

BEACH CONSTRUCTION DURING A PANDEMIC: THE 2020 MID-TOWN SHORE PROTECTION PROJECT IN THE TOWN OF PALM BEACH

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PALM BEACH
Florida

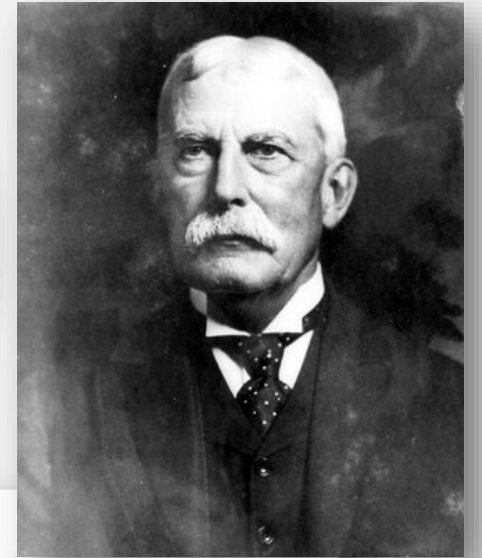
Town of Palm Beach, Florida

- Municipality in Palm Beach County
- Palm Beach Island south of Lake Worth Inlet (Port of Palm Beach)
- 12.2-mile segment of critically eroded beach designated by FDEP
- Further protected with seawalls, bulkheads, revetments, and groins
- 8 Reaches established for planning and management by the Town



History and Fun Facts!

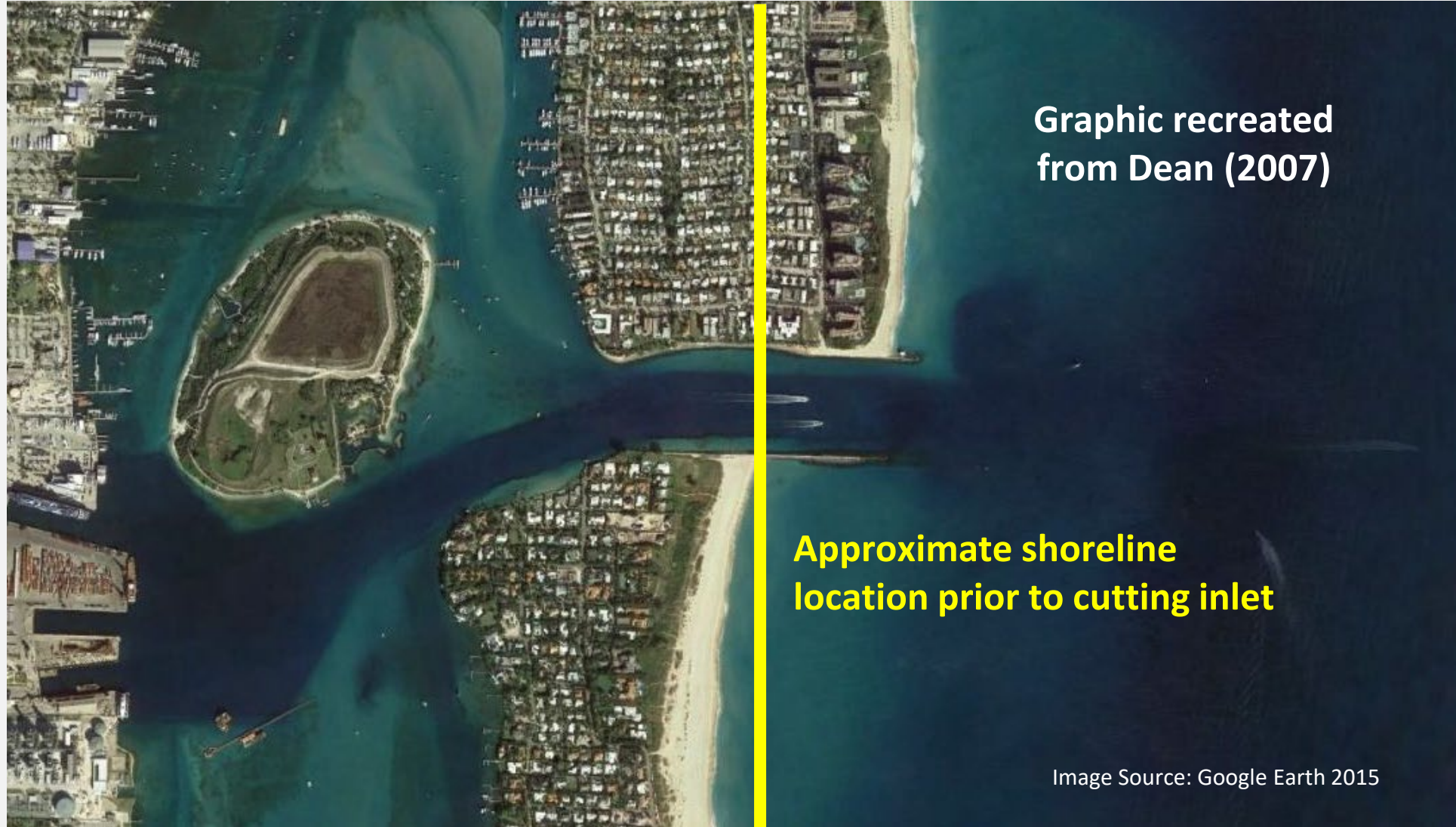
- 1870s pioneers settled as “Lake Worth”
- “Palm Beach” derives from the Providencia shipwreck in 1878
- Henry Flagler’s “Paradise”:
 - ❖ 1894 - Royal Poinciana Hotel
 - ❖ 1896 - Palm Beach Inn (The Breakers)
- Town incorporated on April 17, 1911
- Town Hall opened in 1925



Information and images sourced from: <https://www.townofpalmbeach.com/>



Port of Palm Beach Entrance, Cut in 1918



Graphic recreated
from Dean (2007)

