

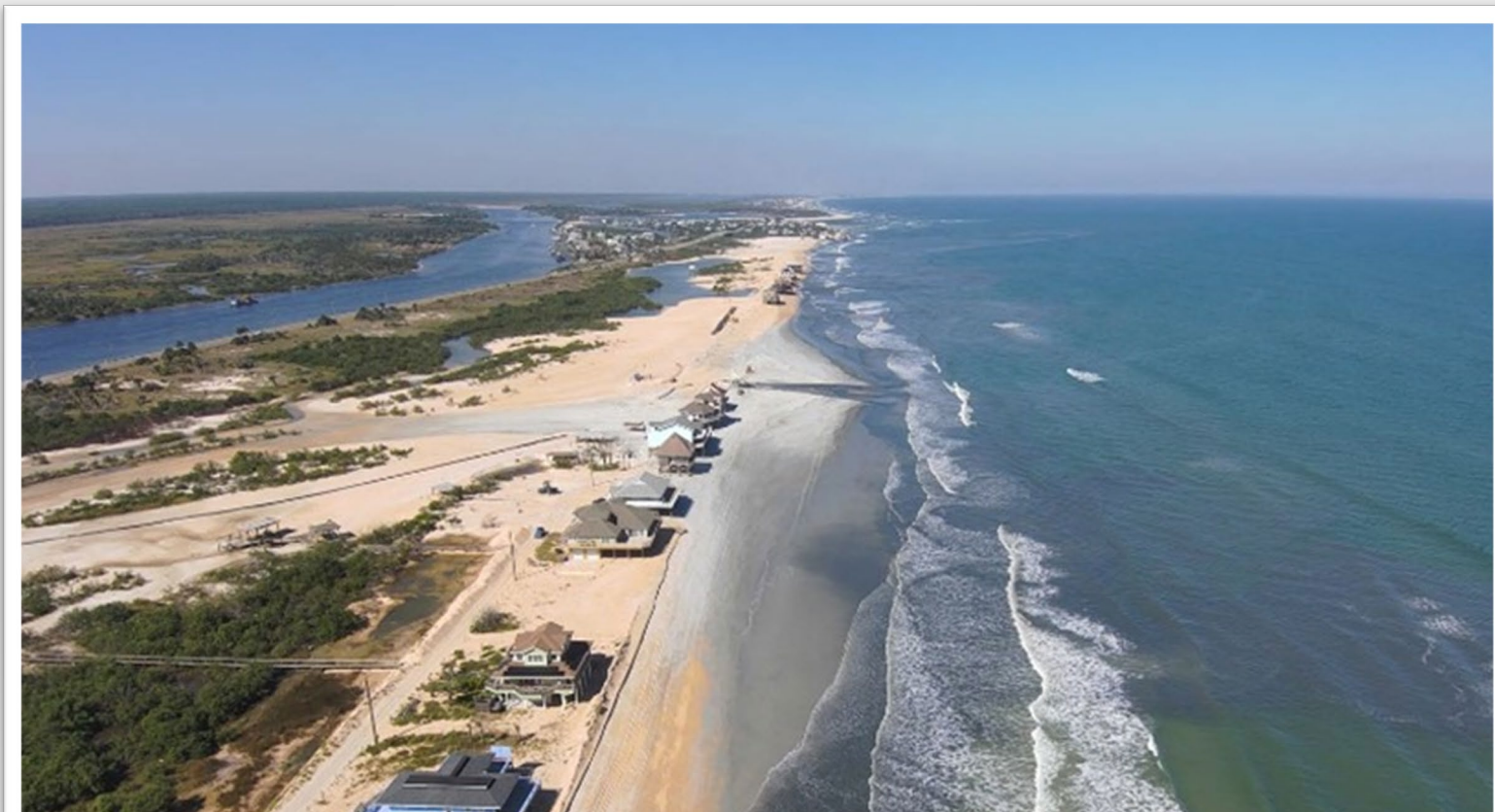
IWW Maintenance Dredging Placement Into a Barrier Island Breach, Summer Haven, FL

