

October 2018

ENVIRONMENTAL ASSESSMENT

FLOOD CONTROL AND COASTAL EMERGENCIES ACT (FCCE) TRUCK HAUL & PLACEMENT OF SAND ON BROWARD COUNTY SHORE PROTECTION PROJECT (SPP) SEGMENT III

BROWARD COUNTY, FLORIDA



US Army Corps of Engineers
JACKSONVILLE DISTRICT



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JACKSONVILLE DISTRICT

FINDING OF NO SIGNIFICANT IMPACT

ENVIRONMENTAL ASSESSMENT FOR FLOOD CONTROL AND COASTAL EMERGENCIES ACT (FCCE) TRUCK HAUL AND PLACEMENT OF SAND ON BROWARD COUNTY SHORE PROTECTION PROJECT (SPP) SEGMENT III IN BROWARD COUNTY, FLORIDA

The U.S. Army Corps of Engineers, Jacksonville District (Corps) has conducted an environmental assessment in accordance with the National Environmental Policy Act of 1969, as amended (NEPA). The Corps assessed the effects of the following actions in the Environmental Assessment (EA), dated October 2018, for the Flood Control and Coastal Emergencies Act (FCCE) truck haul and placement of sand on Broward County Shore Protection Project (SPP) Segment III in Broward County, Florida. The project's potential impacts were previously analyzed in the Final Environmental Impact Statement for the Broward County Shore Protection Project, Segments II and III (May 2004).

The Corps evaluated a final array of three alternatives, including the Preferred and No Action Alternatives. The Preferred Alternative consists of the truck haul and placement of sand on critically eroded shoreline above the Mean High Water line (MHW) from Florida Department of Environmental Protection (FDEP) monuments R-86 to R-94 and R-98 to R-128 in response to erosion resulting from the passage of Hurricane Irma last September. The protective berm design is 50 feet wide at a variable elevation of 8.4 to 5.4 feet North American Vertical Datum 1988 (NAVD88). Approximately 123,200 cubic yards (CY) of sand will be placed above MHW. Sand would be truck hauled to the project location from two proposed commercial upland sand source mines: Ortona Mine and Witherspoon Mine.

Congress authorized the Broward County, Florida Beach Erosion Control and Storm Damage Reduction Project in Section 301 of the River and Harbor Act of 1965 (P.L. 89-298). Congress authorized periodic nourishments for 50 years from the date of initial construction in Section 506 of the Water Resources Development Act of 1996 (P.L. 104-303). The project authorization included beach erosion control and periodic renourishment for 15.6 miles of the shoreline of Broward County (R-25 to R-128, Segments II and III). The project provides for initial beach fill of adequate width and elevation and periodic nourishment county-wide, as needed. Each of the three segments were authorized to be constructed independently of each other as three separate usable parts. Segment III is further broken down into three portions: Dr. Von D. Mizell-Eula Johnson State Park (Park), city of Hollywood, and city of Hallandale. Initial construction of the Park portion of Segment III occurred in late 1976 and early 1977.

That project extended along approximately 1.52 miles of shoreline between R-86 and R-94. The physical performance of the 1977 project was assessed in 1988 as part of the planning for the project's first renourishment in 1989. The Park's first renourishment occurred in 1989, with additional renourishment in 2005 – 2006. The Hollywood and Hallandale project reach was originally constructed in 1979 and was fully renourished in 2006.

All practicable means to avoid and minimize adverse environmental effects are incorporated into the Preferred Alternative. Environmental commitments, as detailed in the EA, will be implemented to minimize potential impacts.

Pursuant to the Endangered Species Act (ESA), the Corps requested concurrence on the Corps' determinations for potential effects to federally listed threatened and endangered species in the project area. Consultation was requested under the U.S. Fish and Wildlife Services (USFWS) 2015 Statewide Programmatic Biological Opinion (SPBO) for Shore Protection Activities along the Coast of Florida and the USFWS 2013 Programmatic Piping Plover Biological Opinion (P3BO). USFWS concurred with the Corps' determinations and coordination with the USFWS has been completed. Pertinent correspondence is found in Appendix A. The proposed project activities occur above MHW, therefore, the project will not affect species under NMFS jurisdiction and no consultation with NMFS is required.

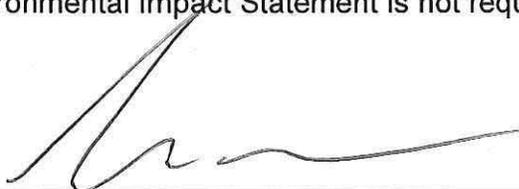
Pursuant to the Coastal Zone Management Act, a Federal Consistency Determination (FCD), found in Appendix B of the EA, was submitted to the FDEP for the State of Florida's review and concurrence during the public and agency review and comment period. FDEP has concluded that the proposed project is consistent with the Florida Coastal Zone Management Program and its associated statutes. The placement of sand above MHW does not require a Clean Water Act Section 401 water quality certificate or a Section 404(b)(1) evaluation (40 CFR Part 230).

Consultation for the Preferred Alternative has been initiated with the Florida State Historic Preservation Officer and the appropriate federally-recognized tribes in accordance with the National Historic Preservation Act and consideration given under the National Environmental Policy Act. The Corps has determined that the Preferred Alternative will have no effect on historic properties eligible or potentially eligible for listing in the National Register of Historic Places; however, consultation is ongoing. Consultation will be completed prior to project implementation.

The Corps released the draft EA, Proposed Finding of No Significant Impact, and associated appendices for a 15-day public and agency review. The Corps responded to all comments submitted during the public comment period. Comments received and Corps' responses are included in Appendix C of the final EA.

The Corps completed this EA in accordance with NEPA and the Corps' implementing regulations at 33 CFR Part 230. All applicable laws, executive orders, and regulations were considered in the evaluation of the alternatives. Based on this report, the reviews by other Federal, State and local agencies, Tribes, input of the public, and the review by my staff, it is my determination that the Preferred Alternative would not significantly affect the human environment; therefore, preparation of an Environmental Impact Statement is not required.

5 Nov 2018
Date



Andrew D. Kelly, Jr.
Colonel, Corps of Engineers
District Commander

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**ENVIRONMENTAL ASSESSMENT FOR
FLOOD CONTROL AND COASTAL EMERGENCIES ACT (FCCE)
TRUCK HAUL AND PLACEMENT OF SAND ON
BROWARD COUNTY SHORE PROTECTION PROJECT (SPP) SEGMENT III IN
BROWARD COUNTY, FLORIDA**

1 PROJECT PURPOSE AND NEED

1.1 PROJECT DESCRIPTION

In response to damages from the passage of Hurricane Irma in September 2017, the U.S. Army Corps of Engineers, Jacksonville District (Corps) proposes to truck haul and place sand along 6.8 miles of critically eroded shoreline of the Broward County Shore Protection Project (SPP) Segment III.

Segment III of the Broward County SPP is located in Broward County, Florida, which is approximately 23 miles north of Miami Beach on the southeastern coast of Florida (see **Figure 1** for the project vicinity map). Segment III is further broken down into three portions: Dr. Von D. Mizell-Eula Johnson State Park (Park), Hollywood, and Hallandale. Although the original Segment III authorization limits extend approximately 8.1 miles, from Port Everglades to the Broward-Dade county line, only 6.8 miles have been constructed. The constructed portions of Segment III are located between Florida Department of Environmental Protection (FDEP) monuments R-86 to R-94 and R-98 to R-128 (see **Figure 1** for the Broward County SPP project extents map and **Figure 2** for the Segment III project extents map). The municipalities within the segment include Dania Beach, Hollywood, and Hallandale.

Approximately 123,200 cubic yards (CY) of sand will be placed along the project above mean high water (MHW) from FDEP monuments R-86 to R-94 and R-98 to R-128. The protective berm design is 50 feet wide at a variable elevation of 5.4 to 8.4 feet (NAVD88) (see **Figure 3** for example cross sections). Sand will be truck hauled to the project location from two proposed commercial upland sand source mines: Ortona Mine and Witherspoon Mine, which were previously evaluated in 2013 and 2015 Environmental Assessments (EAs) for the truck haul and placement of sand on Broward County SPP Segment II. The Corps is restricted from requiring contractors to purchase sand from specific mines; however, a sand specification is included in the contracting bid package which requires the contractor's sand to meet a certain set of criteria, consistent with the State of Florida sand rule for sand quality. Sand in the proposed upland mines is compatible with the native beach material and meets the State of Florida's sand rule for sand quality (Rule 62B-41.007(2)(j), F.A.C.).

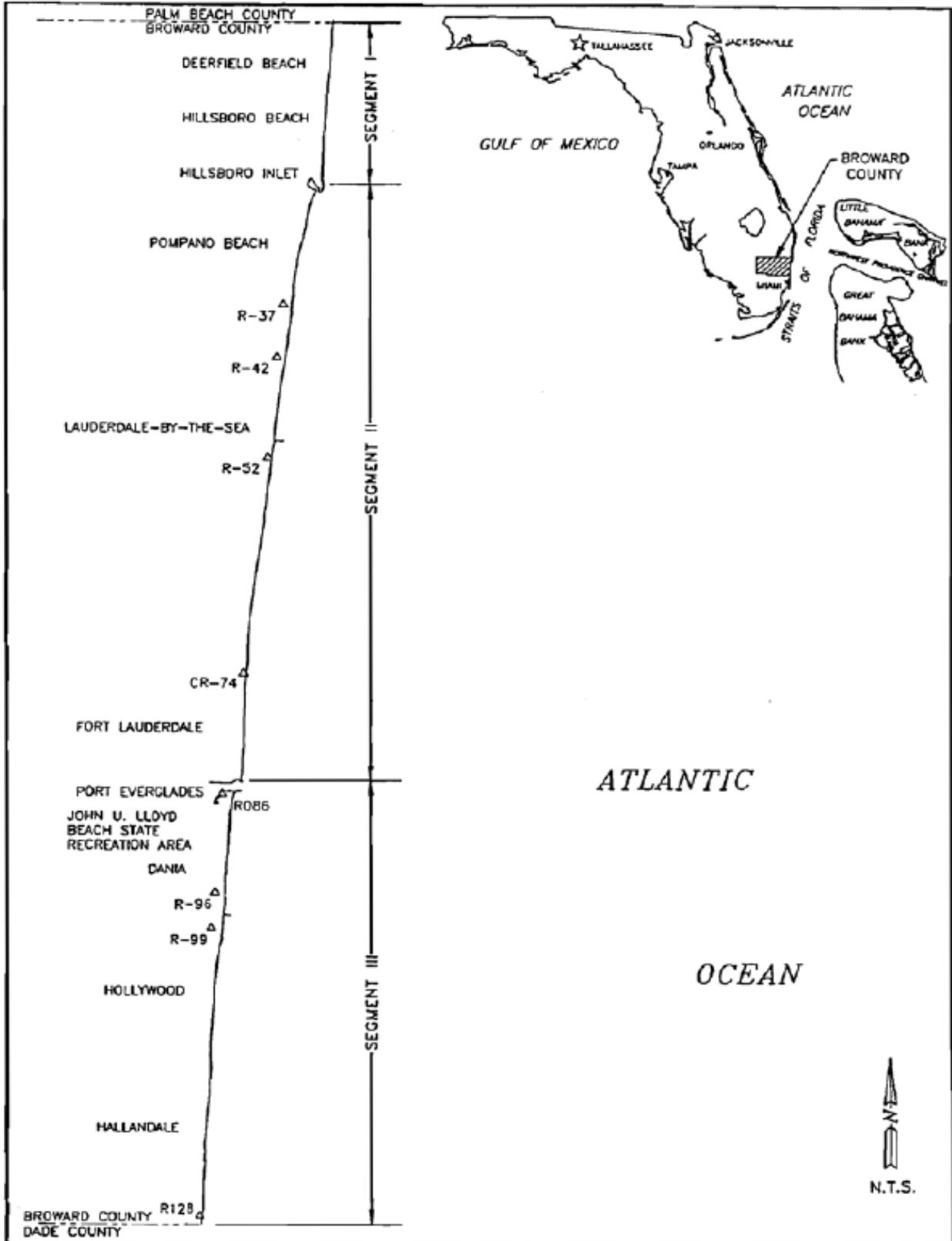


Figure 1. Broward County SPP extents map.
 (SOURCE: Corps 2018.)

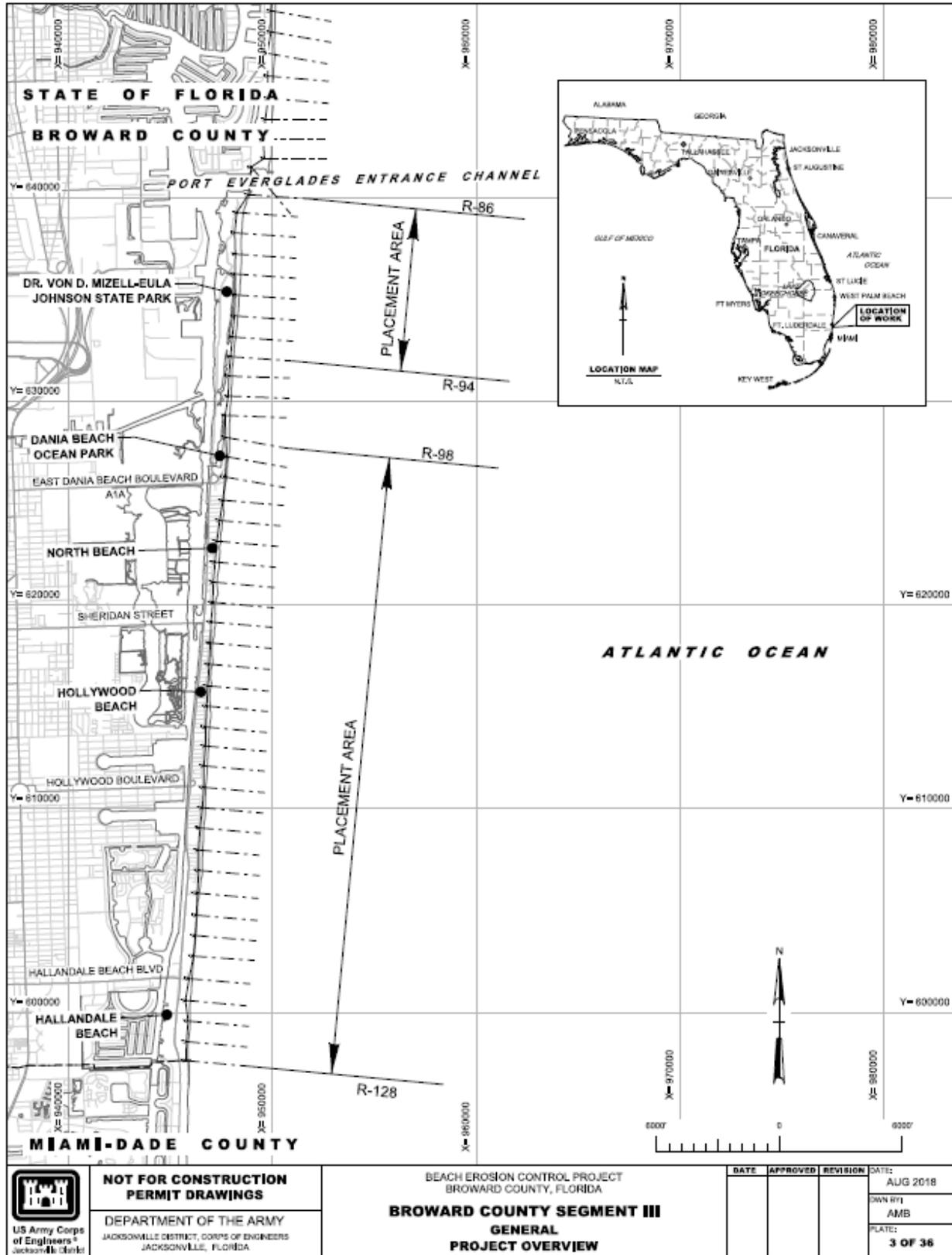


Figure 2. Broward County SPP Segment III project extents map.

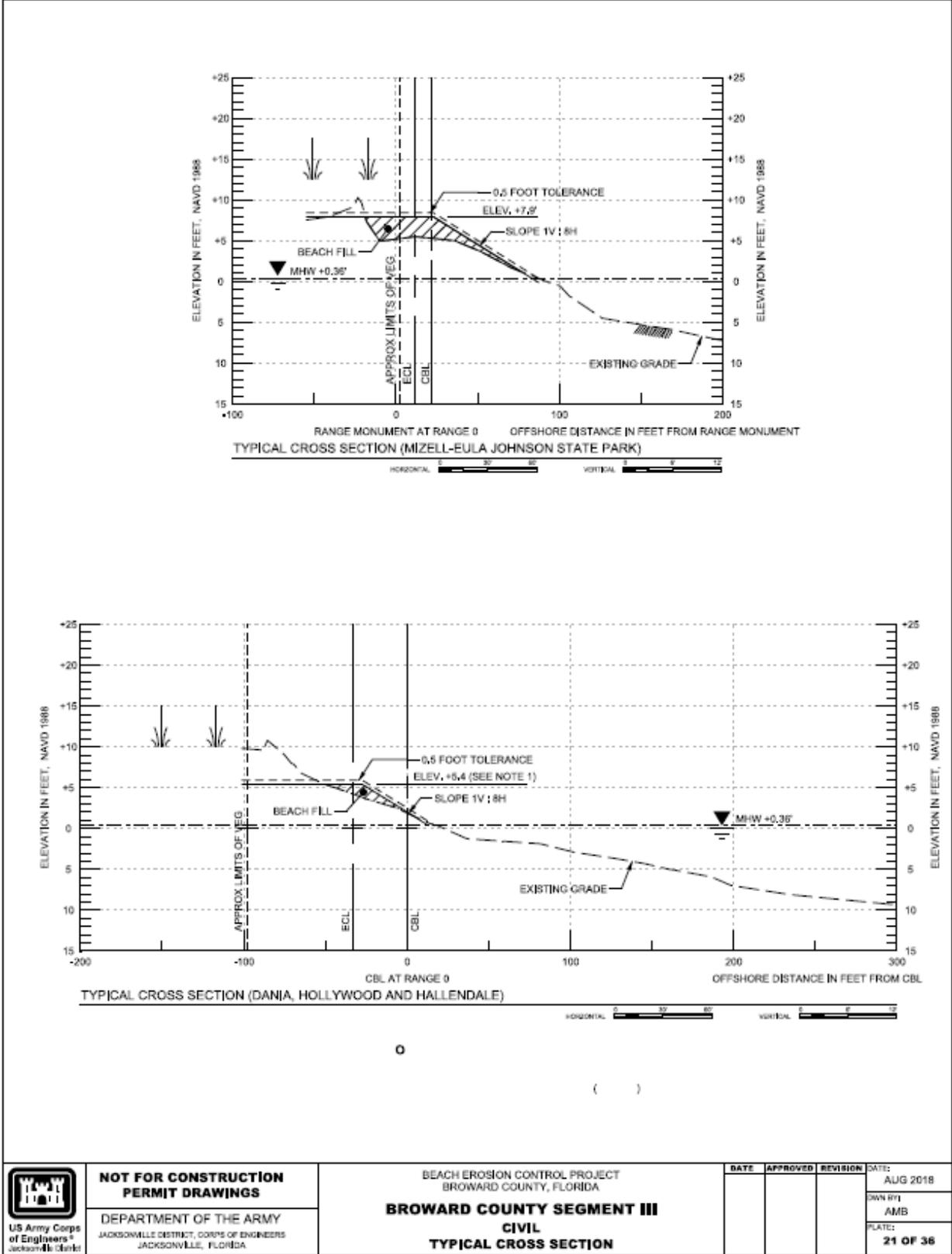


Figure 3. Typical project cross sections.

1.2 PROJECT AUTHORITY

Congress authorized the Broward County, Florida Beach Erosion Control and Storm Damage Reduction Project (now called the Broward County SPP) in Section 301 of the River and Harbor Act of 1965 (P.L. 89-298). The authorization included beach erosion control and periodic renourishment for 15.6 miles of the shoreline of Broward County (R-25 to R-128, Segments II and III). The project provides for initial beach fill of adequate width and elevation and periodic nourishment county-wide, as needed. Each of the three segments were authorized to be constructed independently of each other as three separate usable parts. Federal participation was limited to the first 10 years of project life. The project was authorized for construction by local interests, with subsequent reimbursement of the Federal share of project costs. Section 506 of the Water Resources Development Act of 1996 (P.L. 104-303) authorizes periodic nourishments for 50 years from the date of initial construction for Segment III.

A General Reevaluation Report (GRR) and Final Environmental Impact Statement (FEIS) was approved in May 2004 that modified the authorized project for the remainder of the project life for Segment III (until 2026). The periodic nourishment interval period for Segment III was estimated at six years, with an estimated 780,000 CY. The Department of the Army and Broward County, represented by the Mayor of the Board of County Commissioners, executed a Project Cooperation Agreement on September 29, 2004 providing for the initial periodic nourishment of Segment III. Federal participation for Segment III expires in 2026. Additional authorization for the project is included in Public Law 84-99 for Flood Control and Coastal Emergency (FCCE) rehabilitation of federal storm damage reduction projects.

1.3 PROJECT NEED OR OPPORTUNITY

Hurricane Irma made landfall along the Southwest Florida coast as a major, category 3 hurricane on September 10, 2017 and traveled northward along the Florida peninsula for the next 24 hours with hurricane force winds stretching nearly from coast to coast and tropical storm force winds extending much further beyond that. The storm had devastating consequences on Federal coastal storm risk management projects causing extensive beach and dune erosion along several hundred miles of Florida coastline. Due to the intensity and size of the storm coupled with a nor'easter in the time prior to tropical storm force wind arrival, high-energy waves and elevated water levels (storm surge and wave setup) affected areas far from the core of the storm over a duration of greater than a day. The combination of high waves and water levels over a long duration creates the potential for extensive beach erosion.

The goal of the project is to restore this section of Segment III to the design profile template and ensure the beach serves to reduce storm-induced impacts to inland infrastructure. In general, the shoreline along Segment III protects a densely developed area containing a combination of hotel/motel complexes, single family residential, commercial, and recreational developments. The protective value of the beaches along the previously constructed area of Segment III has been significantly reduced due to the impacts from Hurricane Irma. This has resulted in an increased damage potential through both direct wave attack as well as increased flooding risk to structures and roads.

A Project Implementation Report (PIR) for Segment III was prepared under Public Law 84-99 in response to the Hurricane Irma. Based on the pre- and post-storm survey data, portions of Segment III experienced erosion into the authorized design berm during Hurricane Irma. The eroded MHW line leaves portions of the project more vulnerable to future erosional events and

coastal storm damage. The PIR determined that Segment III requires material to be placed on the beach to restore the beach profile to design profile template above the MHW line.

1.3.1 STORM-INDUCED BEACH VOLUME CHANGE

A site inspection conducted by Corps staff on September 14, 2017 indicated that some erosion had occurred in the project area as a direct result of Hurricane Irma. (See **Figure 4** for an example of post-storm shoreline conditions at the Park portion of the project area. See **Figure 5** for an example of post-storm shoreline conditions at the Hollywood/Hallandale portion of the project area.)



Figure 4. Post-storm shoreline conditions (looking south) along the Park portion of Segment III.

(SOURCE: Corps site visit, September 14, 2017.)



Figure 5. Post-storm shoreline conditions (looking south) in the Hollywood/Hallandale portion of Segment III.

(SOURCE: Corps site visit, September 14, 2017.)

Broward County's consultant, Olsen Associates, Inc., performed a volumetric change analysis to quantify the degree of storm damage to the project area from the hurricane. The most recent survey to use as a pre-storm survey for the Park portion of the project area (R-86 to R-94) was light detection and ranging (LIDAR) data, which was collected post Hurricane Matthew in November 2016. The most recent survey to use as a pre-storm survey for the Hollywood/Hallandale portion of the project area (R-101 to R-128) was a beach profile survey conducted for the City of Hollywood by Applied Technology and Management in July 2017, about two months before Hurricane Irma. Morgan & Eklund Inc., under contract to Olsen Associates, Inc., conducted the post-Irma beach survey for both portions of the project in October 2017. The pre- and post-storm survey profiles were compared and volumes were calculated using the average end area method.

Figure 6 shows a cross section beach profile in the Park portion of the Segment III project and **Figure 7** shows a profile in the Hollywood/Hallandale portion of the Segment III project. In general, both portions of the project experienced erosion into the upper berm area with some accretion below mean low water.

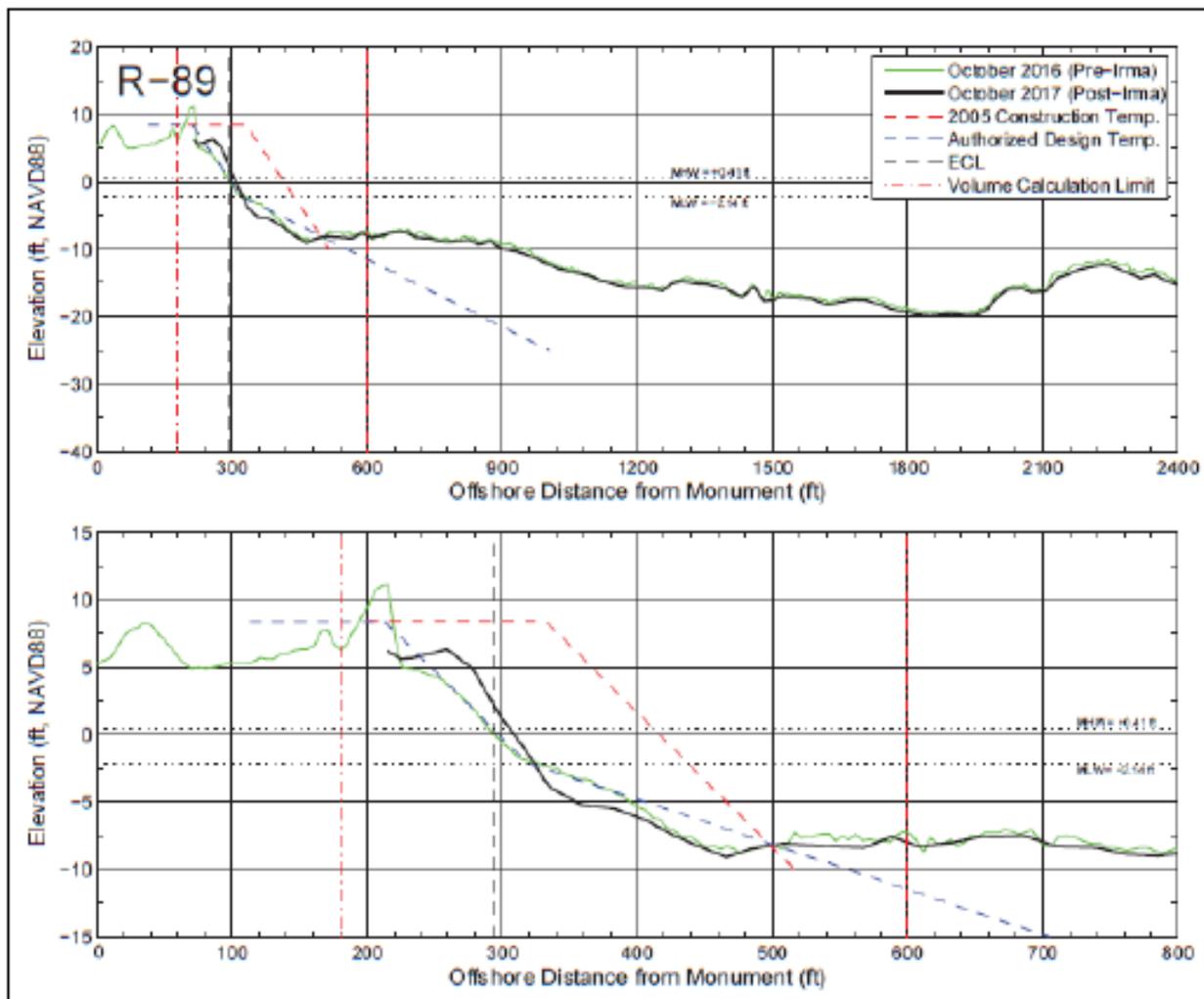


Figure 6. Profile at R-89 in the Park portion of the project area.

(SOURCE: Olsen Associates, Inc.)

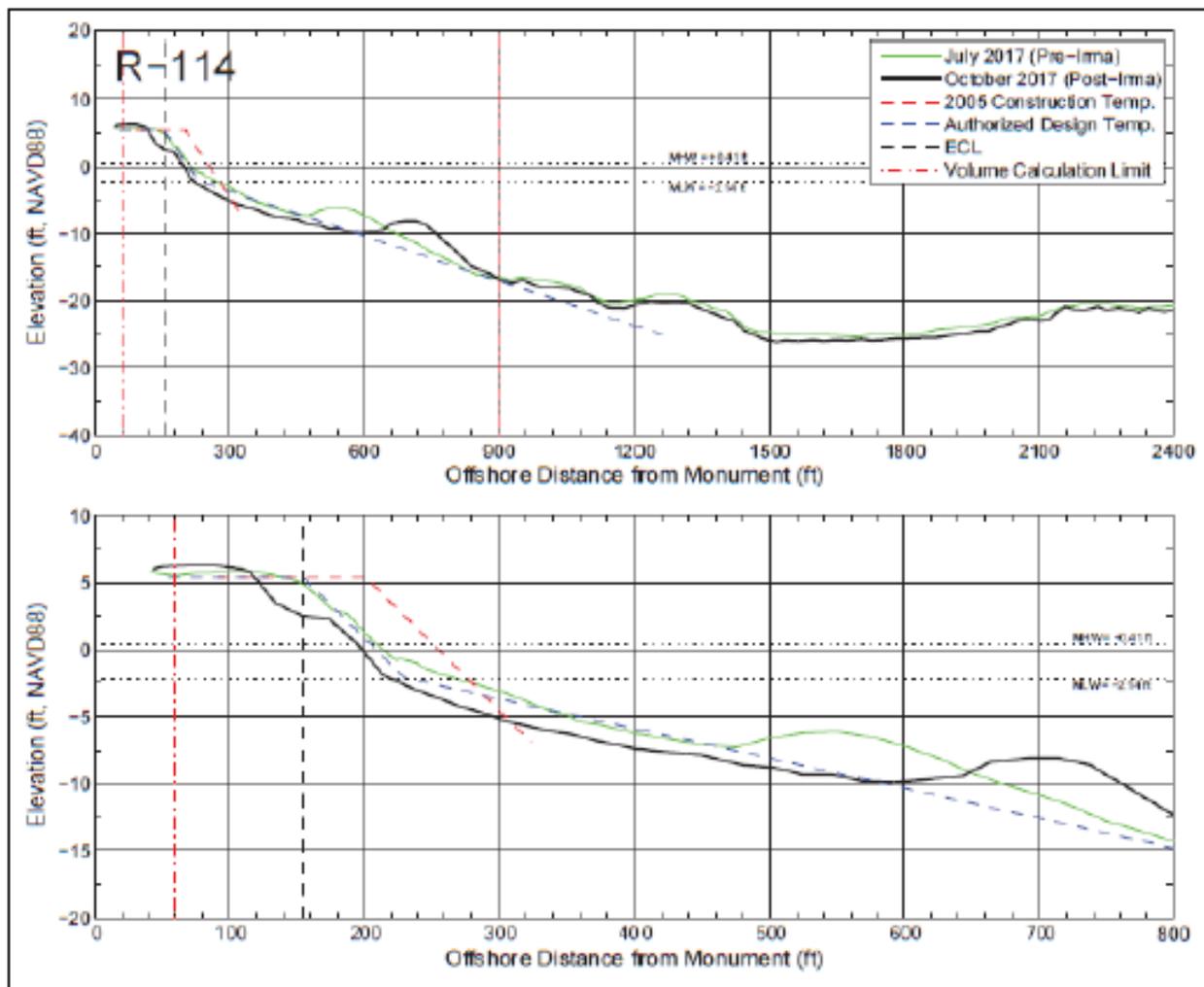


Figure 7. Profile at R-114 in the Hollywood/Hallandale portion of the project area.
(SOURCE: Olsen Associates, Inc.)

Based on the Storm Erosion Index analysis, the Corps determined there is sufficient evidence to support that Hurricane Irma met the necessary criteria under Engineer Regulation (ER) 500-1-1, paragraph 5-20, to be considered an extraordinary storm and thus eligible for FCCE funding.

1.4 RELATED ENVIRONMENTAL DOCUMENTS

Corps 2018. Draft Addendum to the 2018 Project Information Report for the Rehabilitation Effort for the Segment III of the Broward County Shore Protection Project. Broward County, Florida. June 2018.

Corps 2018. Project Information Report. Rehabilitation Effort for Segment III of the Broward County Shore Protection Project. Broward County, Florida. April 2018.

Corps 2015. Environmental Assessment and Finding of No Significant Impact on Broward County Shore Protection Project Segment II. Prepared for Broward County and U.S. Army Corps of Engineers by CB&I Coastal Planning & Engineering, Inc. and Olsen-Associates, Inc., October 27, 2015.

Corps 2013. Environmental Assessment and Finding of No Significant Impact – FCCE Placement of Sand on Broward County Segment II, Broward County, Florida. Jacksonville District, August 3, 2013.

Corps 2004. Final Environmental Impact Statement for the Broward County Shore Protection Project, Segments II and III. Jacksonville District. Record of Decision, May 11, 2004.

1.5 DECISIONS TO BE MADE

There are two decisions to be made within this EA. The first decision is whether to complete truck haul renourishment of Broward County SPP Segment III. The second decision is to determine whether the truck haul and placement of sand above MHW on Segment III of Broward County SPP will result in significant effects on the human environment. The need for mitigation measures or best management practices (BMPs) to reduce any potentially adverse effects, particularly in regard to associated activities, will be determined based upon the analysis contained within this EA. If no significant impacts are identified during the National Environmental Policy Act (NEPA) process, the Corps will sign the Finding of No Significant Impact (FONSI) and move forward with the Preferred Alternative. If significant impacts are identified, the Corps may choose to implement mitigation measures to reduce the impacts to a lower-than-significant threshold and sign a mitigated FONSI, prepare a Notice of Intent to prepare an Environmental Impact Statement (EIS), or not implement the Preferred Alternative.

