



FLAGLER COUNTY BOARD OF COUNTY COMMISSIONERS

Update on the Beach Management Plan and Current Projects

May 1, 2023

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Overview & History

In **2014** the USACE study determined 2.6 miles within the City of Flagler Beach to meet the criteria for the Coastal Storm Risk Management (CSRM) beach and dune nourishment project

Due to continued annual erosion and Hurricanes Matthew (**2016**), Irma (**2017**) and Dorian (**2019**), several major restoration and repair projects were required

Subsequently, in **2019**, the Board established a consensus to prioritize and initiate the necessary work for development and implementation of a comprehensive Beach Management Plan for Flagler's entire 18-mile coastline

In **2022**, the Beach Management Study provided a number of recommendations to move forward with a Beach Management Plan

Matthew

Irma

Dorian

Ian & Nicole

2003

2014

2016



2017



2018

2019



2021

2022



2023

A comprehensive Feasibility Study was initiated and conducted by the US Army Corps in **2003**

In **2018** FDOT Beach and Dune Nourishment Project funded the remaining critically eroded shoreline north and south of the Federal Project in the City of Flagler Beach

In **2021**, the Board approved an amendment to Olsen Contract to conduct a Beach Management Study which would serve as the basis for the development and implementation of a sustainable, long-term, Beach Management Plan




Beach Management Study

In February 2021, Flagler County BOCC entered into an agreement with Olsen Associates Inc. to conduct a Beach Management Study that would serve as the basis for the development and implementation of a comprehensive, sustainable, and long-term, Beach Management Plan for Flagler's entire 18-mile coastline.

BMS Recommended Tasks for Flagler County:

- Establish Governance/Administration (County, Special District, other)
- Identify/Establish Local Funding Source
- Map Coquina Rock Outcropping (northern 7.6 miles of shoreline)
- Assess feasibility of various sand delivery methods
- Initiate a detailed design investigation of the selected plan
- Expand Offshore Sand Borrow Area
- Pursue Regulatory permits
- Pursue Long-term easements
- Petition FDEP to Reassess Critical Erosion Eligibility (annually)
- Assess Potential Benefits of New USACE Feasibility Study
- Develop County-wide Public Beach Access and Parking inventory

