

# 31<sup>st</sup> Annual National Conference on Beach Preservation Technology

Coordination of Dredged Material Disposal Activities  
Associated with the Pensacola Harbor Lower  
Federal Navigation Channel

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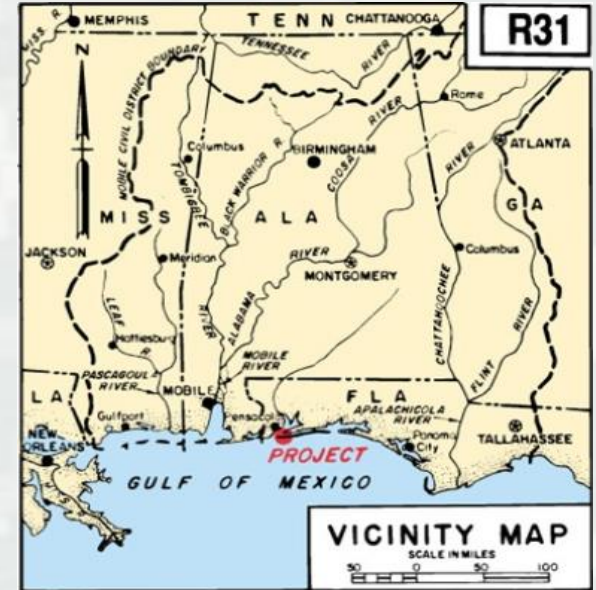
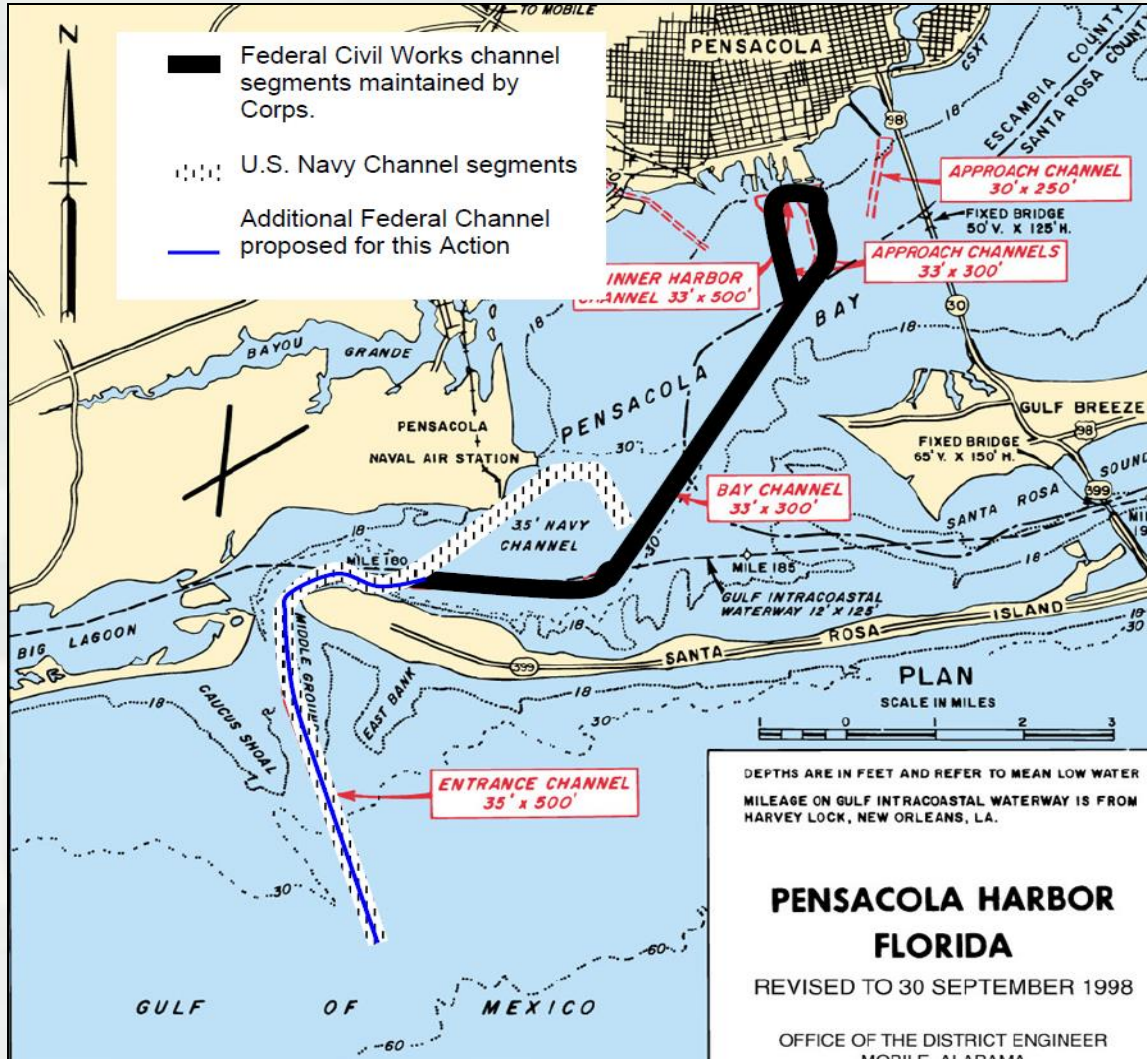