Approximate shoreline
location prior to cutting inlet

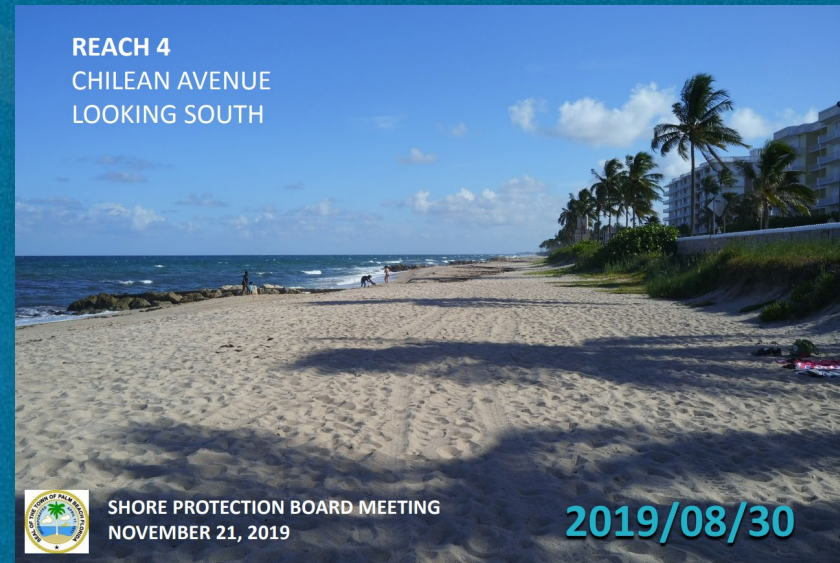
Image Source: Google Earth 2015



TOWN OF PALM BEACH COASTAL PROTECTION PROGRAM



REACH 4
CHILEAN AVENUE
LOOKING SOUTH



SHORE PROTECTION BOARD MEETING
NOVEMBER 21, 2019

2019/08/30



A Brief History of the Coastal Protection Program

- Beach nourishment occurred in Palm Beach as far back as the 1940s
- The Lake Worth Inlet Sand Transfer Plant was built in the late 1950s
- The Town's modern coastal management program began in the 1980s

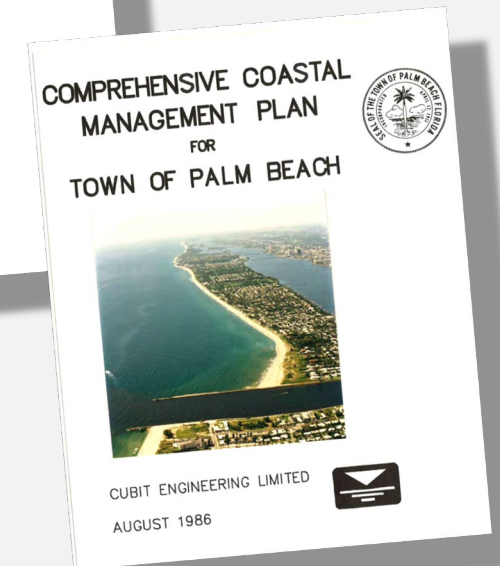
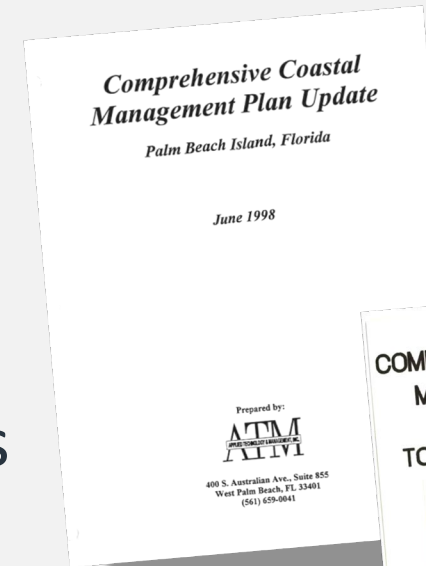
Town Council Actions:

- 1986 - Adopted the Comprehensive Coastal Management Plan (CCMP)
- 1995 - Created the original Shore Protection Board (SPB)
- 1998 & 1986 - CCMP was updated as recommended by the SPB
- 2000 - Approved a 10-year plan for Coastal Protection



Comprehensive Coastal Management Plan (CCMP)

- Identified coastal processes and features
- Defined Reaches for comprehensive planning
- Provides basis for program and funding
- Identified objectives and management actions
- Maintains focus on storm protection



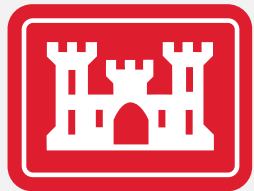
EXECUTIVE SUMMARY

The Town of Palm Beach authorized the preparation of a Comprehensive Coastal Management Plan by adopting Resolution No. 19-85 on April 9, 1985. The purpose of the act was to authorize the preparation of a document that would outline a strategy to effectively manage the Town's shoreline and deal with erosion on a planned basis. This report presents the Plan developed on the basis of coastal processes, historical trends, environmental considerations, financial feasibility, and need.



Mid-Town Beach Management History

- 1984 - Thanksgiving Day Storm causes widespread coastal impacts
- 1987 - Mid-Town Seawall Revetment constructed as an emergency
- Late 1980s - Permitting and Federal Funding Processing by USACE:



❖ 1987 - General Design Memorandum (GDM)
Beach Erosion Control Project, Palm Beach County, Florida

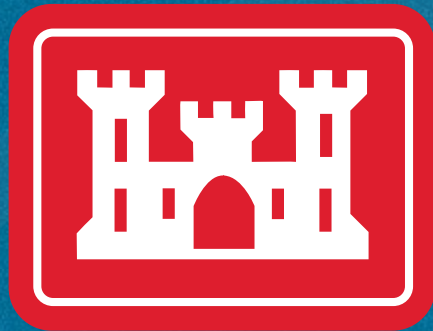
❖ 1991 - GDM Addendum for Mid-Town Segment

Palm Beach County from Lake Worth Inlet to South Lake Worth Inlet, Florida, Shore Protection Project

- Early 1990s - Experimental PEP Reef at Mid-Town (instead of beach)
 - ❖ PEP Reef removed in 1995 following report by Dr. Dean



