Pensacola Bay Living Shoreline Project
60 % Design Update

June 14, 2021

Overview of Project

- Pensacola Bay Living Shoreline Project will enhance and protect approximately 3 miles of shoreline at 3 sites in Pensacola Bay
- Project Includes:
  - Design and construction of breakwaters
  - Creation, protection and/or enhancement of emergent marsh, submerged aquatic vegetation (SAV) and sandy shoreline habitat
  - Enhance force protection at NAS sites

Design Considerations/Comments

- 2020 Hurricane Season Changes
  - Major design modifications to Site C resulting from the 2020 hurricane season (Tropical Storm Cristobal, Hurricane Sally, Hurricane Zeta) impacted the shoreline, landscape, & upland infrastructure of NAS Pensacola

- Critical Habitat for Gulf Sturgeon
  - Majority of in-water activities proposed between the shoreline and less than -6 ft. deep
  - Clean stone materials and native plantings
  - Gaps provided between reefs and breakwaters to allow for flushing and species movement

- Submerged Aquatic Vegetation
  - Location of SAV included in exhibits
  - Breakwaters and reefs set back from SAV beds – no proposed impacts

Design Considerations/Comments

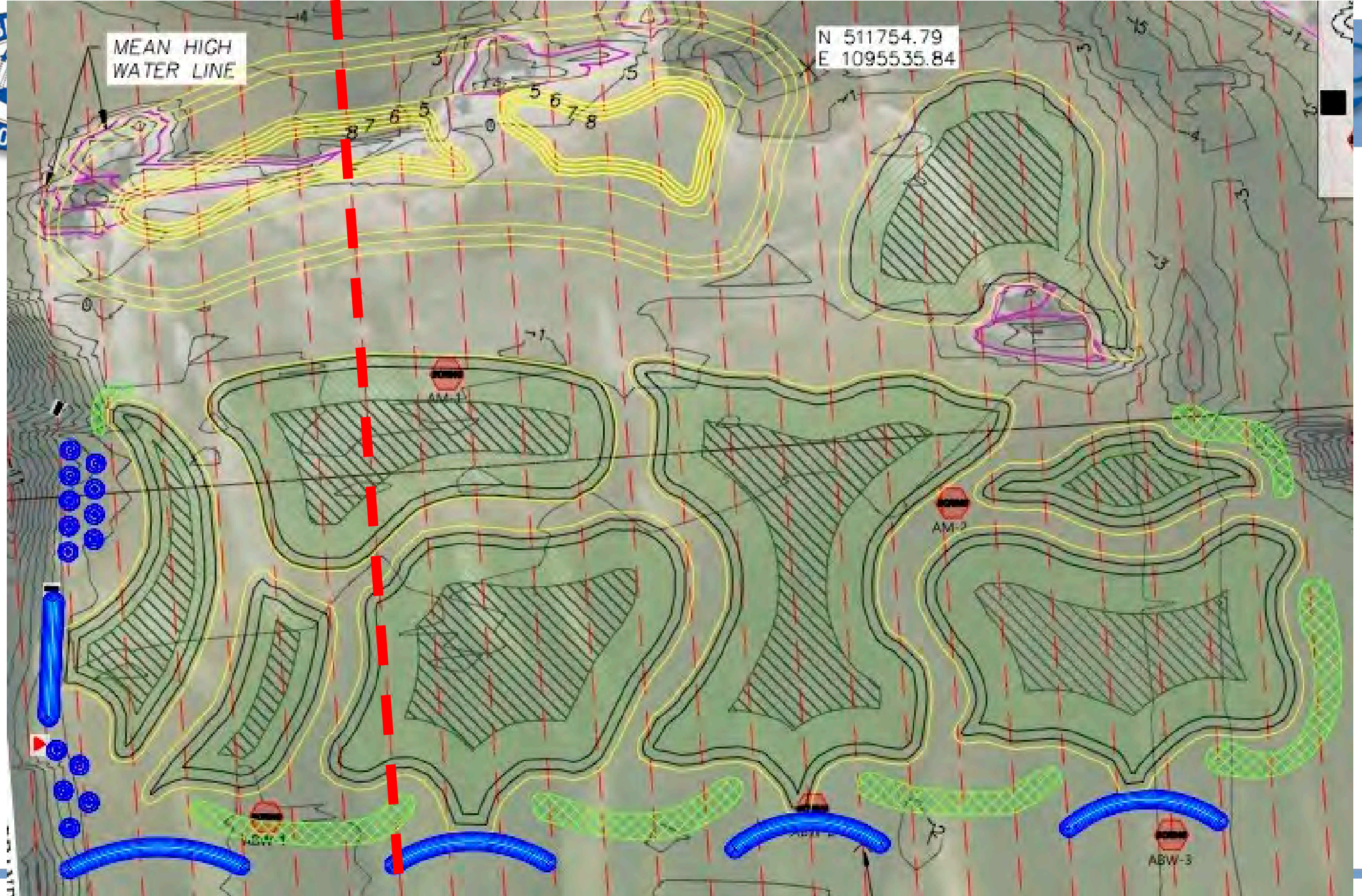
- Bird Air Strike Hazard (BASH)
  - Revised Site C plan to move submerged reefs to east to decrease potential for bird attractants near flight line (discussed at November 2020 site visit)
  - No vegetation plantings proposed at Site C
- Sources of Fill
  - Dredging for Site A - Geotech showed appropriate fill material adjacent to Site A
  - Robertson Island/Corps spoil area for Sites B & C - survey showed required quantity fill
- Submerged Lands Authorizations
  - MHWL survey has been conducted (and updated after Fall 2020 hurricane activity)
  - Public interest project/will dredge no more than required for project
- Sea Level Rise
  - Discussed in Modeling Section

Site “A” White Island

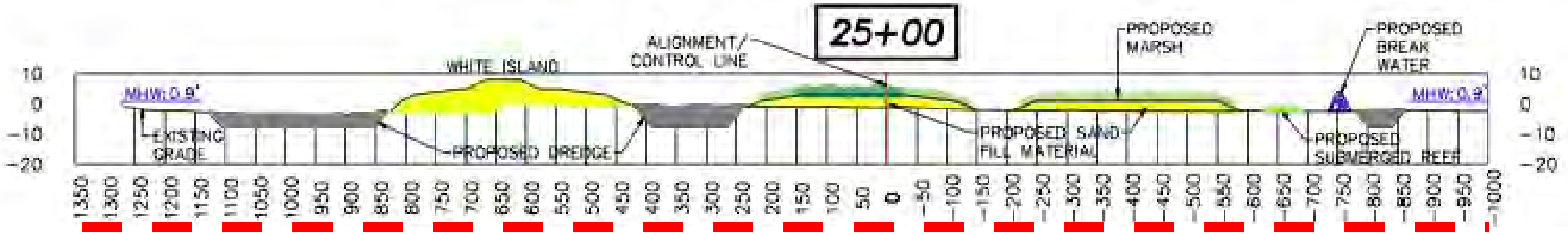
Site “A” White Island

Site Focus and Goals:

- Maximize habitat benefits (marsh, beach and dune, SAV, finfish)
- Reestablish White Island through placement of sand and establishment of appropriate native vegetation
- Design features to maximize the long-term viability of the project by keeping sand in place as much as is feasible while still accounting for ecosystem dynamics
- Provide continued managed access


