

Incidental Take Permit Application for Least Tern

FDEP File No. 0313002-001-JC
Summer Haven River Restoration

Prepared by
Taylor Engineering, Inc.

July 30, 2013



**Florida Fish and Wildlife Conservation Commission
Checklist to Apply for a State Listed Species (other than Gopher tortoise)
Incidental Take Permit**

Please note the list provided below is intended to assist you in submitting a listed species incidental take permit information packet. Your submittal of these documents does not restrict FWC staff from requiring additional information.

The applicant (St. Augustine Port, Waterway, and Beach District) provides the following information to support its request for a least tern incidental take permit for the Summer Haven River Restoration Project. The applicant's information is provided in bold, italicized text below each of the listed items.

Contact Information

- Applicant [Landowner] contact information (Name, Affiliation, Physical address, Phone, Fax and Email address)

See attached FDEP permit application page 1 of 9.

- Agent [Consultant] contact information (Name, Affiliation, Physical address, Phone, Fax and Email address)

See attached FDEP permit application page 1 of 9.

- Applicant signed Delegation Statement authorizing Consultant to Act as Agent on their behalf

See attached FDEP permit application page 4 of 9.

Project Description

- Project/Property name and proposed commencement date

Summer Haven River Restoration. Commencement date is contingent on project sponsor's receipt of grant funding; anticipated commencement no earlier than fall 2014.

- Location [(T, R, S), City, County, Parcel i.d., longitude/ latitude, reference roads, etc.] with a detailed map (no larger than 11" x 17" and labeled with legend preferred) and full legal description

See attached FDEP permit application page 1 of 9 and FDEP permit RAI No. 1 "Attachment F".

- Total acreage of project site

The proposed project site occupies approximately 32 acres.

- Narrative of the species impact area

See attached FDEP permit "Attachment G".

- Total acreage and location on site (outlined on a map),
 - soils composition (w/ map),

Soils in river restoration area are sandy materials deposited following the barrier island breach. Soils on the proposed spoil island mitigation area are sandy materials dredged from the Intracoastal Waterway.

- *current* land use classification (w/ map)

See attached FDEP permit “Attachment A”, item 15 for discussion of land uses.

- Discussion of survey results with map depicting location of all transects, cover boards, etc. with indication of which were positive for the presence of the targeted species

See attached FDEP permit “Attachment G”.

- Assessment of current site conditions [baseline documentation]
 - Vegetative communities and their condition (i.e., density, %age of total, recommend documenting with digital photography or other media, ensuring that landmarks are included)

See attached FDEP permit “Attachment G”.

Mitigation/Conservation Measures

- Explanation of activities that will result in incidental take of the species (i.e., what action is proposed to have what impact on the species) and over how much acreage

Following the 2008 barrier island breach and filling of the Summer Haven River, least tern began nesting on the newly deposited sandy soil. The proposed restoration project will remove the recently deposited sand. Removal of the nesting habitat is considered a “take”. As posted for the 2013 shorebird nesting season, the nesting habitat covers somewhat less than 10 acres.

- What specific avoidance, minimization and/or mitigation options or conservation measures are proposed to meet the species permitting standard? Include draft/final documents that will constitute fulfillment of the conservation measures (i.e., conservation easements, habitat management plans, financial assurances, mitigation banking, etc.)
 - If land acquisition, include the mitigation ratio (taken: preserved) and provide locality, maps and baseline description of the property, as referenced above in the Project Description items.

The applicant considered three avoidance and minimization strategies:

- 1. Shift river channel to avoid the nesting areas***
- 2. Reduce width of the proposed channel***
- 3. Eliminate dune restoration seaward of the nesting areas***

None of these three strategies are compatible with the objectives of the restoration project. Restoration of the Summer Haven River to its pre-breach width and depth is a primary objective of the proposed project. Restoration of the pre-breach river configuration will re-establish the water flow regime that kept the river open and helped maintain circulation in Matanzas Inlet and will re-create shallow water and intertidal habitat necessary for successful return of oyster beds, salt marsh, and other natural resources including other threatened and endangered species. Opening the Summer Haven River will restore lost recreational activities and provide access for Helen Mellon Schmidt Park, revitalizing public use of the area. Shifting and reducing the river channel are incompatible with the Summer Haven River restoration objectives. Establishment of a robust dune system across the breach area is a critical project feature needed to minimize the likelihood of future breaches and loss of the restored estuarine habitat and protection of SR A1A. Elimination of the dune is not feasible.

For mitigation of the unavoidable impact to tern nesting habitat, the applicant has discussed strategies for creation of tern nesting habitat with the FWC and FDEP. Based on those discussions,

the applicant proposed creation of two tern nesting habitat areas – one on the beach within the restoration project area and one on a nearby spoil island – and submitted a mitigation plan to FWC for review. During a July 11, 2013 teleconference, the applicant and FWC discussed revisions and clarifications to the proposed mitigation plan. Based on that discussion the applicant prepared the revised mitigation plan attached to this incidental take application.

Mail or email a complete application to the Permit Coordinator at the addresses given below:

Protected Species Permit Coordinator
Florida Fish and Wildlife Conservation Commission
Species Conservation Planning Section
620 S. Meridian Street, Mail Station 2A
Tallahassee, FL 32399-1600
(850) 921-5990
Email: WildlifePermits@myFWC.com

In accordance with Florida Statute 120.60 this state agency is required to approve or deny complete applications within 90-days of receipt of complete applications. Complete permit applications should be submitted a minimum of 45 days prior to the requested effective date.

INCIDENTAL TAKE APPLICATION GUIDANCE

Please note the following rule criteria (full context available at [68A-27](#), F.A.C.) must be demonstrated in the application to qualify for a listed species incidental take permit:

Federally- designated Endangered and Threatened Species (as designated in 68A-27.003) - No person shall take, possess, or sell any of the endangered or threatened species included in this subsection, or parts thereof or their nests or eggs except as allowed by specific federal or state permit or authorization. These species are afforded the protection under Commission rules and Florida Statutes and the Federal Endangered Species Act, 16 U.S.C. § 1531 et seq.

Permit requirements per 68A-27.007, F.A.C.:

Activities that result in take or incidental take of Federally-designated Endangered and Threatened Species *do not require* a permit from the Commission when authorized by the jurisdictional federal agency. The Commission permit or other authorization *will only be issued* to [intentionally] take Federally-designated Endangered and Threatened Species *if specifically authorized under a written agreement or regulatory delegation* by the jurisdictional federal agency.

State-designated Threatened Species (as designated in 68A-27.004) - No person shall take, possess, or sell any threatened species included in this subsection or parts thereof or their nests or eggs except as authorized by Commission rule or by permit from the Commission.

The Miami blue butterfly shall be afforded the protective provisions specified in this subsection. No person shall take, harm, harass, possess, sell, or transport any Miami blue butterfly or parts thereof or their eggs, larvae or pupae except as authorized by permit from the executive director. Permits will be issued based upon whether issuance would further management plan goals and objectives.

Permit requirements per 68A-27.007, F.A.C.:

Incidental take: The Commission may issue permits authorizing incidental take of State-designated Threatened species upon a conclusion that the following permitting standards have been met: the standards for species when contained in Rule 68A-27.003, F.A.C., take precedence; for blackmouth shiner, striped mud turtle, Florida mastiff bat, and pillar coral, a permit may be issued if the permitted activity clearly enhances the survival potential of the species; for all other State-designated Threatened species, the permit may be issued when there is a scientific or conservation benefit and only upon a showing by the applicant that the permitted activity will not have a negative impact on the survival potential of the species. Factors which shall be considered in determining whether a permit may be granted are:

1. The objectives of a federal recovery plan or a state management plan for the species sought to be taken;

2. The foreseeable long range impact over time if take of the species is authorized;
3. The impacts to other fish and wildlife species if take is authorized;
4. The extent of injury, harm or loss of the species;
5. Whether the incidental take could reasonably be avoided, minimized or mitigated by the permit applicant;
6. Human safety; and
7. Other factors relevant to the conservation and management of the species.

For Threatened Species take is defined as – to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in such conduct. The term “harm” in the definition of take means an act which actually kills or injures fish or wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering. The term “harass” in the definition of take means an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding or sheltering.

Incidental take is defined as - any taking [as defined above] otherwise prohibited, if such taking is incidental to, and not the purpose of the carrying out of an otherwise lawful activity.

Species of Special Concern (as designated in 68A-27.005, F.A.C.) - No person shall take, possess, transport, or sell any species of special concern included in this subsection or parts thereof or their nests or eggs except as authorized by permit from the executive director, permits being issued upon reasonable conclusion that the permitted activity will not be detrimental to the survival potential of the species. For purposes of this section, the definition of the word take in [Rule 68A-1.004](#), F.A.C., applies.



JOINT APPLICATION FOR JOINT COASTAL PERMIT / AUTHORIZATION TO USE SOVEREIGNTY SUBMERGED LANDS / FEDERAL DREDGE AND FILL PERMIT

FOR AGENCY USE ONLY	
ACOE Application Number: _____	DEP Application Number: _____
Date Application Received: _____	Date Application Received: _____

1. Name of authorized agent for permit application (if applicable) Steven Schropp		Mailing Address Taylor Engineering, Inc., 10151 Deerwood Park Blvd., Bldg.	
City Jacksonville	State FL	Zip Code 32259	Telephone 904 256-1305
E-mail sschropp@taylorengeering.com		Fax 904-731-9847	
2. Name of applicant St. Augustine Port, Waterway & Beach District		Mailing Address P.O. Box 4512	
City St. Augustine	State FL	Zip Code 32085	Telephone (904) 824-0113
E-mail		Fax	

3. Name of activity

Summer Haven River Restoration

4. Location of activity, including dredging, filling and construction sites (use additional sheets, if needed):

County(ies) St. Johns

Section(s) 24, 30, 31, 37, 38, 49 Township 9S Range 31E

Section(s) _____ Township _____ Range _____

Section(s) _____ Township _____ Range _____

Center of project: Latitude 29° 41' 38" N Longitude 81° 13' 22" W

At corners or ends of project: State Plane Coordinates _____
DNR reference monument(s) R-200 — R-208

Land Grant name, if applicable _____

Tax Parcel Identification Number _____

Street address, road, or other location _____

City, Zip Code if applicable _____

5. Describe in general terms the proposed activity including any phasing. Please provide measurements for projects that require a federal permit in both English units and metric equivalents.

See Attachment A.

18. SIGNATURE(S)

A. By signing this application form, I am applying, or I am applying on behalf of the applicant, for the permit and any proprietary authorizations identified above, according to the supporting data and other incidental information filed with this application. I am familiar with the information contained in this application and represent that such information is true, complete and accurate. I understand this is an application and not a permit, that work prior to approval is a violation, and any permit issued or proprietary authorization issued pursuant thereto, does not relieve me of any obligation for obtaining any other required federal, state, water management district or local permit prior to commencement of construction. I agree, or I agree on behalf of my corporation, to operate and maintain the permitted system unless the permitting agency authorizes transfer of the permit to a responsible operation entity. I understand that knowingly making any false statement or representation in this application is a violation of Section 373.430, F.S. and 18 U.S.C. Section 1001.

Steven Schropp

Typed / Printed Name of Applicant (if no Agent is used) or Agent (If one is so authorized below)

Signature of Applicant / Agent

Date

7/17/2012

Vice President, Taylor Engineering, Inc.

Name of political subdivision, municipality, or business entity and title of person signing on its behalf, if applicable

AN AGENT MAY SIGN ABOVE ONLY IF THE APPLICANT COMPLETES THE FOLLOWING:

B. I hereby designate and authorize the agent listed above to act on my behalf, or on behalf of my corporation, as the agent in the processing of this application for the permit and / or proprietary authorization indicated above; and to furnish, on request, supplemental information in support of the application. In addition, I authorize the above-listed agent to bind me, or my corporation, to perform any requirement which may be necessary to procure the permit or authorization indicated above. I understand that knowingly making any false statement or representation in this application is a violation of Section 373.430, F.S. and 18 U.S.C. Section 1001.

Jerry Dixon

Typed / Printed Name of Applicant

Signature of Applicant

Date

7/17/2012

Chairman, St. Augustine Port, Waterway & Beach District

Name of political subdivision, municipality, or business entity and title of person signing on its behalf, if applicable

Please Note: The Applicant's original signature (not a copy) is required.

PERSON AUTHORIZING ACCESS TO THE PROPERTY MUST COMPLETE THE FOLLOWING:

C. I either own the property described in the application or I have legal authority to allow access to the property, and I consent, after receiving prior notification, to any site visit on the property by agents or personnel from the Department of Environmental Protection and the U.S. Army Corps of Engineers necessary for the review and inspection of the proposed project specified in this application. I authorize these agents or personnel to enter the property as many times as may be necessary to make such review and inspection. Further, I agree to provide entry to the project site for such agents or personnel to monitor permitted work if a permit is granted.

Typed / Printed Name of Applicant

Signature of Applicant

Date

(Name of political subdivision, municipality, or business entity and title of person signing on its behalf, if applicable)

Attachment F

Revised Permit Drawings and Beach Narrative

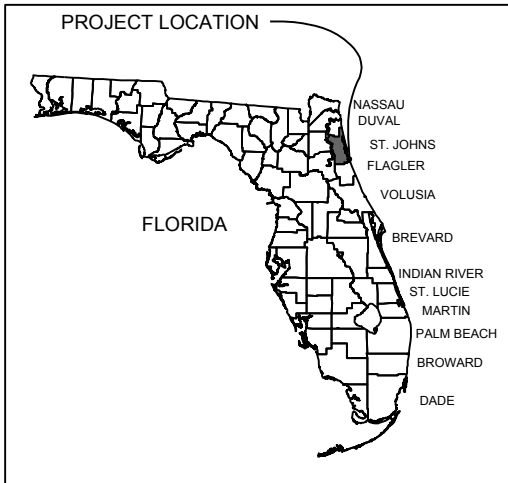
Response to RAI No. 1

FDEP File No. 0313002-001-JC
Summer Haven River Restoration

February 24, 2013

SUMMER HAVEN RIVER RESTORATION

ST. JOHNS COUNTY, FLORIDA



LOCATION MAP
N.T.S.

Call (2) Business Days Before you Dig. It's the Law!!



Sunshine State
One Call of Florida, Inc.
1-800-432-4770

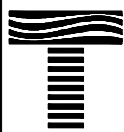
DRAWING INDEX

- C-1 TITLE SHEET
- C-2 PROJECT OVERVIEW
- C-3 RIVER RESTORATION NOTES AND KEY MAP
- C-4 BEACH RESTORATION NOTES AND KEY MAP
- C-5 RIVER RESTORATION PLAN
- C-6 RIVER RESTORATION PLAN
- C-7 RIVER RESTORATION PLAN
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- C-9 RIVER SECTIONS
- C-10 BEACH PLAN
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- C-14 BEACH PLAN
- C-15 BEACH SECTIONS
- C-16 BEACH SECTIONS
- C-17 BEACH SECTIONS



VICINITY MAP
1" = 4,000'

REFERENCE:
USGS 7.5' QUADRANGLE MAP,
MATANZAS INLET, FLORIDA, REVISED 1992
DINNER ISLAND NE, FLORIDA, REVISED 1992



TAYLOR ENGINEERING INC.

10151 DEERWOOD PARK BLVD.
BLDG. 300, SUITE 300
JACKSONVILLE, FL 32256
CERTIFICATE OF AUTHORIZATION # 4815

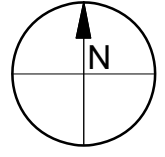
FIGURE C-1
TITLE SHEET
SUMMER HAVEN RIVER RESTORATION
ST. JOHNS COUNTY, FLORIDA

PROJECT	C2011-009
DRAWN BY	AF
SHEET	1 of 17
DATE	JUNE 2012

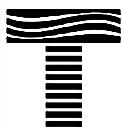
SEAL

NANCY E. LEHR P.E.# 70619

DATE



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TAYLOR ENGINEERING INC.

10151 DEERWOOD PARK BLVD.
BLDG. 300, SUITE 300
JACKSONVILLE, FL 32256
CERTIFICATE OF AUTHORIZATION # 4815

FIGURE C-2
PROJECT OVERVIEW
SUMMER HAVEN RIVER RESTORATION
ST. JOHNS COUNTY, FLORIDA

PROJECT	DRAWN BY	SHEET	DATE
C2011-009	AF	2 of 17	JUNE 2012

SEAL

NANCY E. LEHR P.E. # 70619

DATE

PRELIMINARY DRAWINGS: THESE DRAWINGS ARE NOT IN FINAL FORM, BUT ARE BEING TRANSMITTED FOR AGENCY REVIEW.

GENERAL NOTES - RIVER RESTORATION

1. ALL ELEVATIONS REFERENCE THE 1988 NORTH AMERICAN VERTICAL DATUM (NAVD 88).
2. ALL COORDINATES REFERENCE STATE PLANE FLORIDA EAST NAD 83.
3. THE CONTRACTOR WILL MINIMIZE ANY TEMPORAL IMPACT TO SALTMARSH OR OTHER NATURAL COMMUNITIES. PIPELINE ACCESS ROUTES AND STAGING AREAS WILL AVOID VEGETATION OR NATURAL AREAS TO THE MAXIMUM EXTENT POSSIBLE.



AERIAL REFERENCE:

AERIAL OBTAINED FROM AERIALS EXPRESS, DATED 2010.
 AERIAL REFERENCE SHOWN IS FOR VISUAL REFERENCE AND MAY NOT REPRESENT CURRENT CONDITIONS.



TAYLOR ENGINEERING INC.

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 BLDG. 300, SUITE 300
 JACKSONVILLE, FL 32256
 CERTIFICATE OF AUTHORIZATION # 4815

FIGURE C-3
 RIVER RESTORATION NOTES AND KEY MAP
 SUMMER HAVEN RIVER RESTORATION
 ST. JOHNS COUNTY, FLORIDA

PROJECT	C2011-009	SEAL
DRAWN BY	AF	
SHEET	3 of 17	
DATE	JUNE 2012	

NANCY E. LEHR P.E.# 70619

DATE

GENERAL NOTES - BEACH RESTORATION:

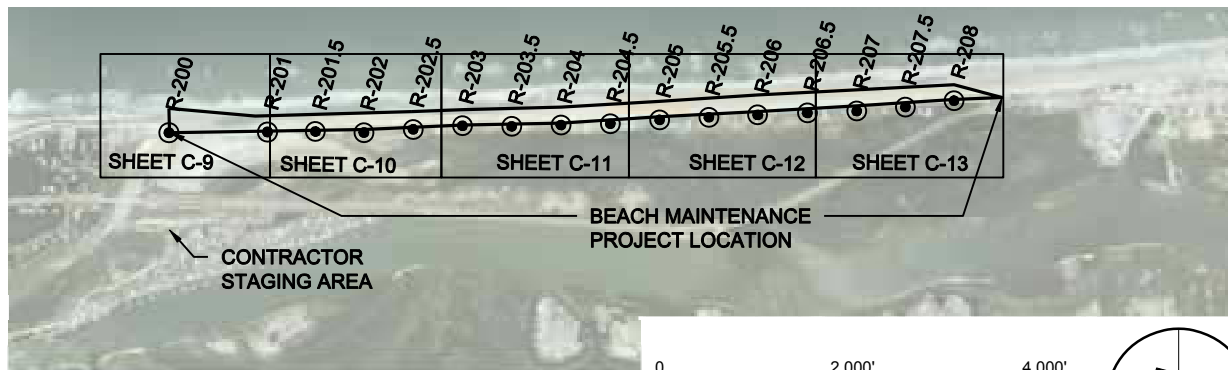
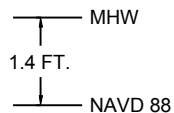
1. ALL ELEVATIONS REFERENCE THE 1988 NORTH AMERICAN VERTICAL DATUM (NAVD 88).
2. ALL COORDINATES REFERENCE STATE PLANE FLORIDA EAST NAD 83.
3. EXISTING BEACH GRADE SURVEYED MARCH 2011 (BETWEEN R-200 AND R-201) AND JANUARY 2011 (R-201 – R-208) BY MORGAN & EKLUND, INC.
4. CONSTRUCTION TEMPLATE DESIGNED WITH THE FOLLOWING FEATURES

DESIGN FEATURE		R-200 TO R-202.5 (NORTHERN REACH)	R-202.5 TO R-208.5 (SOUTHERN REACH)
DUNE	ELEVATION	12 ft NAVD	12 ft NAVD
	CREST WIDTH	20 ft	20 ft
	SEAWARD SLOPE	1V:4H	1V:4H
	LANDWARD SLOPE	1V:3H	TIES INTO EXISTING DUNE
BACK BERM	ELEVATION	8 ft NAVD	N/A
	WIDTH	R-200: 70 ft	N/A
		R-201: 60 ft	
		R-202: 45 ft	
SEAWARD SLOPE	1V:10H	N/A	
BERM	WIDTH	70 ft	50 ft
	SLOPE	Flat	1V:50H
	ELEVATION	5.5 ft NAVD	8 ft to 7 ft NAVD
	SEAWARD SLOPE	1V:20H	1V:10H

5. DUNE RESTORATION INCLUDES ONE REACH EXTENDING FROM FDEP REFERENCE MONUMENT R-200 TO R-208.5. CONTRACTOR SHALL CONSTRUCT THE FILL FROM NORTH TO SOUTH. PLACEMENT OF FILL SOUTH OF R-204 WILL DEPEND ON THE VOLUME OF BEACH COMPATIBLE FILL MATERIAL OBTAINED FROM EXCAVATION OF SUMMER HAVEN RIVER.
6. THE CONTRACTOR WILL MINIMIZE ANY TEMPORAL IMPACT TO SALTMARSH OR OTHER NATURAL COMMUNITIES. PIPELINE ACCESS ROUTES AND STAGING AREAS WILL AVOID VEGETATION OR NATURAL AREAS TO THE MAXIMUM EXTENT POSSIBLE.