U.S. ARMY CORPS OF ENGINEERS PALM BEACH COUNTY SHORE PROTECTION PROJECT MID-TOWN SEGMENT

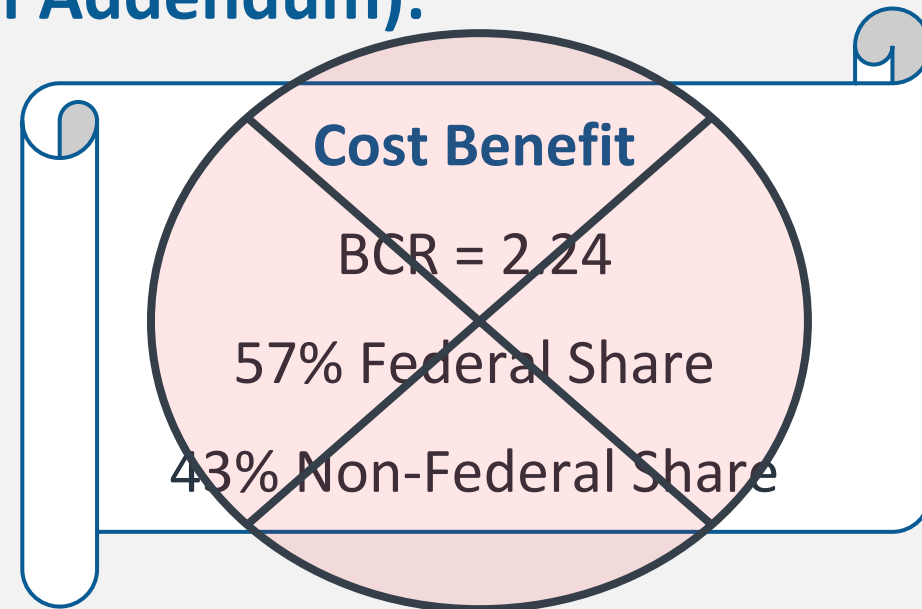


The Federal Shore Protection Project

- Authorized by Section 101 of the River and Harbor Act of July 3, 1958
- Lake Worth Inlet to South Lake Worth Inlet
- Mid-Town Segment with Town of Palm Beach as Local Sponsor

Recommend Plan (USACE, 1991 GDM Addendum):

- Protective beach along 1.5 miles
- 1,023,000 cy of nourishment
- 40 ft wide berm @ +9.0 ft NGVD
- 6-year renourishment interval



Town Council opted out of federal program in favor of local approach



Mid-Town Beach Nourishment Program

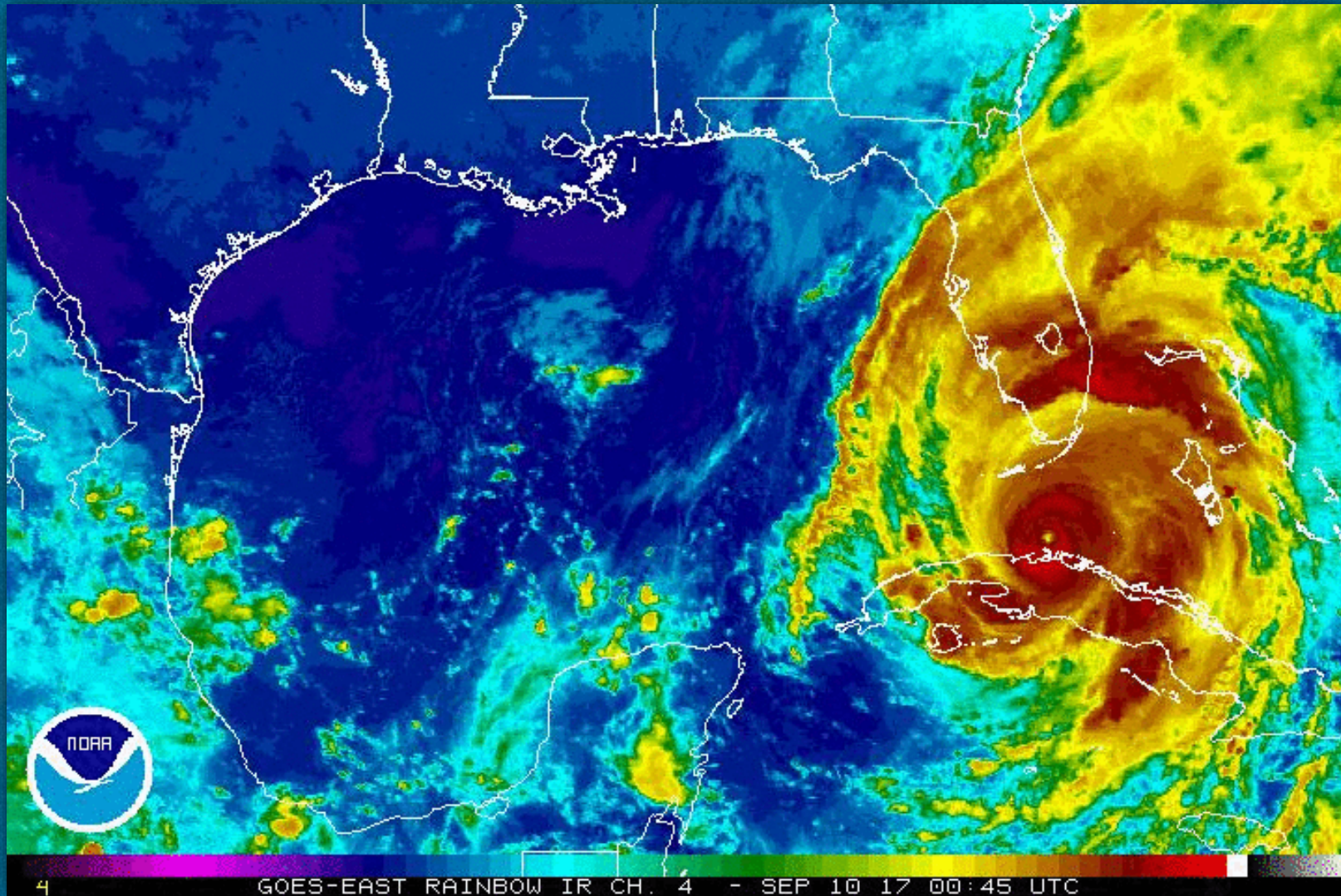


Town Constructed Nourishment Projects

- **1995 – First Mid-Town Beach Restoration Project:**
 - ❖ Barton Ave to Hammon Ave with approximately 880,000 cubic yards
 - ❖ PEP reef reconfigured as 11 groins in Mid-Town
- **2003 - Expanded Mid-Town Beach Nourishment Project:**
 - ❖ Wells Rd to Banyan Rd with approximately 1.2 million cubic yards
- **2006 - Mid-Town Beach Nourishment Project:**
 - ❖ El Mirasol to Banyan Rd with approximately 900,000 cubic yards
- **2014-2015 - Mid-Town Beach Nourishment:**
 - ❖ Casa Bendita to Banyan Rd with approximately 875,000 cubic yards

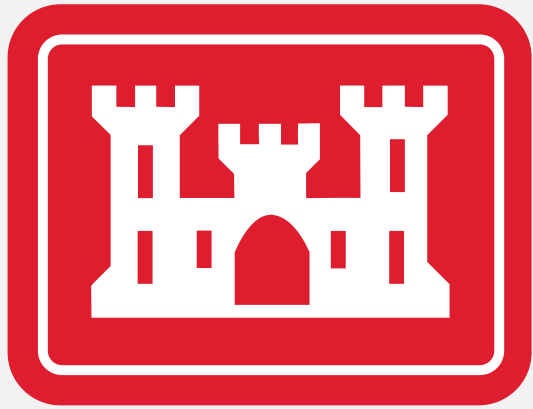


Hurricane Irma – Sept 2017



Animation by the National Hurricane Center (NOAA/NHC) of Hurricane Irma approaching Key West on Sept. 10, 2017.





