

Living Shoreline Design Training

Organized By

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Pre-Workshop Learning

Project Design Discussion

*Presented by
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Project Location

*Robin Grove Park
Town of Colonial Beach*

*38°14'28.07"N
76°57'50.98"W*

An eroding shoreline has created public access issues and concerns about silting in the adjacent marina's channel.

Boundaries of the Robin Grove



Google Map image of Robin Grove Park

Shoreline Change



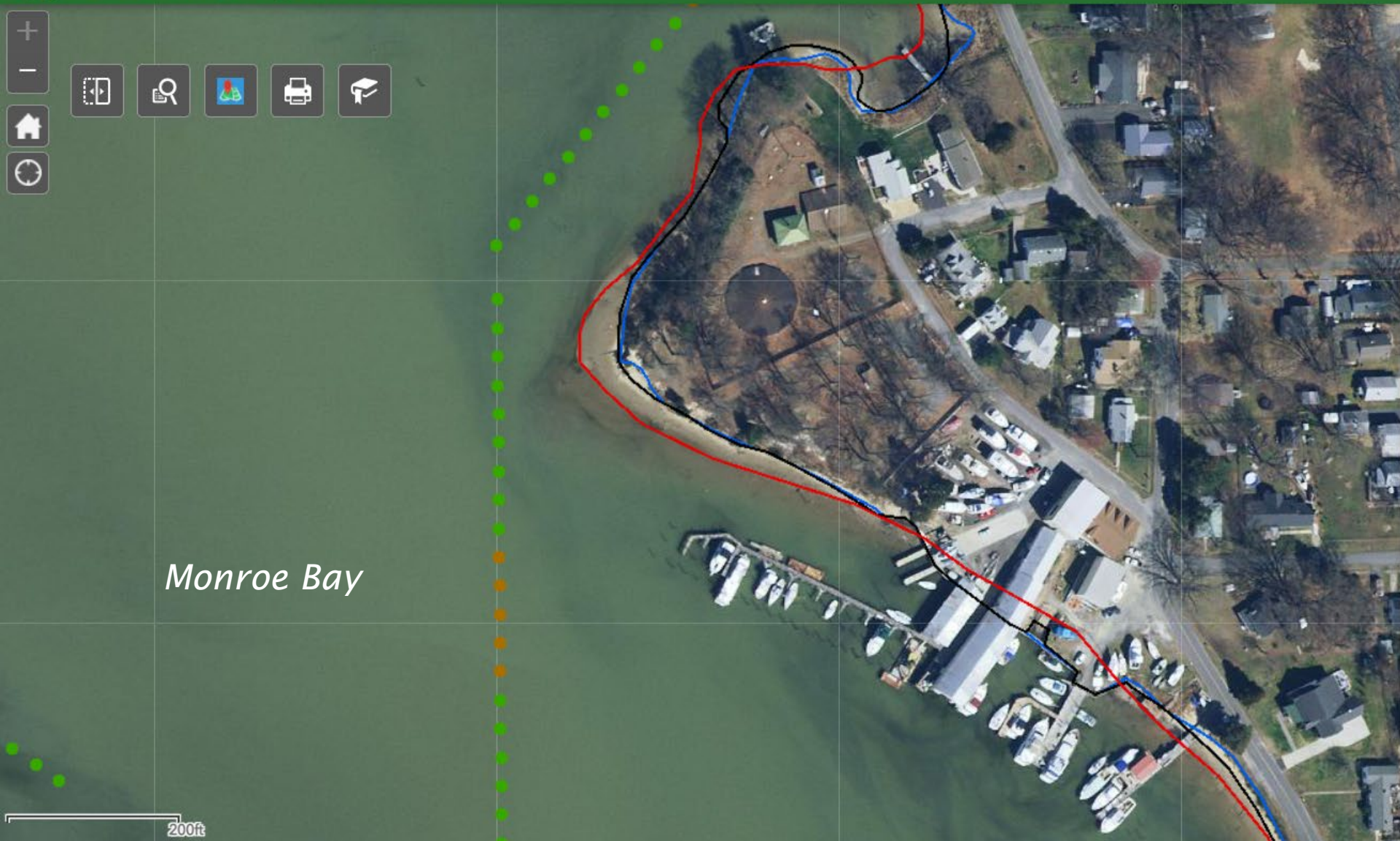
Shoreline Change Data

by Shoreline Studies Program at Virginia Institute of Marine Science (VIMS).