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# Project Description

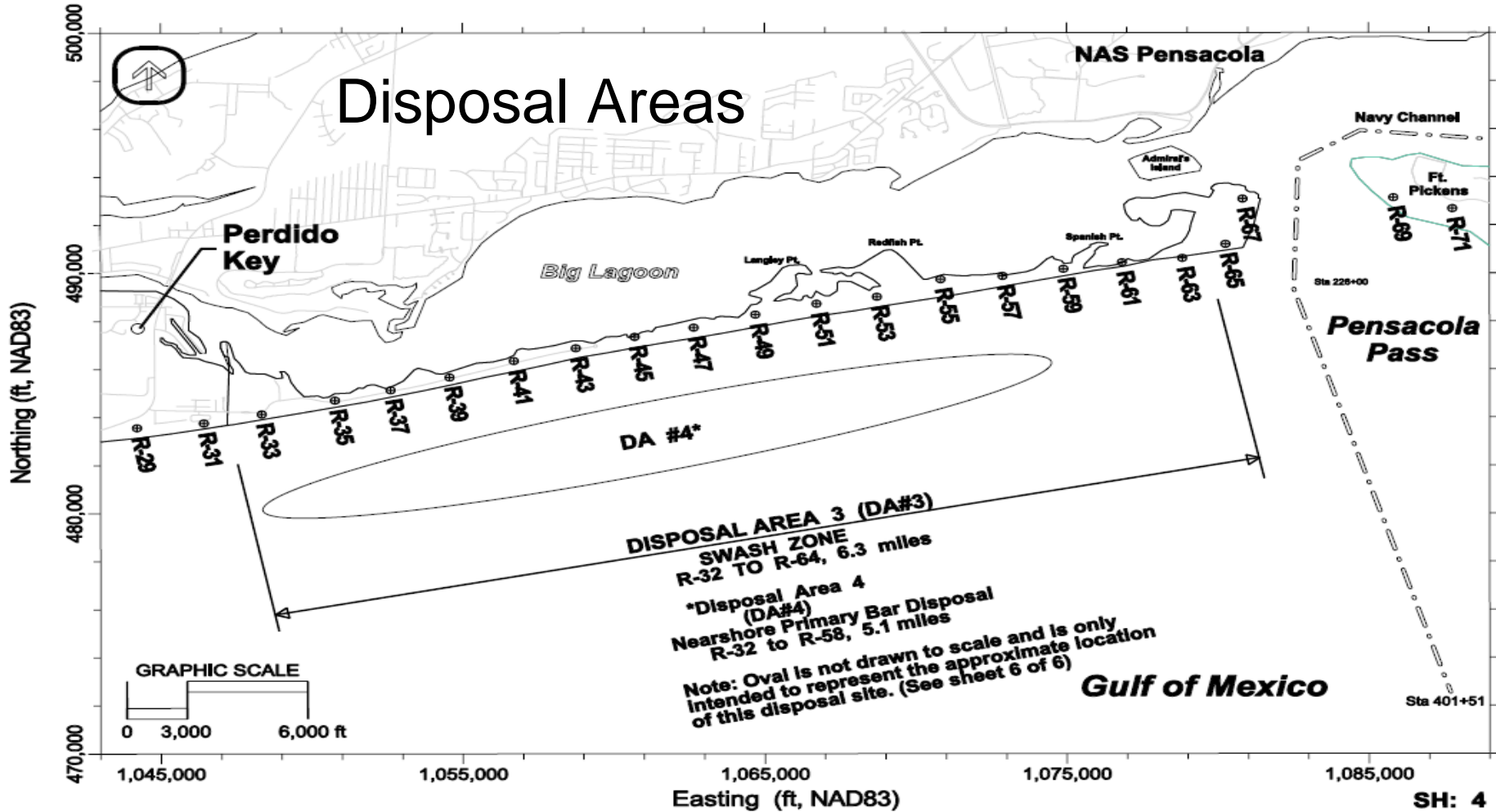


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- Lower Federal Channel
  - 35' x 500' x 5 miles
  - 2' advanced maintenance
  - 2' allowable overdepth

# Disposal Areas



- Estimated 500 thousand cy of beach quality sand per dredging cycle
