



Maryland
Department of
the Environment

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor
Ben Grumbles, Secretary
Horacio Tablada, Deputy Secretary

October 16, 2019

Loch Haven Civic Association, Inc
c/o Bray Hill LLC
Attention: Colin A MacLachlan
10357 Whitewasher Way
Columbia, MD 21044

Re: Agency Interest Number: 79870
Tracking Number: 201861292
Tidal Authorization Number: 19-WQC-0011

Dear Loch Haven Civic Association, Inc.:

Your project did not qualify for approval under the Maryland State Programmatic General Permit (MDSPGP); therefore a separate review and issuance of the federal permit will be required by the U.S. Army Corps of Engineers. The federal permit is not attached.

Additionally, your project required a Wetlands License to be approved and issued by the Maryland Board of Public Works (BPW). The Wetlands License will be sent to you by the BPW's Wetlands Administrator.

A project that does not qualify for approval under the MDSPGP requires an individual Water Quality Certification (WQC) to be issued by the Maryland Department of the Environment, which is attached. Please take a moment to read and review your WQC to ensure that you understand the limits of the authorized work and all of the general and special conditions.

You should not begin any work until you have obtained all necessary State, local, and federal authorizations. Please contact Heather Hepburn at heather.hepburn1@maryland.gov or 410-537-3789 with any questions.

Sincerely,

A handwritten signature in black ink that reads "Tammy Roberson".

Tammy Roberson, Chief
Tidal Wetlands Division



STATE OF MARYLAND
DEPARTMENT OF THE ENVIRONMENT
WATER AND SCIENCE ADMINISTRATION
WATER QUALITY CERTIFICATION



for
WETLAND LICENSE 19-WQC-0011

WATER QUALITY CERTIFICATION NUMBER: **19-WQC-0011**
EFFECTIVE DATE: **October 16, 2019**
EXPIRATION DATE: **July 3, 2022**
CERTIFICATION HOLDER: **Loch Haven Civic Association, Inc**
ADDRESS: **PO Box 1815**
Edgewater, Maryland 21037
PROJECT LOCATION: **3448 S River Ter**
Edgewater, MD 21037
South River in Anne Arundel

UNDER AUTHORITY OF SECTION 401 OF THE FEDERAL WATER POLLUTION CONTROL ACT AND ITS AMENDMENTS AND IN ACCORDANCE WITH §9-313 THROUGH §9-323, INCLUSIVE, OF THE ENVIRONMENT ARTICLE, ANNOTATED CODE OF MARYLAND, THE WATER AND SCIENCE ADMINISTRATION (“ADMINISTRATION”) HAS DETERMINED THAT THE REGULATED ACTIVITY DESCRIBED IN STATE TIDAL WETLANDS LICENSE NUMBER 19-WQC-0011 (“LICENSE”) WILL NOT VIOLATE MARYLAND’S WATER QUALITY STANDARDS, IF CONDUCTED IN ACCORDANCE WITH THE CONDITIONS OF THIS CERTIFICATION AND WITH ALL TERMS AND CONDITIONS OF THE LICENSE. A COPY OF THE LICENSE, INCLUDING APPROVED PROJECT DRAWINGS AND OTHER ATTACHMENTS, IS ATTACHED HERETO AND IS HEREBY INCORPORATED BY REFERENCE.

THIS CERTIFICATION DOES NOT RELIEVE THE APPLICANT OF RESPONSIBILITY FOR OBTAINING ANY OTHER APPROVALS, LICENSES, OR PERMITS IN ACCORDANCE WITH FEDERAL, STATE, OR LOCAL REQUIREMENTS AND DOES NOT AUTHORIZE COMMENCEMENT OF THE PROPOSED PROJECT. A COPY OF THIS REQUIRED CERTIFICATION HAS BEEN SENT TO THE CORPS OF ENGINEERS.

THE CERTIFICATION HOLDER SHALL COMPLY WITH THE CONDITIONS LISTED BELOW.

SPECIAL CONDITIONS

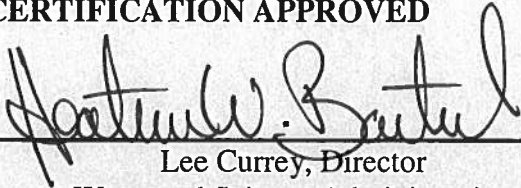
- A. The terms and conditions of Tidal Wetlands License No. 19-WQC-0011 are hereby incorporated, by reference, into this Water Quality Certification. The Certification Holder shall comply with these conditions to ensure that the authorized activities will not result in a violation of the State's water quality standards.

GENERAL CONDITIONS

- A. The proposed project shall be constructed in a manner which will not violate Maryland's Water Quality Standards as set forth in COMAR 26.08.02. The applicant is to notify this Department ten (10) days prior to commencing work. Verbal notification is to be followed by written notice within ten (10) days.
- B. The Maryland Department of the Environment has determined that the proposed activities comply with, and will be conducted in a manner consistent with the State's Coastal Zone Management Program, as required by Section 307 of the Federal Coastal Zone Management Act of 1972, as amended.
- C. If the authorized work is not performed by the property owner, all work performed under this Tidal Wetlands License shall be conducted by a marine contractor licensed by the Marine Contractors Licensing Board (MCLB) in accordance with Title 17 of the Environment Article of Annotated Code of Maryland. A list of licensed marine contractors may be obtained by contacting the MCLB at 410-537-3249, by e-mail at MDE.MCLB@maryland.gov or by accessing the Maryland Department of the Environment, Environmental Boards webpage.
- D. The Certification Holder shall ensure the proposed project shall be constructed in accordance with the authorized plan and any authorized revisions.
- E. The Certification Holder shall ensure that all fill and construction materials not used in the project shall be removed and disposed of in a manner which will prevent their entry into waters of this State.
- F. The Certification Holder shall notify the Water and Science Administration, Tidal Wetlands Division, in writing, upon transferring property ownership or responsibility for compliance with these conditions to another person. The new owner/operator shall request, in writing, transfer of this Water Quality Certification to his/her name.
- G. The Certification Holder shall allow representatives of the Maryland Department of the Environment to inspect the authorized activities.
- H. The Certification Holder shall ensure that a copy of this Permit, including the approved plans, is available at the site until the authorized work is complete.
- I. The Certification does not relieve the Certification holder from the responsibility of obtaining all necessary federal, State, and local government authorizations.
- J. The Certification Holder shall comply with all Critical Area requirements and obtain all necessary authorizations from local jurisdiction. This Certification does not constitute authorization for disturbance in the 100-foot Critical Area Buffer. "Disturbance" in the Buffer means clearing, grading, construction activities, or removal of any size of tree or vegetation. Any anticipated Buffer disturbance requires prior written approval, before commencement of land disturbing activity, from local jurisdiction in the form of a Buffer Management Plan.