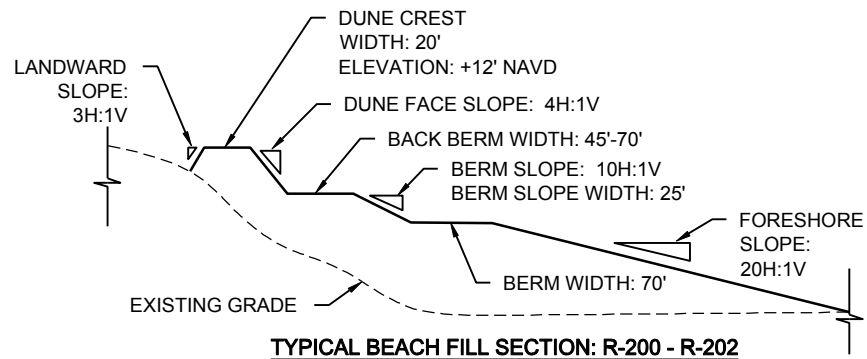
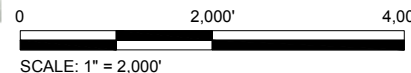
MONUMENT TABLE		
MONUMENT	EASTING	NORTHING
R-200	585423.63	1949506.53
R-201	585698.55	1948519.31
R-201.5	585830.24	1948034.41
R-202	585951.47	1947547.21
R-202.5	586117.06	1947060.17
R-203	586283.60	1946573.17
R-203.5	586410.91	1946075.90
R-204	586557.22	1945584.19
R-204.5	586702.56	1945090.82
R-205	586876.45	1944605.53
R-205.5	587034.35	1944117.03
R-206	587187.97	1943631.04
R-206.5	587341.04	1943138.24
R-207	587493.79	1942645.23
R-207.5	587668.63	1942167.28
R-208	587862.80	1941694.21

DATUM REFERENCE:



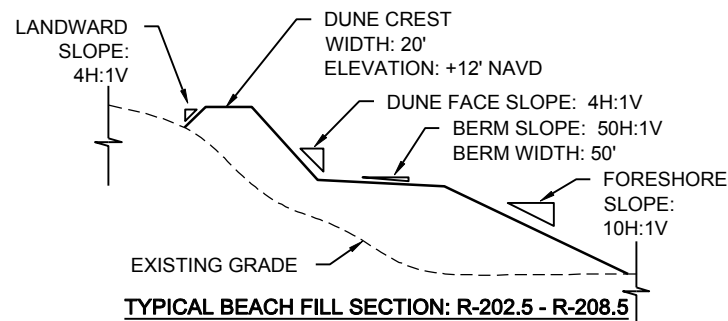
AERIAL REFERENCE:

AERIAL OBTAINED FROM AERIALS EXPRESS, DATED 2010. AERIAL REFERENCE SHOWN IS FOR VISUAL REFERENCE AND MAY NOT REPRESENT CURRENT CONDITIONS.



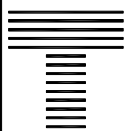
TYPICAL BEACH FILL SECTION: R-200 - R-202

NOT TO SCALE



TYPICAL BEACH FILL SECTION: R-202.5 - R-208.5

NOT TO SCALE



TAYLOR ENGINEERING INC.

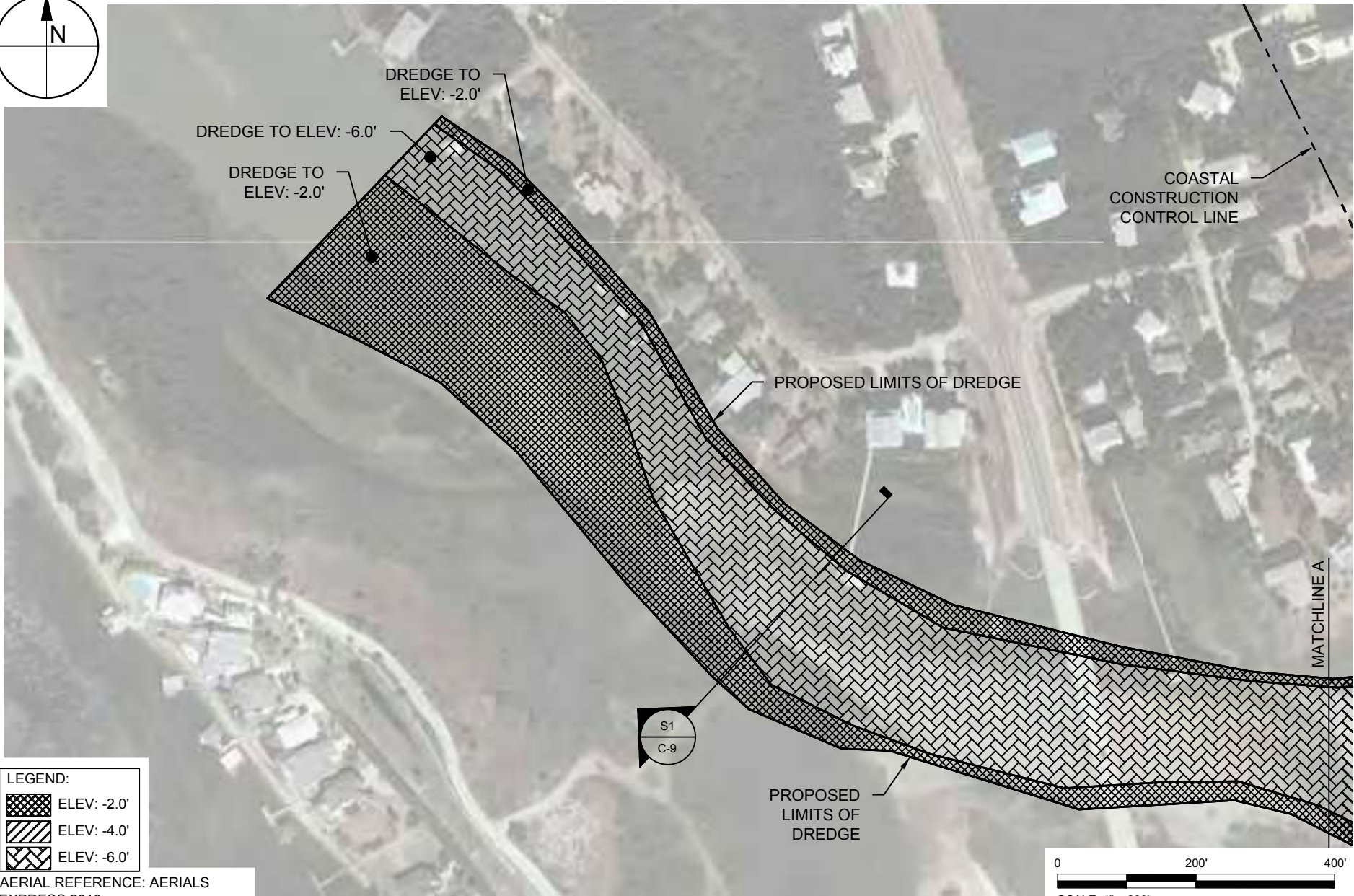
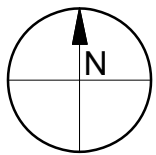
10151 DEERWOOD PARK BLVD.
BLDG. 300, SUITE 300
JACKSONVILLE, FL 32256
CERTIFICATE OF AUTHORIZATION # 4815

FIGURE C-4
BEACH RESTORATION NOTES AND KEY MAP
SUMMER HAVEN RIVER RESTORATION
ST. JOHNS COUNTY, FLORIDA

PROJECT	C2011-009	SEAL
DRAWN BY	AF	
SHEET	4 of 17	
DATE	JUNE 2012	

MICHAEL E. TRUDNAK P.E. # 58200

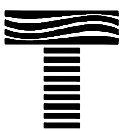
DATE



LEGEND:

	ELEV: -2.0'
	ELEV: -4.0'
	ELEV: -6.0'

AERIAL REFERENCE: AERIALS EXPRESS 2010



TAYLOR ENGINEERING INC.

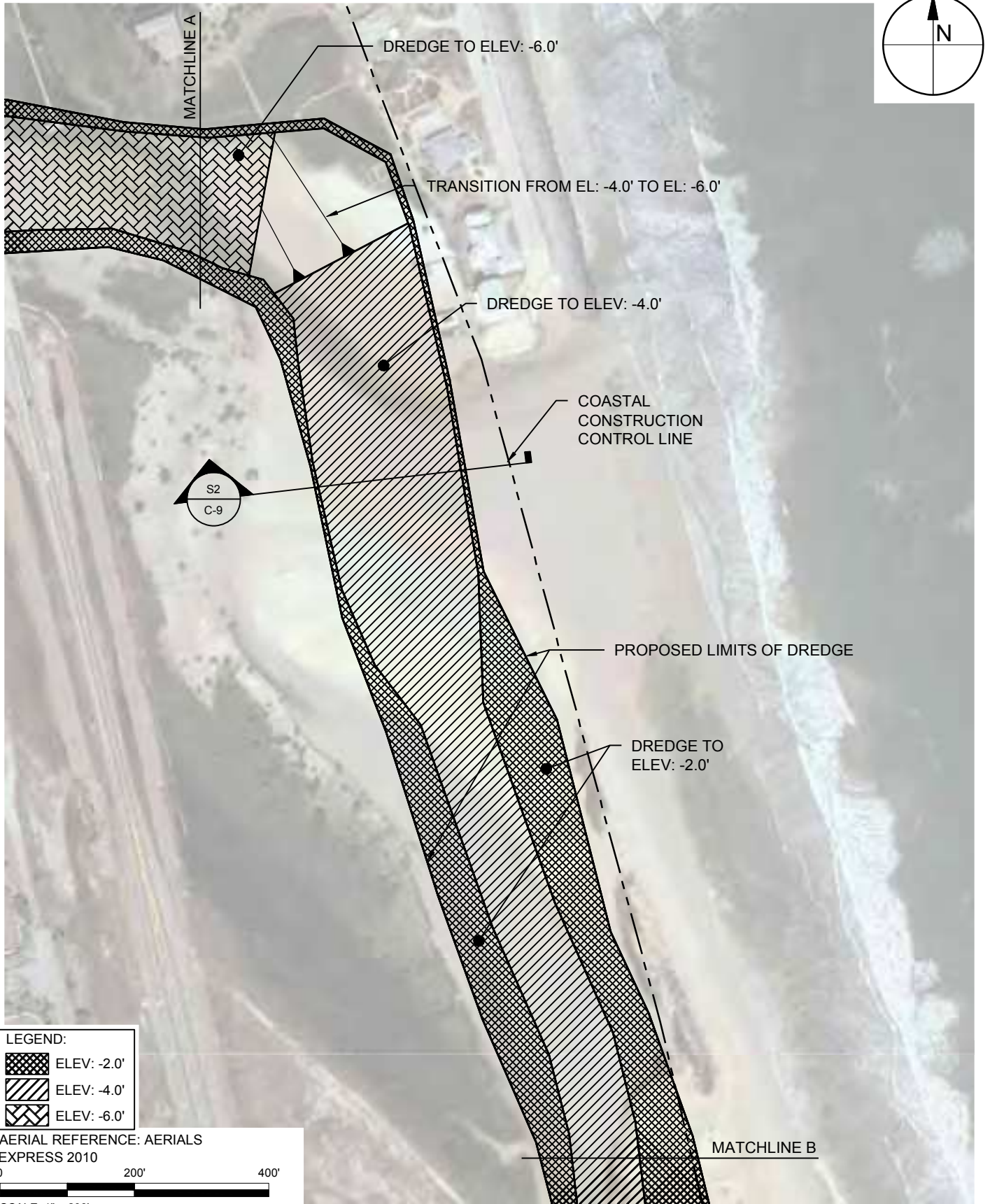
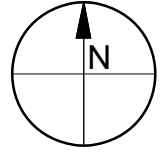
10151 DEERWOOD PARK BLVD.
 BLDG. 300, SUITE 300
 JACKSONVILLE, FL 32256
 CERTIFICATE OF AUTHORIZATION # 4815

FIGURE C-5
 RIVER RESTORATION PLAN
 SUMMER HAVEN RIVER RESTORATION
 ST. JOHNS COUNTY, FLORIDA

PROJECT	C2011-009
DRAWN BY	AF
SHEET	5 of 17
DATE	JUNE 2012

SEAL	
NANCY E. LEHR P.E.# 70619	DATE

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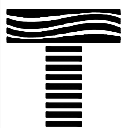
LEGEND:

	ELEV: -2.0'
	ELEV: -4.0'
	ELEV: -6.0'

AERIAL REFERENCE: AERIALS EXPRESS 2010

SCALE: 1" = 200'

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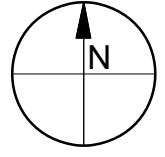
TAYLOR ENGINEERING INC.

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CERTIFICATE OF AUTHORIZATION # 4815

FIGURE C-6
RIVER RESTORATION PLAN
SUMMER HAVEN RIVER RESTORATION
ST. JOHNS COUNTY, FLORIDA

PROJECT	DRAWN BY	SHEET	DATE
C2011-009	AF	6 of 17	JUNE 2012

SEAL	DATE
NANCY E. LEHR P.E. # 70619	



MATCHLINE B



PROPOSED LIMITS OF DREDGE

COASTAL
CONSTRUCTION
CONTROL LINE

DREDGE TO
ELEV: -2.0'

DREDGE TO ELEV: -4.0'

MATCHLINE C

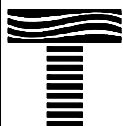
LEGEND:

	ELEV: -2.0'
	ELEV: -4.0'
	ELEV: -6.0'

AERIAL REFERENCE: AERIALS
EXPRESS 2010

0 200' 400'

SCALE: 1" = 200'



TAYLOR ENGINEERING INC.

10151 DEERWOOD PARK BLVD.
BLDG. 300, SUITE 300
JACKSONVILLE, FL 32256
CERTIFICATE OF AUTHORIZATION # 4815

FIGURE C-7
RIVER RESTORATION PLAN
SUMMER HAVEN RIVER RESTORATION
ST. JOHNS COUNTY, FLORIDA

SEAL

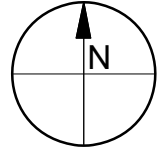
PROJECT	DRAWN BY	SHEET	DATE
C2011-009	AF	7 of 17	JUNE 2012

NANCY E. LEHR P.E. # 70619

DATE

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PRELIMINARY DRAWINGS: THESE DRAWINGS ARE NOT IN FINAL FORM, BUT ARE BEING TRANSMITTED FOR AGENCY REVIEW.



MATCHLINE C

COASTAL
CONSTRUCTION
CONTROL LINE

PROPOSED LIMITS OF DREDGE

DREDGE TO ELEV: -4.0'

DREDGE TO
ELEV: -2.0'



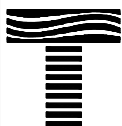
LEGEND:

	ELEV: -2.0'
	ELEV: -4.0'
	ELEV: -6.0'

AERIAL REFERENCE: AERIALS
EXPRESS 2010

0 200' 400'

SCALE: 1" = 200'



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10151 DEERWOOD PARK BLVD.
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FIGURE C-8
RIVER RESTORATION PLAN
SUMMER HAVEN RIVER RESTORATION
ST. JOHNS COUNTY, FLORIDA

SEAL

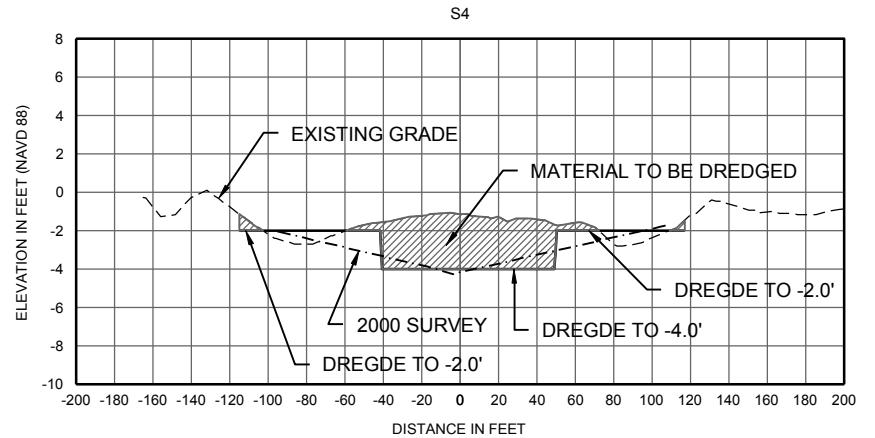
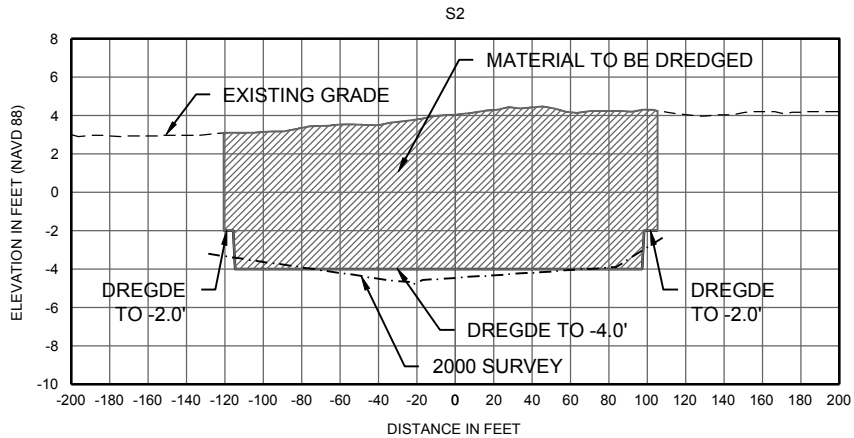
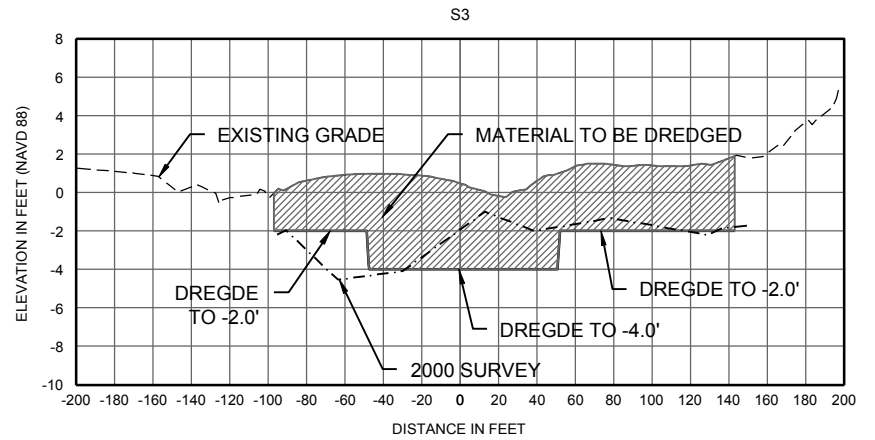
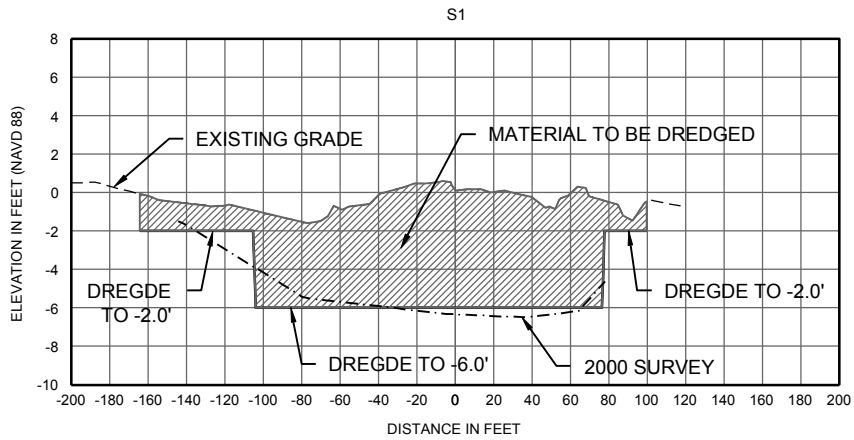
PROJECT	DRAWN BY	SHEET	DATE
C2011-009	AF	8 of 17	JUNE 2012

NANCY E. LEHR P.E. # 70619

DATE

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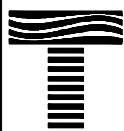


PROPOSED RIVER DREDGE SECTIONS

SCALE: 1" = 100'
V-SCALE: 1" = 10'