Shoreline Studies Web Page (Base image from 2017)



Map navigation controls including zoom in (+), zoom out (-), home, and refresh buttons.



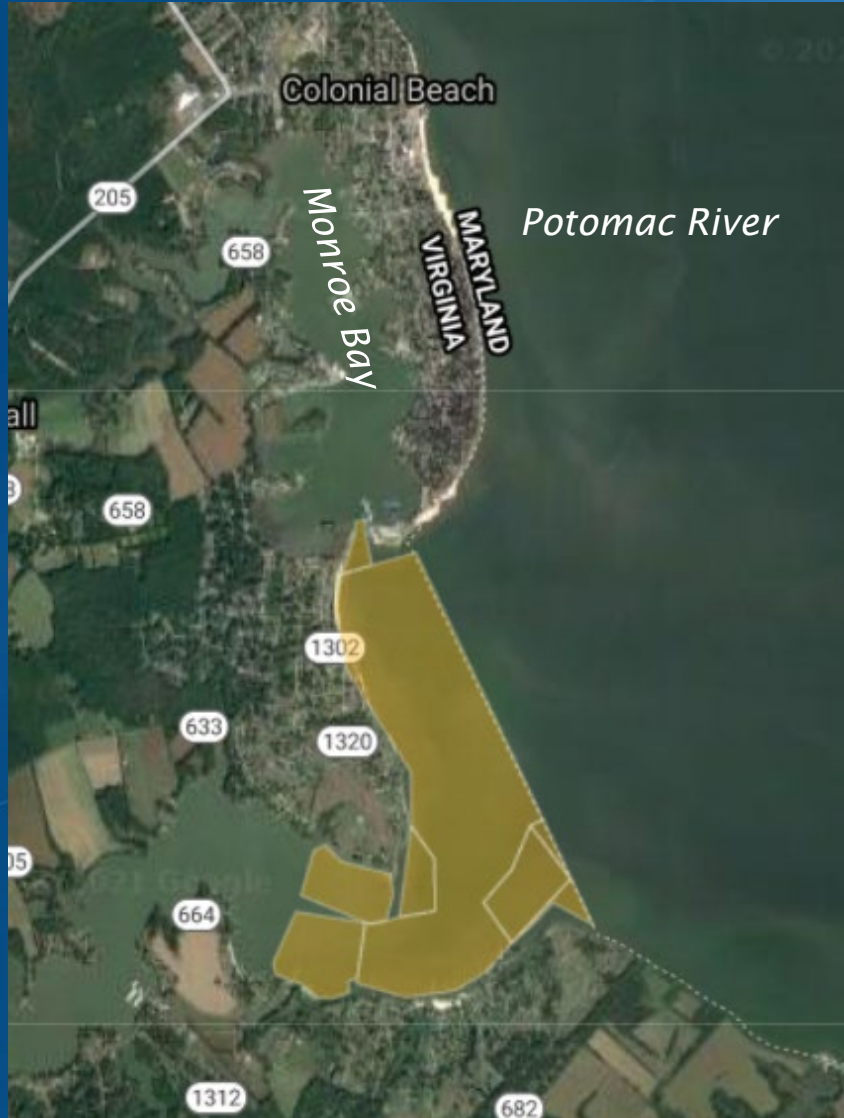
Monroe Bay

200ft

Layer List

- 1937/38 Bay Shoreline
- 1949 Ocean Side Shoreline
- 2009 Bay Shoreline
- 2017 Bay and Ocean Side Shorelines
- End Point Shoreline Change Rates
 - EPR_Pts_1937_2009
 - EPR Points 1937/38 and 2017
 - Very High Accretion: > +10 (ft/yr)
 - High Accretion: +10 to +5 (ft/yr)
 - Medium Accretion: +5 to +2 (ft/yr)
 - Low Accretion: +2 to +1 (ft/yr)
 - Very Low Accretion: +1 to 0 (ft/yr)
 - Very Low Erosion: 0 to -1 (ft/yr)
 - Low Erosion: -1 to -2 (ft/yr)
 - Medium Erosion: -2 to -5 (ft/yr)
 - High Erosion: -5 to -10 (ft/yr)

Location of Private Oyster Leases



No private oyster leases occur in Monroe Bay

https://webapps.mrc.virginia.gov/public/maps/chesapeakebay_map.php

Existing Conditions



Fence and park



Shoreward fence and wooded bank on Northwest facing shore.