Failure to comply with these conditions shall constitute reason for suspension or revocation of the Water Quality Certification, and legal proceedings may be instituted against the Certification Holder in accordance with the Annotated Code of Maryland. In granting this certification, the Department reserves the right to inspect the operations and records regarding this project at anytime

CERTIFICATION APPROVED



Lee Currey, Director

Water and Science Administration

10/21/19

Date

Tracking Number: 201861292
Agency Interest Number: 79870

Effective Date: October 16, 2019

Enclosure: Executed Tidal Wetlands License No. 19-WQC-0011 with all plans and attachments.

cc: WMA Inspection & Compliance Program



William Morgante, PWS
Wetlands Administrator

State of Maryland
Board of Public Works

Wetlands Administration
Post Office Box 1510
Annapolis, Maryland 21404
410-260-7791
Fax: 410-974-5240
Toll Free: 1-877-591-7320

Larry Hogan
Governor
Nancy K. Kopp
Treasurer
Peter Franchot
Comptroller
Sheila C. McDonald
Executive Secretary

WETLANDS LICENSE NO. 18-0777

LOCH HAVEN CIVIC ASSOCIATION, INC.

The Maryland Board of Public Works authorizes you to:

- I. Fill, and grade with approximately 1,075 cubic yards of sand along 240 feet of shoreline to replenish a historic beach area.
- II. Plant approximately 5,055 square feet of marsh vegetation in targeted areas for marsh establishment.
- III. Construct 220 linear feet of segmented breakwaters, all extending a maximum of 75 feet channelward of the mean high water line.
- IV. Provide stormwater management consisting of an infiltration basin planted with marsh vegetation, filled with approximately 224 square feet of cobble liners channelward of the mean high water line, and an 85-foot long cobble lined outfall for conveyance of stormwater.

South River at the Loch Haven Civic Association's community area adjacent to 3446 and 3448 South River Terrace, Edgewater, Anne Arundel County, Maryland

Issuance of this Tidal Wetlands License constitutes the State's determination that the authorized activities are consistent with the Maryland Coastal Zone Management Program, as required by Section 307 of the Federal Coastal Zone Management Act of 1972, as amended [16 U.S.C. §1456]. Accordingly, the State concurs with the Licensee's certification in the Joint Permit Application that the project complies with, and will be conducted in a manner consistent with the Maryland CZMP.

THIS LICENSE AUTHORIZES YOU TO PERFORM THE WORK ONLY IF YOU COMPLY WITH THE FOLLOWING SPECIAL CONDITION(S):

- A. Licensee shall perform all works in accordance with the required Soil Erosion and sediment Control Plan as approved by the county Soil Conservation District for Anne Arundel County.
- B. Licensee shall have all work proposed above mean high water reviewed and authorized by the Anne Arundel County Department of Planning and Zoning.

- C. Stormwater discharges from the infiltration basin and stormwater management outfall shall have a velocity no greater than four feet per second for the two-year storm in order to prevent erosion in the receiving waterway or wetland.
- D. Licensee shall deploy and maintain a turbidity curtain tightly around and channelward of the project area prior to any excavation and backfilling along the shoreline through completion of any excavation and backfilling along the shoreline.
- E. If any fill material is placed below the mean high water line before final grading, then the Licensee shall grade any fill material delivered to the site within the same day.
- F. If Licensee is unable to grade any fill material delivered to the site within the same day due to unforeseen issues (e.g. storms or equipment failure), then the Licensee shall use all appropriate sediment and erosion control measures to prevent the loss of fill material into tidal wetlands. This includes, but is not limited to, the use of a silt fence.
- G. Marsh establishment:
 - a. Licensee shall use clean substrate fill material, no more than 10% of which shall pass through a standard number 100 sieve.
 - b. The marsh establishment area shall be planted within one year following completion of the filling operation.
 - c. The marsh establishment project shall be maintained as a wetland, with non-nuisance species' aerial coverage of at least 85% for three consecutive years. If 85% coverage is not attained, the reasons for failure shall be determined, corrective measures shall be taken, and the area shall be replanted.
 - d. If the fill is graded hydraulically, Licensee shall use a turbidity curtain around the perimeter of the in-stream work.
 - e. If the existing bank is to be cleared or graded:
 - i. Licensee shall perform all work under and in accordance with an approved Soil Erosion and Sediment Control Plan from the applicable sediment and erosion control agency; and
 - ii. Licensee shall perform all work under and in accordance with the Critical Area requirements of the local jurisdiction in the form of an approved Buffer Management Plan.
- H. Licensee shall accept the terms of the attached marsh maintenance plan by signing and returning the standard plan to the Maryland Department of the Environment's (MDE) Water and Science Administration, Tidal Wetlands Division, prior to commencement of any work authorized under this License. If the Licensee wishes to propose an alternative marsh maintenance plan, the alternative plan must be submitted to and approved by the Tidal Wetlands Division, Water and Science Administration, prior to commencement of any work authorized under this License. Any alternative plan must provide assurances of success that are at least equivalent to those of the standards plan, in terms of the extent of native marsh plant coverage, elimination of invasive species and timeframe for plant establishment.

**THIS LICENSE AUTHORIZES YOU TO PERFORM THE WORK ONLY IF YOU COMPLY WITH
THE FOLLOWING STANDARD CONDITIONS:**

- 1. Licensee shall conduct the authorized work in accordance with the plans and drawings dated October 8, 2018, which are hereby incorporated into this License.

- Until the authorized work is complete, Licensee shall have available at the site a copy of this License including the plans and drawings.
2. This License constitutes Maryland's authorization to conduct the authorized work under the State Tidal Wetlands Law. This License does not bestow any other federal, State, or local government authorization.
 3. Licensee shall have all proposed work above Mean High Water reviewed and authorized by the local county Department of Planning and Zoning or applicable agency.
 4. Licensee shall notify MDE's Inspection and Compliance Program by phone (410-537-3510) AND in writing (MDE, Inspection and Compliance Program, 1800 Washington Boulevard, Baltimore, MD 21230) of the following:
 - start date at least five business days before beginning work; and
 - completion date no more than five business days after project completion.
 5. If MDE has issued a Water Quality Certification with respect to the authorized work, Licensee shall comply with all conditions of that certification.
 6. Licensee shall conduct the authorized work in accordance with Critical Area Commission requirements. This License does not authorize disturbance in the Buffer. If authorized work will disturb the Buffer, Licensee shall have a Commission-approved or locally-approved Buffer Management Plan before beginning the authorized work.

