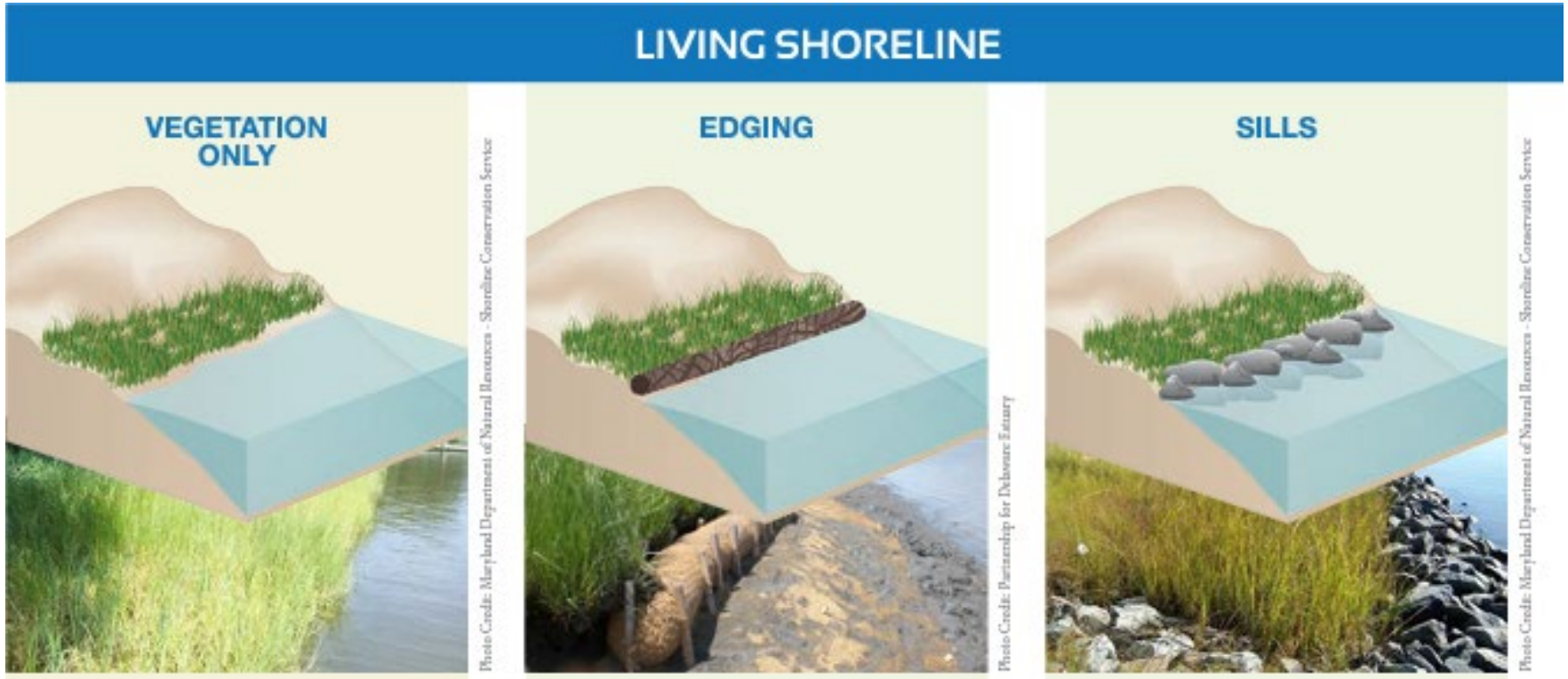
CBLP SHORELINES Certificate Course

Essential Skills for Living Shorelines

for Virginia General Permit Group 1 or 2

Professional development workshop designed for existing CBLPs and professionals working along the shoreline who want to add Living Shoreline Services to their business offerings. Attend all workshop days, complete assignments and an installation practicum to earn the certificate.

Includes webinars, field workshops, and videos presented by experienced professionals.



SAGE Guidance Document

CBLP CHESAPEAKE BAY Landscape Professional

Living Shoreline Collaborative

CBLP-Shorelines Day 4 of 4 Oct. 3, 2023

WETLANDS WATCH

CBLP-Shorelines Workshop and Certificate

Focus on Low Energy Living Shoreline Projects, Group 1 & 2 General Permits

Includes Field Experiences, Case Histories, Credentials, CEUs

Essential Skills for Living Shorelines

4-Day Professional Development Workshop

+ Field Practicum
Living Shoreline Install for Certificate

Day 1	Overview, Permits, Advisory Services, Evaluating the Site
Day 2	Field Assessments, Design, Construction
Day 3	Materials, Design, Maintenance, Monitoring
Day 4	Design, Permits, Business Opportunities, Community of Practice

CBLP CHESAPEAKE BAY Landscape Professional

Living Shoreline Collaborative

Wetlands Watch

Provide Professional & Business Development Opportunities in an Interactive Format

CBLP SHORELINES Certificate Course

Site Evaluation	Design	Permitting	Construction	Maintenance/ Management	Monitoring

ESTABLISH A COMMON KNOWLEDGE OF LIVING SHORELINE IMPLEMENTATION BEST PRACTICES & RESOURCES

LEARN FROM OTHERS AND GAIN EXPERIENCE WORKING WITH/FOR REGIONAL PARTNERS

BUILD RELATIONSHIPS

CBLP CHESAPEAKE BAY Landscape Professional

Living Shoreline Collaborative

WETLANDS WATCH

Day 4 Overview

- Introductions, Plan for the Day
- Homework Review, Instructor Feedback on JPAs and Drawings
- Short Break
- Large Group Discussion
  - JPA prep
  - Permitting questions
  - Design questions
- Business Opportunities
- Collaboration within a Community of Practice
- Next Steps: Field Practicum and Reporting

Today's Instructors/Speakers

- *Aaron Wendt*, DCR SEAS
- *Rachael Peabody*, VMRC
- *Mary Mantey*, ERP
- *Ellen Grimes*, CRM
- *Jim Cahoon*, Bay Environmental
- *Donna Millegan*, VIMS
- Karen Duhring, VIMS
- Ryan Walsh, JRA

