

# Sebastian Inlet

## South Shoreline Rehabilitation Project

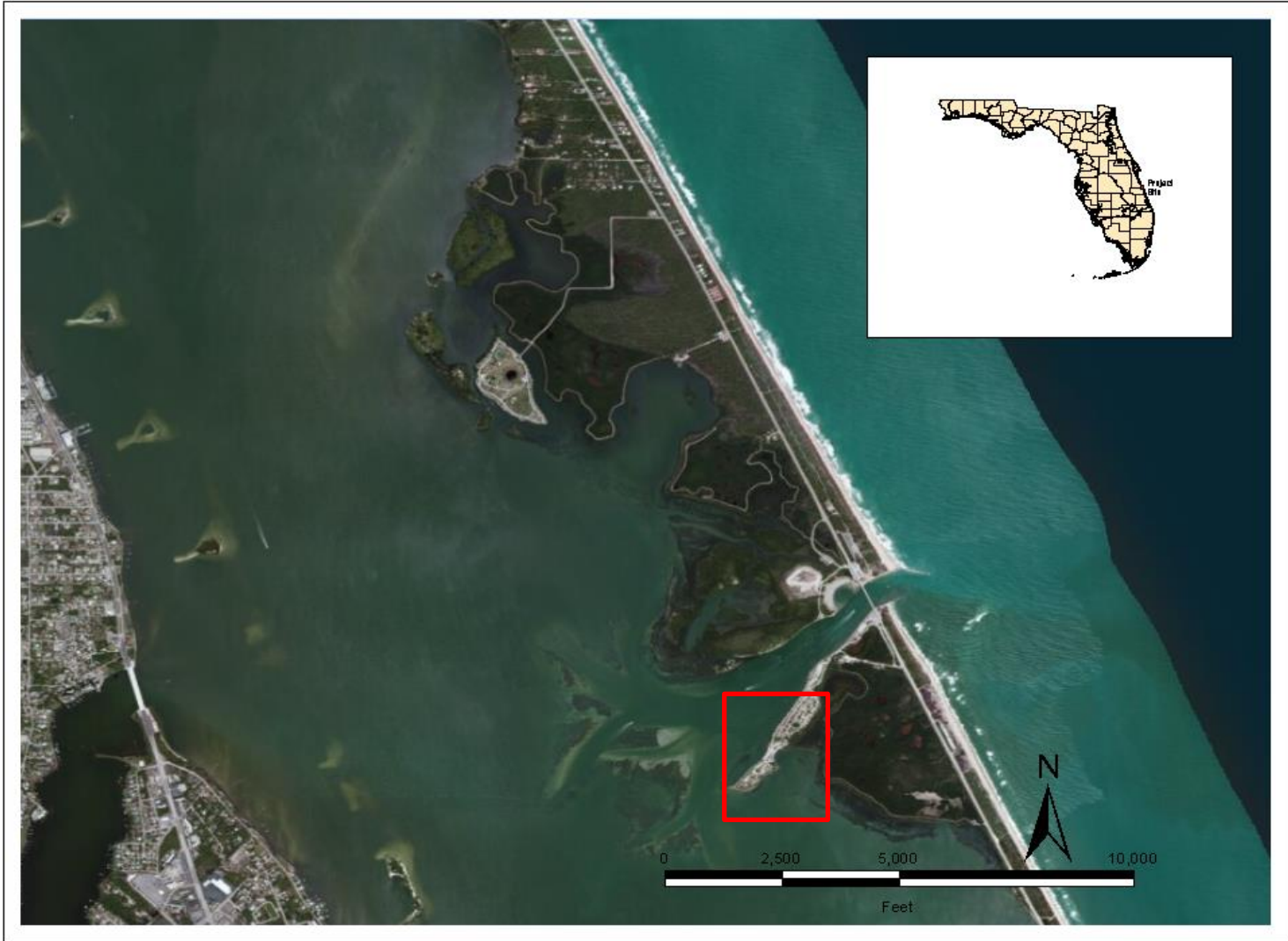
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**With:**  
**Martin S. Smithson**