"Buffer" means the 100-foot Critical Area Buffer and any expanded area that is immediately landward of the mean high water line of the tidal waters or is immediately landward of tidal wetlands. The Buffer includes expanded contiguous area if the contiguous area includes steep slopes, hydric soil, or highly erodible soil, or otherwise meets the criteria of COMAR 27.01.09.01.E(7).
"Disturbance" means any alteration or change to the land including any amount of clearing. Clearing includes vegetation removal, grading, and construction activity.
 7. Licensee may not fill, dredge, or otherwise alter or destroy tidal marsh or its vegetation unless this License specifically authorizes the activity.
 8. Licensee may not stockpile material in State tidal wetlands or State tidal waters of the U.S.
 9. Licensee shall allow unfettered public use of State wetlands and State tidal waters of the U.S.
 10. This License does not transfer a property interest of the State.
 11. Licensee shall file a Miss Utility ticket for the proposed work at least 10 days before beginning work. *Miss Utility: 800-257-7777.*
 12. Licensee shall ensure that structures (for example, piers and piles) removed from the site are taken to an upland disposal facility approved by MDE's Inspection and Compliance Program.
 13. If the authorized work impacts more than 5,000 square feet or includes 100 or more cubic yards of fill, Licensee shall conduct the authorized work in accordance with a locally-approved Soil Erosion and Sediment Control Plan.
 14. If the authorized work is not performed by the property owner, all work performed under this Tidal Wetlands License shall be conducted by a marine contractor licensed by the Marine Contractors Licensing Board (MCLB) in accordance with Title 17 of the Environment Article of Annotated Code of Maryland. A list of licensed marine contractors may be obtained by contacting the MCLB at 410-537-3249, by email at *MDE.MCLB@maryland.gov* or by accessing the *Maryland Department of the Environment, Environmental Boards webpage.*

- 15. Licensee shall allow State officials and employees to make inspections at reasonable times and cooperate with those inspections.
- 16. This License is granted only to the Licensee. Licensee may transfer the license only with written approval from the Board of Public Works. If the Board of Public Works approves the transfer, the transferee is subject to all License terms and conditions.
- 17. Licensee shall indemnify, defend, and save harmless the State of Maryland, its officials, officers, and employees from and against any and all liability, suits, claims, and actions of whatever kind, caused by or arising from, the work this License authorizes.
- 18. The Board of Public Works or its Wetlands Administrator may modify, suspend, or revoke this License in its reasonable discretion.
- 19. This License expires July 3, 2022. If the authorized work is not completed by the expiration date, all activity must stop.
- 20. **NOTE:** A three-year license may be renewed for one additional three-year term if the Licensee requests an extension before the expiration date and all other conditions are met. A six-year license may not be renewed; instead Licensee must reapply to MDE for a new license. Contact the Board of Public Works to determine if this License may be extended.
Board of Public Works: 410-260-7791


By the authority of the Board of Public Works:

 Sheila C. McDonald
 Executive Secretary

Effective Date: July 3, 2019
 Approved as: Secretary's Agenda Item 6
 Board of Public Works Meeting Date: July 3, 2019

I accept this License and all its conditions.

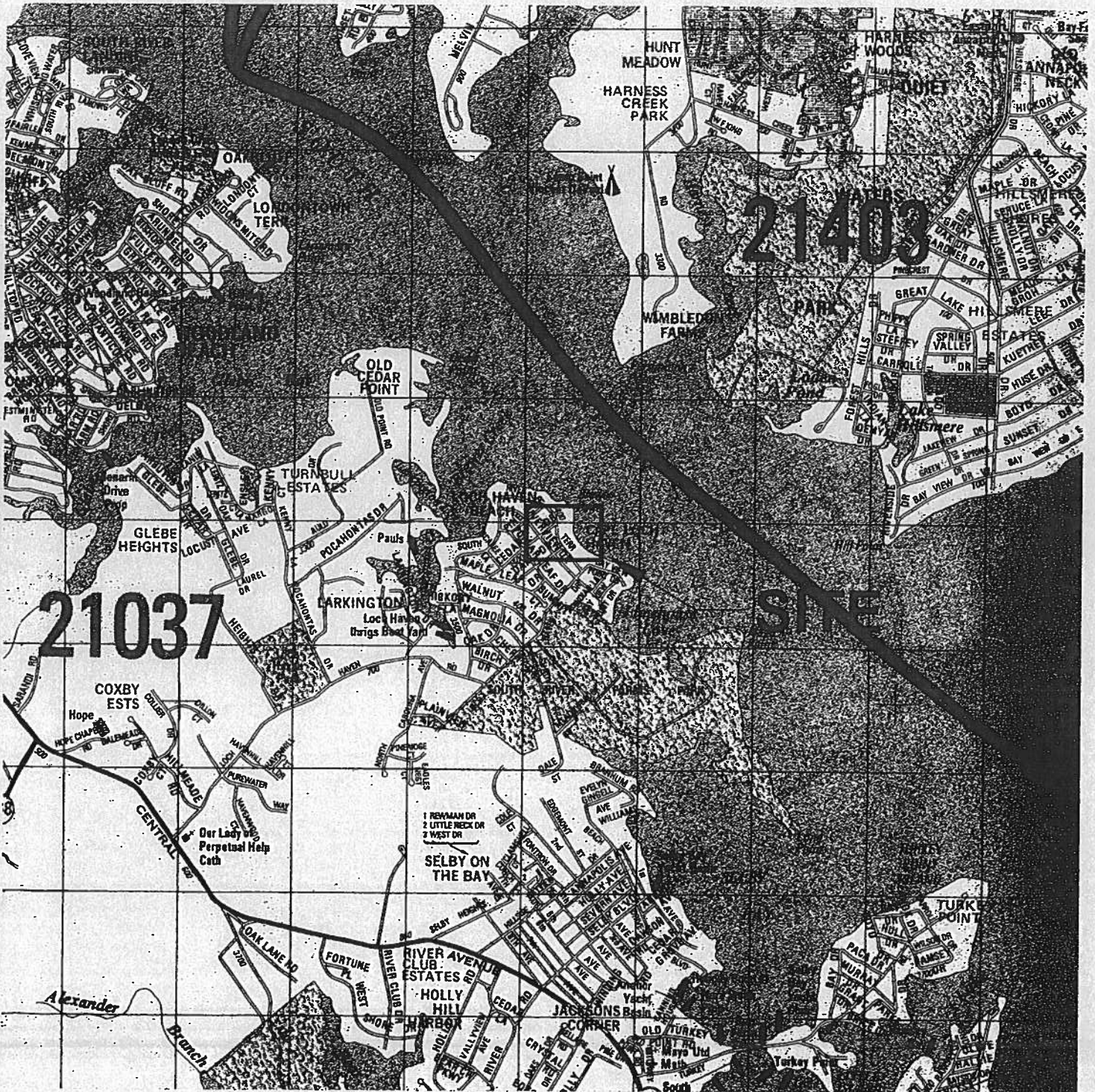
9/16/19
 Date


 Licensee (Signature)

ERIC Bergendahl
 Name (Printed)

Beach Committee chair
 Title

ericbergendahl@yahoo.com
 Email (To receive completed license.)