APPROXIMATE DREDGE VOLUME: 216,443 CUBIC YARDS



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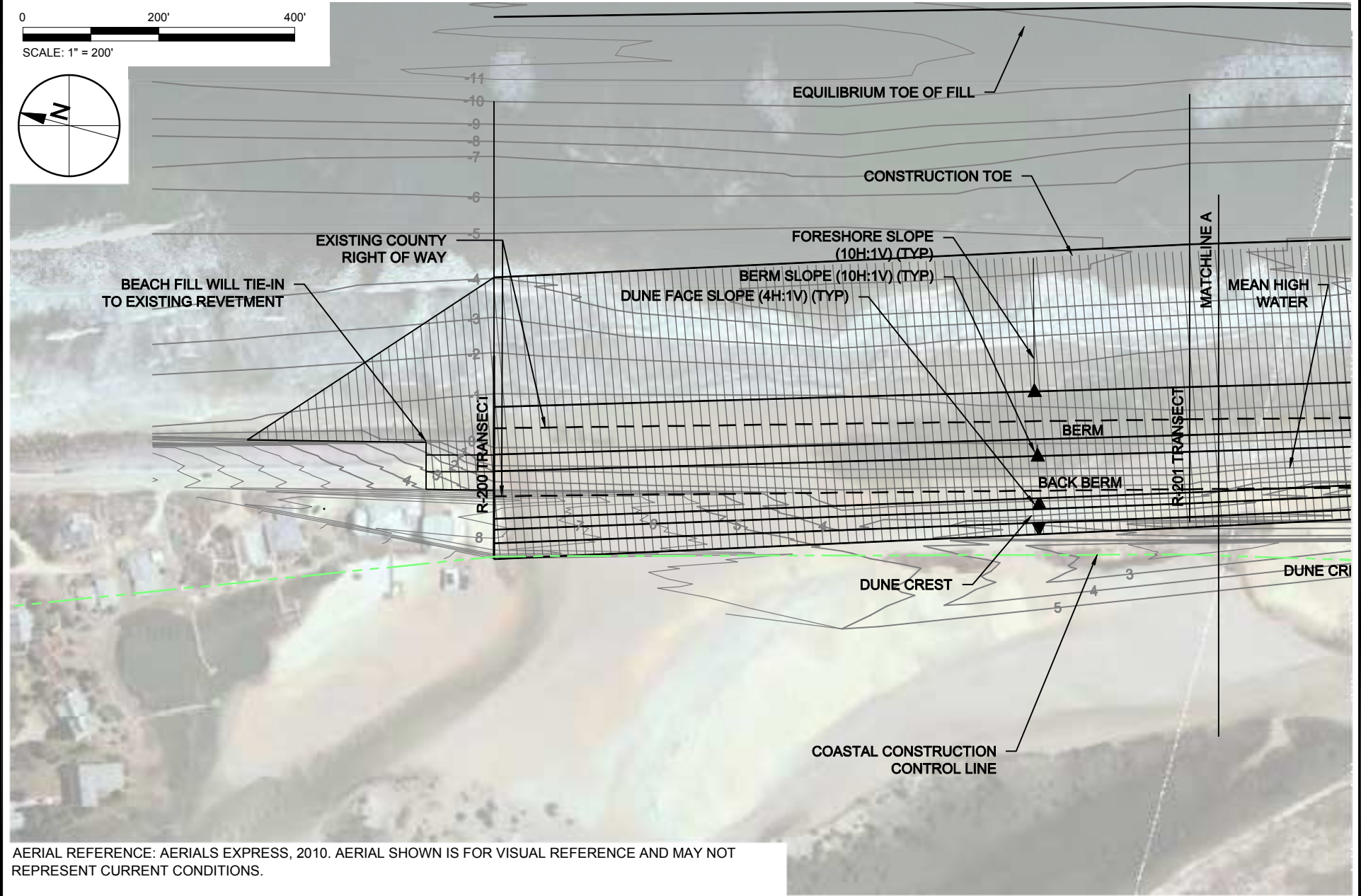
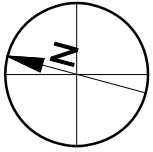
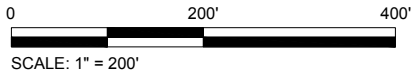
10151 DEERWOOD PARK BLVD.
BLDG. 300, SUITE 300
JACKSONVILLE, FL 32256
CERTIFICATE OF AUTHORIZATION # 4815

FIGURE C-9
RIVER SECTIONS
SUMMER HAVEN RIVER RESTORATION
ST. JOHNS COUNTY, FLORIDA

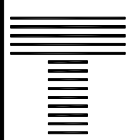
PROJECT	C2011-009	SEAL
DRAWN BY	AF	
SHEET	9 of 17	
DATE	JUNE 2012	

NANCY E. LEHR P.E.# 70619

DATE



AERIAL REFERENCE: AERIALS EXPRESS, 2010. AERIAL SHOWN IS FOR VISUAL REFERENCE AND MAY NOT REPRESENT CURRENT CONDITIONS.



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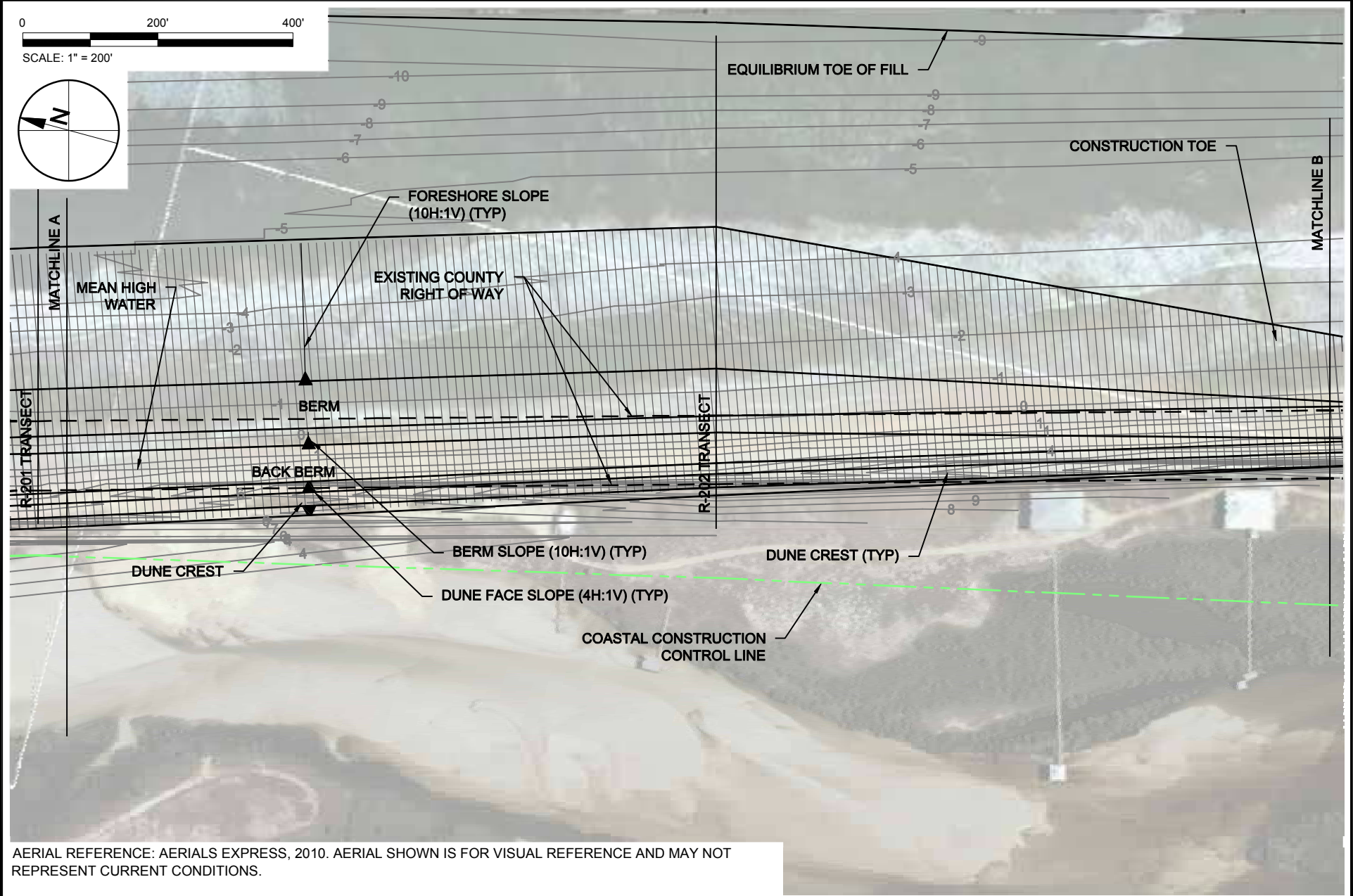
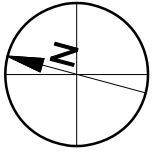
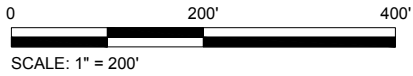
10151 DEERWOOD PARK BLVD.
 BLDG. 300, SUITE 300
 JACKSONVILLE, FL 32256
 CERTIFICATE OF AUTHORIZATION # 4815

FIGURE C-10
 BEACH PLAN
 SUMMER HAVEN RIVER RESTORATION
 ST. JOHNS COUNTY, FLORIDA

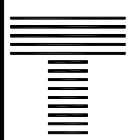
PROJECT	C2011-009
DRAWN BY	AF
SHEET	10 of 17
DATE	JUNE 2012

SEAL	
MICHAEL E. TRUDNAK P.E. # 58200	
DATE	

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AERIAL REFERENCE: AERIALS EXPRESS, 2010. AERIAL SHOWN IS FOR VISUAL REFERENCE AND MAY NOT REPRESENT CURRENT CONDITIONS.



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10151 DEERWOOD PARK BLVD.
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 CERTIFICATE OF AUTHORIZATION # 4815

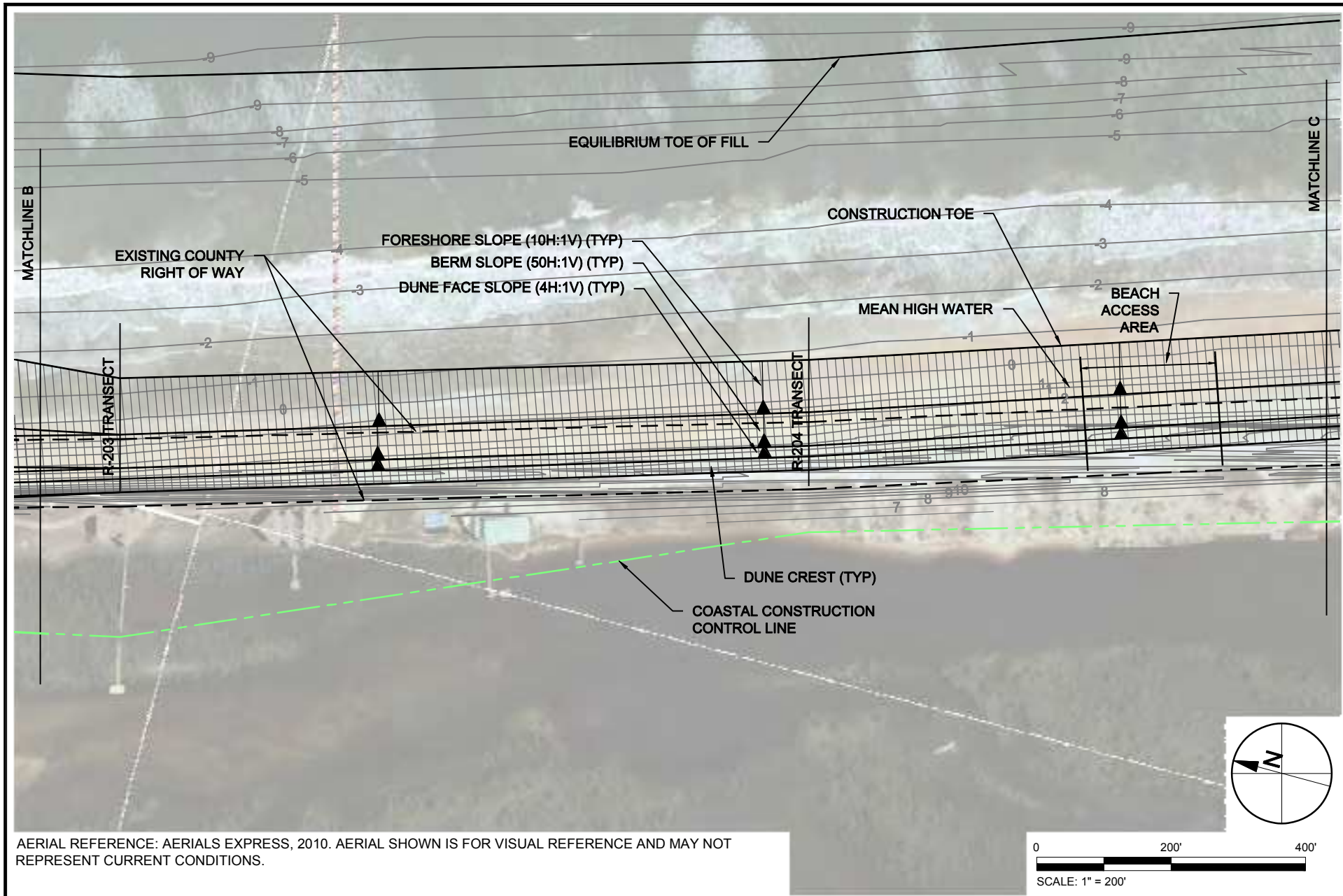
FIGURE C-11
 BEACH PLAN
 SUMMER HAVEN RIVER RESTORATION
 ST. JOHNS COUNTY, FLORIDA

PROJECT	C2011-009
DRAWN BY	AF
SHEET	11 of 17
DATE	JUNE 2012

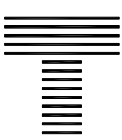
SEAL	
MICHAEL E. TRUDNAK P.E. # 58200	DATE

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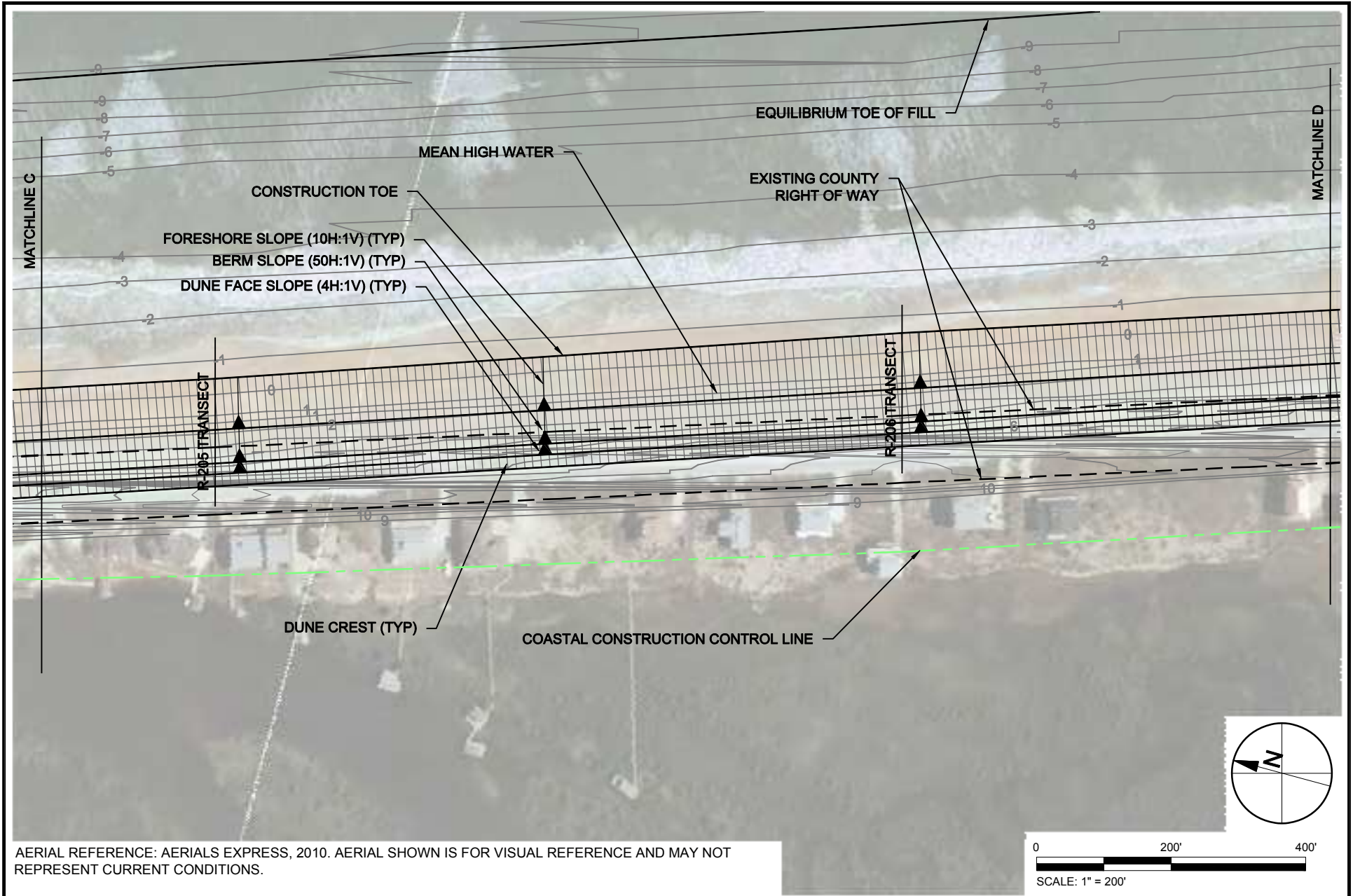
10151 DEERWOOD PARK BLVD.
BLDG. 300, SUITE 300
JACKSONVILLE, FL 32256
CERTIFICATE OF AUTHORIZATION # 4815

FIGURE C-12
BEACH PLAN
SUMMER HAVEN RIVER RESTORATION
ST. JOHNS COUNTY, FLORIDA

PROJECT	C2011-009
DRAWN BY	AF
SHEET	12 of 17
DATE	JUNE 2012

SEAL	
MICHAEL E. TRUDNAK P.E. # 58200	DATE

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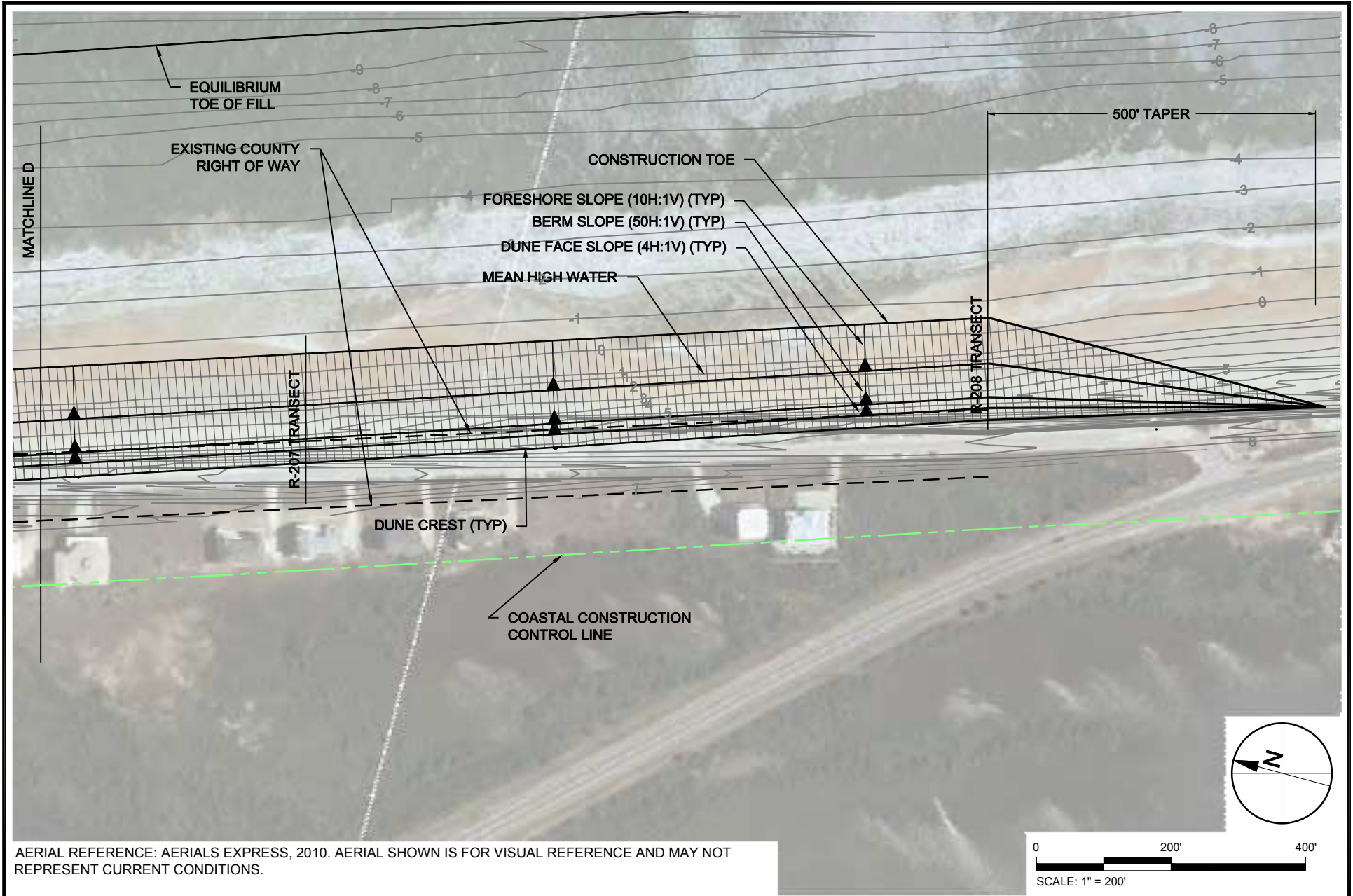


TAYLOR ENGINEERING INC.
 10151 DEERWOOD PARK BLVD.
 BLDG. 300, SUITE 300
 JACKSONVILLE, FL 32256
 CERTIFICATE OF AUTHORIZATION # 4815

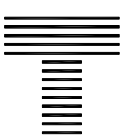
FIGURE C-13
 BEACH PLAN
 SUMMER HAVEN RIVER RESTORATION
 ST. JOHNS COUNTY, FLORIDA

PROJECT	C2011-009	SEAL
DRAWN BY	AF	
SHEET	13 of 17	
DATE	JUNE 2012	
		MICHAEL E. TRUDNAK P.E. # 58200
		DATE

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TAYLOR ENGINEERING INC.

