

Sebastian Inlet District Dredged Material Management Area and Tide Pool Restoration Project

Florida Shore & Beach Preservation Association

we're working hard to make sure
our beaches are safe and healthy

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an Atkins company



HWY 1A

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Background

- Old Inlet prior to inlet stabilization in 1947
- Used as upland disposal area for inlet dredging
- Flexibility in managing inlet sand bypass
 - Smaller projects, hot spots
 - Truck haul option, protect nearshore hard bottom
- Provide dewatering, temporary holding area for sediment
- Accretion in the tide pool area, beneficial reuse
- Tide Pool is a prominent foraging area
 - Wood Storks
 - Skimmers
 - Terns
 - Gulls
 - Brown Pelican
 - Double-crested Cormorant
- Maintain habitat, increase recreation potential

Historical Aerials



1968



1974

Historical Aerials

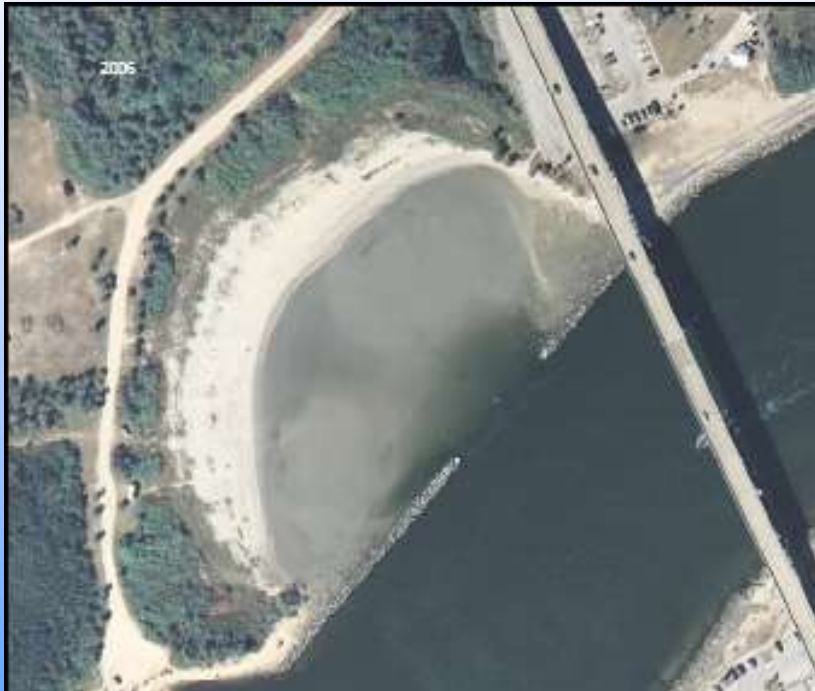


1984



1994

Historical Aerials



2006



2009



1993

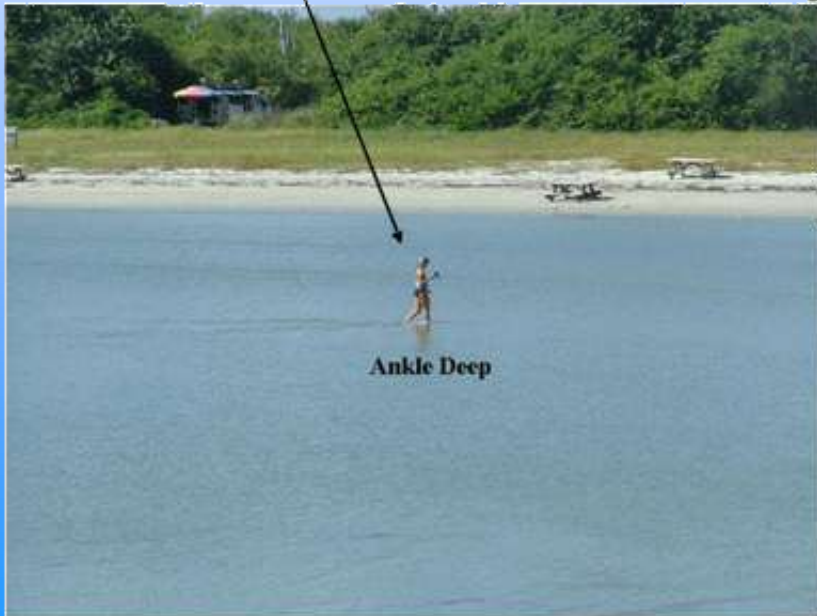
2005-2009

Historical Overlay 1993 - 2009

Prior to Excavation



Prior to Excavation



Easement swap

- 2.2 acres existing SID easement
 - wetland and mangrove
- 5.2 acres State Park overflow parking

Win, Win!