**For:**

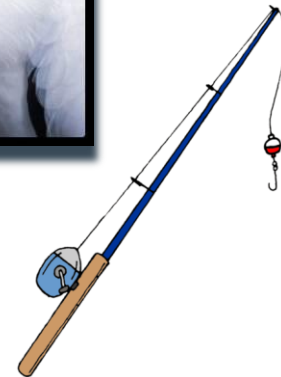
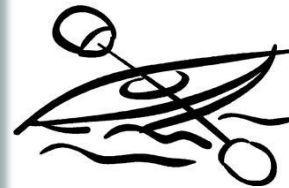


**FLORIDA SHORE & BEACH  
PRESERVATION ASSOCIATION**  
A League of Cities and Counties on Beach and Coastal Issues



# Sebastian Inlet State Park

- Picnicking, birding, non-motorized boat launch, and fishing





# History of Erosion at Coconut Point

- Coconut Point is a manmade peninsula
- Previous stabilization methods have had marginal success



# Coconut Point Phase I



Before

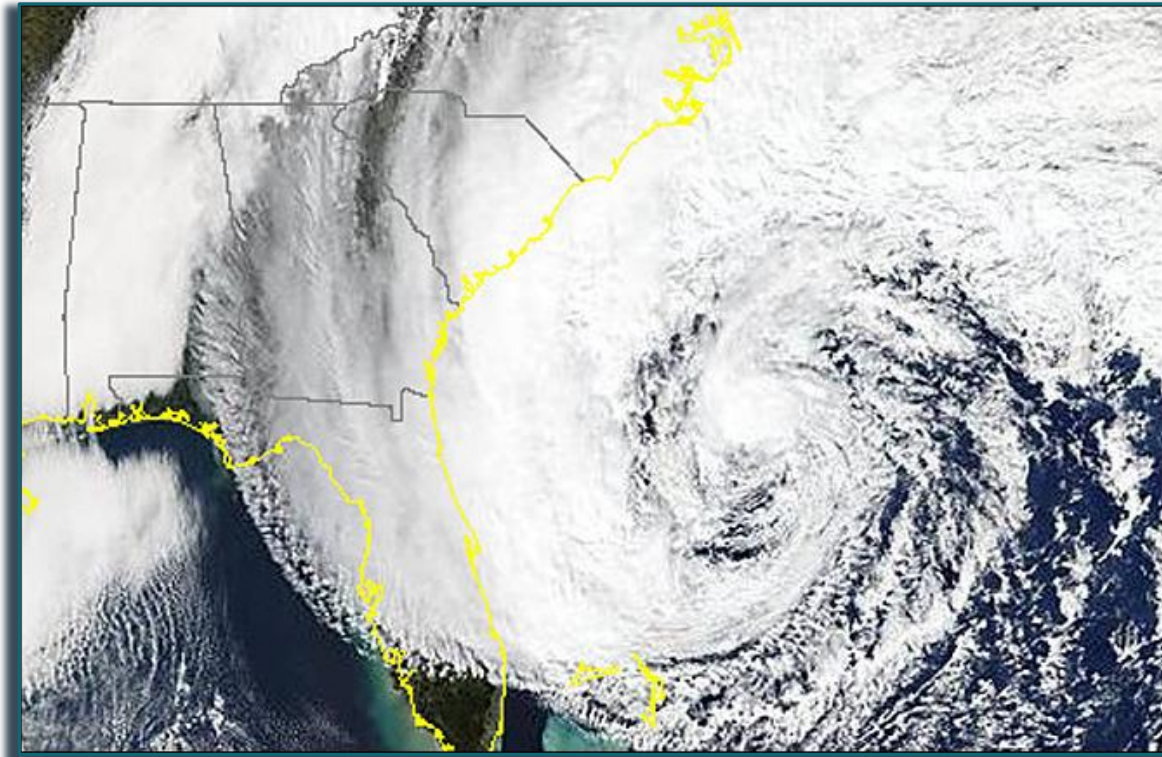
- Construction was completed in October 2012
- Phase II was deferred until 2013



After



# Superstorm Sandy



October 26, 2012

- Winds at the Park of 40 mph
- 3 days of extreme high tides

# Damage Threatening Infrastructure

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# Damage Threatening Infrastructure