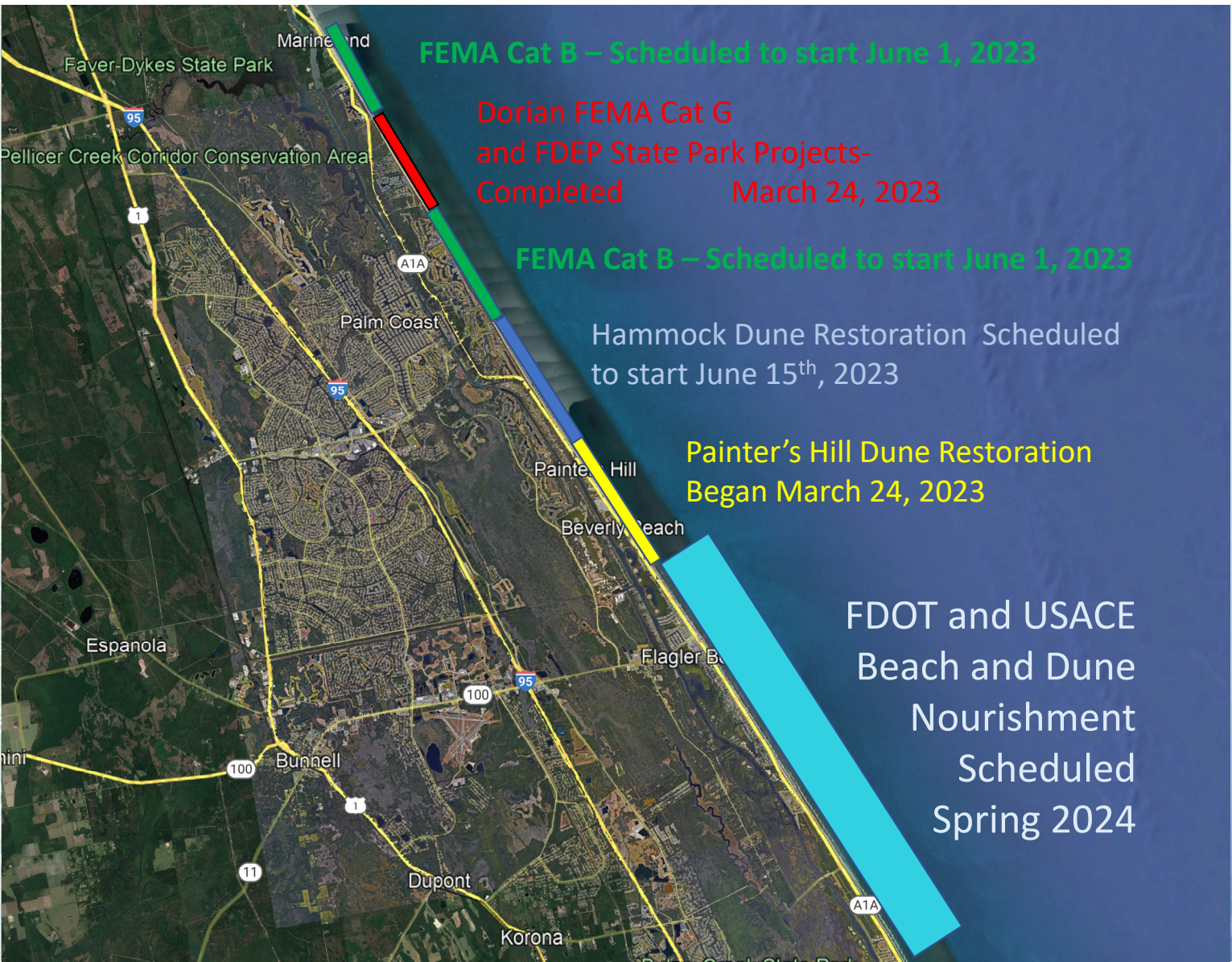


Beach Management Plan - Recommended Next Steps

- Initiate discussion about program administration
 - Flagler County has taken the lead for the entire 18-mile coastline, but City of Flagler Beach will be taking over maintenance of projects within the City of Flagler Beach after the initial project is constructed.
- Commission geotechnical data collection to expand offshore sand borrow area
 - Approved by BOCC 09/07/2022 - in progress
- Commission funding study to test community interest in the program and willingness to pay for implementation of management plan.
 - Approved by BOCC 02/20/2023 and initiated 03/16/23. Public outreach, education efforts, and survey are underway.

Beach Management Plan - Recommended Next Steps

- Commission parking and access inventory and initiate a new Federal study
 - No Parking study at this time
 - New Federal Feasibility study requested and will be re-submitted to Congress by the Army Corps of Engineers in 2024
- Conduct a financial analysis to develop a permanent dedicated funding source for implementation and administration of a sustained, long-term Beach Management Program (e.g. MSTU, MSBU, etc.) -
Future work
- Pursue easements along northern 12 miles of shoreline
 - The County Attorney's office is currently taking the lead on this task



FEMA Cat B – Scheduled to start June 1, 2023

Dorian FEMA Cat G
and FDEP State Park Projects-
Completed March 24, 2023

FEMA Cat B – Scheduled to start June 1, 2023

Hammock Dune Restoration Scheduled
to start June 15th, 2023

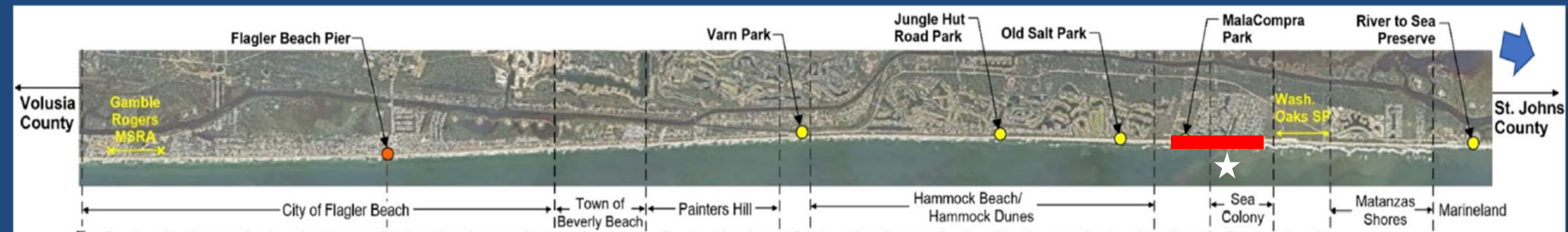
Painter's Hill Dune Restoration
Began March 24, 2023

FDOT and USACE
Beach and Dune
Nourishment
Scheduled
Spring 2024

Current Projects Summary



Hurricane Dorian FEMA Category G Funded Project



- **Scope:** 1.5 miles of Dune Restoration; 50,000 cy Sand
- **Contract Award:** January 9, 2023 - Eastman
- **Construction Commencement:** January 23, 2023
- **Completion:** February 2023
- **Cost:** \$3.6M Funded by FEMA, FDEM & FDEP