This document concludes that the project, as described in Alternative 1, the Preferred Alternative, is in the public interest and would not significantly affect the quality of the human environment. Alternative 1, the Preferred Alternative, will not require compensatory mitigation; however, implementation of Alternative 2 would require compensatory mitigation. (See Chapter 4 for detailed discussion on the effects of the Preferred Alternative.) The Corps and its contractors commit to avoiding and minimizing adverse effects during construction activities. Environmental commitments, as discussed in Chapter 6, will be included in the contract specifications.

1.6 SCOPING AND ISSUES

1.6.1 SCOPING AND RELEVANT ISSUES

The Corps identified the following issues as relevant to the Preferred Alternative and appropriate for further evaluation:

- Effects to federally listed species;
- Effects to beach vegetation during construction;
- Effects to nearshore hardbottom due to material placement and equilibration;
- Upland truck traffic impacts associated with truck haul operations.

A summary of the effects of all alternatives considered is included in **Table 2** of Chapter 2 (Alternatives).

1.6.2 ISSUES ELIMINATED FROM FURTHER ANALYSIS

The Corps did not identify any issues for elimination.

1.7 PERMITS, LICENSES, AND ENTITLEMENTS

The proposed project is subject to the Coastal Zone Management Act (CZMA). The Corps has determined that the Preferred Alternative is consistent to the maximum extent practicable with the enforceable policies of the Florida Coastal Management Program. **Appendix B (CZMA FCD)** includes the Federal Consistency Determination (FCD). The placement of sand above MHW

does not require a Clean Water Act Section 401 water quality certification or a Section 404(b)(1) evaluation (40 CFR Part 230). Section 6 (Environmental Commitments) and Section 7 (Compliance with Environmental Requirements) of this EA describe the Corps' coordination efforts and how it has complied with environmental regulations, policies, and permits applicable to this project. **Appendix A (Environmental Correspondence)** includes pertinent correspondence.

2 ALTERNATIVES

The alternatives section is perhaps the most important component of this EA. It describes the No Action Alternative, the Preferred Alternative, and other reasonable alternatives that were evaluated. **Table 2** presents the beneficial and adverse environmental effects of the project alternatives and placement options in comparative form. Section 4 (Environmental Effects) discusses the alternatives and placement options in more detail, providing a clear basis for choice to the decision maker and the public. The Preferred Alternative best meets the project objective and constraints, has the least environmental concerns, and is economically justified.

2.1 DESCRIPTION OF ALTERNATIVES

2.1.1 NO ACTION ALTERNATIVE (STATUS QUO)

The No Action Alternative, as discussed in section 2.1.1 of the 2004 GRR/FEIS and carried forward into this EA, would allow erosion to continue unabated and provides no solution to the existing erosion and shore protection problems. As explained in the FEIS, the No Action Alternative would be a viable option in under-developed areas; however, these types of areas do not exist in Broward County. Accretion is not expected to occur as a result of the heavily developed nature of the shoreline. An estimation of storm damages and benefits for the Broward Segment III project was provided in the 2004 GRR/FEIS. In the analysis, it was estimated that the Segment III beaches protect a total value of shorefront infrastructure of \$542,765,000.00. The 2004 GRR/FEIS recommends renourishment on a 6 year interval. The most recent renourishment was completed in 2006-2007. The next scheduled full renourishment is 2020.

2.1.2 ALTERNATIVE 1 (PREFERRED ALTERNATIVE) – FCCE ONLY: TRUCK HAUL RENOURISHMENT ABOVE MHW ADDED INTO THE PROJECT LIFECYCLE

Alternative 1, the Preferred Alternative, is the FCCE placement of sand restoring the design profile above MHW without the simultaneous placement of sand associated with the full renourishment of Segment III. Due to resources offshore of the project area, extensive surveys and environmental coordination will need to occur for a full renourishment, which is scheduled for 2020. This alternative was designed based on the 2013 Segment II FCCE truck haul and sand placement project following Hurricane Sandy. By mimicking the Segment II truck haul renourishment, potential effects to benthic and marine resources will be avoided and the placement of sand above MHW will be implementable upon receipt of emergency funds by avoiding potential effects to resources in the project area.

Post-storm analysis of the beach determined that no more than 123,200 CY of sand needs to be placed above MHW between FDEP Monuments profile (approximately 34,000 CY in the Park portion and 89,200 CY in the Hollywood/Hallandale portion). In addition, the placement of sand above MHW does not require a Clean Water Act Section 401 water quality certificate, as previously determined in conjunction with the 2013 Segment II FCCE project. The need for Clean Water Act Section 401 coordination would delay the completion of design and start of construction upon receipt of FCCE funds. Renourishment above MHW will stabilize the project until the full renourishment can be completed in 2020. Separate authorizations under applicable Federal and state laws will be obtained for the 2020 scheduled nourishment.

2.1.3 ALTERNATIVE 2 – FCCE PLACEMENT CONGRUENT WITH RENOURISHMENT OF THE FULL CONSTRUCTION TEMPLATE

Alternative 2 is the emergency placement of FCCE material on the project restoring the design profile out to the full construction template. This work would be completed as part of the local sponsor's previously scheduled full renourishment. The 2004 GRR/FEIS confirmed that for the entire Segment III, periodic nourishments of 780,000 CY were planned every 6 years. The Segment III project is scheduled to be renourished in 2020. Based on the pre- to post-storm volume changes, the volume needed to restore and maintain the design template through the next storm season is approximately 683,900 CY. The volume needed to restore the full construction template volume is estimated to be 1,015,400 CY. Due to marine resources in the project area and absence of recent cultural resources surveys, extensive surveys and coordination will need to occur prior to construction of Alternative 2, which would delay the start of construction. This alternative, while feasible, does not align well with the project's emergency need to stabilize the shoreline and reduce the risk for additional impacts to inland infrastructure and, therefore, is not the preferred alternative.

2.2 TRUCK HAUL RENOURISHMENT METHODOLOGY

Both Alternatives 1 and 2 involve the truck haul and placement of commercially mined upland sand between R-86 to R-94 and R-98 to R-128. Utilizing a truck-haul approach for a beach fill project involves several steps, which include offloading material at the stockpile staging area, transferring of material from a stockpile to an off road dump truck, dumping of sand on the beach and finally, spreading of material and grooming to the design shape.

In addition to work hours, other limitations include truck availability, traffic congestion on the roads and at access points, and the time associated with re-handling and movement of sand on the beach. Alternatives 1 and 2 both require beach access points large enough to allow passage of dump trucks and heavy machinery. For transport to the Segment III shoreline, the project will likely employ a 'mixed fleet' of long-haul road trucks including two-axle and six axle dump trucks. Long-haul road trucks are capable of transporting 15 to 20 CY of material and, when fully loaded, have a gross weight of approximately 20 to 27 tons, respectively. It is preferred that, where possible, the access areas be large enough to employ a circular entrance and exit pattern to prevent congestion and maximize efficiency. In extreme cases, in which space at the access point is too limited to allow efficient transfer from long-haul road truck to off road truck, a conveyor system may be used. However, this method slows production and should remain a last resort. It is also preferred that multiple access sites be simultaneously used to increase productivity, although no more than three are recommended. Use of more than three sites can potentially increase traffic and communication difficulties, thereby decreasing productivity (Olsen Associates, Inc. 2012). The Corps will work extensively with Broward County to identify beach access areas.

When sand from the mine is loaded onto the trucks, the initial volume occupies 10 – 20% more volume than the compacted in-situ material on the beach. This difference in volume is due to "bulking" or "fluffing" as the sand is disturbed. It is the bulked material volume that is actually delivered to the beach site. After the sand is placed on the beach, the initial volume will gradually consolidate to the anticipated and permitted design volume due to grading, settling, and exposure to weather.

2.3 SAND SOURCE SELECTION

The sand brought to the project must meet the State of Florida's sand rule (Rule 62B-41.007(2)(j), F.A.C.). As discussed in the 2013 Corps' EA, because there are not upland sand sources in Broward County with clean, beach compatible material in sufficient quantities for this project,

potential upland sources beyond the County were considered. Due to a larger mean grain size and smaller fines content, upland sand is expected to be more stable on the beach (Olsen Associates, Inc. 2012). Proposed sediment quality guidelines are provided in **Table 1**:

Table 1. Broward Count SPP Segment III sediment quality guidelines (from the 2013 EA for Broward County SPP Segment II FCCE project).

Sediment Parameter	Compliance Value
Mean Grain Size (mm)	0.35-0.65
Silt Content (% passing #230 sieve)	<5%
Gravel Content (% not passing #4 sieve)	<5%
Color (allowable moist Munsell Value)	≥7
Carbonate Content	≥ 10%

Broward County conducted an evaluation of fourteen upland sand mines (Corps 2013) for the truck haul renourishment of Segment II. These evaluations included sand sample analyses and site visits to each mine. The fourteen mines selected for investigation were chosen based on usage for past projects and recommendations from government entities having experience with upland sand mine use. This evaluation is adopted for the FCCE project. Each mine was assessed based on compliance with the quality guidelines outlined in **Table 1**, sediment characteristics, location relative to Broward County, compliance with state and federal laws and method of transport available. Broward County determined that four mines out of the fourteen mines were most suitable for Broward County. Two of these mines currently meet all of the required criteria for use as part of the federal renourishment. If the contractor chooses to use an alternative mine, that mine must possess all required state and federal permits, complete pertinent reviews, and must meet the Corps' project specifications and the sand criteria stated in **Table 1**.

2.4 COMPARISON OF ALTERNATIVES

Table 2 summarizes the major features and consequences of each alternative, including the Preferred Alternative and the No Action alternatives. Refer to Section 4 (Environmental Effects) for a more detailed discussion of effects of alternatives.

Table 2. Summary comparison of alternatives' effects.

Environmental Factor (Section of EA)	Alternative 1	Alternative 2	No Action Alternative
General Environmental Setting (4.1)	Protection to upland and shorefront infrastructure. Maintained/improved recreation and tourism.	Alternative 2 would result in a wider beach than Alternative 1 which would provide more protection and opportunities for recreation than Alternative 1.	Continued erosion and loss of beach and dune habitat.
Vegetation (4.2)	Stabilized dune and beach habitat, which will increase available habitat for vegetation recruitment and growth.	Same as Alternative 1.	Continued erosion and loss of beach and dune habitat for vegetation recruitment and growth.

Environmental Factor (Section of EA)	Alternative 1	Alternative 2	No Action Alternative
<p style="text-align: center;">Threatened and Endangered Species (4.3)</p>	<p>May affect but not likely to adversely affect piping plover, rufa red knot, nesting sea turtles, and American crocodile. Increased beach habitat for nesting and foraging activities for piping plovers and rufa red knots. Likely to adversely affect nesting sea turtles but not likely to jeopardize the continued existence of the species. Potential temporary effects during construction could include: vehicle strikes of animals or nest destruction, barriers created by heavy machinery on the beach, vehicle tracks interfering with sea turtle hatchlings trying to reach the water, sand compaction, or unfavorable beach design for sea turtle nesting. No effect to Florida manatees, smalltooth sawfish, Nassau grouper, giant manta ray, or corals.</p>	<p>May affect but not likely to adversely affect piping plover, rufa red knot, and American crocodile. Increased beach habitat for nesting and foraging activities for piping plovers, and rufa red knots. Likely to adversely affect nesting sea turtles but not likely to jeopardize the continued existence of the species. Potential temporary effects during construction above MHW could include: vehicle strikes of animals or nest destruction, barriers created by heavy machinery on the beach, vehicle tracks interfering with sea turtle hatchlings trying to reach the water, sand compaction, or unfavorable beach design for sea turtle nesting. Potential temporary effects during construction below MHW could include: burial of macroalgae communities important for sea turtles, relocation or burial of corals or hardbottom near the project area, potential mortality/stress caused by temporarily elevated turbidity and/or sedimentation on nearby corals. Project may affect but is not likely to adversely affect American crocodile, Florida manatees, smalltooth sawfish, Nassau grouper, and/or giant manta rays due to the truck haul approach and low probability the species will be in the project area.</p>	<p>No effect on American crocodile, Florida manatee, Nassau grouper, giant manta ray, or smalltooth sawfish. Exposure of nearshore rock outcroppings which may be habitat for coral colonization. Continued erosion and loss of beach and dune habitat for beach jacquemontia and nesting and foraging activities for piping plovers, rufa red knots, and sea turtles.</p>

Environmental Factor (Section of EA)	Alternative 1	Alternative 2	No Action Alternative
Fish and Wildlife Resources (4.4)	Temporary avoidance and/or displacement during construction activities. Potential for vehicle strikes during construction activities. Long-term benefits due to the creation of habitat for use by flora and fauna in the area.	Same as Alternative 1. Placement of material below MHW could affect nearshore hardbottoms and unvegetated habitat through turbidity and sedimentation. Affects would be offset with in-kind compensatory mitigation.	Continued loss and/or degradation of available habitat.
Essential Fish Habitat (EFH) (4.5)	No effect.	Fill of nearshore habitat and coverage of nearshore bottom. Mitigation may be needed for unavoidable effects to corals and/or hardbottom.	Potential for increased exposure of nearshore rock outcroppings that could serve as EFH.
Coastal Barrier Resources Systems (CBRS) (4.6)	Restoration and stabilization of beaches in the designated Coastal Barrier Resources Act (CBRA) Otherwise Protected Areas (OPAs) and System Units.	Alternative 2 would result in a wider beach than Alternative 1 which would provide more protection and stabilization than Alternative 1.	Continued loss and/or degradation of available habitat.
Hazardous, Toxic, and Radioactive Waste (HTRW) (4.7)	No effect.	Same as Alternative 1.	Same as Alternative 1.
Water Quality (4.8)	No effect.	Temporary increases in turbidity in the nearshore environment.	Same as Alternative 1.
Air Quality (4.9)	Minor, temporary degradation of air quality due to heavy equipment and truck emissions.	Same as Alternative 1.	No effect.
Noise (4.10)	Minor, temporary increase in noise level in the project area during construction.	Same as Alternative 1.	No effect.
Aesthetic Resources (4.11)	Long-term improvement in aesthetic due to restoration of the beach and removal of erosional scarps. Presence of heavy equipment may be considered unsightly which would temporarily detract from aesthetics until construction is complete and the equipment is removed.	Same as Alternative 1, however Alternative 2 would result in a wider beach than in Alternative 1.	Decreased aesthetic value due to the narrowing of the beach and potential for increased armoring.

Environmental Factor (Section of EA)	Alternative 1	Alternative 2	No Action Alternative
Recreation Resources (4.12)	Temporary restriction of beach use for safety purposes during placement operations. Long-term positive effects by restoring the beach space for recreation.	Same as Alternative 1, however, the wider beach created in Alternative 2 would result in more space for recreation.	Continued erosion will result in decreased beach space available for recreational activities.
Socio-economic Resources (4.13)	Temporary closure of beach in active construction areas. Potential loss of recreation and/or tourism during construction. Increased traffic and road wear and tear from truck haul operations. Protection of shorefront and upland infrastructure. Increase in property values. Long-term maintenance/improvement of recreation and tourism.	Same as Alternative 1, however, the wider beach created in Alternative 2 would result in more space for recreation and more protection of the shorefront and upland infrastructure than in Alternative 1.	Loss of recreation and tourism due to reduced beachfront. Compromised upland property protection. Decreased beachfront property value. Loss of tax revenue from decreased tourism and recreation.
Cultural Resources (4.14)	No adverse effect on historic properties listed or eligible for listing in the National Register of Historic Places.	No adverse effect. Additional cultural resources surveys, monitoring, avoidance buffers and consultation with the State Historic Preservation Office and federally-recognized tribes will be necessary.	Potential adverse effect from continued erosion and sea-level rise.
Native Americans (4.15)	No effect.	Same as Alternative 1.	Same as Alternative 1.
Irreversible and Irrecoverable Commitment of Resources (4.16)	Removal of beach fill material from upland sand source. Energy and fuel used during mining, transport, and placement. Lethal take of non-motile benthic invertebrates/macrofaunal organisms in the placement footprint.	Same as Alternative 1, however, Alternative 2 would result in a longer duration and larger footprint of effects due to Alternative 2's increased scope.	No effect.

Environmental Factor (Section of EA)	Alternative 1	Alternative 2	No Action Alternative
Unavoidable Adverse Environmental Effects (4.17)	Temporary displacement/avoidance by nesting and foraging sea turtles, birds, and other wildlife. Lethal effects to non-motile benthic invertebrates/macrofaunal organisms in the placement footprint. Indirect effects on natural or depletable resources due to use of fuel and machinery wear and tear.	Same as Alternative 1.	Continued erosion will result in the loss and/or degradation of available beach and dune habitat. No effect on natural or depletable resources.
Indirect Effects (4.18)	Beach replenishment frequently leads to more development in greater density within shorefront communities, necessitating future replenishment or more drastic stabilization measures. A state park and CBRA unit (North Beach P14A) restrict and significantly minimize development in Segment III. Adverse effects to sea turtles due to greater development increasing the use of artificial lighting and supporting larger populations of mammalian predators.	Same as Alternative 1.	Armoring measures would likely be undertaken by property owners in the absence of nourishment. Armoring would further reduce the available habitat and result in negative impacts to the biological communities.
Cumulative Effects (4.19)	Protection of upland and shorefront infrastructure. Improved/maintained recreation, tourism, property values and tax revenue. Increased beach and dune habitat for vegetation as well as nesting and foraging sea turtles, migratory shorebirds, and other wildlife.	Same as Alternative 1.	Continued erosion would result in negative effects to the biological communities, beach and dune habitats, as well as the recreation, aesthetic and economic resources.

2.5 ALTERNATIVES ELIMINATED FROM DETAILED EVALUATION

The 2004 FEIS included an extensive list of alternatives considered for erosion control associated with the overall Federal project. Those alternatives, including those eliminated from detailed evaluation are incorporated by reference and summarized below in **Table 3**.

Table 3. Alternatives eliminated from detailed review.

Project Alternative	EIS Section	Treatment in EIS
No Action alternative (Status-Quo)	2.1.1	Included in detailed evaluation
Rezoning of beach area	2.1.2	Eliminated
Condemnation of land and structures	2.1.3	Eliminated
Revetments	2.1.4	Eliminated
Beach fill with periodic nourishment (including alternate sand sources)	2.1.5	Included in detailed evaluation
Beach fill with periodic nourishment, with stabilization by offshore breakwater or submerged artificial reef	2.1.6	Eliminated
Beach nourishment with maintenance material from updrift inlet or sand by-passing methods	2.1.7	Included in detailed evaluation
Beach fill and periodic renourishment with stabilization by groins	2.1.8	Included in detailed evaluation
Beach fill design modifications of beach fill amounts	2.1.9	Included in detailed evaluations (Jan 2001 beach fill design only)
Seawalls	2.1.10	Eliminated
Beach fill with periodic renourishment and hurricane surge protection sand dune	2.1.11	Eliminated
Beach nourishment with creation of nearshore berm from maintenance material from adjacent inlet	2.1.12	Eliminated
Stabilization of beaches and dune by vegetation	2.1.13	Eliminated
Modify navigation project	2.1.14	Eliminated
Sand tightening of jetties	2.1.15	Eliminated

3 EXISTING ENVIRONMENT

The Existing Environment section describes the existing environmental resources of the areas that would be affected if any of the alternatives were implemented. This section describes only those environmental resources that are relevant to the decision to be made. It does not describe the entire existing environment, but only those environmental resources that will affect or that will be affected by the alternatives if they were implemented. This section, in conjunction with the description of the “No Action Alternative,” forms the baseline conditions for determining the environmental effects of the reasonable alternatives.

3.1 GENERAL ENVIRONMENTAL SETTING

The coastline of Segment III in Broward County is located entirely on a barrier island and is bounded by Port Everglades Inlet to the north and the Broward-Dade County line to the south. Port Everglades Inlet provides entrance to Port Everglades, one of the three largest ports in the State of Florida. Sediment transport along the Atlantic coastline is generally from north to south with some localized reversals due to tidal inlets, bathymetric irregularities, and/or oceanographic features. Inlets interrupt the normal transport of sediments along the coastline. The need to maintain inlet channels for commercial and recreational purposes while providing and protecting beaches often results in conflicting interests and competing needs.

Dunes are vegetated mounds of unconsolidated sediments that lie landward of the active beach. Dune formation occurs when winds carrying beach sediments encounter resistance from vegetation, thereby causing the wind to deposit this material. Dunes are comprised of finer sands, while those in the berm and beachface are coarser (Rogers and Nash, 2003). Dunes are dynamic geologic features that continually accrete and erode from factors such as seasonal fluctuations in wave height and storm activity (Rogers and Nash, 2003). The beach and dune community in the south Florida region is limited since most of the coastline is receding due to urban development and beach erosion (Johnson *et al.*, 1992), as well as sea level rise (Leatherman *et al.*, 2000).

The action area for this project is defined as all areas to be affected directly or indirectly by the proposed action. The action area for this project is from FDEP Monuments R-86 to R-94 and R-98 to R-128. Section 3.1 of the 2004 FEIS includes more discussion on the general environmental setting.

3.2 VEGETATION

Dune vegetation is essential to maintaining dune structure, and generally consists of hearty plants tolerant of extreme conditions such as sea oats, beach elder, trailing grasses and forbes (Duever 1983; Johnson *et al.* 1992). In south Florida the typical beach vegetation community consists of sea rocket (*Cakile edentula*), beach morning glory (*Ipomoea pes-caprae*), beach elder (*Iva imbricate*), and sea purslane (*Sesuvium portulacastrum*) (Koch 1992).

A review of studies covering Florida dune vegetation concluded that 31 species of plants are commonly found in the beach and dune environment (Koch 1992). The fore dune typically begins with sea oats (*Uniola paniculata*) and ends with sea grape (*Coccoloba uvifera*) at the dune crest (Koch 1992). A 2011 survey of plants throughout the entire Segment II footprint's dune habitat located four species of invasive or exotic plants: beach naupaka (*Scaevola taccada*), crowfoot grass (*Dactyloctenium aegyptium*), *Casuarina* and Oleander (*Nerium oleander*). It is reasonable to expect these same species to be present in Segment III. Section 3.2 of the 2004 FEIS includes more discussion on the project area's vegetation.

3.3 THREATENED AND ENDANGERED SPECIES

The list of endangered and threatened species developed for this EA (see **Table 4**) are a compilation from the National Marine Fisheries Service (NMFS) 1997 South Atlantic Regional Biological Opinion (SARBO) (as amended), the U.S. Fish and Wildlife Services (USFWS) 2015 Statewide Programmatic Biological Opinion (SPBO) for Shore Protection Activities along the Coast of Florida, the USFWS 2013 Programmatic Piping Plover Biological Opinion (P3BO), as well as project specific biological assessments and biological opinions (BOs) for projects which have taken place in the vicinity of the proposed project.

Table 4. Threatened and endangered species in the proposed project vicinity.

Common Name	Scientific Name	Listing Status	Agency
Green sea turtle <i>North Atlantic Distinct Population Segment (DPS)</i>	<i>Chelonia mydas</i>	Threatened	USFWS/NMFS
Hawksbill sea turtle	<i>Eretmochelys imbricata</i>	Endangered	USFWS/NMFS
Leatherback sea turtle	<i>Dermochelys coriacea</i>	Endangered	USFWS/NMFS
Loggerhead sea turtle <i>Northwest Atlantic DPS</i>	<i>Caretta caretta</i>	Threatened/Critical Habitat	USFWS/NMFS
Kemp's ridley sea turtle	<i>Lepidochelys kempii</i>	Endangered	USFWS/NMFS
American crocodile	<i>Crocodylus acutus</i>	Threatened	USFWS
Florida manatee	<i>Trichechus manatus latirostris</i>	Threatened	USFWS
Smalltooth sawfish	<i>Pristis pectinata</i>	Endangered	NMFS
Nassau grouper	<i>Epinephelus striatus</i>	Threatened	NMFS
Giant manta ray	<i>Manta birostris</i>	Threatened	NMFS
Piping plover	<i>Charadrius melodus</i>	Threatened	USFWS
Rufa red knot	<i>Calidris canutus rufa</i>	Threatened	USFWS
Beach jacquemontia	<i>Jacquemontia reclinata</i>	Endangered	USFWS
Pillar coral	<i>Dendrogyra cylindrus</i>	Threatened	NMFS
Rough cactus coral	<i>Mycetophyllia ferox</i>	Threatened	NMFS
Lobed star coral	<i>Orbicella annularis</i>	Threatened	NMFS
Mountainous star coral	<i>Orbicella faveolata</i>	Threatened	NMFS
Boulder star coral	<i>Orbicella franksi</i>	Threatened	NMFS
Elkhorn coral	<i>Acropora palmata</i>	Threatened/Critical Habitat	NMFS
Staghorn coral	<i>Acropora cervicornis</i>	Threatened/Critical Habitat	NMFS

3.3.1 SEA TURTLES

Broward County is within the nesting range of four species of sea turtles; the loggerhead (*Caretta caretta*), the North Atlantic Distinct Population Segment (DPS) of green sea turtle (*Chelonia mydas*) (80 FR 15272), hawksbill (*Eretmochelys imbricata*) and leatherback (*Dermochelys coriacea*). The leatherback sea turtle and hawksbill sea turtle are listed as endangered under the Endangered Species Act (ESA). The loggerhead sea turtle and the North Atlantic DPS of the green sea turtle are listed as threatened. Additionally, the waters offshore of Broward County are used for foraging and shelter for the four species listed above as well as the endangered Kemp's ridley sea turtle (*Lepidochelys kempii*).

Three species of sea turtles, the loggerheads, greens, and leatherbacks, are known to regularly nest on Broward County beaches. Peak sea turtle nesting and hatching period is from May 1 to November 1 in Broward County, with nesting typically ending around mid-November. Broward County has maintained a conservation program for threatened and endangered sea turtle species since 1978. Conservation activities include the permitted relocation of nests from hazardous locations, accurate surveys of nesting patterns and nesting success, response to strandings/turtle emergencies, and public outreach. Daily beach surveys are conducted starting half an hour before sunrise from March 1 through October 31. The surveys document all new crawls from the previous night along 21.5 miles of Broward County's beach (excluding the Park shoreline). The conservation program is maintained in non-nourishment years to provide a continuous database of sea turtle nesting and monitoring after beach nourishment projects. The USFWS designated critical habitat for the loggerhead sea turtle in 2014 (79 FR 39855-39912), including areas within the boundaries of Broward County; however, it is north of the project area (see **Figure 10**). To reduce potential impacts to nesting and hatchling sea turtles, placement of sand on the beach is not allowed during the peak sea turtle nesting and hatching period, which is between May 1 to November 1 in Broward County. Section 3.3.1 of the 2004 FEIS includes more discussion on sea turtles in and around Broward County.

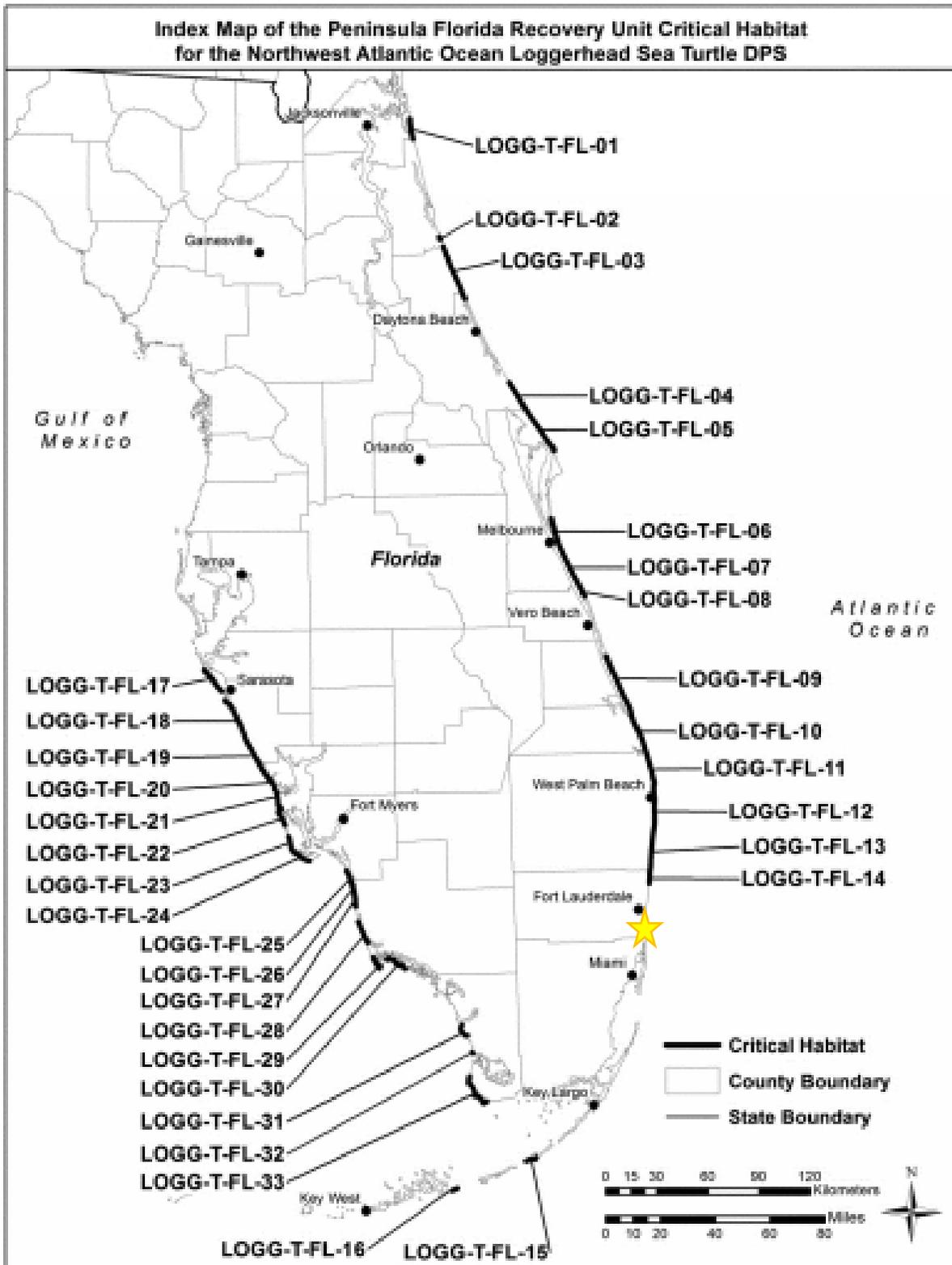
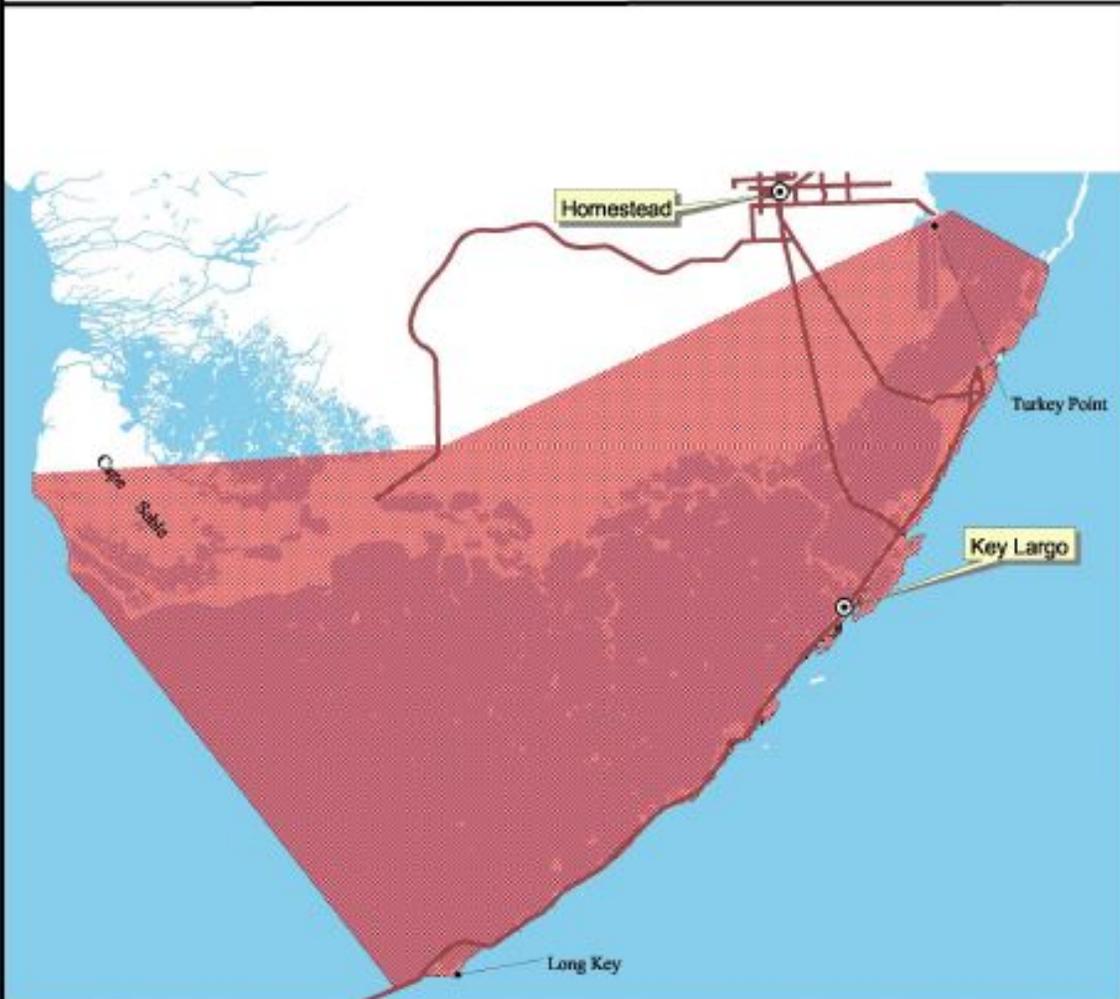


Figure 8. Map of USFWS Designated Critical Habitat for loggerhead sea turtles.
(SOURCE: USFWS 2014)

3.3.2 AMERICAN CROCODILE

The American crocodile (*Crocodylus acustus*) is endemic to the U.S. and inhabits mostly in low-energy bays, creeks, and inland swamps in extreme South Florida, the Caribbean, Mexico, Central America and northern South America. In Florida, the species was listed as endangered by the USFWS in 1975 (40 FR 44149-44151) due to habitat loss and fragmentation, changes in the distribution, timing, and quantity of water flows, and hunting for hide and meat. Hurricanes, cold weather, and traffic also threaten the mortality of American crocodiles. In March 2007, the USFWS reclassified the American crocodile from endangered to threatened. Feeding typically occurs shortly before sunset to just after sunrise and consists of opportunistic foraging for any animals they can catch and easily overpower. Nesting habitat includes sandy shorelines, creek banks adjacent to deep water, or manmade structures, such as canal berms. Males establish and defend breeding territory from late February through March. Females select a nest site and typical clutch size ranges from as few as eight to as many as 56 eggs. Hatchlings are about 10 inches and yellowish-tan in color with cross markings that fade as they grow. Adults are typically greenish-gray with black mottling and can be over 14 feet long. Although DCH was identified in 1979 in the extreme southern portion of Florida, no DCH is present in the project area (see **Figure 11**). American crocodiles have been seen in the Park as well as in the surf zone at Dania Beach.