“\$3.348 billion in recovery funds go toward reducing flood risk in Florida, Puerto Rico and U.S. Virgin Islands”

- USACE Supplemental funding announcement on July 5, 2018

- Public Law 115-123, the Bipartisan Budget Act of 2018
- Provides nearly \$17.4 billion to the Corps for disaster recovery
- The Jacksonville District received \$3.348 billion
- 13 studies and 19 construction projects to reduce risk in communities damaged by storm events
- \$25 million for Palm Beach County (Mid-Town Segment)

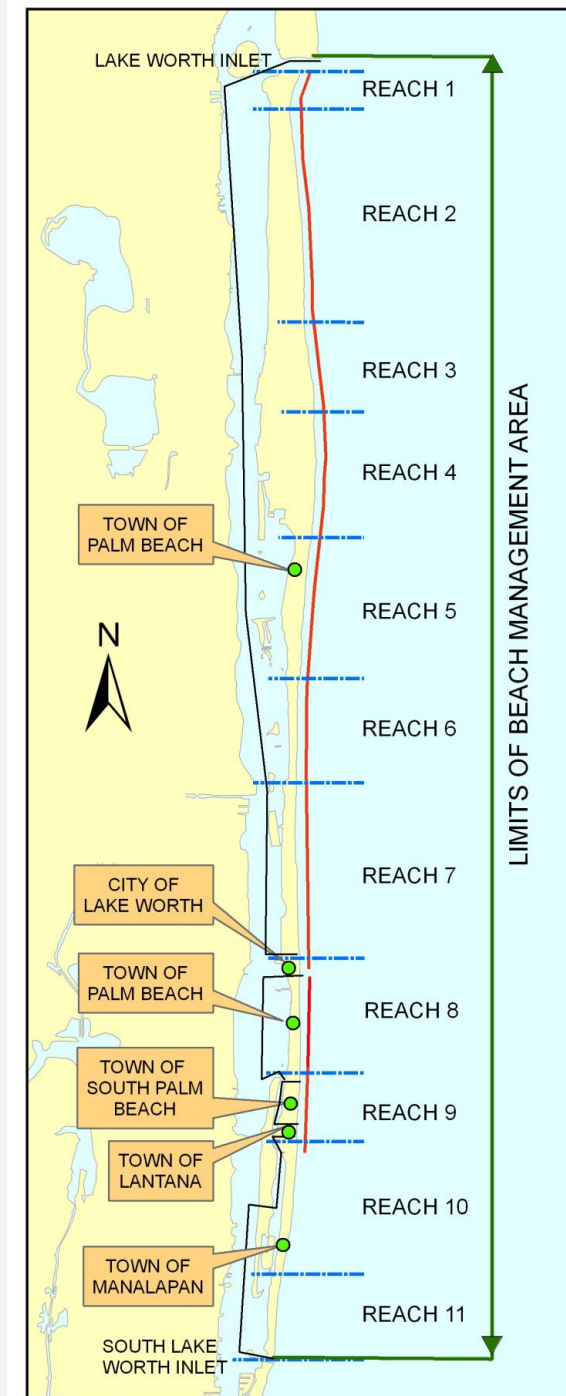


State Regulatory Approval




Beach Management Agreement (BMA):

- ❖ Coordinated, long-term approval of qualifying coastal erosion control and inlet management activities
- ❖ Executed September 2013 at FSBPA by the Town of Palm Beach, Palm Beach County, FDEP, and FWC
- ❖ Mid-Town Beach Nourishment Project included for sand placement from offshore and upland sources
- ❖ Requires Individual Project Approval (IPA) per event
- ❖ IPA Permit Number: 0328802-010-BMA (March 2, 2020)



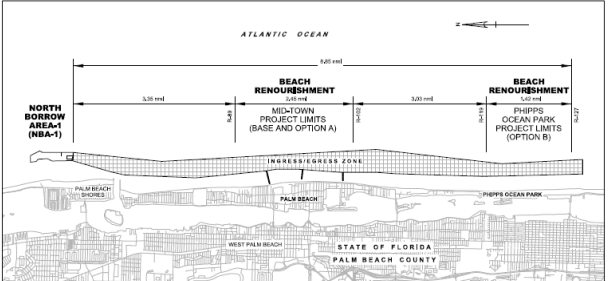
Construction Procurement and Award

- Contract procurement by USACE
- Mid-Town and Phipps (Reach 7)
- Contract Award to Weeks Marine