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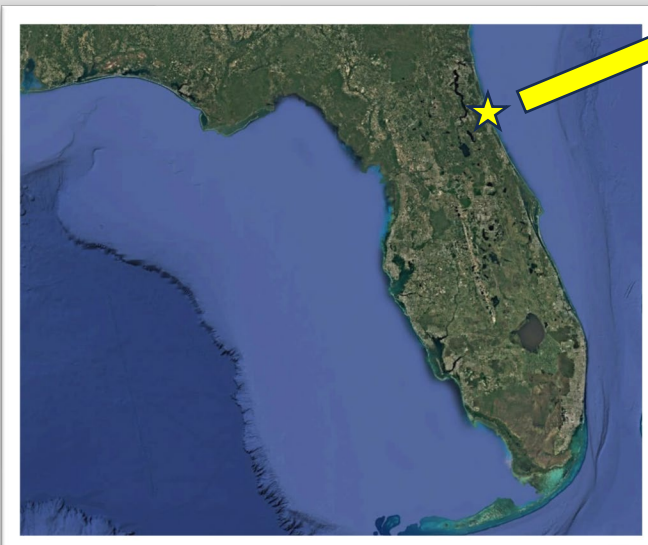
February 6, 2025





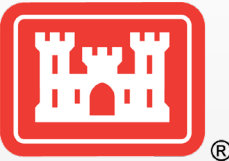
Summary of Contract

- Operations and Maintenance Navigation Project
- Dredging 378,000 CY from IWW in St. Johns and Flagler Counties
- Material transported hydraulically to Beach Disposal Area located in Summer Haven
- Disposal Area is approximately 6,100 feet between R-200 and R-206





Disposal Area - Summer Haven

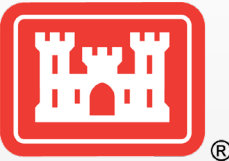


- Low lying barrier island
- Least cost disposal
- Chronic erosion
- Multiple abandoned structures
- A1A rerouted during the 1970's





Disposal Area - Summer Haven



- Shoreline armoring located on the north end of Summer Haven.
- Armoring prevents sediment transport leading to erosion to the south.