General locations of the designated critical habitat for the American crocodile.



General Area



Distance: Miles

0 5 10 15 Miles



Legend

-  City/Town
-  Major Road/Highway
-  Critical Habitat

Use Constraints: This map is intended to be used as a guide to identify the general areas where critical habitat has been designated. Refer to the narrative description published in the Code of Federal Regulations (CFR) 50 Parts 1 to 199 (a copy of this text is printed on the reverse of this map).

Figure 9. USFWS American crocodile DCH.

(Source: <https://ecos.fws.gov/ecp0/profile/speciesProfile?spscode=C02J#crithab>)

3.3.3 FLORIDA MANATEE

The Florida manatee (*Trichechus manatus latirostris*) is a subspecies of the West Indian manatee (*Trichechus manatus*) and can be found throughout the southeastern U.S., including the project area. The manatee is a large, plant eating aquatic mammal that moves between freshwater and saltwater environments. They can be found in shallow coastal waters, rivers, and springs. Adult manatees are approximately 10 feet long, weighing between 800 – 1200 pounds, and consume approximately 4-9% of their body weight each day. Although manatees feed underwater, they frequently rest just below the water surface with only the snout above water. The manatee was listed as endangered throughout its range for both the Florida and Antillean subspecies (*Trichechus manatus latirostris* and *Trichechus manatus manatus*) in 1967 (32 FR 4001). In May 2017, the USFWS reclassified the manatee from endangered to threatened. The USFWS designated critical habitat for the manatee in 1976 (41 FR 41914) and revised it in 1977 (42 FR 47840), however it was not designated within the boundaries of Broward County.

Manatees can be found in the inshore waters of the Intracoastal Water Way (IWW) and in the coastal waters of the Atlantic Ocean primarily during migration. While the project area is not within DCH for this species, (see **Figure 12** for all of Florida's DCH and see **Figure 13** for the project area) it is located within a Florida Fish and Wildlife Conservation Commission (FWC) Manatee Protection Zone (see **Figure 14**). Section 3.3.2 of the 2004 FEIS for a general discussion of manatee presence in south Florida.



Figure 10. USFWS Florida manatee critical habitat.

(Source: https://www.fws.gov/northflorida/manatee/2009_CH_Petition/20100112_frm_Federal%20Register_manatee_12-mo_325.pdf)

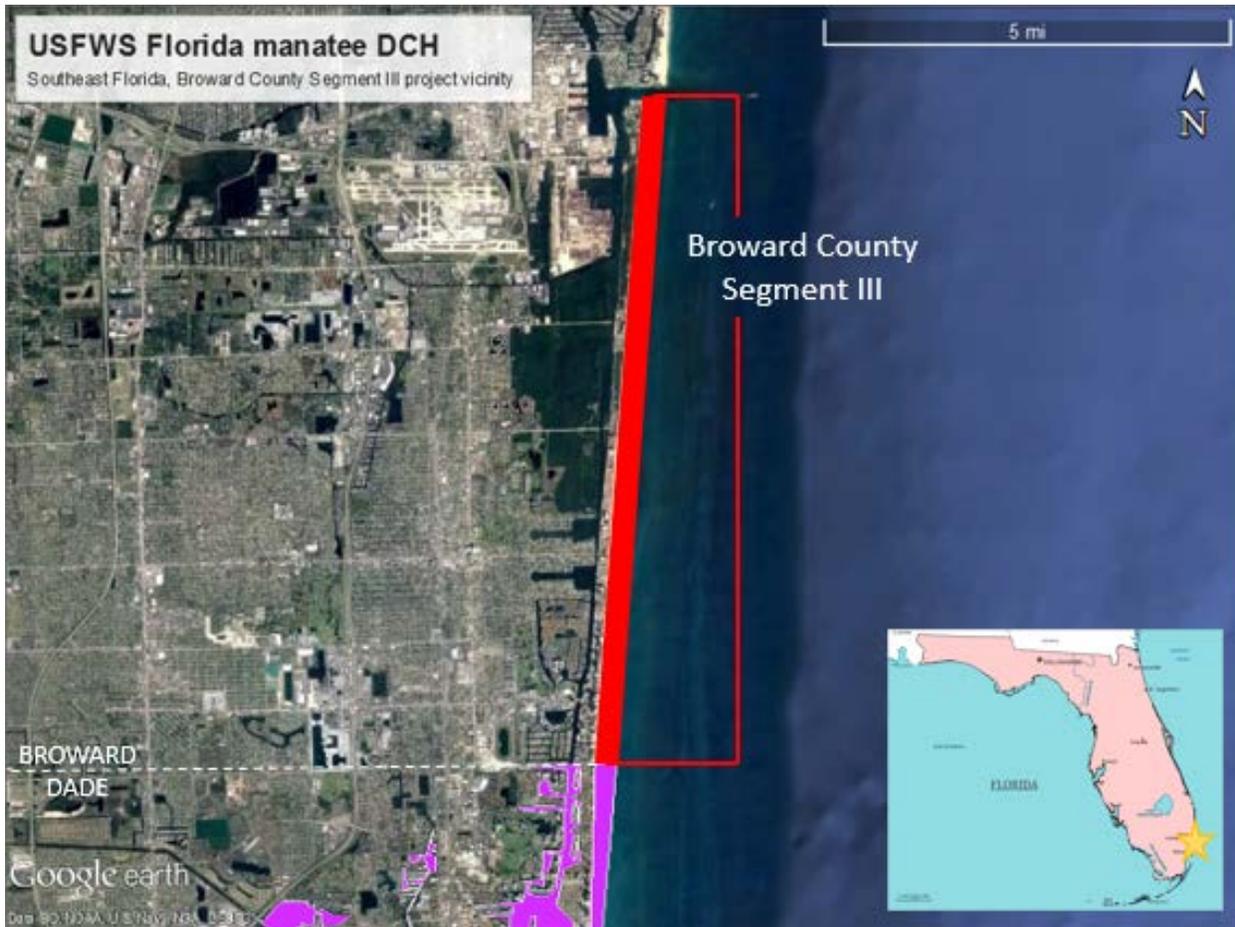


Figure 11. USFWS Florida manatee critical habitat, zoomed to southeast Florida.
(Source: Corps' Regulatory Division Resources at Risk layer)

Florida Counties with FWC Manatee Protection Zones

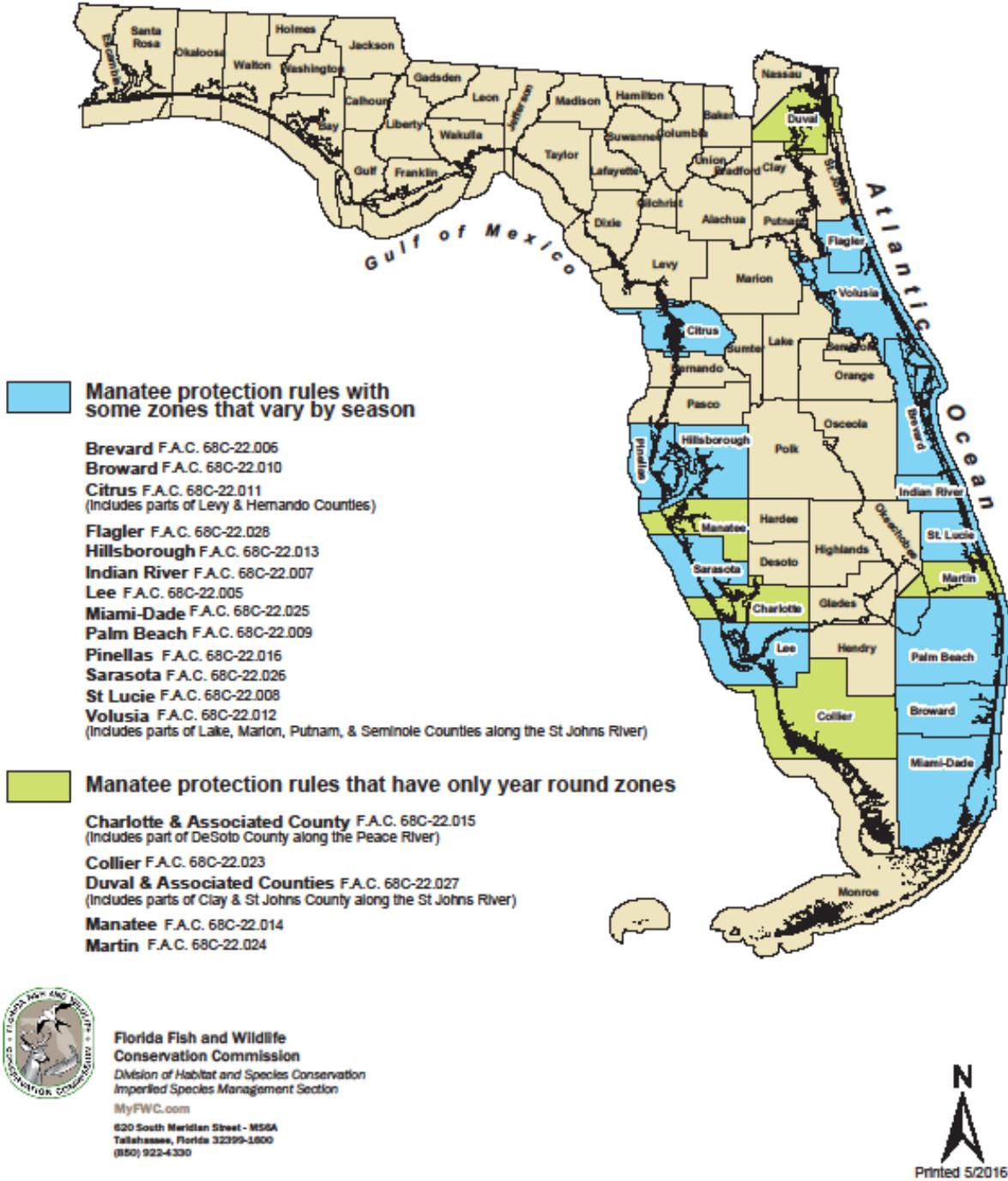


Figure 12. FWC Florida manatee protection zones.
 (Source: <http://myfwc.com/media/2944209/MPZStatewideMap.pdf>)

3.3.4 SMALLTOOTH SAWFISH

The smalltooth sawfish (*Pristis pectinata*) is currently listed as endangered by NMFS. This species has become rare along the southeastern Atlantic and northern Gulf of Mexico coasts of the US during the past 30 years. Its known primary range is now reduced to the coastal waters of Everglades National Park in extreme southern Florida, with rare sightings outside of that area. Fishing and habitat degradation have extirpated the smalltooth sawfish from much of this former range.

The smalltooth sawfish is distributed in tropical and subtropical waters worldwide. It normally inhabits shallow waters (33 feet/10 meters or less), often near river mouths or in estuarine lagoons over sandy or muddy substrates, but may also occur in deeper waters (66 feet/20 meters) of the continental shelf. Shallow water less than 3.3 feet (1 meter) deep is an important nursery area for young smalltooth sawfish and maintenance and protection of these habitat is an important component of the "Recovery Plan for Smalltooth Sawfish (*Pristis pectinata*)" (NMFS 2009). Recent studies indicate that key habitat features (particularly for immature individuals) nominally consist of shallow water, proximity to mangroves, and estuarine conditions. Smalltooth sawfish grow slowly and mature at about 10 years of age. Females bear live young, and the litters reportedly range from 15 to 20 pups requiring a year of gestation. Their diet consists of macroinvertebrates and fishes such as herrings and mullets. The saw is reportedly used to rake surficial sediments in search of crustaceans and benthic fishes or to slash through schools of herrings and mullets (NMFS 2009).

Although NMFS designated critical habitat for the species in 2009, there is no DCH in the project area (see **Figure 15**).

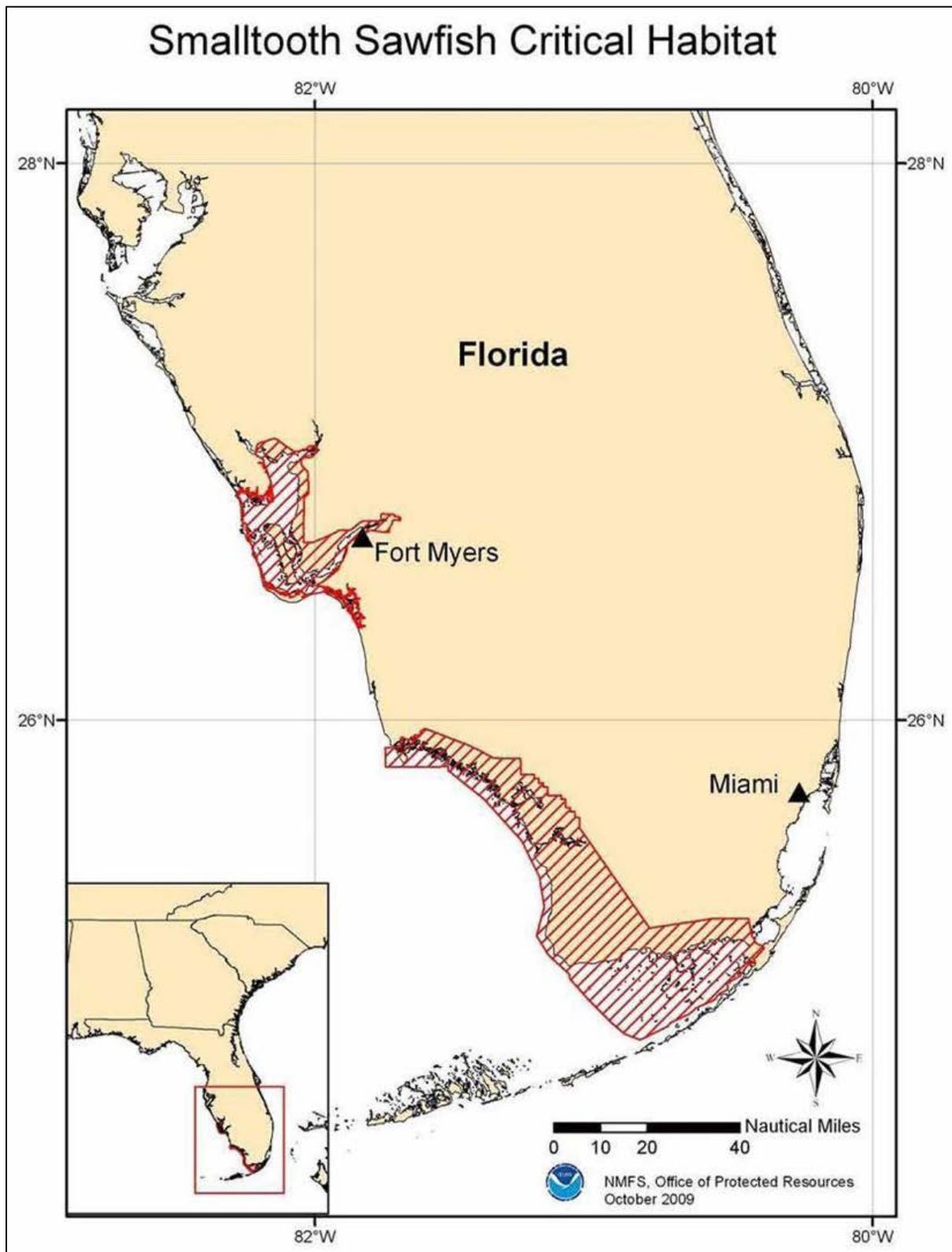


Figure 13. NMFS DCH for the smalltooth sawfish.
(Source: <http://www.nmfs.noaa.gov/pr/species/fish/smalltooth-sawfish.html>)

3.3.5 NASSAU GROUPEL

Nassau grouper was listed as threatened in 2016 (81 FR 42268). It is a top predator in reef systems and is slow growing and long lived. Although considered a reef fish, it transitions through a series of ontogenetic shifts of both habitat and diet. Juveniles are found in nearshore, shallow waters whereas adults are most abundant on high relief coral reefs or rocky substrate in clear water. Both adults and juveniles will use natural or artificial reefs. Nassau grouper reproduce during annual aggregations in which large numbers will collectively spawn; however no sites have been reported in Florida waters (NMFS 2013b). Critical habitat has not been designated for this species.

3.3.6 GIANT MANTA RAY

The giant manta ray was listed as threatened in 2018 (83 FR 2916). Although there is a lack of information on the global distribution and population size, regional populations can be found near estuarine waters by oceanic inlets in water temperatures as low as 66°F. The manta ray is migratory and a seasonal visitor along coastlines. The timing of these visits is relative to many factors such as zooplankton movement, current circulation and tidal patterns, seasonal upwelling, water temperatures, and mating behavior. Diet consists of planktonic organisms, shrimp, and small to moderately sized fish. Generally tending to be solitary, manta rays aggregate to feed and mate. Ecuador is thought to be the largest population and aggregation site of the giant manta ray (NMFS 2018). Critical habitat has not been designated for this species.

3.3.7 PIPING PLOVER

The piping plover (*Charadrius melodus*) Atlantic Coast and Northern Great Plains populations were listed as threatened in 1985 (50 FR 50726). Piping plovers are generally found on sandy beaches on the Atlantic Coast and Great Lakes as well as sandbars along major rivers on the northern Great Plains. While most shorebirds have a wide distribution, the piping plover barely extends into Mexico during the winter (Audubon 2018). This species does not nest in Florida but does overwinter here (USFWS 2013a). Piping plovers are foragers and feed on prey such as insects, marine worms, and crustaceans. The populations have declined primarily due to human disturbance on nesting areas, especially in competition for beach use. Nests are shallow scrapes in open ground with no direct shelter or shade. Although critical habitat was designated for the species in 2001 (66 FR 36038), there is no DCH in the project area. The project area includes habitat that could be suitable for use by piping plover but it is not considered optimal habitat based on the USFWS P3BO dated May 22, 2013. According to eBird (an online database launched by the Cornell Lab of Ornithology and National Audubon Society) there have been a limited number of piping plover sightings in Broward County. In April 2018, one bird was observed at the Park (eBird 2018).

3.3.8 RUFA RED KNOT

The rufa subspecies of the red knot (*Calidris canutus rufa*), is listed as threatened, and is a small shorebird that can occur along the Atlantic and Gulf coasts during its migration. It is also known to overwinter in low numbers along both the Atlantic and Gulf coasts. Florida is home to the largest concentration of wintering rufa in the U.S. (A.C. Schwarzer et al. 2012). In migration and winter, it prefers coastal mudflats, tidal zones, and sometimes open sandy beaches where it feeds on small invertebrates such as small mollusks, marine worms, and crustaceans, particularly horseshoe crabs (Kaufman 1996). The rufa red knot population has declined primarily due to reduced food availability from increased harvests of horseshoe crabs (USFWS 2015). Their numbers appear to have stabilized in the past few years, but they remain at low levels relative to earlier decades (USFWS 2015). Critical habitat has not been designated for this species.

Although the project area includes habitat that could be suitable for use by rufa red knot, it is not considered optimal habitat. According to eBird, one bird was observed in Broward County, within West Lake Park, Hollywood in January 1994 (eBird 2018).

3.3.9 BEACH JACQUEMONTIA

Jacquemontia reclinata is commonly known as beach jacquemontia or beach clustervine. This species is a perennial vine with a woody base and non-woody, twining stems up to six feet long. Leaves are fleshy, rounded or egg-shaped and approximately 1-inch long with blunted or indented tips. Flowers are white or pinkish, 1-inch across, and deeply five-lobed with a short tube. *Jacquemontia reclinata* is endemic to the coastal barrier islands in southeast Florida from Palm Beach to Miami-Dade Counties (Johnson et al. 1992; Florida Natural Areas Inventory (FNAI) 2000).

Jacquemontia reclinata was listed as federally endangered in 1993 (58 FR 62046). The majority of habitat, coastal beach strand, has been destroyed or lost due to residential and commercial construction, development of recreational areas, and beach erosion. This species is further threatened by invasion of exotic plant species including Australian pine, carrotwood, Brazilian pepper, and turf grass. All but one of the wild populations in Florida exist on public lands in parks or conservation areas (USFWS 2007). Surveys indicate that studied populations were declining in total number of individuals; total area occupied and stem density (Maschinski et al. 2005; 2006). Protection and management of this species involves removal of exotics, protecting coastal habitats from development by conservation purchases or easements, and establishing new populations of this species in protected areas (Chafin et al. [date unknown]). Reintroductions of *J. reclinata* have increased the number of plants in the wild, although survival after transplant is variable (2-98%) (Maschinski and Wright 2006) due to mortality caused by human and natural factors. Major threats to survival of this species include highly fragmented habitat due to coastal development, and associated reproductive isolation that hinders genetic variability and reproduction (USFWS 2007).

3.3.10 CORAL SPECIES

In 2009, NOAA was petitioned by the Center for Biological Diversity to list 83 species of reef-building corals under the ESA. Substantial information was provided to warrant possible listing for 82 of the 83 species, and a Biological Review Team was assembled to develop a peer-reviewed Status Review Report providing the most up-to-date scientific information for each species (Brainard et al., 2011). On November 30, 2012, NOAA proposed listing 66 coral species, including seven in the Caribbean. Life history information for each of the seven Caribbean species proposed for listing is provided below:

Pillar Coral (*Dendrogyra cylindrus*)

Pillar coral was listed as threatened in 2014 (79 FR 67356). It is tan colored with tentacles that are often exposed during daylight giving a fur light appearance over a skeleton that looks similar to brain coral. Sexual reproduction occurs via broadcast spawning of gametes into the water column in mid-August. This species is restricted to the western Atlantic and can be found throughout the Caribbean, although it is only occasionally observed in Florida (Humann 2002). Similar to other corals, populations have collapsed throughout their range from disease outbreaks with losses compounded locally by hurricanes, increased predation, bleaching, elevated temperatures, and other factors. Contributing to extinction risk, it is the only species within its genus making it appear this is a naturally rare species in modern times (Brainard et al. 2011). No recent surveys associated with this project have yet been completed. Pillar coral has been found

offshore of Broward County, although typically not within nearshore habitat. Critical habitat has not been designated for this species.

Rough Cactus Coral (*Mycetophyllia ferox*)

Rough cactus coral was listed as threatened in 2014 (79 FR 67356). This species is restricted to the west Atlantic and occurs throughout most of the Caribbean (Veron 2000; Humann 2002). *Mycetophyllia ferox* inhabit shallow or mid-range reefs with strong water flow, and reported depths range from 5 – 30 meters (Carpenter et al. 2008). Similar to other corals, populations have collapsed throughout their range from disease outbreaks with losses compounded locally by hurricanes, increased predation, bleaching, elevated temperatures, and other factors. Although this coral may be located within the region, it has not been documented in the project footprint to date. Critical habitat has not been designated for this species.

Lobed Star Coral (*Orbicella annularis*), Mountainous Star Coral (*Orbicella faveolata*), and Boulder Star Coral (*Orbicella franksi*)

Lobed star coral, mountainous star coral, and boulder star coral were listed as threatened in 2014 (79 FR 67356). Once considered a single species, *Orbicella annularis*, it is generally accepted that these are three separate species based on morphology, depth range and ecology (Weil and Knowlton, 1994) and subsequently by reproductive and genetic studies. (*O. faveolata* and *O. franksi* were previously included in the sister complex of *O. annularis*.) Most studies prior to 1994 do not distinguish between the three species clearly. The corals occur in the Caribbean, Gulf of Mexico, Florida, and the Bahamas. *O. annularis* is a common species in fore reef environments, especially in semi-protected reefs, lagoons, and upper reef slopes at depths from 0.5 m to 20 m (Szmant et al. 1997). *O. faveolata* inhabits most reef environments from 0.5 to 40 m (Carpenter, et al. 2008), and is often one of the most abundant corals between 10 and 20 m (Brainard et al. 2011). *O. franksi* occupies most reef environments and has been reported from 5 m to 50 m (Szmant et al. 1997). Similar to other corals, populations have collapsed throughout their range from disease outbreaks with losses compounded locally by hurricanes, increased predation, bleaching, elevated temperatures, and other factors. Although these corals may be located within the region, they have not been documented within the project footprint to date. Critical habitat has not been designated for these species.

Elkhorn Coral (*Acropora palmata*)

Elkhorn coral is a large, branching coral with thick and sturdy antler-like branches. The dominant mode of reproduction is asexual, with new colonies forming when fragments break off a colony and reattach to the substrate. Sexual reproduction occurs via broadcast spawning of gametes into the water column once each year in August or September. Elkhorn coral is found throughout south Florida, the Florida Keys, the Bahamas, and the Caribbean islands. The approximate northern limit is Broward County, Florida. Once one of two of the most abundant coral species in the Caribbean and Florida Keys, *A. palmata* populations have collapsed throughout their range since the 1980s from disease outbreaks with losses compounded locally by hurricanes, increased predation, bleaching, elevated temperatures, and other factors. Critical habitat was designated in 2008 (73 FR 72210) and is specifically defined as:

“All waters in the depths of 98 feet (30 meters) and shallower to the 6 feet (1.8 meters) contour from Boynton Inlet, Palm Beach County, to Government Cut, Miami-Dade County; and the mean low water line from Government Cut south to 82° west longitude in Monroe Counties.” Within these specific areas, the essential feature consists of natural

consolidated hard substrate or dead coral skeleton that are free from fleshy or turf macroalgae cover and sediment cover.

Elkhorn coral has been documented in the nearshore waters of Broward County. Portions of the project's full design construction template (beyond the 6 foot contour) is within *Acropora* spp. DCH. Project area specific surveys would need to be conducted prior to placement of sand below MHW to determine the amount of habitat that contains the primary constituent elements for *Acropora* spp. DCH and could be affected by turbidity and/or sedimentation.

Staghorn Coral (*Acropora cervicornis*)

Staghorn coral is a branching coral with cylindrical branches ranging from a few centimeters to over 6.5 feet (2 meters) in length. The dominant mode of reproduction for staghorn coral is asexual fragmentation, with new colonies forming when fragments break off a colony and attach to the substrate. Sexual reproduction occurs via broadcast spawning of gametes into the water column once each year in August or September. Staghorn coral occur in back reef and fore reef environments from 0-98 feet (0-30 meters) deep. In Broward County, the species is commonly found in the nearshore and first reef habitats. The upper limit is defined by wave forces and the lower limit is controlled by suspended sediments and light availability. Once considered one of two of the most abundant coral species in the Caribbean and Florida Keys, Staghorn coral is found throughout south Florida, the Florida Keys, the Bahamas, and the Caribbean islands. The approximate northern limit for staghorn coral is in Palm Beach County, Florida. This coral occurs in the Mexican waters of the western Gulf of Mexico, but is absent from U.S. waters in the Gulf of Mexico. It also occurs in Bermuda and the west coast of South America. The greatest source of region-wide mortality for staghorn coral has been disease outbreaks, mainly of white band disease. Other, more localized losses have been caused by hurricanes, increased predation, bleaching, algae overgrowth, human impacts, and other factors. Critical habitat was designated for this species in 2008 (73 FR 72210) and is specifically defined as:

"All waters in the depths of 98 feet (30 meters) and shallower to the 6 feet (1.8 meters) contour from Boynton Inlet, Palm Beach County, to Government Cut, Miami-Dade County; and the mean low water line from Government Cut south to 82° west longitude in Monroe Counties. Within these specific areas, the essential feature consists of natural consolidated hard substrate or dead coral skeleton that are free from fleshy or turf macroalgae cover and sediment cover."

Staghorn coral has been documented in the nearshore waters of Broward County. Portions of the project's full design construction template (beyond the 6 foot contour) is within *Acropora* spp. DCH. Project area specific surveys would need to be conducted prior to placement of sand below MHW to determine the amount of habitat that contains the primary constituent elements for *Acropora* spp. DCH and could be affected by turbidity and/or sedimentation.

3.4 FISH AND WILDLIFE RESOURCES

In addition to the federally listed species discussed above, there are a number of seabirds and shorebirds may occur along the beach and/or dune environment as well as off shore of the project area. Few animals utilize the beach and dunes in the project area due to intense coastal development. The exposed environment of southeast Florida beaches leads to low diversity of organisms that can survive in the high-energy environment. Refer to section 3.5 of the 2004 FEIS for a discussion of the faunal communities (i.e. shorebirds and infaunal organisms) associated with beach and dune environments in Southeast Florida.

3.5 ESSENTIAL FISH HABITAT

The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996 (P. L. 104-297), requires Federal agencies to consult with NMFS on activities that may adversely affect essential fish habitat (EFH). South Atlantic Fish Management Council (SAFMC) defines EFH as “those waters and substrate necessary to fish for spawning, breeding, or growth to maturity” (South Atlantic Fish Management Council (SAFMC) 1998).

The South Atlantic Fish Management Council (SAFMC) designated seagrasses, corals, coral reefs, hardbottom, and unconsolidated sediments as EFH. Hardbottom habitats are EFH for coral, red grouper (*Epinephelus morio*), gag grouper (*Mycteroperca microlepis*), gray snapper (*Lutjanus griseus*), mutton snapper (*L. analis*), white grunt (*Haemulon plumieri*), and spiny lobster (*Panulirus argus*). Unconsolidated habitats are EFH for cobia (*Rachycentron canadum*), black seabass (*Centropristis striata*), king mackerel (*Scomberomorus cavalla*), Spanish mackerel (*S. maculatus*), spiny lobster, and pink shrimp (*Farfantepenaeus duorarum*). All demersal fish species under SAFMC management that associate with coral habitats are contained within the fishery management plan for snapper-grouper species and include some of the more commercially and recreationally valuable fish of the region. All of these species show an association with coral or hardbottom habitat during their life history. In groupers, the demersal life history of almost all *Epinephelus* species, several *Mycteroperca* species, and all *Centropristis* species, takes place in association with coral habitat (SAFMC 2009). Coral, coral reef and hardbottom habitats benefit fishery resources by providing food or shelter (SAFMC 1983). SAFMC also designated corals, coral reefs, hardbottom and seagrass as a Habitat Area of Particular Concern (HAPC), which is a subset of EFH that is either rare, particularly susceptible to human-induced degradation, especially important ecologically, or located in an environmentally stressed area. In light of their designation as EFH-HAPC's and Executive Order (E.O.) 13089 (Coral Reef Protection), NMFS applies greater scrutiny to projects affecting corals, coral reefs, hardbottom, and seagrass to ensure practicable measures to avoid and minimize adverse effects to these habitats are fully explored. Section 3.6 of the 2004 FEIS includes more discussion on the project area's EFH.

3.5.1 CORALS, CORAL REEFS, AND HARDBOTTOM HABITATS

HAPCs for corals, coral reefs and hardbottom habitats of central east Florida include 1) the worm reefs in nearshore waters; 2) nearshore hardbottom in water depths 0 to 4 meters; 3) offshore hardbottom habitats in water depths 5 to 30 meters and 4) *Oculina* banks from Fort Pierce to Cape Canaveral in water depths > 30 meters. Listed coral species are discussed in section 3.3.7 of this EA and are incorporated here by reference.

3.5.2 SEAGRASSES

Seagrasses are discussed in detail in section 3.2.2 of the 2004 FEIS and are incorporated here by reference. Due to the high-energy and dynamic nature of the beach system, seagrasses are not located within the project area.

3.6 COASTAL BARRIER RESOURCES

The Coastal Barrier Resource System (CBRS) includes two types of units, System Units and Otherwise Protected Areas (OPAs). System Units are predominately comprised of privately owned areas, though some are areas that are held for conservation and/or recreation. OPAs are predominantly comprised of conservation and/or recreation areas, though they may also contain private areas that are not held for conservation and/or recreation. OPAs are denoted with a “P” at

the end of the unit number. The only Federal spending prohibition within OPAs is the prohibition related to Federal flood insurance. Most new Federal expenditures and financial assistance, including Federal flood insurance, are prohibited within System Units whereas the only Federal spending prohibition within OPAs are related to Federal flood insurance.

There is one unit designed as an “otherwise protected area” (Lloyd Beach FL-20P) and two areas designated as “system units” (both labelled North Beach P14A) (see **Figure 16**).