US Army Corps
of Engineers
JACKSONVILLE DISTRICT

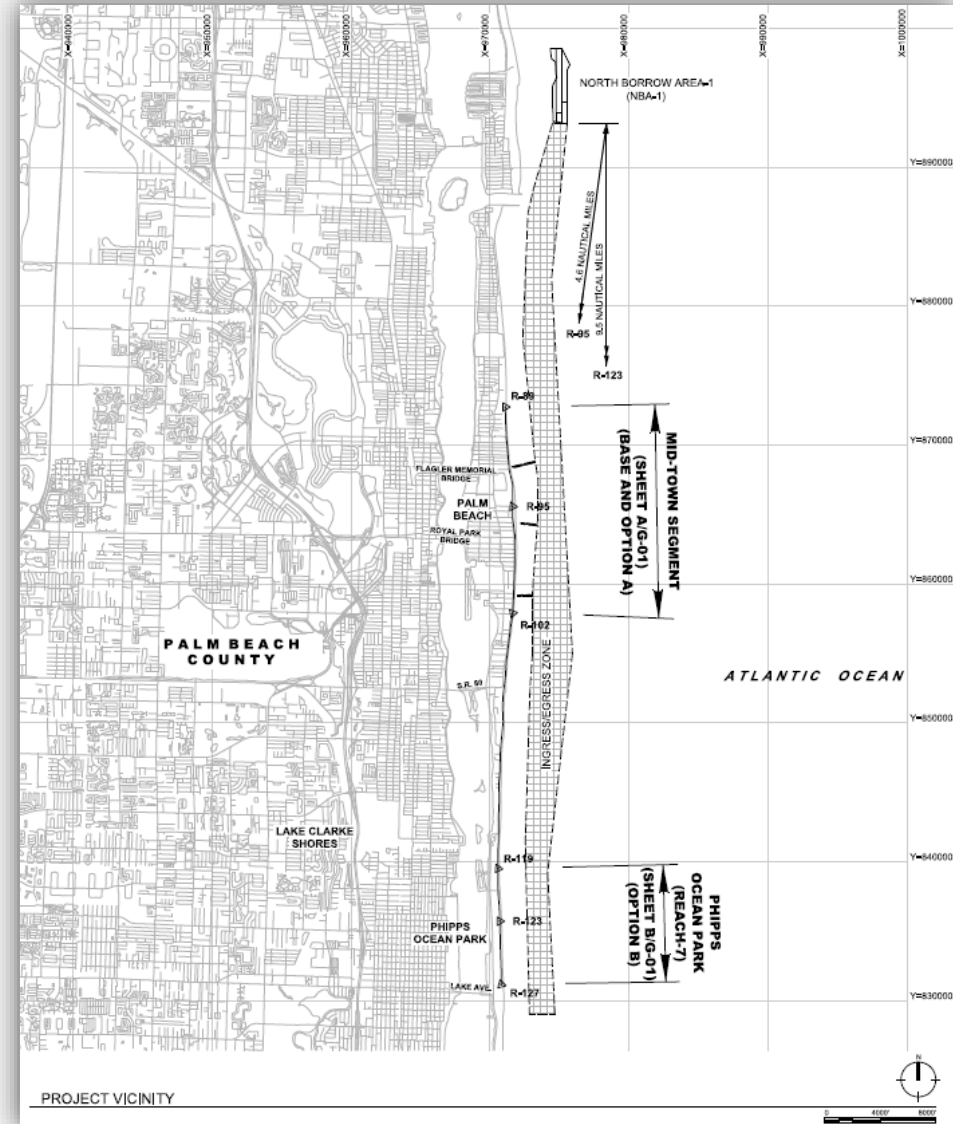
SHORE PROTECTION PROJECT (SPP)
MID-TOWN SEGMENT AND PHIPPS OCEAN PARK (REACH-7)
BEACH RENOURISHMENT 2019
PALM BEACH COUNTY, FLORIDA

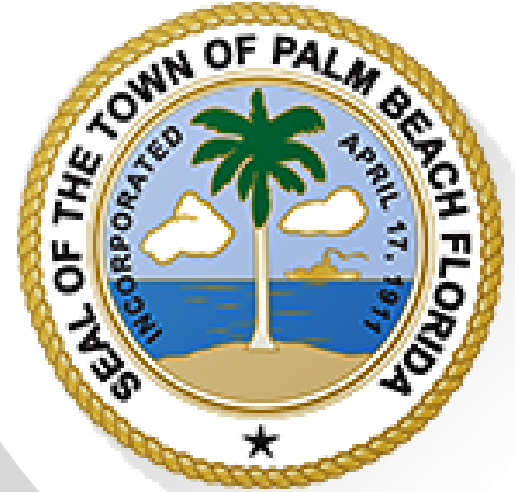
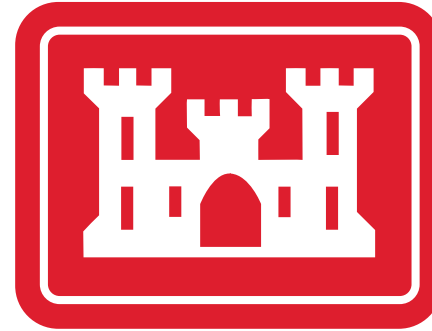


SOLICITATION NO.: GROUP1-18-R-J006
CONTRACT NO.: XXXXXX-XX-X-XXXX
ISSUE DATE: MMMMMMMM YYYY
VOLUME X

SHEET INDEX

SHEET #	SHEET TITLE
GENERAL - PROJECT	
0001	COVER SHEET (SEE BOOK)
0002	ABBREVIATIONS, SYMBOLS AND GENERAL NOTES
01-01	PROJECT OVERVIEW
01-04	SURVEY NOTES AND CONTROLS
02-01	DEFINING BODIES (EGRESS ZONE)
02-02	PAYMENT AND ACCEPTANCE PROFILES
CIVIL - PROJECT	
0201 NORTH BORROW AREA-1 (NBA-1)	
GENERAL - MID-TOWN (BASE AND OPTION A)	
AG-01	PROJECT LAYOUT
AG-02	CONTROL DATA
CIVIL - MID-TOWN (BASE AND OPTION A)	
AG-01	BEACH FILL PLAN
AG-02	BEACH FILL PLAN
AG-03	BEACH FILL PLAN
AG-04	BEACH FILL PLAN
AG-05	BEACH FILL PLAN
AG-06	BEACH FILL PLAN
AG-07	BEACH TYPICAL CROSS SECTION
AG-08	BEACH CROSS SECTIONS
AG-09	BEACH CROSS SECTIONS
AG-10	BEACH CROSS SECTIONS
SHEET INDEX (OPTION B)	
GENERAL - PHIPPS OCEAN PARK	
BP-01	PROJECT LAYOUT
BP-02	CONTROL DATA
CIVIL - PHIPPS OCEAN PARK	
BP-01	BEACH FILL PLAN
BP-02	BEACH FILL PLAN
BP-03	BEACH FILL PLAN
BP-04	BEACH FILL PLAN
BP-05	STOCKPILE SHIP PLAN
BP-06	BEACH TYPICAL CROSS SECTION
BP-07	BEACH CROSS SECTIONS
BP-08	BEACH CROSS SECTIONS