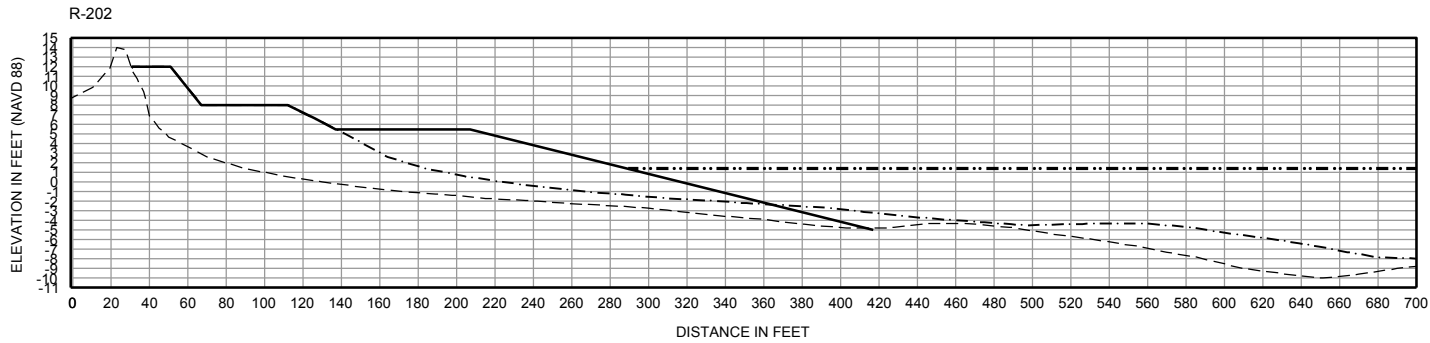
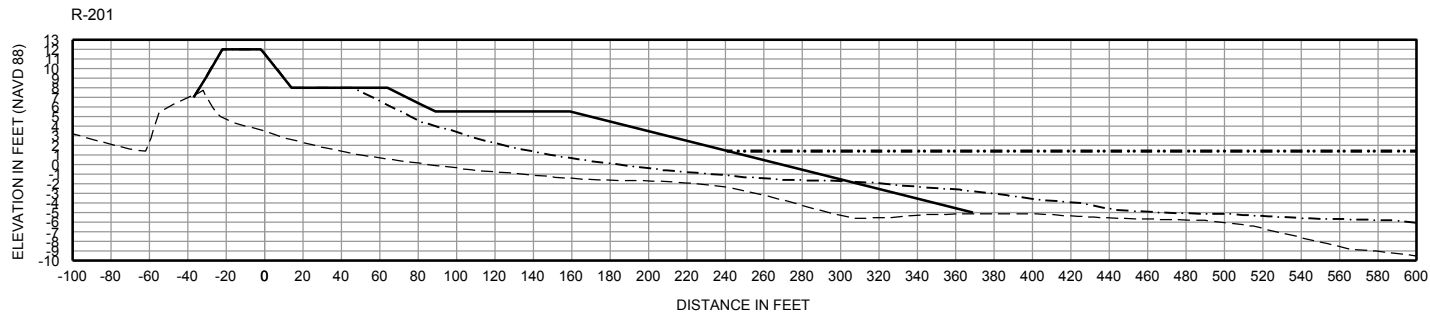
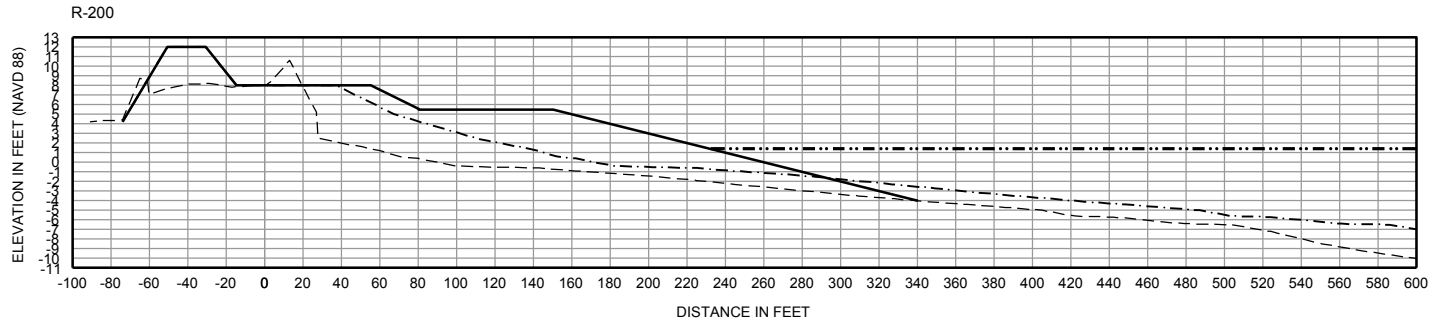
10151 DEERWOOD PARK BLVD.
BLDG. 300, SUITE 300
JACKSONVILLE, FL 32256
CERTIFICATE OF AUTHORIZATION # 4815

FIGURE C-14
BEACH PLAN
SUMMER HAVEN RIVER RESTORATION
ST. JOHNS COUNTY, FLORIDA

PROJECT	C2011-009
DRAWN BY	AF
SHEET	14 of 17
DATE	JUNE 2012

SEAL	
MICHAEL E. TRUDNAK P.E. # 58200	DATE

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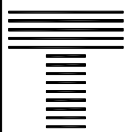


DUNE CONSTRUCTION SECTIONS

SCALE: 1" = 100'
 VERTICAL EXAGGERATION: X5



LEGEND:	
	2011 SURVEY
	DUNE CONSTRUCTION TEMPLATE
	MEAN HIGH WATER (+1.4' NAVD 88)
	EQUILIBRIUM



TAYLOR ENGINEERING INC.

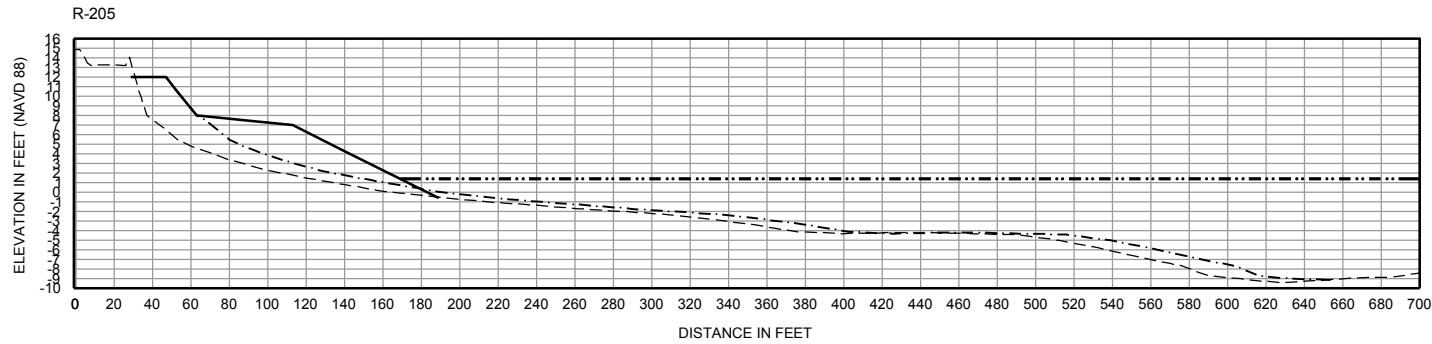
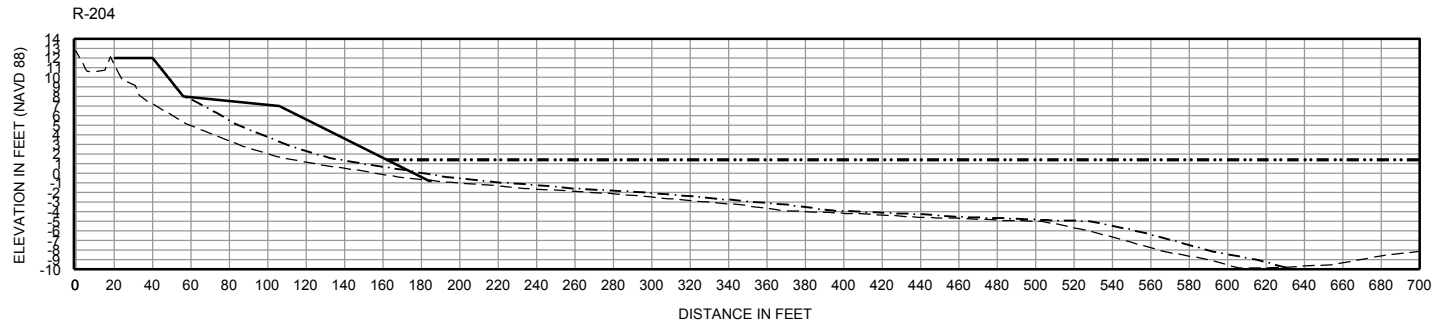
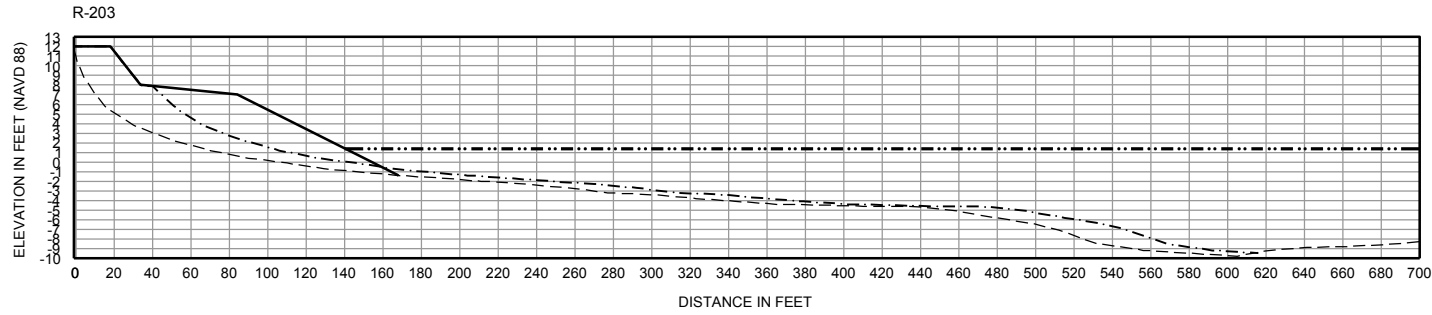
10151 DEERWOOD PARK BLVD.
 BLDG. 300, SUITE 300
 JACKSONVILLE, FL 32256
 CERTIFICATE OF AUTHORIZATION # 4815

FIGURE C-15
 BEACH SECTIONS
 SUMMER HAVEN RIVER RESTORATION
 ST. JOHNS COUNTY, FLORIDA

PROJECT	C2011-009
DRAWN BY	AF
SHEET	15 of 17
DATE	JUNE 2012

SEAL	
MICHAEL E. TRUDNAK P.E. # 58200	DATE

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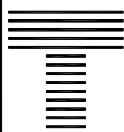
DUNE CONSTRUCTION SECTIONS

SCALE: 1" = 100'

VERTICAL EXAGGERATION: X5



LEGEND:	
- - - -	2011 SURVEY
————	DUNE CONSTRUCTION TEMPLATE
- · - · -	MEAN HIGH WATER (+1.4' NAVD 88)
· · · ·	EQUILIBRIUM



TAYLOR ENGINEERING INC.

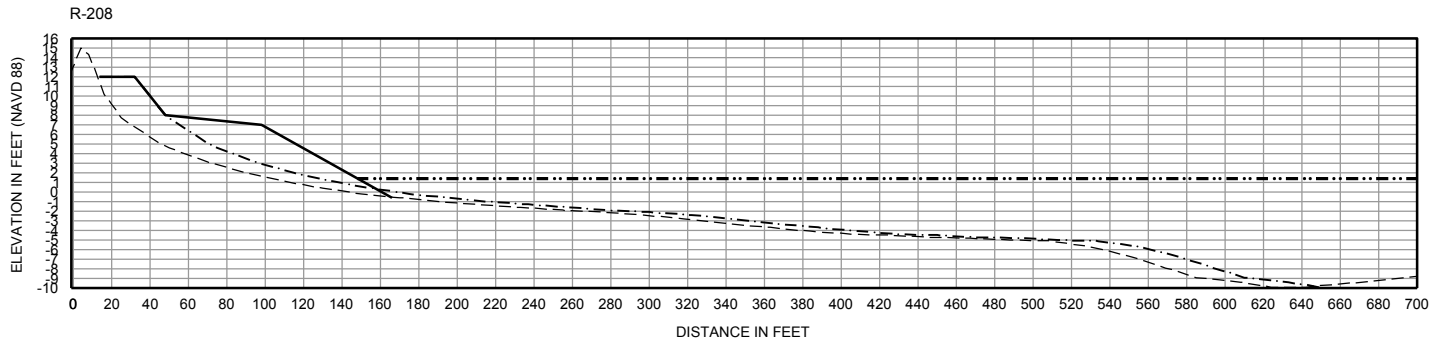
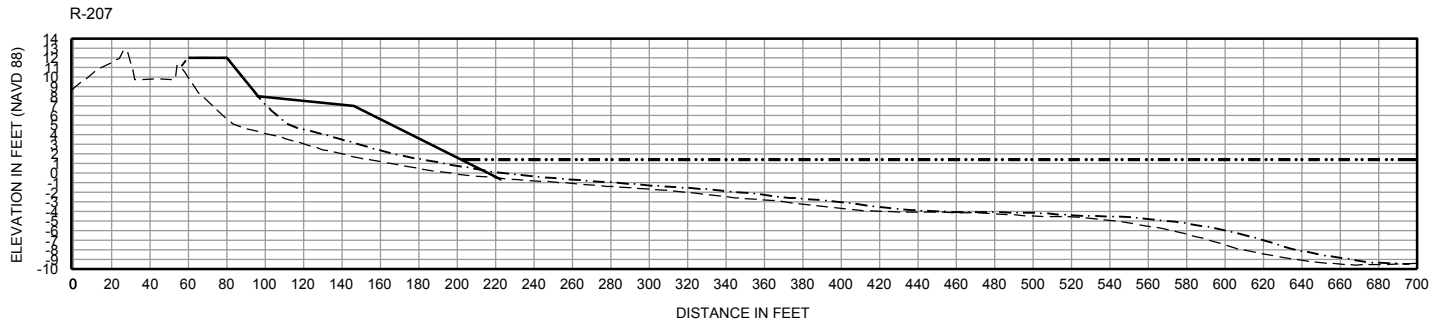
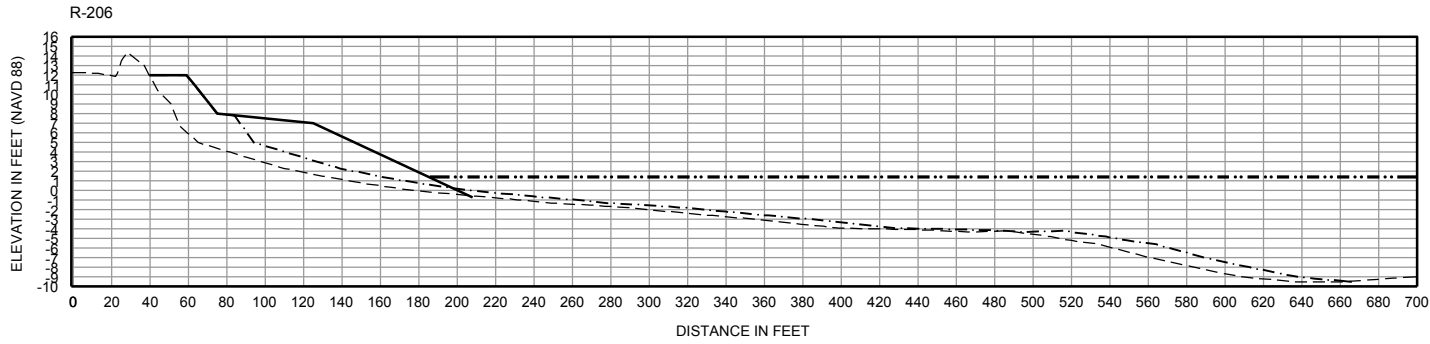
10151 DEERWOOD PARK BLVD.
BLDG. 300, SUITE 300
JACKSONVILLE, FL 32256
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FIGURE C-16
BEACH SECTIONS
SUMMER HAVEN RIVER RESTORATION
ST. JOHNS COUNTY, FLORIDA

PROJECT	C2011-009
DRAWN BY	AF
SHEET	16 of 17
DATE	JUNE 2012

SEAL	
MICHAEL E. TRUDNAK P.E. # 58200	DATE

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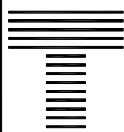
DUNE CONSTRUCTION SECTIONS

SCALE: 1" = 100'

VERTICAL EXAGGERATION: X5



LEGEND:	
---	2011 SURVEY
—	DUNE CONSTRUCTION TEMPLATE
- · - · -	MEAN HIGH WATER (+1.4' NAVD 88)
·····	EQUILIBRIUM



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FIGURE C-17
 BEACH SECTIONS
 SUMMER HAVEN RIVER RESTORATION
 ST. JOHNS COUNTY, FLORIDA

PROJECT	C2011-009
DRAWN BY	AF
SHEET	17 of 17
DATE	JUNE 2012

SEAL

MICHAEL E. TRUDNAK P.E.# 58200

DATE

Beach Restoration Narrative
Summer Haven River Restoration
Revised February 2013

Overview

Tropical Storm Fay and subsequent nor'easters in 2008 created a breach at Summer Haven that temporarily provided a tidal connection between the Atlantic Ocean and Summer Haven River. The breach formed a sediment sink, as sand carried from offshore during flood tidal cycles deposited in the Summer Haven River, eventually damming the river's natural flow and covering open water and intertidal habitat. Since the initial opening of the breach, the beach adjacent to the river has undergone radical change. Natural infilling of the breach created a low-lying berm absent any significant dune features, and subsequent storms further eroded the beach and leveled the dune system along a 1,500-ft long stretch of beach immediately south of the breach. To restore the beach to pre-breach conditions and minimize the risk of a future breach following restoration of the Summer Haven River, the project will place all beach-compatible material removed from the Summer Haven restoration effort on the adjacent beach. The proposed placement includes a large dune feature, critical for protection against storm surge, and a protective berm seaward of the dune. A description of the proposed beach fill design follows.

Beach Fill Design

The proposed placement area extends from approximately Florida Department of Environmental Protection (FDEP) reference monument R-200 to R-208.5 (i.e., 500 feet south of R-208). Design of the fill template considered two goals: 1) restore the beach and dune system to historic conditions, and 2) minimize the risk of future breaches. To achieve these goals, the design segments the placement area into two reaches — R-200 to R-202.5 and R-202.5 to R-208.5 — with differing beach fill designs (Table 1). The fill template in the southern segment is identical to that permitted under St. Johns County's Summer Haven Dune and Beach Placement Project, FDEP JCP File Number 0289228-001-JC, St. Johns County. The northern segment has a considerably larger fill volume and wider berm to mitigate for past erosion and minimize the risk of future breaches. The northern segment also features a back berm at an elevation of 8 ft NAVD as opposed to the sloping berm in the southern segment; this back berm feature serves to provide shorebird habitat seaward of the dune — an important project benefit requested by the Florida Fish and Wildlife Conservation Commission (FWCC). The wider berm in the northern segment will taper

to the narrower berm of the southern area along a 500-ft long transition area from R-200 to R-202.5. The northern boundary also includes a 300-ft wide taper to allow the beach fill to tie-in to the existing revetment.

Table 1 Beach Fill Design Features

Design Feature		R-200 to R-202.5 (Northern Reach)	R-202.5 to R-208.5 (Southern Reach)
Dune	Elevation	12 ft NAVD	12 ft NAVD
	Crest Width	20 ft	20 ft
	Seaward Slope	1V:4H	1V:4H
	Landward Slope	1V:3H	ties into existing dune
Back Berm	Elevation	8 ft NAVD	N/A
	Width	R-200: 70 ft R-201: 50 ft R-202: 45 ft	N/A
	Seaward Slope	1V:10H	N/A
Berm	Width	70 ft	50 ft
	Slope	Flat	1V:50H
	Elevation	5.5 ft NAVD	8 ft to 7 ft NAVD
	Seaward Slope	1V:20H	1V:10H

Distinct differences in the existing dune conditions differentiate the two reaches. The northern reach (R-200 to R-202.5), which includes the beach segment directly affected by the breach, primarily contains a low-lying berm at an elevation of roughly 4 feet (ft) NAVD with no significant dune feature. The southern reach (R-202.5 to R-208.5) contains a narrow beach and continuous dune with significant elevations (12 ft – 15 ft NAVD) but depleted volume, providing little storm protection to the existing roadway and residences. The permit drawings in Attachment D to the permit application contain beach cross sections with the proposed fill template and predicted equilibrium profiles at each reference monument.

In the northern reach, the proposed fill template will generally restore the dune system to historic conditions, except the dune crest is set further back to accommodate the back berm. The dune is critical for providing protection against future storms and minimizing the risk of a future breach, and the back berm protects the dune while providing shorebird habitat. Figures 1 – 3 contain historic beach profiles from 1999 – 2011 and the proposed construction fill templates at R-200, R-201, and R-202. Note the surveyed dune at R-200 represents conditions on the private property just north of the breach area rather than the fill placement area; however, a March 2011 survey of the breach area and Summer Haven River

documented elevations of approximately 4 ft NAVD within the historic dune location of the placement area. The landward limit of the proposed dune lies seaward of the historic eastern bank of the Summer Haven River. The wide berm is necessary to provide initial protection to the restored dune and replenish much of the eroded beach sediments.