Dredging Equipment

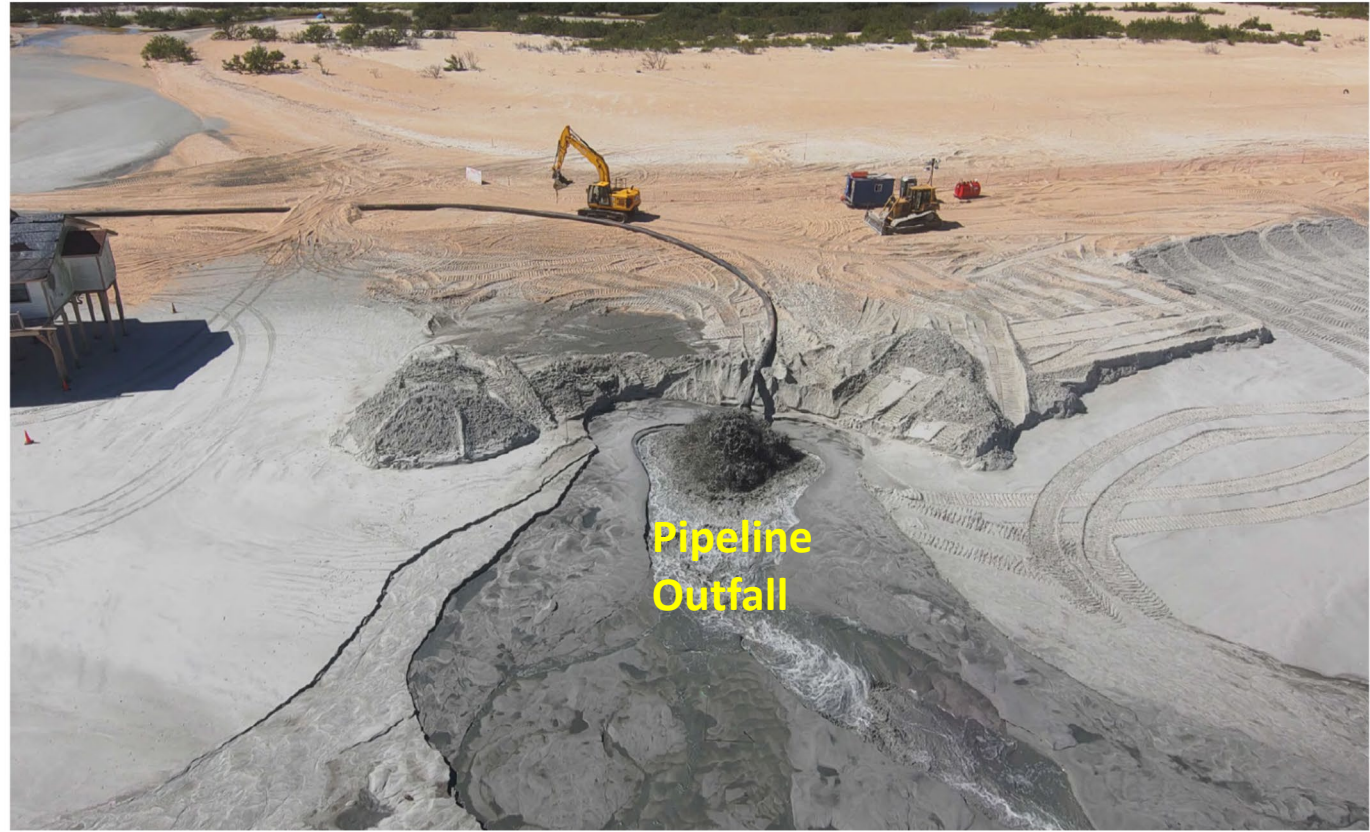
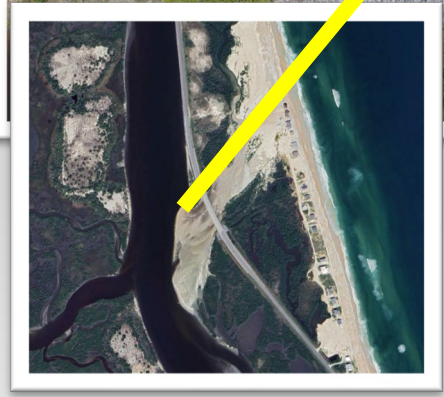