View from the Marina

Cross-Sections

Northwest facing shoreline

E-E'

D-D'

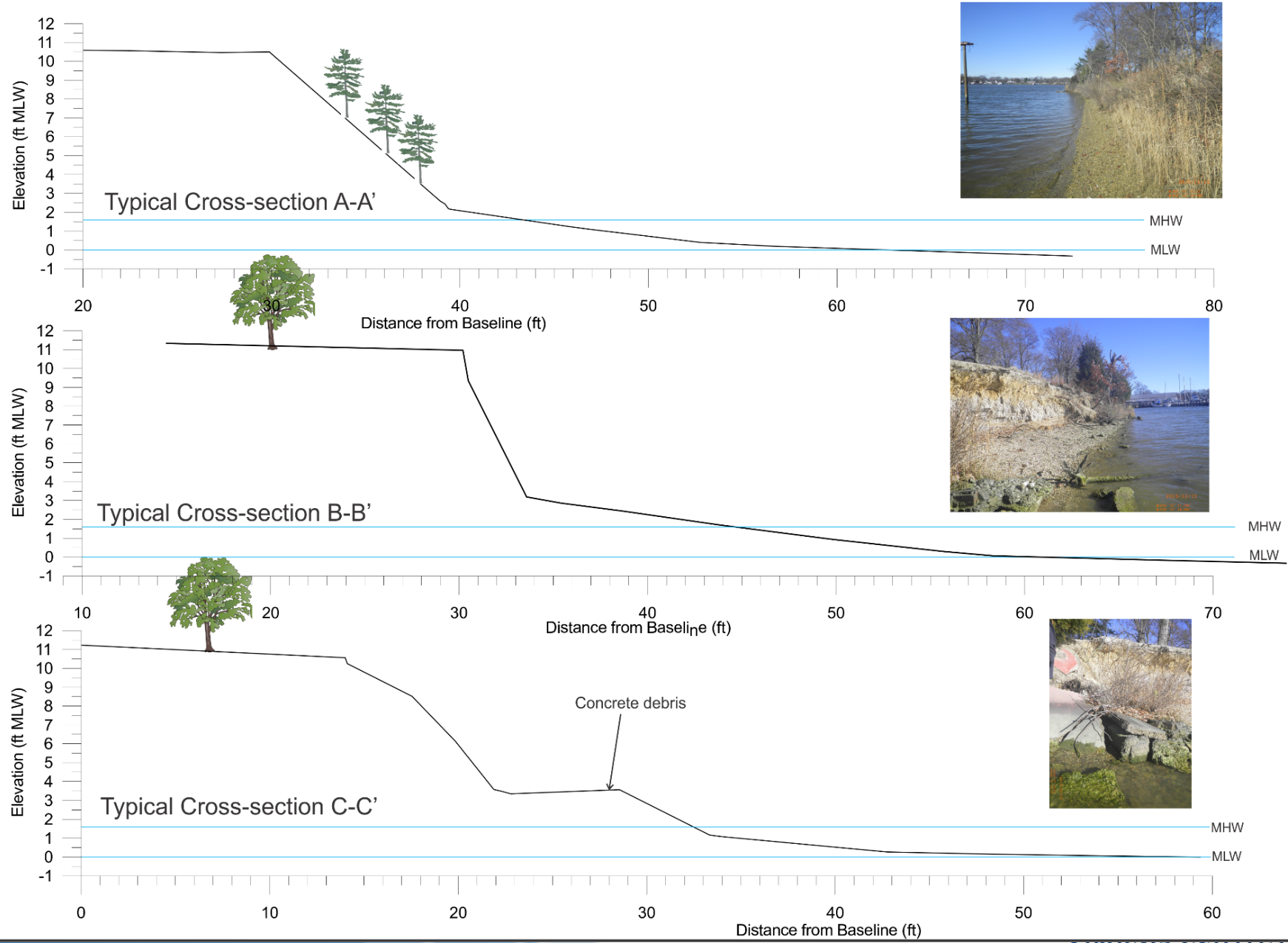
C-C'