CBLP Staff

- Beth Ginter
- Shereen Hughes
- Stacie McGraw
- Jason Swope

Homework Due Sept. 27 @ 5 PM, Instructor Feedback Oct. 2

Finalize Design

Prepare Drawings

Complete JPA for Site

Save to PDF and email to stacie@cblpro.org

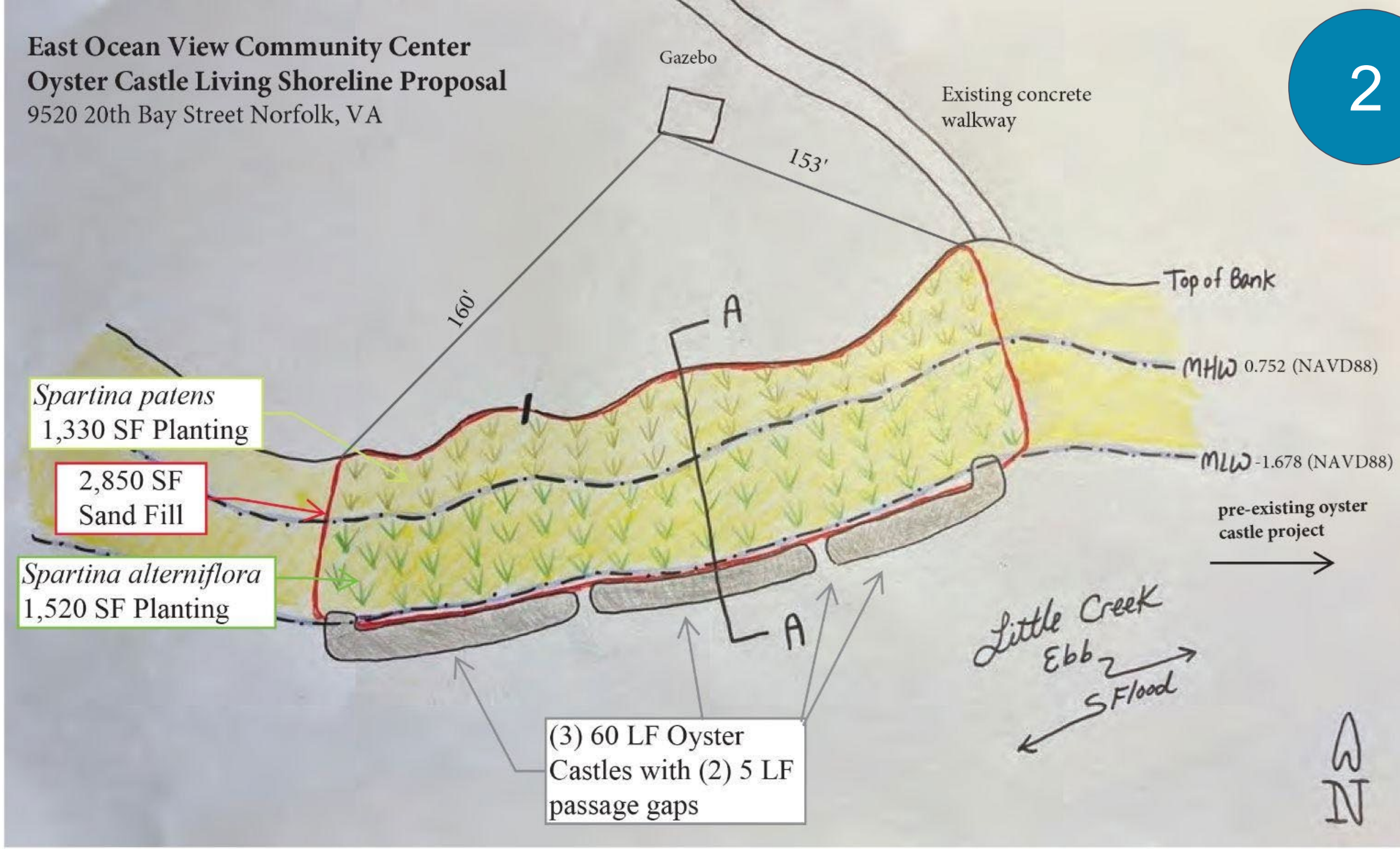
- How will your shoreline adapt to the intermediate high rate of sea level rise?
- What is the expected life of your project?

To earn certificate - work on a living shoreline installation project

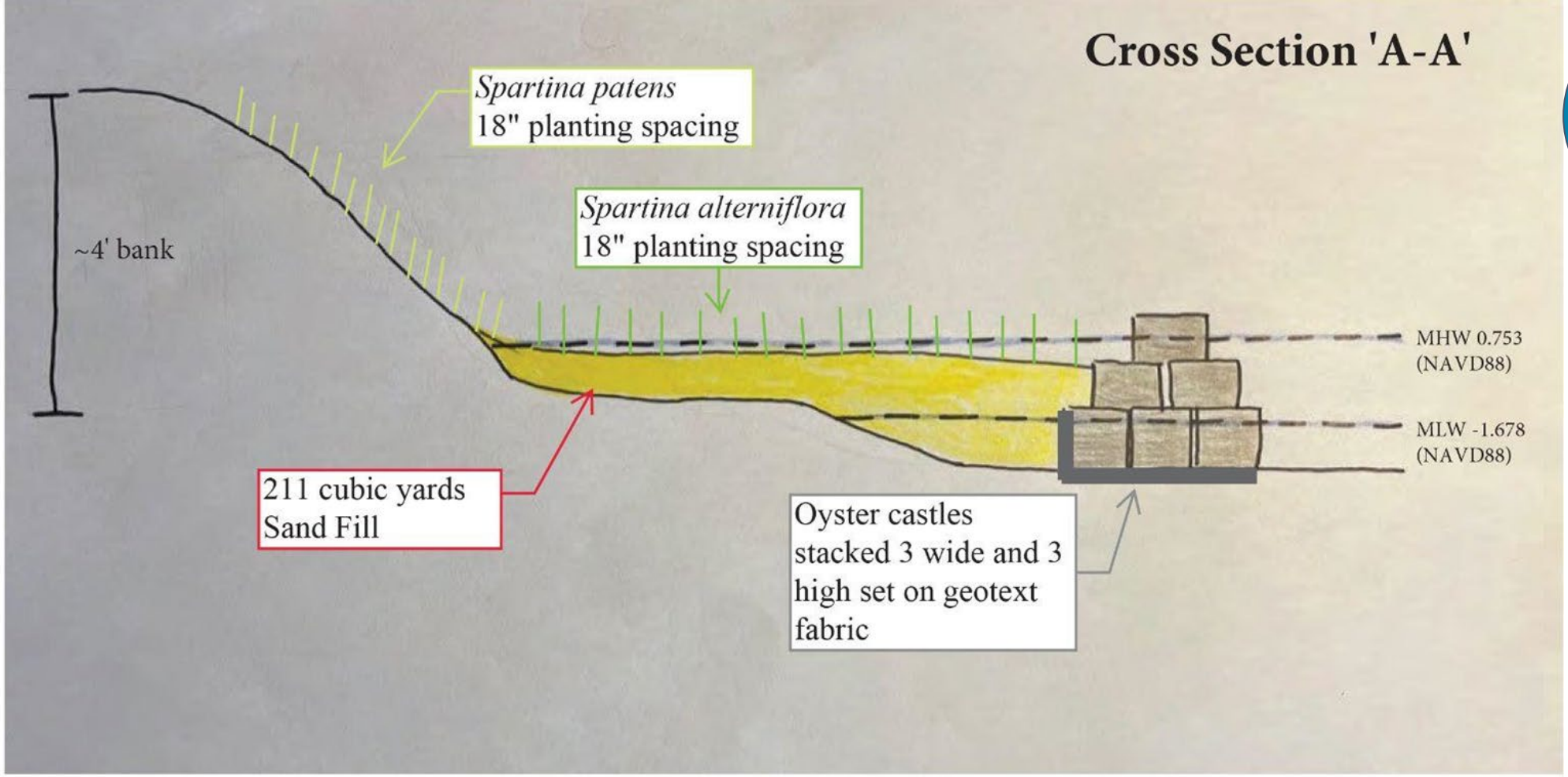
Instructor Feedback on JPAs and Designs

CBLP CHESAPEAKE BAY Landscape Professional

Living Shoreline Collaborative


East Ocean View Community Center
Oyster Castle Living Shoreline Proposal
9520 20th Bay Street Norfolk, VA
Gazebo
Existing concrete walkway
153'
160'
Top of Bank
A
A
MHW 0.752 (NAVD88)
MLW -1.678 (NAVD88)
Spartina patens
1,330 SF Planting
2,850 SF
Sand Fill
Spartina alterniflora
1,520 SF Planting
pre-existing oyster castle project
Little Creek
Ebb
Flood
(3) 60 LF Oyster Castles with (2) 5 LF passage gaps
N

2



Notes:

1. 2,850 SF (211 cu yd) sand fill will contain less than 10% fines.

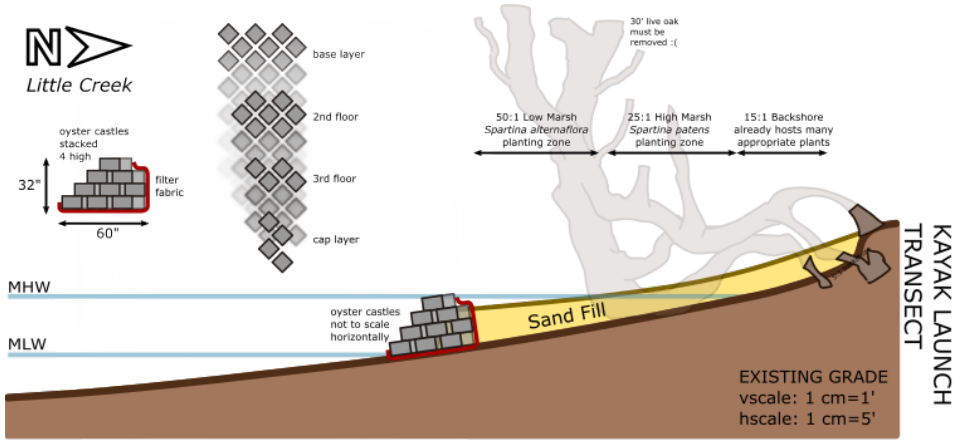
2. Spartina plugs will be planted in 18" center offsets in the early growing season protected by goose predation fencing to be installed and maintained for up to one year.

