DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, JACKSONVILLE DISTRICT
P. O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019

February 18, 2020

Regulatory Division
West Branch
Tampa Permits Section
Gainesville Field Office

PUBLIC NOTICE

Permit Application No. SAJ-2019-03818 (SP-JED)

TO WHOM IT MAY CONCERN: The Jacksonville District of the U.S. Army Corps of Engineers (Corps) has received an application for a Department of the Army permit pursuant to Section 404 of the Clean Water Act (33 U.S.C. §1344) and Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. §403) as described below:

APPLICANT: Citrus County Board of County Commissioners
Attn: Francine Nobles
2804 West Marc Knighton Court, Key 11
Lecanto, FL 34461

WATERWAY AND LOCATION: The project would affect waters of the United States associated with the Gulf of Mexico. The project site is located at the Fort Island Trail Beach at 1600 West Fort Island Trail, Section 16, Township 18 South, Range 16 East, Crystal River, Citrus County, Florida.

Directions to the site are as follows: From U.S Highway 19/North Suncoast Boulevard in Crystal River, head west on Fort Island for 9 miles until you reach Fort Island Trail Beach.

APPROXIMATE CENTRAL COORDINATES: Latitude 28.907877°
Longitude -82.690926°

PROJECT PURPOSE:

Basic: The basic project purpose is beach renourishment.

Overall: The overall project purpose is beach renourishment of an existing, public beach to replenish sand lost during a discrete storm events.

EXISTING CONDITIONS: The existing area surrounding the project area consists of a public park. There is a sandy swimming beach on the western extent of the park. There are rock jetties on the northern and southern boundary of the beach. The swimming area is also roped off from open water. Major storm events have eroded a 0.96 acre crescent shape area from the swimming area that the applicant seeks to restore. On April 4, 2019, the applicant performed a submerged vegetation survey of

the proposed renourishment area and its vicinity. According to the survey results, there is no vegetation within the area proposed for renourishment. The survey noted sparse coverage (5-10%) of *Halodule wrightii* located waterward of the proposed renourishment area within the lee of the rock jetties.

PROPOSED WORK: The applicant seeks authorization to discharge 1,300 cubic yards of sand material below the mean high water line over a 0.96 acre area of the Fort Island Trail Beach to renourish the beach.

AVOIDANCE AND MINIMIZATION INFORMATION – The applicant has provided the following information in support of efforts to avoid and/or minimize impacts to the aquatic environment:

The applicant proposes to limit the renourishment work to the portions of the beach landward of the sparse vegetation growing behind the jetties. Also, the applicant proposes to employ the following measures to further minimize impacts to the aquatic environment: utilize clean sand from an upland source, implement proper erosion and turbidity control measures; and complete the work during daylight hours at low tide.

COMPENSATORY MITIGATION –The applicant has provided the following explanation why compensatory mitigation should not be required:

The applicant proposes to complete the work within areas that do not support aquatic vegetation or live hardbottom such as living oyster concentrations. Furthermore, the applicant stated that the minimization efforts are sufficient to ensure that the proposed work would not result in secondary impacts such as erosion or turbidity. In light of these facts, the applicant stated that compensatory mitigation is not warranted for the proposed project.

CULTURAL RESOURCES:

The Corps is aware of historic property/properties within or in close proximity of the permit area (Fort Island CI00118). The Corps will initiate consultation with the State Historic Preservation Office and those federally recognized tribes with concerns in Florida and the Permit Area, and the Advisory Council on Historic Preservation as applicable pursuant to 33 CFR 325, Appendix C and Section 106 of the National Historic Preservation Act, by separate letter.

ENDANGERED SPECIES:

(1) The Corps has determined that the proposed project **may affect, but is not likely to adversely affect** the **West Indian manatee (*Trichechus manatus*)**. Since the proposal by the applicant is for in-water construction, potential impacts to the endangered West Indian manatee were evaluated using *The Corps of Engineers, Jacksonville District, and the State of Florida Effect Determination Key for the Manatee in Florida*, *April 2013* (manatee key). Use of the manatee key resulted in the following

sequential determination: A→B→C→G→N→O→P5 *may affect, not likely to adversely affect*. The project involves beach renourishment without dredging outside of an Important Manatee Area. The proposed project would not impact submerged aquatic vegetation. The proposed project would not increase watercraft access at the project site. Furthermore, the applicant elects to adhere to the *Standard Manatee Conditions for In-Water Work, 2011.* Therefore, according to the manatee key, a *may affect but is not likely to adversely affect* determination is appropriate**.** By letter dated 25 April 2013, the FWS stated that for proposed in-water activities analyzed with the April 2013 version of the Manatee Key in which the Corps reaches a may affect, not likely to adversely affect determination with respect to the manatee and/or its designated critical habitat, the FWS concurs with the Corps determination in accordance with 50 CFR 402.14(b)1 and no further consultation with the FWS is required.

(2) The Corps has determined the proposal is **not likely to adversely affect** the **Wood stork** *(Mycteria americana*). Since the applicant's proposal involves work within suitable foraging habitat for wood storks, the Corps utilized *The Corps of Engineers, U.S. Fish and Wildlife Service (FWS), Jacksonville Ecological Services Field Office, and State of Florida Effect Determination Key for the Wood Stork in Central and North Peninsular Florida*, *September 2008* (wood stork key) to evaluate the proposed project's potential impact on wood storks. Use of the wood stork key produced the following sequence indicating that that the project is not likely to adversely affect the wood stork: A→B→C→D(1). The nearest documented nesting colony is 22 miles west of the project site. The project would impact 0.96 acre of suitable foraging habitat. However, the project site is not located within a core foraging area for any wood stork colony. Therefore, the proposed project is not likely to adversely affect the wood stork. In correspondence that accompanied the wood stork key, the FWS stated that for proposed activities analyzed with the September 2008 version of the wood stork key in which the Corps reaches a not likely to adversely affect determination with respect to the wood stork and/or its designated critical habitat, the FWS concurs with the Corps determination in accordance with 50 CFR 402.14(b)1 and no further consultation with the FWS is required.