Hurricane Dorian FEMA Category G Funded Project

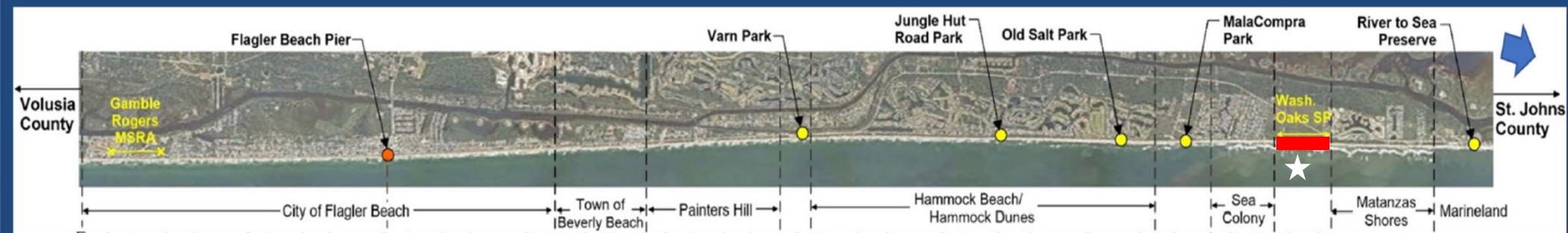
Post- Nicole Before dune restoration



After sand was placed February 2023



Washington Oaks Gardens State Park (WOGSP) Project

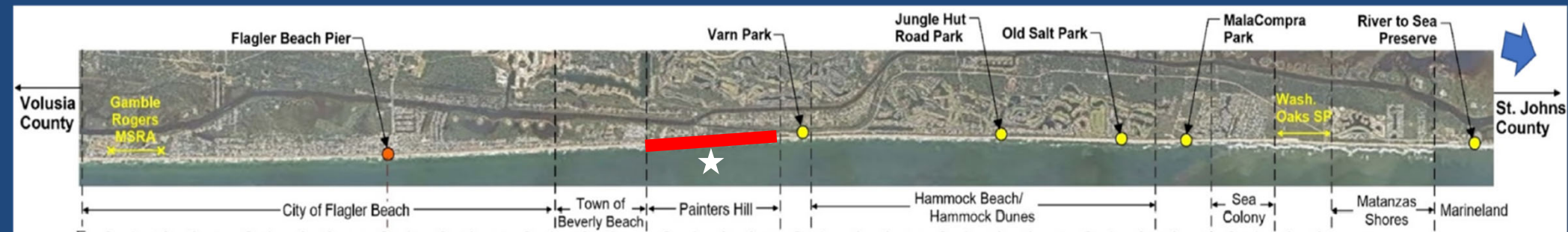


- Scope: 0.75 mile of Dune Restoration; 24,000 cy Sand
- Contract Award: February 20, 2023 - Eastman
- Construction Commencement: February 28, 2023
- Completion: March 24, 2023
- Cost: \$1.8M Funded by FDEP

Video showing dune construction at Washington Oak Gardens State Park



Painter's Hill / Beverly Beach Project



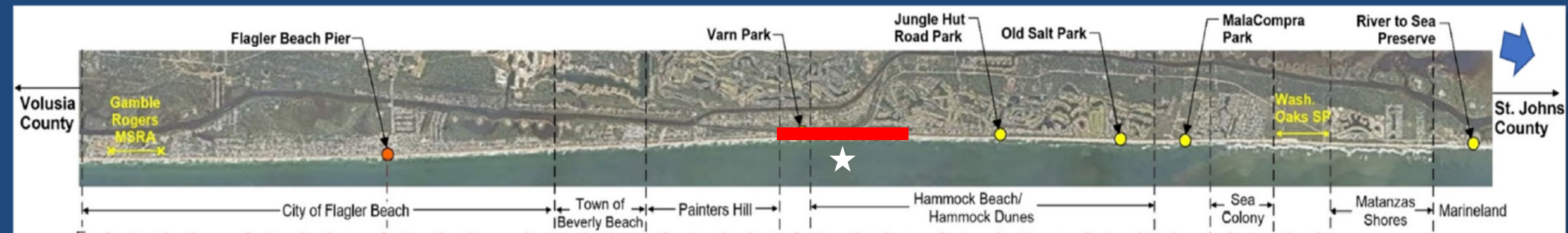
- **Scope: 1.5 mile of Dune Restoration; 50,000 cy Sand**
- **Contract Award: February 20, 2023 - Eastman**
- **Construction Commencement: March 24, 2023**
- **Anticipated Completion: May 30, 2023**
- **Cost: \$3.8M Funded by FDEP (Dorian project Match)**
- **Not Eligible for FEMA Cat B Emergency Funding**