3. Oyster castles will be stacked 3 cubes high and 3 cubes wide and placed on geotextile fabric to prevent sinking.

4. Existing vegetated wetland pockets onsite may be subject to sand nourishment to improve larger wetland habitat resiliency and will result in a net gain of aerial coverage of wetland vegetation.

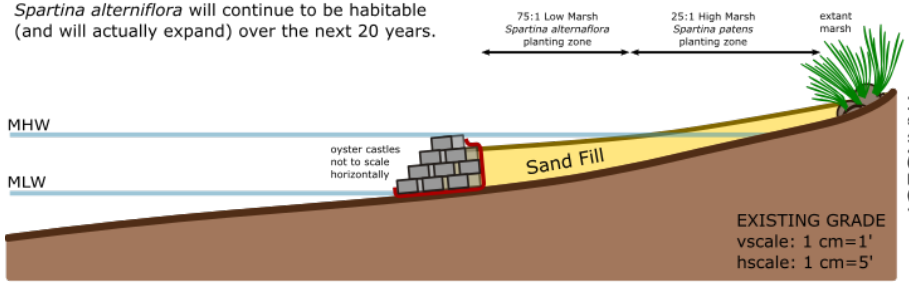
5. No SAV has been documented or observed onsite and will not be impacted.

September 26, 2023



KAYAK LAUNCH TRANSECT

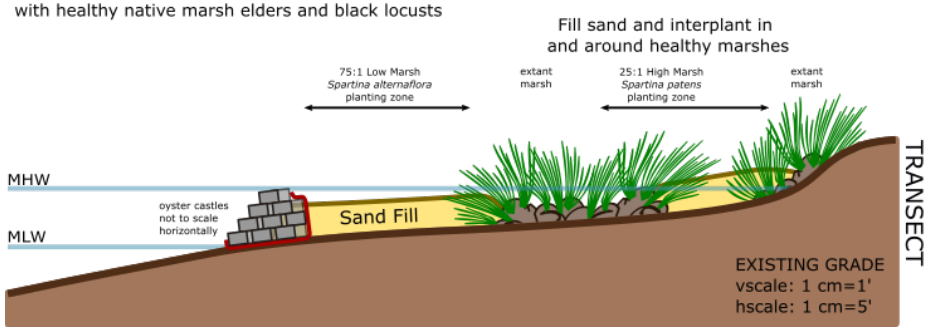
NOAA 2017 intermediate-high curve projects a 1.7' sea level rise in this area over 20 years, at which point the marsh toe will be at the new biological MLW. In other words, the zone for *Spartina alterniflora* will continue to be habitable (and will actually expand) over the next 20 years.



MIDPOINT TRANSECT

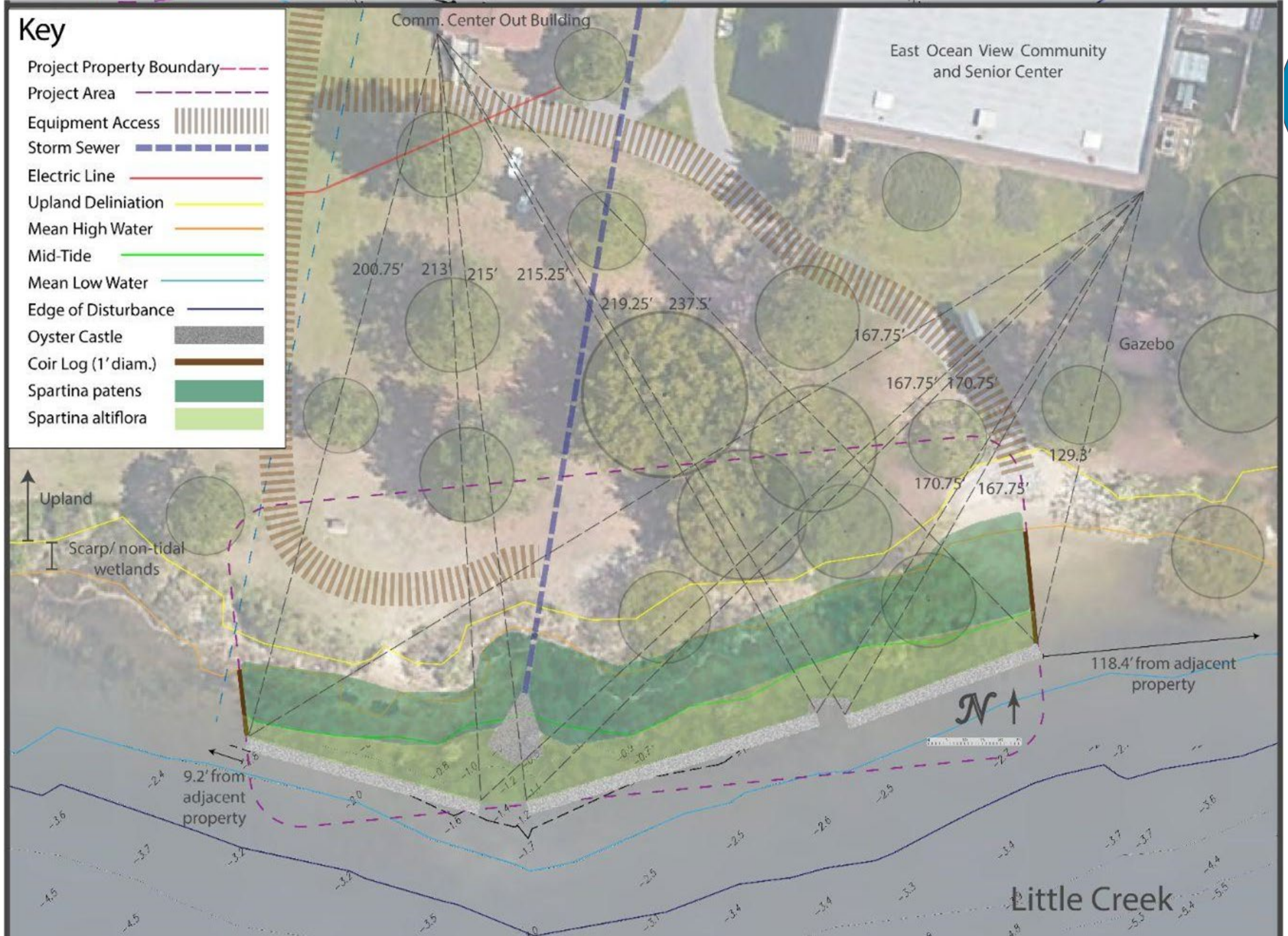
Existing wetlands plants include Spartina patens on scarp edge and colonizing the mudflats. Additionally, he live oak's root system is entangled with healthy native marsh elders and black locusts