ESSENTIAL FISH HABITAT (EFH): This notice initiates consultation with the National Marine Fisheries Service on EFH as required by the Magnuson-Stevens Fishery Conservation and Management Act 1996. The proposal would impact approximately 0.96 acre of bare sand and silt bottom potentially utilized various life stages of Penaeid shrimp; red drum; stone crab; spiny lobster; and/or the snapper/grouper complex. Our initial determination is that the proposed action **would not** have a substantial adverse impact on EFH or Federally managed fisheries in the Gulf of Mexico. Our final determination relative to project impacts and the need for mitigation measures is subject to review by and coordination with the National Marine Fisheries Service.

NOTE: This public notice is being issued based on information furnished by the applicant. This information has not been verified or evaluated to ensure compliance with laws and regulation governing the regulatory program. The jurisdictional line has not been verified by Corps personnel.

AUTHORIZATION FROM OTHER AGENCIES: Water Quality Certification may be required from the Florida Department of Environmental Protection and/or one of the state Water Management Districts.

COMMENTS regarding the potential authorization of the work proposed should be submitted in writing to the attention of the District Engineer through the Tampa Permits Section, Gainesville Field Office, 2833 NW 41st Street, Unit 130, Gainesville, FL 32606 within 15 days from the date of this notice.

The decision whether to issue or deny this permit application will be based on the information received from this public notice and the evaluation of the probable impact to the associated wetlands. This is based on an analysis of the applicant's avoidance and minimization efforts for the project, as well as the compensatory mitigation proposed.

QUESTIONS concerning this application should be directed to the project manager, James Davidson, in writing at the Tampa Permits Section Gainesville Field Office, 2833 NW 41st Street, Unit 130, Gainesville, FL 32606; by electronic mail at james.e.davidson2@usace.army.mil; by facsimile transmission at (352) 264-7733; or, by telephone at (352) 264-7672.

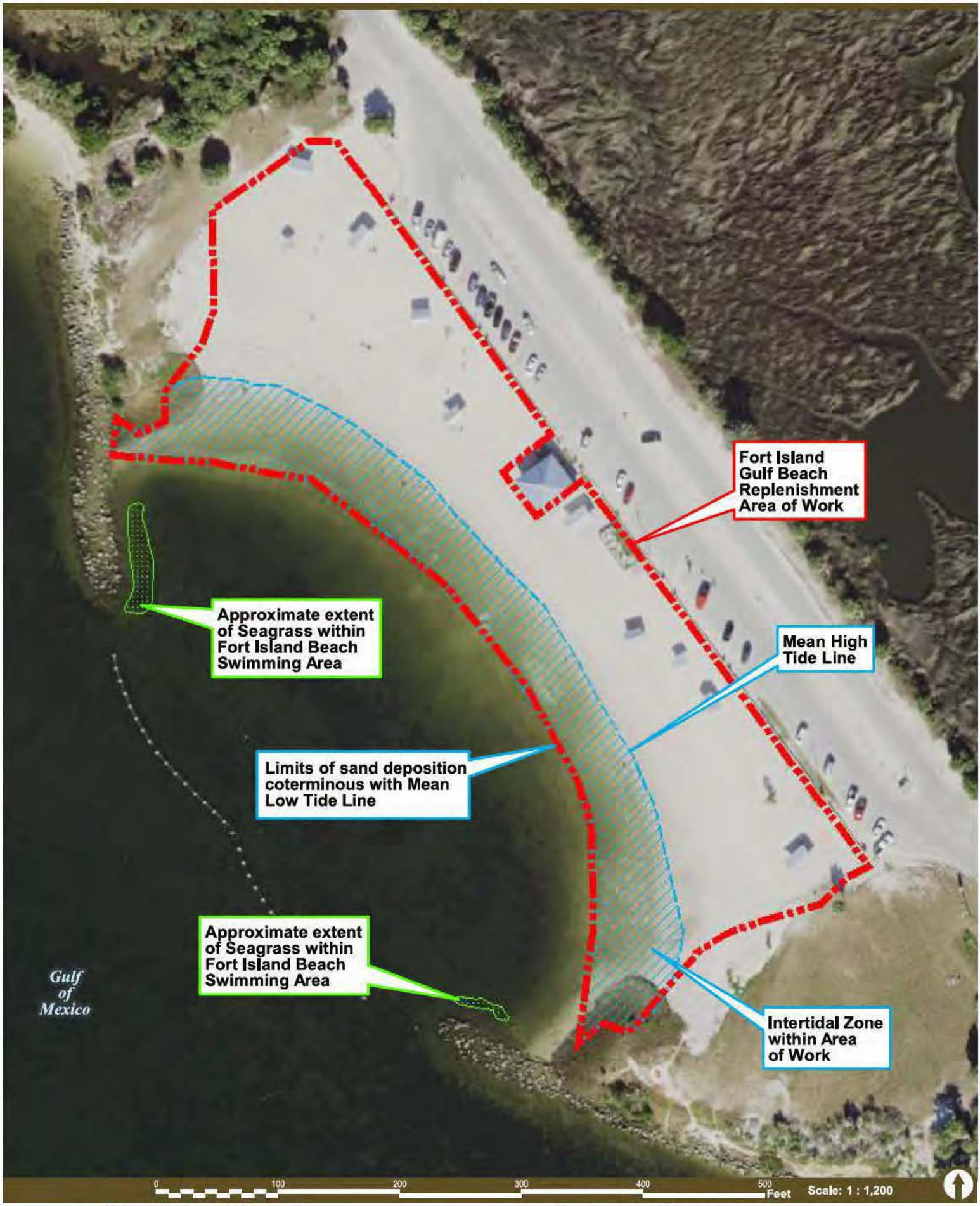
IMPACT ON NATURAL RESOURCES: Coordination with U.S. Fish and Wildlife Service, Environmental Protection Agency (EPA), the National Marine Fisheries Services, and other Federal, State, and local agencies, environmental groups, and concerned citizens generally yields pertinent environmental information that is instrumental in determining the impact the proposed action will have on the natural resources of the area.