Southwest facing shoreline

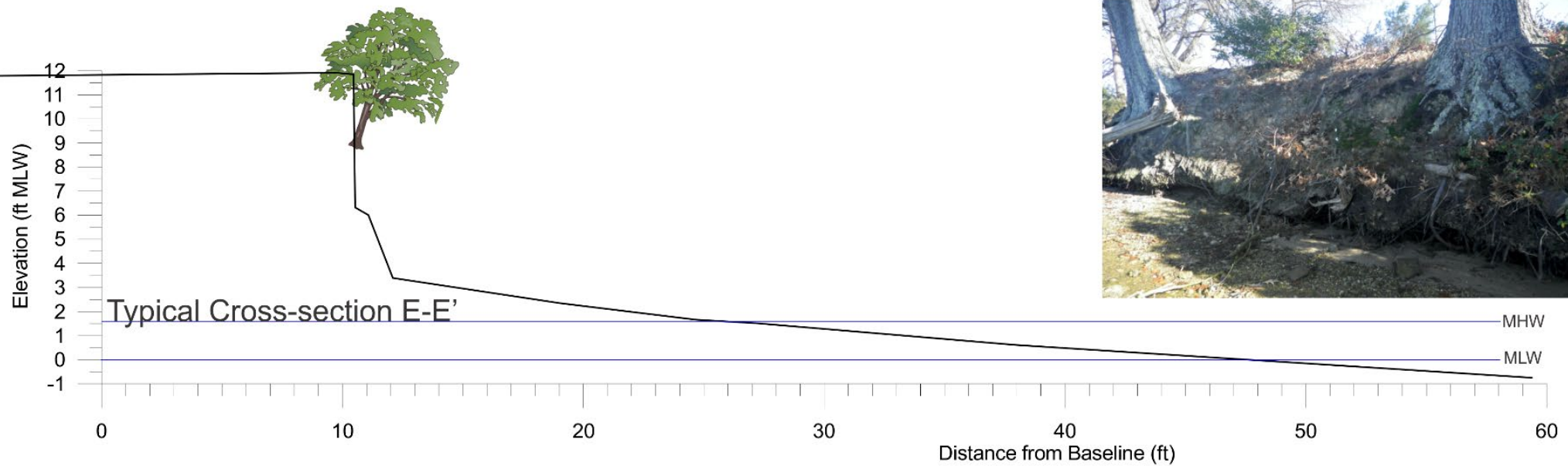
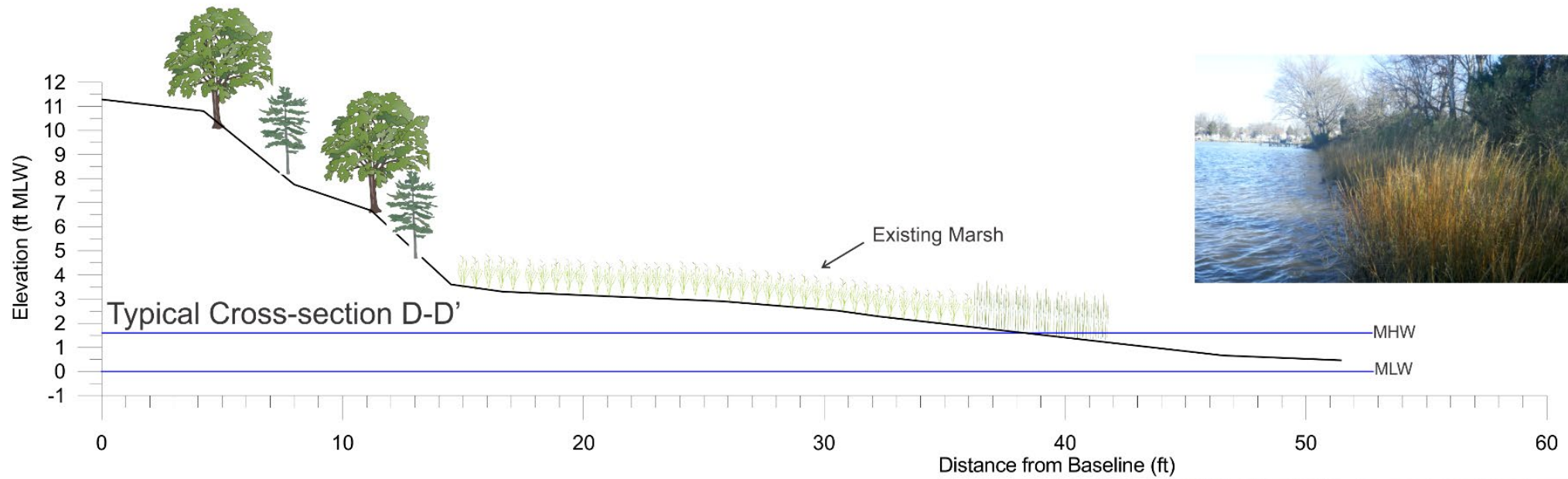
B-B'