Not so fast.....

Feasibility Study

- Field Data collection
 - survey, jet probes, sediment cores, gopher tortoise and wetland location
- Permitting, lots of permitting!
- Many alternatives discussed
 - Lined berms
 - Ability for intermediate berms, internal cells
 - Excavating all berm material from tide pool
- Modified Final design
 - Varying elements/elevations in tide pool
 - Truck remaining material in for berms

Permitting

- FDEP- DMMA
- SJRWMD –Tide Pool
- USACE – DMMA & Tide Pool
- FWC – Tortoises, Manatees, Sea Turtles and Sawfish
- FDOT – Construction access road
- NMFS – Marine invertebrates, Juvenile fish
- USFWS – Wood Storks and Piping Plover

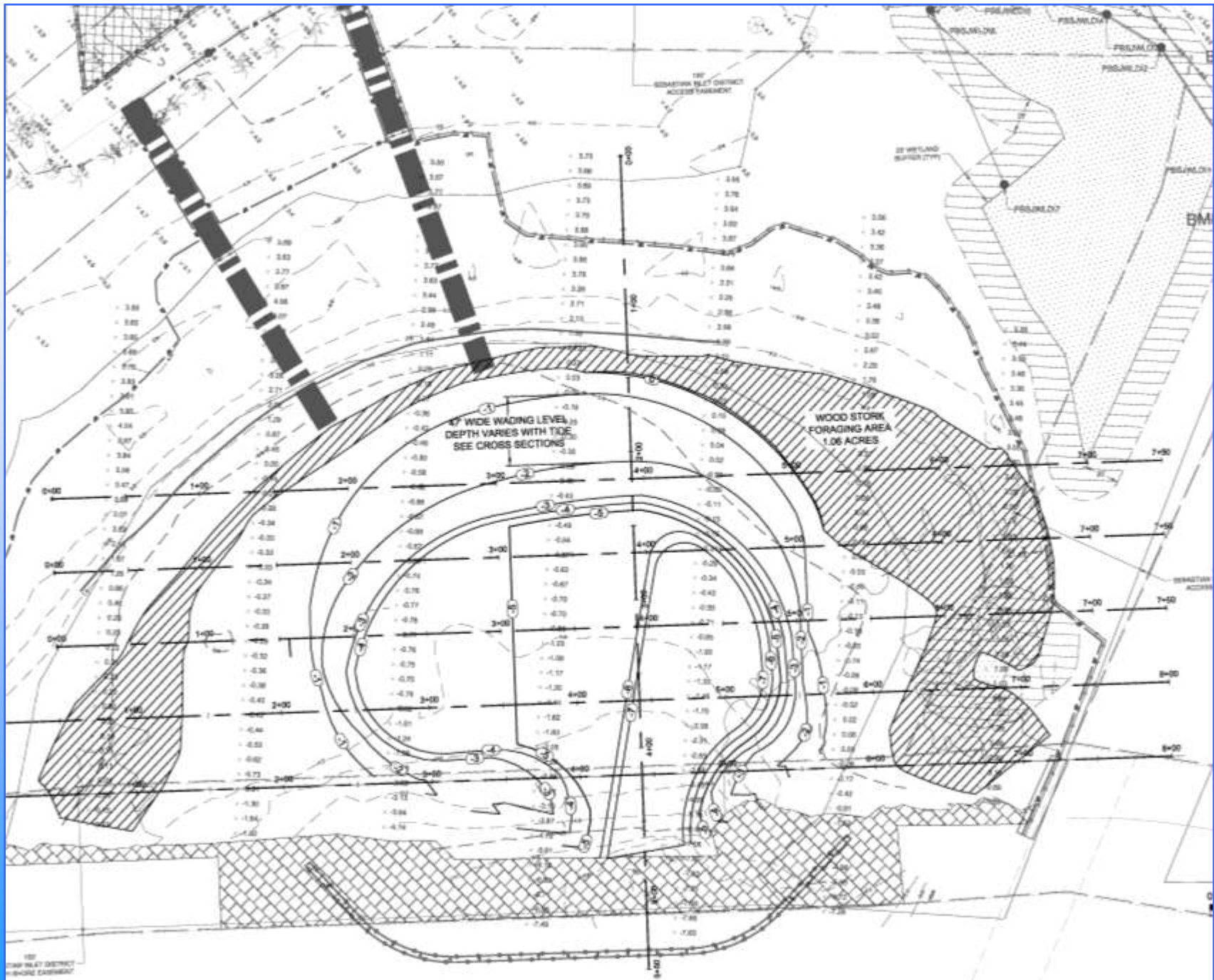


DMMA Requirements

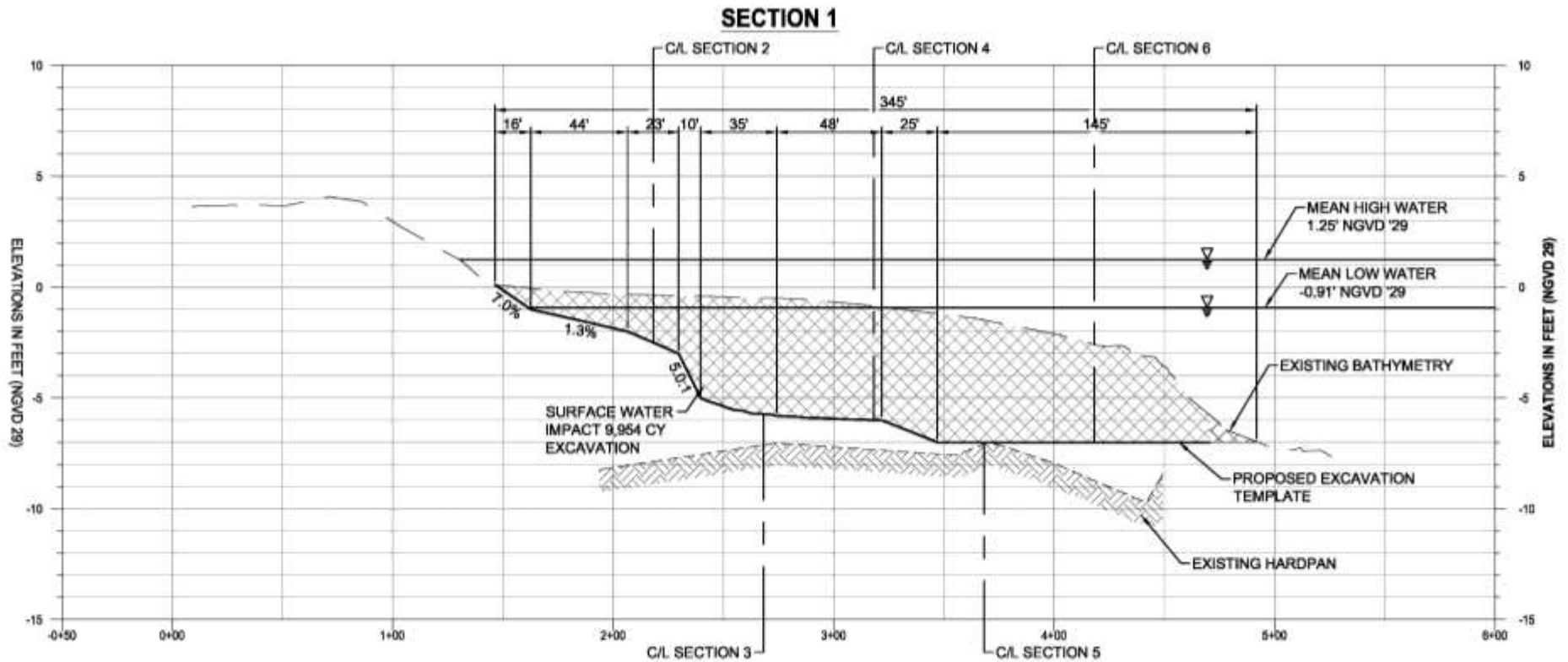
- SID must bypass 90,000 CY/year average per SIMP
- Retain fill for:
 - trucked beach restoration,
 - emergency channel dredging
 - sand trap expansion
- Maximize area, wetland buffer - 28,000 CY capacity
- Top width 15', Bottom width 75'
- Top Elevation - 14' NGVD 29, Bottom – 4'
- Lined berms
- Fill – 10,000 CY from Tide Pool, 13,000 from Micco Rd. SJRWMD
- Stabilized access road
- Swales for stormwater treatment