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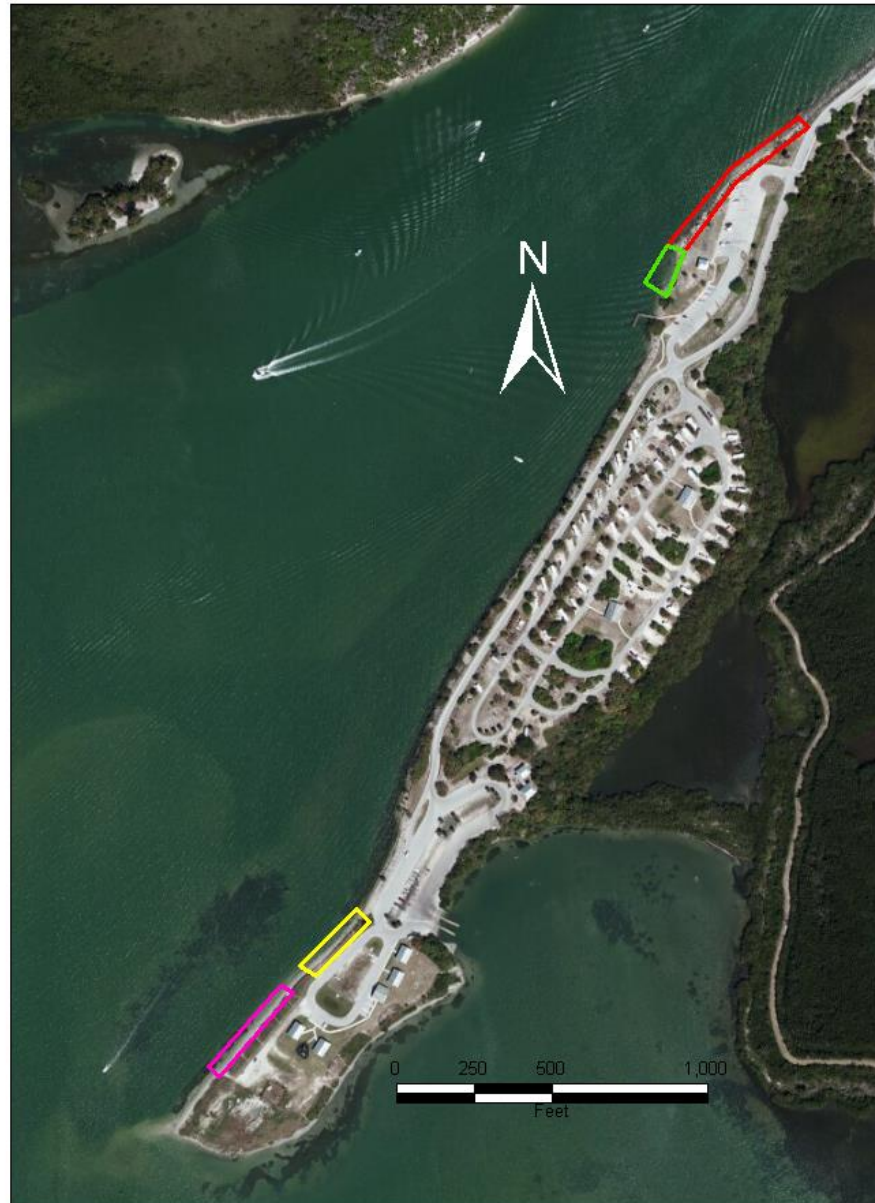