A-A'

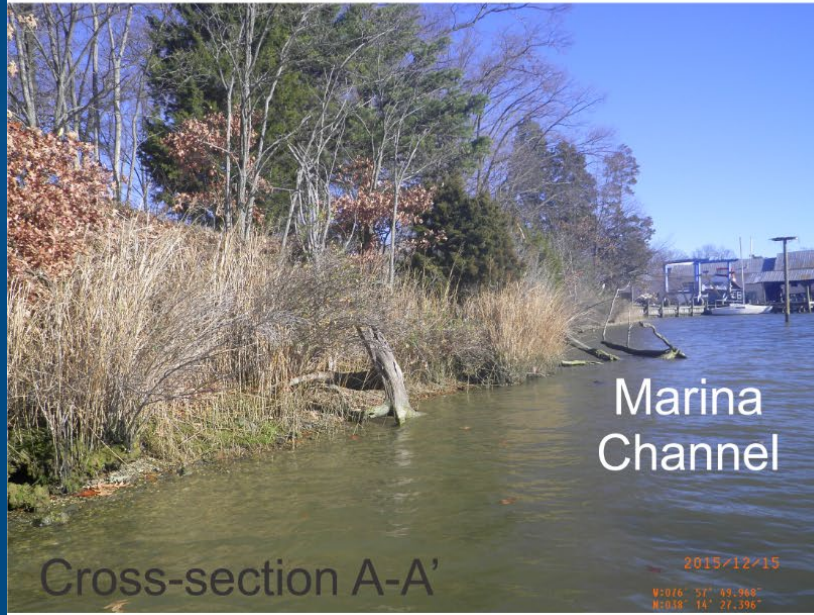
Cross-Sections from Survey



Cross-Sections from Survey



Southwest facing shoreline



Existing Conditions

Southwest facing shoreline



Point shoreline



Cross-section B-B'



Cross-section C-C'
Broken Concrete Debris

Northwest facing shoreline



Looking from Point toward marsh



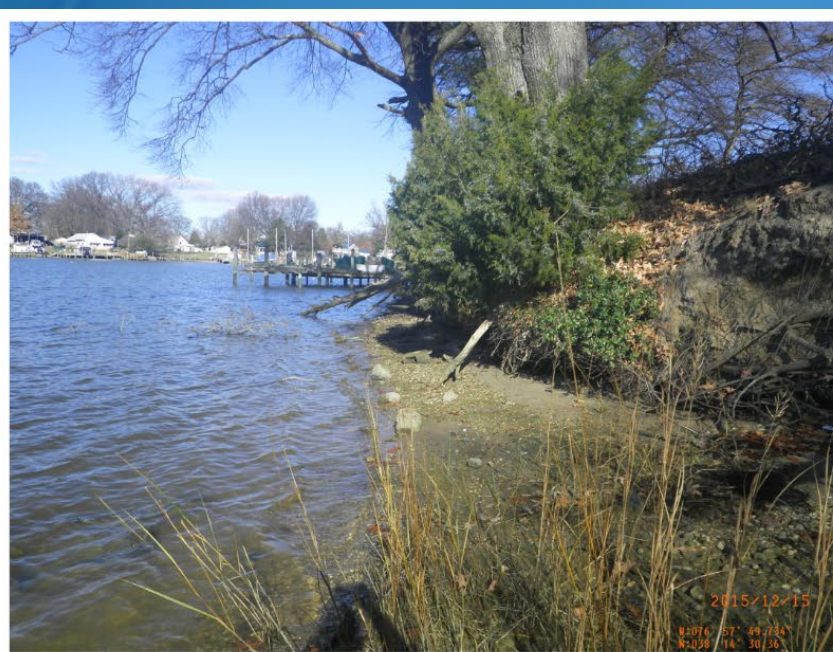
Cross-section D-D'