Painter's Hill Dune Restoration-Challenges



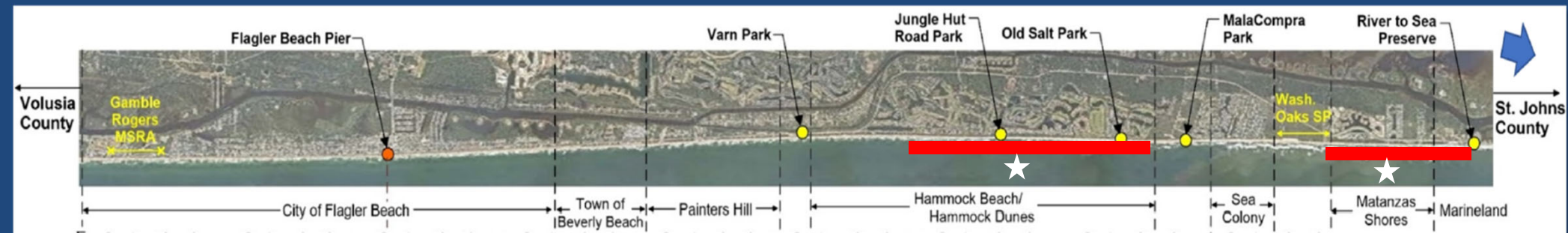
Hammock Dunes Project



- **Scope: 1.5 mile of Dune Restoration; 50,000 cy Sand**
- **Contract Award: March 20, 2023 - Eastman**
- **Anticipated Construction Commencement: June 2023**
- **Anticipated Completion: July 2023**
- **Cost: \$3.5M Funded by FDEP**
- **Not Eligible for FEMA Cat B Emergency Funding**



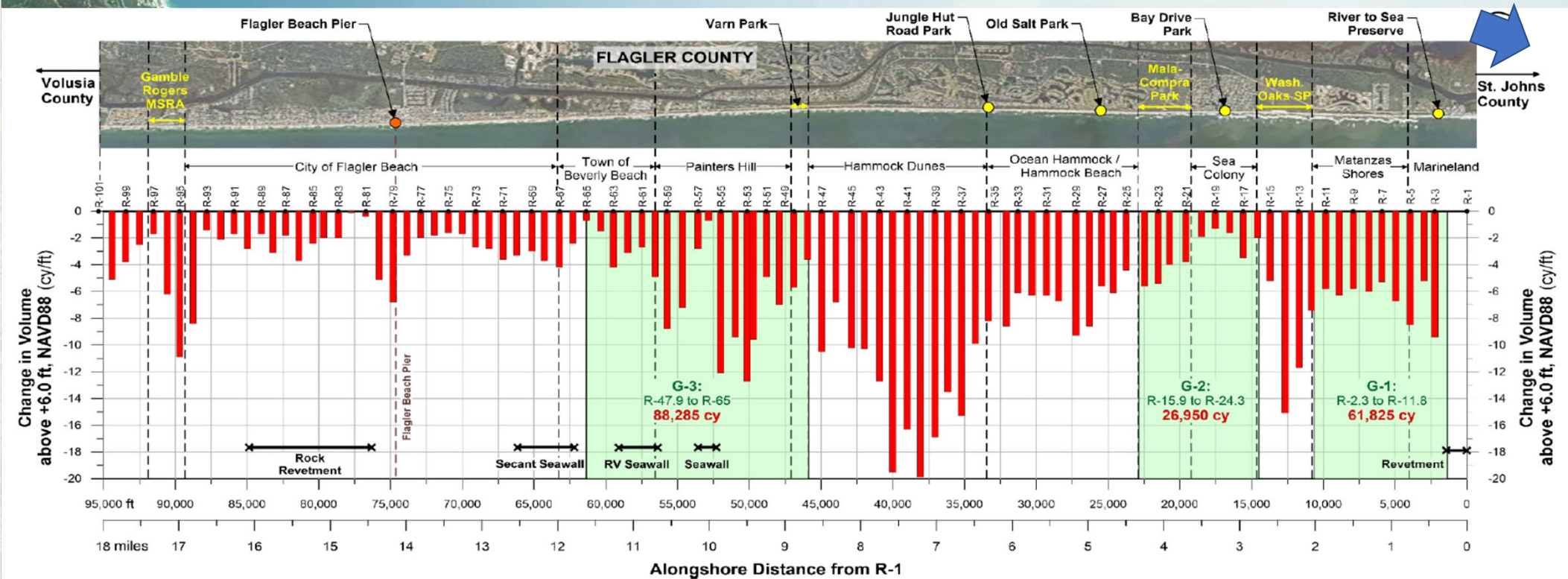
FEMA Category B Emergency Dune Project



- Pending FEMA Approval
- Scope: 4.9 miles of Dune Restoration;
134,000 cy Sand
 - Reach 1: River to the Sea Preserve - Washington Oak Gardens State Park
 - Reach 2: South of MalaCompra Park to R-40.5 (south of HD HOA condos)
- Anticipated Construction Commencement:
June 1 2023