Fill sand and interplant in and around healthy marshes



EXTANT MARSH TRANSECT

3

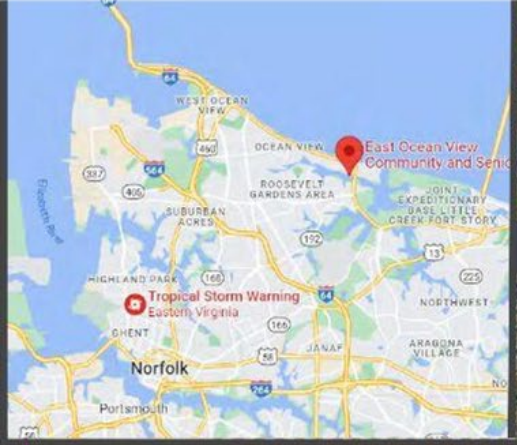

Key
Project Property Boundary
Project Area
Equipment Access
Storm Sewer
Electric Line
Upland Deliniation
Mean High Water
Mid-Tide
Mean Low Water
Edge of Disturbance
Oyster Castle
Coir Log (1' diam.)
Spartina patens
Spartina altiflora
Comm. Center Out Building
East Ocean View Community and Senior Center
Gazebo
200.75'
213'
215'
215.25'
219.25'
237.5'
167.75'
167.75'
170.75'
129.3'
170.75'
167.75'
Upland
Scarp/ non-tidal wetlands
9.2' from adjacent property
118.4' from adjacent property
N
Little Creek

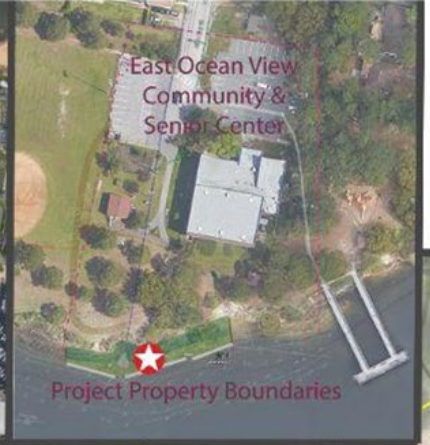
East Ocean View Community and Senior Center
Living Shoreline Design Project