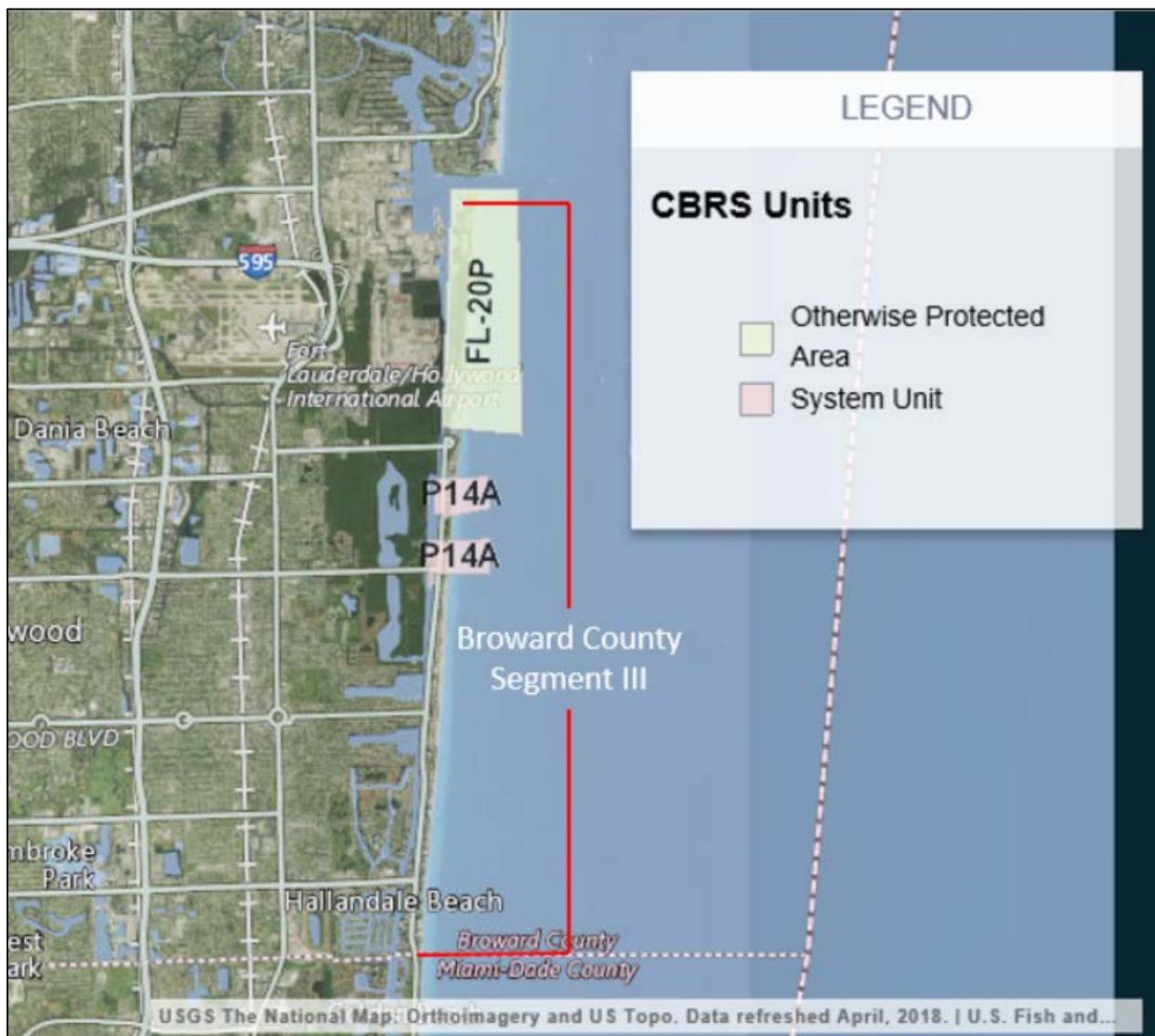


Figure 14. Coastal Barrier Resources Systems within Broward County Segment III.
(SOURCE: USFWS, CBRS mapper.)

3.7 HAZARDOUS, TOXIC AND RADIOACTIVE WASTE (HTRW)

Section 3.9 of the FEIS has a detailed discussion of Hazardous, Toxic and Radioactive Waste (HTRW) associated with Segment III of the Broward County SPP. The probability of contamination by hazardous wastes in the project area has been judged to be negligible. There are currently no HTRW producers adjacent to the project site that discharge effluents near the

Broward County shoreline; however, due to the project being located in a highly urbanized area, FDEP lists multiple contamination sites in the project's vicinity (see **Figure 17**).

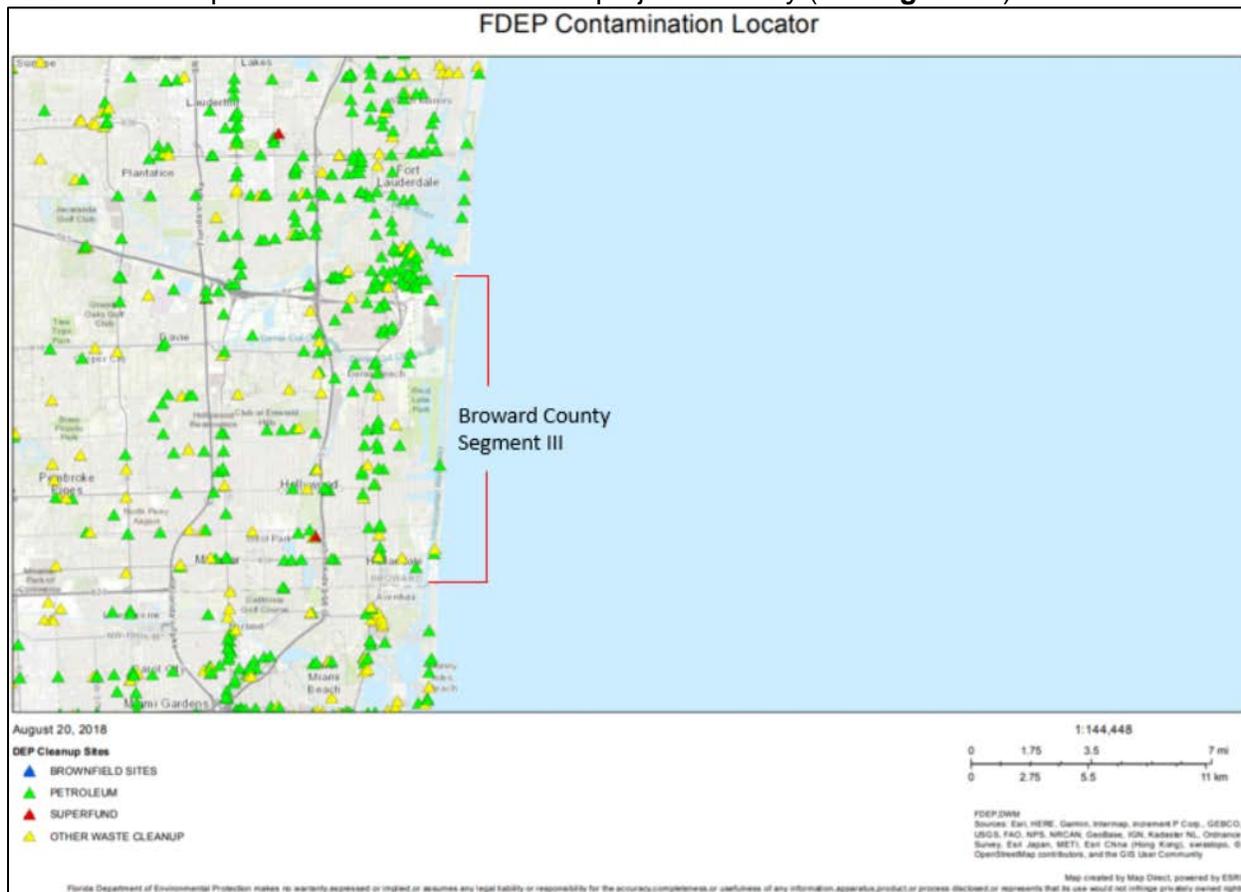


Figure 15. FDEP listed contamination sites located in the vicinity of Broward County Segment III.

(SOURCE: <https://ca.dep.state.fl.us/mapdirect/?focus=contamlocator>)

3.8 WATER QUALITY

The predominant issue that affects water quality in South Florida is turbidity, which is considered an appropriate measure of water quality. Turbidity is measured in Nephelometric Turbidity Units (NTU), which is a measure of light scattering by particulates within the water. This measurement does not address the characteristics of suspended material that creates turbid conditions. The Florida State Water Quality Standard for turbidity is less than 29 NTU above background levels outside the turbidity-mixing zone, which is defined in the water quality monitoring plan.

Turbidity values are generally lowest in the summer months and highest in the winter months, corresponding with winter storm events and the rainy season, and tend to be higher closer to shore (Gilliam 2008; Dompe and Haynes 1993; Coastal Planning & Engineering 1989). Moreover, higher turbidity levels can generally be expected around inlet areas, especially in estuarine areas, where nutrient and entrained sediment levels are higher. Although some colloidal material will remain suspended in the water column upon disturbance, high turbidity episodes usually return to background conditions within several days to several weeks, depending on the duration of the perturbation (storm event or other) and on the amount of suspended fines.

Waters around the project area have been designated by the State of Florida as Class III waters, suitable for recreation as well as propagation and maintenance of a healthy and well-balanced population of fish and wildlife. Commercial/recreational boating, recreational fishing, kayaking, and other recreational uses are common in this area.

In addition to turbidity, the rapid population growth and urbanization of southeast Florida is a suspected contributor to the degradation of water quality along the coast, mainly through the discharge of nutrient-laden sewage and stormwater runoff into canals (FDEP 2003). Drainage of Broward County is facilitated by more than 266 miles of natural and dredged canals that traverse the county's urban corridor (Broward County Planning Council 1989). Overall, the hydrology of Broward County is highly manipulated by these water control structures, which have altered the natural hydroperiods and flows of the South Florida watershed. The primary drainage system is managed by the South Florida Water Management District (SFWMD) and consists of nine major canals and their corresponding drainage basins. These nine major canals, along with secondary and tertiary canals, eventually drain to the estuarine areas, such as the IWW. From the IWW, inlets provide discharge access to the Atlantic Ocean. Runoff can carry bacteria, viruses, oil and grease, toxic metals, and pesticides (FDEP 2003). In addition to contributions from canals, nutrients and coliform bacteria can be introduced via septic tanks and disposal well discharges on Florida's east coast (U.S. Geological Survey (USGS) 1992). As part of the State's Healthy Beaches Program, biweekly water samples are collected at fifteen public beaches in Broward County for *Enterococci* bacteria. In order to reduce the potential spread of disease, infections, or rashes, health advisories or warnings are issued by the Florida Department of Health (FDH) when concentrations are elevated (FDH 2012).

3.9 AIR QUALITY

Ambient air quality along the southeast Florida coast is generally good due to prevalent ocean breezes from the northeast to the southeast. The area is in the Southeast Florida Intrastate Air Quality Control Region, as established by 40 CFR § 81.49. U.S. Environmental Protection Agency (USEPA) designates air quality compliance on a county level (40 CFR § 81.310). Broward County is considered to be in attainment with National Ambient Air Quality Standards (NAAQS) for ozone, nitrogen dioxide, carbon monoxide, total suspended particulates, and sulfur dioxide. USEPA has not made a designation for lead in southeastern Florida. Refer to section 3.10 of the FEIS (Corps 2004) for a discussion on air quality within the proposed project area.

3.10 NOISE

Noise is defined as unwanted sound and, in the context of protecting public health and welfare, implies potential effects on the human and natural environment. Noise is a significant concern associated with construction and transportation activities and projects. Ambient noise levels within a given region may fluctuate over time because of variations in intensity and abundance of noise sources. Ambient sources of noise within the project area are recreational activities (boating and fishing), commercial vessels transiting up and down the coast, and natural sounds from the physical and biological environment. Broward County has many seasonal residents and tourists, and many more residents are present in the winter months, which results in more recreation during the winter tourist season, resulting in higher noise levels. In addition, there are many sources of noise associated with the highly developed, urban setting of Segment III and the surrounding area. In-water noise is produced by engine or generator operation as commercial vessels enter and exit Port Everglades and anchor offshore. Recreational vessels also frequently traverse the area and enter and exit both Port Everglades. Above the water, the greatest

contributor to noise is air traffic associated with the Fort Lauderdale/Hollywood International Airport.

3.11 AESTHETIC RESOURCES

The project area is an urban environment and as previously discussed, heavily used for recreational and commercial purposes and needs. The shoreline along Broward County has been highly developed by residential and commercial interests, and much of the shoreline is hardened. Derelict or nonfunctional outfall pipes and shoreline stabilization structures are intermittently spaced along the Broward County shoreline. The man-made Port Everglades inlet was developed in 1927-1928. Much of the dune vegetation was cleared or reduced for the development of Port Everglades and adjacent urban areas. The project area consists of light beige sandy beaches that contrast strikingly with the deep hues of the panoramic Atlantic Ocean. Dunes, dune vegetation and tropical landscaping separate the beach from condominium and hotels along the shore. Landscaping vegetation consists of trees such as coconut, sabal, and date palms, as well as a shrub canopy including seagrape and cocoa plum, which transitions into sea oats, dune sunflower, and morning glory vines. These and many other tropical beach plantings provide an aesthetic transition between the dunes and the beach.

3.12 RECREATION RESOURCES

Broward County boasts 24 miles of oceanfront shoreline that provides access to millions of residents and visitors each year. Broward County is heavily populated and located on Florida's Atlantic Coast, which receives a tremendous volume of tourists, particularly during the winter months. Those beaches that can be accessed by the general public are heavily used year round. Adjacent to these beaches are many condominiums and hotels used by long-term and short-term visitors and residents of the area. Other water-related activities within the project area include on-shore and offshore fishing, snorkeling, scuba diving, windsurfing and recreational boating. Commercial enterprises along the beach rent beach chairs, cushions, umbrellas, and jet skis. Food vendors are also found along the beach areas. Beaches within Segment III include Dania Beach, the Park, Hollywood, and Hallendale. The Park is the only official state recreational resource documented in the coastal area of Segment III. In addition, the county also manages five campgrounds and four water parks (Broward County 2012a). Refer to section 3.13 of the 2004 FEIS for a discussion of recreational use of Broward County beaches.

3.13 ECONOMIC RESOURCES

The median household income in Broward County was \$52,954 in 2016, which was slightly lower than the national average of \$55,322 (U.S. Census 2016). Tourism contributes significantly to the Broward County economy, with the largest industries being healthcare and social assistance, retail trade, and accommodations and food service (Data USA 2016). Amenities such as restaurants, fishing, nightclubs, golf courses, casinos, malls, etc. provide a large benefit through tourism, taxes, and jobs. In addition, highway A1A serves as the main evacuation route for residents and visitors from the area during storm preparation efforts. Benefits of the beach renourishment project and recreational socio-economic benefits are discussed in section 3.13 of the 2004 FEIS.

3.14 CULTURAL RESOURCES

Archaeological evidence indicates the earliest known prehistoric native peoples entered into Florida during the Paleoindian Period at least 12,000 years ago, inhabiting a landscape and environment considerably different from the present (Milanich 1994). At that time, the Florida peninsula was almost double the size of its current area, sea levels were 200 to 350 feet lower,

fresh sources of water were limited, and Lake Okeechobee and the Everglades did not exist (Meltzer 1989; Milanich 1994). The interior of Florida was likely covered by extensive and moderately dry expanses of grasslands. Intensive Paleoindian habitation was most likely restricted to Florida's coastline; however, remnants and other evidence of these coastal habitation sites are currently located offshore, progressively inundated by rising sea levels in the past.

Paleoindian populations are characterized as consisting of highly mobile bands of large-game hunters. Projectile points during this period are lanceolates ranging from skillfully fluted (e.g. Clovis) to unfluted varieties (e.g. Suwanee-Simpson). These points, hafted to long stout spears, and propelled by the atlatl, suggest the existence of a subsistence strategy based primarily on hunting large mammals (Wilmsen 1970). In Southeast Florida, Paleoindians hunted mammoths, bison, and other types of megafauna in arid or semi-arid climatic conditions at first, adapting to a transitioning climate toward the end of the period coinciding with the new emerging wetlands, and subsistence strategies relying on marine life, gathering, and small game hunting. Few Paleoindian archaeological sites are recorded in Florida, and none are identified within the area of potential effect for the project.

During the Archaic Period, lasting from 8500 – 500 BC, the environment and physiology of Florida transformed, undergoing a gradual warming trend, rising sea levels, a reduction in the area of the peninsula, and an increase in the proliferation of oak forests and hammocks within the interior of the state (Milanich 1994). Population increases and cultural changes begin to appear in the archaeological record. The Archaic period is divided into three subperiods –Early (8500 – 5000 BC), Middle (5000 – 3000 BC), and Late (3000 – 500 BC).

The Early Archaic archaeological sites in the project area are not well represented. Similar to the Paleoindian Period, an arid climate, limited freshwater sources, and scarce availability of raw lithic materials for tool-making, likely deterred Early Archaic settlement. During the Middle Archaic, coastal resources were exploited as the modern estuaries began to form resulting in a variety of new settlement and subsistence strategies adapted to local environments. With the beginning of the Late Archaic, exploitation of inland areas began, and tree islands are inhabited. Pre-ceramic tree-island middens in the Everglades are radiocarbon dated to around 2500 BC (Schwadron 2006). Importantly, the native peoples of Florida began to make the first pottery during this period.

In south Florida, two distinct Late Archaic cultures developed: the Orange culture and the Glades Archaic culture. Orange culture sites are typically oyster and coquina shell middens along the coastline of Florida, and freshwater-pond snail middens along the inland rivers and streams. Glades Archaic culture sites are represented as non-ceramic bone middens occurring on interior tree islands in the marshes of south Florida. Faunal remains from Glades Archaic sites are mainly freshwater species, such as fish, turtle, and apple snail. While most widely known from northeast Florida, Orange culture sites have been identified along the southeast coast.

During the Glades Period (500 BC – AD 1513), cultures are adapting their lifeways regionally, allowing well-defined archaeological geographic cultural subdivisions to be established. The cultural chronology of the Glades Period is founded in the seminal research of John Goggin (1947), who originally defined the Glades I, Glades II, and Glades III subperiods based on analysis of decorated pottery motifs. The early Glades I Period (500 BC – AD 200) is characterized by the presence of undecorated sand-tempered pottery. The undecorated pottery type continues to dominate the late Glades I Period; however, the decorated Fort Drum series, including punctated and incised varieties, begin to appear in the archaeological record. During the Glades III Period,

newly introduced sand-tempered pottery types (e.g. Key Largo, Miami Incised, and Sanibel Incised) are identified in the archaeological record, allowing further subdivision of the period into the subperiods; Glades IIa, Glades IIb, and Glades IIc. By the Glades III Period (AD 1200 – 1513), decorated pots are almost entirely absent in the archaeological record (Griffen 1989); however, trade in exotic wares are evidenced by the presence of St. John's Checked-Stamped and Safety Harbor sherds recovered from prehistoric middens.

At the time of initial European contact, the area of present-day Broward County was inhabited by the Tequesta Indians, which can be traced back in time at least to 500 BC (Milanich 1994). The archaeological information from the pre-Columbian period provides no evidence that the Tequesta were organized in as complex a fashion as the Calusa, who dominated the lands on the southwestern coast of Florida. Sixteenth-century Spanish documents indicate the Tequesta chief ruled over a small population with allegiance to the Calusa chief. With European expansion to the north came the arrival of displaced native populations from the northern areas into South Florida. By the mid-eighteenth century, a Jesuit mission was established for a brief time at the mouth of the Miami River where the Tequesta's main village had once been. Documents relative to that mission no longer refer to the Tequesta, but they do mention two other groups, the Santaluces and the Boca Raton. The Spanish probably named the Boca Raton Indians after the small coastal inlet in which they lived, which is still today called Boca Raton located just north of the project area (Milanich 1995; Wilson et al. 2018).

The first European to land on and explore Florida was Ponce de Leon. In 1763, the English gained temporary possession of the region from the Spanish. During the American Revolution, the Spanish retook Florida from the British in 1781. During the Second Spanish period, the population of Florida continued to grow. As the eighteenth century ended and the nineteenth century began, the Seminole Indians were increasingly forced into the interior of Florida. In the early nineteenth century, Spain's control over Florida was weak, and after the First Seminole War, Spain sold Florida to the U.S. (McIver 1983). In 1821, Florida became an American territory and remained a territory until 1845, when it was granted statehood. Dade County encompassing present-day Miami-Dade, Broward, and Palm Beach counties, was established in 1936.

The 1920s were a boom time across Florida, including Broward County. New developments sprang up across the county (Allen and Capone 2000). In the 1920s, the Port of Palm Beach opened and it was very successful. In 1926, hurricanes and a banking crisis ended the boom times for Florida. Despite the difficulties of the times, Port Everglades successfully opened in 1928 (McIver 1983). World War II brought civilian jobs and military base construction to Broward and Palm Beach counties. The Postwar period brought yet another surge in development to Broward County, with the creation of new subdivisions and towns. Improved flood control opened up more land in the county for real estate development. This pattern of development continued through the 1960s. Today, the east coast of Florida is one of America's premier retirement locations and the beaches are a tourism attraction.

Refer to section 3.15 of the 2004 FEIS for more discussion on cultural resources in the project area.

3.15 NATIVE AMERICANS

The Broward County Segment III beaches are not located within or adjacent to known Native-American-owned lands, reservations lands, or Traditional Cultural Properties.

4 ENVIRONMENTAL EFFECTS

This section is the analytic basis for the comparisons of the alternatives. (See **Table 2** in Section 2 (Alternatives) for summary of effects.) The following includes anticipated changes to the existing environment including direct, indirect, and cumulative effects. The Preferred Alternative is the FCCE truck haul renourishment above MHW added into the project lifecycle (Alternative 1).

4.1 GENERAL ENVIRONMENTAL EFFECTS

Under the No Action Alternative, erosion of Broward County beaches in Segment III would likely continue resulting in a progressive loss and possible elimination of the remaining beach and dune system. Damages to upland and shorefront structures and roads would likely occur. Recreation and tourism opportunities and economic benefits would decrease and possibly be eliminated. Beach nourishment will provide protection to upland and shorefront infrastructure. Positive effects include protection of upland structures and infrastructure, as well as potential benefits to local economies due to increased use for recreation. Beach nourishment will also have positive and negative effects on multiple components of the beach ecosystem, including (but not limited to) flora and fauna, water quality, and marine resources. Alternative 2 would result in a wider beach which would provide more protection of the upland and shorefront infrastructure as well as the beach ecosystem than Alternative 1. Although some temporary negative effects will occur, long term negative effects are not anticipated. Ecological recovery of the system is influenced by the project timing, project size and location, techniques employed, sand quality and quantity, and conditions prior to nourishment (Speybroeck et al. 2006). The project's potential benefits and temporary adverse effects are discussed in more detail throughout this chapter.

4.2 VEGETATION

Much of the dune community along the Segment III shoreline has been lost due to a combination of development and erosion. Placement of sand on the beach as described in Alternative 1 and 2 would raise the beach and may contribute to development of a stable dune habitat for many plant and animal species through natural dune building processes. Vegetation that does not unreasonably interfere with the construction will be preserved, protected, and otherwise avoided from damage. Effects to extant dune vegetation are expected to be minimal, as operations will avoid placing sand directly onto the vegetation and construction vehicles will utilize already-existing access corridors; however, portions of the project, specifically in the Park area, may require coverage of existing beach morning glory (also commonly called railroad vine) in the project area shoreline in the Park area of the project (see **Figures 16** and **17**). Work in these specific areas cannot be otherwise completed due to the placement of sand above MHW and the erosion of the shoreline. Any effects to railroad vine covering an area equal to or great than 25 square feet will require the contractor to coordinate with the Corps, photo-document the condition of the area prior to impact, and then replant the vegetation. Railroad vine can be commercially purchased to stabilize dunes and can grow up to one foot per day; therefore, this species is expected to quickly recolonize.



Figure 16. Railroad vine along the Park shoreline in Segment III.
(SOURCE: Corps staff site visit in September 2018)



Figure 17. Railroad vine along the Park shoreline in Segment III.
(SOURCE: Corps' staff site visit in September 2018)

In comparison, the No Action Alternative would allow for continued erosion of Broward County's beaches. Without beach renourishment, there would likely be a progressive loss and possible elimination of the remaining beach and dune which would further reduce habitat available for vegetation recruitment and growth. Additionally, armoring measures that would likely be undertaken by property owners in the absence of nourishment would further reduce the available habitat.

4.3 THREATENED AND ENDANGERED SPECIES

Under the No Action Alternative, renourishment of Segment III would not occur. The No Action Alternative would have no effect on the American crocodile, Florida manatee, smalltooth sawfish, Nassau grouper, and giant manta ray. Continued erosion could result in exposure of nearshore rock outcroppings which may serve as habitat for coral colonization. The increased turbidity associated with the continued erosion may also reduce recruitment due to the interference with coral spawning or coral health. Fragmentation would still be potential. Additionally, the continued erosion of the beach could threaten the existence of the remaining dune vegetation and adjacent scrub habitat in Broward County. This decrease in available habitat will negatively affect beach *jacquemontia* as well as result in a loss of potential foraging habitat that will negatively affect the piping plover and rufa red knot. The continued shoreline recession will also reduce the amount of dry beach available for sea turtle nesting and may result in poor site selection by nesting females. As the beaches recede, nests become more susceptible to tidal inundation leading to an increase in hatchling mortality (Brock and Erhard 2008; Witherington et al. 2008). Other studies have documented an increase in the number of false crawls with increased erosion (Mosier and Witherington 2002). In the absence of nourishment, coastal property owners may turn to armoring measures, such as sea walls, groins and revetments, which severely decreases suitable nesting habitat and leads to an increase in false crawls and hatchling mortality due to wash out (Mosier and Witherington 2002; Brock and Erhart 2008; Witherington et al. 2008).

Potential effects of the placement of sand on the beach (Alternative 1 and 2) have been reviewed in the 1997 SARBO (as amended), 2015 SPBO, and 2013 P3BO. These BOs include terms and conditions (T&Cs) to minimize adverse effects to listed species and provide incidental take authorizations where adverse effects cannot be avoided. Due to the placement of sand above MHW, implementation of Alternative 1 would include the applicable T&Cs of the SPBO and P3BO issued by USFWS in the project plans and specifications to be followed during construction. Due to the placement of sand below MHW, implementation of Alternative 2 would also include the applicable T&Cs of the SARBO issued by NMFS in the project plans and specifications to be followed during construction.

Consultation with the USFWS was initiated by letter on September 7, 2018 (**Appendix A**). In a letter dated October 16, 2018, USFWS concurred with the Corps' determinations. Additional analysis, by species group or species, is provided below along with the Corps' effects determination:

Sea Turtles

Beach renourishment (Alternative 1 and 2) could potentially directly and indirectly affect sea turtles in several ways, including:

- Placement activities on nesting beaches may affect sea turtles;
- Escarpment formations and resulting impediments to nesting females as well as potential losses to the beach equilibration process;
- Sediment density (compaction), shear resistance (hardness), sediment moisture

content, beach slope, sediment color, sediment grain size, sediment grain shape, and sediment grain mineral content can be altered potentially affecting the nesting and incubating environment;

- Hard sediment can prevent a female turtle from digging a nest or result in a poorly constructed nest cavity;
- Changes in sediment properties and color could alter the temperature of the beach and incubating nests, thus influencing sex ratios.

USFWS biological opinions for similar projects acknowledge that placement of sand on a critically eroded beach can enhance sea turtle nesting habitat if the sand placed is highly compatible (*i.e.*, grain size, shape, color, etc.) with naturally occurring beach sediments at the recipient site, and compaction and escarpment remediation measures are properly adopted (USFWS 2015).

The Corps plans to minimize potential effects to nesting sea turtles in the project area by implementing steps that are now common practice including, but not limited to:

- contingency plans;
- risk assessments;
- sediment quality monitoring;
- compaction tests;
- tilling; and
- leveling escarpments in the fill;
- time of year restriction: no beach placement from May 1 through November 1.

Construction of Alternative 1 or 2 would occur during the non-peak nesting winter months to avoid effects to sea turtle nests and/or hatchlings. Construction will occur between November 1 and April 30, which allows for a total of 180 calendar days to complete the project. While nourishment can be beneficial in restoring nesting habitat, it also has the potential to adversely impact nesting and hatchling sea turtles in a number of ways and is considered a primary threat that may impact proposed critical habitat for nesting loggerhead sea turtles (78 FR 18000-7999 18082). There have been mixed results reported in studies measuring sea turtle hatchling success for nourished versus non-nourished beaches. Section 4.3.1.1 of the 2004 GRR/FEIS provides a review of some studies and analysis of other positive and negative impacts to sea turtles (Corps 2004).

Additional effects associated with placement of material below the MHW line (Alternative 2), include burial of nearshore hardbottom as the beach profile reaches the estimated toe of fill (ETOF). This burial may adversely impact nearshore sea turtle habitat as the nearshore hardbottom is especially important habitat for the green sea turtle foraging and juvenile development habitat. Algal species that are known food sources for green turtles have been documented in the nearshore environment, including *Gelidium*, *Dictyota*, *Dasya*, *Gracilaria*, *Hypnea* and *Bryothamnion* (Wershoven and Wershoven, 1988; 1992; Makowski et al., 2006). Possible secondary impacts to macroalgae communities that serve as important foraging habitat include decreased photosynthetic rates due to turbidity and possible burial due to sedimentation. A more in-depth discussion of green sea turtle utilization of the nearshore hardbottom habitat in Broward County, as well as potential impacts from project construction can be found in section 4.3.1.1(c) of the 2004 FEIS.

Because a truck haul project would not require use of dredges or other vessels, it is unlikely that offshore sea turtle habitat would be impacted. A truck haul approach minimizes the use of in-water vessels and the potential for entanglement, entrainment or strikes. The Corps determined

that implementation of either Alternative 1 or 2 would have no effect on Kemp's ridley sea turtles due to the unlikelihood of encountering this species in the project area. The Corps has determined that placement of sand above MHW (Alternative 1 and Alternative 2) is consistent with the SPBO and the proposed activities are likely to adversely affect nesting sea turtles but not likely to jeopardize the continued existence of the species. Due to the placement of sand above MHW, implementation of Alternative 1 and 2 would include the applicable T&Cs of the SPBO issued by USFWS in the project plans and specifications to be followed during construction. Implementation of Alternative 2, which includes placement of sand below MHW, would also include the applicable T&Cs of the 1997 SARBO (as amended) issued by NMFS in the project plans and specifications to be followed during construction. The Corps has determined that Alternative 2 is consistent with the NMFS' SARBO and may affect, but is not likely to adversely affect, sea turtles under NMFS jurisdiction.

American Crocodile

The Corps has determined that both Alternatives 1 and 2 may affect, but are not likely to adversely affect, American crocodiles. This species has been sighted in the Park and in the surf zone at Dania Beach. Although a truck haul approach minimizes the use of in-water vessels and the potential for entanglement, entrainment, or strikes in the water, American crocodiles could also be found on the beach. Due to the species being highly mobile and able to easily avoid the area, direct, physical injury effects to this species are not anticipated from construction operations, machinery, or materials.

Florida Manatee

The Corps has determined that beach renourishment above MHW (Alternative 1) would have no effect on manatees; however, beach renourishment below MHW (Alternative 2) may affect, but is not likely to adversely affect manatees. In accordance with Section 7 of the ESA, consultation with the USFWS would be conducted under the SPBO for implementation of Alternative 2. Manatees are most likely to be impacted by support boats involved with turbidity monitoring while moving from dock areas through channels to the project location (Corps 1996). No significant adverse impacts to manatees are anticipated with implementation of the 2011 USFWS Standard Manatee Conditions for In-Water Work as required by the SPBO to ensure the protection of manatees during construction.

Smalltooth Sawfish

The Corps has determined that beach renourishment above MHW (Alternative 1) will have no effect on smalltooth sawfish. Beach renourishment below MHW (Alternative 2) may affect, but is not likely to adversely affect smalltooth sawfish. Based on the low probability that this species will enter the project area and the use of a truck haul approach instead of a dredge-and-fill approach, the Corps determined that the unlikelihood of encountering this species deems the possibility of affecting them as discountable.

Nassau Grouper and Giant Manta Ray

The Corps has determined that beach renourishment above MHW (Alternative 1) will have no effect on Nassau groupers and/or giant manta rays. Beach renourishment below MHW (Alternative 2) may affect, but is not likely to adversely affect Nassau groupers and/or giant manta rays. Due to the species being highly mobile and able to easily avoid the area as well as the use of a truck haul approach instead of a dredge-and-fill approach, direct, physical injury effects to this species are not anticipated from construction operations, machinery, or materials.

Piping Plover and Rufa Red Knot

Placement of sand on the beach for Alternative 1 or 2 includes habitat that could be used by the piping plover and/or rufa red knot, but it is not considered optimal habitat for either species. Direct effects to the birds from project construction are expected to be minimal as birds are motile and can avoid construction activities. Placement of sand on the beach may temporarily displace foraging and resting birds. This interruption is limited to the immediate area and duration of construction. Habitat exists outside of the beach placement areas with similar characteristics that may be used by displaced species while renourishment activities are underway. The prey base, which includes the benthic organisms, may be temporarily reduced in the proposed beach placement areas. This effect would be short-term as recovery of beach infauna is expected to occur quickly. Therefore, implementation of Alternative 1 or 2 may affect, but is not likely to adversely affect, the piping plover or rufa red knot. If either species are found in the renourishment footprint, the protective conditions developed for migratory birds will be utilized as well as conditions of the P3BO. Compliance with the reasonable and prudent measures and T&Cs listed in the P3BO will provide sufficient protection for piping plover and rufa red knot.

Beach Jacquemontia

Implementation of Alternative 1 or 2 may impart both negative and positive impacts on the endangered dune plant *Jacquemontia reclinata*. In the short term, presence of construction equipment may mechanically damage any existing plants, while sand placement, if done improperly, may bury extant plants. Construction of the beach may provide potential habitat for this species. Due to the low number of observations for this species in Broward County, the Corps has determined the project will have no effect on this species.

Coral Species

There are no hardbottoms in the direct footprint of the FCCE; however, based on previous surveys of the full construction template placement area there may be hardbottom present below MHW in the placement area. A full nearshore hardbottom survey would need to be conducted prior to construction of the full template. Based on previous surveys of Segment III and Segment II, listed coral species are not expected to be found adjacent to the project area; however, confirmation will be required by a survey prior to construction of the full template. Placement of sand above MHW (Alternative 1) will have no effect on listed corals. For the placement of sand below MHW (Alternative 2), turbidity measurements may not accurately reflect the amount of sedimentation and siltation that occurs on adjacent reef communities. There is no direct correlation between turbidity and sedimentation rates, or between turbidity and total suspended solids that can be uniformly applied across differing projects (Davies-Colley and Smith 2001; Clarke and Wilber 2008). The effects of sedimentation are a dose-response relationship, and the results of that relationship specific to dredging projects in SE Florida, has been previously reported. The effects of sedimentation, with proper *in situ* monitoring, showed no long-term adverse effect on coral species in general; however, issues of concern and the sufficiency of measures to avoid, minimize, and mitigate for impacts to corals and hardbottom resources will be more closely examined prior to full construction of the FCCE template. Standard construction measures and Best Management Practices (BMPs) will be implemented to avoid undue turbidity and sedimentation from reaching corals.

4.4 FISH AND WILDLIFE RESOURCES

The No Action Alternative will result in increased erosion. No adverse environmental impacts to nearshore and offshore hardbottom habitats and fish communities are anticipated due to the No Action Alternative. An increased exposure of nearshore hardbottom due to continued beach

erosion is probable which, in turn, could provide increased habitat for surf zone fishes. Continued erosion of the beach could threaten the existence of the remaining dune vegetation and adjacent scrub habitat in Broward County, potential decreasing available habitat for birds and dune species. Additionally, armoring measures that would likely be undertaken by property owners in the absence of nourishment would further reduce the available habitat and result in negative impacts to the biological communities.