- Consistent with regional sediment management principles
- Placed where most needed within disposal area
  - ▶ Coordinate with National Park Service



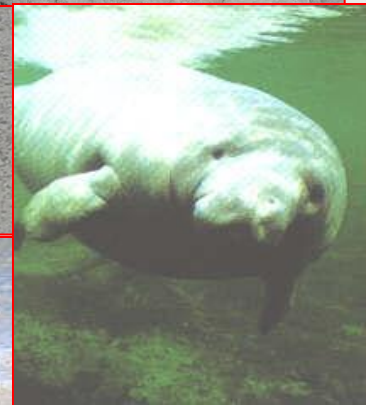
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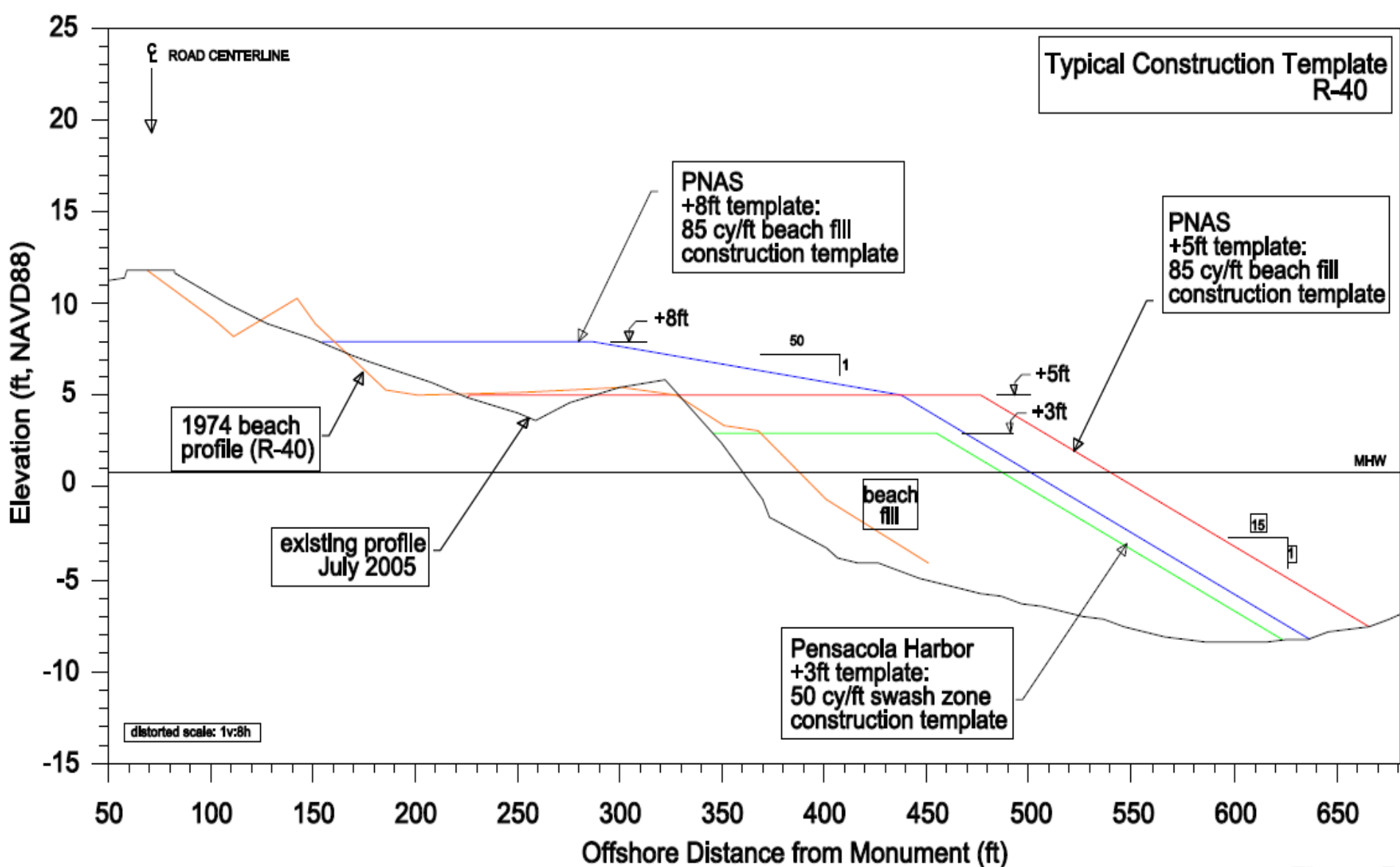
# Permitting and Environmental Coordination