# Project Areas

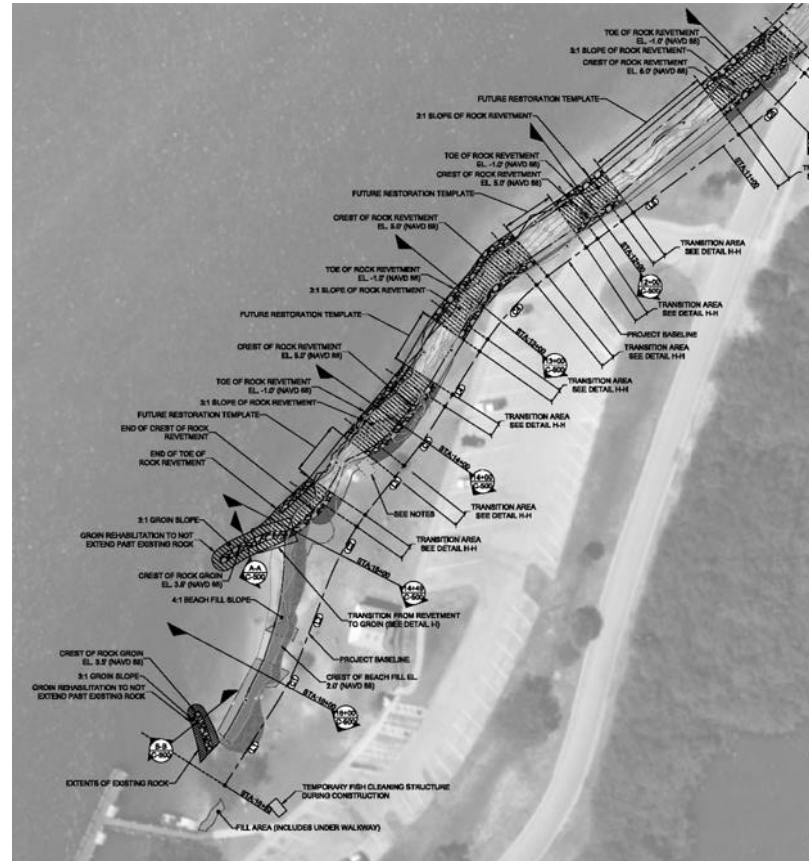
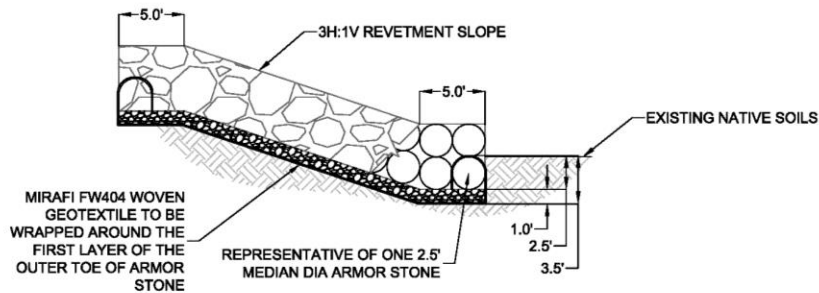
## Legend

-  Revetment Area
-  Beach Area
-  Launch Area
-  Walkway Area



# Revetment Area Design Approach

- Land-based construction methods
- Earthwork
- Geosynthetic fabric
- Bedding stones
- Armor stones