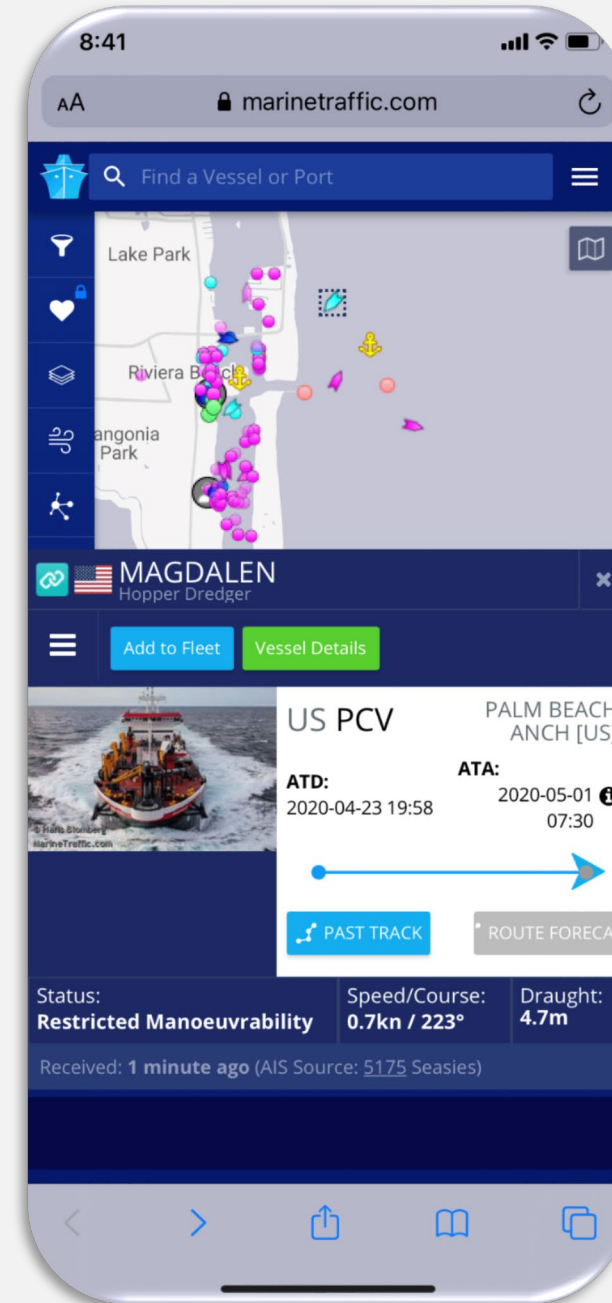


PARTNERING, ROLES, & RESPONSIBILITIES



Construction Details

- Notice to Proceed for Mid-Town
- Phipps (Reach 7) not awarded
- Construction started March 16, 2020
- Multiple hopper dredges
- Borrow area on north side of inlet
- Screening required by contract
- On track for completion by May 1st



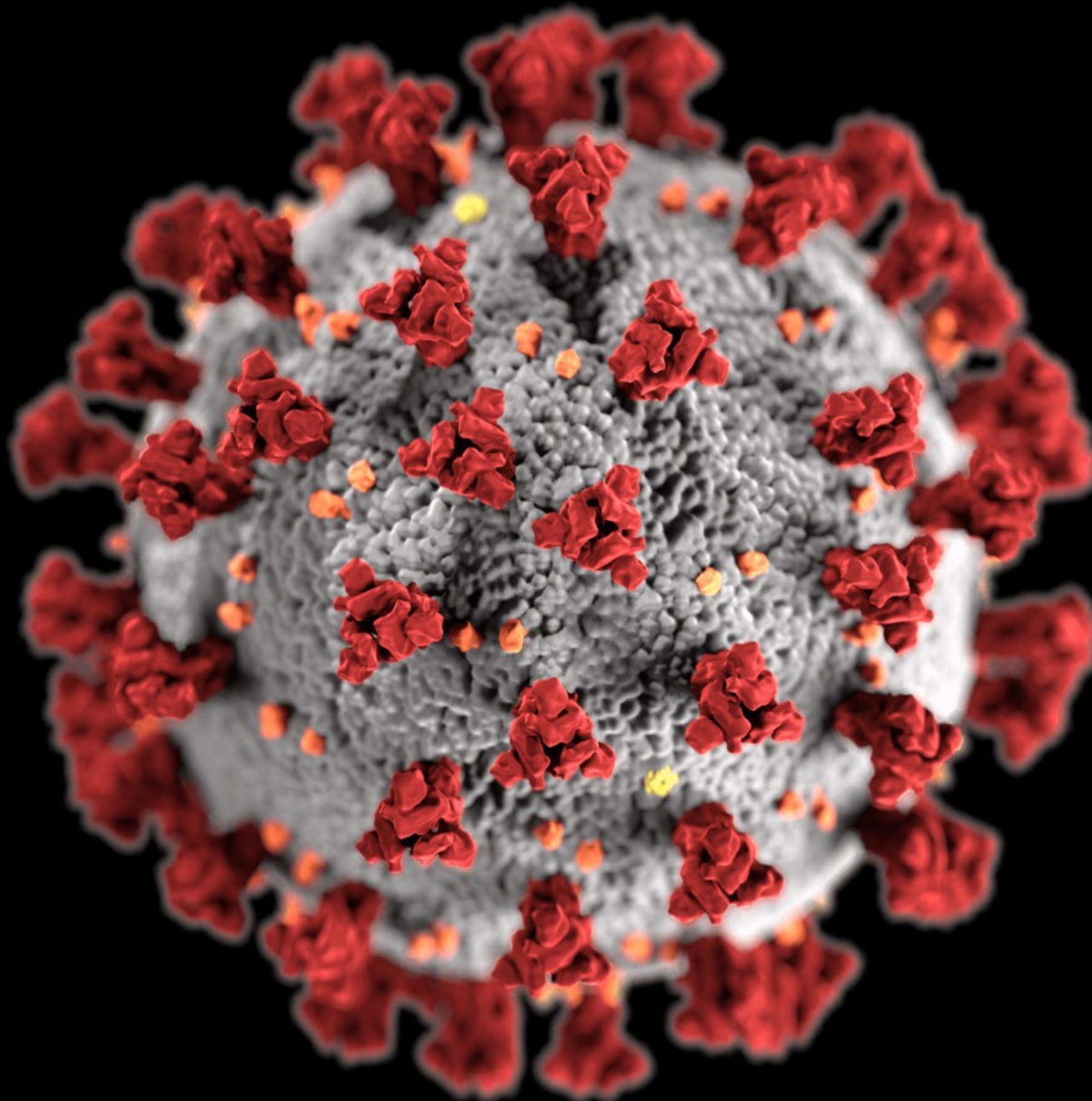
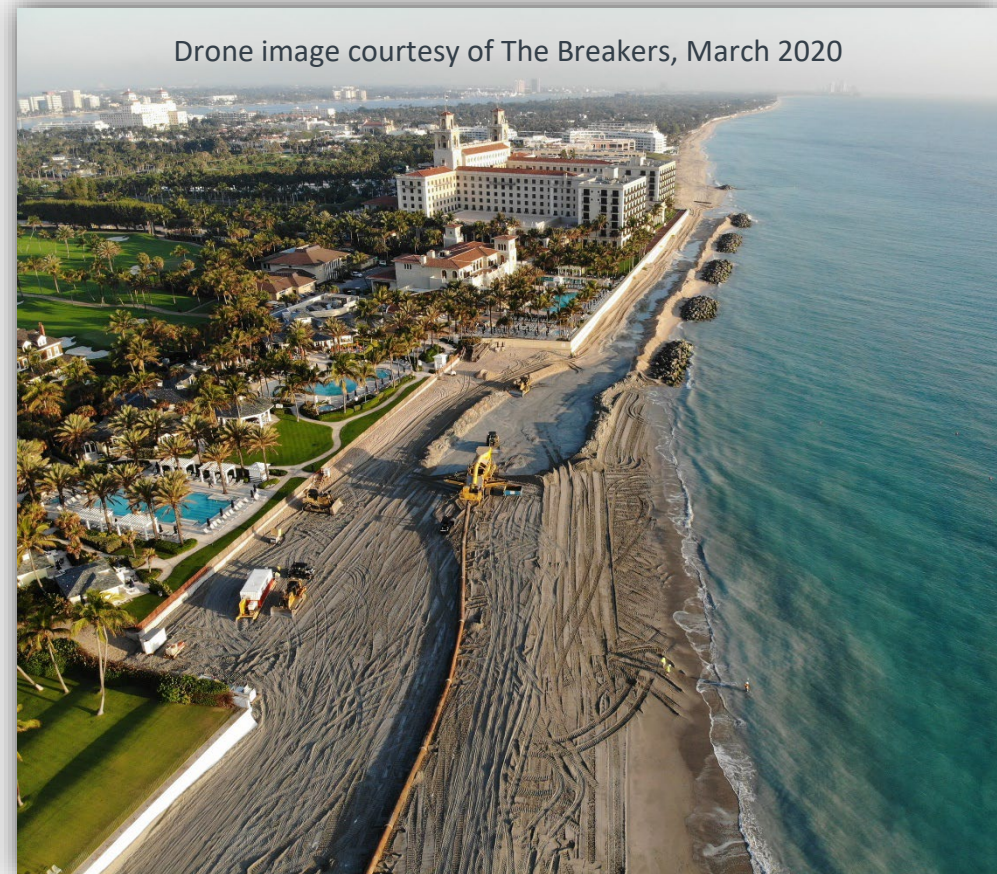