- Pipeline staging area adjacent to channel and Beach Disposal Area



- Cutter Suction Dredge

Dredging Equipment





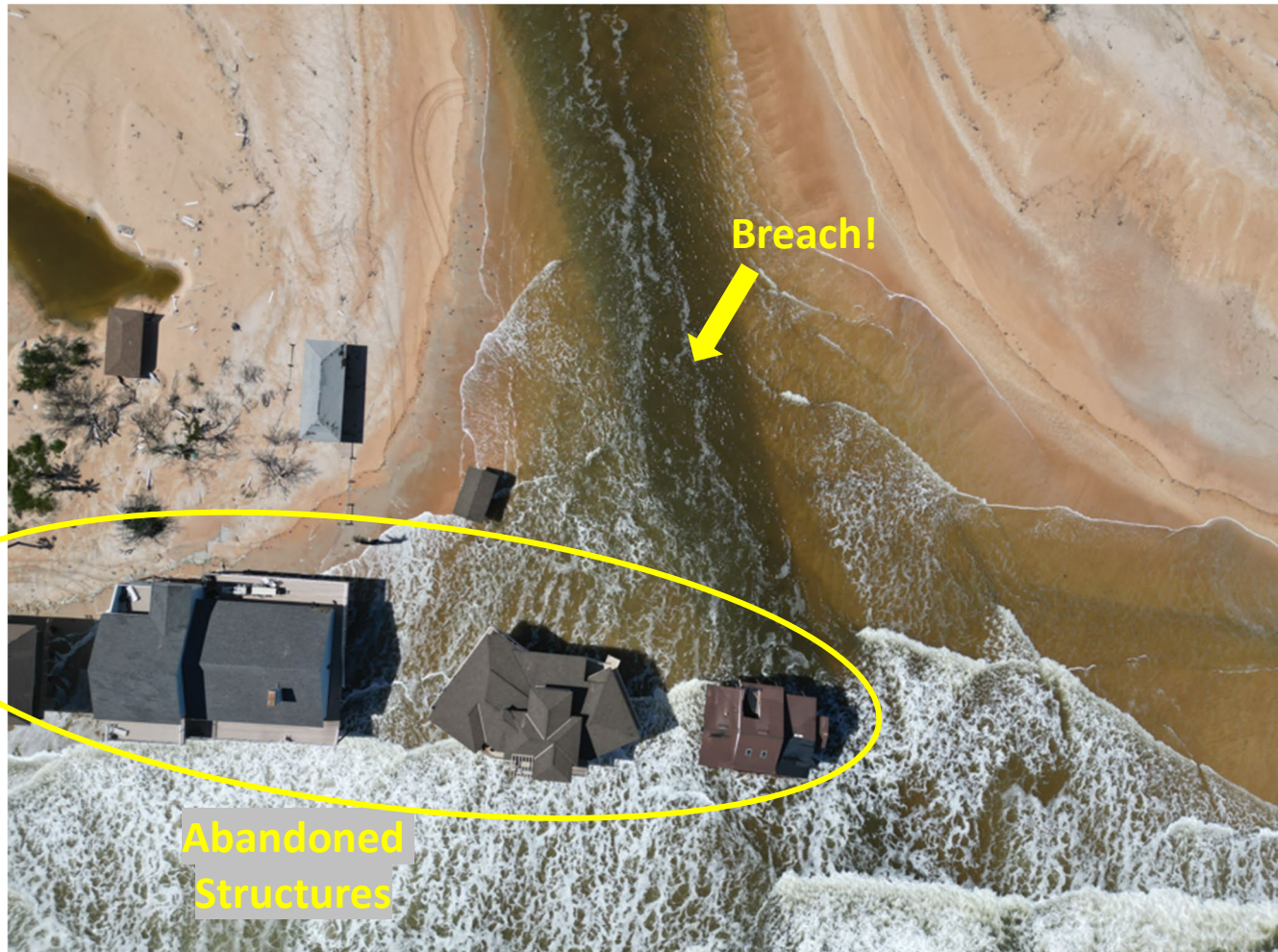
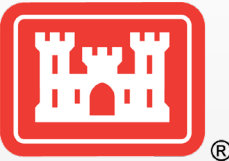
Existing Breach

- Located roughly between range monument R-204 and R-205
- 100 to 300 feet wide
- Pipeline corridor and staging area located adjacent to the breach