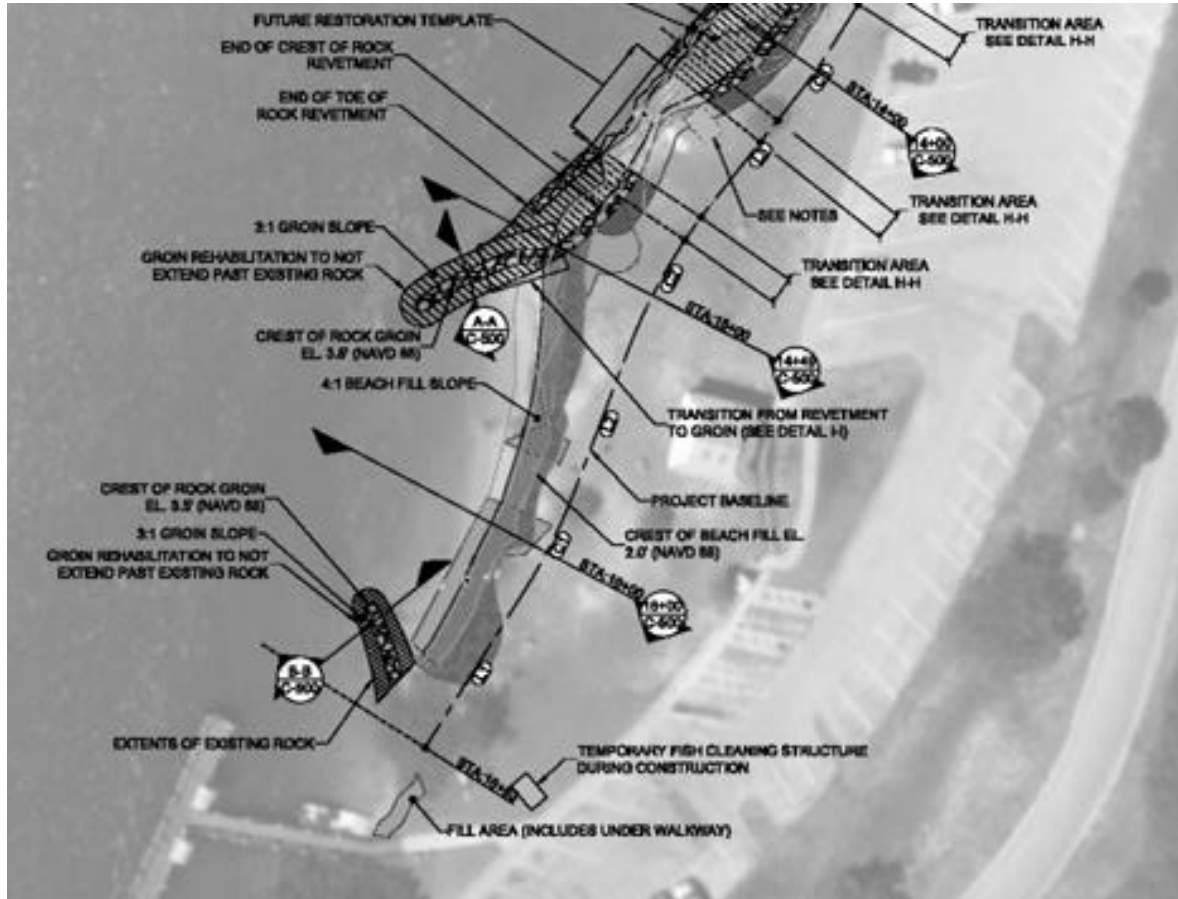
# Revetment Area Design Approach

- Limestone revetment toe in the intertidal zone provides habitat for:
  - Natural recruitment of mangroves
  - Crabs
  - Invertebrates
  - Fish



# Beach Area Design Approach

- Existing groins were augmented to provide enhanced protection against wave action while still providing a natural beach area





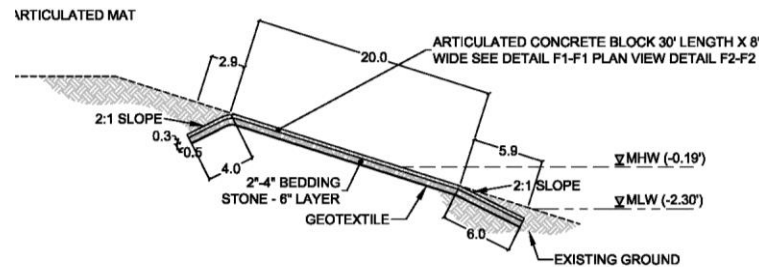
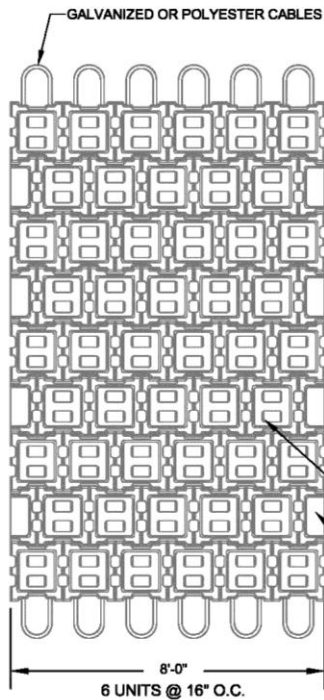
# Beach Area Design Approach

- Existing groins were augmented to provide enhanced protection against wave action while still providing a natural beach area



# Launch Area Design Approach

- Articulated block mattresses were installed in two areas



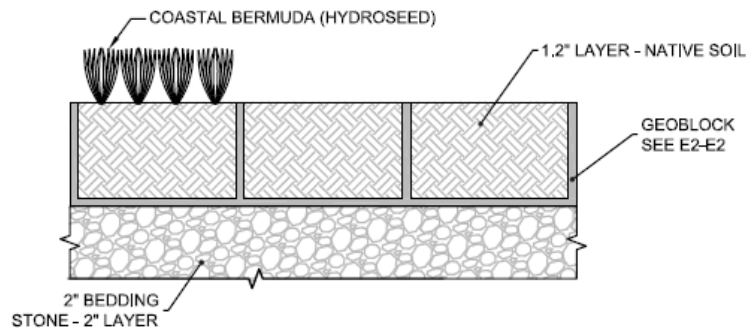
F-F: TYPICAL ARTICULATED CONCRETE BLOCK INSTALLATION CROSS SECTION



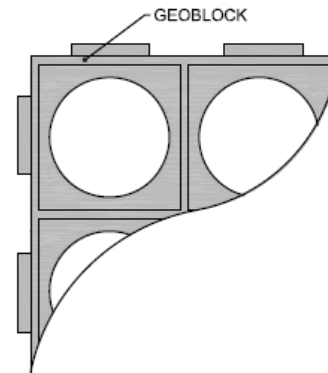


# Walkway Area Design Approach

- Install geoblock in designated walkways
- Repair existing geoweb cellular confinement material