Tide Pool Requirements

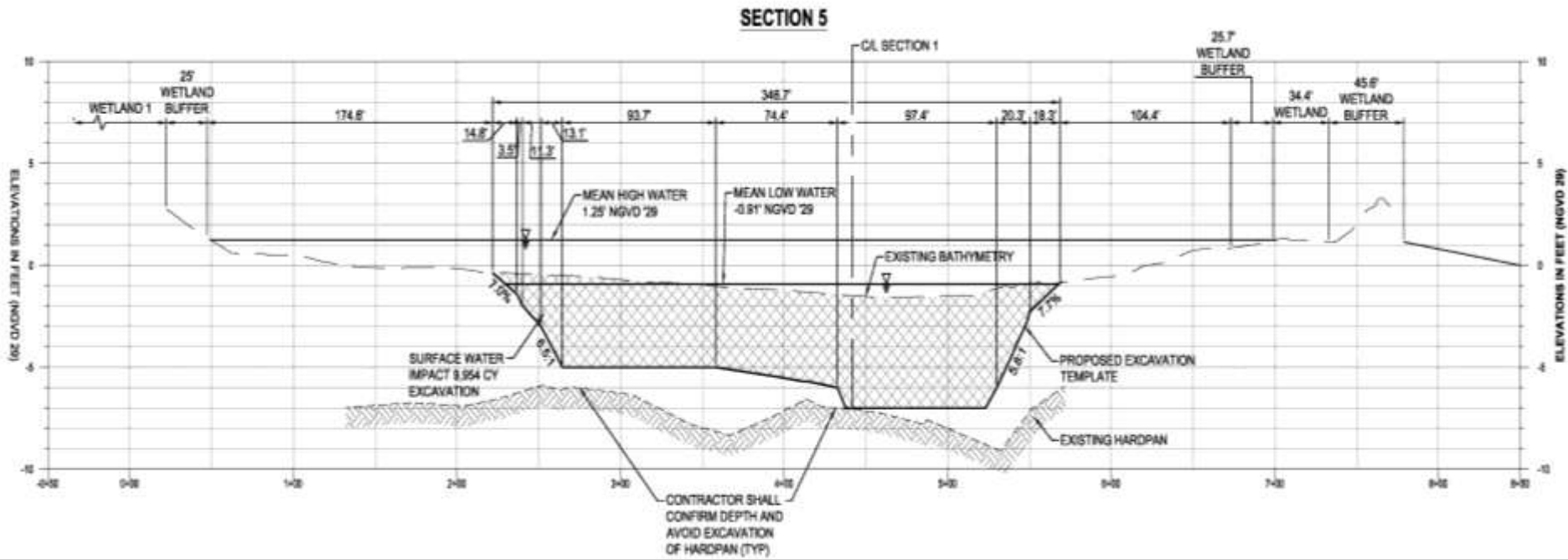
- Elevations - 7' NGVD 29 to match entrance
- Maintain Flushing
- Wading area at all tide levels
- 50' wide wading shelf, -2' at low tide
- -5' plateau for majority of pool
- 10,000 CY removed
- Wood Stork Foraging Areas