Existing Breach





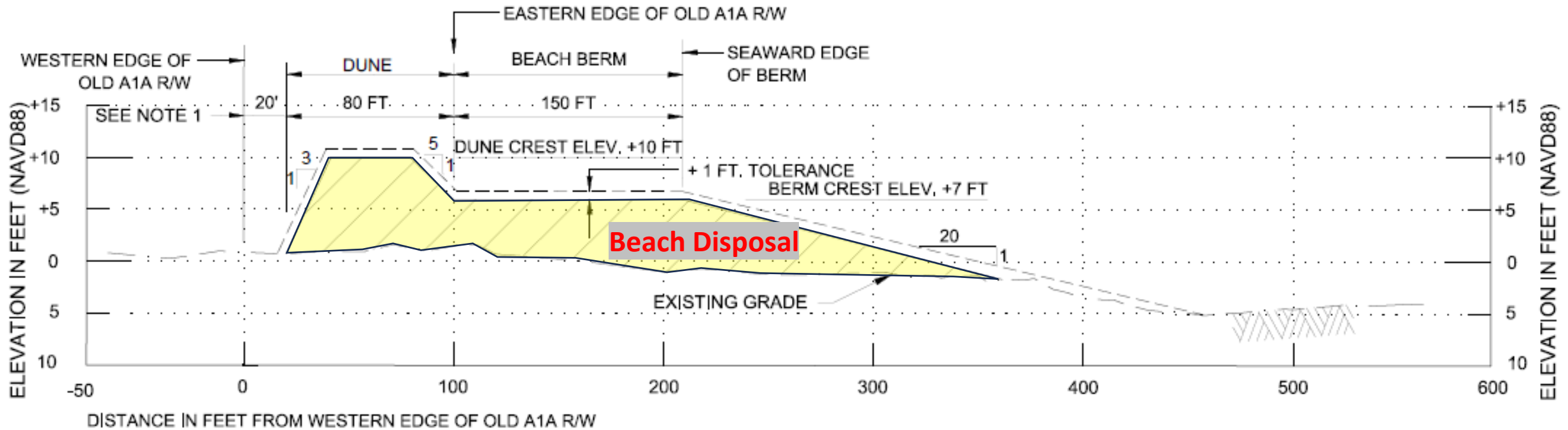
Construction Challenges

- Existing structures located near breach
- Vibration monitoring
- Old A1A right of way
- Closing the breach during rough seas
- Environmental monitoring
- Limited access