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- State of Florida Water Quality Certification
- State Coastal Zone Consistency Determination
- Historic Resources Determination
- National Park Service - Gulf Islands National Seashore
  - ▶ Special Use Permit
  - ▶ Wetland Statement of Findings
- Essential Fish Habitat
- Protected Species Coordination
  - ▶ Nesting sea turtles
  - ▶ Gulf sturgeon
  - ▶ Perdido Key beach mouse
  - ▶ Piping plover
  - ▶ Shorebird activities
  - ▶ Florida Manatee





Proposed placement of 85 cy/linear foot of beach at +8-foot elevation



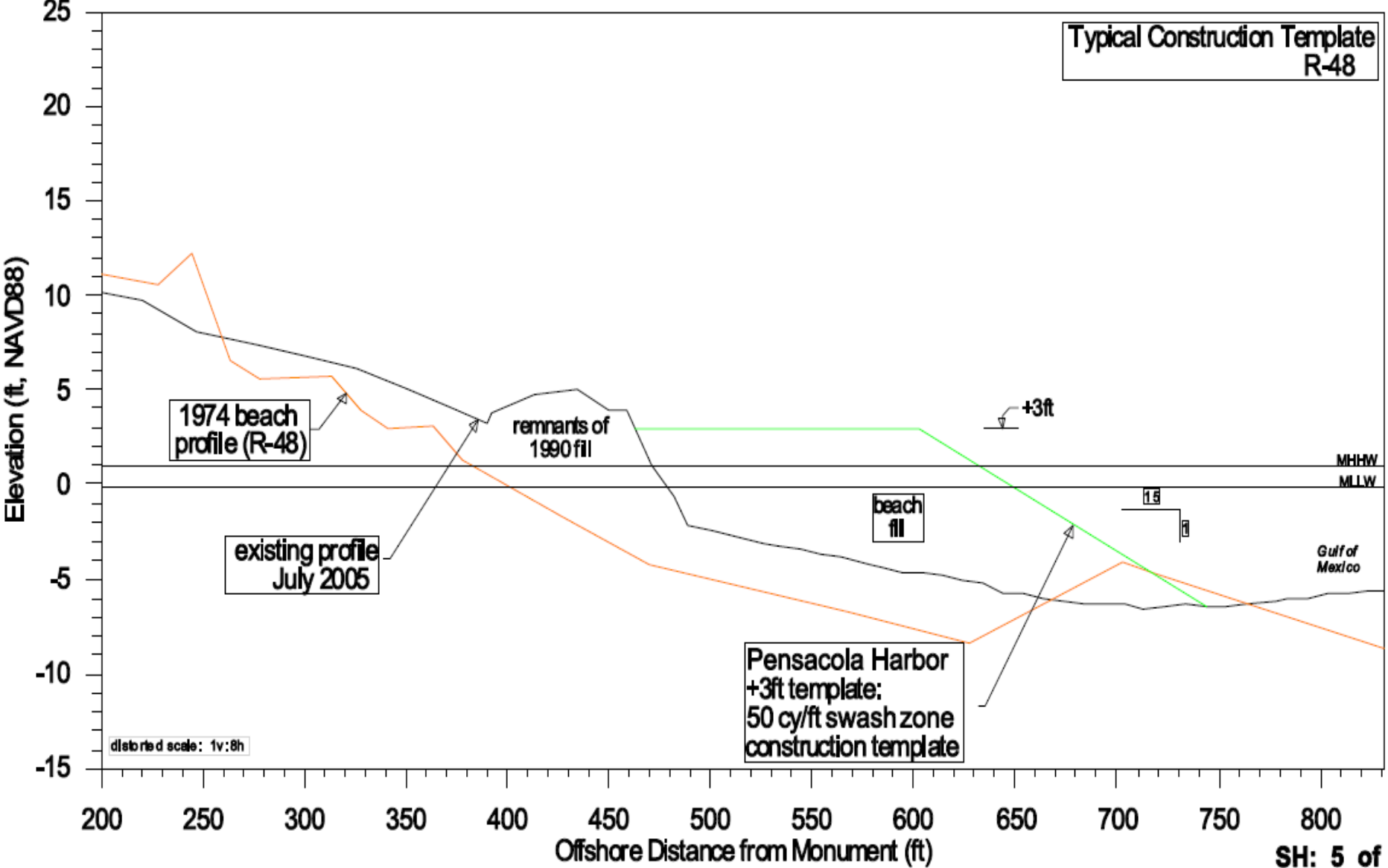
# Post Construction Requirements +8-foot Beach Placement Elevation



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- Post Placement Monitoring Requirements
  - ▶ Sea turtle nesting monitoring for a minimum of three years
  - ▶ Tilling of the beach placement sites for the following three turtle nesting seasons
  - ▶ Grading of escarpments for the following three turtle nesting seasons
  - ▶ Non-breeding bird activities surveys every two weeks for one year
- Problem
  - ▶ Increases project O&M costs
  - ▶ Cannot guarantee that Federal funding will be available to meet out-year monitoring requirements
  - ▶ To commit the Federal Government is in violation of the Anti-Deficiency Act
- Evaluate alternative disposal method that minimizes impacts, relieves post construction monitoring requirements, and satisfies RSM principles and goals

Typical Construction Template  
R-48



Swash zone placement of 50 cy/linear foot of beach at +3-foot elevation



# Swash Zone Placement



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- At and/or below the +3-foot Contour (swash zone)
- Placement of material in this manner meets the RSM principles
  - ▶ Returns the material to the littoral system
  - ▶ Allows for the rapid mobilization of material into a more natural profile
  - ▶ Minimizes impacts to the protected species of concern
  - ▶ Minimizes much of the monitoring requirements and associated costs
  - ▶ Method was successfully implemented for the East Pass, Destin navigation project (not monitored)
  - ▶ Meets the Federal Standard requirement of least cost and most environmentally acceptable alternative for disposing of the dredged material