Given the overfill factor of 1.5 (see Attachment F to the permit application) and the predominant southerly transport, much of the berm within both the northern and southern reaches will likely erode during the equilibration process. However, the much wider berm in the northern reach will produce an ancillary benefit of feeding sand to the downdrift beach during the equilibration process. Additionally, the 1V:50H berm slope in the southern section and the lower berm elevation (5.5 ft NAVD) in the northern section should help minimize scarping and maintain a turtle-friendly beach.

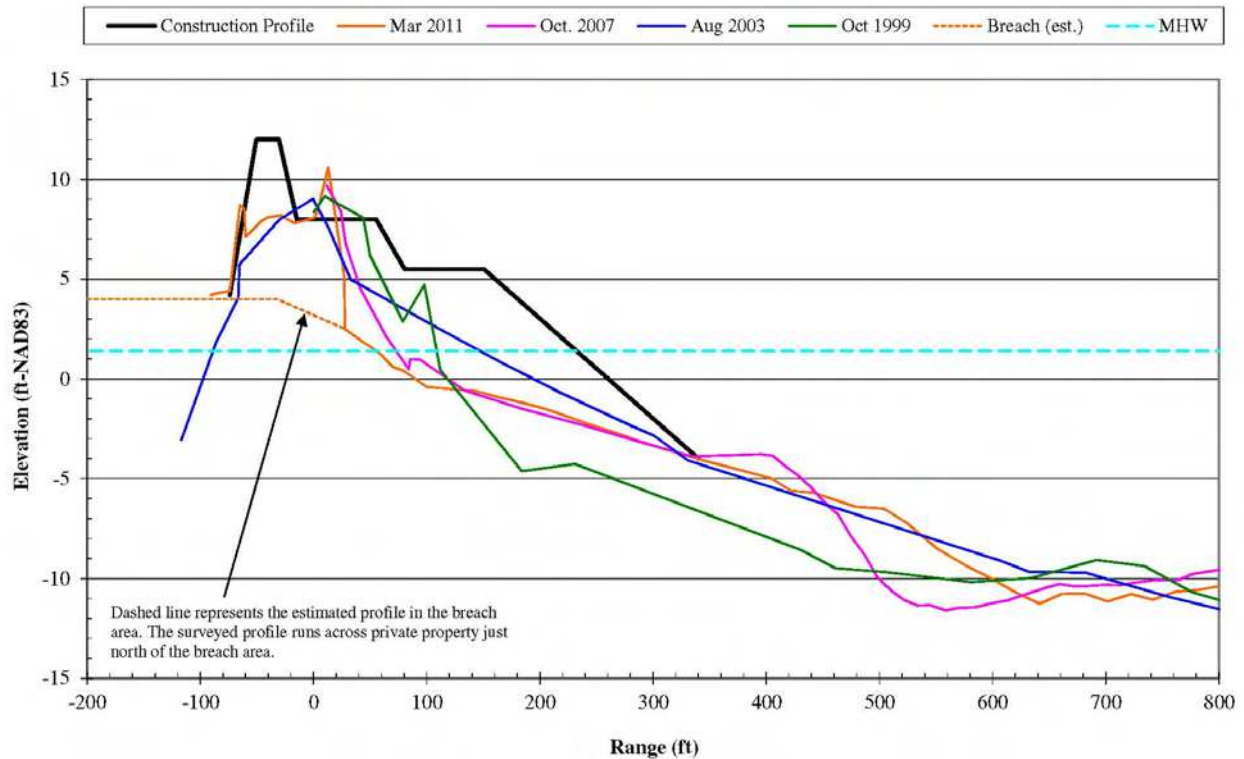


Figure 1 Historic Dune and Beach Conditions at R-200

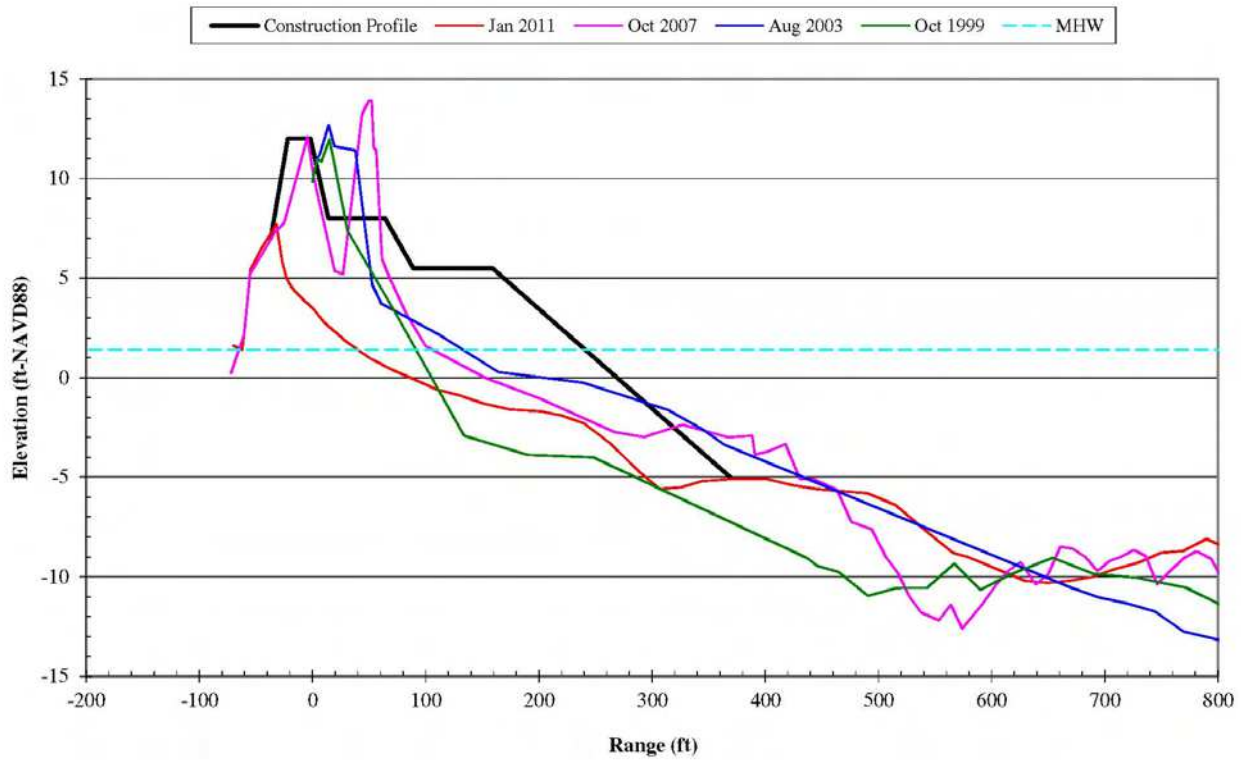


Figure 2 Historic Dune and Beach Conditions at R-201

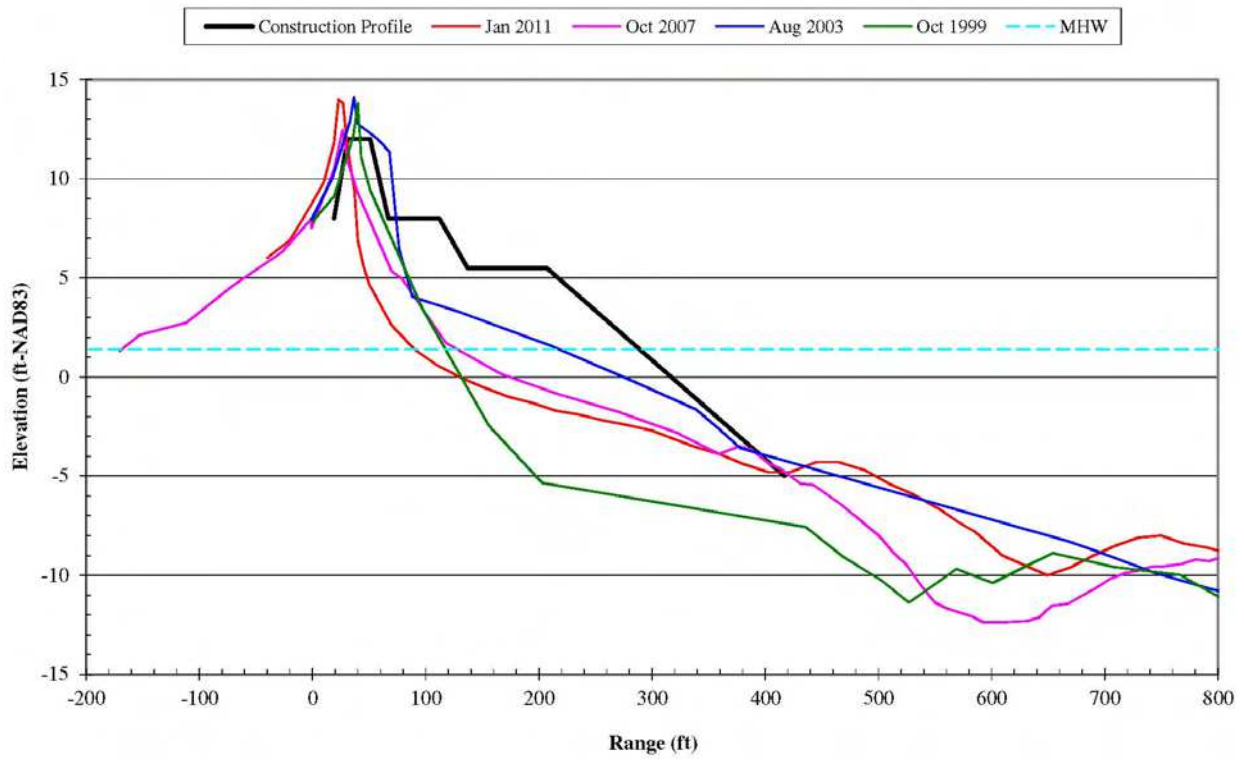


Figure 3 Historic Dune and Beach Conditions at R-202

Table 2 summarizes the beach fill statistics at each FDEP monument. The proposed fill in the northern segment will advance the MHW shoreline 192 ft on average with an average fill volume density of 75 cubic yards per linear foot (cy/ft). The southern segment will advance the MHW shoreline 52 ft on average with an average fill volume density of 22 cubic yards per linear foot (cy/ft). The total project template accommodates about 310,500 cy compared to the January/March 2011 baseline survey. As noted in the permit drawings, the Summer Haven River restoration will excavate approximately 216,443 cy of sand, based on the March 2011 survey. The R-200 to R-204 segment has a capacity of roughly 228,000 cy and may represent a sufficient placement area. However, given the continuously changing conditions of the excavation area, this permit application includes the R-204 to R-208 segment for flexibility should the actual excavation volume at the time of construction exceed the currently estimated volume.

Table 2 Project Design Statistics

FDEP Reference Monument			Controlling Distance (ft)	MHW Shift (ft)	Volume (cy/ft)	Volume (cy)
ID	Easting	Northing				
R-200	585,423.7	1,949,506.3	512.3	177	69.5	35,593
R-201	585,698.6	1,948,519.3	1014.5	201	75.2	76,268
R-202	585,951.5	1947547.2	1016.8	199	66.8	67,876
R-203	586,283.6	1946573.2	1027.6	74	27.0	27,749
R-204	586,557.2	1945584.2	1027.8	49	20.0	20,580
R-205	586,876.5	1944605.5	1026.2	46	20.8	21,337
R-206	587,188.0	1943631.0	1027.6	53	22.0	22,581
R-207	587,493.8	1942645.2	1024.7	49	22.7	23,239
R-208	587,829.0	1941684.8	508.6	45	20.1	10,243
Taper	-	-	500.0	-	10.1	5,035
Total			8,686.2	-	-	310,502

Attachment G

**Summer Haven River Restoration
Natural Resources and Protected Species**

Prepared for

Florida Department of Environmental Protection
U.S. Army Corps of Engineers

By

Taylor Engineering, Inc.
10151 Deerwood Park Blvd., Bldg.300, Suite 300
Jacksonville, Florida 32256
(904) 731-7040

July 2012

Summer Haven River Restoration Natural Resources and Protected Species

This narrative provides information for the Summer Haven River Restoration Joint Coastal Permit application items 28 and 29.

Item 28. Existing Natural Communities Description

On May 3, 2012 Taylor Engineering environmental staff visited the project site to characterize and map existing natural communities within and immediately adjacent to the project area. Prior to the field investigation, environmental staff reviewed existing, readily available information including recent and historical aerial photographs, Florida Natural Areas Inventory endangered species and natural community descriptions, St. Johns County Habitat Conservation Plan, and other publications that contain pertinent natural resource information.

Applying the classifications described by the Florida Natural Areas Inventory (FNAI) in its publication *Guide to the Natural Communities of Florida* (2010 edition), natural communities within the project vicinity generally comprise beach dune, coastal grassland, coastal strand, unconsolidated substrate, salt marsh, and mangrove swamp.

The FNAI (2010) defines beach dune as “a predominantly herbaceous community of wide-ranging coastal specialist plants on the vegetated upper beach and first dune above the beach (foredune).” In the project area, severe coastal erosion and overwash has decimated a significant fraction of the beach dune habitat. This habitat now only occurs near the southern portion of the project area forming a narrow (approximately 100-ft wide), eroded, and severely scarped strip of vegetated habitat between the upper beach and estuarine wetlands to the west (Figure 1-4). Herbaceous species such as sea oats (*Uniola paniculata*), bitter panicum (*Panicum amarum*), saltmeadow cordgrass (*Spartina patens*), dune sunflower (*Helianthus debilis*), seashore dropseed (*Sporobolous virginicus*), and dune elder (*Iva imbricata*) compose the majority of the plant community. The harsh and dynamic conditions characteristic of the beach dune community limit the diversity of wildlife using this habitat. Wildlife typically associated with the beach dune community includes invertebrates such as the ghost crab (*Ocypode quadrata*), various small mammals, shorebirds, and sea turtles for nesting. However, in its current eroded condition, beach dune habitat within the project area provides very limited wildlife habitat value.

The FNAI (2010) defines coastal grassland as “a predominantly herbaceous community occupying the drier portions of the transition zone between beach dunes on the immediate coast and communities dominated by woody species.” In the assessment area, a small community that exhibits characteristics of coastal grasslands occurs behind the beach dune community (Figure 1-4). This area eventually transitions into salt marsh/mangrove estuarine wetlands. The coastal grassland community contains a mix of beach dune and transitional high saltwater marsh vegetation. Dominant species include sea oats, saltmeadow cordgrass, sea oxeye daisy (*Borrchia frutescens*), seashore dropseed, aster (*Aster sp.*), beach pennywort (*Hydrocotyle bonariensis*), sandbur (*Cenchrus sp.*), and prickly pear cactus (*Opuntia stricta*).

The FNAI (2010) describes coastal strand as “an evergreen shrub community growing on stabilized coastal dunes in the peninsula of Florida, often with a smooth canopy due to pruning by salt spray.” In an undisturbed environment, the coastal strand community generally lies between stabilized coastal dunes and maritime hammock. In the project area, coastal strand habitat occurs in two small, isolated areas. Less than a quarter acre in size, the first area situates just west of the southern end of the AIA bridge crossing the Summer Haven River (Figure 1-2). The second area covers approximately one acre and occurs as an elevated stand within a high saltwater marsh community just east of AIA (Figure 1-4). Typical plant species occupying these coastal strand habitats include Southern red cedar (*Juniperus silicicola*), red bay (*Persea borbonia*), cabbage palm (*Sabal palmetto*), saw palmetto (*Serenoa repens*), and yaupon holly (*Illex vomitoria*). Coastal strand may provide valuable habitat for a wide variety of wildlife including birds, reptiles, and small mammals; however, due to its small size and isolated condition, coastal strand within the project area provides marginal habitat value.

The FNAI defines the marine and estuarine unconsolidated substrate communities as “mineral-based natural communities generally characterized as expansive, relatively open areas of subtidal, intertidal, and supratidal zones which lack dense populations of sessile plant and animal species.” Unconsolidated substrate composes the majority of the project area and serves as the primary focus of the proposed restoration effort (Figure 1-1 – Figure 1-5). The majority of this community comprises fine to medium-grained white to light brown sandy material that overwashed from the beach and dune and filled a large portion of the Summer Haven River and adjacent estuarine wetlands. The overwash has resulted in substantial loss of estuarine wetland and open water habitat. Although mostly buried with only the crowns exposed, some black mangroves (*Avecennia germinans*) survived the overwash filling and intermittently occur in some portions of the unconsolidated substrate community. In addition, pioneer dune species, such as sea oats, have begun to recruit into some isolated sections of the overwash area. The clean sandy

material deposited by the overwash created suitable habitat for nesting shorebirds, particularly least terns (*Sterna antillarum*). A relatively large least tern nesting colony has developed within the overwash area adjacent to the main breach in the beach and dune system (Figure 1-3 and Figure 1-4). This area may become less suitable tern habitat as pioneer vegetation becomes established.

The FNAI describes the salt marsh community as a “largely herbaceous community that occurs in the portion of the coastal zone affected by tides and seawater and protected from large waves, either by the broad, gently sloping topography of the shore, by a barrier island, or by location along a bay or estuary.” In the project area, the salt marsh community is largely intermixed with the mangrove community, which the FNAI describes as “dense forest occurring along relatively flat, low wave energy, marine and estuarine shorelines.” The salt marsh/mangrove community is present along the length of the project area (Figure 1-1 – Figure 1-5). Dominant vegetation within the lower elevations of the salt marsh/mangrove community generally consists of smooth cordgrass (*Spartina alterniflora*) while the higher elevations contain black mangrove (*Avicennia germinans*), saltwort (*Batis maritima*), glasswort (*Salicornia sp.*), sea oxeye daisy, and saltmeadow cordgrass. Some portions of the salt marsh/mangrove community contain fringing oyster assemblages. Saltmarsh/mangrove communities provide valuable habitat for a myriad of fish and wildlife and serve as important nursery areas for commercially important finfish, shellfish, and crustaceans. Overwash occurring over the past several years has resulted in significant loss of salt marsh/mangrove habitat within the project area. The proposed project aims to restore these important estuarine communities.

Submitted as a separate attachment to this permit application, the report entitled “Biological Summary of the Summer Haven River” provides additional information regarding the Summer Haven ecosystem prior to the breach and fill.

Item 29. Threatened and Endangered Species Information

A number of federally and state listed species may occur in the project area include (**Table 1**). Among those listed in Table 1, a few of the species are of particular interest in the project area.

Table 1. Federally and State Listed Species Potentially found in the Project Area (<http://www.fws.gov/northflorida/CountyList/Johns.htm>, <http://www.fnai.org/>)

Category	Species Common Name	Species Scientific Name	Federal Code	State Code
Mammals	West Indian (Florida) Manatee	<i>Trichechus manatus latirostris</i>	E/CH	E
Birds	Piping Plover	<i>Charadrius melodus</i>	E	E
	Little blue heron	<i>Egretta caerulea</i>		SSC
	Snowy egret	<i>Egretta thula</i>		SSC
	Tricolored heron	<i>Egretta tricolor</i>		SSC
	White Ibis	<i>Eudocimus albus</i>		SSC
	Southeastern American kestrel	<i>Falco sparverius paulus</i>		ST
	American oystercatcher	<i>Haematopus palliatus</i>	C	SSC
	Wood stork	<i>Mucteria americana</i>	E	E
	Osprey	<i>Pandion haliaetus</i>	E	SSC
	Brown pelican	<i>Pelecanus occidentalis</i>	E	SSC
	Roseate spoonbill	<i>Platalea ajaja</i>	T	SSC
	Black skimmer	<i>Rynchops niger</i>		SSC
	Least tern	<i>Sterna antillarum</i>		ST
Reptiles	Gopher Tortoise	<i>Gopherus polyphemus</i>		
	Green Sea Turtle	<i>Chelonia mydas</i>		
	Hawksbill Sea Turtle	<i>Eremochelys imbricata</i>		
	Leatherback Sea Turtle	<i>Dermochelys coriacea</i>		
	Loggerhead Sea Turtle	<i>Caretta caretta</i>		
Fish	Atlantic Sturgeon	<i>Acipenser oxyrinchus</i>		SSC
	Shortnose Sturgeon	<i>Acipenser brevirostrum</i>	E	E

CH Critical Habitat

E Federally Endangered

T Federally Threatened

SSC Species of Special Concern

ST State Threatened

The (approximately) forty miles of Atlantic Ocean beaches in St. Johns County provides potential nesting habitat for four species of marine turtles the loggerhead (*Caretta caretta*), green (*Chelonia mydas*), leatherback (*Dermochelys coriacea*), and hawksbill (*Eremochelys imbricata*) sea turtles. Of the four, loggerhead nests are most commonly found on county beaches (3-6 nests per km/year¹), while less than two green turtle or leatherback turtle nests are located annually within county borders². Readily available data provide no reports of hawksbill nests within the county borders. Thus, between two and

¹ <http://myfwc.com/research/wildlife/sea-turtles/nesting/loggerhead/>

² <http://myfwc.com/research/wildlife/sea-turtles/nesting>

fifteen loggerhead nests may occur annually within the 8,000 ft sand placement and two or less green and leatherback turtle nests. The federal and state governments have not defined any period when construction may not occur on the beaches in St. Johns County.

A 2001 Environmental Assessment provided the basis for a Finding of No Significant Impact (FONSI) to marine turtles and manatees associated with dredging of the IWW near Matanzas Inlet and placement of dredged sand on the Summer Haven Beach between FDEP Monuments R-200 and R-208 (USACE 2001), the same location proposed for use in this project.

The 2010 Habitat Conservation Plan Assessment Annual Report 2010 (Dodson 2010) included the following information on least tern nesting within the area proposed for excavation.