Existing Conditions

Existing Conditions



Cross-section D-D'



Cross-section E-E'



Cross-section E-E'



End of Property

Evaluation Sheet Information

Site Evaluation

Site Name Robin Grove Date _____
 Site Locality Westmoreland Body of Water Monroe Bay

Pre-Visit Parameters

- Shore Orientation(s): N NE E SE S SW W NW
 Site Length: 750 (ft)
- Average Fetch(es):
 Very High (> 15 miles) High (5-15 miles) Medium (1-5 miles)
 Low (0.5-1 miles) Very Low (< 0.5 miles)
- Longest Fetch: 0.75 NW miles
- Shore Morphology: Pocket Straight Headland Irregular
- Distance to 6 ft Contour: 7300 ft
- Nearshore Morphology: Bars no Tidal Flats no
- Nearshore Aquatic Vegetation: no
- Tide Range: 1.6 ft
- Storm Surge: 10 yr 5 ft 50 yr 6.5 100 yr 7 ft MLW
- Erosion Rate:
 Very High Accretion (> +10 ft/yr) High Accretion (+10 to +5 ft/yr)
 Medium Accretion (+5 to +2 ft/yr) Low Accretion (+2 to +1 ft/yr)
 Very Low Accretion (+1 to 0 ft/yr) Very Low Erosion (0 to -1 ft/yr) NW + SW face
Low Erosion (-1 to -2 ft/yr)
 High Erosion (-5 to -10 ft/yr) Medium Erosion (-2 to -5 ft/yr)
 Very High Erosion (< -10 ft/yr)
- Design Wave: Height 1 ft Period 15

Notes:

38°14'28.07"N
76°57'50.98"W

Site Visit Parameters

- Site Boundaries: On image
- Site Characteristics:
 Upland Land Use Park and treatment plant
 Proximity to Infrastructure Treatment plant fence is close to top of bank
 Cover Mostly open with some trees on SW shoreline
Heavily wooded on NW shoreline
- Bank Condition:
 Bank Face - Erosional Point DD Stable EE Transitional Undercut
 Base of Bank - Erosional BB Stable DD AA Undercut
 CC EE AA
- Bank Height: EE
- Bank Composition: SM
- RPA Buffer:
- Shore Zone: Sand Marsh
 Width Varies. See cross-section
 Elevation
- Backshore Zone: Sand Marsh
 Width Varies. See cross-section
 Elevation
- Boat Wakes: yes
- Existing Shoreline Defensive Structures: no but construction
Debris at point
- Nearshore Stability: Firm SW face Soft NW face

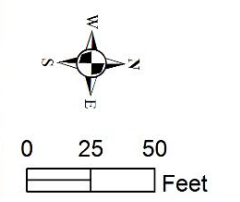
Information Helpful for Design

Robin Grove Park, Colonial Beach, VA Existing Data



Accepted Datums
 Colonial Beach
 1983-2001 Epoch
 MHW, +1.6 ft MLW
 NAVD88, +0.85 ft MLW
 MLW, +0.0 ft

- Existing**
- × Spot Elevations
 - ▲ Benchmarks
 - 1 ft Contours
 - Profiles
 - Ex. MLW
 - Ex. MHW
 - Fencing



Draw Your Design

Robin Grove Design



Accepted Datums
Colonial Beach
1983-2001 Epoch

MHW, +1.6 ft MLW
NAVD88, +0.85 ft MLW
MLW, +0.0 ft