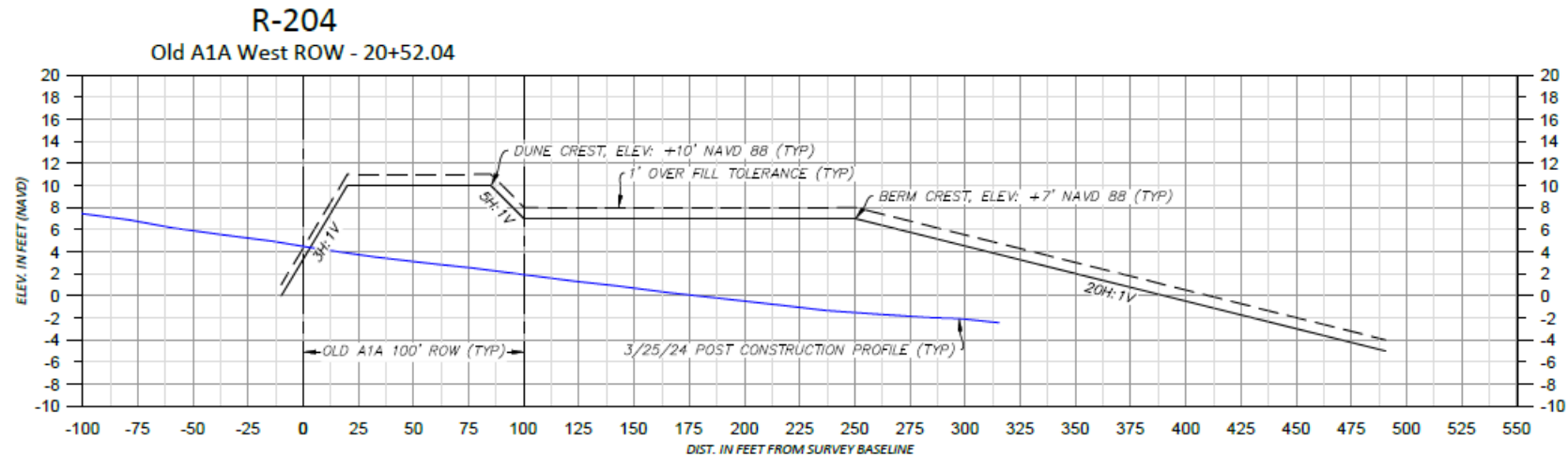
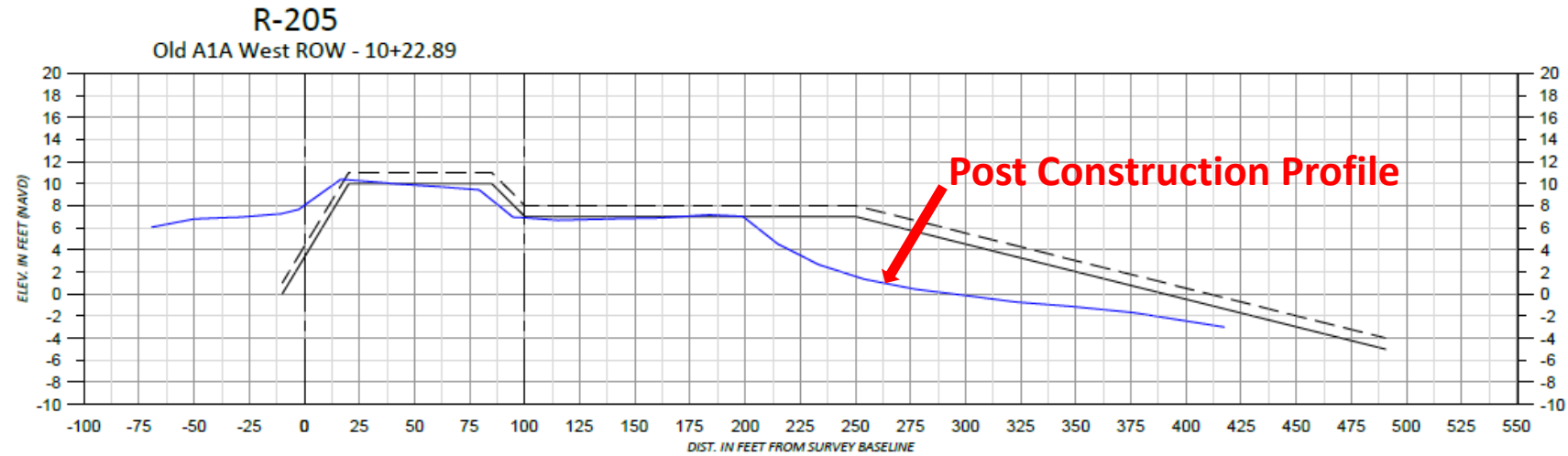
Typical Cross Section of Beach Disposal