MEAN HIGH WATER LINE
N 511754.79
E 1095535.84
AM-1
AM-2
ABW-3

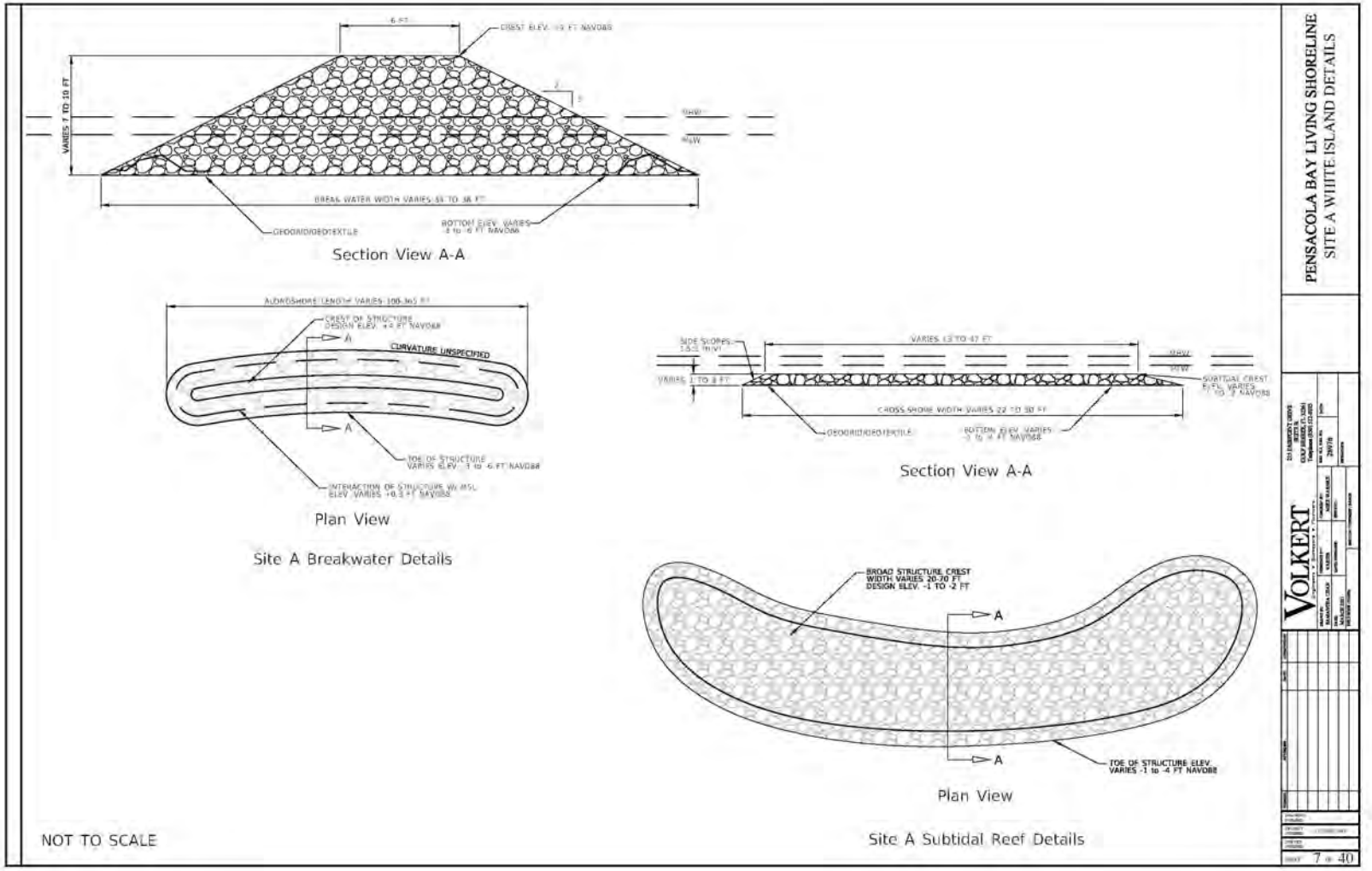
Site “A” White Island



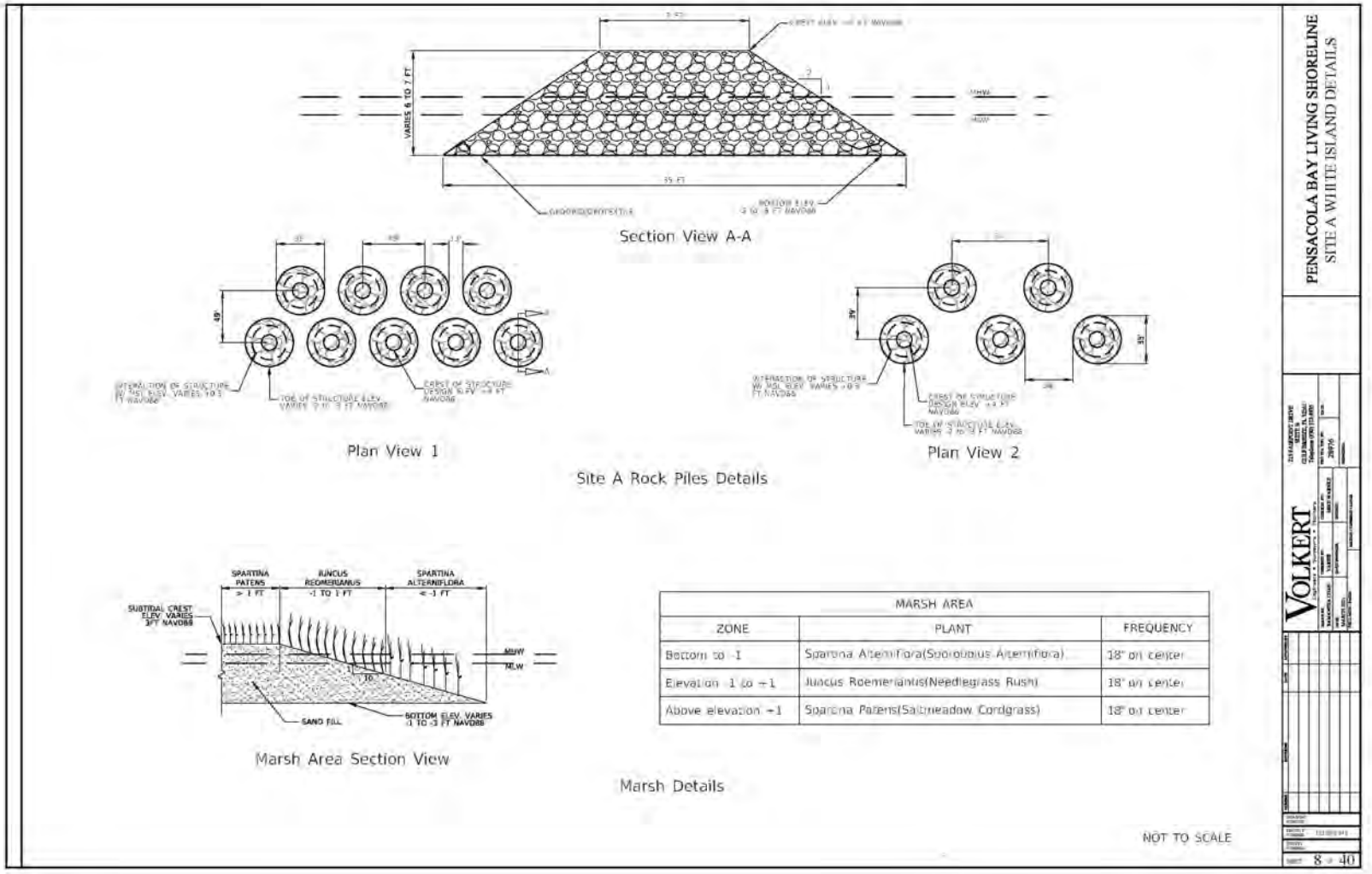
West

East

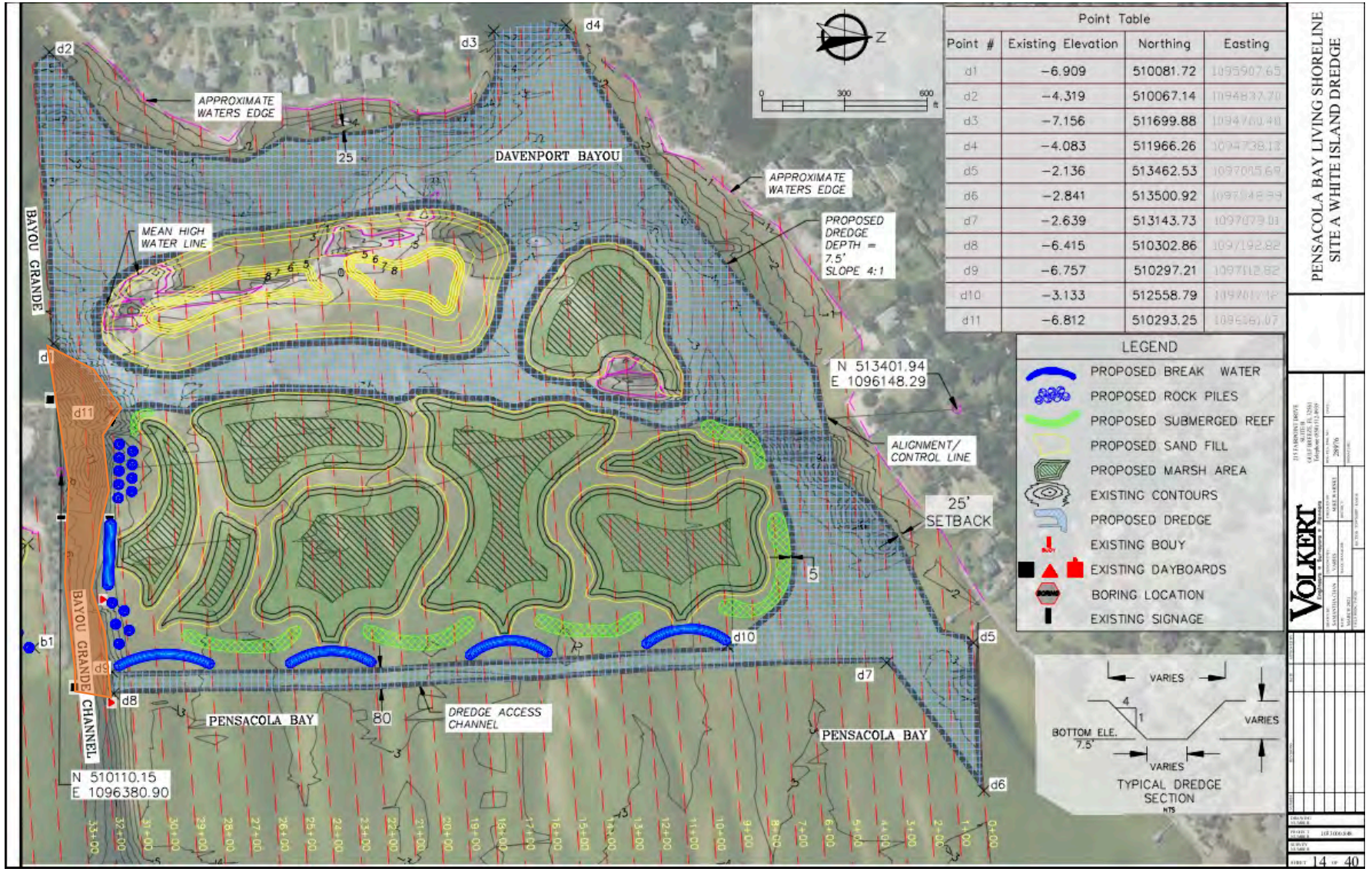
Site “A” White Island



Site “A” White Island

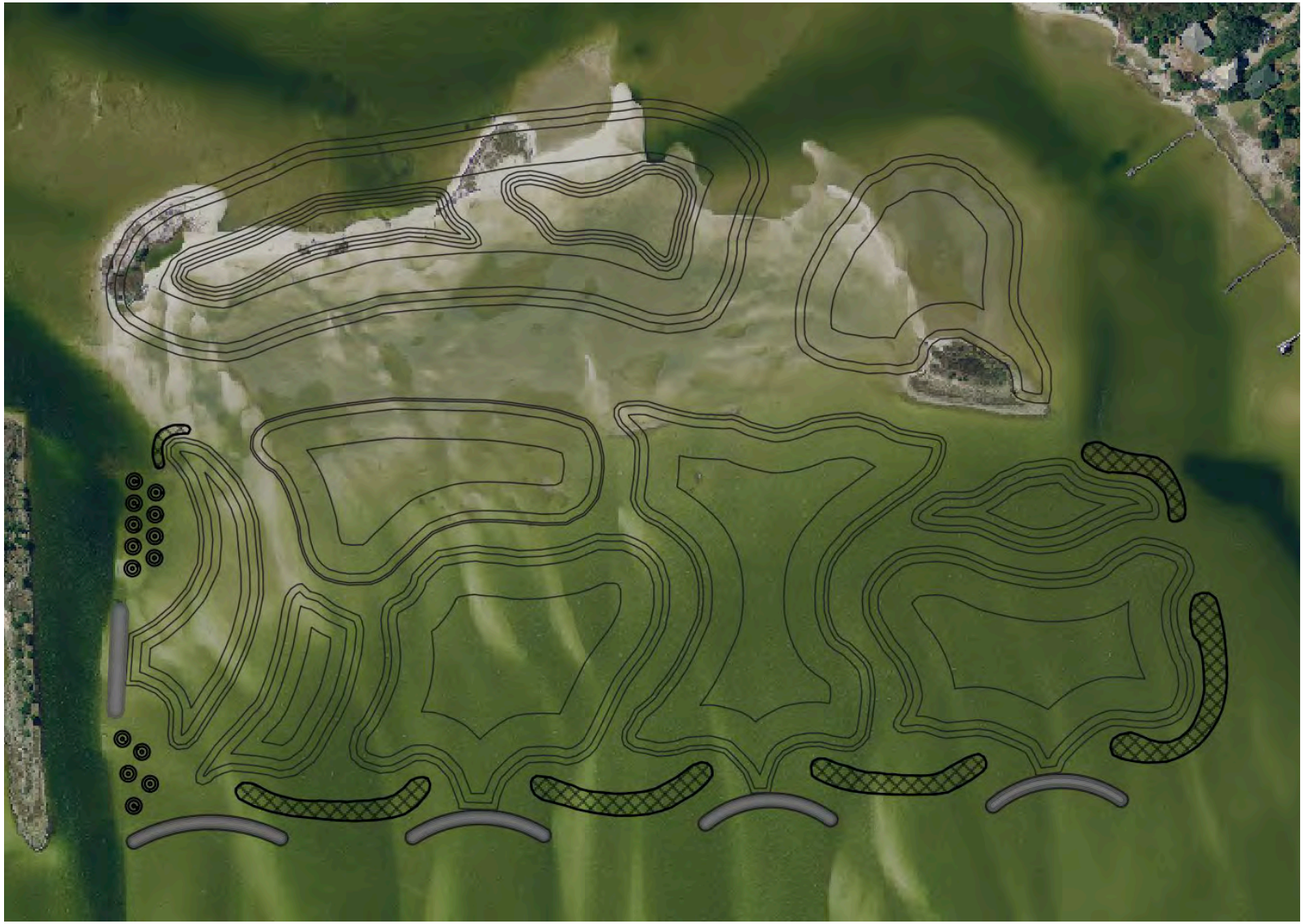


Site “A” White Island



APPROXIMATE WATERS EDGE
DAVENPORT BAYOU
APPROXIMATE WATERS EDGE
A-BORROW-2
A-BORROW-1
BAYOU GRANDE
MEAN HIGH WATER LINE
AM-1
AM-2
N 513002.93
E 1096176.48
ALIGNMENT/ CONTROL LINE
N 510110.15
E 1096380.90
b1
b2
b3
BAYOU GRANDE CHANNEL
ABW-1
ABW-2
ABW-3
PENSACOLA BAY
PENSACOLA BAY
LEGEND
PROPOSED BREAK WATER
PROPOSED ROCK PILES
PROPOSED SUBMERGED REEF
PROPOSED SAND FILL
PROPOSED MARSH AREA
CONTOURS
EXISTING BOUY
EXISTING DAYBOARDS
BORING LOCATION
EXISTING SIGNAGE
SIGN A
SIGN B
0
250
500
ft
PENSACOLA BAY LIVING SHORELINE
SITE A AIDS TO NAVIGATION
VOLKERT
215 FAIRPOINT DRIVE
SUITE B
GULF BREEZE, FL 32561
Telephone (850) 513-0053
DRAWN BY: VALENTINA CHAN
DATE: MARCH 2021
DRAWING NUMBER
PROJECT NUMBER 1033000.848
SURVEY NUMBER
SHEET 9 OF 40