Tide Pool Details

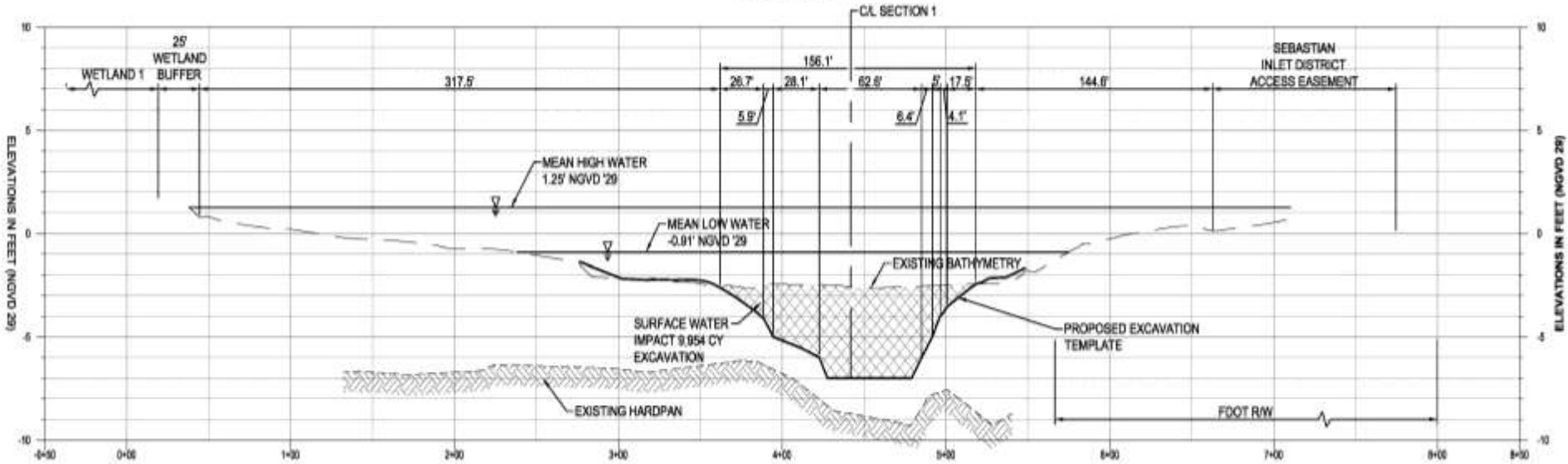


Tide Pool Details



Tide Pool Details

SECTION 6



Construction

- Barco-Duval Engineering, Inc. – Jacksonville
- Cost - \$749,461.35 (50% cost share with FDEP)
- WQ Monitoring/Permit Compliance – PBS&J
- Survey – RTK used for construction layout and interim surveys - Land and Sea Surveying Concepts, Inc.

Construction and Water Quality



Outstanding Florida Waters
Indian River Lagoon Aquatic Preserve

Construction Conditions

NMFS Condition – Oct. 15 through Jan. 31st

FWC Gopher Tortoise permit issued Dec 1st

Cold fronts began Dec 2nd

Contractor began digging Dec 18th

Finished Tide Pool Jan 28th, 3 days ahead!

Moved Tortoises Jan 30th

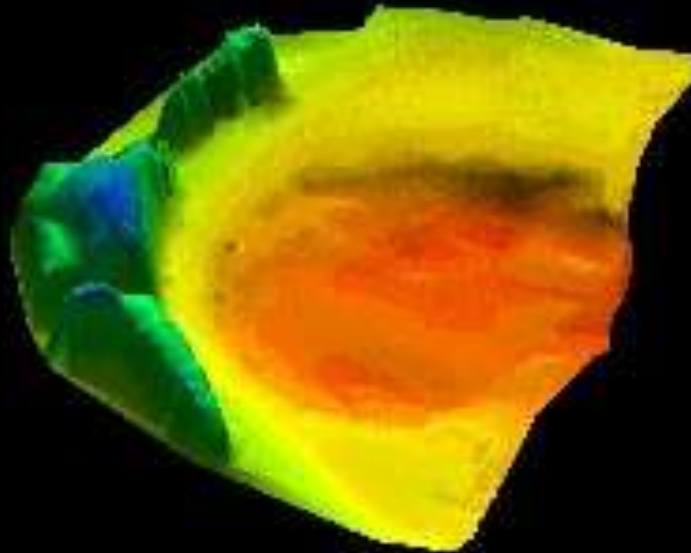
Cleared DMMA site Feb 4th

Surveys



Stockpile material
VS
Excavated Tide Pool material
VS
Design template

Survey





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After: Low Tide



Before: Low Tide

Gopher Tortoise Relocation





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DMMA Site



Challenges

- Designing structure to accommodate truck fill requirements
- Relocating gopher tortoises
- Proximity to Inlet
- 4 month Tide Pool construction window

Wood Stork Habitat



Acknowledgements



Questions?



Thank you!

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