Image Source: CDC 2020; Alissa Eckert, MSMI; Dan Higgins, MAMS

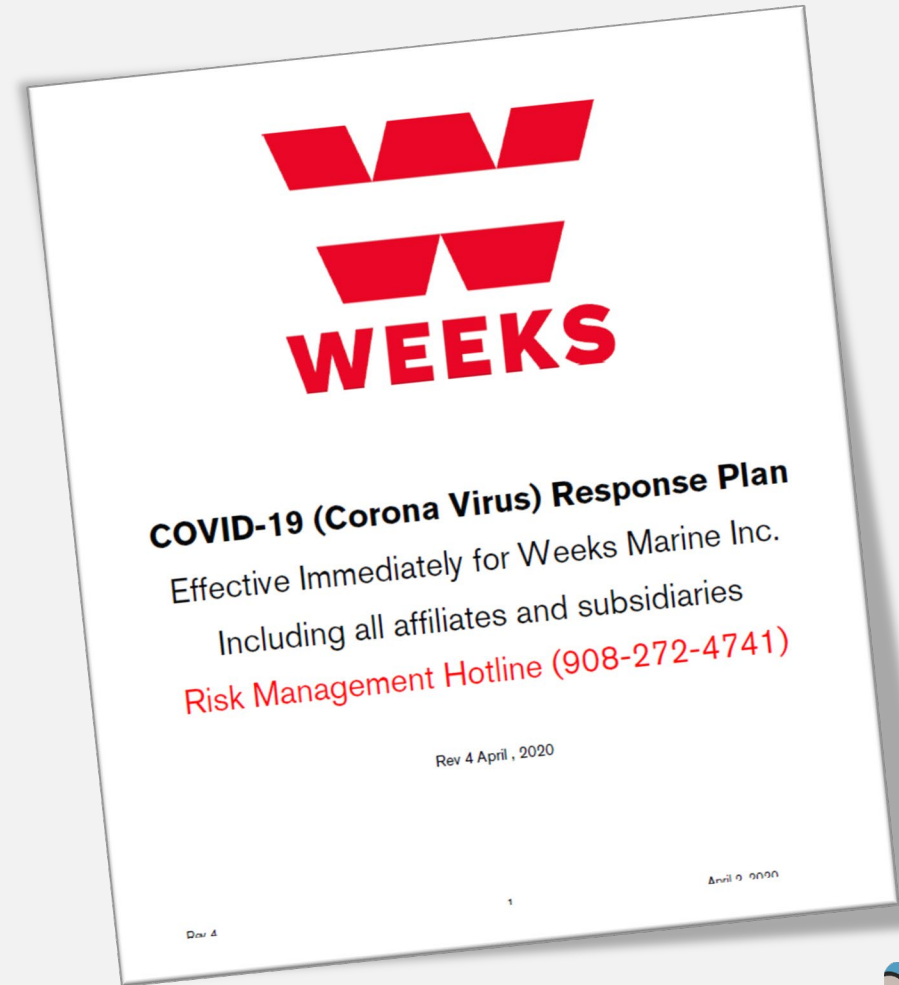
State of Emergency

- Town beaches closed March 17th
- Enforcement by Town Police
- Re-opened May 26th