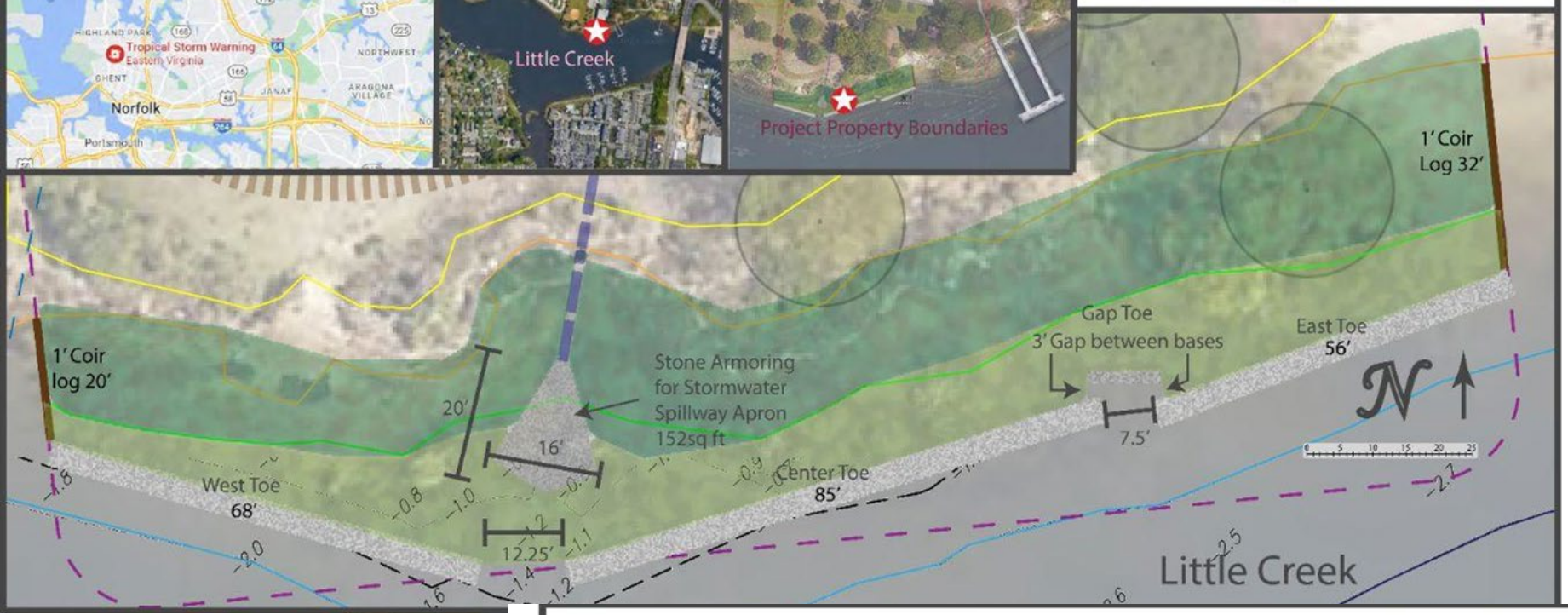
Michael Lynn

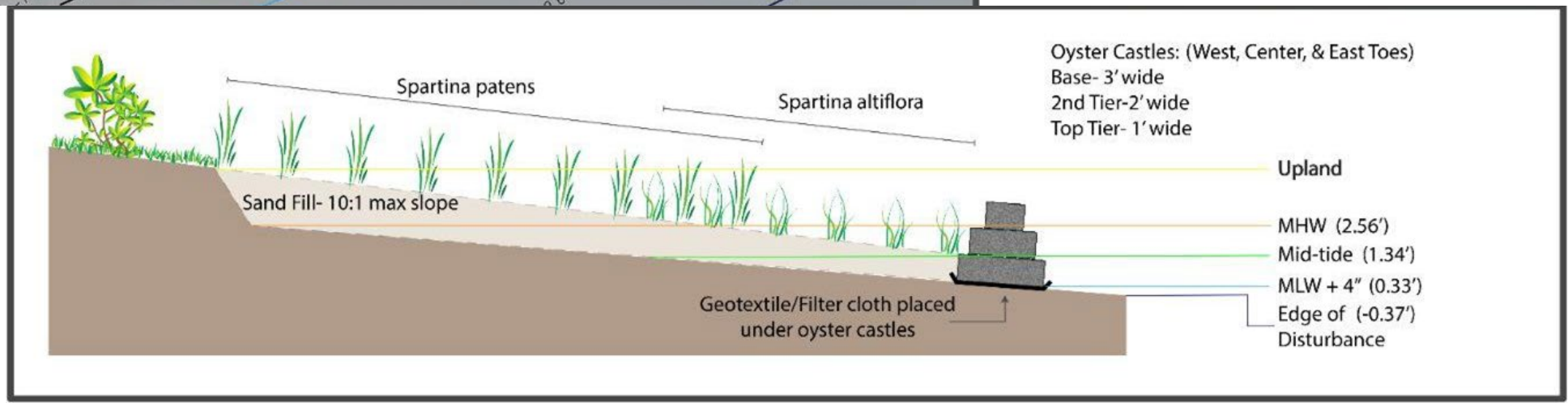
9/24/2023

CBLP Living Shorlines Course



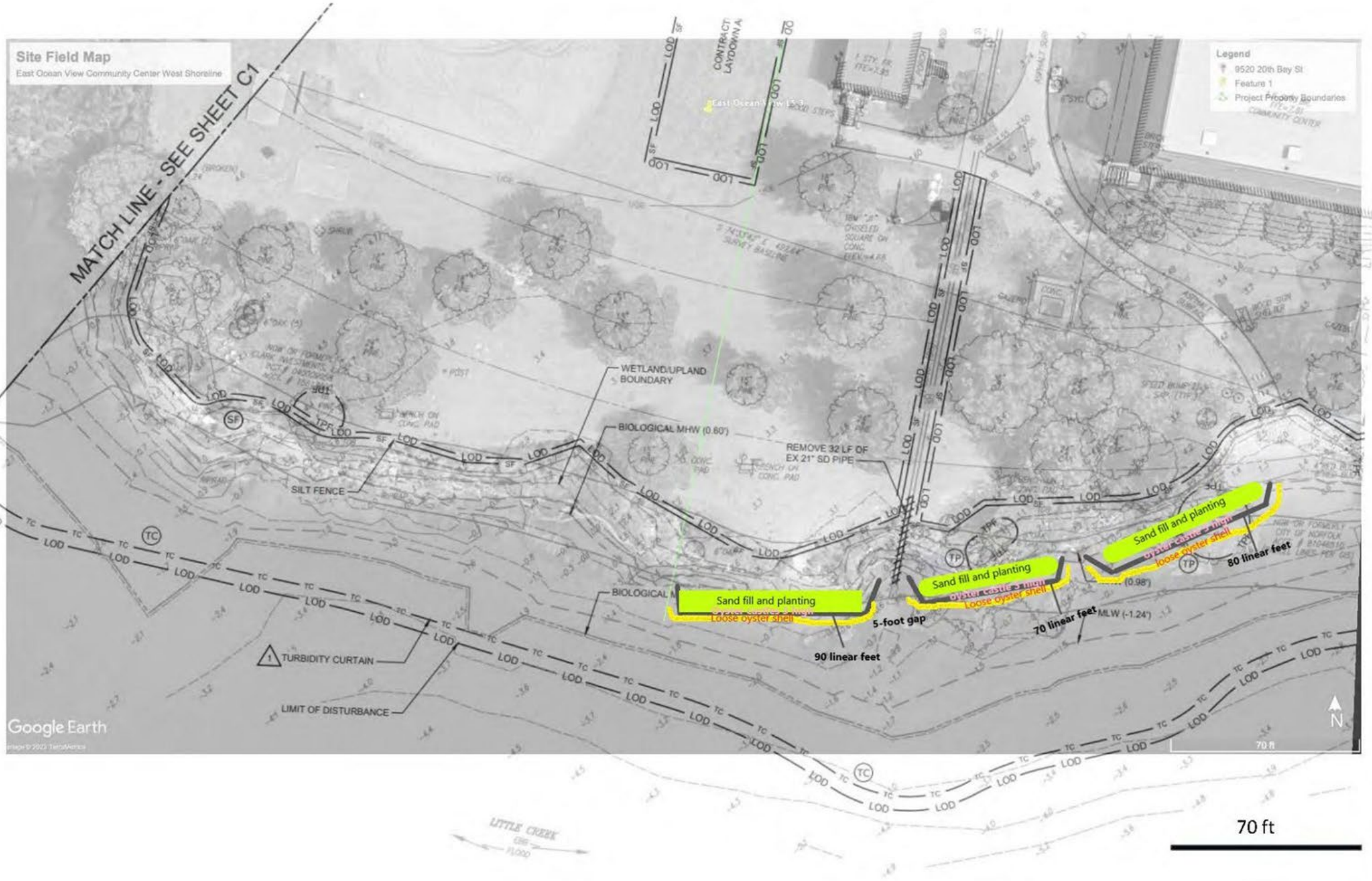


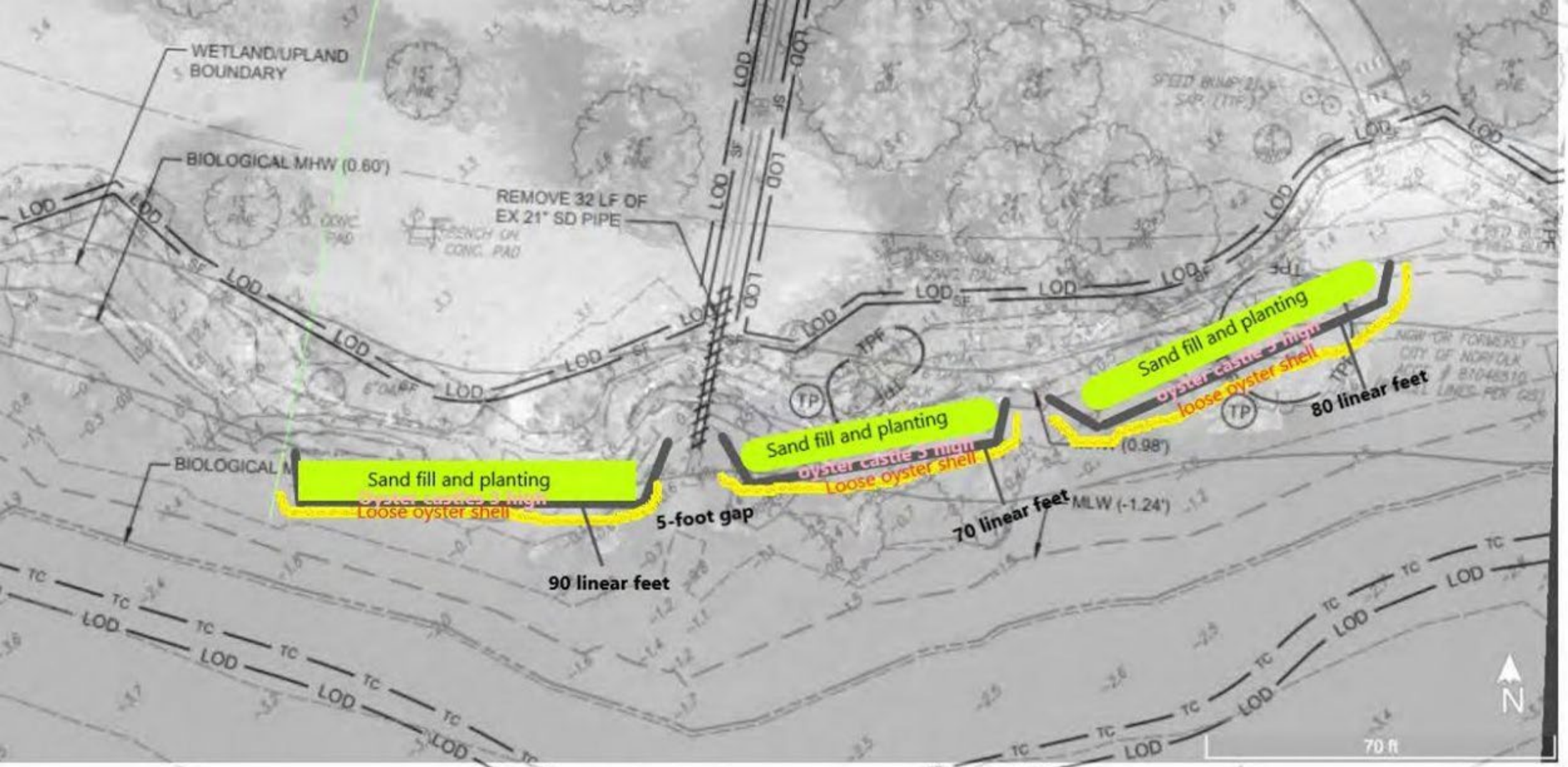




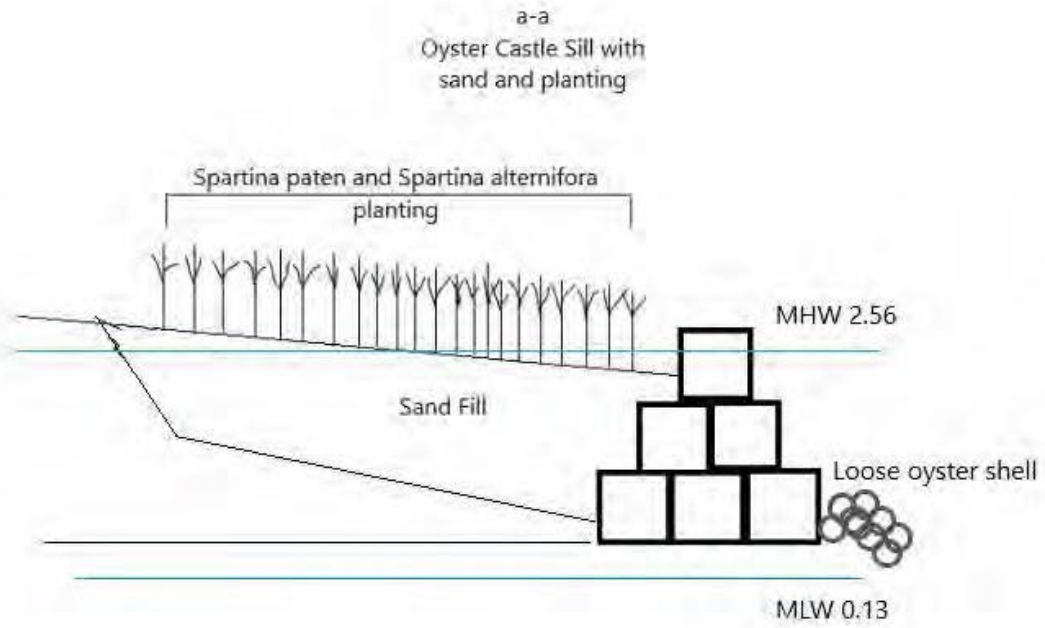
Wetland Type	Displacement (ft2)
Vegetated wetlands above MLW and up to 1½ times the Mean Tide Range at the site	
Non-vegetated wetlands between MLW and MHW	