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 10/15
 10/8/18
 HH

VICINITY MAP

LOCH HAVEN CIVIC ASSOCIATION, INC.
 BEACH NOURISHMENT/BREAKWATER PROJECT
 South River Terrace, Edgewater, Maryland
 Anne Arundel County Tax Map 60, Grid 3,
 Parcel 24, Sub 480

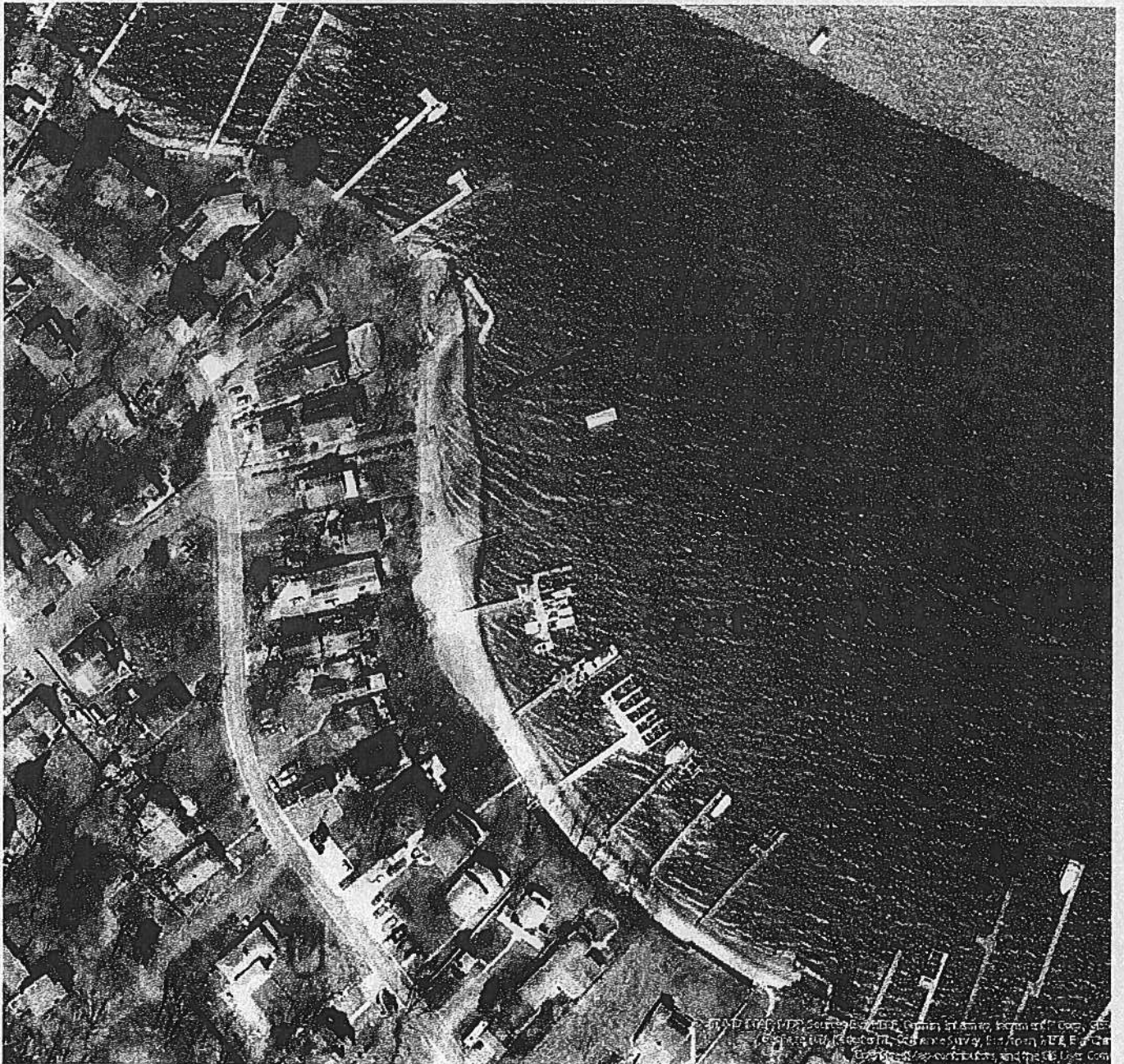
SUSTAINABLE SCIENCE LLC
 Ecological Engineering Services
 #10 S. Second Street
 Denton, Maryland 21629
 Phone: (410) 924-9318
 www.sustainable-science.com



DATE:
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2016-7 Aerial Photo w/ 1972 Shoreline



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NO SCALE



BRAY HILL, LLC

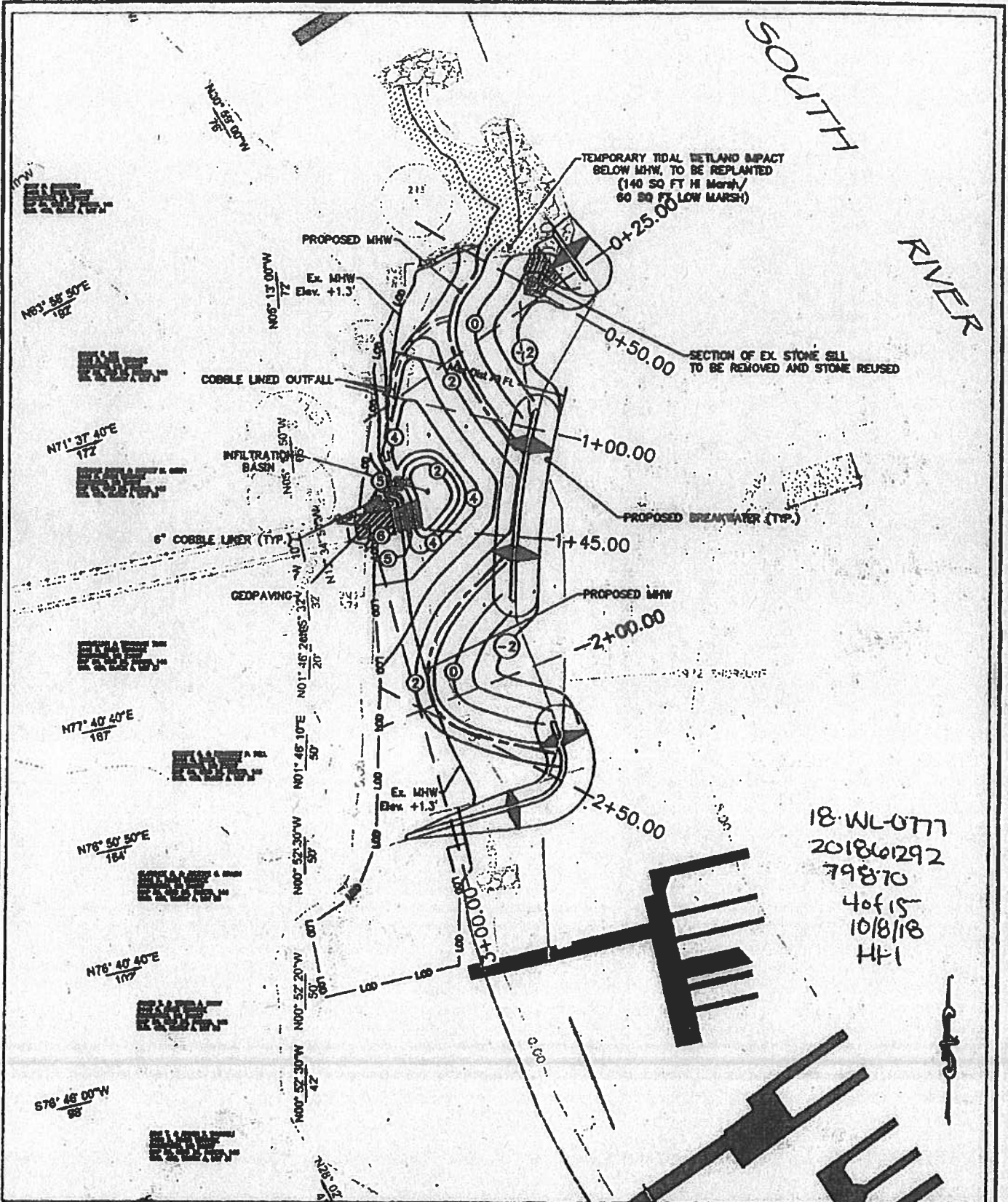
Ecological Assessment • Environmental Planning • Restoration Design