Post-Hurricane Ian & Nicole Anticipated FEMA Category G Funded Project



- Pending FEMA Approval
- Scope: 6.3 miles of Designed & Permitted Dune Restoration; 140,000 cy Sand
- Estimated Cost: \$5.4M with 75% FEMA, 12.5% FDEM & 12.5% Local Funding

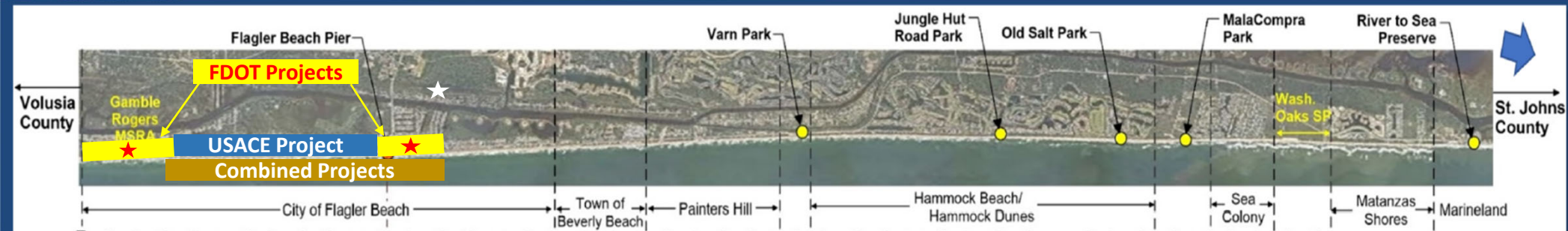




Post-Hurricane Ian & Nicole
Additional Anticipated
FDEP Recovery Plan Emergency Funding

- **\$17M Approved @ FL Special Legislature Session in December 2022**
- **To Design & Permit Dune/Beach Restoration along 11.4 miles of Flagler County Coastline**
- **Additional Funds (\$10 - \$17M) Anticipated in Upcoming State Budget**
- **Future funds will be combined with the FEMA Cat G funds to design and permit a dredging project for a full-template dune and beach nourishment project**

City of Flagler Beach Projects



- Flagler Beach Previously Planned USACE & FDOT Projects

USACE Projects: 2.6 miles

FDOT Projects: 2.4 miles

- Flagler Beach Current Combined USACE & FDOT Projects

USACE & FDOT Combined Project: 3.5 miles

- Combined Project Total Cost Estimates = \$36,573,000
- Total Non-Fed Share = (35% of USACE Project Cost) + (100% of Non-Fed Project Cost) = \$16,785,050
- Remaining Grants Balance: \$14,312,700
- Shortfall: (\$16,785,050 - \$14,312,700) = \$2,472,350

FLAGLER COUNTY

Coastal Storm Risk Management (CSRМ) Project

Flagler County Commission Presentation

Jason Harrah, Senior Project Manager
U.S. Army Corps of Engineers
Jacksonville District

Jason.S.Harrah@usace.army.mil



May 1, 2023



PROJECT HISTORY

Feasibility Study completed;
Chiefs Report signed
recommending **2.6 miles of
beach restoration in
Flagler Beach**

**Federal Construction
Funding Provided in
Bipartisan Budge Act Feb
2018**

**Plans/Specs/Permits
Completed March 2020,
awaiting Sponsor
easements**

**Construction
starts June
2024**

Matthew

Ian Nicole

2002

2014

2016



2018

2019

2020

2022



2024

Shoreline erosion study
authorized in House
Resolution 2676
(May 22, 2002)

Project **Authorized for
Construction** in Water
Resources Development
Act 2016 (September)

Project Partnership
Agreement signed;
**Sponsor notified of
easements required for
project July 23, 2019**

Sponsors deadline to
provide all lands,
easements to USACE
Dec 30, 2022

330,000 cubic yards

595,000 cubic yards

772,000 cubic yards

1,300,000 cubic yards

Volume of Sand Required for Federal Project has grown exponentially!