E1-E1: TYPICAL GEOBLOCK CROSS SECTION



E2-E2: TYPICAL GEOBLOCK PLAN VIEW



# Walkway Area Design Approach

- Vegetated shoreline helps keep Sebastian Inlet State Park as natural as possible and blends with existing vegetation

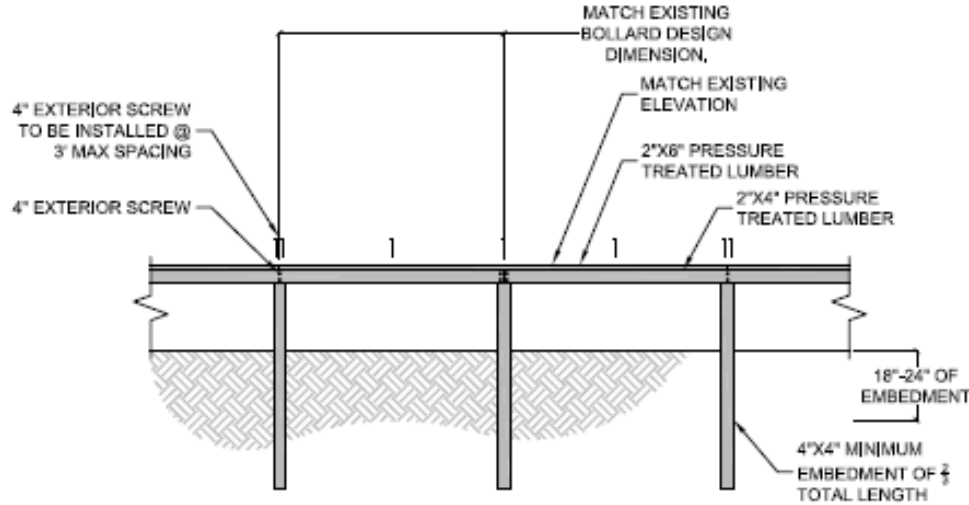
- Marsh hay cord grass
- Railroad vine
- Beach morning glory





# Walkway Area Design Approach

- Stabilization of designated access corridors with geoblock material containing native vegetation
- Installation of bollard fencing



G-G: TYPICAL BOLLARD SECTION



## Permitting:

- St. Johns River Water Management District
- U.S. Army Corps of Engineers



# Construction

- Contractor: Dickerson Florida, Inc.
- Construction: Start - July 2013



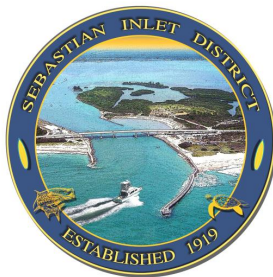
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Completed - October 2013.

- Project cost: \$307,500
- Permit Compliance & Construction Administration:

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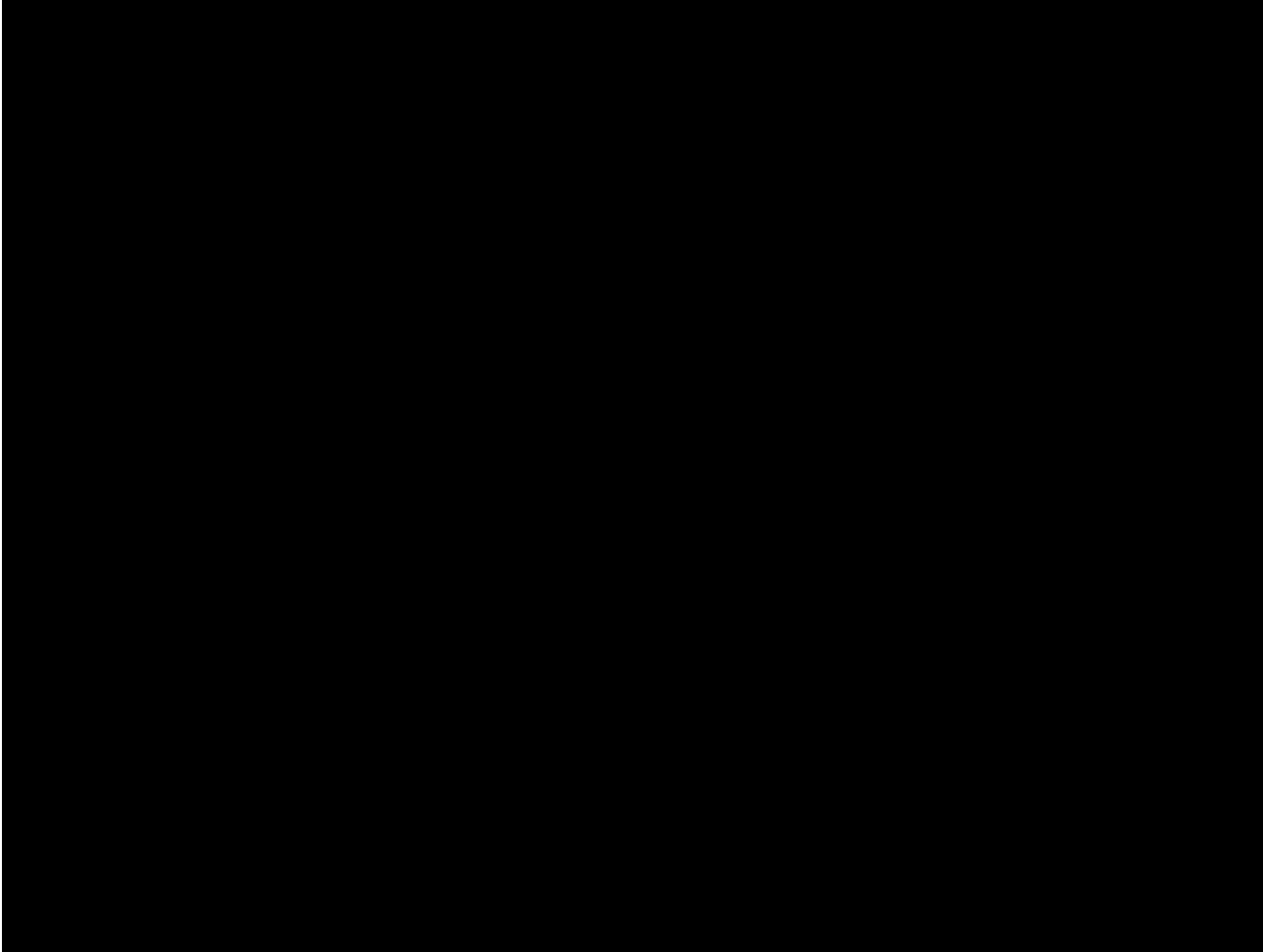
- Partnership:





# Construction

- Quality Control of Armor Stones



# Construction

- Sand source: Boat Ramp



# Construction

- Traditional armoring





# Launch Area



Before

After



# Designated Walkway Area



Before



After





# Construction

- Native planting
  - Superior Waterways





# October 2013 Storms

- Strong north winds uprooted many immature plantings
- High water levels due to a combination of high tides and storm surge scoured material covering the geoweb



# Dredge Material Management Area

- Component of the comprehensive inlet management strategy
- Construction completed July 2011
- Provides short-term location for dewatering and storing up to 28,000 cubic yards of excavated sand

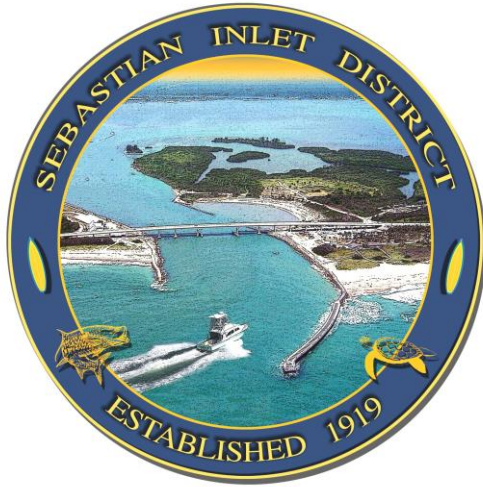


# Lessons Learned





# Acknowledgements



# Questions? Thank You!