10357 Whitewasher Way • Columbia, MD 21044

Ph: 443-745-6133

Email: BrayHill_LLC@outlook.com

Loch Haven Civic Association
Beach Nourishment/Breakwater
3448 South River Terrace
Edgewater, Maryland 21037



SOUTH RIVER

18-WL-0777
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 4 of 15
 10/8/18
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SITE & GRADING PLAN

LOCH HAVEN CIVIC ASSOCIATION, INC.
 BEACH NOURISHMENT/BREAKWATER PROJECT
 South River Terrace, Edgewater, Maryland
 Anne Arundel County Tax Map 60, Grid 3,
 Parcel 24, Sub 480

SUSTAINABLE SCIENCE LLC
Ecological Engineering Services
 410 S. Second Street
 Pocomoke, Maryland 21862
 Phone: 410-666-0112
 www.sustainable-science.com

BRAY HILL LLC
 120' or more for 0.074 to 0.142
 by 40' to 45' or 1' for 0.142 to 0.17

NO.	DATE	SCALE	BY
DESIGN	08/25/18	AS SHOWN	AS & CD
CHECKED	08/25/18	AS SHOWN	AS & CD
APPROVED	08/25/18	AS SHOWN	AS & CD
DATE	08/25/18	AS SHOWN	AS & CD
PROJECT NO.	18-WL-0777		
SHEET	4 of 15		
DATE	10/8/18		

SOUTH RIVER
 18-WL-0777
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 79876
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 HH

TEMPORARY TIDAL WETLAND IMPACT
 BELOW MHW, TO BE REPLANTED
 (140 SQ FT HI MARSH/
 60 SQ FT LOW MARSH)

EX. MHW
 Elev. +1.3'

EX. MHW
 Elev. +1.3'

PKT #	COMMON NAME	SCIENTIFIC NAME	DBH	DBH IN PJ	CONDITION	NOTES
100	Black Locust	Rhus glabra	3"	200	Fair to Poor	To Be Saved
101	Flowering Dogwood	Flowering Dogwood	3"	200	Good	To Be Saved
102	Small Mulberry	Morus nigra	3"	200	Good	To Be Saved
103	Black Walnut	Juglans nigra	3"	200	Good	To Be Saved

Buffer Management Notes

1. This is a Breakwater/Beach Nourishment project designed to restore the Loch Haven Community Beach and prevent future shore erosion.
2. The project site is located within the 100 foot Critical Area of the Chesapeake Bay and is designated as a Limited Development Area (LDA) by Anne Arundel County.
3. There are four existing trees located in the immediate vicinity of this project. None of those trees will be disturbed by this project.
4. Approximately 200 square feet of existing tidal marsh composed of *Spartina patens*, *Spartina alterniflora*, and *Phragmites communis* will be disturbed during the construction process. This area and more will be replanted with herbaceous plug plantings of Salt Meadow Hay, Coastal Panic Grass, Seaside Goldenrod (a native forb), and Switchgrass. These plantings are also shown on Sheet 7 of this plan set.
5. The master planting schedule, planting specifications, and maintenance plan for all of the plantings are provided on Sheet 9 of this plan set.

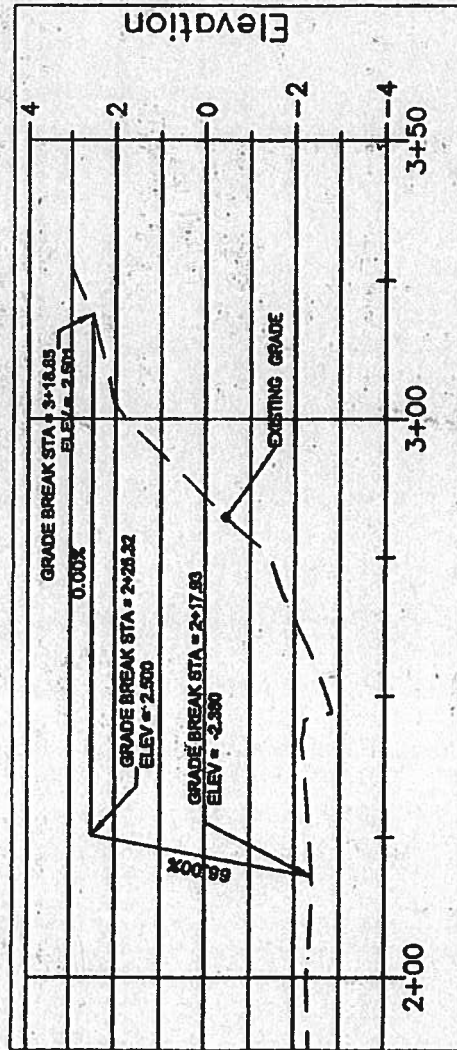
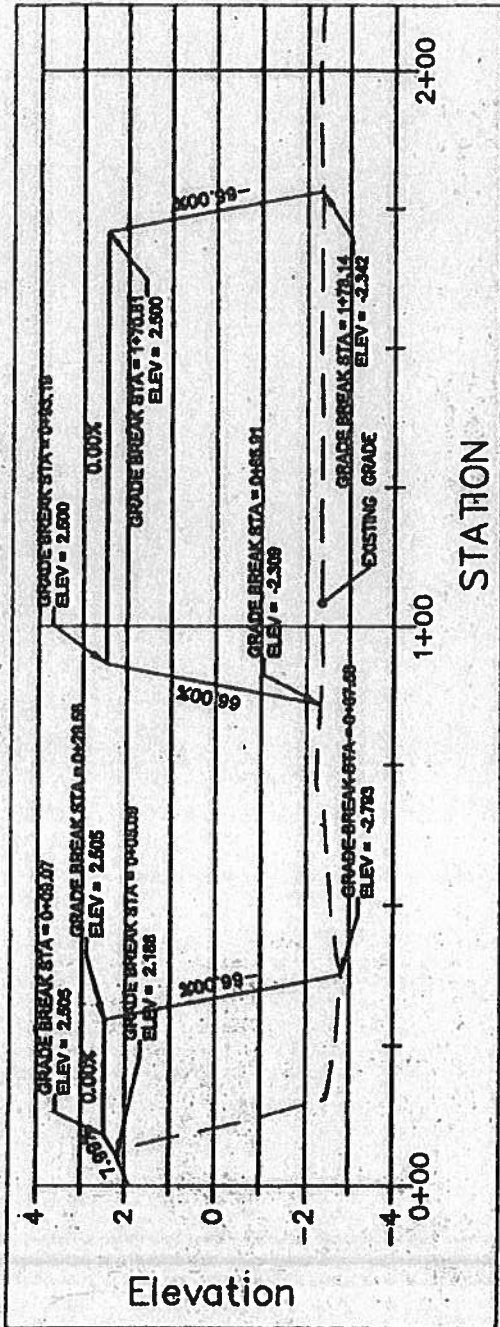
BUFFER MANAGEMENT PLAN