On Wednesday, October 10, 2008, during an extreme high tide and storm event, a complete breach in the dune system occurred on the northern end of Summer Haven forming a new inlet (Object 9). This breach prevented homeowners from accessing their homes from the northern end of old A1A forcing homeowners to access their homes from the south using a trail that runs parallel to the beach on the western side of the small fore dune. The breach has since filled in with sand...and is now mostly dry with pioneering vegetation and several different types of animals including gopher tortoise and least terns utilizing the area. On May 28 [2010] the FWC staff contacted the County to report that a small least tern colony and two pairs of Wilson's plovers had been observed in the dry barren sand where the old Summer Haven river once flowed during high and low tides. County staff responded by marking the area with posts, flagging, and signage. FWC documented over 100 nests and determined the site to be a successful nesting site with multiple chicks becoming flight capable. The colony had all but diminished just after the July 4th holiday and the postings were removed in early August.

Least terns were also reported using the same area for nesting in 2011 by Florida Shorebird Alliance³, and anecdotal reports of least tern nesting in the same location during the current 2012 season are common, although no written reports were readily available for the current nesting period.

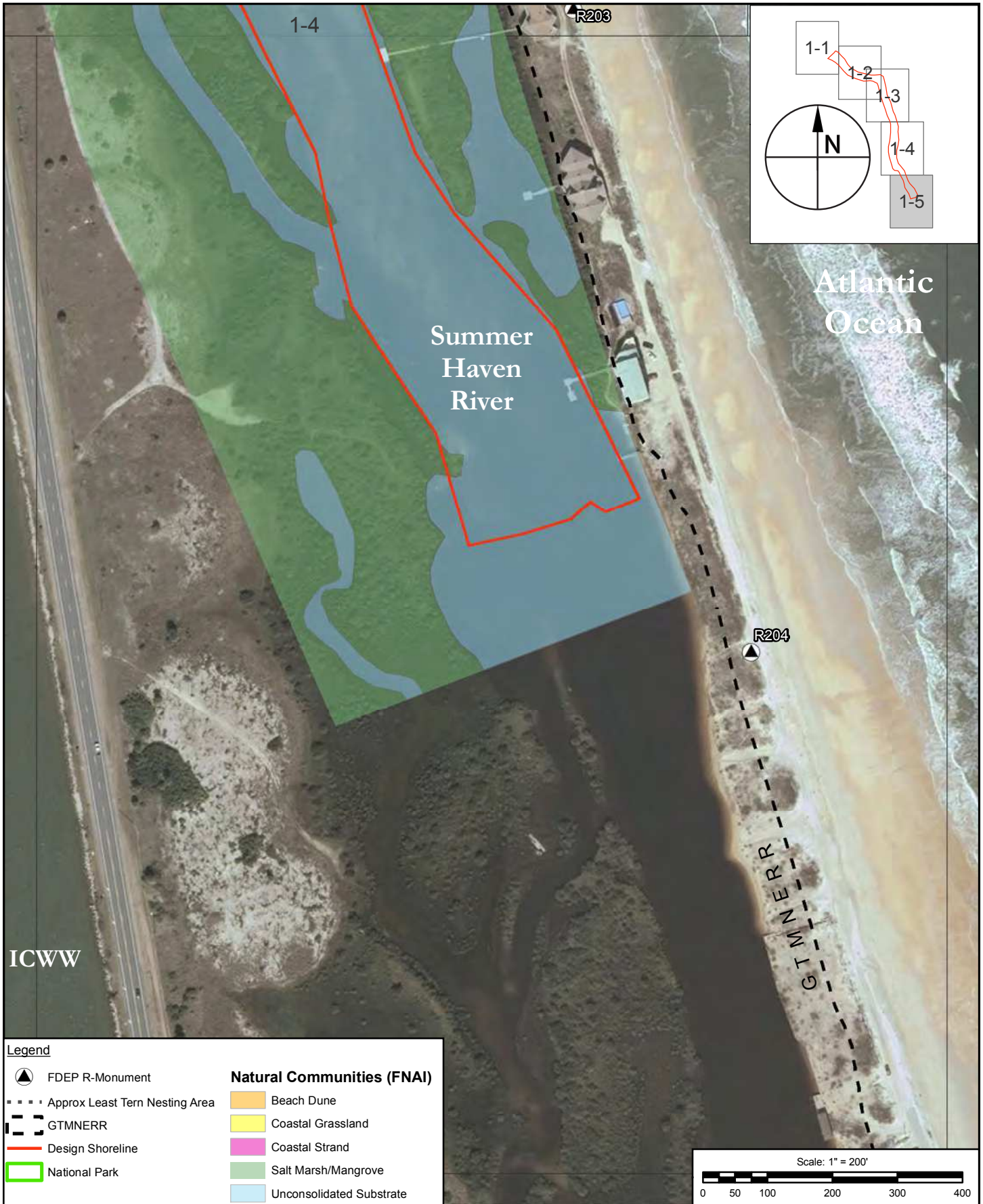
Manatees use the Matanzas Inlet frequently, and were common visitors to the waters of the Summer Haven River (e.g. see information in Attachment I) prior to the breach and filling of the open waters of the river. Anecdotal information from local residents indicates that since the breach event and subsequent filling of the river, manatees have been seen on a much less frequent basis in the remaining open water portions of the river.

References

USACE 2010. Environmental Assessment on Maintenance Dredging Intracoastal Waterway-Matanzas Inlet Vicinity St. Johns County, Florida. US Army Corps of Engineers, Jacksonville District.

Dodson, Tara. 2001. Habitat Conservation Plan Assessment St. Johns County, Florida 2010 Annual Report. Section 11 Beach Driving at Summer Haven pp. 50-52. Prepared for: U.S. Fish and Wildlife Service North Florida Ecological Services Office Attn: HCP Program 7915 Baymeadows Way Suite 200 Jacksonville, FL 32256-7517. Prepared by: Tara Dodson Environmental Coordinator St. Johns County Growth Management-Environmental Division Habitat Conservation Section 901 Pope Road St. Augustine, FL 32080 available at: <http://www.co.st-johns.fl.us/HCP/Report.aspx>

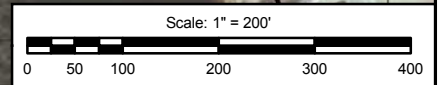
³ http://www.flshorebirdalliance.org/pdf/Wrack_Line_0911.pdf



ICWW

Legend

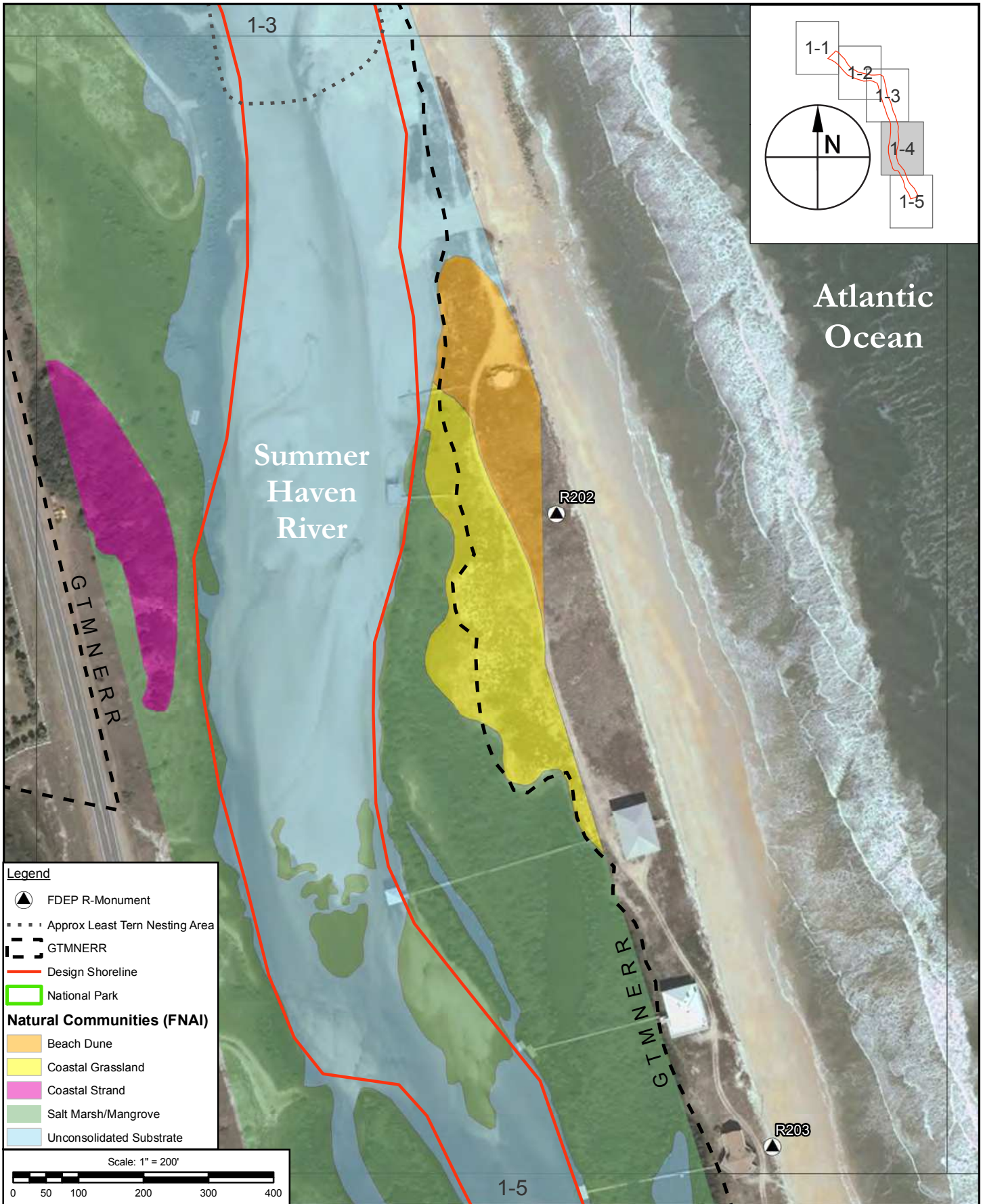
	FDEP R-Monument	Natural Communities (FNAI)	
	Approx Least Tern Nesting Area		Beach Dune
	GTMNERR		Coastal Grassland
	Design Shoreline		Coastal Strand
	National Park		Salt Marsh/Mangrove
			Unconsolidated Substrate



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Figure 1-5
 Site Features and Natural Communities
 Summer Haven River Restoration Project
 St. Johns County, FL

PROJECT	C2012-023
DRAWN BY	RC
SHEET	
DATE	JUNE 2012



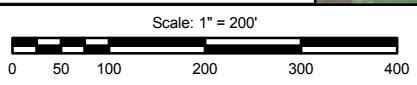
Atlantic Ocean

Summer Haven River

GIMNERR

GIMNERR

- Legend**
- FDEP R-Monument
 - Approx Least Tern Nesting Area
 - GTMNERR
 - Design Shoreline
 - National Park
- Natural Communities (FNAI)**
- Beach Dune
 - Coastal Grassland
 - Coastal Strand
 - Salt Marsh/Mangrove
 - Unconsolidated Substrate

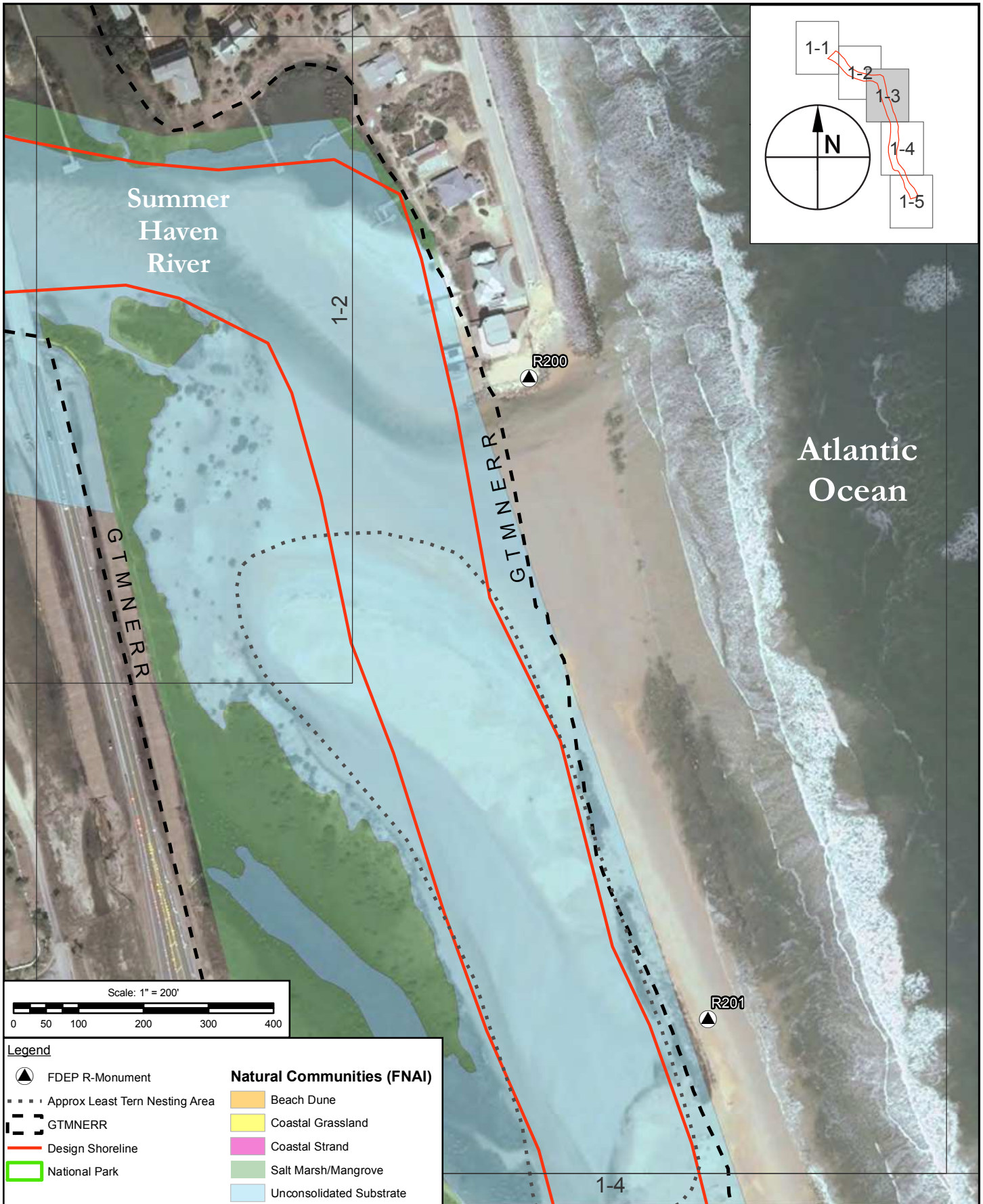


1-5

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Figure 1-4
 Site Features and Natural Communities
 Summer Haven River Restoration Project
 St. Johns County, FL

PROJECT	C2012-023
DRAWN BY	RC
SHEET	
DATE	JUNE 2012



Summer Haven River

Atlantic Ocean

G T M N E R R

G T M N E R R

R200

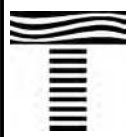
R201

Scale: 1" = 200'



Legend

- | | |
|--------------------------------|-----------------------------------|
| FDEP R-Monument | Natural Communities (FNAI) |
| Approx Least Tern Nesting Area | Beach Dune |
| GTMNERR | Coastal Grassland |
| Design Shoreline | Coastal Strand |
| National Park | Salt Marsh/Mangrove |
| | Unconsolidated Substrate |



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Figure 1-3
 Site Features and Natural Communities
 Summer Haven River Restoration Project
 St. Johns County, FL

PROJECT	C2012-023
DRAWN BY	RC
SHEET	
DATE	JUNE 2012



Summer Haven River

HELEN MELLON SCHMIDT PARK

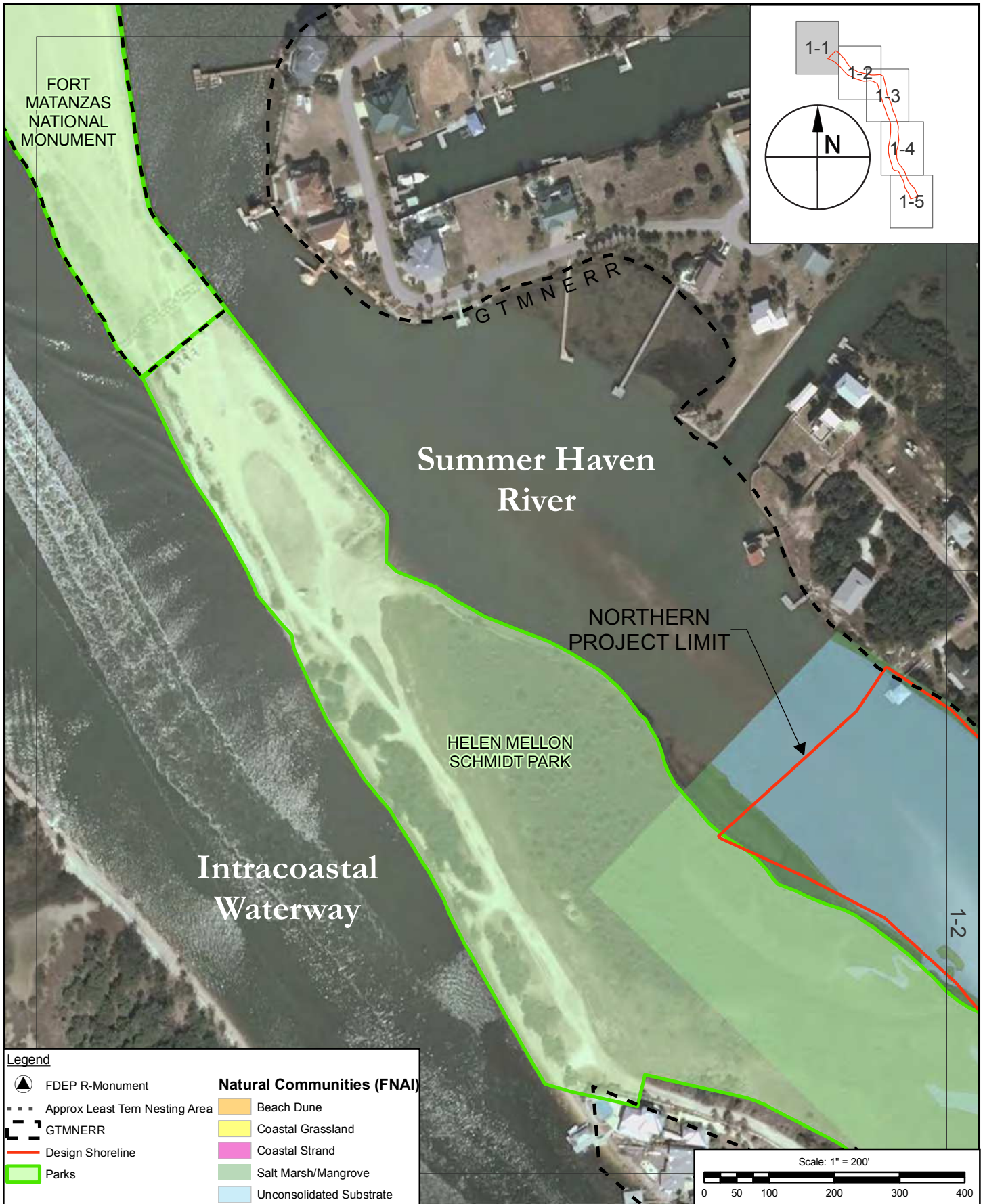
1-2

1-3

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Figure 1-2
 Site Features and Natural Communities
 Summer Haven River Restoration Project
 St. Johns County, FL

PROJECT	C2012-023
DRAWN BY	RC
SHEET	
DATE	JUNE 2012



Legend	
	FDEP R-Monument
	Approx Least Tern Nesting Area
	GTMNERR
	Design Shoreline
	Parks
Natural Communities (FNAI)	
	Beach Dune
	Coastal Grassland
	Coastal Strand
	Salt Marsh/Mangrove
	Unconsolidated Substrate



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Figure 1-1
 Site Features and Natural Communities
 Summer Haven River Restoration Project
 St. Johns County, FL

PROJECT	C2012-023
DRAWN BY	RC
SHEET	
DATE	JUNE 2012

Attachment A

Itemized Responses to the Joint Coastal Permit Application
Summer Haven River Restoration

Prepared for

Florida Department of Environmental Protection
U.S. Army Corps of Engineers

By

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July 2012

Itemized Responses to the Joint Coastal Permit Application
for
Summer Haven River Restoration

This **Attachment A** provides expanded responses to Items requested the JCP application. Any item not listed here is answered in JCP application Form 73-500. The information is provided as item # (in bold typeface), *Item Description* (in italics quoted from JCP Application Form A) and a response from the applicant in normal face type.

5. *Describe in general terms the proposed activity including any phasing.*

Response: The Summer Haven River is a tidal river situated on the landward side of the barrier island just south of Matanzas Inlet. The river has existed at that location at least since records concerning the area have been kept. In 2008, a storm caused Atlantic Ocean waters to breach the barrier island. The river adjacent to the breach filled with sand. The infilling sand destroyed marsh, oyster, and estuarine habitat in the river and completely blocked tidal circulation through the river. The breach closed over the next two years, but the river remains plugged with sand and the natural resources have not recovered.

Historic and recent bathymetric surveys and field observation provide the data needed to set the river restoration template. The proposed restoration project will remove about 216,000 cubic yards (165,144 cubic meters) of sand from the river to re-establish river depths to a pre-breach condition, restore tidal circulation, and allow the recovery of the natural resources. The restoration will recreate about 32 acres of open water and shallow water estuarine habitat. The sand removed from the river will be placed on the dune and beach system from FDEP range monument R-200 — R-208 in a template similar to that now in final review by the FDEP for JCP File Number 0289228-001-JC.