EVALUATION: The decision whether to issue a permit will be based on an evaluation of the probable impact including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefits, which reasonably may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including cumulative impacts thereof; among these are conservation, economics, esthetics, general environmental concerns, wetlands, historical properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food, and fiber production, mineral needs, considerations of property ownership, and in general, the needs and welfare of the people. Evaluation of the impact of the activity on the public interest will also include application of the guidelines promulgated by the Administrator, EPA, under authority of Section 404(b) of the Clean Water Act or the criteria established under authority of Section 102(a) of the Marine Protection Research and Sanctuaries Act of 1972. A permit will be granted unless its issuance is found to be contrary to the public interest.

The US Army Corps of Engineers (Corps) is soliciting comments from the public; Federal, State, and local agencies and officials; Indian Tribes; and other Interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps to determine whether to issue, modify, condition, or deny a permit for this proposal. To make this determination, comments are used to assess impacts to endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

COASTAL ZONE MANAGEMENT CONSISTENCY: In Florida, the State approval constitutes compliance with the approved Coastal Zone Management Plan. In Puerto Rico, a Coastal Zone Management Consistency Concurrence is required from the Puerto Rico Planning Board. In the Virgin Islands, the Department of Planning and Natural Resources permit constitutes compliance with the Coastal Zone Management Plan.

REQUEST FOR PUBLIC HEARING: Any person may request a public hearing. The request must be submitted in writing to the District Engineer within the designated comment period of the notice and must state the specific reasons for requesting the public hearing.



gai consultants

Fort Island Beach
Beach Sand Replenishment

in Section 16, Township 18 South, Range 16 East
Citrus County, Florida

Existing Seagrass Areas

Tide Line information provided by
Citrus County Department of Public Works

Drawn by: JGS
Date: 2019.04.30
A180408.04-F3.MXD

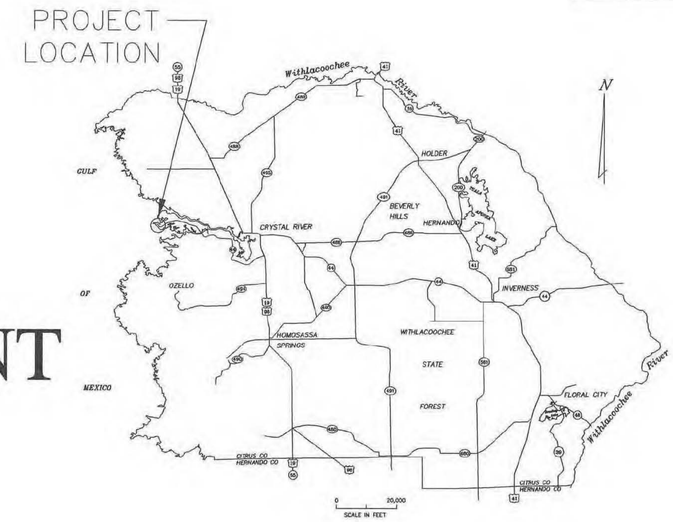
3

PROJECT NO.	SHEET NO.
17-311	1 OF 7
FILE: XXXX	
DATE: 1/23/19	

CITRUS COUNTY
DEPARTMENT OF PUBLIC WORKS
DIVISION OF ENGINEERING

PLANS OF PROPOSED:

FT. ISLAND BEACH
BEACH SAND REPLENISHMENT



PROJECT LOCATION

LOCATION MAP
SEC: 16 TWP: 18S RGE: 16E
PROJECT NO. 17-311

SHEET INDEX

SHEET NO.	SHEET DESCRIPTION
1	COVER
2	2015 TOPO
3	2016 TOPO
4	2018 TOPO
5	PROPOSED GRADING
6	SURFACE PROFILES & HURRICANE HERMINE SAND RELOCATION
7	SURFACE PROFILES – 2018 & PROPOSED

SUPPLEMENTARY INFORMATION

GOVERNING STANDARDS AND SPECIFICATIONS: FLORIDA DEPARTMENT OF TRANSPORTATION "DESIGN STANDARDS" AND "SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" (MOST RECENT EDITIONS IN EFFECT AT THE TIME OF LETTING OF THE CONTRACT) AND AS AMENDED BY THE CONTRACT DOCUMENTS.

NOTE: 48 HOURS IN ADVANCE TO DIGGING
CONTACT APPROPRIATE UTILITIES

UTILITY OWNERS	TELEPHONE NUMBERS
PROGRESS ENERGY (CABLE LOCATES)	1 (800) 432-4770
WITHLACOOCHEE ELECTRIC	489-6818
SUMTER ELECTRIC	728-3944
BRIGHT HOUSE	746-0755
EMBARQ (CABLE LOCATES)	1 (800) 432-4770
CITRUS COUNTY UTILITIES	527-7650
HOMOSASSA SPECIAL WATER DISTRICT	628-3740
U.S. FILTER	746-4291
FLORAL CITY WATER ASSOCIATION	726-3366
CITY OF CRYSTAL RIVER	795-4216
CITY OF INVERNESS	726-2321, 726-5016
OZELLO WATER ASSOCIATION	795-5331
FLORIDA GAS & TRANSMISSION	527-1898
VEOLIA (ROLLING OAKS UTILITIES)	352-302-8013
CENTRAL FLORIDA GAS	1 (800) 432-4770
SUNSHINE ONE CALL (CABLE LOCATES)	1 (800) 432-4770