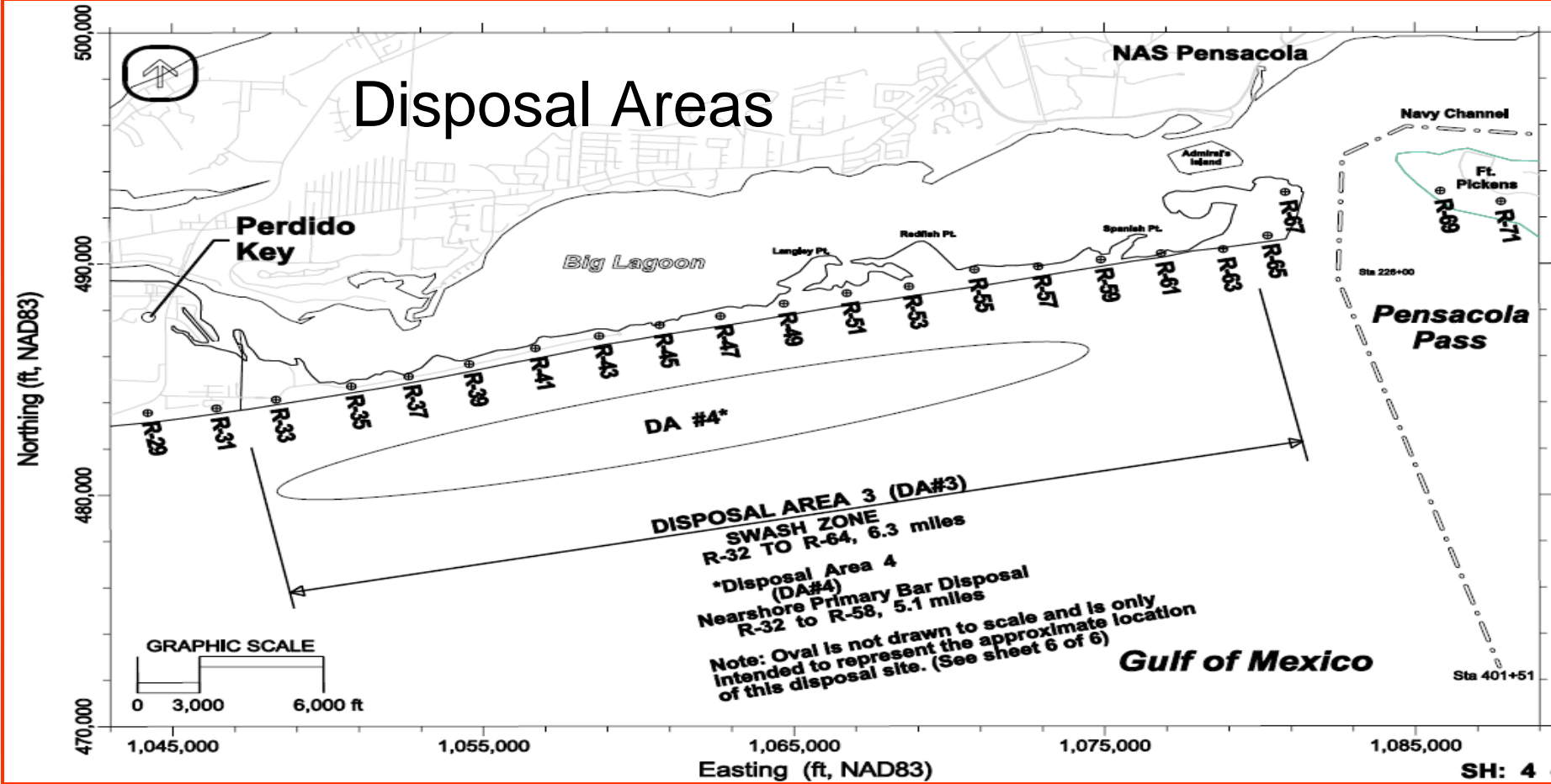


# Swash Zone Placement Post Construction Requirements



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- Dredging and Placement within environmental widow
  - ▶ November through February
- Monitoring
  - ▶ Sea turtle nesting monitoring utilizing existing NPS program
  - ▶ Non-breeding bird activities surveys only during placement activities
  - ▶ Grading of escarpments during placement only
  - ▶ Tilling of the beach placement sites for the following three turtle nesting seasons not required (assuming rapid remobilization)
- Physical beach monitoring
  - ▶ Post-construction monitoring conducted by ERDC's Coastal Inlets Research Program (CIRP) and Regional Sediment Management (RSM) program
  - ▶ Concluded that the swash-zone placed material was rapidly mobilized within 6 months



- Cost and equipment constraints
- Placed sand in established nearshore site
- Just seaward of primary bar
- Pipeline dredging equipment
- Consistent with regional sediment management principles
- Stays in littoral system
- No pre- and post-monitoring