7. *Describe the purpose and need of the proposed activity including any public benefits.*

Response: The Summer Haven River's salt marsh, oyster, and estuarine resources have historically provided recreational and commercial benefits to generations of area residents and visitors. The river provided a high quality natural environment supporting oyster leases and a variety of aquatic wildlife; boating, fishing, and swimming opportunities; and access to Matanzas Inlet. The sand-choked river has lost these resources. Salt marsh and oyster beds have been buried. The lack of tidal circulation has resulting in stagnant conditions in some of the remaining aquatic habitat. The re-establishment of river depth and circulation will restore water quality and natural resources, return the historic water access and provide high quality recreation (fishing, swimming and boating) lost in the now filled and stagnant portions of the river. Restoration of the barrier island beach and dune system will provide habitat lost due to the breach and minimize the likelihood of future breaches.

The *Friends of the Summer Haven River* (FSHR) is a 501(c)3 non-profit organization formed to coordinate public support for the proposed restoration project. **Attachment J** provides additional information about the historic and natural resources of the Summer Haven River assembled by the FOSHR. **Attachment K** provides petitions gathered by the FSHR documenting public support for the proposed project. About 1,200 members of the local public signed the petition.

12. *Has an Erosion Control Line been established pursuant to Sections 161.141 - 161.211, F.S.?*

Response: No. The FDEP review of Permit Application No. 0289228-001-JC for Summer Haven Beach maintenance concluded that no ECL line was necessary for the section of beach proposed to receive fill.

13. *A copy of the Division of State Lands title determination for submerged lands or other State-owned lands. If you do not have title determination, Department staff will request that the Division of State Lands conduct a title check while your application remains incomplete.*

Response: The applicant does not have a Division of State Lands title determination and requests Department staff initiate the state lands title check.

14. *Satisfactory evidence demonstrating that the applicant has sufficient control and interest in the riparian upland property, as described in Subsection 18-21.004 (3)(b), Florida Administrative Code. Governmental entities that qualify for the waiver or deferral outlined in this rule must provide supporting documentation in order to be eligible. If the applicant is not the property owner, then authorization from the property owner for such use must be provided.*

Response: The applicant requests a waiver for restoration in the river per 18-21.004(3)(b) F.A.C.

The beach and dune restoration will occur along old Highway A1A right of way owned by St. Johns County. The county will cooperate with the applicant in allowing beach and dune construction along its ocean-front property **Attachment B** shows property boundaries in the project area and the public lands associated with the beach area between FDEP Monuments R-200 and R-208.

15. *A detailed statement describing the existing and proposed upland uses and activities. For projects sponsored by a local government, indicate whether or not the facilities will be open to the general public. Provide a breakdown of any user fees that will be assessed to the general public and indicate whether or not such user fees will generate revenue or will simply cover costs associated with maintaining the facilities.*

Response: Upland property within the Summer Haven River restoration template comprises sand with pioneer vegetation in the area that once was open water or marsh. Upland property use adjacent to the restoration area comprises county park (Helen Mellon Schmidt Park), county and state vacant parcels, Florida Department of Transportation right of way for SR A1A, and residential lots and homes. Existing upland property adjacent to the beach placement area consists of the Old A1A public right of way, vacant lots, and single-family homes. The beach is generally narrow backed by small or no dunes. Current uses of the restoration area at the beach are limited to those associated with beach recreation. There are no recreational opportunities on the former river and marsh locations. The restored river, dune, and beach habitats will provide for the same uses that occurred prior to the breach event. The project does not include development of facilities. The restored the area will comprise open water, estuarine marsh, dune and beach open to the public without user fees or other means of on-site revenue generation. The project will not change the existing property uses and activities. **Attachment J** provides additional information on historic uses and activities in and around the Summer Haven River.

16. *The information in this item is only required if you are applying for a sovereignty submerged lands easement or lease. A list of the names and addresses of owners of all riparian property within 1,000 feet (and within a 500 ft radius) of the proposed sovereignty submerged lands easement or lease site from the latest county tax roll. If the property is under cooperative or condominium ownership, the name and mailing address of the cooperative or condominium association will be adequate. This would not apply to off-shore leases or easements that are not located within 1,000 feet of the shoreline.*

Response: The applicant understands that the requested list of names and addresses is not required for a (short-term) Letter of Consent as requested in Item No. 9.

17. *A legal property description and acreage of any sovereign submerged land that would be encompassed by the requested lease or easement, plus two (2) prints of a survey prepared, signed and sealed by a person properly licensed by the Florida State Board of Land Surveyors.*

Response: The applicant understands that the requested information is not required for a Letter of Consent, as requested in Item No. 9.

19. *Written evidence, provided by the appropriate governmental agency having jurisdiction over the activity, that the proposed activity, as submitted to the Department, is consistent with the state-approved Local Comprehensive Plan.*

Response: Attachment D contains St. Johns County's written determination that the proposed Summer Haven River restoration is consistent with the county comprehensive plan.

20. *Topographic and bathymetric survey drawings of the proposed project site(s), including profiles and a contour map that reflect conditions within the past six (6) months, in accordance with Rule 62B-41.008(1)(h), F.A.C. Drawings shall meet the State's minimum technical standards and shall be signed and sealed by the professional surveyor, duly registered pursuant to Chapter 472, Florida Statutes, who performed the survey.*

Response: The permit drawings in **Attachment C** include the November 2009 survey data, in plan view and cross sectional profiles. The CD enclosed with this submittal contains digital files of the surveys prepared by Morgan & Eklund, Inc.

21. *A description of how the boundaries of any wetlands affected by the project were determined. If the wetland boundaries have ever been delineated through a jurisdictional declaratory statement, a formal wetland determination, a formal determination, a validated informal determination or a revalidated jurisdictional determination, provide the identifying number of the document.*

Response: The project site includes Atlantic Ocean frontage, former open water, and marsh areas. The proposed project includes restoration of beach, dune, and wetland areas. Identification of wetland boundaries now buried in sand used aerial photographs taken prior to and after the breach and bathymetric data collected in 2000 and 2011. The restoration will not affect or disturb existing wetlands.

22. *An engineering description and measured-drawings of any existing structures on the site that may be directly or indirectly affected by, or that may directly or indirectly affect, the proposed activity. This shall typically include shore protection structures such as groins, utility or stormwater outfalls, including subgrade structures, and any derelict structures such as remnant walls or pilings.*

Response: Private docks and bulkheads occur along some of the Summer Haven River restoration area shoreline. A bridge supporting SR A1A spans the river restoration area near the north end of the project. Construction plans will provide for appropriate avoidance of public or private structures. There are no structures within the beach and dune restoration area that may be directly or indirectly affected by, or that may directly or indirectly affect, the proposed project.

23. *Complete sets of construction plans and specification for the proposed activity, certified by an engineer duly registered pursuant to Chapter 471, Florida Statutes. The plans shall clearly distinguish between existing and proposed structures and grades, and shall include the following:*

a. Plan view of the proposed activity depicting the mean high-water line, any easement boundary and the erosion control line (if applicable) within the area of influence of the proposed activity. Identify the boundaries of significant geographical features (e.g., channels, shoals) and natural communities (e.g., submerged grass beds, hardbottom or mangroves) within the area of influence of the activity. Include a north arrow and a scale bar on each drawing.

b. A sufficient number of cross-section views of the proposed activity depicting the slopes, the mean high-water line, any easement boundary and the erosion control line (if applicable) within the area of influence of the proposed activity. Identify the boundaries of significant geographical features and natural communities in the area of influence of the proposed activity. Elevations indicated on the cross-sections shall be referenced to the North American Vertical Datum of 1988 (NAVD 88).

c. Details of construction, including materials and general construction procedures and equipment to be used (e.g., construction access, dredging method, dredged material containment, pipeline location).

Response: Attachment C to the permit application contains the permit drawing set with the requested information and a construction narrative. We request that FDEP accept the final construction plans and specifications as Notice to Proceed items.

24. *In addition to the full-size drawings requested above, the information required under Paragraphs (20), (22) and (23) above shall be provided on 8 1/2-inch by 11-inch paper, certified by an engineer duly registered pursuant to Chapter 471, Florida Statutes. Each drawing shall include an accurate scale or dimensions, and all information shown on the drawing shall be clearly legible.*

Response: Attachment C contains an 8 1/2 x 11 inch version of the permit drawings.

25. *An aerial photograph or map with a scale of 1" = 200', showing: the project boundaries, DNR Reference Monument locations, major county landmarks, boundaries of significant natural communities (e.g., submerged aquatic vegetation, hardbottom or mangroves) and special aquatic or terrestrial sites (parks, sanctuaries, refuges, Outstanding Florida Waters, aquatic preserves, etc.) within the project boundary and a minimum of 1,000 feet in both shore parallel directions of the project boundary.*

Response: Attachment C contains the requested information.

26. *A proposed construction schedule.*

Response:

Contract Advertisement	07/15/13
Contract Bid Opening	08/15/13
Contract Award	09/15/13
Issue Notice to Proceed	11/01/13
Contract Physically Complete	04/01/13

27. *Permit applications for excavation or fill activities shall include the following detailed information concerning the material to be excavated and the existing or native material at the beach fill site:*

a. Site plans showing the location of all core borings and the boundaries of the area to be excavated.

Response: Drawings in **Attachment E** and its Appendix D provide core boring data from the area to be excavated. Attachment E also provides a site plan showing the core borings and the boundaries of the area proposed for excavation.

b. Core boring logs of all cores taken throughout the area to be excavated and surrounding area. Logs should extend at least two feet below the proposed bottom elevation. The depth of each visible horizon in the log should be reported relative to NAVD (88) and the material in each stratum classified according to grain size.

Response: See **Attachment E**, Appendix D for information concerning the location of sediment cores collected from the restoration area

c. Particle size and color analysis of the sediment. Gradation curves, frequency distribution curves and data analysis sheets should be produced from sieve analysis of each stratum in the core. Grain size distribution must be determined down to the standard unit 230 sieve size. Color analysis of moist sediment should use Munsell system of hue, value and chroma.

Response: **Attachment E** contains a sediment compatibility analysis with data tables and cumulative frequency curves. The sand currently filling the river and proposed for removal and placement on Summer Haven Island beach and dune areas (St. Johns County R-200 – R208) came from the same beach and littoral system in which the project proposes to place the material. A sediment QA/QC plan (**Attachment F**) provides for verification of the quality of the sand placed on the beach and dune.

d. Carbonate content and percent organics by dry weight from representative stratum in each core. Chemical analyses shall be required if there is reason to suspect that the sediments are contaminated.

Response: **Attachment E** contains carbonate content data.

f. A sediment QA/QC plan that will ensure that the sediment to be used for beach restoration or nourishment will meet the standards set forth in paragraph 62B-41.007(2)(j), F.A.C.

Response: Attachment F provides a Sediment QAQC Plan based on FDEP's September 2009 template and provided to the FDEP as part of Permit Application No 0289228-001-JC (permit pending).

28. *Using an established natural community classification system, describe each natural community within the area of influence of the proposed activity and include:*
- a. *Acreage*
 - b. *Identification of the flora and fauna to the lowest taxon practicable.*
 - c. *Characterization of dominant and important flora and fauna and estimates of percent biotic cover.*
 - d. *Sampling locations, date of sampling or measurements, and methods used for sampling.*

Response: Attachment G provides a description of natural communities. The description includes only the existing habitats, not those buried during the filling of the river. Buried habitat within the area proposed for excavation and scraping (to bring former wetland areas to their previous elevations) includes about 29 acres of open water and about 5.4 acres of estuarine wetlands. **Attachment H**, prepared by the Friends of the Summer Haven River, contains a description of Summer Haven River natural resources prior to the breach and filling.

29. *Detailed information on season of occurrence, density, and location of threatened or endangered species whose range occurs within the proposed activity.*

Response: Attachment G provides the requested information.

30. *Results of available wildlife surveys that have been conducted on the site, and any comments pertaining to the proposed activity from the Florida Fish and Wildlife Conservation Commission.*

Response: Attachment G provides the results of readily available information concerning wildlife surveys in the project area.

31. *A current Biological Opinion from the U.S. Fish and Wildlife Service or the National Marine Fisheries Service, when the Florida Wildlife Conservation Commission has determined that the proposed project will result in a take of marine turtles, which could not be authorized without an incidental take determination under federal law.*

Response: Response: The proposed beach fill area falls within the USFWS "Statewide Programmatic Biological Opinion (SPBO) for the US Army Corps of Engineers (Corps) planning and regulatory sand placement activity in Florida and their effects on loggerhead (*Caretta caretta*), green (*Chelonia mydas*) leatherback (*Dermochelys coriacea*), hawksbill (*Eretmochelys imbricata*), and Kemp's ridley (*Lepidochelys kempii*) sea turtles" and southeastern beach mice and related critical habitat. The Department of the Army issued a FONSI in 2001 (see Item #29) concerning impacts to marine turtles and manatees associated with dredging of Matanzas inlet and placement of dredged sand on the project beach.

32. *A general description of the use and importance of the area influenced by the proposed project for all recreational activities, including (but not limited to) fishing, diving, surfing and bird watching. Also include a general description of any commercial fishing in the area.*

Response: The project area (Summer Haven River) was heavily used by residents and visitors for recreational and commercial boating and fishing, and other water-related activities including boat access to Matanzas Inlet and Atlantic Ocean. These uses no longer exist due to the burial of open

water and intertidal areas due to the breach. There are no fishing areas within the 42 acres of formerly open water and marsh now filled with sand. The narrow beach fronting the Atlantic Ocean now has no dune, and is a less attractive location for beach-side activities.

33. *Analysis of the expected effect of the proposed activity on the coastal system including but not limited to:*

a. Analysis of the expected physical effect of the proposed activity on the existing coastal conditions and natural shore and inlet processes. The analysis should include a quantitative description of the existing coastal system, the performance objectives of the proposed activity, the design parameters and assumptions, relevant computations, validation of the results and the data used in the analysis.

Response: Attachment I contains information regarding the physical effects of the proposed activity on the existing coastal conditions and natural shore and inlet processes.

b. Analysis of the compatibility of the fill material with respect to the native sediment at the placement site. The analysis should include all relevant computations, the overfill ratios, and superimposed graphs of the cumulative grain-size distribution and the frequency distribution of the fill material over the data for the existing or native sediment at the placement site. Provide computations of borrow area volume and composite fill material characteristics (mean grain size and sorting, percent carbonate content) in an electronic spreadsheet.

Response: Attachment E contains a sediment compatibility analysis with the requested information.

c. Demonstration of consistency with the Department's strategic beach management plan or an inlet management plan in accordance with Rule 62B-41.005(15), F.A.C. If the proposed project is not included in an inlet management plan the applicant will provide the information specified in Rule 62B-41.008(1)(m), F.A.C.

Response: Placement of sand on the beach between FDEP R-Monument 200 and 208 as proposed for the Summer Haven River restoration is consistent with the Department's strategic beach management plan, which notes that the beach comprises part of a critically eroded segment of beach from R197 to R-209. The current Department plan includes regular nourishment of the beach with sand from the adjacent Intracoastal Waterway dredging efforts (FDEP 2008). The sand proposed for placement on the beach originated in on the beach and nearshore ocean bottom adjacent to Summer Haven and the Matanzas Inlet area. A sediment QA/QC plan (**Attachment F**) will ensure that sand used for beach placement remains of appropriate quality.

Reference

FDEP 2008. Strategic Beach Management Plan Approved for Adoption May 21, 2008 Accessed at: <www.dep.state.fl.us/beaches/publications/index.htm> under "Adopted Beach Management Plans SBMP Northeast Atlantic Coast Region"

d. Analysis of how water quality and natural communities would be affected by the proposed project. Provide graphic representation (depiction) of the area of direct and secondary influence of the proposed activity and delineate the natural communities within that area. All required surveys shall be representative of conditions existing at the time of submittal. Surveys of submerged aquatic vegetation (SAV) shall be conducted in the field during the growing season for a given climatic region such that they capture the full areal extent and biomass of the SAV

community. Species composition and spatial distribution shall also be addressed by the survey. Estimate the affected acreage of each impacted community.

Response: The project proposes restoration of open water, benthic and estuarine wetland habitats buried by sediment during and after storms in 2008, when a breach in Summer Haven barrier island allowed beach sand to fill parts of the Summer Haven river and wetlands along the edge of the river. During restoration, construction may create some turbidity when sand is removed from the former riverbed and when it is placed in the beach template. Response to Item #34 describes proposed turbidity controls and monitoring to protect water quality.

Attachments G and H describe the natural wetland communities that existed prior to the filling of the river. SAV does not occur in this area of the state. Oyster reefs occurred in the area, and part of Summer Haven River buried by the breach and resulting overwash include active oyster lease areas (Figure 33-1, Figure 33-2).



Fig 33-1. Sign for oyster lease area buried by breach and subsequent sand fill plugging Summer Haven River.

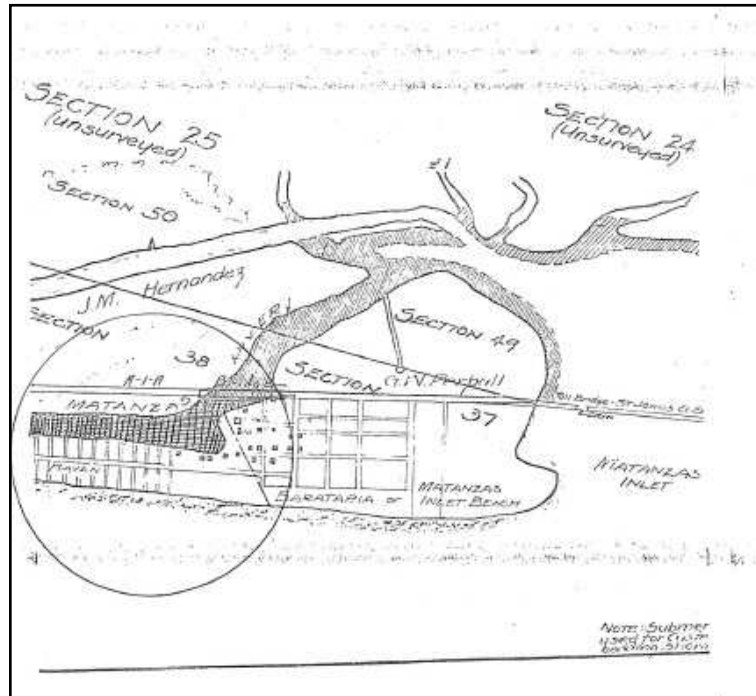


Figure 33-2. Location of Oyster Lease #326, Summer Haven River

e. Reasonable assurances that a regulated activity will not cause unacceptable cumulative impacts pursuant to Rules 40X-4.302(1)(b) and 62B-41.002(19)(b), F.A.C.

Response: The intent of the project is to restore a portion of the Summer Haven River, an estuarine area adjacent to the Matanzas Inlet, to an open-water and marsh ecosystem that existed prior to an avulsive event that breached the barrier island in 2008. Cumulative impacts will include improvement of water quality in the rest of Summer Haven River when circulation is restored, the return of the wetlands and benthic communities that inhabited the area, and a return of the recreational uses and commercial benefit available to the public.

- 34.** *Describe the location and details of the erosion, sediment and turbidity control measures to be implemented during each phase of construction and all other measures used to minimize adverse effects to water quality.*

Response: Turbidity curtains placed across the river at the ends of sediment removal areas will contain turbidity. Turbidity monitoring will occur at background stations within the Summer Haven River to the north and south of the restoration area, and compliance turbidity monitoring will occur at stations within 50m of the turbidity curtain. If turbidity exceeds 29 NTU above background, construction will cease until turbidity at the compliance station has returned to a level below 29 NTU above background.

At the beach fill locations turbidity curtains are not feasible and the contractor will conduct the same monitoring as required in Draft Permit 0289228-001-JC for placement of sand on the Summer Haven Beach between R-202 and R-208 (and described below). If the selected contractor uses hydraulic dredging as a means of beach construction, a shore-parallel berm constructed near the beach pipeline outfall will direct the effluent slurry laterally along the beach to allow ample time for the suspended sediment to settle. The contractor will adjust the berm length to optimize turbidity reduction and production rates. During construction of the beach,

nearshore turbidity monitoring will provide evidence of compliance with permit requirements. Sampling will occur using techniques and intervals described in the permit for background stations and compliance stations. If the turbidity levels exceed 29 NTU above background, dredging operations will immediately halt until turbidity decreases to acceptable levels as stated in the permit.

35. *Describe any methods proposed to protect threatened or endangered species.*

Response: The beach provides nesting habitat for endangered marine turtles. Part of the filled river channel has recently provided nesting habitat for least terns. The applicant will construct outside of least tern nesting season as a method avoid impacts to least terns currently using the site for nesting.

The project will use standard in-water manatee conditions to protect manatees from injury that dredging equipment could cause. Construction will occur outside the period April 1 – September 1 to protect against injury to listed and managed bird species that may use a portion of the current open sand habitat for nesting.

Before start of construction on September 30, an experienced shorebird observer shall survey the project area for nesting and fledgling birds. Surveys will continue daily until all birds have fledged. If shorebird breeding occurs within the project area, a bulletin board will be placed and maintained in the construction staging area with the location map of the construction site showing the bird breeding areas and a warning, clearly visible, stating that "NESTING BIRDS ARE PROTECTED BY LAW INCLUDING THE FLORIDA ENDANGERED AND THREATENED SPECIES ACT AND THE STATE and FEDERAL MIGRATORY BIRD ACTS". Any and all other requirements listed in the permit will also be followed.

The contractor will stage equipment and materials off the beach and other restoration areas. The water and land-based loading and unloading of equipment, materials, supplies, and personnel shall be limited to the footprint of the staging and storage area, with the exception of the transportation of job-related personnel, which may occur along the Atlantic coast shoreline and along established travel paths.