CITRUS COUNTY BOARD OF COUNTY COMMISSIONERS

JEFF KINARD	CHAIRMAN
BRIAN COLEMAN	1ST VICE CHAIRMAN
SCOTT CARNAHAN	2ND VICE CHAIRMAN
RONALD E. KITCHEN, JR.	COMMISSONER
JIMMIE T. SMITH	COMMISSIONER

COUNTY ADMINISTRATOR

CHARLES R. OLIVER

CITRUS COUNTY ENGINEER

RANDALL OLNEY, P.E.
FLORIDA P.E. LIC. NO. 74596

MARK E. SCHRODER, P.E.
FLORIDA P.E. LIC. NO. 67585
9/24/19

MARK E. SCHRODER LICENSE No. 67585 STATE OF FLORIDA PROFESSIONAL ENGINEER

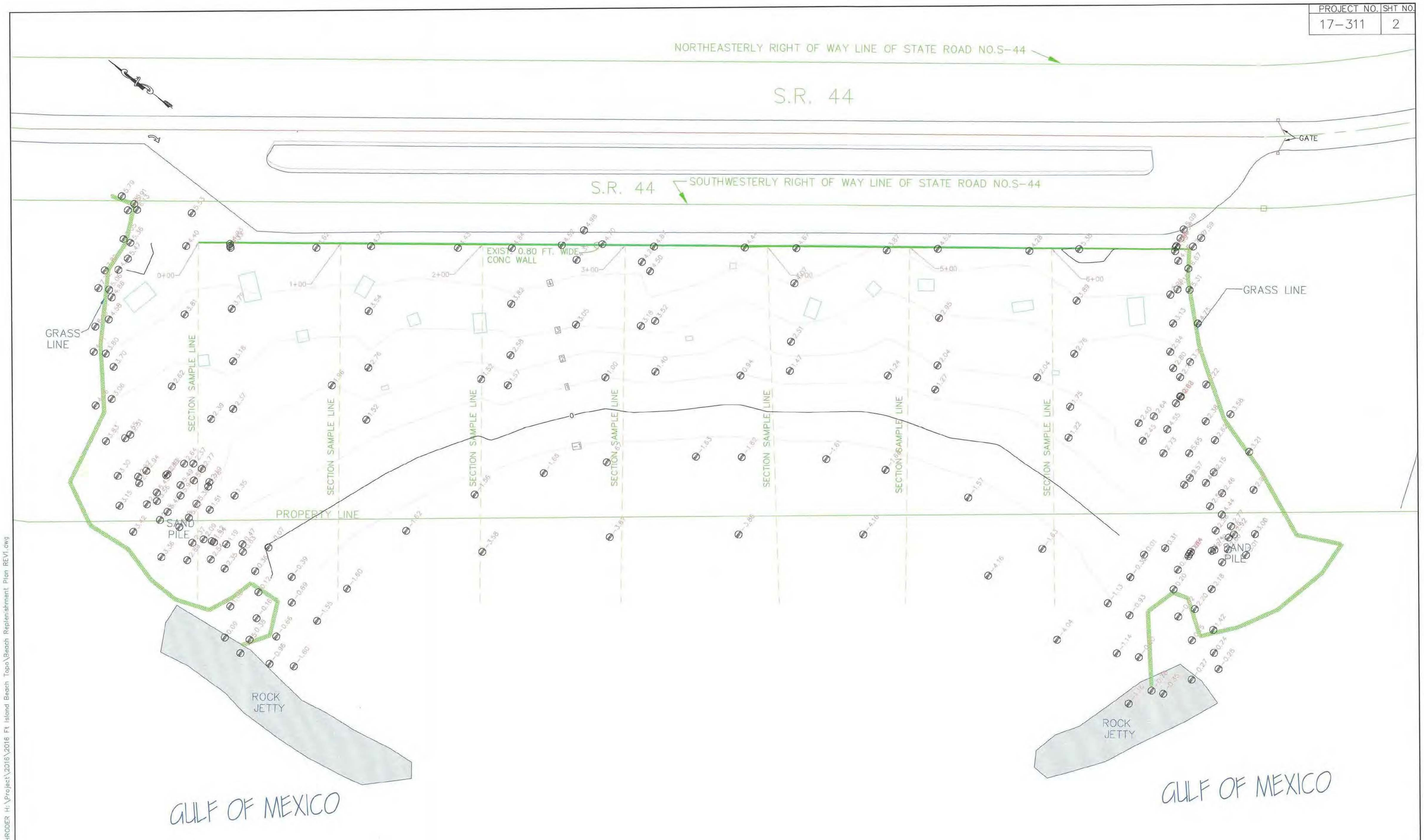
ITB NO: ----

ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN REDUCED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED DATA. GOVERNING SPECIFICATIONS, CONTRACT DOCUMENTS AND SPECIFICATIONS OF CITRUS COUNTY, FL.

