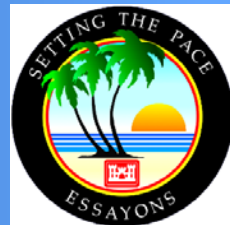


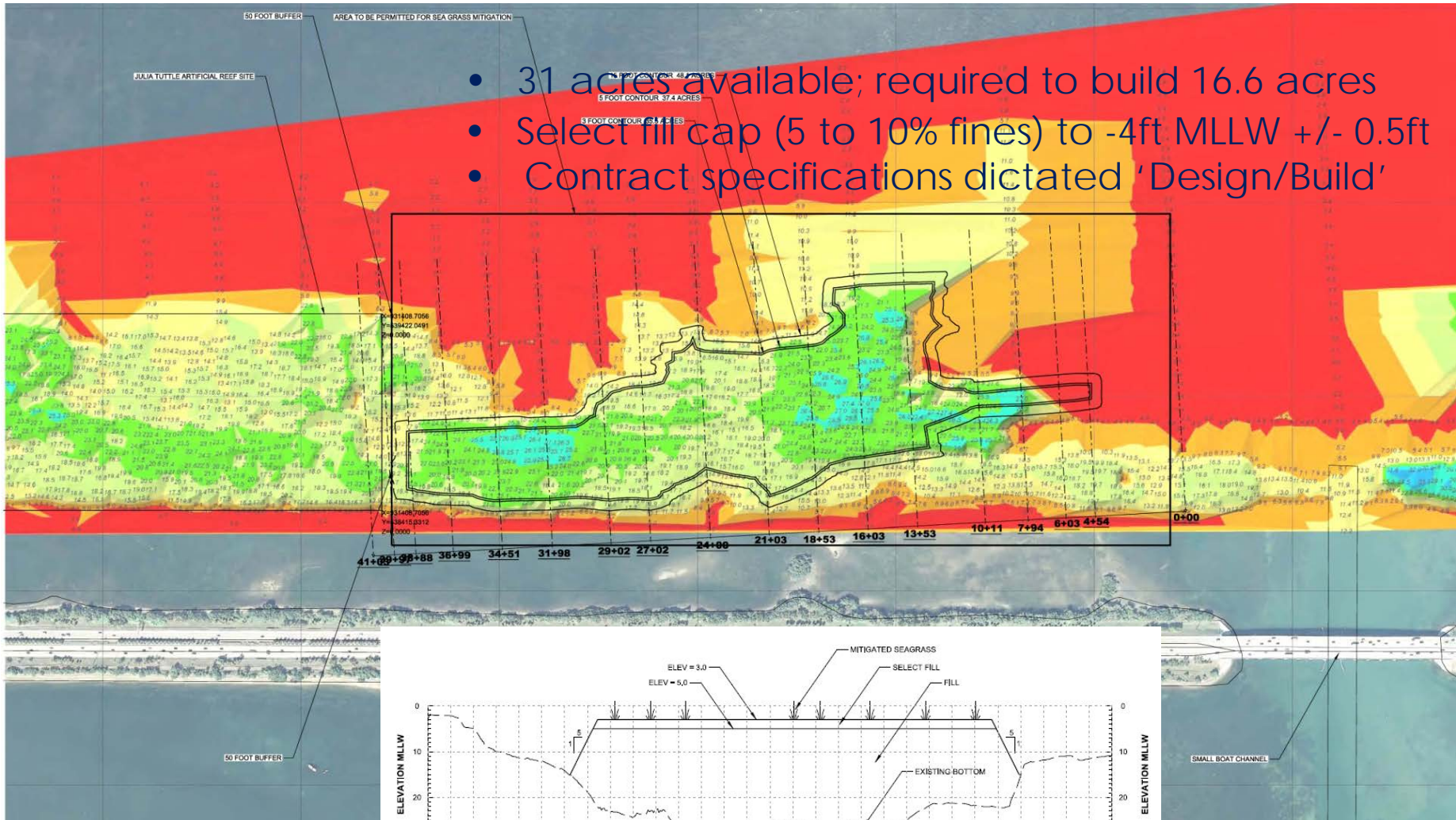
Julia Tuttle Seagrass Mitigation Site - Restoration of a Historic Dredge Hole in Biscayne Bay, Florida

Michael R. Barnett, PE, D.CE & Terri Jordan-Sellers
April 19, 2016



Project Requirements

- 31 acres available; required to build 16.6 acres
- Select fill cap (5 to 10% fines) to -4ft MLLW +/- 0.5ft
- Contract specifications dictated 'Design/Build'



Project Challenges and Solutions

- Timing/sequencing placement of sediment from both dredge areas and upland sand sources in less than 2 years
- Maintain water quality standards in an Aquatic Preserve
- Level placement over irregular bottom
- Complete ALL work (including seagrass plantings) by Contract end date



Incompatible Dredge Material – 8/18/14



Excerpt from Daily Miami Metropolis – September 3, 1919: “Fourteen old Spanish cannons, recovered by Captain {James} Webster in 30 feet of water a few miles north of Careysfort Light, will be used as mooring anchors for tugs, barges and buoys while working on Government Cut.”

Project Photos



Takeaways

- **560,000 CY of dredged material ‘Base Fill’**
 - 1,192 scow loads
 - Commence January 8, 2014; complete October 19, 2014

- **85,000 CY of ‘Select Fill’**
 - 2 ft “cap” of upland mined sand over Base Fill
 - 285 barge loads
 - 5,500 dump trucks from local quarry
 - Commence January 8, 2015; complete July 7, 2015

- **17.1 Acres restored to -4 ft MLLW**