KEY POINTS

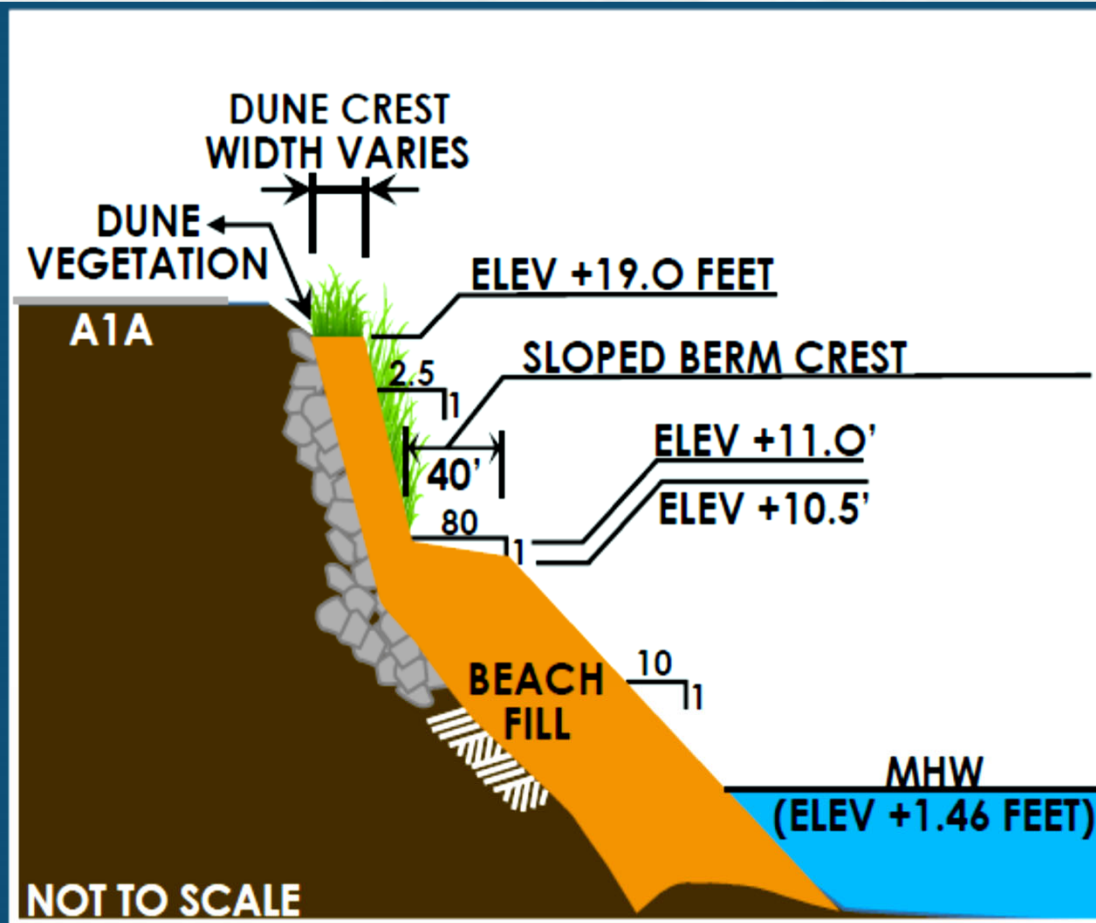
- **Project Non-Federal Sponsor:** Flagler County
- **Initial Construction of Project:** June 2023 to Feb 2024
- **Project remains authorized for 50 years** after completion of initial construction (2074)
- Renourishments anticipated **every 11 years** (could be sooner if conditions warrant)
 - *Initial Construction 2024*
 - *Renourishment #1 2035*
 - *Renourishment #2 2046*
 - *Renourishment #3 2057*
 - *Renourishment #4 2068*
- **Project Cost Share: Initial Construction 65% Fed - 35% Non-Fed**
- **Renourishment Cost Share: 50% Fed - 50% Non-Fed**
- Project Qualifies for Emergency Renourishment Funding (Stafford Act) after named storms w/Presidential Declaration and Approved Report – **100% Federal**
- Sponsor **required to maintain project** between construction events (check signage, tilling, vegetation, monitoring, etc.)

PROJECT DESIGN

TYPICAL PROJECT PROFILE

The project includes reconstruction and extension of the dune footprint (pre-Hurricane Matthew):

- Existing elevation of dune: ~19 feet NAVD88.
- Construction of the dune will result in additional “towel space” – a wider beach berm after initial construction.
- Native beach slopes/grades will be maintained.