LOCH HAVEN CMO ASSOCIATION, INC.
 BEACH NOURISHMENT/BREAKWATER PROJECT
 South River Terrace, Edgewater, Maryland
 Anne Arundel County Tax Map 60, Grid 3,
 Parcel 24, Sub 430

SUSTAINABLE SCIENCE LLC
 Landscaping Engineering Services
 210 S. Severn Street
 Denton, Maryland 21042
 Phone: (410) 300-0110
 www.sustainable-science.com

BRAY HILL, LLC
 1000 Greenway Drive, Suite 100
 44018-1212

NO.	DATE	BY	REVISION
1	10/8/18	HH	Final
2	6/15/18	HH	Revised
3	6/15/18	HH	Revised
4	6/15/18	HH	Revised
5	6/15/18	HH	Revised
6	6/15/18	HH	Revised
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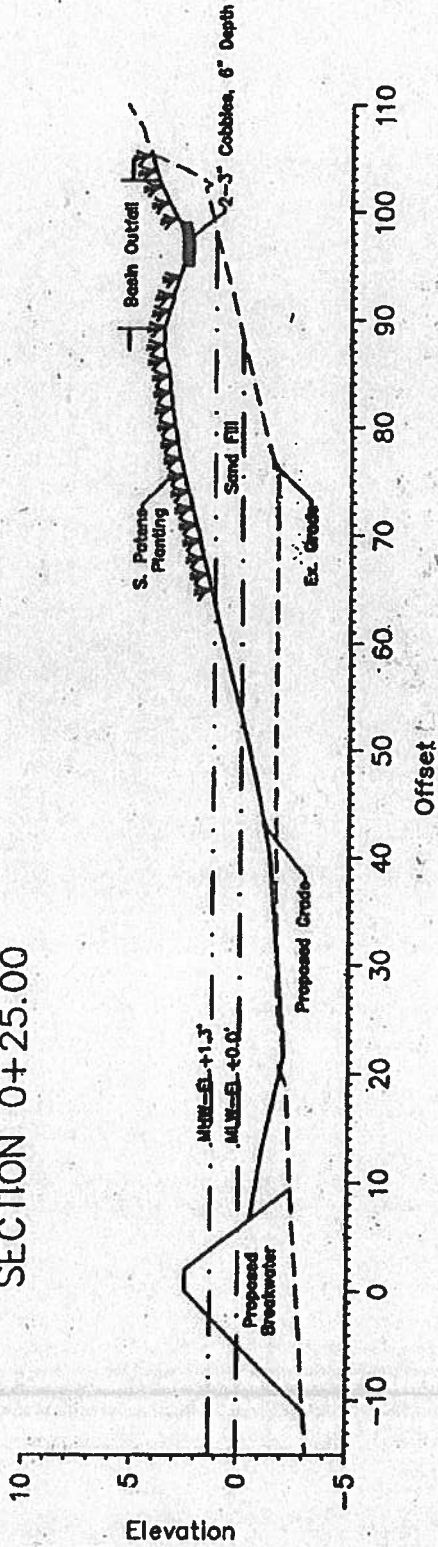
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Breakwater Profile
 LOCH HAVEN CMC ASSOCIATION, INC.
 BEACH NOURISHMENT/BREAKWATER PROJECT
 South River Terrace, Edgewater, Maryland
 Anne Arundel County Tax Map 60, Grid 3,
 Parcel 24, Sub 480

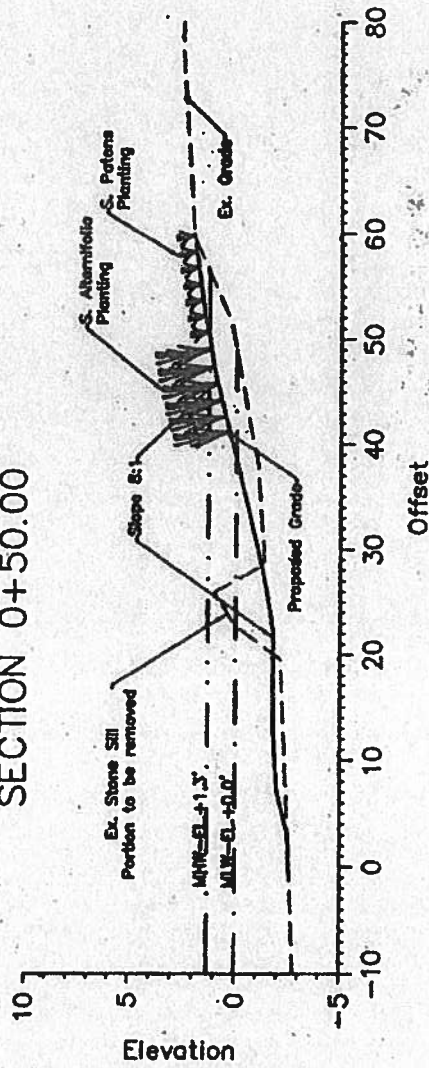
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 www.sustainable-science.com

BRAY HILL, LLC
Ecological Assessment • Environmental Planning • Restoration Design
 10057 Whitewater Way, Columbia, Maryland 21044-3183
 Tel: 410-745-9135 email: brayhill_llc@outlook.com

SECTION 0+25.00



SECTION 0+50.00



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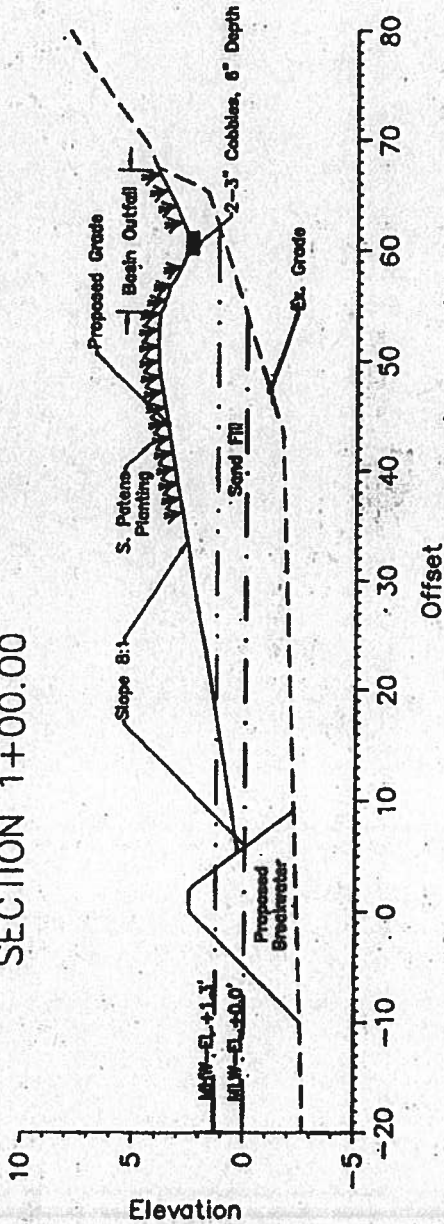
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Sections
LOCH HAVEN CMC ASSOCIATION, INC.
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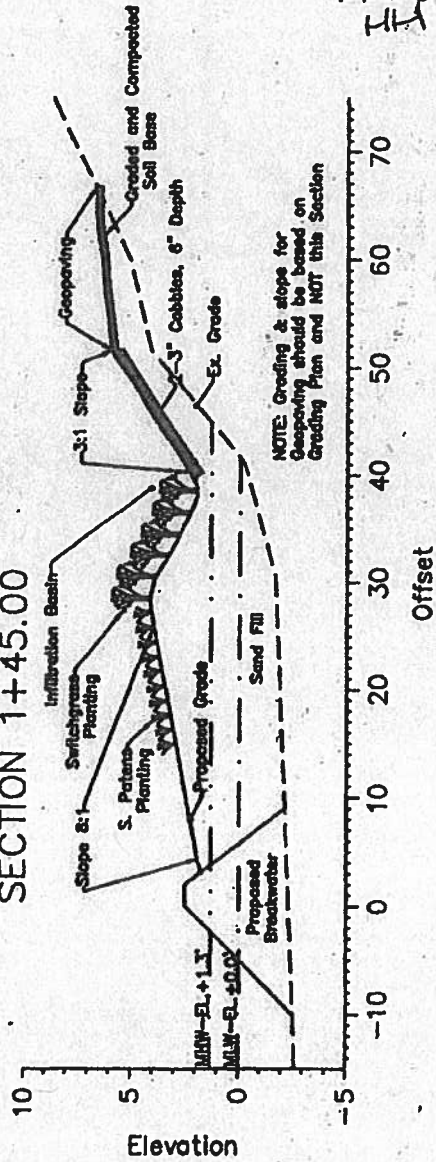
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 Ecological Assessment - Environmental Planning - Restoration Design
 10037 Wilmethor Way, Columbia, Maryland 21044-9183
 Tel. 410-745-8133 email: Bray@BH.LLC@outlook.com