NO.	DATE	REVISION	APP'D. BY	NO.	DATE	REVISION	APP'D. BY
1	9/20/19	REVISED PER FDEP COMMENTS					

9/20/2019 3:41 PM MARK E. SCHRODER H:\Project\2016\2016 Ft Island Beach Tops\Beach Replenishment Plan REV1.dwg

PROJECT NO.	SHT NO.
17-311	2



P.M.S. NO.:		CITRUS COUNTY DEPARTMENT OF PUBLIC WORKS DIVISION OF ENGINEERING	3600 SOVEREIGN PATH SUITE 241 LECANTO, FLORIDA 34461 (352) 527-5446
F.B. NO.:			
PGS.:			
MAP:	MES		
CHECKED:	LAR		
DATE:	1/31/19		

NO.	DATE	REVISION	APP'D. BY	NO.	DATE	REVISION	APP'D. BY

TOPO SURVEY
2015 SURFACE

FORT ISLAND TRAIL
BEACH

MARK E SCHRODER, P.E.
FLORIDA REG. NO. 67585

MARK E. SCHRODER LICENSE No. 67585 STATE OF FLORIDA PROFESSIONAL ENGINEER

9/24/19

SCALE: 1" = 30'
DATE: 01/23/2019

FILE NAME:
SEC: 16 TWP: 18 RGE: 16

SHT 2 OF 7

9/20/2019 MARK E. SCHRODER H:\Project\2016\2016 Ft Island Beach Topo\Beach Replenishment Plan REV1.dwg

PROJECT NO.	SHT NO.
17-311	3

NORTHEASTERLY RIGHT OF WAY LINE OF STATE ROAD NO.S-44

S.R. 44

S.R. 44

SOUTHWESTERLY RIGHT OF WAY LINE OF STATE ROAD NO.S-44

GATE

EXIST. 0.80 FT. WIDE CONC WALL

0+00 1+00 2+00 3+00 4+00 5+00 6+00

GRASS LINE

GRASS LINE

SECTION SAMPLE LINE

SECTION SAMPLE LINE

SECTION SAMPLE LINE

SECTION SAMPLE LINE

SECTION SAMPLE LINE

SECTION SAMPLE LINE

PROPERTY LINE

SAND PILE

SAND PILE

ROCK JETTY

ROCK JETTY

GULF OF MEXICO

GULF OF MEXICO

9/20/2019 MARK E. SCHRODER H:\Project\2016\2016 Ft Island Beach Topo\Beach Replenishment Plan REV1.dwg

P.M.S. NO.:	CITRUS COUNTY DEPARTMENT OF PUBLIC WORKS DIVISION OF ENGINEERING	3600 SOVEREIGN PATH SUITE 241 LECANTO, FLORIDA 34461 (352) 527-5446	NO.	DATE	REVISION	APP'D. BY	NO.	DATE	REVISION	APP'D. BY	TOPO SURVEY 2016 SURFACE	FORT ISLAND TRAIL BEACH	MARK E SCHRODER P.E. FLORIDA P.E. LIC. NO. 67585 STATE OF FLORIDA No. 67585 PROFESSIONAL ENGINEER 9/24/19	SCALE: 1" = 30' DATE: 01/23/2019 FILE NAME: SEC: 16 TWP: 18 RGE: 16 SHT 3 OF 7
F.B. NO.:														
PGS.:														
MAP: MES														
CHECKED: LAB														
DATE: 1/31/19														

PROJECT NO.	SHT NO.
17-311	4

NORTHEASTERLY RIGHT OF WAY LINE OF STATE ROAD NO.S-44

S.R. 44

S.R. 44

SOUTHWESTERLY RIGHT OF WAY LINE OF STATE ROAD NO.S-44

EXIST. 0.80 FT. WIDE CONC. WALL

GATE

GRASS LINE

GRASS LINE

SECTION SAMPLE LINE

SECTION SAMPLE LINE

SECTION SAMPLE LINE

SECTION SAMPLE LINE

SECTION SAMPLE LINE

SECTION SAMPLE LINE

PROPERTY LINE

SAND PILE

REPLENISHMENT ZONE BETWEEN MEAN HIGH WATER AND MEAN LOW WATER – 0.96 ACRES

Existing Mean High Water Line

Existing Mean Low Water Line

PROPOSED LIMIT OF FILL

ROCK JETTY

SAND PILE

ROCK JETTY

EXISTING GULF WATERS
(TO MEAN HIGH WATER LINE)

GULF OF MEXICO

GULF OF MEXICO

9/20/2019 MARK E. SCHRODER H:\Project\2016\2016 Ft Island Beach Topo\Beach Replenishment Plan REV1.dwg

P.M.S. NO.:
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PGS.:
MAP: MES
CHECKED: LAB
DATE: 1/31/19

CITRUS COUNTY
DEPARTMENT OF PUBLIC WORKS
DIVISION OF ENGINEERING

3600 SOVEREIGN PATH
SUITE 241
LECANTO, FLORIDA 34461
(352) 527-5446

NO.	DATE	REVISION	APP'D. BY

NO.	DATE	REVISION	APP'D. BY

TOPO SURVEY
2018 SURFACE - EXISITING

FORT ISLAND TRAIL BEACH

MARK E SCHRODER, P.E.
FLORIDA P.E. LICENSE NO. 67585

STATE OF FLORIDA
MARK E. SCHRODER
LICENSE NO. 67585

SCALE: 1" = 30'
DATE: 01/23/2019
FILE NAME:
SEC: 16 TWP: 18 RGE:

PROJECT NO.	SHT NO.
17-311	5

NORTHEASTERLY RIGHT OF WAY LINE OF STATE ROAD NO.S-44

S.R. 44

S.R. 44

SOUTHWESTERLY RIGHT OF WAY LINE OF STATE ROAD NO.S-44

GATE

PROJECT AREA - 3.01 ACRES
PROJECT AREA INCLUDES BEACH FROM THE PARKING LOT TO THE MEAN LOW WATER LINE

EXIST. 0.80 FT. WIDE CONC WALL

0+00 1+00 2+00 3+00 4+00 5+00 6+00

GRASS LINE

GRASS LINE

INSTALL FLOATING TURBIDITY BARRIER

SECTION SAMPLE LINE

Existing Mean High Water Line

Proposed Mean High Water Line

Mean Low Water Line

REPLENISHMENT ZONE BETWEEN EXISTING MEAN HIGH WATER AND MEAN LOW WATER
41,624SF = 0.96 ACRES

PROPERTY LINE

SAND PILE

SAND PILE

PROPOSED LIMIT OF FILL
NO SUBMERGED AQUATIC VEGETATION GROWING INSIDE THE TURBIDITY CURTAIN

ROCK JETTY

ROCK JETTY

PROPOSED GULF WATERS
(TO MEAN HIGH WATER LINE)