Wetland Type	Creation (ft2)
Vegetated wetlands created from upland	
Nonvegetated wetlands created from upland	
Wetland Type	**Conversion (ft2)**
Vegetated wetlands converted to vegetated wetlands	
Nonvegetated wetlands converted to vegetated wetlands	
Non-vegetated wetlands converted to another non-vegetated wetland type	
Subaqueous converted to non- vegetated wetland	
Subaqueous converted to vegetated wetland	
Payment in lieu Requirements	**Amount**
Vegetated wetlands – sq. ft. x $25 sq. ft.	$
Non-vegetated wetlands – sq. ft. x $12.50 sq. ft.	$
Non- vegetated dredging -sq. ft. x $5.50	$
Total	$


Site Field Map
East Ocean View Community Center West Shoreline
MATCH LINE - SEE SHEET C1
Legend
9520 20th Bay St
Feature 1
Project Property Boundaries
WETLAND/UPLAND BOUNDARY
BIOLOGICAL MHW (0.60')
REMOVE 32 LF OF EX 21" SD PIPE
SILT FENCE
TURBIDITY CURTAIN
LIMIT OF DISTURBANCE
Sand fill and planting
Loose oyster shell
90 linear feet
5-foot gap
70 linear feet
80 linear feet
MLW (-1.24')
(0.98')
Google Earth
70 ft
N

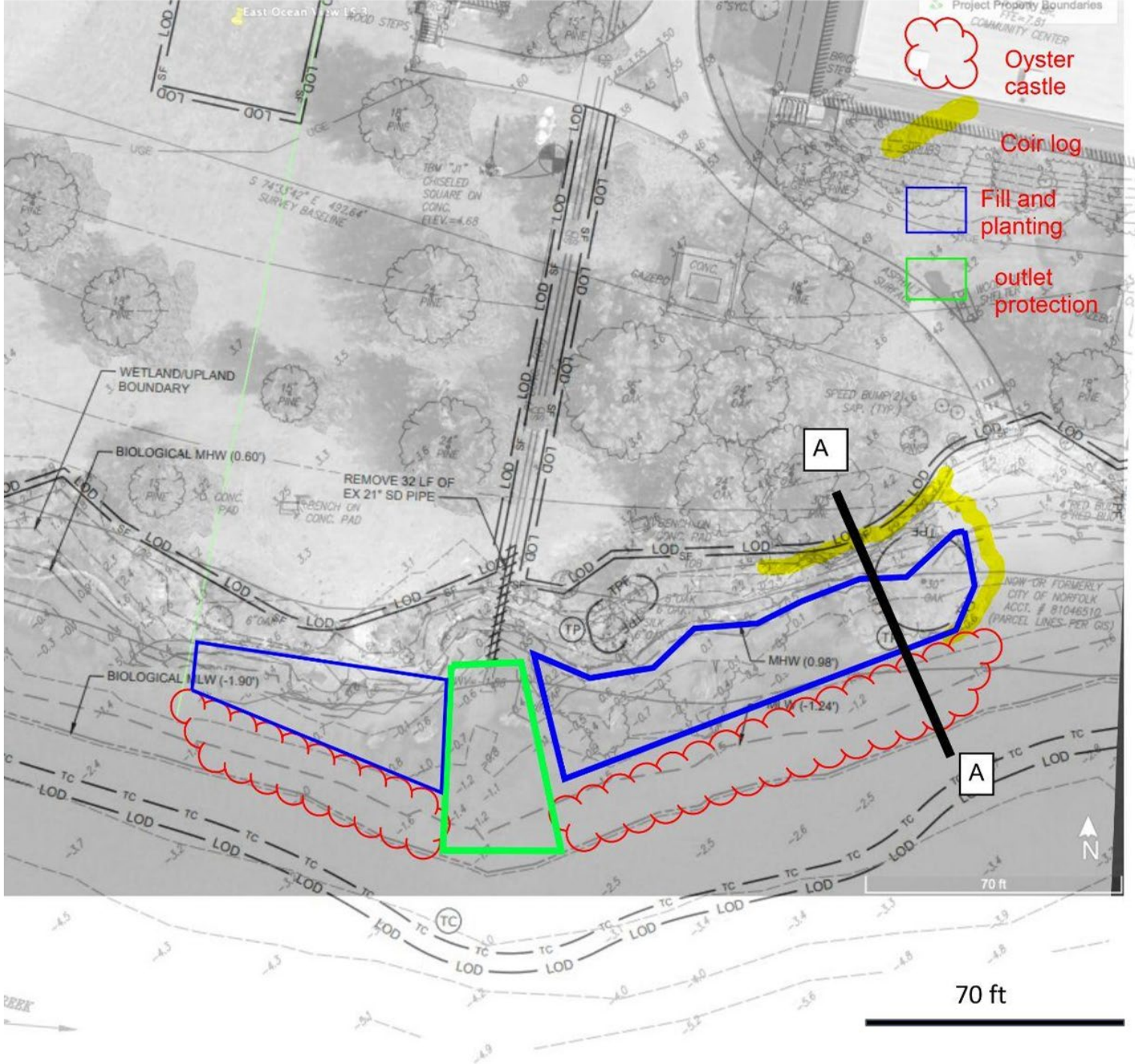

WETLAND/UPLAND BOUNDARY
BIOLOGICAL MHW (0.60')
REMOVE 32 LF OF EX 21" SD PIPE
LOD
SF
TPF
TP
TC
Sand fill and planting
Loose oyster shell
5-foot gap
90 linear feet
70 linear feet
80 linear feet
MLW (-1.24')
(0.98')
N
70 ft