SECTION 1+00.00



SECTION 1+45.00



NOTE: Grading & slope for Geopaving should be based on Grading Plan and NOT this Section

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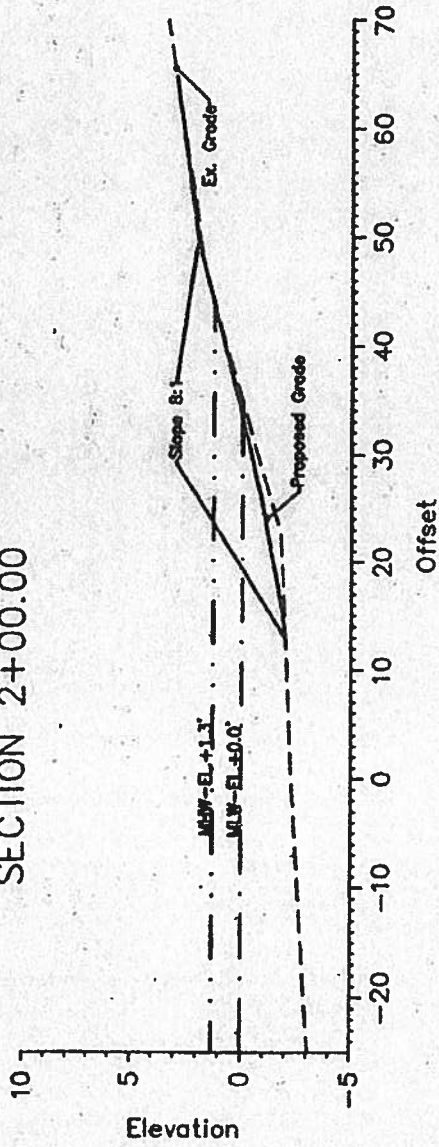
BRAY HILL, LLC
Ecological Assessment - Environmental Planning - Restoration Design
10337 Walkmeister Way, Columbia, Maryland 21044-5185
Tel. 443-765-8133 email: BrayHillLLC@brayhill.com

SUSTAINABLE SCIENCE LLC
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Phone: (410) 228-9110
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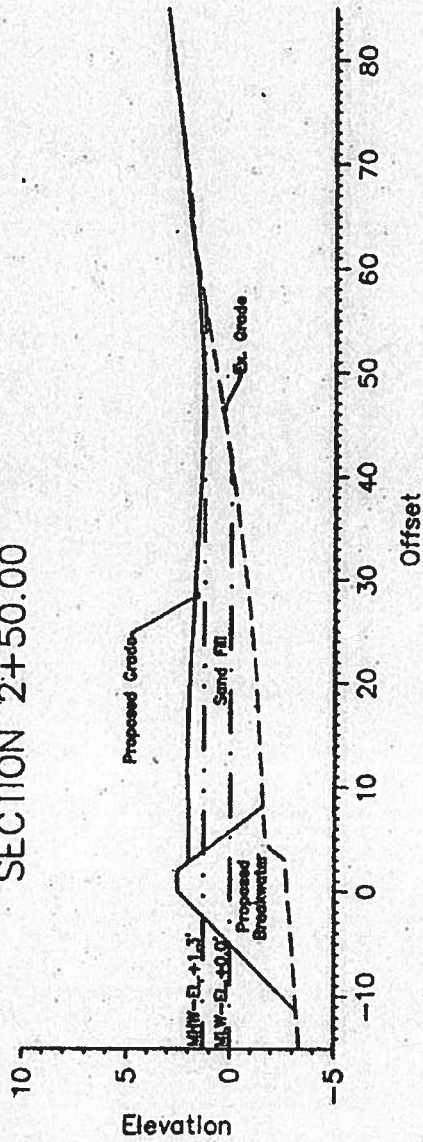
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BEACH NOURISHMENT/BREAKWATER PROJECT
South River Terrace, Edgewater, Maryland
Anne Arundel County Tax Map 60, Grid 3,
Parcel 24, Sub 480

DATE	BY	SCALE	NO. SHEETS
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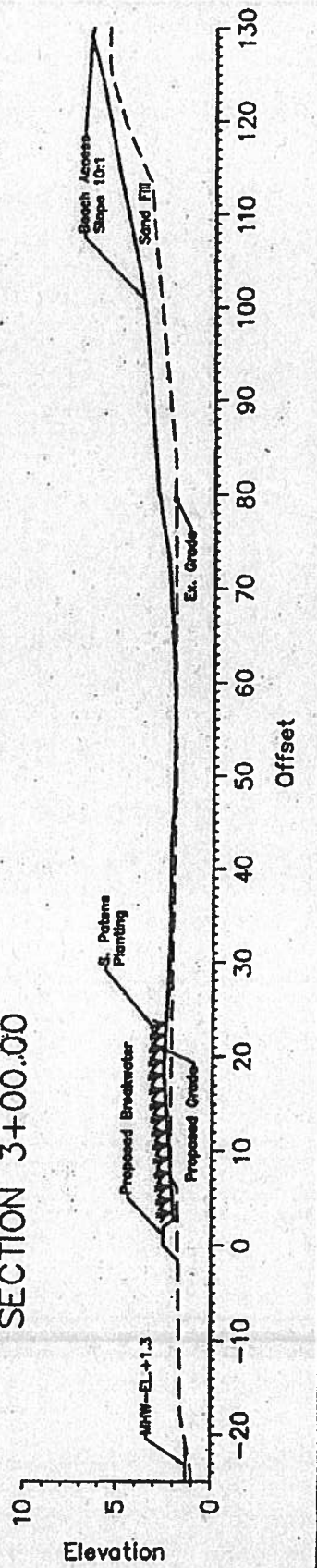
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Sections
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BEACH NOURISHMENT/BREAKWATER PROJECT
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SUSTAINABLE SCIENCE LLC
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 1027 Whitewater Way, Columbia, Maryland 21044-3183
 Tel. 410-745-0123 email: BrayHillLLC@aol.com