Site “A” White Island



Site “A” White Island

Summary

- Proposed construction of:
  - marsh habitat
  - enhancement of sandy shoreline for managed access
  - support of SAV habitat
  - rock breakwaters
  - subtidal (limestone) reefs
- Preliminary estimate for sand required: approximately 341,000 cubic yards
- Rock Needed: approximately 24,000 tons
- **Creation of ~60 acres of habitat**

Site “B” Eastern Shore

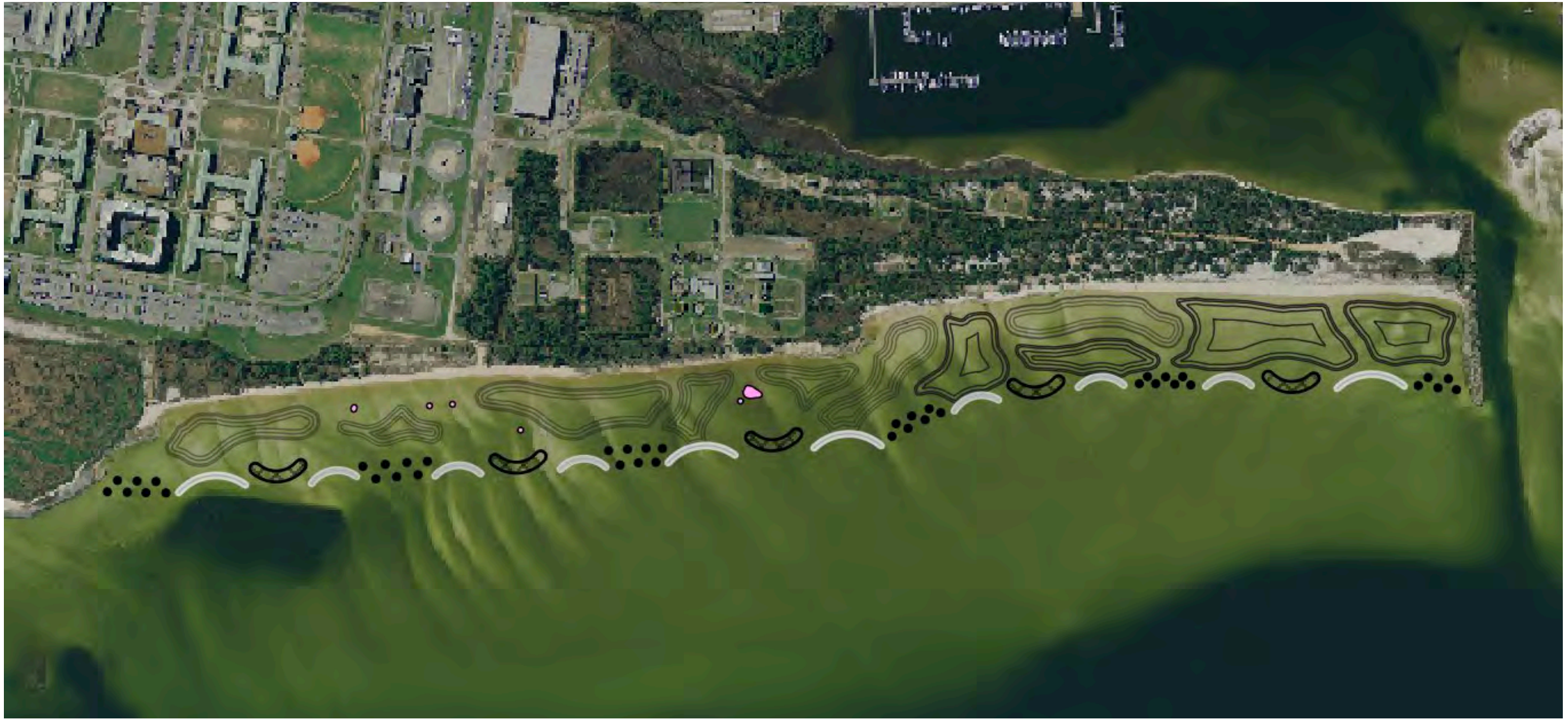
Site “B” Eastern Shore

Site Focus and Goals

- Maximize habitat benefits (marsh, SAV, finfish)
- Assist NAS in force protection through creation of emergent breakwaters and subtidal (limestone) reefs along exclusion zone
- Stabilize the shoreline to reduce sediment input to the bay
- Design features to maximize the long-term viability of the project by keeping sand in place as much as is feasible while still accounting for ecosystem dynamics

Site “B” Eastern Shore

Site “B” Eastern Shore



Site “B” Eastern Shore

Summary

- Proposed construction of:
  - intertidal marsh
  - offshore segmented breakwaters
  - subtidal (limestone) reefs
  - support of SAV habitat
- Preliminary estimate for sand required: approximately 175,000 cubic yards
- Rock Needed: approximately 33,000 tons.
- **Creation and facilitation of ~65 acres of marsh and SAV habitat**