Implementation of Alternative 1 or 2 will have the same effects on beach and dune habitat. Direct effects to birds and other wildlife from project construction are expected to be minimal as these animals are motile and can avoid construction activities, however, temporary displacement and noise related to use of heavy construction equipment could disturb nesting and foraging birds and other wildlife (Speybroek et al. 2006). Some wildlife and birds may experience temporary adverse effects from a reduction in available food sources. These effects will be short-term and limited to the immediate area of placement and time of construction. There will be sufficient areas north and south of the construction zone that can be used by displaced birds and wildlife during construction. Long-term benefits can be expected from the additional beach area that will result in more available nesting and foraging areas for migratory birds.

The Corps, in conjunction with the USFWS and FWC, has developed statewide guidelines to avoid and monitor potential effects to shorebirds. If placement of sand occurs during migratory bird nesting season, short-term, localized effects may occur. The timeframe for the construction activities will be in accordance with P3BO and SPBO T&Cs. The Corps developed a suite of contractual specifications for contractors to implement during construction where migratory birds may be present. The Contractor, will be assisted in this by a qualified bird observer as required by the SPBO, will keep all construction activities under surveillance, management, and control to prevent effects to migratory birds and their nests. The Contractor may be held responsible for harming or harassing the birds, their eggs or their nests as a result of their activities.

Nelson (1989) reviewed the literature on the effects of beach nourishment projects on sand beach fauna and concluded that minimal biological effects resulted from beach nourishment. Nelson reviewed several studies on the most common beach invertebrates of the southeastern U.S., including the mole crab (*Emerita talpoida*), the surf clam, (*Donax sp.*) and the ghost crab (*Ocypode quadrata*). None of the studies cited by Nelson (1989) showed significant or lasting impacts to any of the above species resulting from beach nourishment. Hackney et al. (1996) provide a more recent review of the effects of beach restoration projects on beach infauna in the southeastern U.S. They also reviewed studies on the above species and agree with the conclusions set forth by Nelson (1989), with the suggestion that construction should take place in winter months to minimize potential effects, and that the sand used should be a close match to native beach sand. In review of past studies, there was a considerable short-term reduction in the abundances of mole crabs, surf clams, and ghost crabs attributable to direct burial. Recruitment and immigration were generally sufficient to re-establish populations within one year of construction. No long-term adverse effects are anticipated to the intertidal macroinfaunal community due to placement activities (Deis et al. 1992, Nelson 1985, Gorzelany & Nelson 1987). Section 4.5.1 of the 2004 GRR/FEIS analyzes potential impacts to infaunal and shorebird species (Corps 2004).

In addition to beach and dune effects, implementation of Alternative 2 could also affect nearshore hardbottoms and unvegetated habitat through turbidity and sedimentation from the placement of sand below MHW. These affects would be offset with in-kind compensatory mitigation, which will

likely consist of construction of a nearshore artificial reef composed of prefabricated habitat replication units or limestone boulders scoped and sized according to the characteristics of the hardbottom habitat expected to be impacted.

4.5 ESSENTIAL FISH HABITAT

Under the No Action Alternative, erosion of the shoreline would continue. As stated in section 4.4.5 of the 2004 FEIS, "...it is probable that maintenance of status-quo conditions would result in increased exposure of nearshore rock outcrops as the shoreline continues to erode at its present rate."(Corps 2004). The exposed rock outcrops could potentially serve as additional EFH. Alternative 1 is not expected to result in effects to EFH due to the placement of sand above MHW.

Temporary effects associated with turbidity from Alternative 2's placement of sand below MHW would occur; however, these effects will be limited to the duration of project construction and will not have long-term effects on water quality. Motile species may leave the project area during construction but it is expected that they will return upon completion of the project. There may be direct and indirect impacts to the nearshore hardbottom resources. Issues of concern and the sufficiency of measures to avoid, minimize, and mitigate for impacts to corals and hardbottom resources will be more closely examined prior to full construction of the FCCE template. Standard construction measures and BMPs will be implemented to avoid undue turbidity and sedimentation from reaching these sensitive habitats.

4.6 COASTAL BARRIER RESOURCES

Under the No Action Alternative, erosion would continue and the shoreline would continue to narrow in the identified Coastal Barrier Resources Act (CBRA) units (OWA FL20P, Lloyd Beach, and System Unit P14A, North Beach). Implementation of Alternative 1 or 2 would result in a restored and stabilized beach in the CBRA units. Consultation for the Broward County SPP beach renourishment within OWA FL20P and System Unit P14A was completed with USFWS during the FEIS process. In a letter dated April 30, 2003, the USFWS concluded the following:

"Since the proposed Broward County Shore Protection Project does not include the construction of structures that would require Federal Flood Insurance, then Federal expenditures for the proposed project are not restricted in the FL-19P, Birch Park, and FL-20P, Lloyd Beach OPAs. The Service has determined that the construction activities within CBRA Unit P-14A, North Beach, are consistent with the intent of the Act and are exempt pursuant to section 6(a)(G) which authorizes 'nonstructural projects for shoreline stabilization that is designed to mimic, enhance, or restore a natural stabilization system.'"

4.7 HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE

None of the alternatives will result in a change to the project area's HTRW conditions. The project will not introduce any new sources of contaminants or hazardous waste to the area. All wastes and refuse generated by project construction will be removed and properly disposed. Contractors will implement a spill contingency plan for hazardous, toxic, or petroleum material for the borrow area.

4.8 WATER QUALITY

The No Action Alternative and Alternative 1 are not expected to affect water quality. Construction of Alternative 1 will occur completely on a dry beach, and the placement of sand will be above

MHW. The submerged portion of the beach is already in equilibrium and therefore, no effects associated with reaching equilibrium are anticipated.

Alternative 2 includes placement of sand below MHW. Turbidity may increase in the nearshore environment as the newly constructed beach adjusts to conditions and reaches the ETOF. Turbidity will be minimized through the planned use of high quality sand from an upland source, preventative measures, and monitoring efforts; therefore, project construction is not expected to require a variance to the standard mixing zone of 150 meters. After placement, water quality will quickly return to pre-construction conditions. If Alternative 2 is selected in future cycles, implementation will be performed in compliance with State of Florida water quality standards, and the Corps will obtain Section 401 Clean Water Act water quality certification (WQC) prior to construction. Section 4.25.2 of the 2004 GRR/FEIS discusses turbidity recordings and sedimentation monitoring for various nourishment projects (Corps 2004).

4.9 AIR QUALITY

Under the No Action Alternative, air quality conditions would remain the same. Implementation of Alternative 1 or 2 will occur in an urban, highly developed area, which already experiences various emissions and is in attainment with NAAQS. Both Alternatives will have minor, temporary degradation of air quality due to emissions from heavy equipment during mining, transport, and placement operations.

4.10 NOISE

Under the No Action Alternative, noise levels are expected to remain the same. Implementation of Alternative 1 or 2 will result in temporary, minor increases in noise during construction due to the heavy machinery involved with a truck haul project. Areas where placement will occur currently experience elevated background noise associated with recreation, commercial, and tourism activities. Placement operations near populated or other noise-sensitive locations may result in increased levels of noise. Noise levels will be affected along the roads and bridges traversed by dump trucks, at the beach access points and staging areas where sand transfer will occur, and at the section of beach being filled. Construction equipment will be properly maintained to minimize these effects in compliance with local laws. Sand delivery and placement will be limited to daylight hours due to safety and noise concerns. It is not expected that there will be any permanent or lasting impacts to above water noise levels. Although Alternative 2 includes some in-water work associated with sand placement below the MLW, the noise levels generated by the small boats present for turbidity monitoring purposes are no different than typical noise created by other commercial and recreational vessels in the area. Following construction completion, noise levels are expected to revert to background levels.

4.11 AESTHETIC RESOURCES

The No Action Alternative would result in decreased aesthetic value due to the narrowing of the beach and the potential for increased armoring. Although Alternative 2 would result in a wider beach than Alternative 1, implementation of either alternative will result in improved aesthetic value of the beach due to the taller and/or wider beach without erosional scarps. Members of the public may consider the presence of construction equipment to be “unsightly”, which will temporarily detract from the aesthetics until construction is complete and the equipment is removed.

4.12 RECREATION RESOURCES

Under the No Action Alternative, the continued erosion will reduce the beach space available for recreational activities, which will likely result in negative effects on the long-term recreational use of the area. Implementation of Alternative 1 or 2 will temporarily impede or restrict beach use for safety purposes during placement operations; however, this effect is temporary. Construction is a rolling operation; therefore, access and recreation will only be restricted in the areas where construction is occurring at that time. Although both alternatives will result in long-term positive effects by restoring beach space for recreational activities, Alternative 2 would result in a wider beach which provides more space than Alternative 1.

4.13 ECONOMIC RESOURCES

Section 15 of the Corps' 2018 PIR and Section 4.8 of the 2004 GRR/FEIS have detailed discussions of the socio-economic impacts associated with placement of sand on the Broward County Segment III beachfront. Both of those analyses are relevant to this project and are incorporated by reference. Implementation of Alternative 1 or 2 will result in increased traffic and wear and tear on the roads during truck haul activities. Placement of sand on the beach will increase the capacity for recreational activity, and ultimately lead to an increase in tax revenue and tourism commerce. The commercial businesses and residential properties along the shoreline will benefit from the storm protection afforded by the project, which will maintain or increase beachfront property values and incur less risk of property damage. Construction of Alternative 2 would result in a wider beach due to the placement of sand below MHW. The wider beach would provide more space for recreation and tourism as well as protection to upland structures than Alternative 1.

The No Action Alternative assumes continued erosion along Segment III's shoreline. The reduction of storm protection could result in damages to infrastructure that could lead to millions of dollars of repair costs to be borne by the local sponsor. Additionally, the continued loss of recreational beach area may result in loss of tourism commerce and tax revenue. The potential loss of or damages to roads, specifically highway A1A, could impede efforts to evacuate residents and visitors from the area during storm preparation efforts.

4.14 CULTURAL RESOURCES

Potential cultural resources that may exist near the project area include archaeological resources or historic structures located in or near the project area or sand sources. Based on archival research of the Florida Master Site File (FMSF) no prehistoric archaeological sites are recorded within the beach placement area; however, several historic structures (8BD03841, 8BD03836, 8BD03835, 8BD3804, 8BD03804, 8BD03802, 89BD03815, 8BD03800, 8BD00322, 8BD05203, 8BD03427, 8BD03769, 8BD03337, 8BD03309, 8BD3300, and 8BD03299) are located within 200 feet of the placement activities. In the past, beach material placement for the project was viewed as a protective measure; therefore, no cultural resources survey has been conducted during for previous project renourishments. For the proposed action Alternative 1 – FCCE only renourishment added into the project life cycle, the Corps has determined that the project will have no adverse effect on historic properties on or eligible for inclusion on the NRHP. For the proposed action Alternative 2 – FCCE – placement congruent with the full construction template, nearshore areas that have not been previously subject to cultural resources surveys will require cultural resources surveys prior to project implementation. The No Action Alternative through continued erosion and sea level rise poses an adverse effect on cultural resources.

The primary commercial upland sand sources identified for the Segment III Project include the Ortona Sand Mine and the Witherspoon Sand Mine. Over the years, a number of cultural resource surveys have been conducted for the Ortona Sand Mine (Department of Historical Resources (DHR) Survey Nos. 6689, 4847, 3021, 17005, and 16862). Several prehistoric archaeological sites associated with the Ortona Mound complex have been identified and recorded within the mine property including Ortona Canal East (8GL4a), Quarry Mound (8GL81), Lance's Mound (8GL419), Sawpalmetto Haven Mound (8GL420), and Tallant Mound (8GL00083). FMSF records indicate that the Ortona Canal East (8GL4a) and Quarry Mound (8GL81) have been mitigated. Cultural resources investigations for the adjacent Witherspoon sand mine have been completed (DHR Survey No. 4602). Two archaeological sites (8GL378 T.C. Cabbage Palm Mound and 8GL379 Fox Hammock Midden) were identified as eligible for inclusion in the National Register of Historic Places. These sites will not be impacted by the sand mining activities. Any upland sand mines employed for this project are subject to the requirement of proving compliance with the State of Florida's statutory requirements in Chapter 267 for protection of historical resources in the sand source footprints before the Corps will approve utilizing the source. Consultation under Section 106 of NHPA (54 U.S.C. §306108) with Florida SHPO and appropriate federally-recognized tribes is ongoing.

The Corps has determined that the Preferred Alternative, including the use of the potential upland sand sources, will have no effect on historic properties eligible or potentially eligible for listing in the National Register of Historic Places. Consultation with the Florida State Historic Preservation Officer and the appropriate federally-recognized tribes was initiated by letter on August 28, 2018 (**Appendix A**). Consultation will be completed prior to project implementation.

4.15 NATIVE AMERICANS

No portion of the proposed action is located within or adjacent to known Native American-owned lands, reservation lands, or Traditional Cultural Properties. Prior consultation on the project has not indicated any historic use of the project area. However, Native American groups have lived throughout the region as evidenced by the presence of prehistoric archaeological sites near the project area, and their descendants continue to live within the State of Florida and throughout the United States. Pursuant to Section 106 of the NHPA (54 U.S.C. §306101 *et seq.*), obligations regarding the Corps' Trust Responsibilities to federally-recognized Native American Tribes, and in consideration of the Burial Resources Agreement between the Corps and the Seminole Tribe of Florida, consultation is ongoing with Native American tribes having ancestral ties to this region, including the Miccosukee Tribe of Indians of Florida, Seminole Tribe of Florida, Seminole Nation of Oklahoma, and Thlopthlocco Tribal Town. **Appendix A (Environmental Correspondence)** includes pertinent correspondence.

4.16 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

4.16.1 IRREVERSIBLE

An irreversible commitment of resources is one in which the ability to use and/or enjoy the resource is lost forever. One example of an irreversible commitment might be the mining of a mineral resource. An irreversible commitment for this project (under either Alternative 1 or 2) includes the removal of beach fill material from the upland sand source. The energy and fuel used during mining, transport, and placement would also be an irreversible commitment of resources under either Alternative 1 or 2.

4.16.2 IRRETRIEVABLE

An irremovable commitment of resources is one in which, due to decisions to manage the resource for another purpose, opportunities to use or enjoy the resource as they presently exist are lost for a period of time. An example of an irremovable loss might be where a type of vegetation is lost due to road construction. Impacts from the placement of the sand on the beach which are temporary (e.g. benthic invertebrates, etc.), would be an irremovable loss of that resource for the period of time it takes to recover under both Alternatives 1 and 2.

4.17 UNAVOIDABLE ADVERSE ENVIRONMENTAL EFFECTS

Under the No Action Alternative, continued erosion of Broward County Segment III may result in adverse effects to nesting sea turtles and shorebirds foraging and nesting habitat due to the loss/degradation of existing beach and dunes.

Construction activities and noise related to use of heavy construction equipment associated with the implementation of Alternative 1 or 2 could disturb nesting and foraging sea turtles, birds, and other wildlife, causing them to be temporarily displaced and/or avoid the area. Infaunal resources that live inside the boundaries of the placement footprint will be lethally impacted by placement but are expected to recolonize shortly after construction has ceased. All of these effects are expected to be short-term and minor in nature.

Natural or Depletable Resources:

The No Action Alternative will have no effect on natural or depletable resources, however, implementation of Alternative 1 or 2 include indirect effects, such as the use of fuel for construction and operations (petroleum depletion), machinery wear and tear (metal ore depletion), and similar effects. These effects are considered to be of minor consequence.

Energy Requirements and Conservation:

The No Action Alternative will require no energy or energy conservation efforts; however, implementation of Alternative 1 or 2 will involve the use of fuel to power heavy equipment, trucks, and other associated machinery in conjunction with the mining, transport, and placement of sand on the beach.

4.18 INDIRECT EFFECTS

A 1995 study for the Corps' Institute for Water Resources found no evidence that beach nourishment projects induce development along the protected shoreline (Cordes and Yezer 1995). Pilkey and Dixon (1996) state that beach replenishment frequently leads to more development in greater density within shorefront communities, necessitating future replenishment or more drastic stabilization measures. Dean (1999) also notes that the very existence of a beach nourishment project can encourage more development in coastal areas. Following completion of a 1982 Miami Beach shore protection project, investment in new and updated facilities substantially increased tourism (National Research Council 1995). Increased building density immediately adjacent to the beach often resulted as older buildings were replaced by much larger ones that accommodated more beach users. Overall, shoreline management creates an upward spiral of initial protective measures resulting in more expensive development which leads to the need for more and larger protective measures.

In addition, increased shoreline development may adversely affect sea turtle nesting success. Greater development may result in greater adverse effects due to artificial lighting and support

larger populations of mammalian predators, such as foxes and raccoons (National Research Council 1990a).

4.19 CUMULATIVE EFFECTS

Cumulative effects are defined in 40 CFR §1508.7 as those effects that result from “...the incremental effect of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time.”

Past, present and reasonably foreseeable actions and plans are summarized below in **Table 5**. Section 1.4 of the EA contains more details on environmental reports completed in/around the project’s vicinity. In addition to beach renourishment of Broward County SPP, other Federal civil works projects in the vicinity include dredging of the IWW in Broward County and dredging of Port Everglades. It is expected that the public, State of Florida, and local governments could have permitted activities in or around the project area. Federal activities are evaluated under NEPA directly for each project. Other projects that take place in-water or would affect wetlands are evaluated under a permit issued by the Corps’ Regulatory Division.

The FCCE truck haul and placement of sand on Segment III of the Broward County SPP, when considered with past projects in the area and potential future projects, has no significant cumulative impact on the environmental conditions of the project area. A summary of cumulative effects on environmental factors from past, present, and reasonably foreseeable actions and plans is provided in **Table 6**.

Table 5. Past, present, and reasonably foreseeable actions and plans affecting the project area.

Past Actions/Authorized Plans	Current Actions and Operating Plans	Reasonably Foreseeable Future Actions and Plans
<ul style="list-style-type: none"> - Broward County SPP (Segments I, II, and III) - IWW dredging - Port Everglades development, harbor improvements, and maintenance dredging - General urbanization 	<ul style="list-style-type: none"> - No known projects 	<ul style="list-style-type: none"> - Broward County Sand Bypass project - Broward County SPP Segment II renourishment -Port Everglades maintenance dredging (2019) -Port Everglades navigation improvements project (2019-2024) - Broward County SPP Segment III full construction template renourishment (2020)

Table 6. Summary of cumulative effects.

Natural Setting (Vegetation, Threatened and Endangered Species, Fish and Wildlife Resources, EFH, CBRs)	
Past Actions	Construction of residential and commercial/public infrastructure has decreased the amount of habitat available for fish, wildlife, and threatened and endangered species use in the area.
Present Actions	No known present actions are occurring in the project vicinity.
Preferred Alternative	<p>Placement of sand may result in temporary impacts to fish, wildlife, and threatened and endangered species during construction due to noise and/or construction activities; however, these impacts are expected to be minor and will cease with the completion of construction. Benthic species located within the project footprint will be lethally impacted due to placement operations. These impacts, although lethal, are expected to be minor and temporary as recolonization from adjacent communities will occur almost immediately. Beach renourishment will result in the creation of improved and new habitat available for wildlife and threatened and endangered species use.</p> <p>Detailed discussion of the effects of the proposed action on the components of the natural setting are described in Section 4 (Environmental Effects), specifically sections 4.2 (Vegetation), 4.3 (Threatened and Endangered Species), 4.4 (Fish and Wildlife Resources), 4.5 (EFH), and 4.6 (CBRS).</p>
Future Actions	Any Federal and/or state/local projects will be required to follow regulations to maintain and protect threatened and endangered species and their habitats within the area.
Cumulative Effect	No cumulative effects to the natural setting of this area are expected.
Physical Setting (HTRW, Water Quality, Air Quality, Noise)	
Past Actions	General urbanization has introduced sources of HTRW and noise as well as contributed to the degradation of water and air quality.
Present Actions	Port and airport operations contribute to water quality, air quality, and noise in the project area.
Preferred Alternative	<p>Due to the placement of sand above MHW, no effects to water quality are anticipated. Construction equipment may release negligible amounts of pollutants, including oils and grease. Best management practices will be used to limit the possibility of adverse effects, and detailed pollution control plans will be developed prior to the start of construction. No new sources of HTRW will be introduced to the project area. Increased noise will occur during beach renourishment activities, however, this will effect will end with completion of construction.</p> <p>Detailed discussion of the effects of the proposed action on the components of the physical setting are described in Section 4 (Environmental Effects), specifically sections 4.7 (HTRW), 4.8 (Water Quality), 4.9 (Air Quality), and 4.10 (Noise).</p>
Future Actions	Projects implemented would meet and maintain regulated water and air quality standards and noise limitations within the area.

Cumulative Effect	Ongoing erosion, seasonal weather, and storm event effects on water quality are unlikely to be eliminated. The Corps is committed to ensuring that projects will not result in violations of water or quality standards.
Socioeconomic Resources (Aesthetic Resources, Recreation Resources, Economic Resources)	
Past Actions	General urbanization of the region has increased the aesthetic, recreation, and economic resources in this area.
Present Actions	No known present actions are occurring in the project vicinity.
Preferred Alternative	Renourishment of the beach will ensure continued use, which provides benefits to the recreation and economy in this area. Detailed discussion of the effects of the proposed action on the components of socioeconomic resources are described in Section 4 (Environmental Effects), specifically sections 4.11 (Aesthetic Resources), 4.12 (Recreation Resources), and 4.13 (Economic Resources).
Future Actions	Continued urbanization and projects to increase benefits to the economy (e.g. tourism), recreation, and aesthetics are likely in this region.
Cumulative Effect	Continuation of benefits to socioeconomic resources may be anticipated when considering the cumulative effects of projects in this area.
Cultural Resources	
Past Actions	Ongoing erosion and storm event effects have added to the degradation of cultural resources located along the shoreline.
Present Actions	No known present actions are occurring in the project vicinity.
Preferred Alternative	Preferred alternative will have no adverse effect on any known historic properties in the project area.
Future Actions	Future actions are not anticipated to impact any known historic properties in the project area.
Cumulative Effect	Ongoing erosion and storm event effects on historic properties are unlikely to be eliminated; however, cumulative effects from the implementation of the preferred alternative will not impact any known historic properties in the project area.
Native Americans	
Past Actions	Ongoing erosion and storm event effects have added to the degradation of cultural resources located along the shoreline.
Present Actions	No known present actions are occurring in the project vicinity.
Preferred Alternative	There are no known impacts.
Future Actions	Dredge material placement may result in the stabilization of existing shorelines and minimize future erosion in some areas.
Cumulative Effect	Ongoing erosion and storm event effects on cultural resources are unlikely to be eliminated; however, implementation of the preferred alternative will not impact any known sites in the project area. No cumulative impacts are expected.

In addition to the analysis above, Table 22 of the 2004 GRR/FEIS summarizes the impact of such cumulative actions by identifying the past, present, and reasonably foreseeable future condition of the various resources which are directly or indirectly impacted by the proposed action and its alternatives. The table also illustrates the with-project and without-project condition (the

difference being the incremental impact of the project). Also illustrated is the future condition with any reasonable alternatives (or range of alternatives). Section 4.25 of the 2004 FEIS includes detailed cumulative effects analysis and those analyses are incorporated by reference into this EA. Issues and effects identified in those documents remain pertinent to this nourishment.

4.20 LOCAL SHORT-TERM USES AND MAINTENANCE/ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Shoreline protection using beach fill with periodic renourishment is an ongoing effort. Beach renourishment projects have a temporary and short-term impact on local offshore and nearshore biological resources. Most motile organisms in the beach habitat areas should be able to relocate during construction. Less-motile or non-motile organisms will be lost; however, the macroinfaunal community will likely begin recovery immediately through the recolonization of the newly created habitat via species present in the undisturbed areas adjacent to the renourished areas (Burlas et al. 2001; Van Dolah et al. 1984; Jutte et al. 2002). Short-term reductions in primary productivity and reproductive and feeding success of invertebrate species living in the fill area are expected. The sustainability of these populations should not be negatively affected considering that adjacent suitable habitat is available and the project will result in the creation of more suitable habitat following construction.

4.21 UNCERTAIN, UNIQUE, OR UNKNOWN RISKS

The proposed Broward County Segment III work does not involve any activities that have not been previously utilized during past renourishment activities performed in Broward County or along the south Florida Atlantic Coast shoreline. Precautionary measures will be included in the contract specifications to ensure that there are no impacts related to pollution, migratory birds, or nesting sea turtles. In the unlikely event that any unacceptable impacts occur, necessary corrective measures will occur as required by the permits and law.

4.22 CONFLICTS AND CONTROVERSY

In past years, resource agencies, scientists, and some environmental organizations have expressed concern regarding the effects of beach restoration and maintenance activities on nearby corals and hardbottom communities. The Corps has considered and will continue to evaluate the degree to which the effects of the alternatives may be controversial and ensure the sufficiency of measures to avoid, minimize, and mitigate for impacts to resources.

4.23 COMPATIBILITY WITH FEDERAL, STATE, AND LOCAL OBJECTIVES

The Federal objective is to contribute to national economic development consistent with protecting the nation's environment, pursuant to national environmental statutes, applicable executive orders, and other Federal planning requirements. Federal planning concerns other than economic include environmental protection and enhancement, human safety, social wellbeing, and cultural and historical resources.

Federal and County objectives include (1) the reduction of expected storm damages through beach nourishment and other project alternatives; (2) maintaining beaches as suitable recreational areas; (3) maintaining suitable beach habitat for nesting sea turtles, invertebrate species, and shorebirds; and (4) maintaining commerce associated with beach recreation in Broward County. The Preferred Alternative is consistent with Federal and Local objectives and State of Florida's Coastal Zone Management Program (CZMP).

4.24 PRECEDENT AND PRINCIPLE FOR FUTURE ACTIONS

As stated above, the proposed Segment III work does not involve any renourishment activities that have not been previously utilized in Broward County. These beach nourishment projects include the Segment III work as well as multiple other beaches along the south Florida Atlantic coast shoreline (Palm Beach through Miami-Dade Counties).

5 PUBLIC/AGENCY COORDINATION

5.1 NATIONAL ENVIRONMENTAL POLICY ACT OF 1969 (42 U.S.C. §4321 ET SEQ.)

This EA has been prepared pursuant to NEPA and its implementing regulations. The project in compliance with the NEPA of 1969, as amended, 42 U.S.C. §4321, *et seq.* Public Law 91-190.

5.2 PUBLIC AND AGENCY COORDINATION

The draft EA, proposed FONSI, and associated appendices for the proposed project was circulated for a 15-day agency and public review and comment period. A Notice of Availability of the draft EA and proposed FONSI was distributed to the following list of recipients:

Federal Agencies:

NMFS, U.S. Coast Guard, USEPA, USFWS

Tribal Nations:

Miccosukee Tribe of Indians of Florida, Seminole Tribe of Florida, Poarch Band of Indians, Muscogee (Creek) Nation, Kialegee Tribal Town, Alabama-Quassarte Tribal Town, Thlopthlocco Tribal Town, and the Seminole Nation of Oklahoma

State Agencies:

FDEP, Florida Department of Transportation, Florida Inland Navigation District, Florida State Clearinghouse, FWC, SFWMD, SHPO

Local Agencies:

Broward County: District 7 Commissioner, District 6 Commissioner, Mayor, Vice Mayor, Department of Planning and Environmental Protection, Planning Council

City of Dania Beach: City Commissioners, Mayor, Vice Mayor, City Manager, Assistant City Manager, Parks and Recreation Department

City of Hollywood: District 1 City Commissioner, Mayor, Vice Mayor, City Manager, Parks, Recreation, and Cultural Arts Department, Planning Division, Engineering Division

City of Hallandale Beach: City Commissioners, Mayor, Vice Mayor, City Manager, Parks and Recreation Department

Non-Governmental Agencies:

Save the Manatee Club; South Florida Audubon Society; Audubon of Florida; Florida Wildlife Federation; Sierra Club; Fish and Wildlife Foundation of Florida; Florida Biodiversity Project; the Wildlife Society; Nature Conservancy; Surfrider Foundation; Sea Turtle Oversight Protection; South Florida Wilderness Association; Florida Shore and Beach Preservation Association; Cry of the Water, Inc.; Reefkeeper International; National Wildlife Federation; and Miami Waterkeeper.

6 ENVIRONMENTAL COMMITMENTS

The Corps will comply with all T&Cs of the revised 2015 SPBO and 2013 P3BO. The Corps and its contractors also commit to avoiding and minimizing for adverse effects during construction activities by including the following commitments in the contract specifications:

6.1 PROTECTION OF FISH AND WILDLIFE RESOURCES

Contractors will keep construction activities under surveillance, management, and control to minimize interference with and disturbance and damage to fish and wildlife. Species that require specific attention, along with measures for their protection, will be listed in the Contractor's Environmental Protection Plan (EPP) prior to the beginning of construction operation.

6.2 ENDANGERED AND THREATENED SPECIES PROTECTION

The Corps and its contractors commit to avoiding and minimizing for adverse effects to endangered and threatened species. The Corps will include applicable T&Cs of the 2015 SPBO and 2013 P3BO for sand placement in the project specifications. The Contractor will also include protection criteria for endangered and threatened species protections in their EPP.

6.3 WATER QUALITY

The Corps and its contractors will prevent oil, fuel, or other hazardous substances from entering the air or water. This will be accomplished by design and procedural controls. Due to the placement of sand above MHW, a Section 401 WQC is not required. All wastes and refuse generated by project construction will be removed and properly disposed. Contractors will implement a spill contingency plan for hazardous, toxic, or petroleum material.

6.4 CULTURAL RESOURCES

An unexpected cultural resources finds clause will be included in the project specifications. In the event that any archaeological resource is uncovered during construction activities, all activities will be halted immediately within the area. Once reported, Corps staff will initiate coordination with the appropriate Federal, tribal, and state agencies to determine if archaeological investigation is required. Additional work in the area of the discovery will be suspended at the site until compliance with all Federal and state regulations is successfully completed and Corps staff members provide further directive.

6.5 PROTECTION OF MIGRATORY BIRDS

The Corps will incorporate the standard migratory bird protection protocols into the project plans and specifications and will require the contractor to abide by those requirements to include all monitoring timeframes as specified by the appropriate BOs.

7 COMPLIANCE WITH ENVIRONMENTAL REQUIREMENTS

7.1 NATIONAL ENVIRONMENTAL POLICY ACT OF 1969 (42 U.S.C. §4321 *ET SEQ.*)

This project complies with NEPA as noted by the discussion in Section 5.1 above.

7.2 ENDANGERED SPECIES ACT OF 1973 (16 U.S.C. §1531 *ET SEQ.*)

This project is coordinated with USFWS through the SPBO dated March 13, 2015 and the P3BO dated May 22, 2013. The conservation recommendations included in the P3BO for shorebirds will provide protections to the piping plover and rufa red knot. To reduce potential impacts to nesting and hatchling sea turtles, placement of sand on the beach is not allowed during the peak sea turtle nesting and hatching period, which is between May 1 to November in Broward County. If beach placement occurs during early (March 1 to April 30) or late (November 1 to January 15) sea turtle nesting season, daily sea turtle nest surveys and potential nest relocations are required. Nest laying typically ends around November 11. Broward County Environmental Protection and Growth Management Department could conduct these surveys as they already possess a marine turtle permit from FWC for monitoring and relocation of nests for conservation purposes and have conducted this monitoring on other renourishment projects in Broward County. The 2015 SPBO issued by the USFWS covers nest relocations due to beach nourishment activities, however, Broward County or other turtle monitoring permit holders will need a permit modification for activities during construction prior to conducting relocations. On October 16, 2018, USFWS concurred with the Corps' effect determinations. The proposed project activities occur above MHW, therefore, the project will not affect species under NMFS jurisdiction and no consultation with NMFS is required. This project is fully coordinated under the ESA and is in compliance with the Act.

7.3 FISH AND WILDLIFE COORDINATION ACT OF 1958 (16 U.S.C. §661 *ET SEQ.*)

In conjunction with the 2004 GRR/FEIS for the Broward County SPP Segments II and III, a Fish and Wildlife Coordination Act Report was completed by USFWS in June 2002. In addition, a memorandum for the record was submitted to USFWS to document an agreement between the Corps and USFWS to use the NEPA review and ESA consultation processes to complete coordination responsibilities under the Fish and Wildlife Coordination Act. This agreement, signed by both agencies, avoids duplicate analysis and documentation as authorized under 40 CFR 1500.4(k), 1502.25, 1506.4, and is consistent with the Presidential E.O. 13563 (Improving Regulation and Regulatory Review), released January 18, 2011. This project complies with this Act.

7.4 NATIONAL HISTORIC PRESERVATION ACT OF 1966 (INTER ALIA)

The Corps determined that the proposed action will not adversely affect historic properties included in or eligible for inclusion in the NRHP. Such properties are not located in the affected area. Consultation with the Florida SHPO and appropriate federally recognized tribes was initiated in accordance with Section 106 of the NHPA, as amended, and as part of the requirements and consultation processes contained within the NHPA implementing regulations of 36 CFR Part 800. Copies of these letters have been placed in **Appendix A (Environmental Correspondence)**. Consultation is ongoing and will be finalized prior to project implementation. The project is in compliance with the goals of this Act.

The proposed activity is also in compliance with the following:

- Archeological Resources Protection Act (P.L. 96-95);
- American Indian Religious Freedom Act (P.L. 95-341);
- E.O. 11593 (Protection and Enhancement of the Cultural Environment);
- E.O. 13007 (Indian Sacred Sites);
- E.O. 13175 (Consultation and Coordination with Indian Tribal Governments);
- Presidential Memo of 1994 on Government to Government Relations with Native American Tribal Governments.

7.5 CLEAN WATER ACT OF 1972, SECTION 401 AND SECTION 404(B) (33 U.S.C. §1341 ET SEQ. AND 33 U.S.C. §1344(B) ET SEQ.)

The placement of sand above MHW does not require a Clean Water Act Section 401 WQC or a Section 404(b)(1) guidelines evaluation (40 CFR Part 230).

7.6 CLEAN AIR ACT OF 1972 (42 U.S.C. §7401 ET SEQ.)

The short-term impacts from construction equipment associated with the project will not significantly affect air quality. No air quality permits would be required for this project. Broward County is designated as an attainment area for federal air quality standards under the Clean Air Act. Because the project is located within an attainment area, USEPA's General Conformity Rule to implement Section 176(c) of the Clean Air Act does not apply and a conformity determination is not required.