70 ft

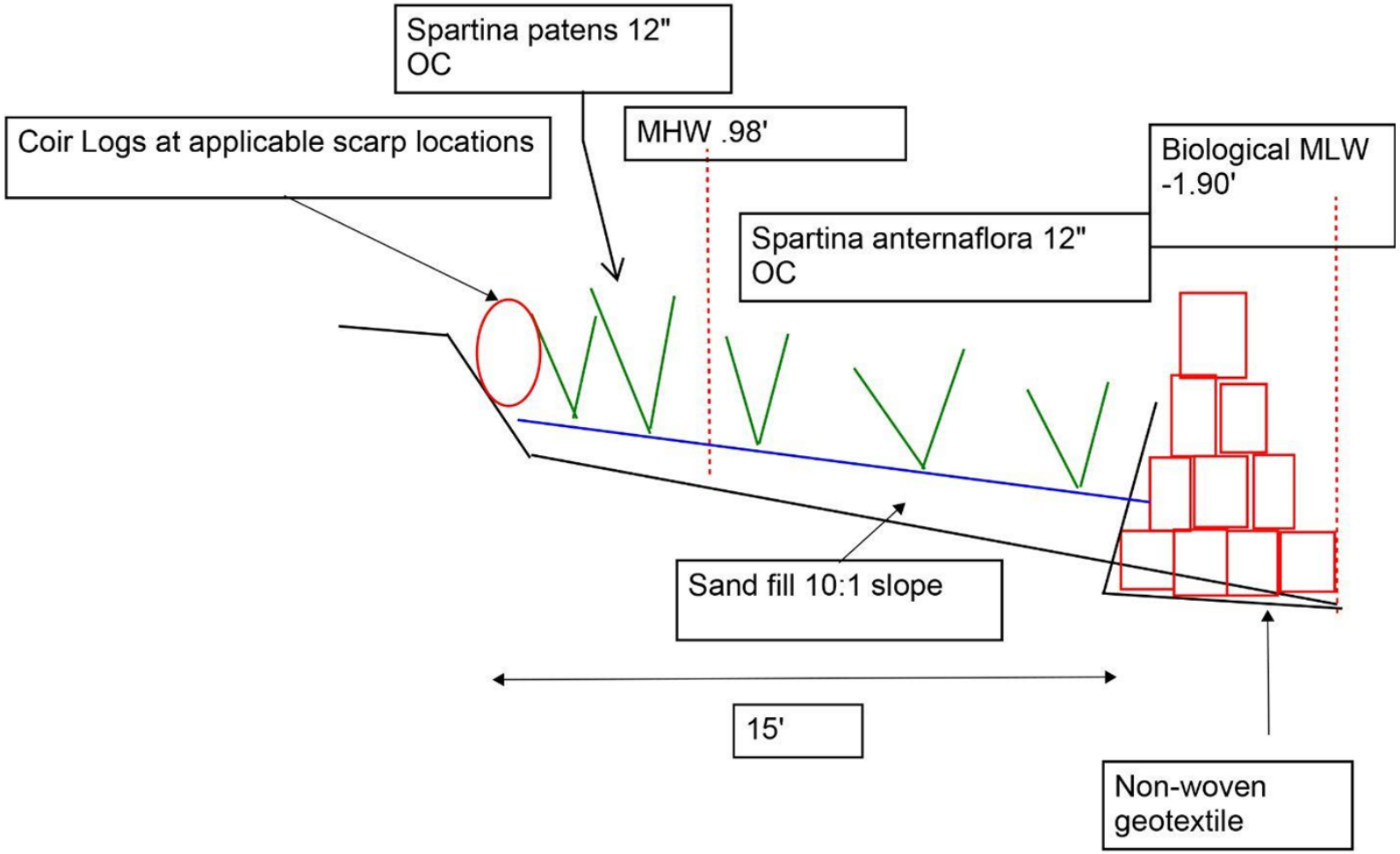

a-a
Oyster Castle Sill with
sand and planting
Spartina paten and Spartina alterniflora
planting
MHW 2.56
Sand Fill
Loose oyster shell
MLW 0.13


a-a
Existing Cross section
MHW 2.56
Existing Grad
MLW 0.13


Site Field Map
East Ocean View Community Center West Shoreline
MATCH LINE - SEE SHEET C1
Legend
9520 20th Bay St
Feature 1
Project Property Boundaries
Oyster castle
Coir log
Fill and planting
outlet protection
WETLAND/UPLAND BOUNDARY
BIOLOGICAL MHW (0.60')
REMOVE 32 LF OF EX 21" SD PIPE
SILT FENCE
BIOLOGICAL MLW (-1.90')
MHW (0.98')
(-1.24')
TURBIDITY CURTAIN
LIMIT OF DISTURBANCE
A
A
Google Earth
70 ft
N
70 ft

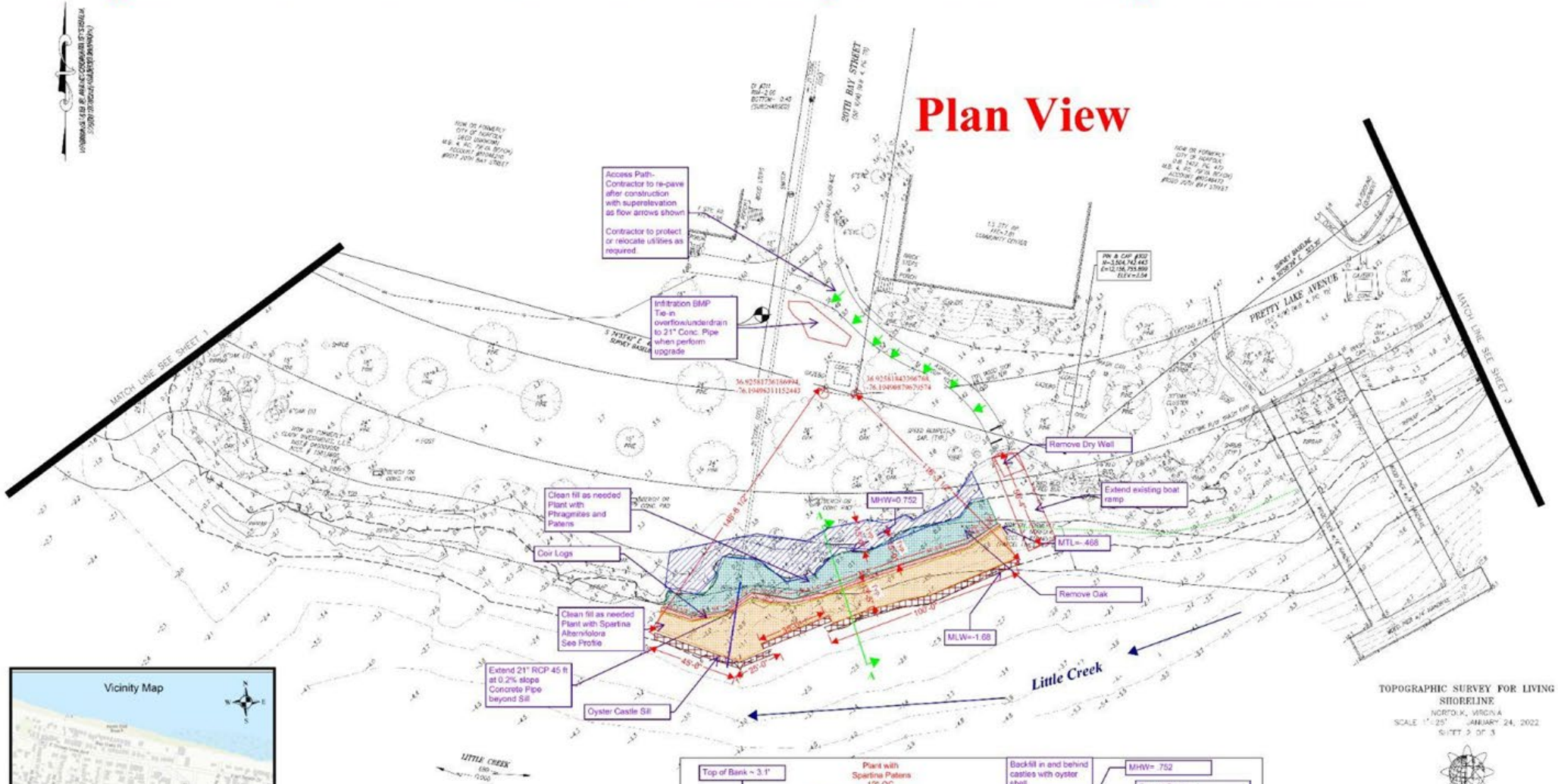

Oyster castle
Coir log
Fill and planting
outlet protection
WETLAND/UPLAND BOUNDARY
BIOLOGICAL MHW (0.60')
REMOVE 32 LF OF EX 21" SD PIPE
BIOLOGICAL MLW (-1.90')
MHW (0.98')
MLW (-1.24')
A
A
N
70 ft
70 ft