Tide Interpolation Points - From LABINS

Point 1 = #2563 MHW = 0.75, MLW = -0.79 - Ozello
Point 2 = #2450 MHW = 1.13, MLW = -1.96 - End of Withlacoochee River

Tide Stations
Point 3 = #7395 MHW = 1.12, MLW = -1.97 - Port Inglis
Point 4 = #7328 MHW = 0.78, MLW = -0.73 - Ozello North, Crystal River
Distance between Stations = 58,188'
Distance between Beach & Station #7328 = 17,976'
MHW at beach = 17976/58188*(1.12-0.78)+0.78 = 0.88
MLW at Beach = -0.73-17976/58188*(1.97-0.73) = -1.08

GULF OF MEXICO

GULF OF MEXICO

9/20/2019 MARK E. SCHRODER H:\Project\2016\2016 Ft Island Beach Topo\Beach Replenishment Plan REV1.dwg

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CITRUS COUNTY
DEPARTMENT OF PUBLIC WORKS
DIVISION OF ENGINEERING

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NO.	DATE	REVISION	APP'D. BY	NO.	DATE	REVISION	APP'D. BY
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PROPOSED FINAL SURFACE AS DESIGNED IN 2011

FORT ISLAND TRAIL BEACH

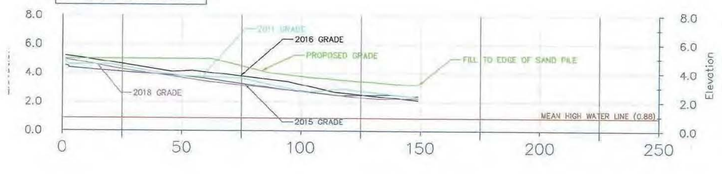
MARK E. SCHRODER, P.E.
FLORIDA REG. NO. 67585
MARK E. SCHRODER LICENSE NO. 67585 STATE OF FLORIDA PROFESSIONAL ENGINEER
9/24/19

SCALE: 1" = 30'
DATE: 01/23/2019
FILE NAME:
SEC: 16 TWP: 18 RGE: 16

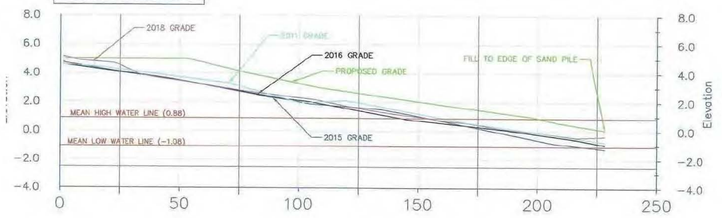
SHT 5 OF 7

PROJECT NO.	SHT NO.
17–311	6

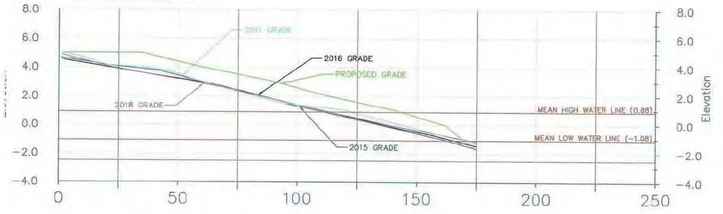
0+00.00
250' SWATH RIGHT FROM
BEACH CONC WALL



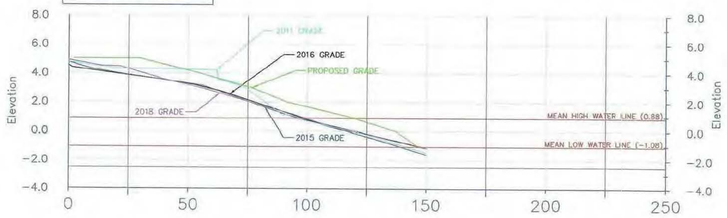
1+00.00
250' SWATH RIGHT FROM
BEACH CONC WALL



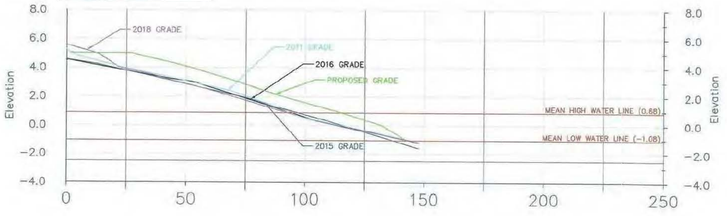
2+00.00
250' SWATH RIGHT FROM
BEACH CONC WALL