SUMMER HAVEN - TYPICAL DISPOSAL SECTION - WESTERN R/W BELOW DUNE CREST



AS-BUILT CROSS SECTIONS



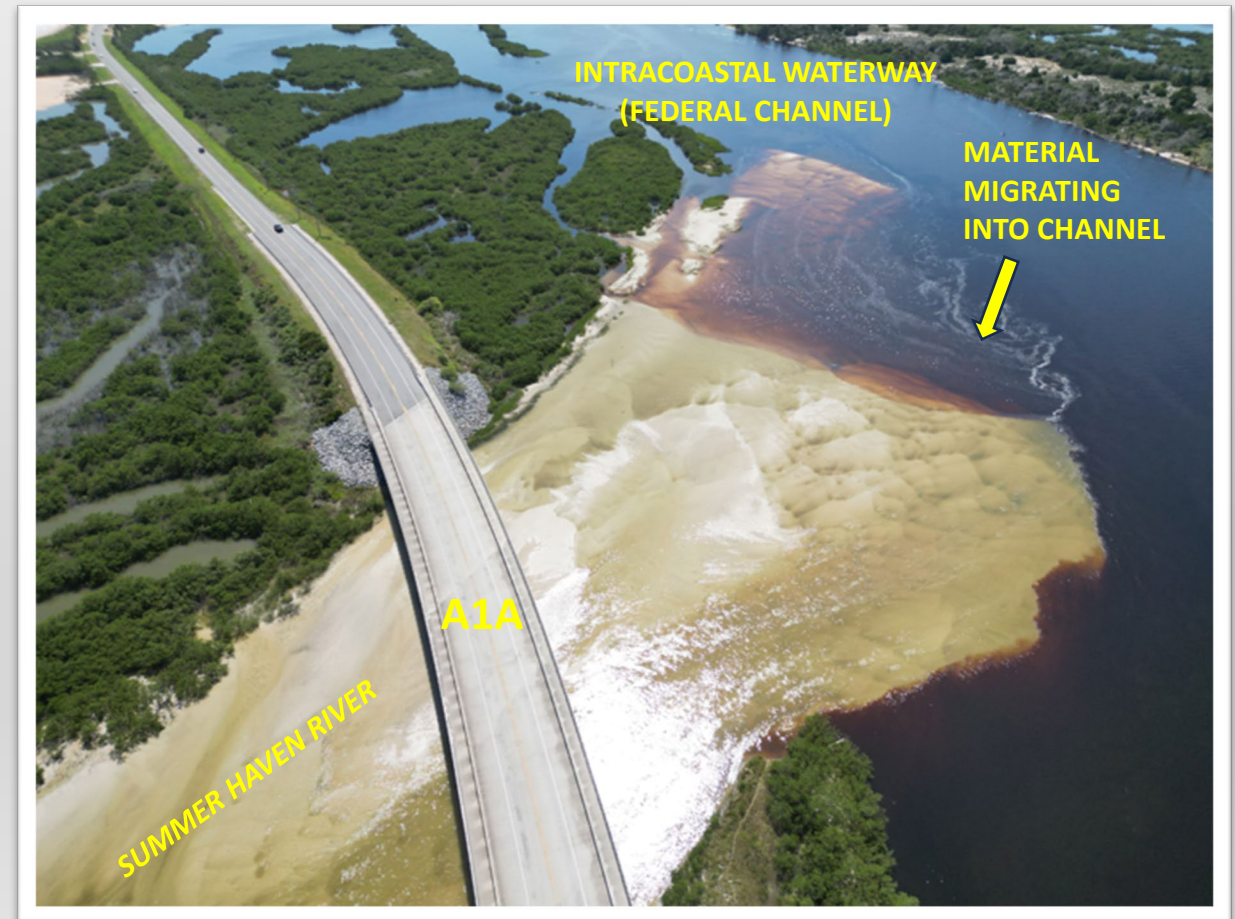


Beach Disposal (Post Breach Fill)



Sediment Transport Through Breach

- High propensity for material migrating through the breach landward towards the Summer Haven River
- Flood shoal at the confluence of the Summer Haven River and the IWW has impacted navigation





Benefits and Drawbacks of Placing Dredged Material Into Breach

Benefits

- Creates a static environment to help stabilize old A1A right of way
- Provides risk reduction measures for public and existing infrastructure
- Filling breach limits sediment transported into the IWW **after** initial construction
- May require less material to be dredged in the next maintenance dredging contract
- Creates nesting habitat for birds and turtles

Drawbacks

- Higher percentage of losses during beach disposal
- Sediment migrating through the breach into the IWW **during** construction, impacting navigation
- May require more material to be dredged in the next maintenance dredging contract
- Higher level of construction effort (and cost?)
- Going against nature



Path Forward

- Maintenance cycle of 3 to 4 years
- Continue to place material into breach
- Place material upland down drift of breach
- Monitor over time



Questions?



- Thanks!
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