Cross Section A-A no drawn to scale

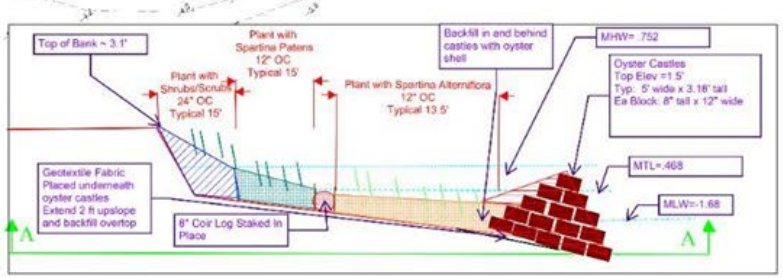


Project: East Ocean View Community Center Living Shoreline

Plan View



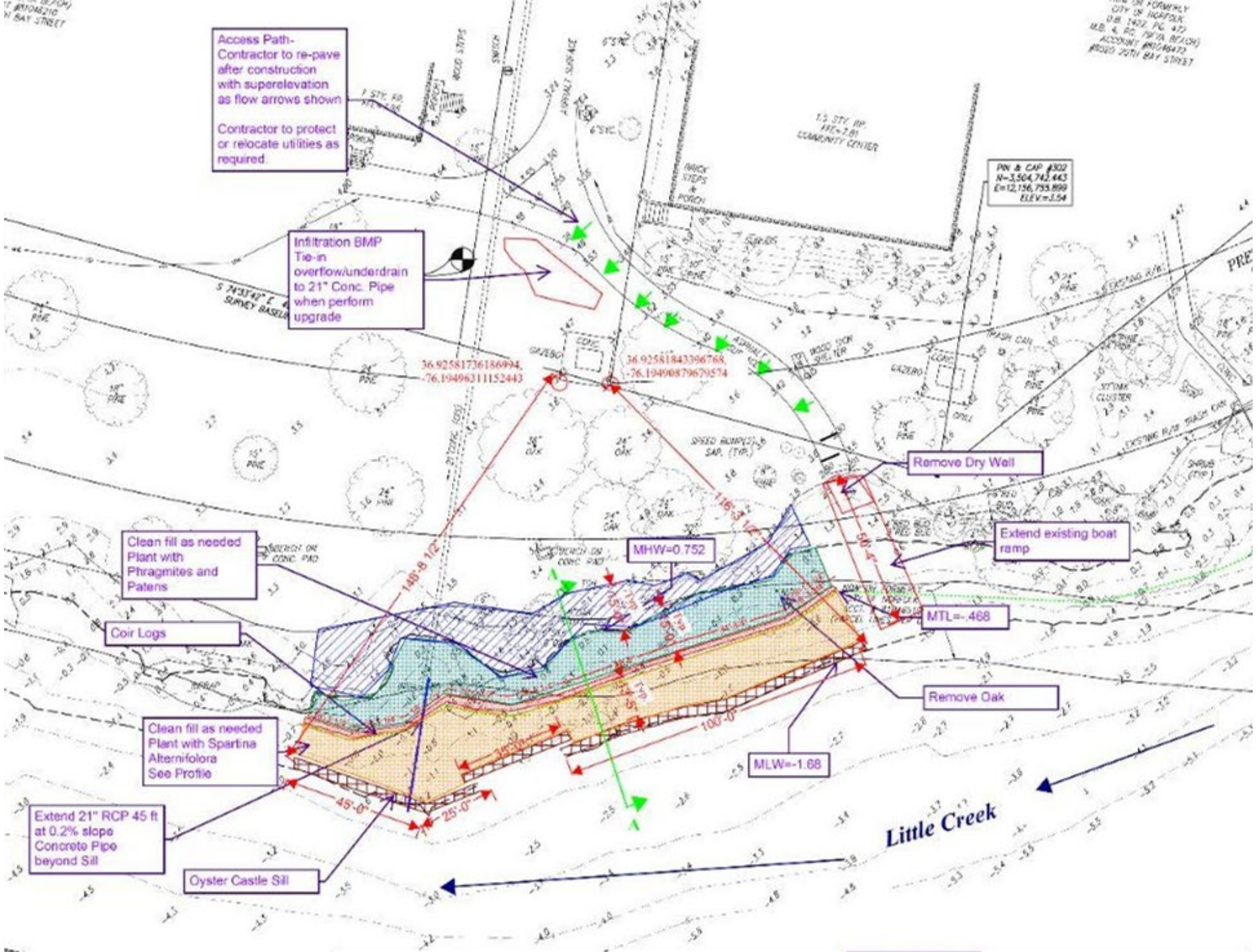
Section View



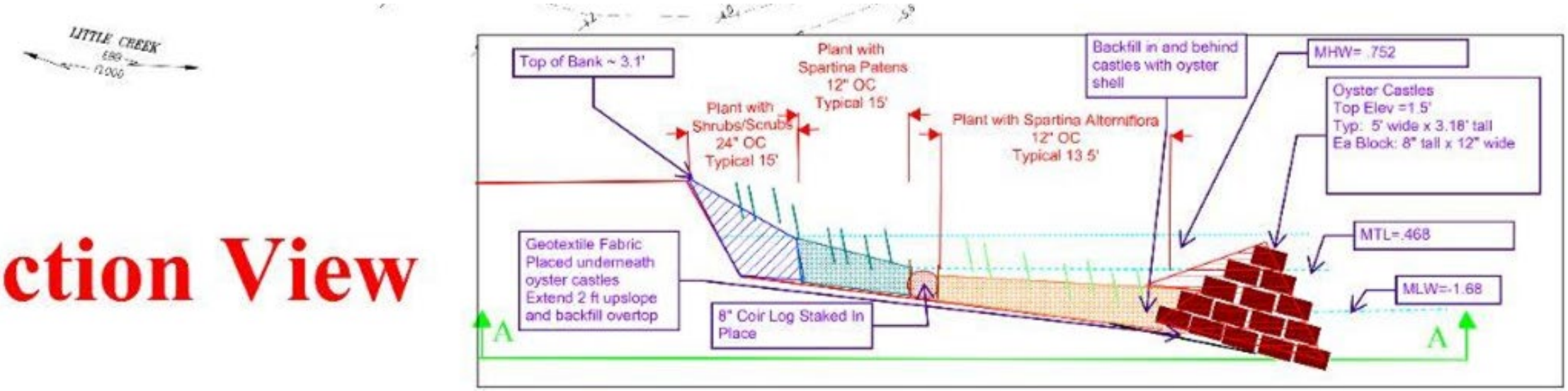
TOPOGRAPHIC SURVEY FOR LIVING SHORELINE
NORFOLK, VIRGINIA
SCALE 1" = 25' JANUARY 24, 2022
SHEET 2 OF 3

PRECISION MEASUREMENTS, INC.
SURVEYORS – GIS – HYDROGRAPHIC – 3D LASER SCANNING
828 PROUDE WAY, SUITE 850
VIRGINIA BEACH, VIRGINIA 23452
TEL: (757) 368-0046
FAX: (757) 368-0047
www.precisionmeasurements.com
VIRGINIA BEACH – NEWPORT NEWS – RICHMOND
CHANTILLY, VIRGINIA – BALTIMORE, MARYLAND
FORT LAUDERDALE, FLORIDA

GRAPHIC SCALE
1" = 25'


Access Path-
Contractor to re-pave after construction with superelevation as flow arrows shown
Contractor to protect or relocate utilities as required.
Infiltration BMP
Tie-in overflow/underdrain to 21" Conc. Pipe when perform upgrade
Remove Dry Well
Extend existing boat ramp
Clean fill as needed
Plant with Phragmites and Patens
Coir Logs
Clean fill as needed
Plant with Spartina Alternifolora
See Profile
Extend 21" RCP 45 ft at 0.2% slope
Concrete Pipe beyond Sill
Oyster Castle Sill
MHW=0.752
MTL=-.468
MLW=-1.68
Remove Oak
Little Creek

Section View



Large Group Discussion

JPA Preparation?
Permitting Questions?
Design Questions?
Struggles?

Photo Source: Wetlands Watch
Living Shoreline by:

CBLP CHESAPEAKE BAY Landscape Professional

Living Shoreline Collaborative

Living Shoreline by:

ELIZABETH RIVER PROJECT

BAY ENVIRONMENTAL, INC. Consulting and Contracting Services