3+00.00
250' SWATH RIGHT FROM
BEACH CONC WALL

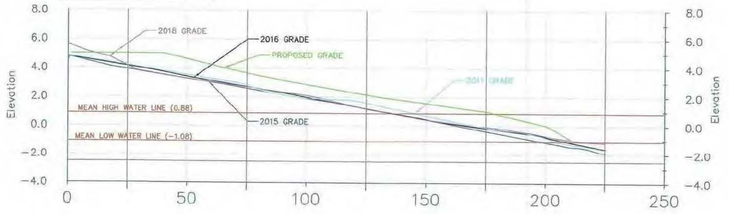


4+00.00
250' SWATH RIGHT FROM
BEACH CONC WALL



5+00.00
250' SWATH RIGHT FROM
BEACH CONC WALL

6+00.00
250' SWATH RIGHT FROM
BEACH CONC WALL



1' = 30' HORIZONTAL 1" = 5' VERTICAL

Tide Interpolation Points – From LABINS

Point 1 = #2563 MHW = 0.75, MLW = –0.79 – Ozello
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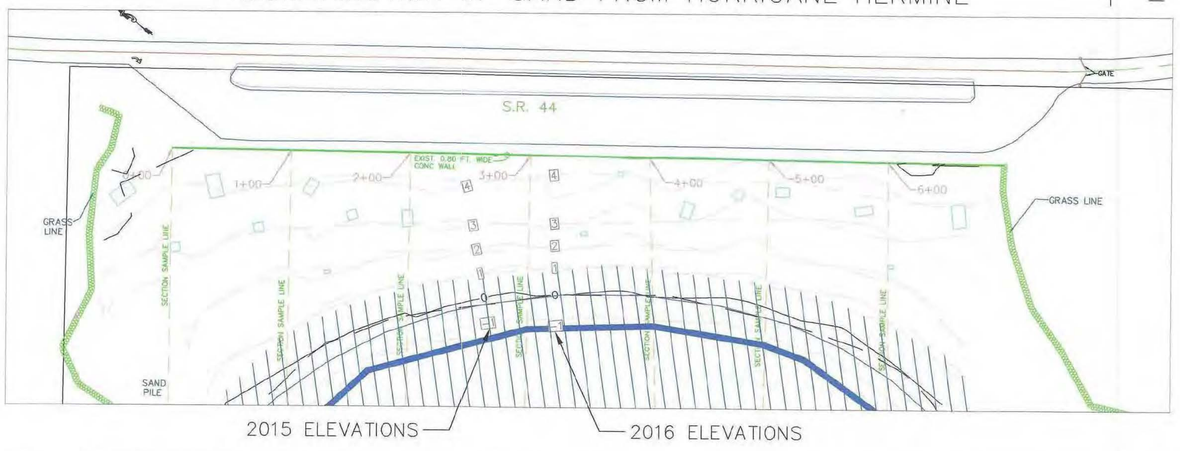
MLW at Beach = –0.73–17976/58188*(1.97–0.73) = –1.08

REDISTRIBUTION OF SAND FROM HURRICANE HERMINE 1" = 60 H



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CITRUS COUNTY
DEPARTMENT OF PUBLIC WORKS
DIVISION OF ENGINEERING
3600 SOVEREIGN PATH
SUITE 241
LECANTO, FLORIDA 34461
(352) 527-5446

CROSS SECTIONS
2011, 2015, 2016 & 2018
SURVEYED SURFACES

FORT ISLAND TRAIL
BEACH

MARK E SCHRODER, P.E.
FLORIDA P.E. LIC. NO. 67585
MARK E. SCHRODER LICENSED No. 67585 STATE OF FLORIDA PROFESSIONAL ENGINEER
9/24/19

SCALE: 1" = 30'
DATE: 01/23/2019
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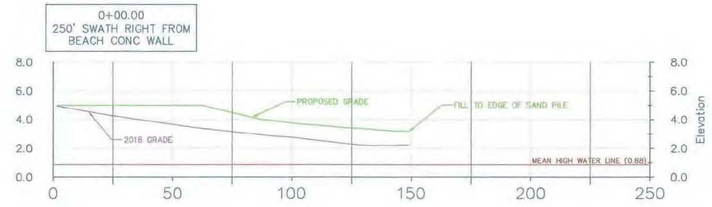
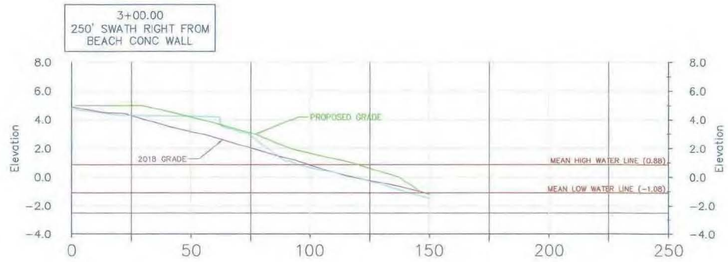
SEC: 16 TWP: 18 RGE: 16

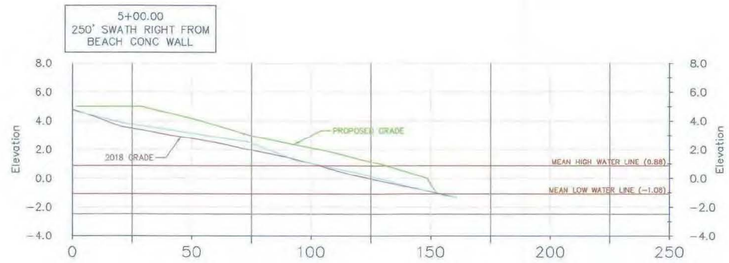
SHT 6 OF 7

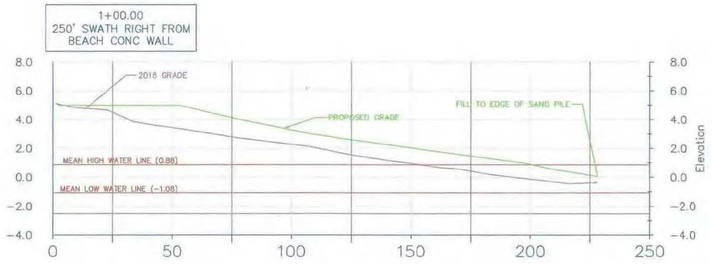
9/20/2019 MARK E. SCHRODER H:\Project\2016\2016 Ft Island Beach Topo\Beach Replenishment Plan REV1.dwg