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DATE	BY	SCALE	AS SHOWN
July 17, 2018			
REVISION DATE	October 8, 2018	REVISION BY	AM & CD
REVISION TYPE	NOT COMMENTS	REVISION BY	CD
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REVISION TYPE		REVISION BY	AM & CD
REVISION DATE		REVISION BY	
REVISION TYPE		REVISION BY	

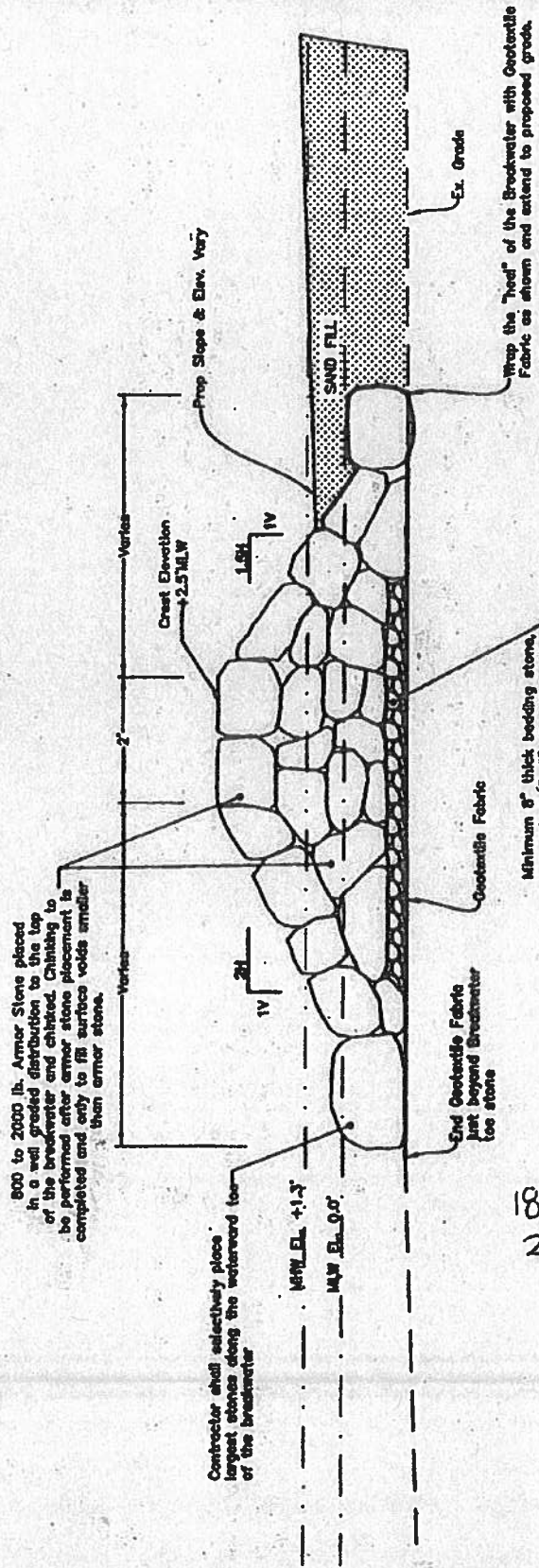
Sections
 LOCH HAVEN CMC ASSOCIATION, INC.
 BEACH NOURISHMENT/BREAKWATER PROJECT
 South River Terrace, Edgewater, Maryland
 Anne Arundel County Tax Map 60, Gfd 3,
 Parcel 24, Sub 480

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 10087 Whitewater Way, Columbia, Maryland 21044-5103
 Tel. 410-742-6133 email: BrayHill.LLC@outlook.com

LOCH HAVEN COMMUNITY BEACH TYPICAL BREAKWATER DETAIL/SECTION

NO SCALE



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14 of 15
10/8/18
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DATE	REVISION	BY	DATE	REVISION	BY
	REVISION DATE	REVISION TYPE		REVISION DATE	REVISION TYPE
	DESIGN BY	AM & CA		DESIGN BY	AM & CA
	DRAWN BY	CA		DRAWN BY	CA
	CHECKED BY	AM & CA		CHECKED BY	AM & CA
	PROJECT NO.			PROJECT NO.	
	SHEET NUMBER			SHEET NUMBER	

<p>SUSTAINABLE SCIENCE LLC Ecological Engineering Services 410 S. Second Street Dorset, Maryland 21029 Phone (410) 929-9318 www.sustainable-science.com</p>	<p>BRAY HILL, LLC Ecological Assessment - Environmental Planning - Restoration Design 1037 Whiteoak Way, Columbia, Maryland 21044-2183 Tel. 410-745-9133 email: BrayHill_ILC@outlook.com</p>
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Typical Breakwater Detail/Section
LOCH HAVEN CMC ASSOCIATION, INC.
BEACH NOURISHMENT/BREAKWATER PROJECT
South River Terrace, Edgewater, Maryland
Anne Arundel County Tax Map 60, Grid 3,
Parcel 24, Sub 480

SITE ANALYSIS

Total Site Area	0.48 AC/20,920 SF
Total Disturbed Area (above Existing MHW)	0.17 AC/7,375 SF
Proposed Fill Area Below MHW (Sand Fill and Breakwaters)	0.31 AC/13,545 SF
Sand Fill Volume	1,075 CY
Proposed Breakwater Volume	310 CY
Cut Volume	14 CY

Fill exceeds cut. All material will be used on site with no material leaving the location.

SUMMARY TABLE OF IMPACTS

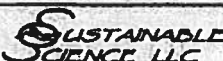
WATERS OF THE US IMPACTS

Jurisdictional Class	Description	Impact Type	Area (sq.ft.)
Tidal Waters	Breakwaters and Sand Fill for Beach Nourishment	Permanent	13545
TOTAL PERENNIAL WATERS IMPACTS			13,545
TIDAL WETLAND IMPACTS			
Tidal Wetland	Sand Fill for Beach Nourishment	Temporary	230
TOTAL TIDAL WETLAND IMPACTS			230

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 79870
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Site Analysis and Impact Summary

LOCH HAVEN CIVIC ASSOCIATION, INC.
 BEACH NOURISHMENT/BREAKWATER PROJECT
 South River Terrace, Edgewater, Maryland
 Anne Arundel County Tax Map 60, Grid J,
 Parcel 24, Sub 460


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PREPARED BY: SUSTAINABLE SCIENCE LLC CHECKED BY: SUSTAINABLE SCIENCE LLC DATE: 10/18/18	SCALE: AS SHOWN SHEET NO: 1 OF 1 PROJECT NO: 18-WL-0777
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