7.7 COASTAL ZONE MANAGEMENT ACT OF 1972 (16 U.S.C. §1451 ET SEQ.)

In compliance with the CZMA, the Corps submitted a FCD to the State of Florida for concurrence during the public noticing of the draft EA. The State of Florida has previously found the entire Broward County SPP consistent with the Florida CZMP under the 2004 GRR/FEIS. The FCCE project for Segment III is within the same footprint as that previous determination. In an email dated October 15, 2018, FDEP concurred with the FCD stating, "Based on the information submitted and minimal project impacts, the state has no objections to the subject project and, therefore, it is consistent with the Florida Coastal Management Program." The project complies with this Act.

7.8 FARMLAND PROTECTION POLICY ACT OF 1981 (7 U.S.C. §4201 ET SEQ.)

The proposed project activities will not affect any prime or unique farmland. This Act is not applicable to this project.

7.9 WILD AND SCENIC RIVER ACT OF 1968 (16 U.S.C. §1271 ET SEQ.)

The proposed project activities will not affect any designated wild and scenic river reaches. This Act is not applicable to this project.

7.10 MARINE MAMMAL PROTECTION ACT OF 1972 (16 U.S.C. §1361 ET SEQ.)

Although Florida manatees may occur in the project vicinity, the Preferred Alternative's activities occur above MHW, therefore, the project will not affect marine mammals. This Act is not applicable to this project.

7.11 ESTUARY PROTECTION ACT OF 1968 (16 U.S.C. §§1221-26)

The proposed project activities will not affect any designated estuaries. This Act is not applicable to this project.

7.12 FEDERAL WATER PROJECT RECREATION ACT (16 U.S.C. §460|-12 ET SEQ.)

The principles of the Federal Water Project Recreation Act (16 U.S.C. §460|-12 *et seq.*) require the Corps to consider any opportunity for the project to add or improve outdoor recreation and/or fish and wildlife enhancement. The proposed project will restore the beach which will improve recreation and enhance habitat for wildlife. Recreational resources and opportunities are discussed in this report. This project complies with the Act.

7.13 MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT OF 1976, AS AMENDED (16 U.S.C. §1801 ET SEQ.)

The proposed project activities occur above MHW, therefore, the project will not affect EFH. This Act is not applicable to this project.

7.14 SUBMERGED LANDS ACT OF 1953 (43 U.S.C. § 1301 ET SEQ.)

The proposed project activities occur above MHW. The project has been coordinated with the State of Florida through the submittal of the Corps' FCD. This project complies with this Act.

7.15 COASTAL BARRIER RESOURCES ACT AND COASTAL BARRIER IMPROVEMENT ACT OF 1990 (16 U.S.C. §3501 ET SEQ.)

There are two designated coastal barrier resources in the project area that would be affected by this project: OWA FL20P, Lloyd Beach, and System Unit P14A, North Beach. Consultation for the Broward County SPP beach renourishment within OWA FL20P and System Unit P14A was completed with USFWS on April 30, 2003. USFWS concluded that renourishment of these units "...are consistent with the intent of the Act and are exempt pursuant to section 6(a)(G) which authorizes "nonstructural projects for shoreline stabilization that is designed to mimic, enhance, or restore a natural stabilization system." The project has not changed in a manner that would change this determination. This project complies with the Act.

7.16 RIVERS AND HARBORS ACT OF 1899, SECTION 10 (33 U.S.C. §403 ET SEQ.)

The proposed project activities occur above MHW, therefore, the project will not obstruct navigable waters of the U.S. This Act is not applicable to this project.

7.17 ANADROMOUS FISH CONSERVATION ACT (16 U.S.C. §§757A-757G)

The proposed project activities occur above MHW, therefore, the project will not affect anadromous fish species. This Act is not applicable to this project.

7.18 MIGRATORY BIRD TREATY ACT (16 U.S.C. §§703-712) AND MIGRATORY BIRD CONSERVATION ACT (16 U.S.C. §§715-715D, 715E, 715F-715R)

The project plans and specifications will include migratory bird protection measures for construction activities. If nesting activities occur within the construction area, appropriate buffers will be placed around nests to ensure their protection. This project has been coordinated with USFWS and complies with the Act.

7.19 MARINE PROTECTION, RESEARCH, AND SANCTUARIES ACT (16 U.S.C. §1431 ET SEQ. AND 33 U.S.C. §1401 ET SEQ.)

Ocean disposal is not a component of this project; therefore, this Act is not applicable to this project.

7.20 UNIFORM RELOCATION ASSISTANCE AND REAL PROPERTY ACQUISITION POLICIES ACT OF 1970 (42 U.S.C. §4601 ET SEQ.)

The purpose of Public Law 91-646 is to ensure that owners of real property to be acquired for federal and federally assisted projects are treated fairly and consistently and that persons displaced as a direct result of such acquisition will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole. As this work is authorized under the FCCE, it is notable that only the volume of material determined to be lost due to the disaster (primarily Hurricane Irma) will be placed. The width of the restored beach is controlled by the pre-project MHW and will not be extended seaward by the project. Placement of sand landward of the erosion control line will not be allowed in locations where easements have not been obtained. The project does not involve real property acquisition and/or displacement of property of property owners or tenants. The project complies with the Order.

7.21 E.O. 11988, FLOOD PLAIN MANAGEMENT

To comply with E.O. 11988, the policy of the Corps is formulate projects that, to the extent possible, avoid or minimize adverse effects associated with the use of the floodplain and avoid inducing development in the floodplain unless there is no practicable alternative. The Corps concludes that the proposed project is in the public interest, will not result in harm to people, property, and floodplain values, and will not induce development in the floodplain. The project complies with the Order.

7.22 E.O. 11990, PROTECTION OF WETLANDS

No wetlands will be affected by project activities. The project complies with the Order.

7.23 E.O. 12898, ENVIRONMENTAL JUSTICE

On February 11, 1994, the President of the U.S. issued E.O. 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. The E.O. mandates that each Federal agency make environmental justice (EJ) part of the agency mission and to address, as appropriate, disproportionately high and adverse human health or environmental effects of the programs and policies on minority and low-income populations. Significance thresholds that may be used to evaluate the effects of a proposed action related to EJ are not specifically outlined. However, the Council of Environmental Quality (CEQ) guidance requires an evaluation of a proposed action's effect on the human environment and the Corps must comply with E.O. 12898. The Corps has determined that a proposed action or its alternatives would result in significant effects related to EJ if the proposed action or an alternative would disproportionately adversely affect an EJ community through its effects on:

- Environmental conditions such as quality of air, water, and other environmental media; degradation of aesthetics, loss of open space, and nuisance concerns such as odor, noise, and dust;
- Human health such as exposure of EJ populations to pathogens;
- Public welfare in terms of social conditions such as reduced access to certain amenities like hospitals, safe drinking water, public transportation, etc.; and
- Public welfare in terms of economic conditions such as changes in employment, income, and the cost of housing, etc.

The Corps conducted an evaluation of EJ impacts using a two-step process: as a first step, the study area was evaluated to determine whether it contains a concentration of minority and/or low-income populations. Following that evaluation, in the second step, the Corps determined whether

the proposed action would result in the types of effects listed above in a disproportionately, high adverse manner on these populations.

As defined in E.O. 12898 and the CEQ guidance, a minority population occurs where one or both of the following conditions are met within a given geographic area:

- The American Indian, Alaskan Native, Asian, Pacific Islander, Black, or Hispanic population of the affected area exceeds 50 percent; or
- The minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis.

Using the USEPA EJAssist Tool, the project area was identified (see **Figure 18**) and the average percentage for the EJ criteria are compared in **Table 7** for the project area, the State of Florida, and the U.S.

Table 7. USEPA EJAssist environmental justice criteria percentages (Source: EPA EJAssist, August 11, 2018.)

	Project Area %	Florida Average %	USA Average %
Minority Population	27%	44%	38%
Low Income Population	28%	38%	34%

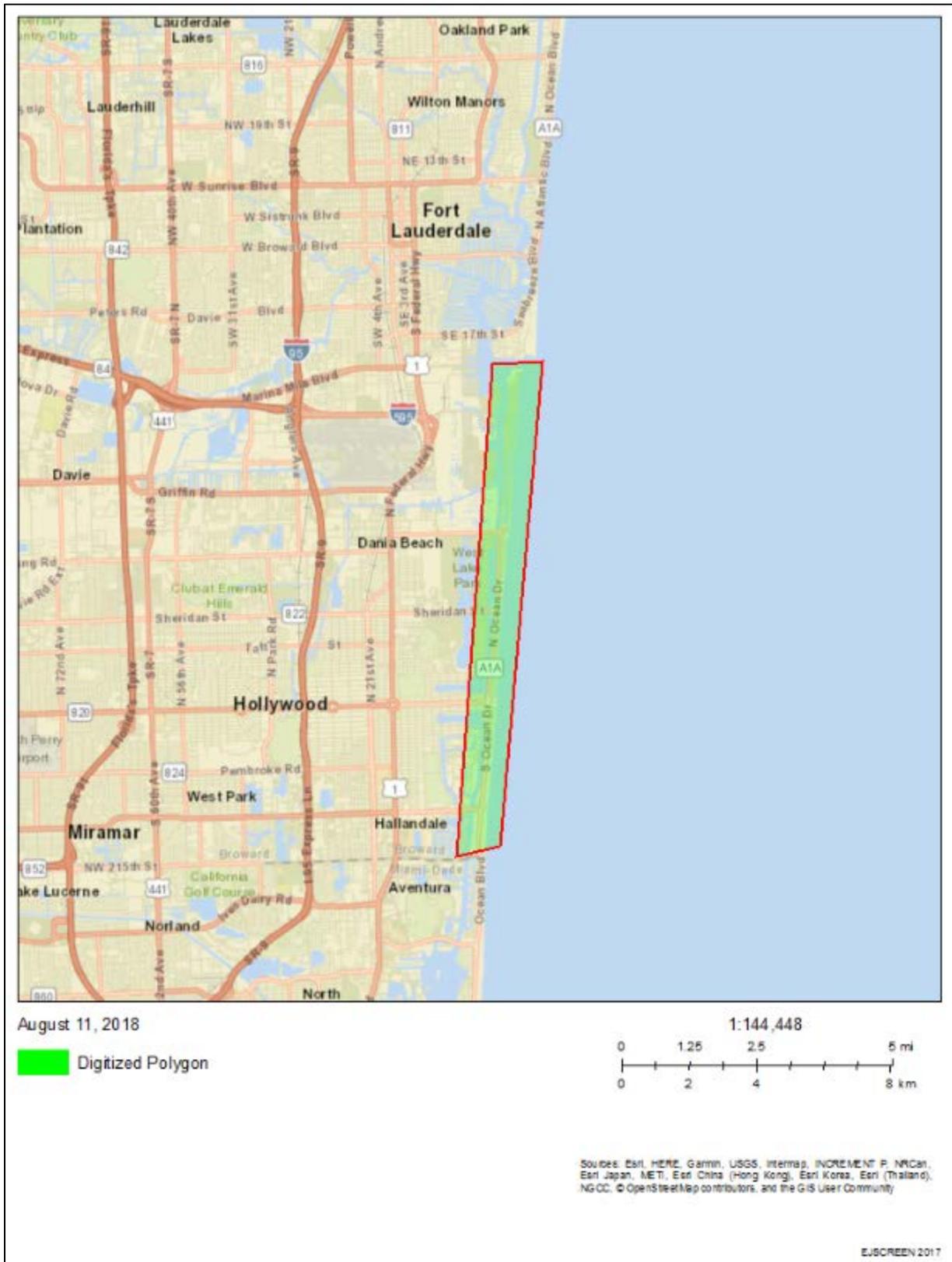


Figure 18. USEPA EJAssist Tool User-defined Project Area.

E.O. 12898 does not provide criteria to determine if an affected area consists of a low-income population. For the purpose of this assessment, the CEQ criterion for defining a minority population has been adapted to identify whether or not the population in an affected area constitutes a low-income population. An affected geographic area is considered to consist of a low-income population (i.e. below the poverty level for purposes of this analysis) where the percentage of low-income persons:

- is at least 50 percent of the total population; or
- is meaningfully greater than the low-income population percentage in the general population or other appropriate unit of geographic analysis.

Based on the information provided by the USEPA EJAssist tool, the project is not located within an area of high minority and/or low-income populations. No disproportionate and adverse effects to minority and/or low income populations are expected to result from the implementation of the project. The project complies with the Order.

7.24 E.O. 13045, PROTECTION OF CHILDREN FROM ENVIRONMENTAL HEALTH RISKS AND SAFETY RISKS

On April 21, 1997, the President of the U.S. issued E.O. 13045, Protection of Children from Environmental Health Risks and Safety Risks. The E.O. mandates that each Federal agency make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children and ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks. As the proposed action does not affect children disproportionately from other members of the population, the proposed action would not increase any environmental health or safety risks to children. The project complies with the Order.

7.25 E.O. 13089, CORAL REEF PROTECTION

Due to the placement of sand above MHW, the proposed project activities will not affect corals, habitats, or other natural resources associated with coral reefs in the project area. This project was specifically designed to avoid potential effects to benthic marine resources in the project area to ensure that the placement of sand will be implementable upon receipt of emergency funds. Renourishment above MHW will stabilize the project until the full renourishment can be completed in 2020. The project complies with the Order.

7.26 E.O. 13112, INVASIVE SPECIES

The proposed project is not likely to affect the status of invasive species as it does not include a significant risk or potential for the transport species from one region to another, introducing them to new habitats where they are able to out-compete native species. The benefits of the proposed project outweigh the risks associated with the very slight potential for introducing non-native species to this region. The project complies with the Order.

7.27 E.O. 13186, RESPONSIBILITIES OF FEDERAL AGENCIES TO PROTECT MIGRATORY BIRDS

This E.O. requires, among other things, a Memorandum of Understanding (MOU) between the Federal Agency and the USFWS concerning migratory birds. Neither the Department of Defense MOU nor the Corps' Draft MOU clearly address migratory birds on lands not owned or controlled by the Corps. For many Corps' civil works projects, the real estate interests are provided by the non-Federal Sponsor. Control and ownership of the Project lands remain with a non-Federal interest. Measures to avoid the destruction of migratory birds and their eggs or hatchlings are

described in sections 4.4 (Fish and Wildlife Resources) and 7.18 (Migratory Bird Treaty Act), and incorporated by reference. The Corps will include standard migratory bird protection requirements in the project plans and specifications and will require the contractor to abide by those requirements. The project complies with the Order.

8 LIST OF PREPARERS

Name	Organization	Expertise	Role in Preparation
Kristen Donofrio, Biologist	Corps	NEPA/Biologist	Primary Author
Marc Tiemann, Archeologist	Corps	Native Americans and Cultural Resources	Author
Terri Jordan-Sellers, Senior Biologist	Corps	NEPA/Senior Biologist	Document Reviewer
Jason Spinning, Coastal Section Chief	Corps	Supervisory Biologist	Document Reviewer
Dr. Gina Paduano-Ralph, Environmental Branch Chief	Corps	Supervisory Biologist	Document Reviewer
Rebecca Onchaga, Tech Writer/Editor	Corps	Technical Editor	Technical Edits

9 ACRONYM LIST

BMPs	Best Management Practices
CFR	Code of Federal Regulations
CBRS	Coastal Barrier Resource System
CEQ	Council of Environmental Quality
Corps	U.S. Army Corps of Engineers
CY	Cubic Yards
CZMA	Coastal Zone Management Act
CZMP	Coastal Zone Management Program
DCH	Designated Critical Habitat
DHR	Department of Historical Resources
DPS	Distinct Population Segment
E.O.	Executive Order
EA	Environmental Assessment
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EJ	Environmental justice
EPP	Environmental Protection Plan
ER	Engineering Regulation
ESA	Endangered Species Act
ETOF	Estimated Toe of Fill
F.A.C.	Florida Administrative Code
FCCE	Flood Control and Coastal Emergencies Act
FCD	Federal Consistency Determination
FDEP	Florida Department of Environmental Protection
FDH	Florida Department of Health
FEIS	Final Environmental Impact Statement
FMSF	Florida Master Site File
FONSI	Finding of No Significant Impact
FR	Federal Register
FWC	Florida Fish and Wildlife Conservation Commission
GRR	General Reevaluation Report
HAPC	Habitat of Particular Concern
HTRW	Hazardous, toxic, and radioactive waste
IWW	Intracoastal Waterway
LIDAR	Light detection and ranging
MHW	Mean High Water
MOU	Memorandum of Understanding
NAAQS	National Ambient Air Quality Standards
NAVD88	North American Vertical Datum 1988
NEPA	National Environmental Policy Act

NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NRHP	National Register of Historic Places
NTU	Nephelometric Turbidity Units
OPA	Otherwise Protected Area
P3BO	Programmatic Piping Plover Biological Opinion
Park	Dr. Von D. Mizell-Eula Johnson State Park
PIR	Project Implementation Report
SAFMC	South Atlantic Fish Management Council
SARBO	South Atlantic Regional Biological Opinion
SHPO	State Historic Preservation Office
SPBO	Statewide Programmatic Biological Opinion
SPP	Shore Protection Project
T&Cs	Terms and Conditions
U.S.	United States
U.S.C.	United States Code
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WQC	Water quality certification

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APPENDIX A

Environmental Correspondence

Environmental Assessment

Flood Control and Coastal Emergencies Act (FCCE)
Truck Haul and Placement of Sand on
Broward County Shore Protection Project (SPP) Segment III in
Broward County, Florida



US Army Corps of Engineers
JACKSONVILLE DISTRICT

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DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, JACKSONVILLE DISTRICT
701 SAN MARCO BLVD
JACKSONVILLE, FL 32207-8915

CESAJ-PD-E (ER 200-2-2)

MEMORANDUM FOR THE RECORD

SUBJECT: Coordination Act Report for the Flood Control and Coastal Emergencies Act (FCCE) truck haul and placement of sand on Broward County Shore Protection Project (SPP) Segment III in Broward County, Florida.

PURPOSE: To document an informal understanding between the U.S. Army Corps of Engineers, Jacksonville District (Corps), and the U.S. Fish and Wildlife Service (USFWS), South Florida Ecological Services Office.

Project Description. The Corps proposes to truck haul and place sand along 6.8 miles of critically eroded shoreline of the Broward County Shore Protection Project (SPP) Segment III.

Proposed Work. Truck haul and placement of sand on critically eroded shoreline above Mean High Water (MHW) from Florida Department of Environmental Protection monuments R-86 to R-92 and R-101 to R-128 in response to erosion resulting from the passage of Hurricane Irma last September. The protective berm design is 50 feet wide at a variable elevation of 5.4 to 8.4 feet North American Vertical Datum 1988 (NAVD88). Approximately 123,200 cubic yards (CY) of sand will be placed along the project above MHW. Sand will be truck hauled to the project location from two proposed commercial upland sand source mines: Ortona Mine and Witherspoon Mine.

Coordination. The Fish and Wildlife Coordination (FWCA; 16 U.S.C. 661 et seq., March 10, 1934, as amended 1946, 1958, 1978, and 1995) requires Federal agencies to consult with USFWS regarding the impacts to fish and wildlife resources and the proposed measures to mitigate these impacts. Additional coordination authorities exist through the review process of the National Environmental Policy Act (NEPA; 42 U.S.C. 4321-4347, January 1, 1970, as amended 1975 and 1982) and the consultations required under the Endangered Species Act of 1973 (ESA; 7 U.S.C. 136, 16 U.S.C. 1531 et seq. December 28, 1973). USFWS continues to coordinate and consult with the Corps through NEPA and the ESA in which impacts to fish and wildlife resources are adequately addressed via these two authorities. USFWS will include comments relevant to FWCA in the USFWS response to the Corps' ESA coordination letter.

Agreement. The undersigned, the Corps and USFWS, agree to utilize the project's NEPA review and ESA consultation processes to complete coordination responsibilities under the FWCA. This agreement will avoid duplicate analysis and documentation as authorized under 40 CFR section 1500.4 (k), 1502.25, 1506.4, and is consistent with

CESAJ-PD-E (ER 200-2-2)

SUBJECT: Coordination Act Report for the Flood Control and Coastal Emergencies Act (FCCE) truck haul and placement of sand on Broward County Shore Protection Project (SPP) Segment III in Broward County, Florida.

Presidential Executive Order for Improving Regulation and Regulatory Review, released January 18, 2011.



Roxanna Hinzman
Field Supervisor
South Florida Ecological Services Field Office

RALPH.GINA.P.1
386288107

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DN: c=US, o=U.S. Government, ou=DoD,
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Gina Paduano Ralph, Ph.D.
Chief, Environmental Branch



United States Department of the Interior



FISH AND WILDLIFE SERVICE
South Florida Ecological Services Office
1339 20th Street
Vero Beach, Florida 32960

October 16, 2018

Andrew D. Kelly, Colonel
U.S. Army Corps of Engineers
Post Office Box 4970
Jacksonville, Florida 32232-0019

Service Consultation Code: 04EF2000-2018-F-1098
Date Received: September 10, 2018
Consultation Initiation Date: September 26, 2018
Project: Sand Placement
Applicant: U.S. Army Corps of Engineers
County: Broward

Dear Colonel Kelly:

This document transmits the U.S. Fish and Wildlife Service's (Service) decision document to the U.S. Army Corps of Engineers (Corps) for the Flood Control and Coastal Emergencies Act (FCCE) truck haul and placement of sand on the Broward County Shore Protection Project (SPP) Segment III along approximately 6.8 miles (mi) of shoreline in Broward County, Florida (Project). The Corps determined that the Project may affect, and is likely to adversely affect the threatened North Atlantic Distinct Population Segment (DPS) of the green sea turtle (*Chelonia mydas*), the endangered hawksbill sea turtle (*Eretmochelys imbricata*), the endangered Kemp's ridley sea turtle (*Lepidochelys kempii*), the endangered leatherback sea turtle (*Dermochelys coriacea*), the threatened Northwest Atlantic Ocean DPS of the loggerhead sea turtle (*Caretta caretta*); and may affect, but is not likely to adversely affect the threatened piping plover (*Charadrius melodus*), the threatened red knot (*Calidris canutus rufa*), and the endangered American crocodile (*Crocodylus acutus*; crocodile). For the purposes of this document, the five identified sea turtles will be referred to collectively as sea turtles. This document is provided in accordance with section 7 of the Endangered Species Act of 1973, as amended (Act) (87 Stat. 884; 16 U.S.C. 1531 *et seq.*).

The Service and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries) share Federal jurisdiction for sea turtles under the Act. The Service has responsibility for sea turtles on the nesting beach and the NOAA Fisheries has jurisdiction for sea turtles in the marine environment. Our analysis in this document will only address activities that may impact nesting sea turtles, their nests and eggs, and hatchlings as they emerge from the nest and crawl to the sea. Please note the provisions of this consultation do not apply to sea turtles in the marine environment, such as swimming juvenile and adult sea turtles or loggerhead critical habitat in the marine environment. If applicable, you are required to consult with the NOAA Fisheries on this Project. For further information on Act compliance with the NOAA Fisheries, please contact Karla Reece, Acting Chief of the Interagency Cooperation Branch, by e-mail at karla.reece@noaa.gov or by phone at 727-824-5348.

This analysis is based on information provided in the Corps' September 7, 2018, letter and supplemental documents, and additional correspondence with the Corps. A complete record of this consultation is on file at the South Florida Ecological Services Office, Vero Beach, Florida.

Consultation History

On September 10, 2018, the Service received a letter from the Corps dated September 7, 2018, and other supplemental documents, requesting initiation of formal consultation concerning the FCCCE and SPP project in Broward County, Florida.

On September 26, 2018, the Service initiated formal consultation with the Corps concerning the potential effects of the Project on nesting sea turtles and informal consultation on piping plovers, red knots, and American crocodiles.

DESCRIPTION OF THE PROPOSED ACTION

The Corps proposes to place approximately 123,200 cubic yards of beach compatible material along 6.8 mi of shoreline in Broward County, Florida (Figure 1). The material will be truck hauled to the Project area from two proposed commercial upland sand mines (Ortona and Witherspoon mines) which were previously approved for use in the 2013 and 2015 truck haul sand placement Broward County SPP Segment II project. Once placed within the fill template (between Florida Department of Environmental Protection reference monuments R-86 to R-92, and R-101 to R-128), the material will be graded using bulldozers, front-end loaders, and off-road vehicles to the authorized profile which will consist of a 50-foot (ft.) wide berm at a variable elevation of 5.4 to 8.4 ft. North American Vertical Datum 1988.

Existing vegetated habitat at the staging areas and beach access corridors shall be protected to the maximum extent possible to minimize disturbance; therefore, impacts are not anticipated. If impacts occur, all impacted areas and vegetation will be restored to preconstruction condition and elevation. All loose debris will be removed and properly disposed of prior to sand placement.

The proposed Project will be conducted only during daylight hours seven days a week. Project construction is presently planned to take place between November 1, 2018 and April 30, 2019, taking into account adverse weather and equipment delays. The intent of the Project is to re-nourish the critically eroded shoreline above the Mean High Water Line in response to erosion resulting from Hurricane Irma in September 2017.

Minimization measures and exceptions

The Corps will follow and implement the minimization measures, Reasonable and Prudent Measures (RPMs), and the Terms and Conditions identified in the revised *Statewide Programmatic Biological Opinion* (2015-SPBO; Service 2015) that applies to the proposed Project concerning nesting sea turtles. In addition, the Corps will follow and implement the Conservation Measures identified in the *Programmatic Piping Plover Biological Opinion* (P³BO; Service 2013) that applies to the proposed Project concerning piping plovers. The P³BO Conservation

Measures will also minimize effects to red knots.

Action Area

The action area is defined as all areas to be affected directly or indirectly by the action and not merely the immediate area involved in the action. The Service identifies the action area to include the sand placement template, staging areas, beach access corridors, and both upland sand mines. The Project is located along the Atlantic Ocean, Broward County, Florida, at latitude 26.0273 and longitude -80.1144.

THREATENED AND ENDANGERED SPECIES

American crocodile

According to our Geographic Information System (GIS) database, the Project is located in the crocodile consultation area. The Corps determined that the Project may affect, but is not likely to adversely affect the crocodile. Although, the Project area may contain suitable crocodile nesting habitat, the Project will not impact any areas of potential nesting habitat. Therefore, the Service concurs with the Corps' determination for this species.

Piping plover

The Service has determined the Project's impact to non-optimal piping plover habitat is consistent with the analysis in the P³BO. As previously stated, the Corps has agreed to follow and implement the Conservation Measures outlined in the P³BO that apply to the Project. As it relates to survey guidelines defined in P³BO Conservation Measure #2, the Service approves a reduction in the survey effort, and the following revised survey guidelines can be implemented by the Corps:

1. One preconstruction winter shorebird survey will be conducted within a 10-day timeframe beginning the first Friday in February, as outlined in the Florida Shorebird Alliance's Winter Shorebird Survey (<http://www.flshorebirdalliance.org/resources/instructions-manuals.aspx>). If the February preconstruction survey is not possible, two preconstruction winter shorebird surveys will be conducted as close as possible to the February dates and at least 15 days apart, and reported to the FWC and the Service. Preconstruction surveys will not be conducted between May 16 and July 14. If piping plovers are documented during the preconstruction survey, the Service will be contacted for potential implementation of additional conservation measures prior to construction commencement.
2. The person(s) conducting the surveys must demonstrate the qualifications and ability to identify shorebird species and be able to provide the information outlined in the Winter Shorebird Survey.

Because the Project, as proposed, is consistent with the analysis for non-optimal piping plover habitat in the P³BO, the Service concurs that the Project, as proposed, may affect but is not likely to adversely affect this species.

Red knot

Red knots may use the proposed Project area during winter and migration periods. In Florida, red knots are commonly found along sandy, gravel, or cobble beaches, tidal mudflats, salt marshes, shallow coastal impoundments, mangrove and brackish lagoons. Red knots forage along sandy beaches during spring and fall migration throughout Florida. To date, critical habitat has not been proposed or designated for the red knot. According to our GIS database and eBird (2018), no red knots have been documented in the action area. Because suitable habitat for the red knot and piping plover is similar, minimization measures for potential effects to red knots in non-optimal habitat will be incorporated into the Project through the Corps' implementation of the Conservation Measures to reduce impacts on piping plovers for projects located in non-optimal piping plover habitat as outlined in the P³BO.

Based on the implementation of P³BO's Conservation Measures and the fact that the proposed Project area is located in non-optimal red knot habitat, the Service concurs that the Project, as proposed, may affect but is not likely to adversely affect this species.

Sea turtles

The proposed Project is located adjacent to sea turtle nesting habitat, and therefore could adversely affect nesting sea turtles, their nests, and hatchlings. The purpose of the proposed Project is to place beach compatible material on approximately 6.8 mi of shoreline along Broward County. Without the restorative activities, erosion is expected to continue, potentially impacting sea turtle nesting. Consequently, the proposed Project could have beneficial effects to nesting sea turtles.

The Service has determined the Project's effects concerning sand placement activities are consistent with those analyzed in the 2015-SPBO. Therefore, it is appropriate to apply the 2015-SPBO to the Project. Based on the Corps' commitment to implement the minimization measures, RPMs, and the Terms and Conditions identified in the 2015-SPBO, the Project's take coverage for listed sea turtles is henceforth covered under the 2015-SPBO.

REINITIATION NOTICE

This concludes consultation on the action outlined in the request. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if:

1. The amount or extent of incidental take outlined in the 2015-SPBO and P³BO is exceeded. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation;
2. New information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this analysis;
3. The agency action is subsequently modified in a manner that causes an effect to a listed species or critical habitat not considered in this analysis; or,

4. A new species is listed or critical habitat designated that may be affected by the action.

Thank you for your cooperation in the effort to conserve fish and wildlife resources. Should you have additional questions or require clarification regarding this letter, please contact Jeff Howe at 772-469-4283.

Sincerely yours,



Roxanna Hinzman
Field Supervisor
South Florida Ecological Services Office

cc: electronic only

Corps, Jacksonville, Florida (Kristen Donofrio)

DEP, Tallahassee, Florida (Lainie Edwards)

EPA, West Palm Beach, Florida (Ron Miedema)

FWC, Tallahassee, Florida (FWC-CPS, Kristen Nelson-Sella)

FWC, West Palm Beach (Ricardo Zambrano)

NOAA Fisheries, Dania Beach, Florida (Audra Banks)

NOAA Fisheries, West Palm Beach, Florida (Jocelyn Karazsia)

Service, St. Petersburg, Florida (Anne Marie Lauritsen)

LITERATURE CITED

eBird.org. 2018. An online database of bird distribution and abundance [Internet]. Cornell Lab of Ornithology; Ithaca, New York [cited September 26, 2018]. Available from: <http://www.ebird.org>.

U.S. Fish and Wildlife Service (Service). 2013. Programmatic piping plover biological opinion to the U.S. Army Corps of Engineers (Service Log No. 04EF1000-2013-F-0124) for shore protection activities in the geographical region of the north and south Florida Ecological Services Field Offices (May 22, 2013). Jacksonville and Vero Beach Field Offices, Florida.

U.S. Fish and Wildlife Service (Service). 2015. Statewide programmatic biological opinion to the U.S. Army Corps of Engineers (Service Log No. 41910-2011-F-0170) for shore protection activities along the coast of Florida (March 13, 2015). Jacksonville, Panama City, and Vero Beach Field Offices, Florida.

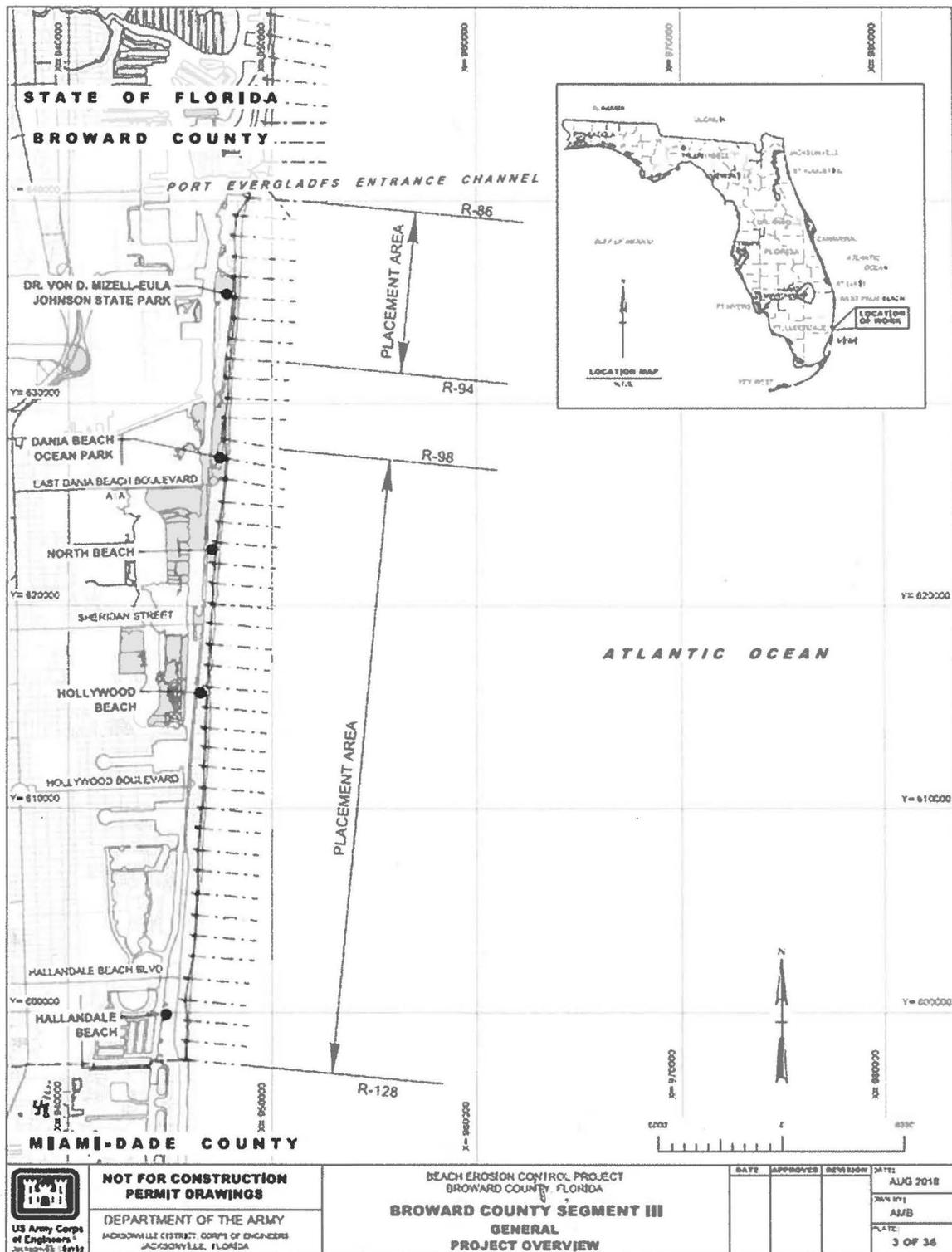


Figure 1. Location of the sand placement project along Broward County, Florida.



DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, JACKSONVILLE DISTRICT
701 SAN MARCO BLVD
JACKSONVILLE, FL 32207-8915

Planning and Policy Division
Environmental Branch

SEP 07 2018

Roxanna Hinzman
Field Supervisor
South Florida Ecological Services Field Office
U.S. Fish and Wildlife Service
1339 20th Street
Vero Beach, FL 32960

Dear Ms. Hinzman:

In accordance with Section 7 of the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*), the U.S. Army Corps of Engineers, Jacksonville District (Corps), respectfully requests consultation under the 2015 Statewide Programmatic Biological Opinion (SPBO) and the 2013 Programmatic Piping Plover Biological Opinion (P3BO) for the Flood Control And Coastal Emergencies Act (FCCE) truck haul and placement of sand on the Broward County Shore Protection Project (SPP) Segment III located in Broward County, Florida. Included with this letter are maps showing the project location. The proposed work consists of the truck haul and placement of approximately 123,200 cubic yards (CY) of sand along the project above mean high water (MHW) from FDEP monuments R-86 to R-92 and R-101 to R-128. The protective berm design is 50 feet wide at a variable elevation of 5.4 to 8.4 feet NAVD88. Sand will be truck hauled to the project location from two proposed commercial upland sand source mines: Ortona Mine and Witherspoon Mine, which were previously approved for use in 2013 and 2015 Environmental Assessments (EAs) for the truck haul and placement of sand on Broward County SPP Segment II.

Listed species and/or designated critical habitat which may occur in the vicinity of the proposed work and are under the jurisdiction of the U.S. Fish and Wildlife Service (USFWS) include:

Common Name	Scientific Name	Listing Status	Corps' Effect Determination
Green sea turtle <i>North Atlantic Distinct Population Segment (DPS)</i>	<i>Chelonia mydas</i>	Threatened	May Affect
Hawksbill sea turtle	<i>Eretmochelys imbricata</i>	Endangered	May Affect
Leatherback sea turtle	<i>Dermochelys coriacea</i>	Endangered	May Affect
Loggerhead sea turtle <i>Northwest Atlantic DPS</i>	<i>Caretta caretta</i>	Threatened/Critical Habitat	May Affect
American crocodile	<i>Crocodylus acutus</i>	Threatened	MANLAA*
Piping plover	<i>Charadrius melodus</i>	Threatened	MANLAA*
Rufa red knot	<i>Calidris canutus rufa</i>	Threatened	MANLAA*
Beach jacquemontia	<i>Jacquemontia reclinata</i>	Endangered	No Effect
Florida manatee	<i>Trichechus manatus latirostris</i>	Threatened	No Effect

*MANLAA – May Affect, Not Likely to Adversely Affect

The Corps will abide by all terms and conditions within the SPBO. The Corps' determination is that the proposed work may affect nesting sea turtles and may affect, but is not likely to adversely affect, American crocodile, piping plover, and rufa red knot. Protection measures for nesting sea turtles and piping plovers will be incorporated into the project plans and specifications in order to comply with the terms and conditions of the SPBO and P3BO.

Sea Turtles

The USFWS has jurisdiction over sea turtles on the beach (nesting adults, incubating eggs, or hatching young). The Corps has determined beach renourishment would occur during the non-peak nesting winter months to avoid effects to sea turtle nests and/or hatchlings. Construction would occur between November 1 and April 30, which allows for a total of 180 calendar days to complete the project. Minimization measures, Reasonable and Prudent Measures (RPMs), and Terms and Conditions (T&Cs) in the SPBO would be applicable to the project to ensure the protection of nesting sea turtles. Finally, since the sand proposed for placement on the beach would be highly compatible with existing sand, beach nourishment may increase sea turtle nesting habitat. No Designated Critical Habitat is located in the project area; therefore, none will be affected by the proposed project.

The Corps has determined that the proposed project is consistent with the SPBO, and the proposed activities may affect nesting sea turtles but are not likely to jeopardize the continued existence of the species.

American Crocodile

American crocodiles have been sighted in portions of the project area (e.g. Dr. Von D. Mizell-Eula Johnson State Park State Park and the surf zone at Dania Beach). Although a truck haul approach minimizes the use of in-water vessels and the potential for entanglement, entrainment, or strikes in the water, American crocodiles may also be found on the beach. Due to the species being highly mobile and able to easily avoid the area, direct, physical injury effects to this species are not anticipated from construction operations, machinery, or materials. Therefore, the Corps has determined that this project may affect, but is not likely to adversely affect the American crocodile.

Piping Plover and Rufa Red Knot

Red knots and piping plover may occasionally use the project area during winter and migration periods. Because suitable habitat for the red knot and piping plover is nearby, minimization measures for potential effects to these species in non-optimal habitat will be incorporated into the project through the Corps' implementation of the P3BO Conservation Measures. Therefore, the Corps has determined that the project may affect, but is not likely to adversely affect, the piping plover or rufa red knot.

Beach Jacquemontia

Presence of construction equipment may mechanically damage existing plants, while sand placement, if done improperly, may bury extant plants. Construction of the beach may provide potential habitat for this species. Due to the low number of observations for this species in Broward County, the Corps has determined the project will have no effect on this species.

Florida Manatee

Placement of sand and truck haul operations will occur above MHW. Therefore, the Corps has determined the project will have no effect on this species.

The draft EA and Proposed Finding of No Significant Impact will be released for a 15-day public and agency review period. These documents will be available for review on the Jacksonville District's Environmental planning website, under Broward County:

<http://www.saj.usace.army.mil/About/Divisions-Offices/Planning/Environmental-Branch/Environmental-Documents/>

Should you determine that the proposed activity is not within the scope of the SPBO and the P3BO please consider this letter initiation of consultation pursuant to Section 7 of the Endangered Species Act. Due to the nature of this FCCE action, the Corps respectfully requests a response within 30 days of the date of this letter. If you have any questions, please contact Ms. Kristen Donofrio by telephone 904-232-2918 or via email Kristen.L.Donofrio@usace.army.mil. Thank you for your assistance.

Sincerely,



Gina Paduano Ralph, Ph.D.
Chief, Environmental Branch

Enclosure

Section 7 ESA Consultation Enclosure:
Maps and Figures for
Flood Control And Coastal Emergencies Act (FCCE)
Truck Haul and Placement of Sand on
Broward County Shore Protection Project (SPP) Segment III in
Broward County, Florida



US Army Corps of Engineers
JACKSONVILLE DISTRICT

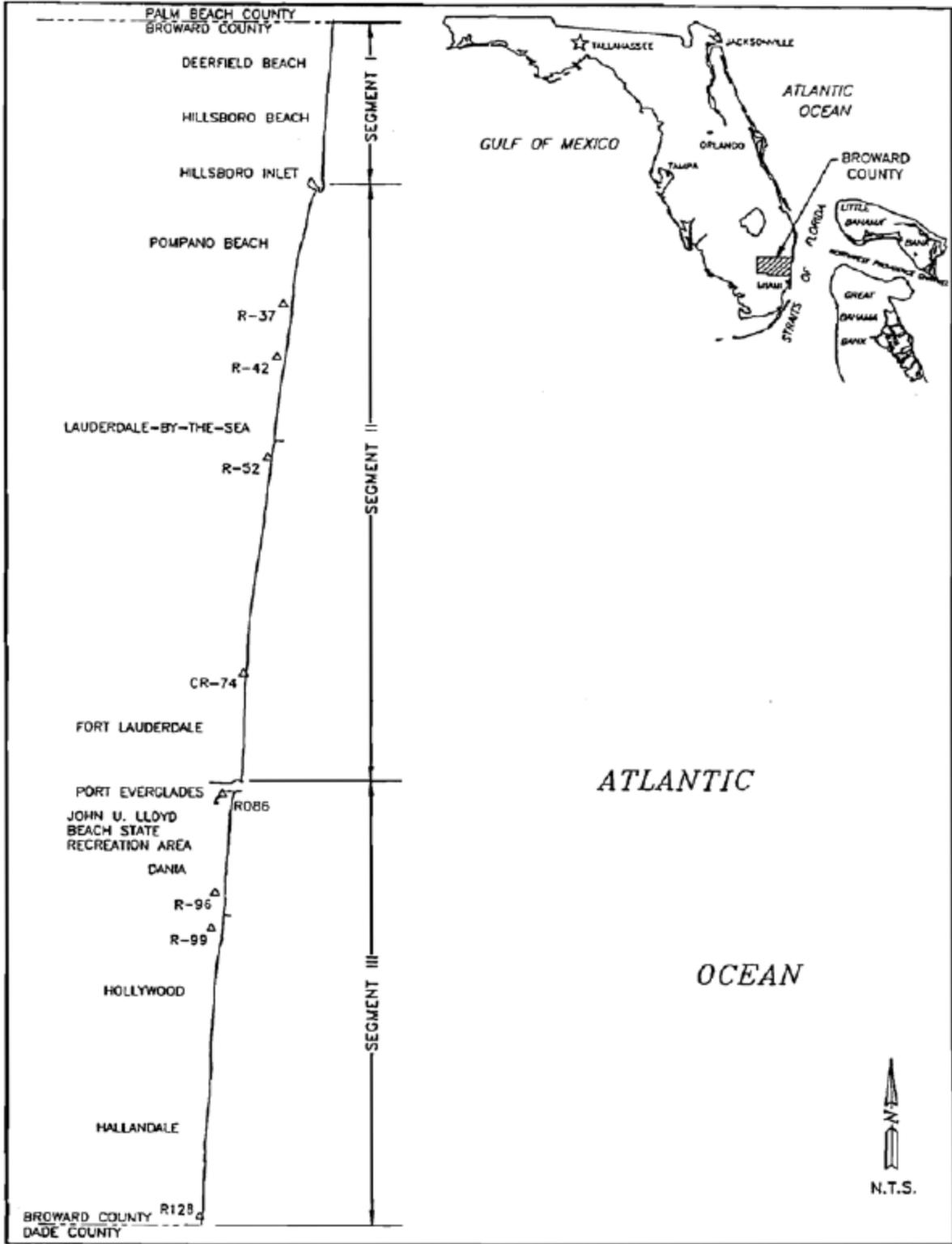


Figure 1. Broward County SPP extents map.

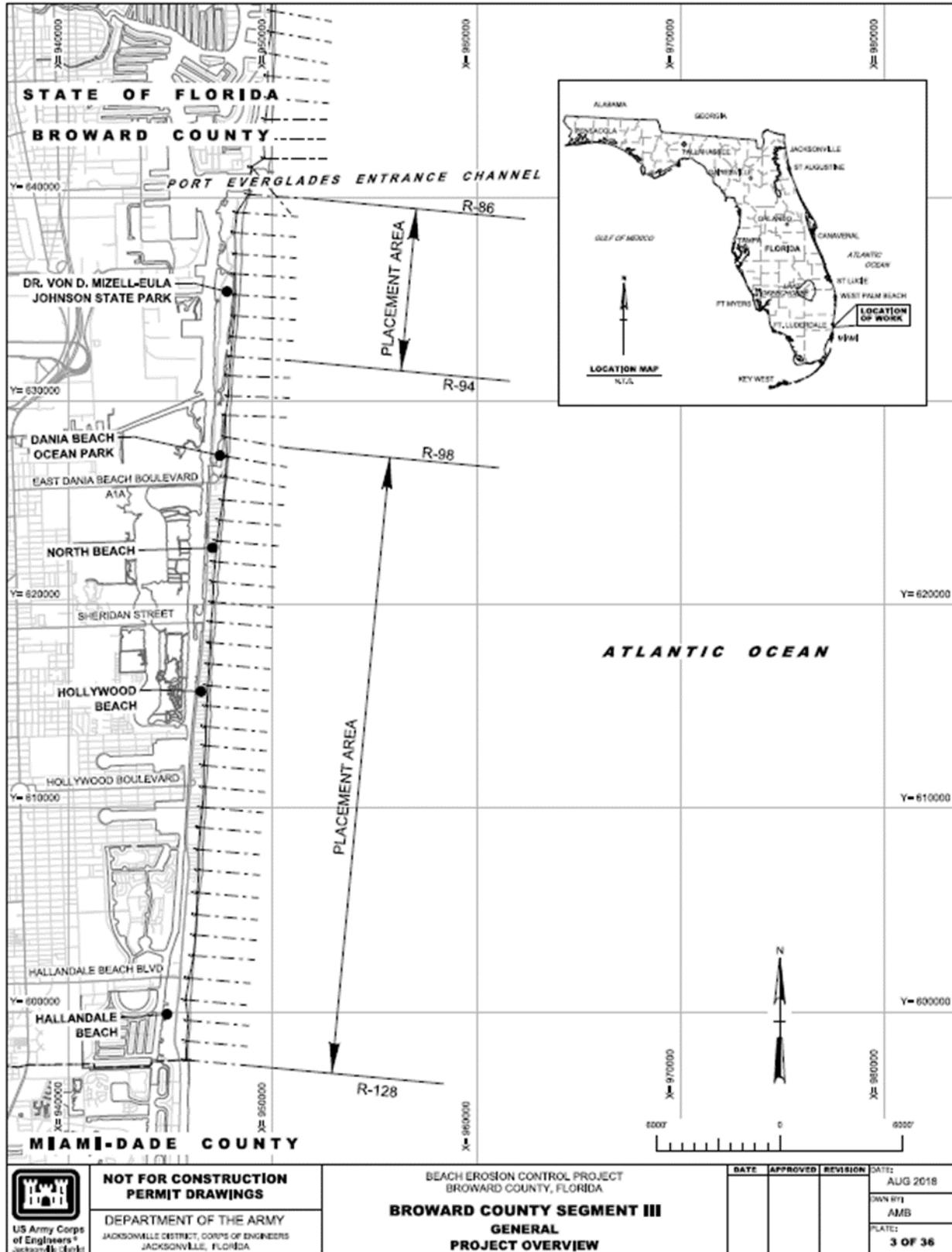


Figure 2. Broward County SPP Segment III project extents map.

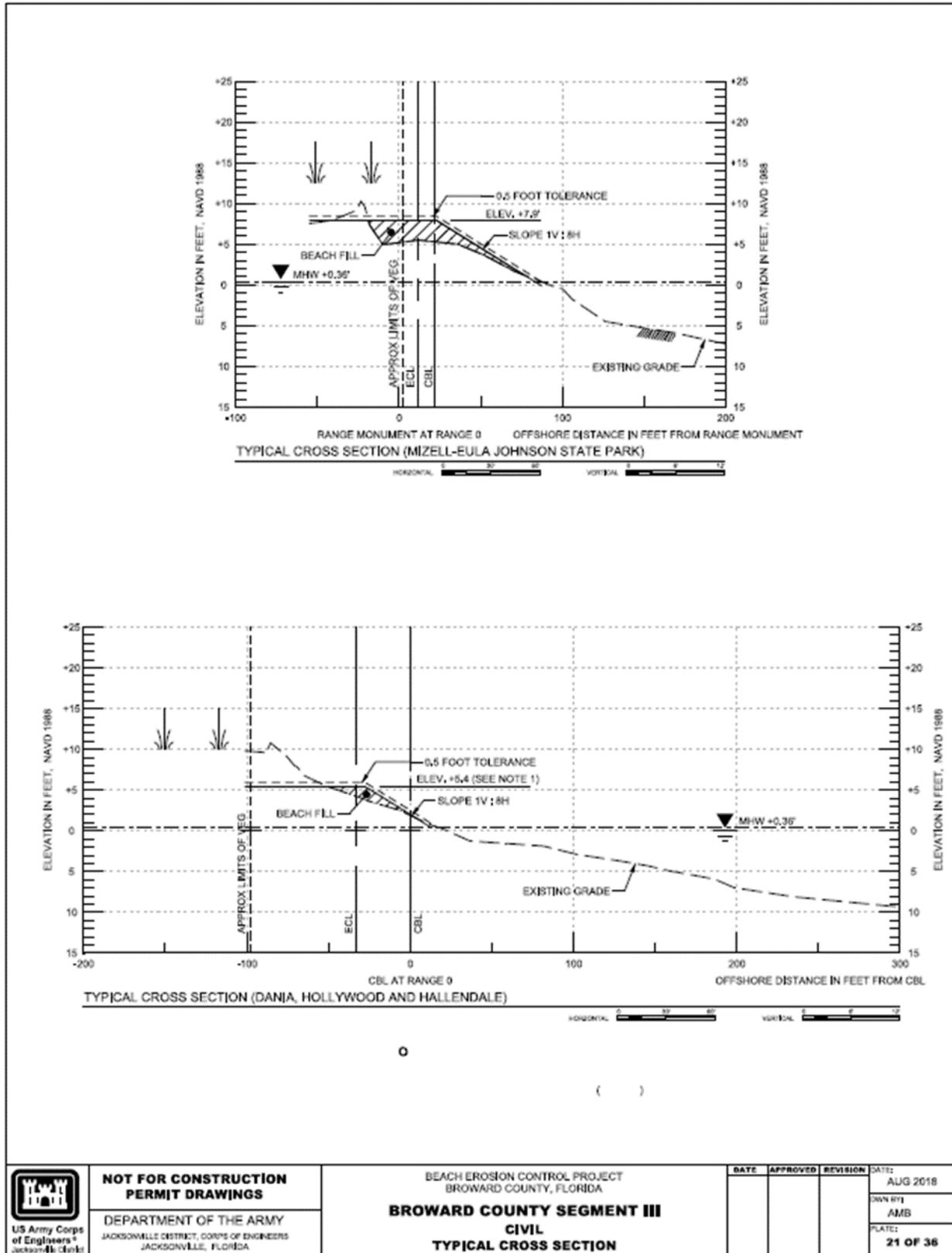


Figure 3. Typical project cross sections.



DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, JACKSONVILLE DISTRICT
701 SAN MARCO BLVD
JACKSONVILLE, FL 32207-8915

CESAJ-PD-E (ER 200-2-2)

MEMORANDUM FOR THE RECORD

SUBJECT: Coordination Act Report for the Flood Control and Coastal Emergencies Act (FCCE) truck haul and placement of sand on Broward County Shore Protection Project (SPP) Segment III in Broward County, Florida.

PURPOSE: To document an informal understanding between the U.S. Army Corps of Engineers, Jacksonville District (Corps), and the U.S. Fish and Wildlife Service (USFWS), South Florida Ecological Services Office.

Project Description. The Corps proposes to truck haul and place sand along 6.8 miles of critically eroded shoreline of the Broward County Shore Protection Project (SPP) Segment III.

Proposed Work. Truck haul and placement of sand on critically eroded shoreline above Mean High Water (MHW) from Florida Department of Environmental Protection monuments R-86 to R-92 and R-101 to R-128 in response to erosion resulting from the passage of Hurricane Irma last September. The protective berm design is 50 feet wide at a variable elevation of 5.4 to 8.4 feet North American Vertical Datum 1988 (NAVD88). Approximately 123,200 cubic yards (CY) of sand will be placed along the project above MHW. Sand will be truck hauled to the project location from two proposed commercial upland sand source mines: Ortona Mine and Witherspoon Mine.

Coordination. The Fish and Wildlife Coordination (FWCA; 16 U.S.C. 661 et seq., March 10, 1934, as amended 1946, 1958, 1978, and 1995) requires Federal agencies to consult with USFWS regarding the impacts to fish and wildlife resources and the proposed measures to mitigate these impacts. Additional coordination authorities exist through the review process of the National Environmental Policy Act (NEPA; 42 U.S.C. 4321-4347, January 1, 1970, as amended 1975 and 1982) and the consultations required under the Endangered Species Act of 1973 (ESA; 7 U.S.C. 136, 16 U.S.C. 1531 et seq. December 28, 1973). USFWS continues to coordinate and consult with the Corps through NEPA and the ESA in which impacts to fish and wildlife resources are adequately addressed via these two authorities. USFWS will include comments relevant to FWCA in the USFWS response to the Corps' ESA coordination letter.

Agreement. The undersigned, the Corps and USFWS, agree to utilize the project's NEPA review and ESA consultation processes to complete coordination responsibilities under the FWCA. This agreement will avoid duplicate analysis and documentation as authorized under 40 CFR section 1500.4 (k), 1502.25, 1506.4, and is consistent with

CESAJ-PD-E (ER 200-2-2)

SUBJECT: Coordination Act Report for the Flood Control and Coastal Emergencies Act (FCCE) truck haul and placement of sand on Broward County Shore Protection Project (SPP) Segment III in Broward County, Florida.

Presidential Executive Order for Improving Regulation and Regulatory Review, released January 18, 2011.

Roxanna Hinzman
Field Supervisor
South Florida Ecological Services Field Office

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Gina Paduano Ralph, Ph.D.
Chief, Environmental Branch



DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, JACKSONVILLE DISTRICT
701 SAN MARCO BOULEVARD
JACKSONVILLE, FLORIDA 32207-8915

Planning and Policy Division
Environmental Branch

Mr. Tim Parsons, Ph.D.
Division of Historical Resources
State Historic Preservation Officer
500 South Bronough Street
Tallahassee, FL 32399-0250

AUG 28 2018

Dear Mr. Parsons:

The Jacksonville District, U.S. Army Corps of Engineers (Corps) is preparing an Environmental Assessment for the Flood Control and Coastal Emergencies Act truck haul and sand placement for the Broward County Shore Protection Project (SPP) Segment III. Segment III of the Broward County SPP is located approximately 23 miles north of Miami Beach on the southeastern coast of Florida (Figure 1). The previously renourished portions of Segment III are located between Florida Department of Environmental Protection (FDEP) range monuments R-86 to R-94 and R-98 to R-128. The Corps is studying the environmental effects of emergency beach renourishment of Broward County SPP Segment III in response to erosion caused by Hurricane Irma. The preferred alternative consists of the truck haul and placement of sand on critically eroded shoreline above Mean High Water from FDEP monuments R-86 to R-94 and R-98 to R-128. Sand will be truck hauled to the project location from two proposed commercial upland sand source mines: Ortona Mine and Witherspoon Mine.

Based on archival research of the Florida Master Site File (FMSF) no prehistoric archaeological sites are recorded within the beach placement area; however, several historic structures that have unknown eligibility or are potentially eligible for inclusion in the National Register of Historic Places (NRHP) (8BD03841, 8BD03836, 8BD03835, 8BD3804, 8BD03804, 8BD03802, 89BD03815, 8BD03800, 8BD00322, 8BD05203, 8BD03427, 8BD03769, 8BD03337, 8BD03309, 8BD3300, and 8BD03299) are located 200 feet outside of the area of potential effects. Beach placement of sand will have a beneficial effect of preventing future erosion.

The commercial upland sand sources identified for the Segment III Project include the Ortona Sand Mine and the Witherspoon Sand Mine. Over the years, a number of cultural resource surveys have been conducted for the Ortona Sand Mine (Department of Historical Resources [DHR] Survey Nos. 6689, 4847, 3021, 17005, and 16862). Several prehistoric archaeological sites associated with the Ortona Mound complex have been identified and recorded within the mine property: Ortona Canal East

(8GL4a), Quarry Mound (8GL81), Lance's Mound (8GL419), Sawpalmetto Haven Mound (8GL420), and Tallant Mound (8GL00083). FMSF records indicate that the Ortona Canal East (8GL4a) and Quarry Mound (8GL81) have been mitigated. Cultural resources investigations for the adjacent Witherspoon sand mine have been completed (DHR Survey No. 4602). Two archaeological sites (8GL378 T.C. Cabbage Palm Mound and 8GL379 Fox Hammock Midden) were identified as eligible for inclusion in the NRHP. These sites will not be impacted by the sand mining activities. Any upland sand mines employed for this project are subject to the State of Florida's statutory requirements in Chapter 267 for protection of historical resources in the sand source footprints before the Corps will approve use of the source. Consultation under Section 106 of National Historic Preservation Act (54 U.S.C. §306108) with Florida SHPO and appropriate federally-recognized tribes will continue for any unforeseen issues that may arise with respect to cultural resources.

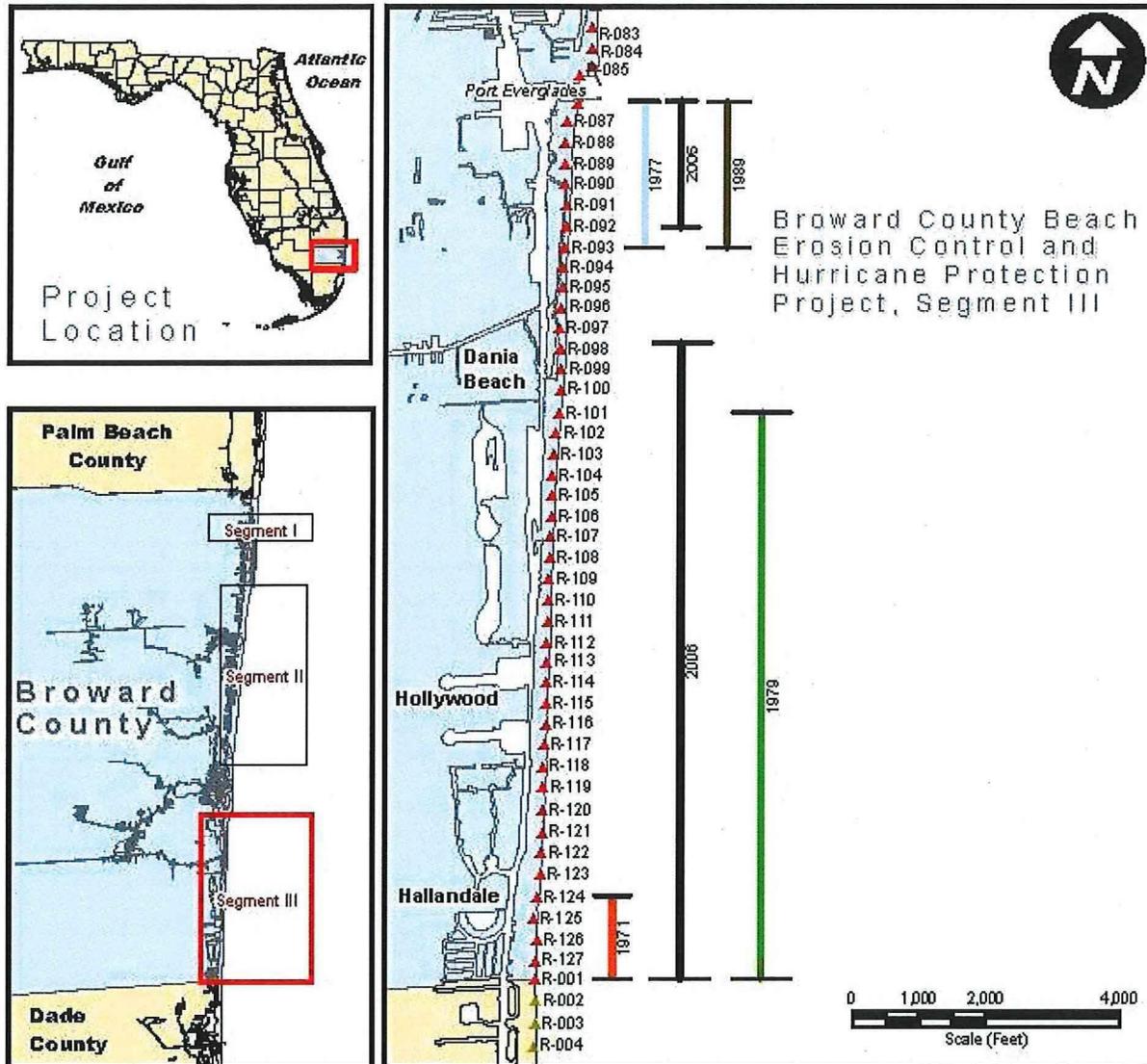
Based on this information, truck haul of sand from upland commercial sand mines and placement of materials on the beach between R-86 to R-94 and R-98 to R-128 poses no adverse effect to historic properties. Pursuant to Section 106 of the National Historic Preservation Act (16 USC 470) and its implementing regulations (36 CFR 800), the Corps kindly requests your comments on the determination of no adverse effect within 30 days from receipt of this letter. If there are any questions, please contact Mr. Marc Tiemann at 904-232-1557 or email at marc.a.tiemann@usace.army.mil.

Sincerely,



Gina Paduano Ralph, Ph.D.
Chief, Environmental Branch

Enclosure



Nourishment Segment	Municipalities	Date	Project Limits	Volume (cy)	Project Length (mi)	Berm Elevation
Segment III	City of Hallandale	1971	R124 to R128	350,000	0.8	-
	John U. Lloyd State Park	1976/1977	R86 to R93	1,090,000	1.6	10 ft. NGVD
	Hollywood/Hallandale	Nov-79	R101 to R128	1,980,000	5.3	7 ft. NGVD
	John U. Lloyd State Park	1989	R86 to R93	603,000	1.6	10 ft. NGVD
	Hollywood/Hallandale	1991	R101 to R128	1,108,000	5.3	7 ft. NGVD
	John U. Lloyd State Park Hollywood/Hallandale	Mar-06	R86 to R92 R98 to R128	550,000 1,290,000	6.9	9 ft. NGVD -

Figure 1. Broward County SPP Segment III Project Location.



DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, JACKSONVILLE DISTRICT
701 SAN MARCO BOULEVARD
JACKSONVILLE, FLORIDA 32207-8915

Planning and Policy Division
Environmental Branch

AUG 28 2018

Mr. Fred Dayhoff
Section 106 and NAGPRA Coordinator
Miccosukee Tribe of Indians of Florida
HC 61
SR Box 68 Old Loop Road
Ochopee, FL 34141

Dear Mr. Dayhoff:

The Jacksonville District, U.S. Army Corps of Engineers (Corps) is preparing an Environmental Assessment for the Flood Control and Coastal Emergencies Act truck haul and sand placement for the Broward County Shore Protection Project (SPP) Segment III. Segment III of the Broward County SPP is located approximately 23 miles north of Miami Beach on the southeastern coast of Florida (Figure 1). The previously renourished portions of Segment III are located between Florida Department of Environmental Protection (FDEP) range monuments R-86 to R-94 and R-98 to R-128. The Corps is studying the environmental effects of emergency beach renourishment of Broward County SPP Segment III in response to erosion caused by Hurricane Irma. The preferred alternative consists of the truck haul and placement of sand on critically eroded shoreline above Mean High Water from FDEP monuments R-86 to R-94 and R-98 to R-128. Sand will be truck hauled to the project location from two proposed commercial upland sand source mines: Ortona Mine and Witherspoon Mine.

Based on archival research of the Florida Master Site File (FMSF) no prehistoric archaeological sites are recorded within the beach placement area; however, several historic structures that have unknown eligibility or are potentially eligible for inclusion in the National Register of Historic Places (NRHP) (8BD03841, 8BD03836, 8BD03835, 8BD3804, 8BD03804, 8BD03802, 89BD03815, 8BD03800, 8BD00322, 8BD05203, 8BD03427, 8BD03769, 8BD03337, 8BD03309, 8BD3300, and 8BD03299) are located 200 feet outside of the area of potential effects. Beach placement of sand will have a beneficial effect of preventing future erosion.

The commercial upland sand sources identified for the Segment III Project include the Ortona Sand Mine and the Witherspoon Sand Mine. Over the years, a number of cultural resource surveys have been conducted for the Ortona Sand Mine (Department of Historical Resources [DHR] Survey Nos. 6689, 4847, 3021, 17005, and 16862). Several prehistoric archaeological sites associated with the Ortona Mound complex

have been identified and recorded within the mine property: Ortona Canal East (8GL4a), Quarry Mound (8GL81), Lance's Mound (8GL419), Sawpalmetto Haven Mound (8GL420), and Tallant Mound (8GL00083). FMSF records indicate that the Ortona Canal East (8GL4a) and Quarry Mound (8GL81) have been mitigated. Cultural resources investigations for the adjacent Witherspoon sand mine have been completed (DHR Survey No. 4602). Two archaeological sites (8GL378 T.C. Cabbage Palm Mound and 8GL379 Fox Hammock Midden) were identified as eligible for inclusion in the NRHP. These sites will not be impacted by the sand mining activities. Any upland sand mines employed for this project are subject to the State of Florida's statutory requirements in Chapter 267 for protection of historical resources in the sand source footprints before the Corps will approve use of the source. Consultation under Section 106 of National Historic Preservation Act (54 U.S.C. §306108) with Florida SHPO and appropriate federally-recognized tribes will continue for any unforeseen issues that may arise with respect to cultural resources.

