY: ANNE ARUNDEL COUNTY  
DEPARTMENT OF PUBLIC WORKS

## SITE NOTES

DATE: JUNE 2024 SHEET 19 OF 20

# Reach Two Impacts by Area in WOTUS\*

Feature		Max Length, LF	Max Width, FT	Max Channelward Distance, FT	Unveg. Intertidal, SQ.FT	Unveg. Shallow Water, SQ.FT	Total Area SQ.FT
PR Stone Fill	North Sill	97	9	41	0	832	832
	South Sill	116	12	58	33	961	994
	Total Stone				33	1,793	1,826
PR Sand Fill		170	48	48	2,093	4,219	6,312
PR Low Marsh				48	2,093	4,219	6,312
Total PR Tidal Wetlands					2,093	4,219	6,312
PR Upland Plantings				0	0	0	0
Total					2,126	6,012	8,138

## NOTES

\*ALL MEASUREMENTS TAKEN CHANNELWARD OF EXISTING MHW.

1. RATIO OF PR. REACH TWO TIDAL WETLANDS (MARSH PLANTED SEAWARD OF 1.5' MLW) TO REACH TWO TIDAL IMPACTS IS 2.5 TO 1
2. RATIO OF PR. PROJECT-WIDE TIDAL WETLANDS (MARSH PLANTED SEAWARD OF 1.5' MLW) TO PROJECT-WIDE TIDAL IMPACTS IS 0.63 TO 1

## HISTORIC LONDON TOWN & GARDENS SHORELINE IMPROVEMENTS

ANNE ARUNDEL COUNTY, MD

APPL. BY: ANNE ARUNDEL COUNTY  
DEPARTMENT OF PUBLIC WORKS

## SITE NOTES

DATE: JUNE 2024 SHEET 20 OF 20



Consultants & Designers, Inc.

"Integrating Engineering and Environment"

7455 New Ridge Road, Suite T Phone: (410) 694-9401  
Hanover, Maryland 21076 Fax: (410) 694-9405  
www.baylandinc.com