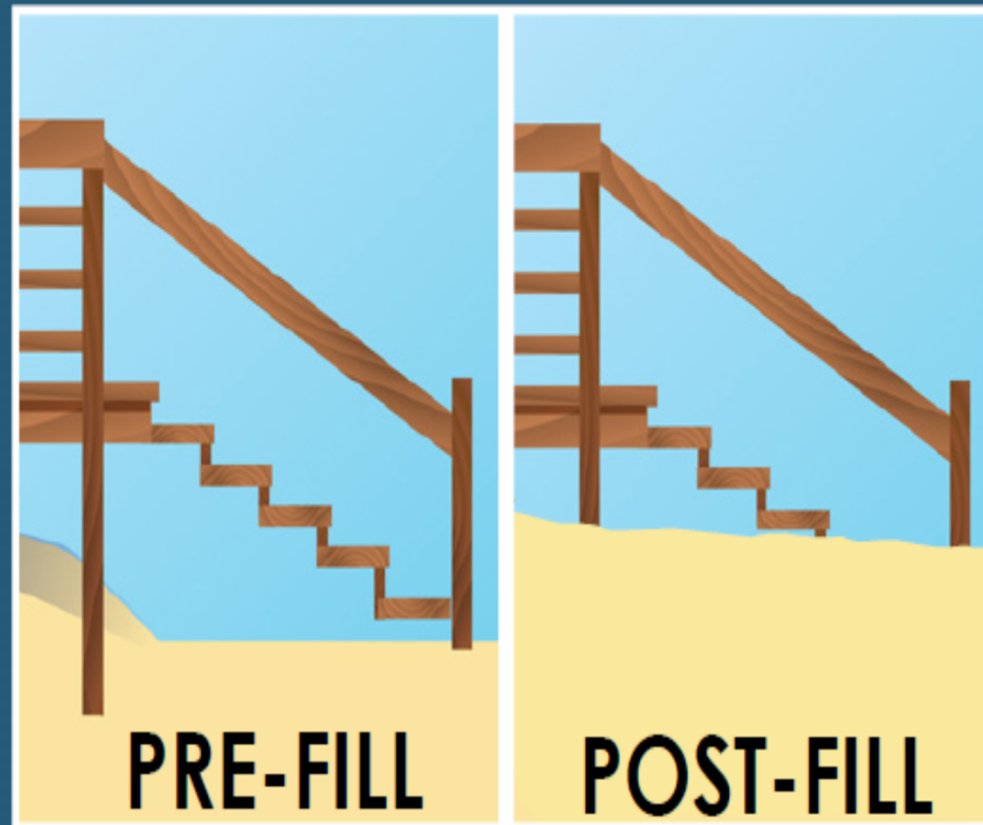


The above profile reflects the average need for sand across the project area.

DUNE WALKOVERS

42 PUBLIC AND PRIVATE DUNE WALKOVERS

- The contractor will place sand on, around and underneath each walkover to maintain a continuous protective dune.
- Sand will naturally equilibrate and expose walkover steps over time.
- Photos will be taken of each walkover prior to construction.
- The contractor is bonded and insured if damage occurs as a result of construction activities.



**AUTHORIZED PROJECT LIMITS ~ 3 MILES (BEACH FILL FROM R-80 THROUGH R-94) OF FLAGLER BEACH SHORELINE
(TAPERS LOCATED NORTH OF 6TH STREET AND THE SOUTHSIDE OF 28TH STREET)**



NORTH CONSTRUCTION ACCESS AREA (R-78.5)

FLAGLER BEACH PIER
contractor must move beneath the pier to get to northern end of project

~.30 MILES FROM START OF PROJECT

R-80 NORTHERN EXTENT OF PROJECT (WITH PROJECT TAPER TO NORTH SIDE OF 6TH STREET)

1

Hopper dredge loads sand from seafloor (borrow site ~10.25 nautical miles offshore)

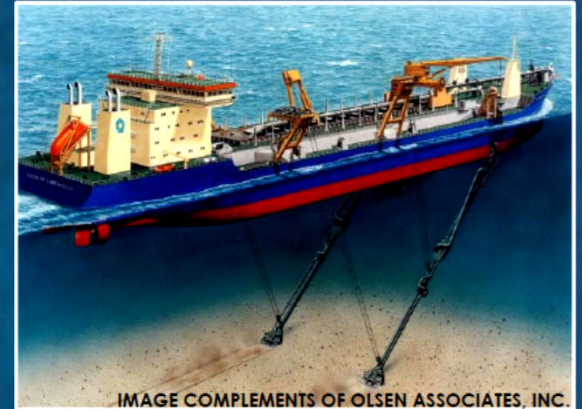


IMAGE COMPLEMENTS OF OLSEN ASSOCIATES, INC.



- Improvements will be made to the existing access ramp to allow vehicle access to fuel equipment, etc. The improvements will be kept in place should the local sponsor desire.
- The contractor will drive seaward of the MHW line.

2

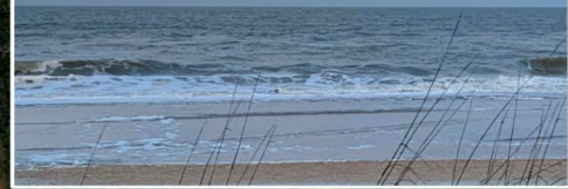
Hopper dredge unloads sand to beach via a submerged pipe line



ORIGINAL IMAGE COMPLEMENTS OF OLSEN ASSOCIATES, INC.