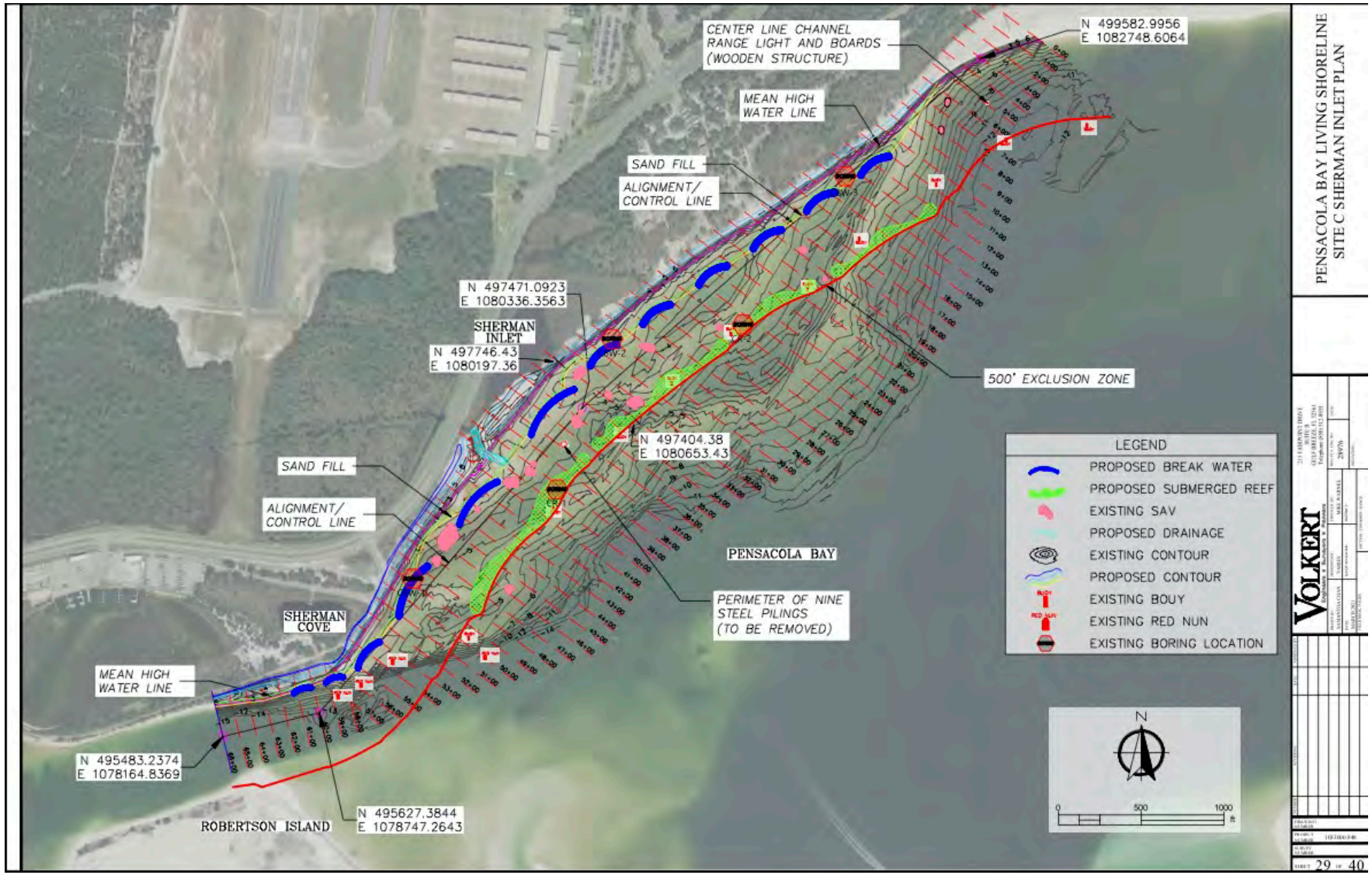
Site “C” Sherman Inlet

Site “C” Sherman Inlet

Site Focus and Goals

- Maximize habitat benefits (SAV and finfish)
- Assist NAS in force protection through creation of subtidal (limestone) breakwaters along exclusion zone
- Stabilize a rapidly eroding shoreline to reduce sediment input to the bay
- Design features to maximize the long-term viability of the project by keeping sand in place as much as is feasible while still accounting for ecosystem dynamics

Site “C” Sherman Inlet



Site “C” Sherman Inlet

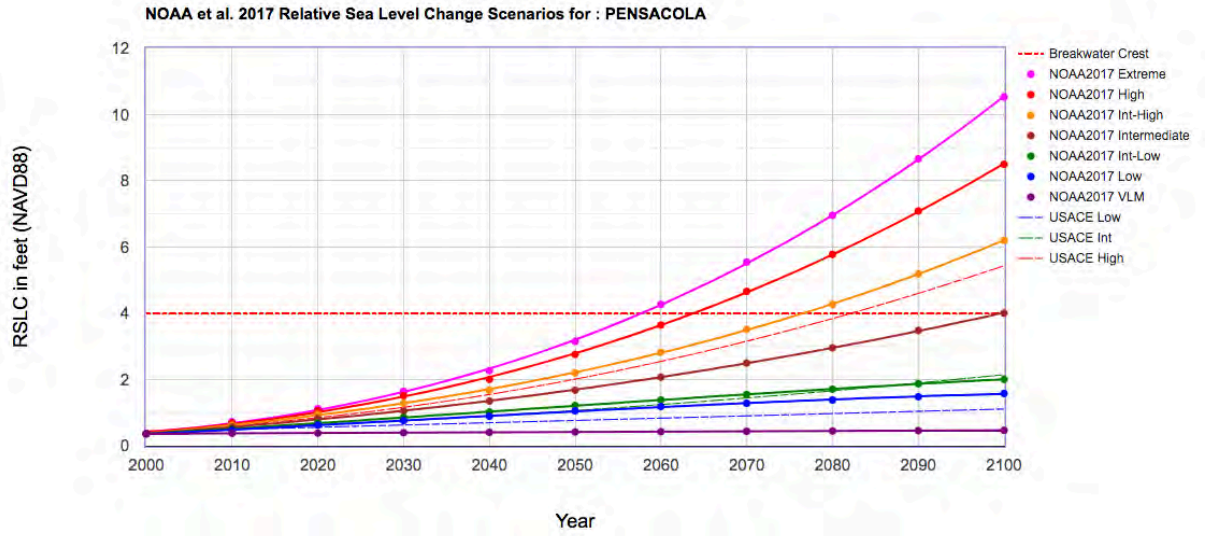
Site “C” Sherman Inlet

Concept Summary

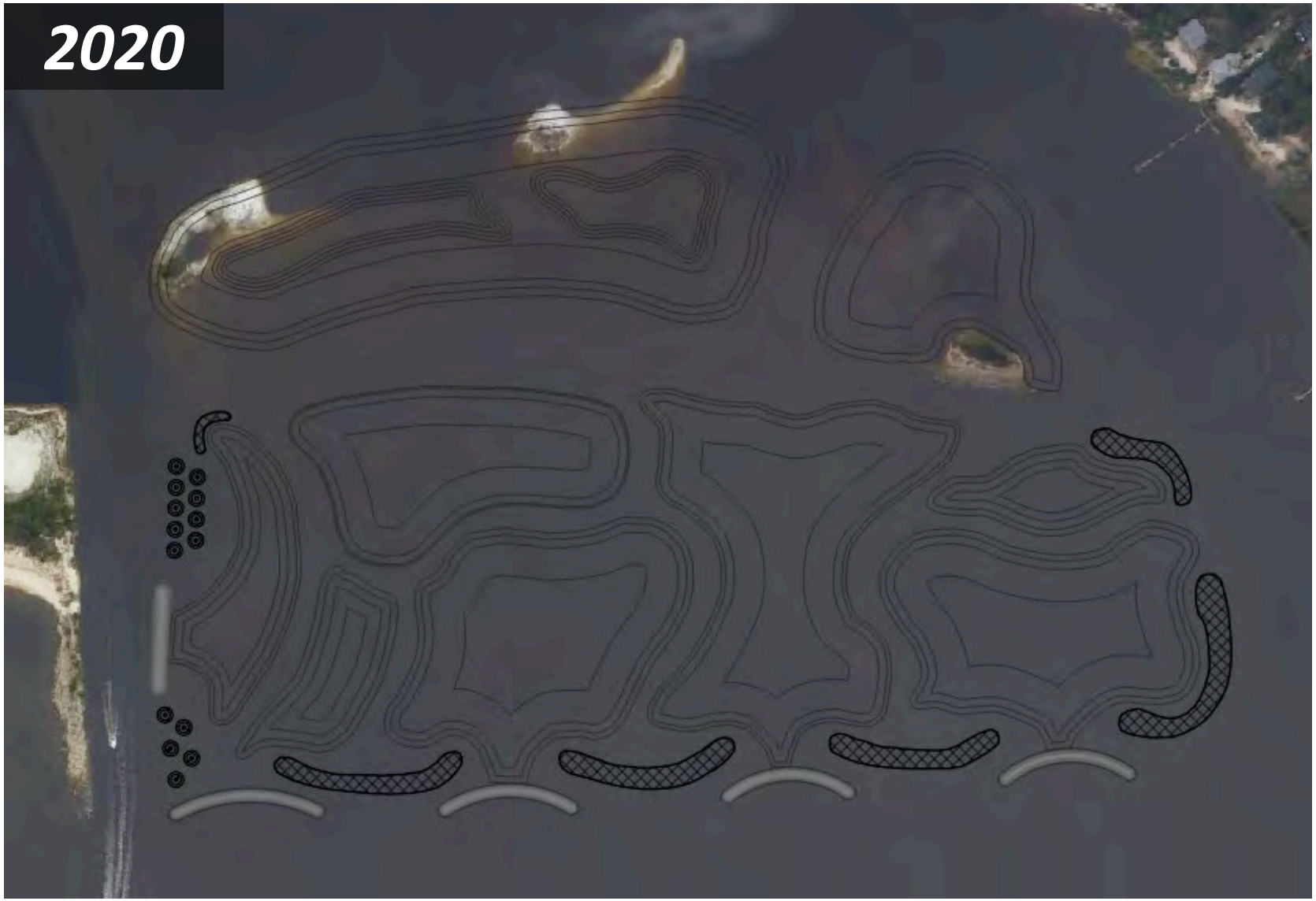
- Proposed construction of:
  - headland breakwaters
  - subtidal breakwaters to stabilize the shoreline and facilitate SAV expansion
- Preliminary estimate for sand required: approximately 390,000 cubic yards
- Rock Needed: approximately 57,000 tons.
- **Creation of 20 acres of sandy shoreline habitat, facilitation of up to 28 acres of SAV habitat**