Protection measures for marine turtles and beach mice shall follow the procedures authorized in FDEP Permit 0289228-001-JC.

36. *A written statement providing the necessity and justification for the potential impacts to the coastal ecosystem, which may be caused by the proposed coastal construction.*

Response: The project restores estuarine open water and marsh habitat, beach habitat, and dune habitat. The project has, overall, beneficial impacts to the coastal ecosystem.

37. *A narrative description of any proposed mitigation plans, pursuant to Rule 62-345, F.A.C., including purpose, a comparison between the functions of the impact site to the mitigation site, maintenance, monitoring, estimated cost, construction sequence and techniques. For proposed artificial reefs, indicate the water depth, depth of sand overlying bedrock, proposed relief and materials (type, size and shape).*

Response: We do not expect the project to cause any natural resource impacts that would require mitigation; thus, we have not developed a mitigation plan. If the Department foresees any impacts requiring mitigation, then we will work with the Department to develop a mitigation plan.

38. *An analysis of available alternatives to the proposed coastal construction, pursuant to Rules 62B-41.005(17) and 40X-4.301(3), F.A.C. (where “X” represents “C”, “D” or “E” for the corresponding Water Management District), that would minimize adverse impacts to the coastal system. Discuss any related effects on the coastal system.*

Response: The applicant has considered the following alternatives: No Action; a narrow, nominal channel proposed to provide water circulation benefits; and the applicants preferred plan of river and marsh restoration. The following narrative details considerations associated with each of the alternatives. Other sections of the application package provide detailed descriptions of the current ecosystem state and the conditions that prevailed in the project area prior to the Summer Haven Island breach and related river plugging. This response will not repeat those details.

No Action Alternative

The no-action alternative would comprise no changes to the existing (post-impact) project area environment or the current course of ecosystem redevelopment in the project area. The former open water and adjacent marshes are already beginning to revegetate with a combination of upland and wetland species, depending on location. This process might likely continue. Additional upland vegetation will capture blowing sand and likely add to the existing elevation in at least part of the project area, resulting in dune, coastal strand community and/or a coastal grassland communities (See **Attachment G: Existing Natural Communities**). In former wetland areas with lower current elevations, particularly those near the south and north ends of the project area, some wetland plant community redevelopment is likely, albeit a higher elevation community than previously existed in those locations. Some upland community development is likely to occur there as well, particularly along the upland edges of those former salt marshes. The existing conditions (narrow beach without a landward dune feature) may result in more frequent overwash or breach events than have occurred in the existing historic record for the project area. Overwash and breach events would result in partial or total reorganization of the communities to an earlier successional state, such as that which existed immediately after the 2008 breach and subsequent filling.

Over a long period (many years) without significant erosive events and additional breach development, a dune may develop in the project area. Current Atlantic Intracoastal Waterway (ICW) management plans described in USACE (2010) and the critically eroded beach management plans (FDEP 2008) identify a segment of Summer Haven beach between FDEP Monuments R-200 and R-208 as a general location for beach nourishment. The USACE uses the location to dispose of sediments dredged from the ICW near Matanzas Inlet. The FDEP recommends nourishment of the beach as a means of managing ongoing erosion of that shoreline. The No Action alternative eliminates pre-existing recreational and commercial opportunities in the project area and severely reduces water-based recreational opportunities in Summer Haven River north and south of the project area. Former access areas to water from residences within the sand fill area would remain blocked, eliminating boating, fishing, swimming or other in-water or waterside recreation. The No Action alternative would also result in a less aesthetically desirable area than existed before the breach, one that the local community finds undesirable.

Due to the adverse effects of the sand infill on water quality, natural communities, recreation, and aesthetics, and in support of the users of the Summer Haven River, the applicant decided to design a restoration project for the river.

Narrow Channel Alternative

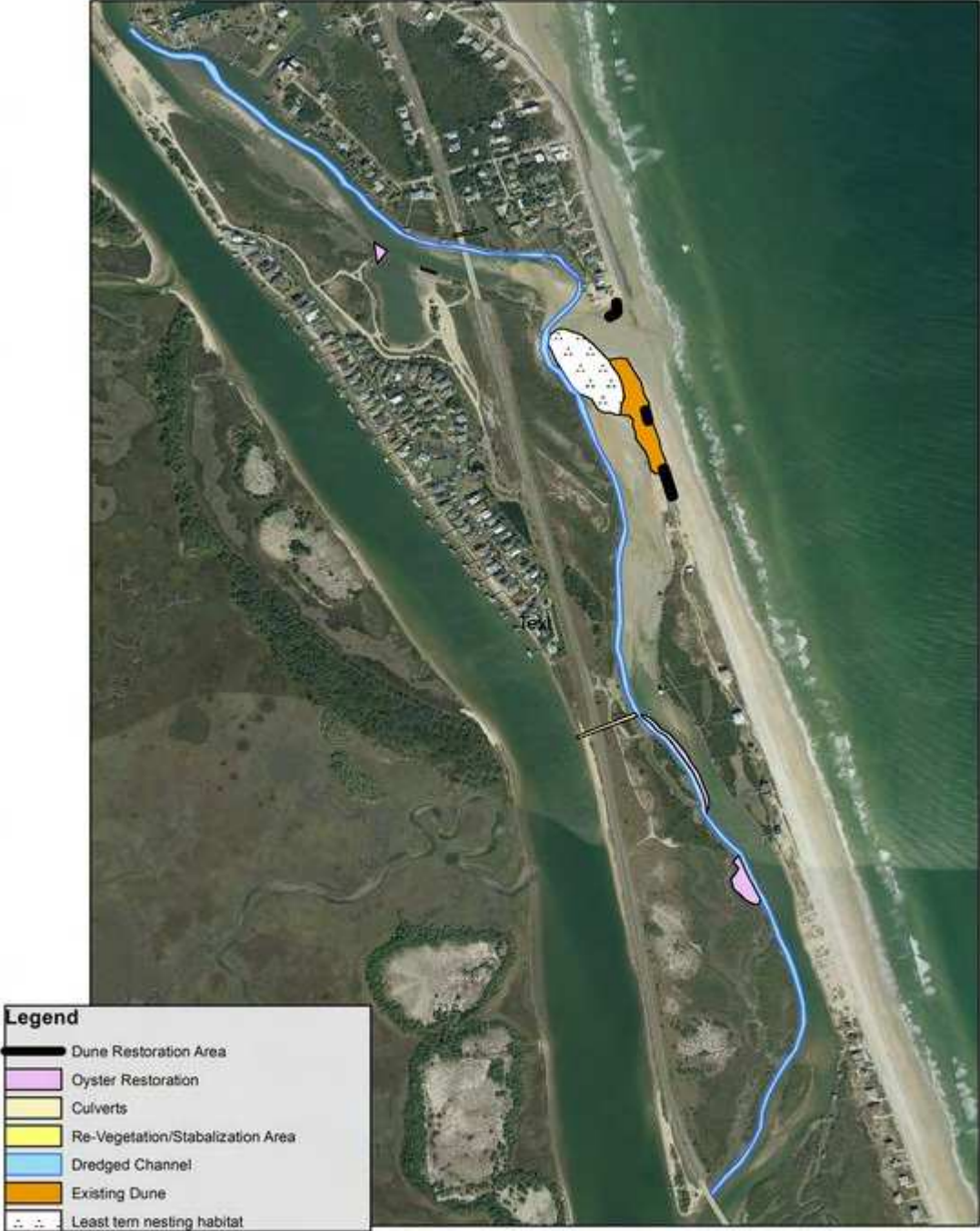
The Guana Tolomata Matanzas National Estuarine Research Reserve (GTMNERR) suggested to the Friends of the Summer Haven River (FOTSHR) that a narrow channel through the project area (Figure 38-1) could serve to link the open waters to the north and south of the plug and help maintain water quality while maintaining the temporary least tern nesting habitat created by the filling of open water area with sand. The Applicant's coastal engineers also conceptually considered such a plan as a compromise between the No Action and the applicant's preferred plan as a means to re-establish circulation in the river with a minimal sand removal effort. The coastal engineers concluded that the narrow channel alternative would not provide a cost-effective alternative because the channel would likely quickly plug with sand from the sides of the channel slumped into the channel.

After the breach occurred, Taylor Engineering, Inc. developed the Matanzas Inlet Sedimentation Model (circulation and sediment transport models of the Matanzas Inlet, including Summer Haven River and other areas within the area influenced by the inlet) (Taylor Engineering 2009). The model accurately predicted shoaling in the breach area and in the Summer Haven River adjacent to the breach. This behavior occurred, ultimately closing the breach and filling the project area of the river with sand. The engineers who have developed the model concluded that the Summer Haven River (prior to the breach and subsequent shoaling), maintained a narrow balance between shoaling and scouring. Transport of sand from Matanzas Inlet and overwash areas along Summer Haven Island contributed to infill. Tidal energy due to the proximity of the river mouth to the inlet helped transport sand out of the river through the inlet. They further noted that the river volume and related cross sectional areas were necessary to maintain an open-flow condition and that a significantly smaller channel cut to replace the pre-existing channel would most likely close rapidly due to erosion from the sides of the cut. Tidal prisms through the GTMNERR-proposed narrow cut would likely remain insufficient to remove enough sand to maintain open flow conditions or expand the cross section of the narrow cut.

River and Marsh Restoration

The applicant's preferred plan comprises an ecosystem restoration focused on returning the habitats covered with sand to their former elevations. Other sections of this application package detail the applicant's preferred plan and the means of constructing the plan. FNAI land categories proposed for elevation restoration include beach dune, coastal grassland, coastal strand, salt marsh/mangrove, and unconsolidated substrate. See **Attachment I** (Natural Communities) for descriptions of each habitat type. Dune plantings will provide the basis for a stable beach dune. Based on observations of ongoing succession in areas with very little sand cover, the applicant expects that the salt marshes, coastal strand and coast grasslands will revegetate naturally. Unlike the other habitats, the dune will not have a seed pool in the soil as the basis for plant community redevelopment. To ensure redevelopment of a sustainable dune plant community, dune planting will include sea oats (90%) and 10% other species will provide the basis for restoration of the dune.

Proposed Project Summer Haven, FL



This map is a visual tool developed by the GTMNERR and is not an endorsement of any aspect of the proposed project activities.

Figure 38- 1. GTMNERR Suggested Restoration Plan

References

FDEP 2008. Florida Department of Environmental Protection Bureau of Beaches And Coastal Systems Strategic Beach Management Plan for the Northeast Atlantic Coast Region. Subregions Sea Islands, St. Johns Beaches, Flagler-Volusia Beaches. May 2008. Available at: <http://www.dep.state.fl.us/beaches/publications/index.htm#SBMPPublications>

Taylor Engineering, Inc. 2009. *Matanzas Inlet Sedimentation Study (St. Johns County) Final Report* Prepared for Florida Inland Navigation District by Taylor Engineering, Inc. 10151 Deerwood Park Blvd, Bldg. 300, Suite 300 Jacksonville, Florida 32256. September 2009.

USACE 2010. Finding of No Significant Impact and Final Environmental Assessment *Maintenance Dredging Intracoastal Waterway Vicinity Matanzas Inlet St. Johns and Flagler County Florida. United States Army Corps of Engineers, Jacksonville District. May 2010.* Available at: http://www.saj.usace.army.mil/Divisions/Planning/Branches/Environmental/DocsNotices_OnLine_StJohnsCo.htm

39. *A fee, as set forth in Rule 62B-49.006, F.A.C. A spreadsheet is available on the Bureau's web page to aid in calculating the correct application fee. In order to calculate the fee, please provide the following: the acreage of proposed filling seaward of the MHW line; the acreage of proposed dredging; and the cubic yardage of fill to be placed on the beach (above and below the MHW line).*

Response:

Acreage of fill seaward of the existing MHW line: 22.3

Acreage of proposed dredging: 32.4

Fill volume above the MHW line: 230,954 cy

Fill volume below the MHW line: 49,956 cy

Least Tern Nesting Habitat Mitigation Plan

FDEP File No. 0313002-001-JC
Summer Haven River Restoration

Prepared by
Taylor Engineering, Inc.

July, 2013

Least Tern Nesting Habitat Mitigation Plan

FDEP File No. 0313002-001-JC
Summer Haven River Restoration

The least tern is a state-listed Threatened Species that typically nests on sparsely vegetated open beaches in front of the primary dune. Alternately, the tern may opportunistically nest in other areas such as dredged material deposits and flat, gravel-covered roofs. When the Summer Haven River filled with sand following the 2008 barrier island breach, least tern and other shorebirds began using the barren sand as nesting habitat. The Summer Haven River Restoration Project will recreate the open water estuarine habitat present before the breach and, in doing so, will remove the shorebird nesting habitat.

Florida Fish and Wildlife Conservation Commission (FWC) tern nesting data indicate 100 nests occurred in the Summer Haven River in each of 2010, 2011, and 2012. However, the data also show that despite the greatest number of nests in 2012 and the greatest area occupied, the numbers of chicks reaching downy, feathered and flight capable stages were substantially lower than in 2011. These data suggest that the Summer Haven River site was less suitable habitat in 2012 than in the first two years, perhaps due to increasing vegetation cover, predation, and overwash.

As posted for the 2013 tern nesting season, the shorebird nesting habitat occupies somewhat less than 10 acres. Figure 1 shows the approximate location of the posted nesting area. Vegetation has continued to encroach into the north part of the nesting area in 2013 and the site will likely become less suitable nesting habitat in succeeding years as vegetation spreads throughout the remaining higher elevation sandy areas. Lower elevation parts of the posted area have been flooded by high tides and rain during the early part of the 2013 nesting season, as shown in the photographs in Attachment A. In mid-June, least tern activity appeared concentrated in the northern half of the posted area. Bird nesting success in 2013 remains unknown.

This mitigation plan provides alternate tern nesting habitat to replace the Summer Haven River nesting area that will be removed by the river restoration. The mitigation plan consists of two components:

1. Creation of tern nesting habitat on Summer Haven Beach
2. Creation of tern nesting habitat on a spoil island near the river restoration site.

Beach Nesting Habitat

The Summer Haven River restoration project includes beach placement of sand removed from the river. As shown in the February 24, 2013 Response to RAI No. 1, Attachment F, the applicant modified the beach placement design to provide shorebird nesting habitat. The beach nesting habitat occurs on the restored beach within the Summer Haven breach area and immediately south (from FDEP monuments R-200 to R-202.5).

The project dune's shape and location allow the greatest bird habitat seaward of the dune without reducing the width of the river restoration template. The dune's 1v:3h back slope and 20 ft crest width places the dune as far shoreward as practicable and provide for the a wider beach seaward of the dune for bird habitat.

The beach design includes a "back berm" seaward of the dune for shorebird nesting habitat. The back berm has a uniform +8 ft elevation and ranges in width from 70 ft at R-200 to 45 ft at R-202. The back berm provides about 3 acres of new tern nesting habitat.

The seaward face of the back berm slopes down at 1v:10h to the beach berm. The beach berm has a uniform +5.5 ft elevation and 70 ft width. The seaward face of the berm slopes down at 1v:20h to meet existing grade. The gentler slope relative to the original design should reduce initial equilibration loss of sand. Together, the back berm and berm contain a greater volume of sand than the original plan which will provide better project longevity and help protect against overwash.

Spoil Island Nesting Habitat

Staff from the FWC and Guana Tolomato Matanzas National Estuarine Research Reserve (GTMNERR) identified a second site for creation of tern nesting habitat on a spoil island near Matanzas Inlet. The MSA 233 spoil island lies immediately west of the Intracoastal Waterway (ICWW), about one mile northwest of the Summer Haven River restoration site (Figure 2). Taylor Engineering, FWC, and GTMNERR staff visited and observed the island on April 8, 2013. The island is a typical diked spoil island created during construction and maintenance of the ICWW. It has not been used for dredged material disposal for many years. Remnant dikes define the perimeter of the island. The interior contains sandy dredged material which generally slopes from the highest elevations at north end of island down to the remnant weir structures at the south end. The sandy dredged material throughout the site appeared suitable substrate for tern nesting. The photographs in Attachment B illustrate the current condition of the MSA 233 island. Based on the observation of several gopher tortoise burrows on the south half of the site and the general topography of the island, the observers concluded that the north half of the site appeared suitable for reshaping to create tern nesting habitat.

The island is on a tract of land owned by the state of Florida and under perpetual easement to the U.S. Army Corps of Engineers (USACE) for use as a dredged material disposal area for maintenance of the federal Intracoastal Waterway. Before the site could be used as a tern habitat mitigation area, the USACE must agree to release the easement. As local sponsor for the Intracoastal Waterway, the Florida Inland Navigation District (FIND) oversees the state's interest in the easement (designated "MSA 233") and the spoil island. The Friends of the Summer Haven River (FOSHR) requested that FIND ask the USACE to release the easement and, at its May 2013 meeting, the FIND board of commissioners unanimously agreed to seek release of the easement. The FOSHR is providing the processing fees and supporting documentation to FIND to support the easement release request.

With FIND's approval to release the MSA 233 easement and based on the site observations, the applicant can prepare approximately 6.3 acres of tern nesting habitat on the north side of the island (Figure 3). Preparation of the north part of the island as nesting habitat would consist of the following activities.

The nesting area would be reshaped and raked to provide an open area with sandy substrate for bird nesting. All shaping would occur within the remnant dikes to preclude erosion and sedimentation in the adjacent marsh. Shaping would provide a generally flat nesting area with nominal 1 – 2% slope to prevent flooding and direct rainfall runoff away from the nesting area. To the extent practicable, the slopes would generally follow existing grades to direct water towards the lower southeastern interior part of the site. Wherever possible, shaping would occur by raking to minimize the need for excavation and heavy equipment use. Any soil necessary to achieve desired elevations and contours in the nesting area would come from within the interior of the island; no additional soil would be brought onto the island.

After shaping, any vegetation remaining in the habitat creation area would be cleared. Tall trees (i.e., noticeably higher than the average height of the scrub vegetation occurring on the dike) on the exterior and top of the dike would be cut using hand equipment to minimize disturbance of the dike. The exterior and top surface of the dike will remain undisturbed to prevent erosion and deterioration of the dikes.

Construction equipment access would occur at the south end of the island where equipment can be offloaded from barges with minimal disturbance to the surrounding marsh. An access route traversing the exterior of the southern dike would be cleared to gain entry into the interior of the island. Access to the nesting habitat creation area on the northern part of the island will occur through the interior of the island from the southern end entry point. No mechanized equipment would be allowed on the top or exterior of the dike.

FWC considers construction of the least tern nesting habitat a “wildlife management activity”. A gopher tortoise permit is not necessary for this project provided the project activities conform to the FWC Gopher Tortoise Enforcement Policy. Before construction, a gopher tortoise survey would be conducted to locate gopher tortoise burrows on the interior of the island and along the access route from the ICWW. Burrows along the access route outside of the dike and inside the dike on the south side of the site would be avoided during construction. The access route would be marked with stakes and flagging to keep equipment at least 25 ft away from gopher tortoise burrows. If any active burrows occur on the north side of the site within the habitat creation area, a 25-ft diameter buffer will be staked and flagged around each burrow and equipment remain outside of the buffer. If tortoise relocation appears necessary, the contractor shall contact and coordinate with FWC about on-site relocation.

Before the beginning of the first shorebird nesting season following nesting habitat preparation, the applicant will install solar powered electric fence around perimeter of approximately seven acre nesting area.

Shorebird Nesting Habitat Maintenance

The applicant will perform the following maintenance activities for the MSA 233 shorebird nesting habitat.

Prior to the second and third nesting season, the applicant will clear vegetation from the nesting site. All clearing will be done by hand without heavy mechanized equipment. The applicant will check the fence and equipment and perform minor repair necessary to make the fence operational for the nesting season. The applicant shall not bear responsibility for fence or electric equipment loss or failure due to vandalism, storm damage, or other causes.

During the first three nesting seasons following fence installation, the applicant will perform monthly checks of the electric fence and, if necessary, perform minor repair.

Shorebird Monitoring

Shorebird nesting sites throughout St. Johns County are monitored by several trained observers during the nesting season. The applicant will advise the local shorebird observers when the beach and island nesting habitat are created so that these sites can be added to their observation routes.

Schedule

Project construction would commence as soon as possible after completion of marine turtle and shorebird nesting season. Construction of both the mitigation island nesting habitat and the beach nesting habitat concurrently with river restoration would ensure that the bird nesting mitigation habitat would be ready for the first nesting season following removal of sand from the Summer Haven River.

Plan Implementation

The discussion above sets out the basic components and concepts for shorebird nesting habitat creation and maintenance. Construction details for the mitigation areas will be developed during preparation of the

Summer Haven River Restoration project final design and construction specifications. FDEP review and approval of the plans and specifications will be a condition for issuance of the agency's Notice to Proceed. FWC review and approval of the mitigation area plans shall likewise be a Notice to Proceed item. Work on the MSA 233 spoil island will be subject to field adjustment depending on site conditions at time of construction.




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CERTIFICATE OF AUTHORIZATION #8815

**Figure 1. Posted Least Tern Nesting Area
 Summer Haven River
 2013**

PROJECT	C2012-023
DRAWN BY	SJS
CHECKED BY	
DATE	JUNE 2013



Figure 2. MSA 233 Spoil Island Location



Attachment A

Summer Haven Shorebird Nesting Area
Photographs Taken April 22, 2013



Photograph A.1



Photograph A.2

Attachment B

MSA 233 Spoil Island
Photographs Taken March 31 and April 8, 2013



Photograph B.1 North end of MSA 233 island



Photograph B.2 Northwest side of MSA 233 island



Photograph B.3 Central part of MSA 233 island, looking south



Photograph B.4 South part of MSA 233 island