PUBLIC ACCESS DURING CONSTRUCTION

- Outside the active construction zone, sand ramps for public access will be constructed over pipelines every 200-300 feet.
- For safety purposes, beach access is prohibited in the active construction zone.



3



Bulldozers distribute the sand to achieve the project design.

- Bulldozers operate on a 24-hour basis
- For safety purposes, back-up alarms are activated to run continuously during construction
- Safety personnel will be onsite to direct the general public away from potential hazards

SOUTHERN STAGING/ACCESS AREA (R-98)



Staging / Access Area
Access Ramp to be Constructed by Contractor

- The beach parking area will be closed for the duration of the construction.
- The access area will be used for moving equipment.
- The contractor will restore the site to its original condition, including vegetation, upon completion of the project.
- The contractor will drive seaward of the MHW line.

SOUTHERN EXTENT OF PROJECT (R-94)
(WITH PROJECT TAPER TO SOUTH SIDE OF 28TH STREET)

~.68 MILES FROM END OF PROJECT

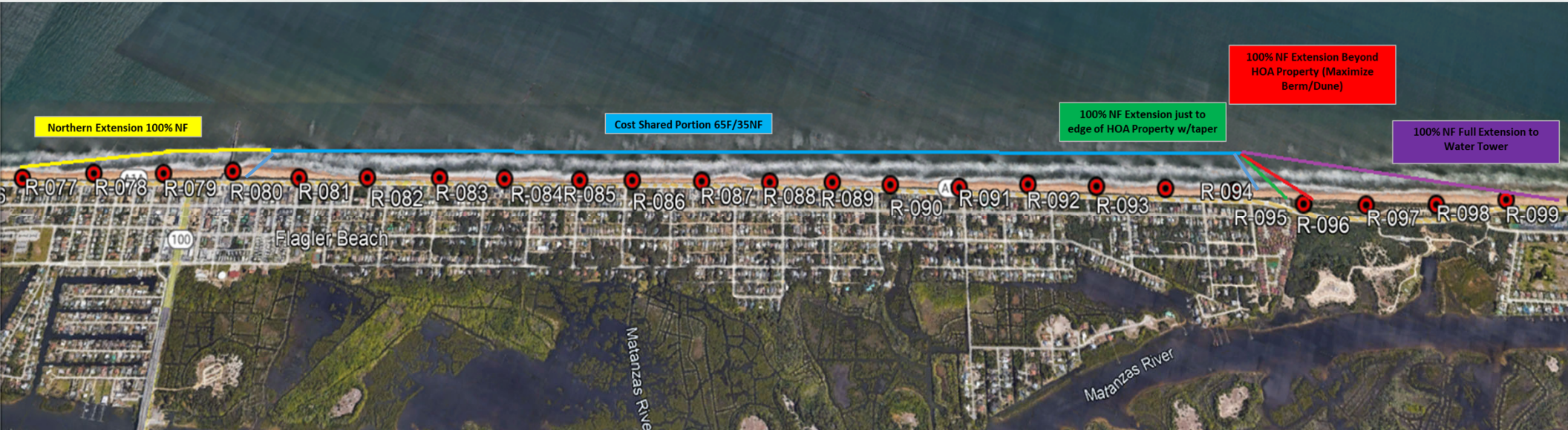
SOUTH CONSTRUCTION ACCESS/STAGING AREA (R-98)

FLAGLER COUNTY
VOLUSIA COUNTY



NOT TO SCALE


PROJECT COSTS



Section			Length (ft.)	Total Cost	Fed Share	Non-Fed Share
Federal Project			14,000	\$32,243,000	\$20,957,950	\$11,285,050
Northern Extension	Fed Project	Southern Extension	17,500	\$35,153,000	\$19,787,950	\$15,365,050
Northern Extension	Fed Project	Southern Extension	18,500	\$36,573,000	\$19,787,950	\$16,785,050
Northern Extension	Fed Project	Southern Extension	21,500	\$42,333,000	\$19,787,950	\$27,895,050

INITIAL CONSTRUCTION SCHEDULE

Activity	Schedule
Supplemental Environmental Assessment (EA)	October 2023
Flagler County Certification of Real Estate Easements, Staging, Access	October 2023
Florida Department of Environmental Protection (FDEP) Permit Modification	November 2023
BOEM Lease Agreement Amendment to Dredge Offshore Sand	November 2023
Plans/Specifications Certified as Complete	December 2023
Bid Opening	February 2024
Contract Award	March 2024
Contractor Mobilization	May 2024
Construction Complete (weather pending)	January 2025



Activities that require revisions/modifications due to continued loss of sand.



QUESTIONS?