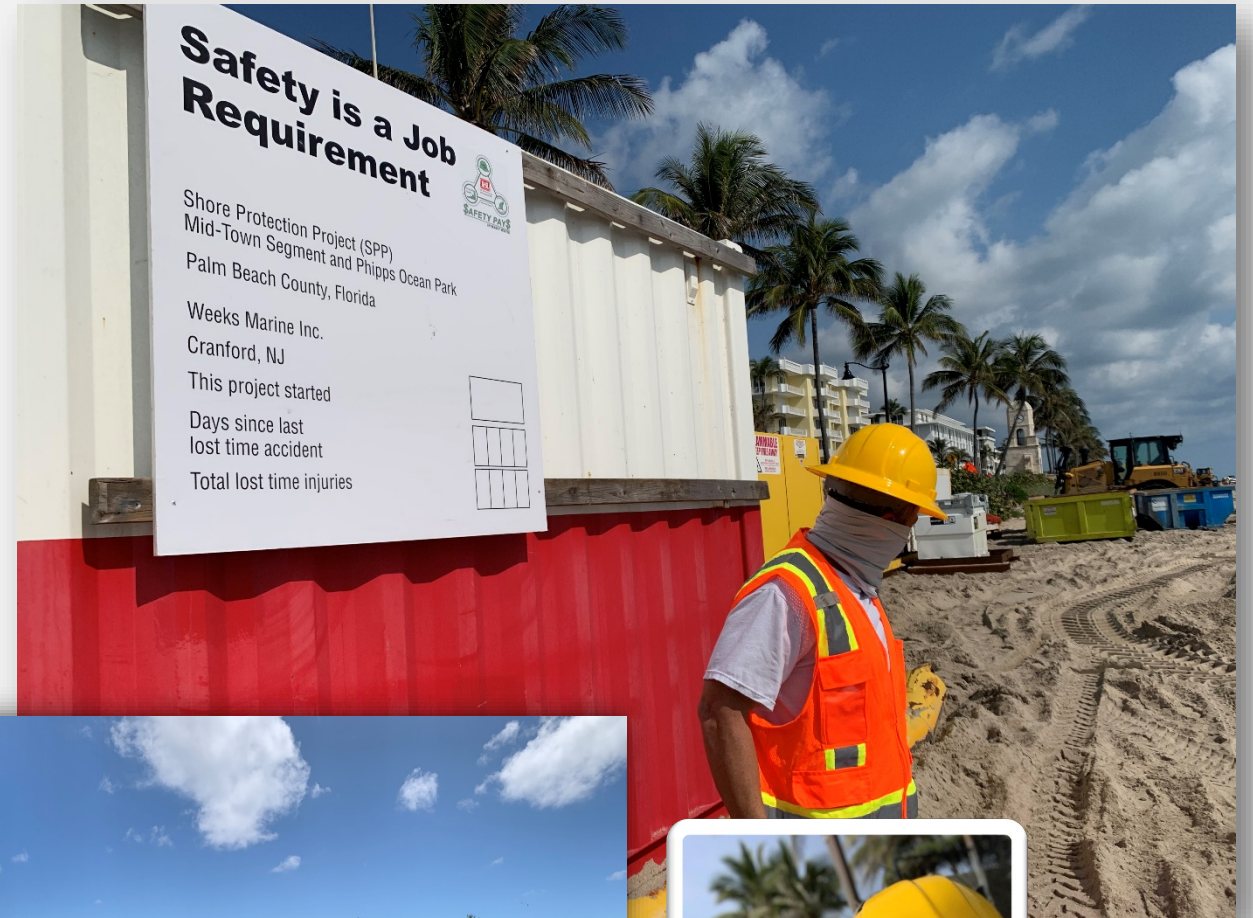
Weeks Marine COVID-19 Response Plan (April 2020)

- Routine Health Screenings
- Covid-19 Screening Questionnaire
- Temperature Readings
- Employee Personal Belongings
- Precautionary Disinfection Methods
- Guidelines for Employees
- Site Procedures for Staff and Visitors



Construction Logistics

- COVID-19 PPE & precautions
- Delivery delays, vessel traffic
- Access, MOT, dual sublimes
- Public information campaign



Submerged Line Landing

- Second line for northern project area



Material Screening

- On dredges and beach (inline extractor)



Project Coordination

- Contract required meetings
- Regulatory support
- Fill complete: May 1, 2020



Connie Hennings



PROJECT SUMMARY AND STATS

- 839,000 cy placed
- 2.8 miles
- 50.3% Federal Share*
- 8,000 cy screened
- \$22.9M*
- 49.7% Non-Federal*

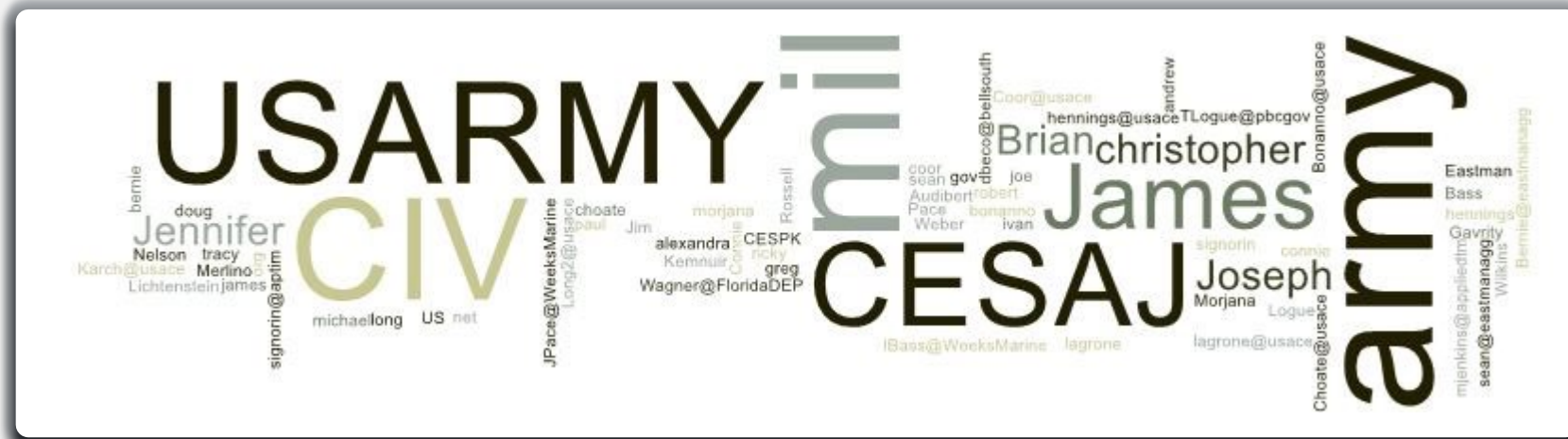


* Pre-project estimates to be rectified pending final costs and agreements.



Closing Comments

- COVID-19 Pandemic
- Federal Authorization
- Regulatory Approvals
- Multiple Dredges
- Partnering with USACE





FLORIDA SHORE & BEACH PRESERVATION ASSOCIATION

A League of Cities and Counties on Beach and Coastal Issues



THANK YOU!

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Special Thanks

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- APTIM: Morjana Signorin, Erica Carr-Betts, Doris Otero, Holly Berckenhoff