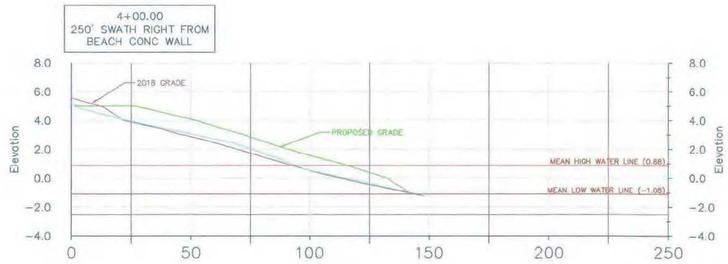
PROJECT NO.	SHT NO.
17-311	7

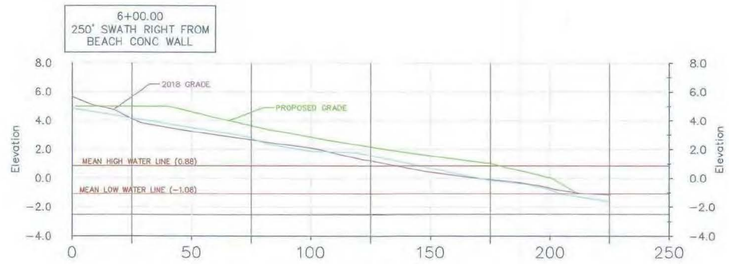


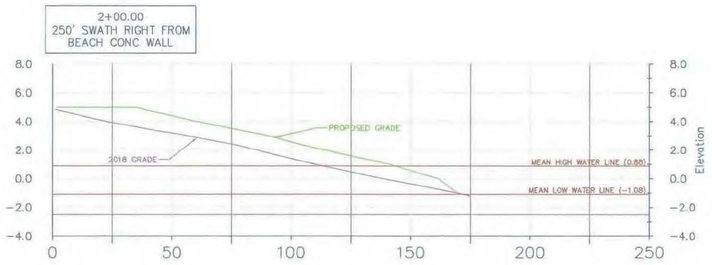












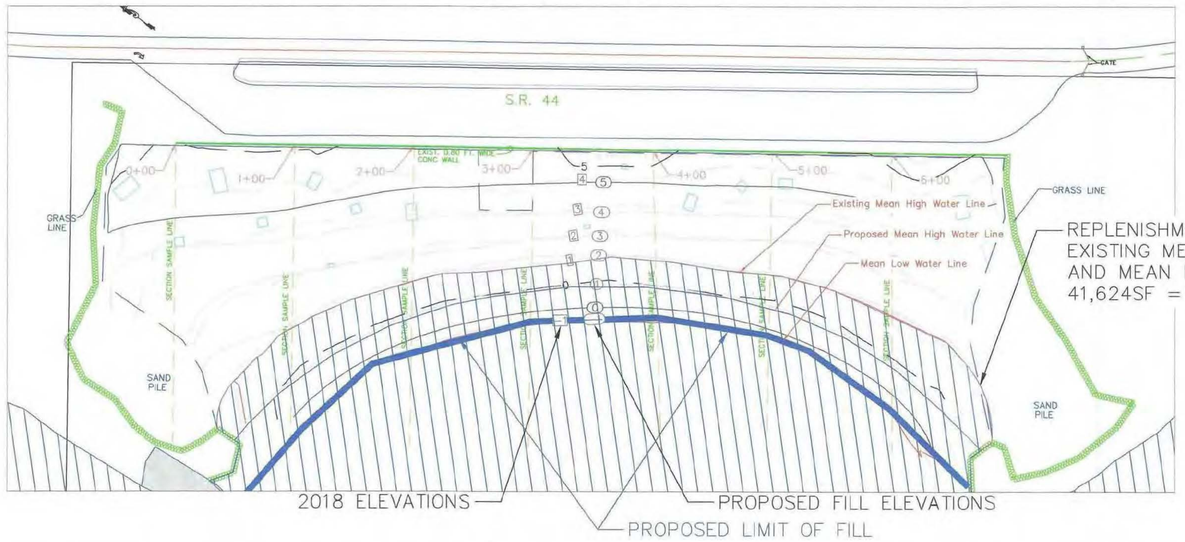
1' = 30' HORIZONTAL 1" = 5' VERTICAL

Tide Interpolation Points – From LABINS

Point 1 = #2563 MHW = 0.75, MLW = -0.79 – Ozello
Point 2 = #2450 MHW = 1.13, MLW = -1.96 – End of Withlacoochee River

Tide Stations
Point 3 = #7395 MHW = 1.12, MLW = -1.97 – Port Inglis
Point 4 = #7328 MHW = 0.78, MLW = -0.73 – Ozello North, Crystal River
Distance between Stations = 58,188'
Distance between Beach & Station #7328 = 17,976'
MHW at beach = 17976/58188*(1.12-0.78)+0.78 = 0.88
MLW at Beach = -0.73-17976/58188*(1.97-0.73) = -1.08

2018 TOPO SURVEY AND PROPOSED FINAL SURFACE 1" = 60 H



P.M.S. NO.:
F.B. NO.:
PGS.:
MAP: MES
CHECKED: LAB
DATE: 1/31/19

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CITRUS COUNTY
DEPARTMENT OF PUBLIC WORKS
DIVISION OF ENGINEERING
3600 SOVEREIGN PATH
SUITE 241
LECANTO, FLORIDA 34461
(352) 527-5446

NO.	DATE	REVISION	APP'D. BY	NO.	DATE	REVISION	APP'D. BY
1	9/20/19	REVISED PER FDEP COMMENTS					

CROSS SECTIONS COMPARING 2018 SURFACE TO PROPOSED REPLENISHMENT

FORT ISLAND TRAIL BEACH

MARK E. SCHRODER, P.E.
FLORIDA REGISTERED P.E. No. 67585
STATE OF FLORIDA PROFESSIONAL ENGINEER
9/24/19

SCALE: 1" = 30'
DATE: 01/23/2019
FILE NAME:
SEC: 16 TWP: 18 RGE: 16
SHT 7 OF 7