Resilience Traits

- Storm Frequency: 10% annual chance (10-yr return period)
- Accommodates another 2.1-2.6 ft of SLR beyond present day MHHW
- Useful life for as-built performance is beyond 2050 (likely 2068-2088)
- May become completely submerged 2063 (extreme) to 2084 (likely)
- Breakwaters are “wide” at the top to accept more stone
- Intertidal marsh has an additional 2-3 ft of accommodation space

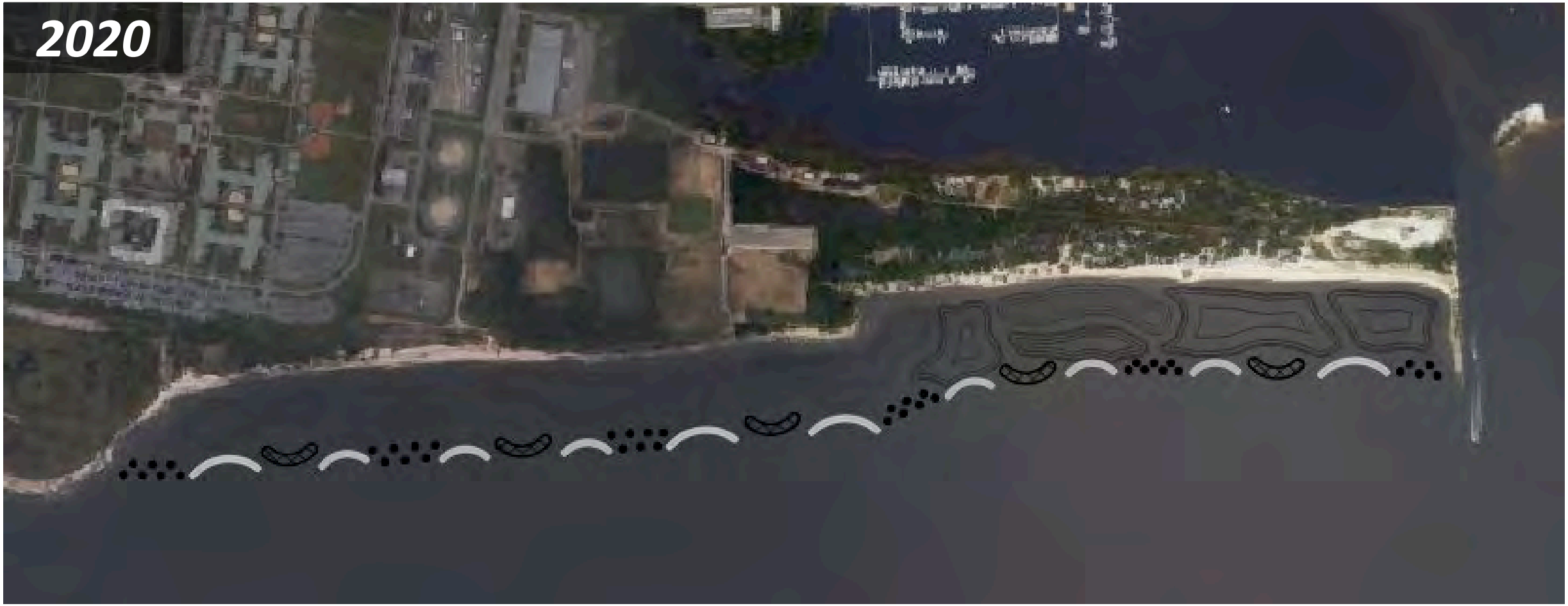


Site “A” Impacts

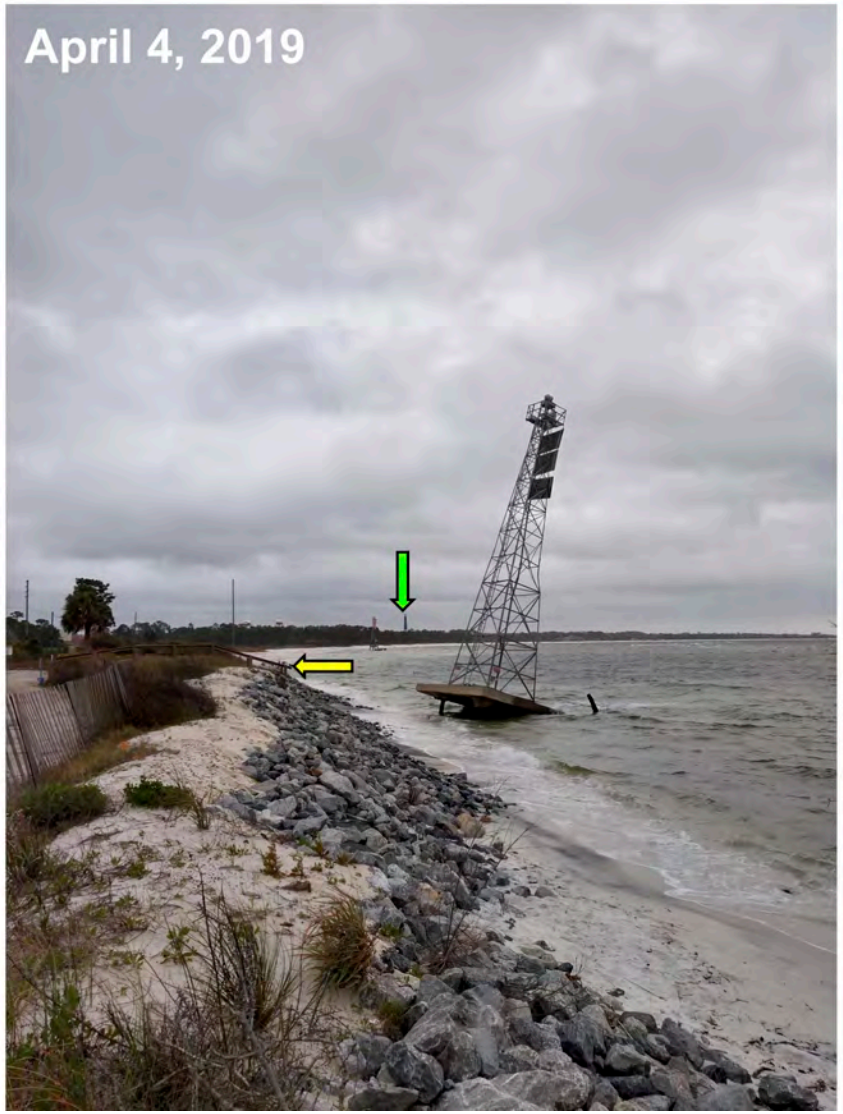


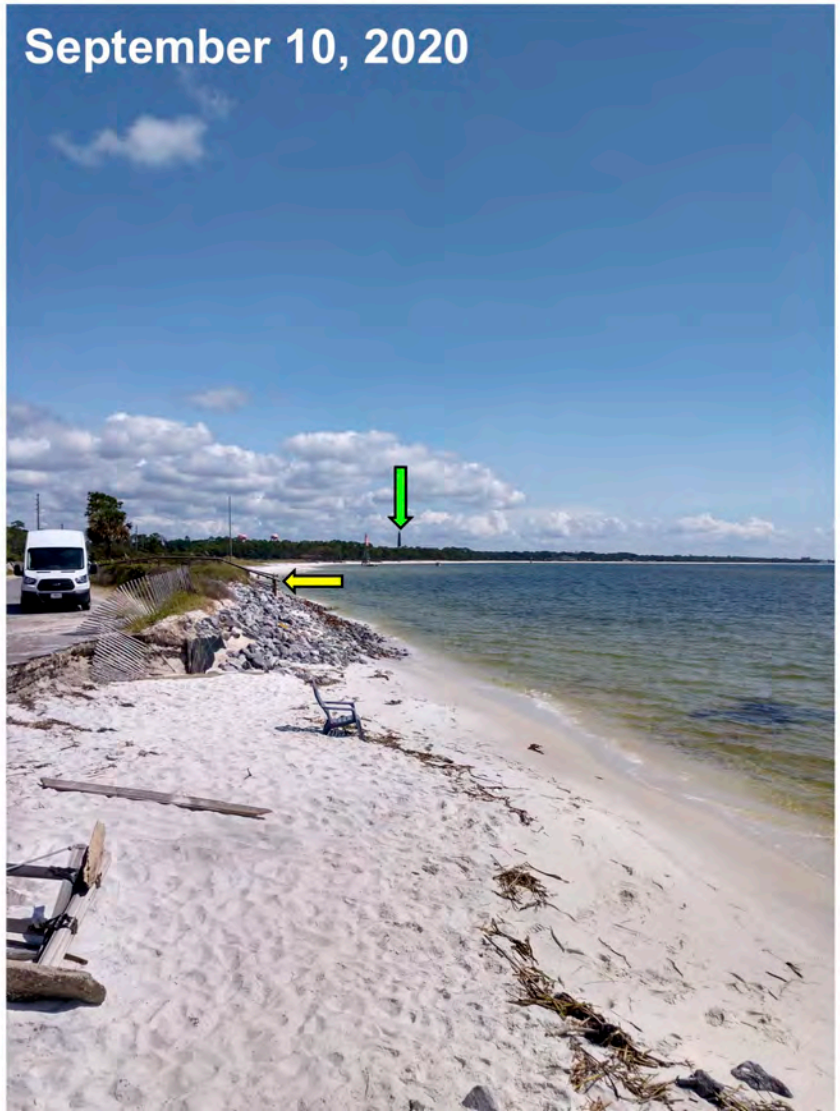