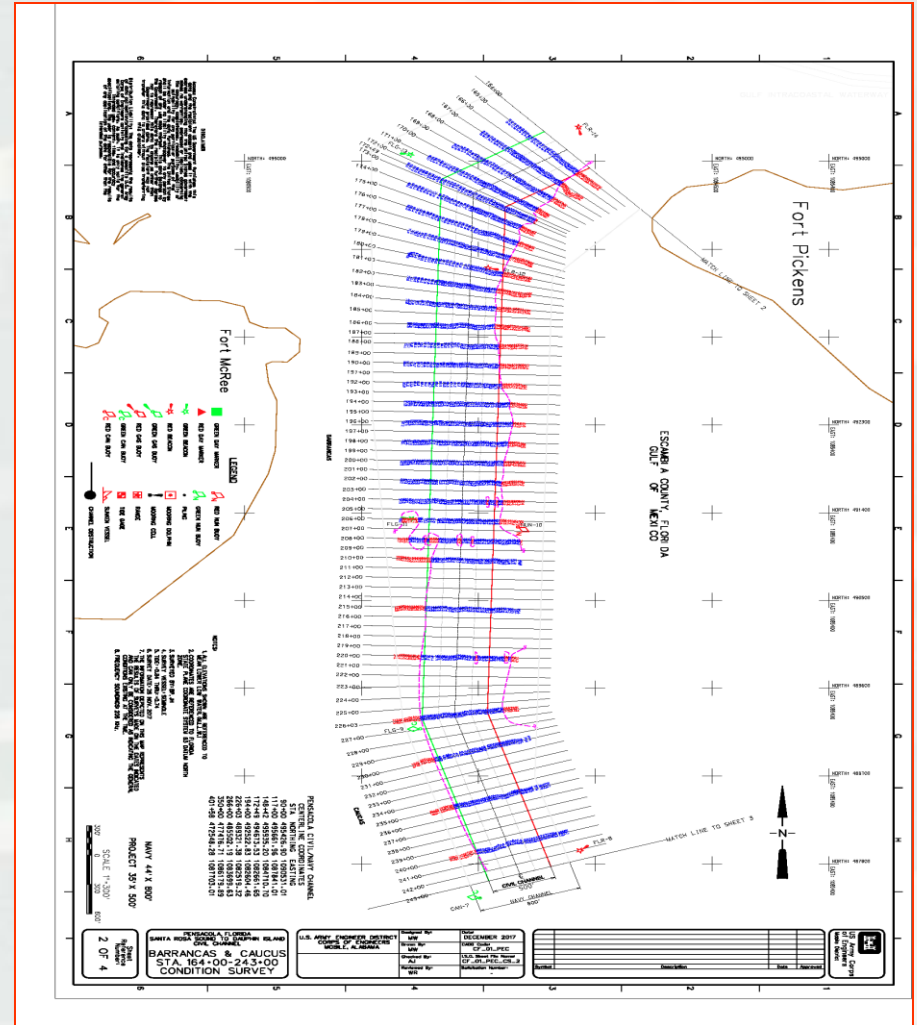


# Within Channel Placement



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- Further equipment constraints
  - ▶ Hopper dredge equipment
  - ▶ Forced to consider other placement options
  - ▶ Place material within deeper parts of the Federal channel
  - ▶ Coordinated with State as a one-time test event
- Placement in areas of channel that significantly exceeds authorized depth
  - ▶ Continue to allow mobilization of dredged material
  - ▶ Feeds ebb tidal shoal
  - ▶ Eventually feed adjacent beaches to the west





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# SEDIMENT TRANSPORT DIRECTIONS



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# Summary & Benefits



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- All options allow project maintenance within established operational/environmental windows
- Placement options are consistent with RSM principles and goals
  - ▶ Returns sediment into local littoral system
  - ▶ Rapid mobilization to achieve more natural beach profile
- Minimizes impacts to protected species
  - ▶ Nesting sea turtles
  - ▶ Breeding and non-breeding shorebirds
  - ▶ Beach mice
- Minimizes post construction monitoring requirements
- Multiple placement options provide alternatives to ensure Federal navigation projects are maintained regardless of timing, equipment availability, or cost.



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Thanks!