September 2020 – Post-Sally

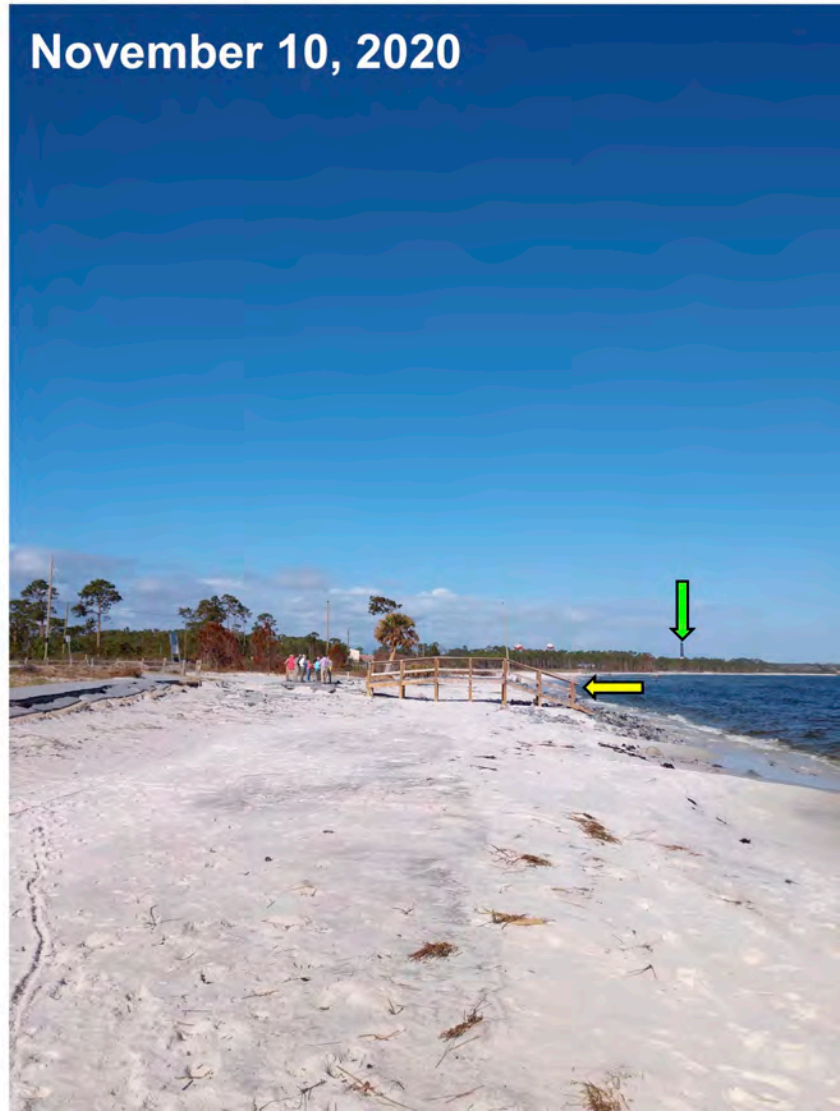
Site “B” Impacts



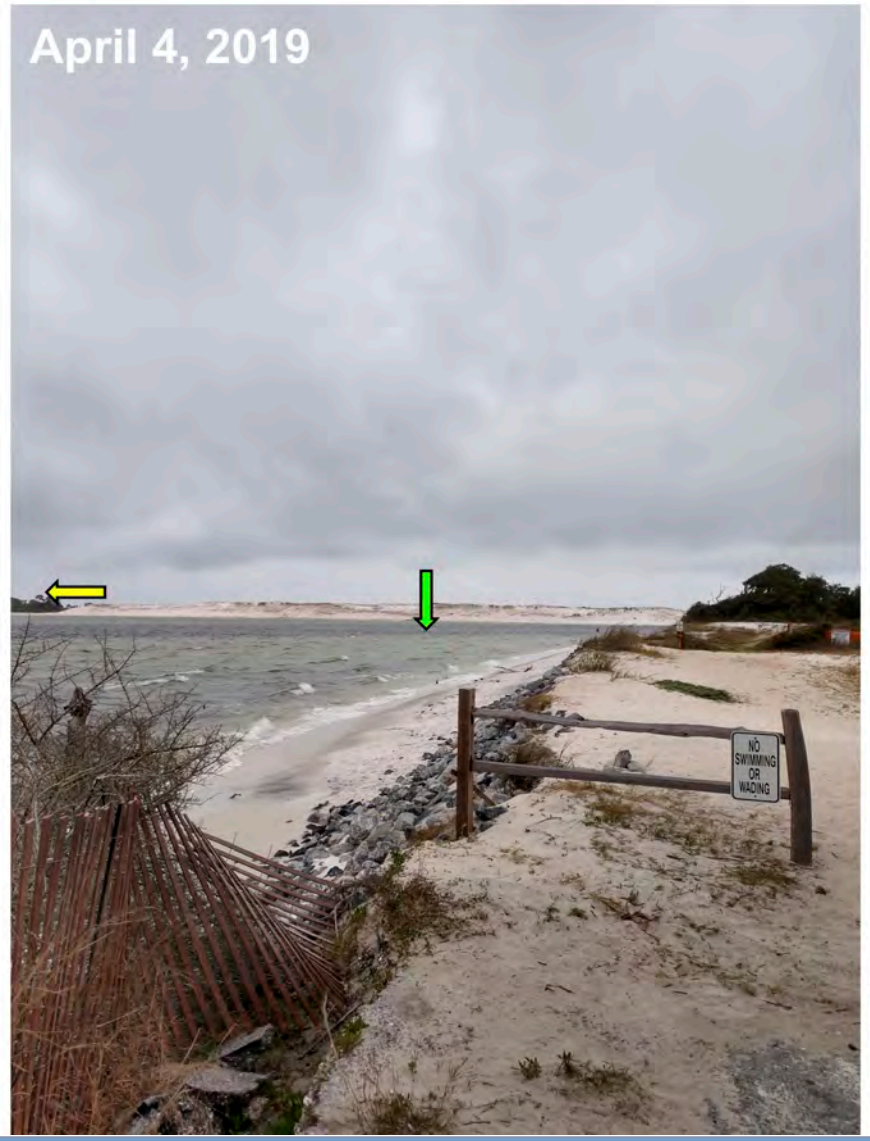
Site “C” Impacts

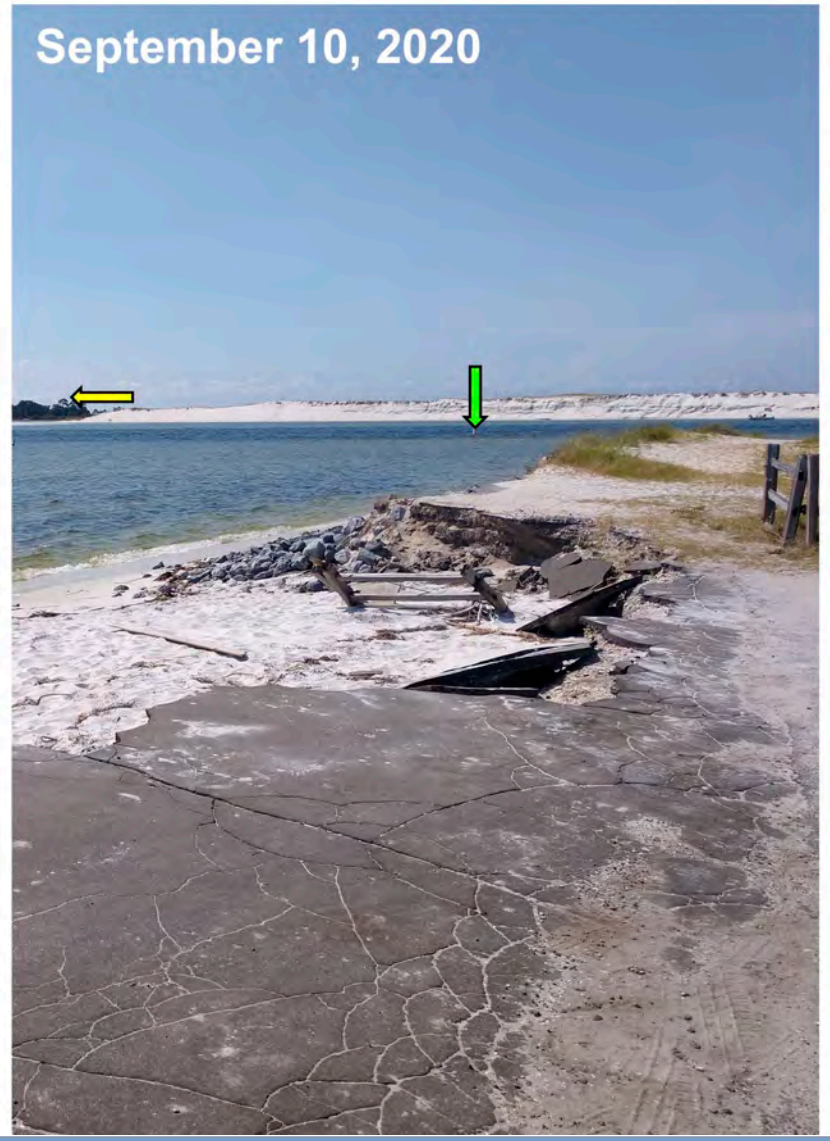


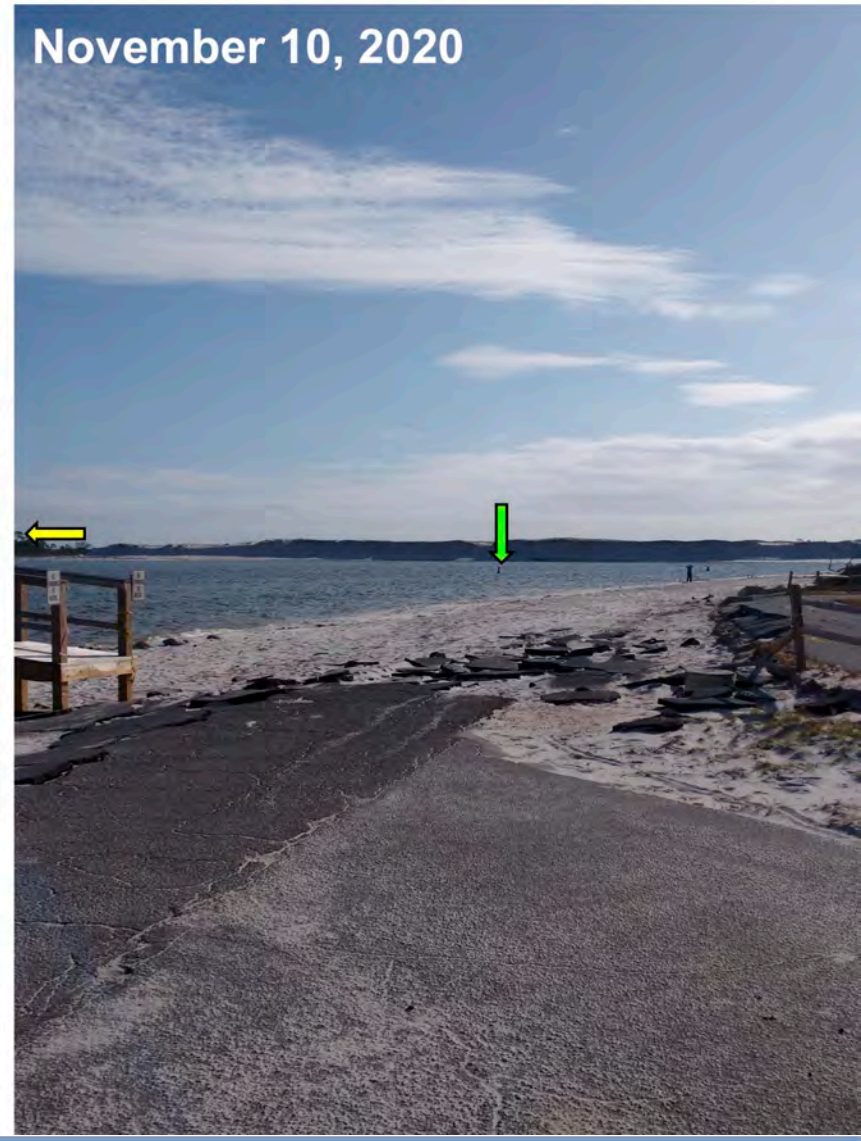




Site “C” Impacts







Site ”C” Impacts

Next Steps

- Permit Submission
- Permit Public Comment Period
- Resolve State/Federal/Public Comments & Questions
- Finalize Borrow Area & Dredging Plans
- Update Project Designs & Specifications (as needed)
- Update Project Costs

Construction Funding

The National Fish and Wildlife Foundation has awarded over $11.5 Million to the Pensacola Bay Living Shoreline Project!

- Gulf Environmental Benefit Fund (GEBF)
  - $9 Million for White Island
- National Coastal Resilience Fund (NCRF)
  - $2.5 Million for Sherman Inlet

Thank you!

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Escambia County

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https://myescambia.com/open-government/projects/project-details/nas-pensacola-bay-living-shoreline-project