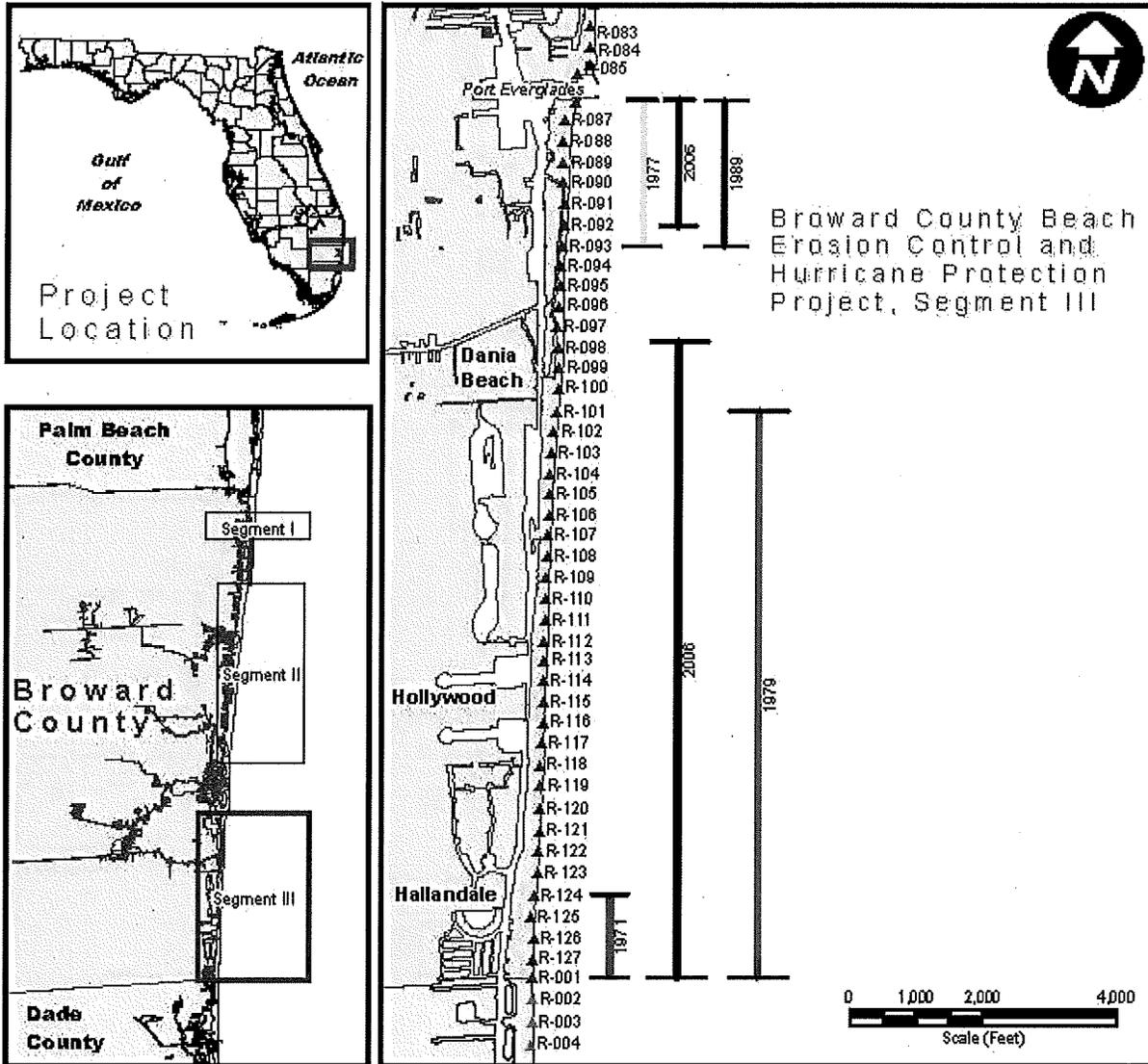
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Sincerely,

A handwritten signature in black ink, appearing to read 'Gina Paduano Ralph', is written over the typed name and title.

Gina Paduano Ralph, Ph.D.
Chief, Environmental Branch

Enclosure



Nourishment Segment	Municipalities	Date	Project Limits	Volume (cy)	Project Length (mi)	Berm Elevation
Segment III	City of Hallandale	1971	R124 to R128	350,000	0.8	-
	John U. Lloyd State Park	1976/1977	R86 to R93	1,090,000	1.6	10 ft. NGVD
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Hollywood/Hallandale	R98 to R128		1,290,000	-		

Figure 1. Broward County SPP Segment III Project Location.



DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, JACKSONVILLE DISTRICT
701 SAN MARCO BOULEVARD
JACKSONVILLE, FLORIDA 32207-8915

Planning and Policy Division
Environmental Branch

AUG 28 2018

Mr. Theodore Isham
Seminole Nation of Oklahoma
Tribal Historic Preservation Officer
P.O. Box 1498
Wewoka, OK 74884

Dear Mr. Isham:

The Jacksonville District, U.S. Army Corps of Engineers, (Corps) is preparing an Environmental Assessment for the Flood Control and Coastal Emergencies Act truck haul and sand placement for the Broward County Shore Protection Project (SPP) Segment III. Segment III of the Broward County SPP is located approximately 23 miles north of Miami Beach on the southeastern coast of Florida (Figure 1). The previously renourished portions of Segment III are located between Florida Department of Environmental Protection (FDEP) range monuments R-86 to R-94 and R-98 to R-128. The Corps is studying the environmental effects of emergency beach renourishment of Broward County SPP Segment III in response to erosion caused by Hurricane Irma. The preferred alternative consists of the truck haul and placement of sand on critically eroded shoreline above Mean High Water from FDEP monuments R-86 to R-94 and R-98 to R-128. Sand will be truck hauled to the project location from two proposed commercial upland sand source mines: Ortona Mine and Witherspoon Mine.

Based on archival research of the Florida Master Site File (FMSF) no prehistoric archaeological sites are recorded within the beach placement area; however, several historic structures that have unknown eligibility or are potentially eligible for inclusion in the National Register of Historic Places (NRHP) (8BD03841, 8BD03836, 8BD03835, 8BD3804, 8BD03804, 8BD03802, 89BD03815, 8BD03800, 8BD00322, 8BD05203, 8BD03427, 8BD03769, 8BD03337, 8BD03309, 8BD3300, and 8BD03299) are located 200 feet outside of the area of potential effects. Beach placement of sand will have a beneficial effect of preventing future erosion.

The commercial upland sand sources identified for the Segment III Project include the Ortona Sand Mine and the Witherspoon Sand Mine. Over the years, a number of cultural resource surveys have been conducted for the Ortona Sand Mine (Department of Historical Resources [DHR] Survey Nos. 6689, 4847, 3021, 17005, and 16862). Several prehistoric archaeological sites associated with the Ortona Mound complex have been identified and recorded within the mine property: Ortona Canal East

(8GL4a), Quarry Mound (8GL81), Lance's Mound (8GL419), Sawpalmetto Haven Mound (8GL420), and Tallant Mound (8GL00083). FMSF records indicate that the Ortona Canal East (8GL4a) and Quarry Mound (8GL81) have been mitigated. Cultural resources investigations for the adjacent Witherspoon sand mine have been completed (DHR Survey No. 4602). Two archaeological sites (8GL378 T.C. Cabbage Palm Mound and 8GL379 Fox Hammock Midden) were identified as eligible for inclusion in the NRHP. These sites will not be impacted by the sand mining activities. Any upland sand mines employed for this project are subject to the State of Florida's statutory requirements in Chapter 267 for protection of historical resources in the sand source footprints before the Corps will approve use of the source. Consultation under Section 106 of National Historic Preservation Act (54 U.S.C. §306108) with Florida SHPO and appropriate federally-recognized tribes will continue for any unforeseen issues that may arise with respect to cultural resources.

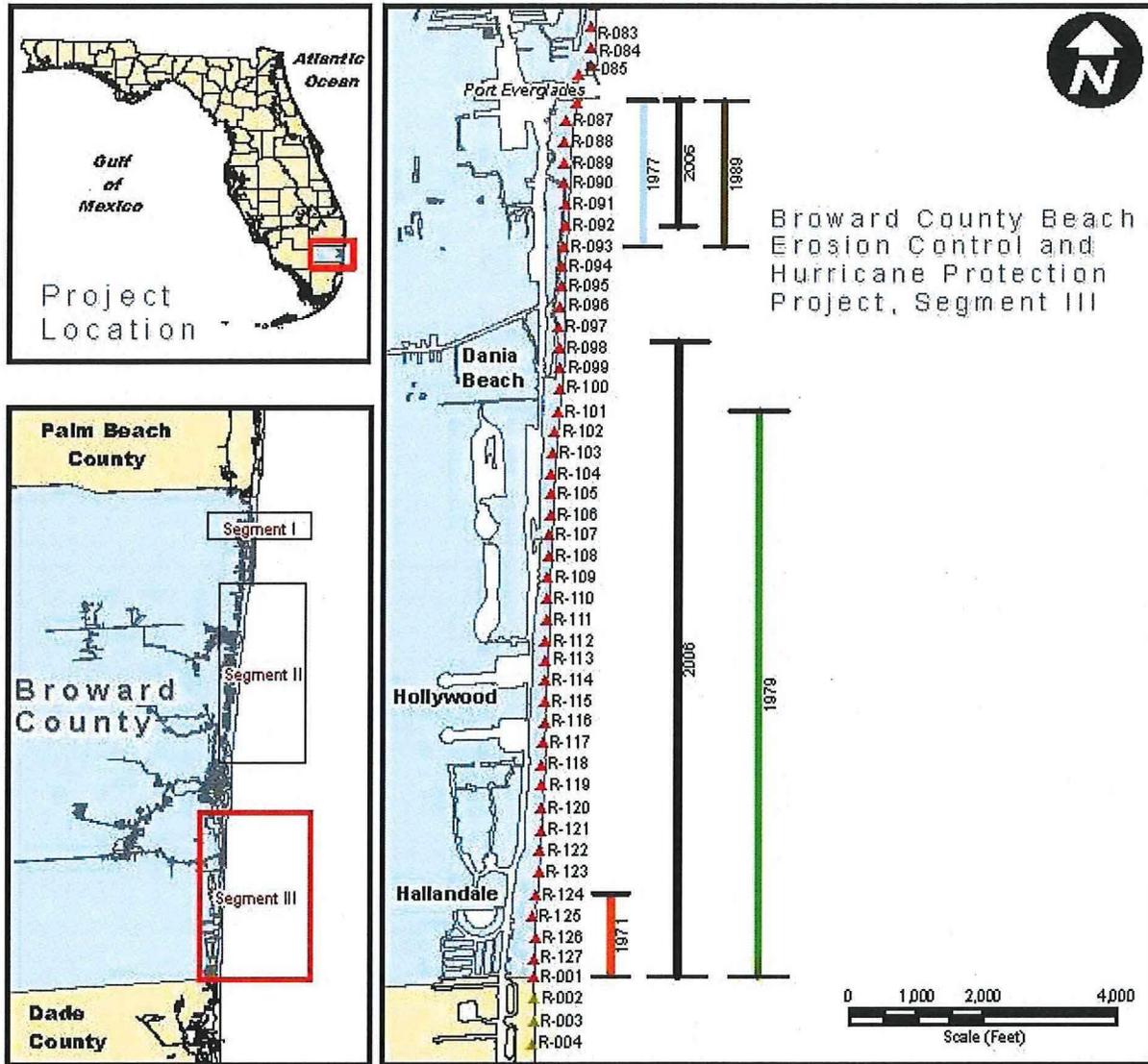
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Sincerely,



Gina Paduano Ralph, Ph.D.
Chief, Environmental Branch

Enclosure



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Figure 1. Broward County SPP Segment III Project Location.



DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, JACKSONVILLE DISTRICT
701 SAN MARCO BOULEVARD
JACKSONVILLE, FLORIDA 32207-8915

Planning and Policy Division
Environmental Branch

AUG 28 2018

Mr. Paul Backhouse, Ph.D
Seminole Tribe of Florida
30290 Josie Billie Highway, PMB 1004
Clewiston, FL 33440

Dear Mr. Backhouse:

The Jacksonville District, U.S. Army Corps of Engineers (Corps) is preparing an Environmental Assessment for the Flood Control and Coastal Emergencies Act truck haul and sand placement for the Broward County Shore Protection Project (SPP) Segment III. Segment III of the Broward County SPP is located approximately 23 miles north of Miami Beach on the southeastern coast of Florida (Figure 1). The previously renourished portions of Segment III are located between Florida Department of Environmental Protection (FDEP) range monuments R-86 to R-94 and R-98 to R-128. The Corps is studying the environmental effects of emergency beach renourishment of Broward County SPP Segment III in response to erosion caused by Hurricane Irma. The preferred alternative consists of the truck haul and placement of sand on critically eroded shoreline above Mean High Water from FDEP monuments R-86 to R-94 and R-98 to R-128. Sand will be truck hauled to the project location from two proposed commercial upland sand source mines: Ortona Mine and Witherspoon Mine.

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The commercial upland sand sources identified for the Segment III Project include the Ortona Sand Mine and the Witherspoon Sand Mine. Over the years, a number of cultural resource surveys have been conducted for the Ortona Sand Mine (Department of Historical Resources [DHR] Survey Nos. 6689, 4847, 3021, 17005, and 16862). Several prehistoric archaeological sites associated with the Ortona Mound complex have been identified and recorded within the mine property: Ortona Canal East (8GL4a), Quarry Mound (8GL81), Lance's Mound (8GL419), Sawpalmetto Haven

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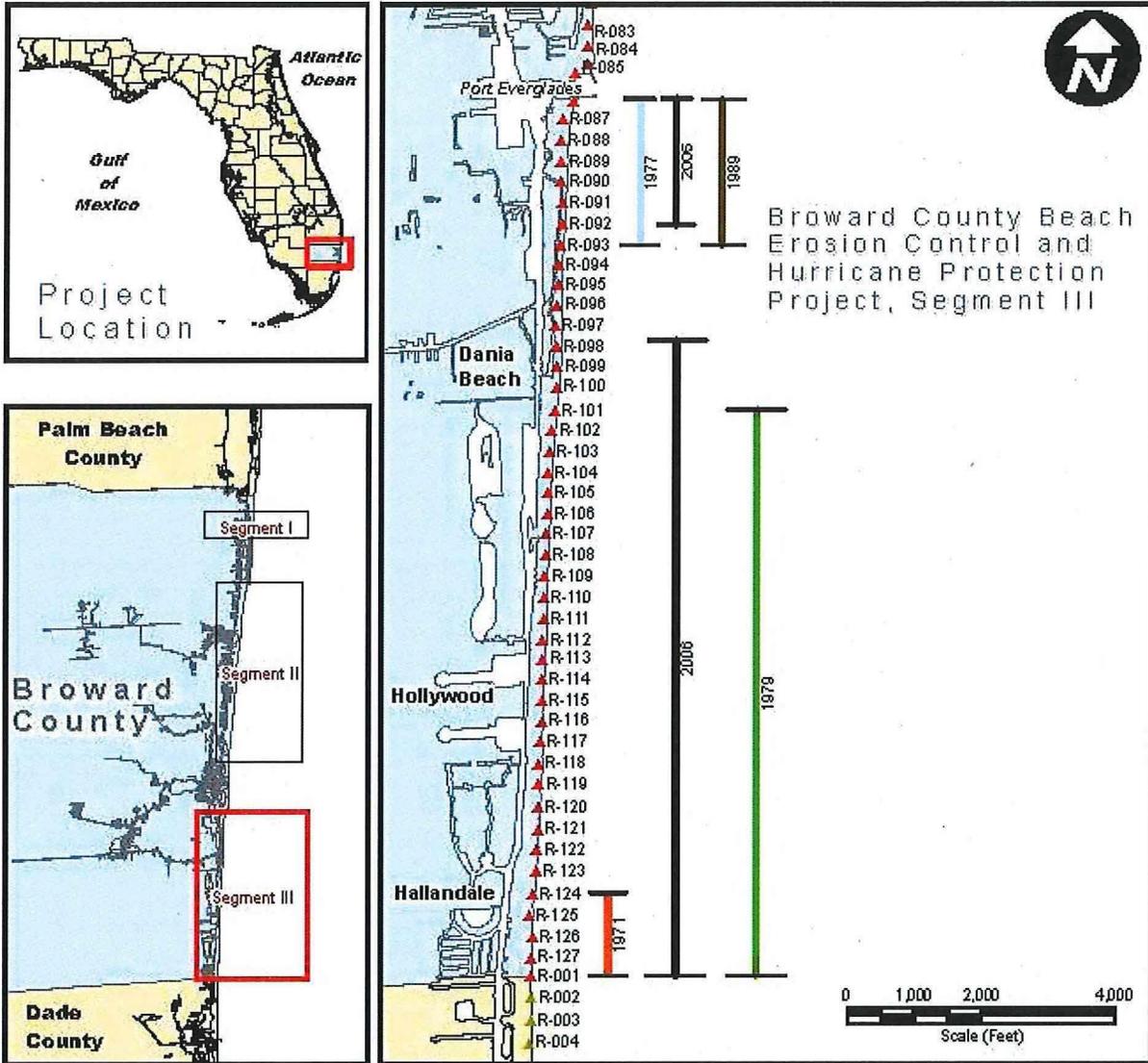
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Sincerely,



Gina Paduano Ralph, Ph.D.
Chief, Environmental Branch

Enclosure



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DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, JACKSONVILLE DISTRICT
701 SAN MARCO BOULEVARD
JACKSONVILLE, FLORIDA 32207-8915

Planning and Policy Division
Environmental Branch

AUG 28 2018

Mr. Terry Clouthier
Thlopthocco Tribal Town
PO Box 188
Okemah, OK 74859

Dear Mr. Clouthier:

The Jacksonville District, U.S. Army Corps of Engineers (Corps) is preparing an Environmental Assessment for the Flood Control and Coastal Emergencies Act truck haul and sand placement for the Broward County Shore Protection Project (SPP) Segment III. Segment III of the Broward County SPP is located approximately 23 miles north of Miami Beach on the southeastern coast of Florida (Figure 1). The previously renourished portions of Segment III are located between Florida Department of Environmental Protection (FDEP) range monuments R-86 to R-94 and R-98 to R-128. The Corps is studying the environmental effects of emergency beach renourishment of Broward County SPP Segment III in response to erosion caused by Hurricane Irma. The preferred alternative consists of the truck haul and placement of sand on critically eroded shoreline above Mean High Water from FDEP monuments R-86 to R-94 and R-98 to R-128. Sand will be truck hauled to the project location from two proposed commercial upland sand source mines: Ortona Mine and Witherspoon Mine.

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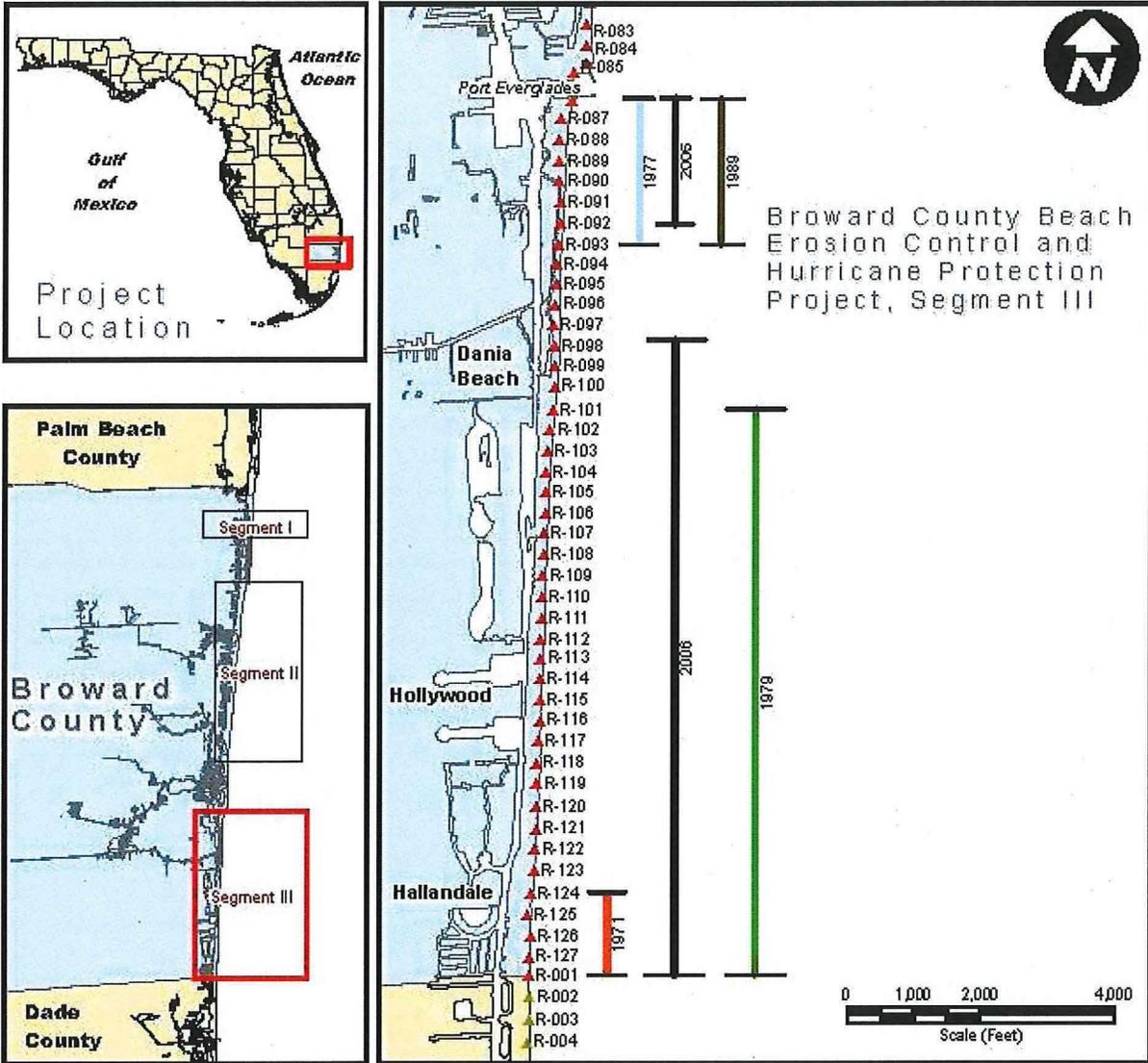
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Gina Paduano Ralph, Ph.D.
Chief, Environmental Branch

Enclosure



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Figure 1. Broward County SPP Segment III Project Location.

APPENDIX B

Coastal Zone Management Act (CZMA)
Federal Consistency Determination (FCD)

Environmental Assessment
Flood Control and Coastal Emergencies Act (FCCE)
Truck Haul and Placement of Sand on
Broward County Shore Protection Project (SPP) Segment III in
Broward County, Florida



US Army Corps of Engineers
JACKSONVILLE DISTRICT

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Donofrio, Kristen L CIV USARMY CESAJ (US)

From: Stahl, Chris <Chris.Stahl@dep.state.fl.us>
Sent: Monday, October 15, 2018 11:56 AM
To: Donofrio, Kristen L CIV USARMY CESAJ (US); Ralph, Gina P CIV USARMY CESAJ (US); Gray, Rachel D CIV USARMY CESAJ (US)
Cc: State_Clearinghouse; 'FWC Conservation Planning Services'; Hewitt, Betsy
Subject: [Non-DoD Source] State_Clearance_Letter_For_FL201808308404C_
Attachments: USACE Broward Segment III Truck Haul DEP Conditional CZMA Final 03_le signed.docx; 2018-4639-267, FF.PDF; 20180830_usaceletter.pdf

October 15, 2018

Kristen Donofrio
U.S. Army Corps of Engineers
Jacksonville District
P. O. BOX 4970
Jacksonville, Florida 32232-0019

RE: Department of Defense, Office of the Chief of Engineers, Department of the Army, Beach Erosion Control Projects, Flood Control and Coastal Emergency Act Truck Haul and Placement of Sand on Segment III of the Broward County Shore Protection Project, Broward County, Florida
SAI# FL201808308404C

Dear Kristen:

Florida State Clearinghouse staff has reviewed the proposal under the following authorities: Presidential Executive Order 12372; § 403.061(42), Florida Statutes; the Coastal Zone Management Act, 16 U.S.C. §§ 1451-1464, as amended; and the National Environmental Policy Act, 42 U.S.C. §§ 4321-4347, as amended.

The Florida Departments of Environmental Protection and State, as well as the Florida Fish and Wildlife Conservation Commission has reviewed the proposed action and submitted. As a courtesy, these have been attached to this letter and are incorporated hereto.

Additionally, in the unlikely circumstance that the project runs over and into the beginning of the Sea turtle nesting season. The Sea Turtle coordinator at Dr. Von D. Mizell-Eula Johnson State Park or designee would check the area of beach that is slated for nourishment for any Sea Turtle nests daily. If any nests are found ,they would then be relocated to a zone outside the project area before the work would start that day. Please contact Steve R. Dale - Park Manager at 954-924-3859 for details and coordination.

Based on the information submitted and minimal project impacts, the state has no objections to the subject project and, therefore, it is consistent with the Florida Coastal Management Program (FCMP). Thank you for the opportunity to review the proposed project. If you have any questions or need further assistance, please don't hesitate to contact me at (850) 717-9076.

Chris Stahl

Chris Stahl, Coordinator
Florida State Clearinghouse
Florida Department of Environmental Protection
2600 Blair Stone Road, M.S. 47
Tallahassee, FL 32399-2400
ph. (850) 717-9076
State.Clearinghouse@dep.state.fl.us





FLORIDA DEPARTMENT OF Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Rick Scott
Governor

Carlos Lopez-Cantera
Lt. Governor

Noah Valenstein
Secretary

TO: Chris Stahl, Office of Intergovernmental Programs

FROM: Lainie Edwards, Ph.D., Deputy Director, Division of Water Resource Management

SUBJECT: Department of the Army, Jacksonville District Corps of Engineers –
Consistency Determination – Broward County Shore Protection Project Segment III,
Truck Haul and Placement of Sand SAI # FL201808308404DC

DATE: October 4, 2018

The U.S. Army Corps of Engineers (Corps) proposes to contract for a truck haul sand project to be placed on the Broward County Shore Protection Project, Segment III, landward of mean high water. This activity would not require a Clean Water Act, Water Quality Certification pursuant to Section 401. Therefore, the Corps maintains that they do not require a state Coastal Construction Control Line permit, only the state's concurrence that the activity is consistent with the enforceable polices of the approved Coastal Zone Management program.

The Code of Federal Regulations does, however, state that the activity should be consistent to the maximum extent practicable:

15 C.F.R. § 930.39(e) State permit requirements. Federal law, other than the CZMA, may require a Federal agency to obtain a State permit. Even when Federal agencies are not required to obtain State permits, Federal agencies shall still be consistent to the maximum extent practicable with the enforceable policies that are contained in such State permit programs that are part of a management program.

The Division of Water Resource Management (Division), therefore, finds this activity "conditionally consistent" subject to the conditions set forth below and pending the receipt and approval of the following items pursuant to the Coastal Construction Control Line (CCCL) requirements based upon the provisions of § 161.053(4), Florida Statutes (F.S.).

1. The sand placement shall be limited to above the mean high water line. (s. 161.053(2), (8), F.S.)
2. This letter does not authorize trespassing or convey proprietary authorizations. The Corps is required to receive authorization from property owners for work to be conducted on private and public property, including beach fill areas, access corridors,

staging areas, and other lands to be used to complete the project. The Department has provided a Letter of Consent to Broward County for sand placement on state-owned property between mean high water and the Erosion Control Line, but there may be other public properties where placement is desired.

3. The project shall not contravene local setbacks and zoning. (§ 161.053(4)(b), F.S.)

To demonstrate consistency, the Corps shall submit the following to the Department:

4. Submittal of a survey where a cadastral or plat map or other schematic drawing representing properties affected by the project activities may be submitted in lieu of a complete property boundary survey. (§ 161.053(2)(a) & (4)(a) & (d), F.S.)
5. Submittal of aerial overlays or project plans, including:
 - a. The location of the CCCL, range monument locations, existing contours (with mean high water line, seasonal high water line and two-foot contours), the seaward vegetation line and the location of any structure affected by the project, such as access roads, ramps, walkovers, fences, etc., may be submitted in lieu of complete surveys of vegetation, topography and existing improvements. (§ 161.053(2)(a) & (4)(a) & (d), F.S.)
 - b. Project plans including typical schematics and specifications for any staging areas, access points, demolition, removal or replacement of structures, vegetation protection and planting, site controls such as fencing or barriers, and methods for maintaining public beach access. (§§ 161.053(2)(a) & (4)(c) & 161.242, F.S.)
 - c. Cross-sections depicting the entire profile from mean high water to the CCCL at construction access sites and storage locations. A sufficient number of cross-sections must be provided to depict the variability of beach berm and dune configurations along the entire project length. (§§ 161.053(2)(a) & (4)(c) & 161.242, F.S.)
6. Confirmation that the upland sand source(s) being used has both the quality and quantity of material required for this project. This can be achieved by providing the Department with updated sediment data and compatibility analysis as required by rule 62B-33.008, F.A.C., to ensure comply with 62B-33.005, F.A.C.
7. Representative physical samples of both the upland sand source(s) and the material in the placement area. These samples must demonstrate the material proposed for placement is consistent with proposed rule 62B-33.005(7), F.A.C.
8. A grain size analysis of the samples of upland sand and placement area sand. When performing the grain size analyses of the samples, please consider the following when

- submitting data to the Department for review. Please include the following in tabular form: 1) sieve number, 2) diameter in mm, 3) diameter in phi units, 4) weight retained on sieve, 5) weight percent retained on sieve, 6) cumulative weight retained on sieve, 7) cumulative weight percent retained on sieve. All weights and percentages should be recorded to the nearest 0.01 gm. Please provide frequency and cumulative frequency plots of each sample. If composite statistics are calculated, please provide the spreadsheet used to do so, as well as a cumulative frequency curve of the composite. Please also include a table of mean (mm), standard deviation (sorting), moist Munsell color, silt percent (passing the #230 sieve), fine gravel content (retained on the #4 sieve), visual shell content, and carbonate content. This information is required by rule 62B-33.005, F.A.C.
9. A Sediment QA/QC Plan for review, as this information is required by Rule 62B-33.008, F.A.C., to ensure compliance with 62B-33.005, F.A.C.
 10. A compatibility analysis of the material in the proposed upland sand source with the material in the beach placement area. This information is requested under rule 62B-33.008, F.A.C., to ensure compliance with 62B-33.005, F.A.C.
 11. A binding and enforceable agreement between the Corps and Broward County that requires all post construction monitoring required under the U.S. Fish and Wildlife Service's Programmatic Regional Biological Opinion will be conducted by the County. (§§ 161.053(4)(c) & 379.2431(1)(g), F.S.)
 12. Verification that the Corps will arrange a meeting between representatives of the contractor, the Department, the Florida Fish and Wildlife Conservation Commission, and the permitted person responsible for marine turtle nest monitoring at least 30 days prior to the commencement of work on this project. At least 15 days advance notice shall be provided prior to conducting this meeting. (§§ 161.053(4)(c) & 379.2431(1)(g), F.S.)

The Division is committed to working with the Corps to accomplish this emergency project. Thank you for the opportunity to comment and please contact me should you have any questions.



Lainie Edwards, Ph.D.
Deputy Director
Division of Water Resource Management
Florida Department of Environmental Protection

Broward Segment III – CZM Review

October 4, 2018

Page 4 of 4

CC: Gregory Garis, DWRM

Tony McNeal, P.E., DWRM

William Boudreau, DWRM

Roxane Dow, DWRM

Jennifer Steele, Ph.D., DWRM



DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, JACKSONVILLE DISTRICT
701 SAN MARCO BLVD
JACKSONVILLE, FL 32207-8915

Planning and Policy Division
Environmental Branch

AUG 27 2018

Chris Stahl
Coordinator
Florida State Clearinghouse
Florida Department of Environmental Protection
2600 Blair Stone Road, M.S. 47
Tallahassee, FL 32399

Dear Mr. Stahl:

The information in this letter is being provided by the U.S. Army Corps of Engineers, Jacksonville District (Corps) related to its review under the Coastal Zone Management Act (CZMA) for the proposed project, Flood Control and Coastal Emergency Act (FCCE) Truck Haul and Placement of Sand on Broward County Shore Protection Project (SPP) Segment III. The Corps is providing a description of the project location, proposed work, and the Federal Consistency Determination (FCD) in this letter and/or its attachments. The Corps requests the State's concurrence that the proposed project is consistent with Florida's Coastal Zone Management Program.

Segment III of the Broward County SPP is located on the southeastern coast of Florida. Although the original Segment III authorization limits extend approximately 8.1 miles, from Port Everglades to the Broward-Dade county line, only 6.9 miles have been constructed. The constructed portions of Segment III are located between Florida Department of Environmental Protection (FDEP) monuments R-86 to R-94 and R-98 to R-128. (See Attachment 1 for a map of the location.)

The proposed work consists of the truck haul and placement of sand on critically eroded shoreline above Mean High Water (MHW) from FDEP monuments R-86 to R-94 and R-98 to R-128 in response to erosion resulting from the passage of Hurricane Irma last September. The protective berm design is 50 feet wide at a variable elevation of 8.4 to 5.4 feet North American Vertical Datum 1988 (NAVD88). (See Attachment 2 for draft permit drawings). Approximately 123,200 cubic yards of sand will be placed along the project above MHW. Sand will be truck hauled to the project location from two proposed commercial upland sand source mines: Ortona Mine and Witherspoon Mine. These are the same mines approved for use for the truck haul and placement of sand on the Broward County SPP Segment II. This work was coordinated in 2013 and 2015 Environmental Assessments (EA). (The 2013 EA covered the FCCE truck haul renourishment of Broward County SPP Segment II. The 2015 EA coordinated truck

haul renourishment of Segment II conducted by Broward County in January through April 2016. Both of the previous truck haul EAs are available from the Corps' environmental documents website: <http://www.saj.usace.army.mil/About/Divisions-Offices/Planning/Environmental-Branch/Environmental-Documents/>. Click on the + sign next to "Broward County" and scroll down to "Broward County Shore Protection Project".)

Due to marine resources in the project area, extensive surveys and environmental coordination will need to occur for a full renourishment, which is scheduled for 2020. The placement of sand above MHW avoids potential effects to marine resources in the project area and does not require a Clean Water Act Section 401 water quality certificate, as previously determined in conjunction with the 2013 Segment II FCCE truck haul and sand placement project following Hurricane Sandy. By mimicking the Segment II FCCE effort, placement of sand will be implementable upon receipt of emergency funds and will stabilize the project until the full renourishment can be completed in 2020. As this work is authorized under the FCCE, it is notable that only the volume of material determined to be lost due to the disaster (primarily Hurricane Irma) will be placed. The width of the restored beach is controlled by the pre-project MHW and will not be extended seaward by the project. Placement of sand landward of the erosion control line will not be allowed in locations where easements have not been obtained. (See Attachment 2 for an example cross-section.)

Multiple measures will be taken to preserve and protect the environmental resources in the project area. Protection of existing vegetation is an important requirement of the project. Stands of dune/beach vegetation with a minimum contiguous area of 25 square feet will be avoided. If encountered, sand may be placed at vegetated areas of lesser extent, however, comparable vegetation will be replanted. Vegetation may be impacted at the construction access areas. The Contractor will be required to submit a Vegetation Protection Plan identifying protective measures to be implemented, plants to be impacted, and revegetation plans. The U.S. Fish and Wildlife Service (USFWS) issued the Statewide Programmatic Biological Opinion (SPBO) in 2015, which covers beach nourishment projects for effects to nesting sea turtles. All of the applicable terms and conditions of the SPBO will be applied to this project. Notably, all construction activity on the beach will take place outside of the turtle nesting season. The Corps has determined the proposed project is covered by the SPBO and may affect but is not likely to adversely affect nesting sea turtles. The Corps will request concurrence from USFWS and complete consultation prior to construction. A copy of the consultation documents will be included with the EA being prepared for this FCCE event. Due to the placement of mined sand above MHW, no effects to benthic resources are anticipated; therefore, the proposed project will not affect species under National Marine Fisheries Service (NMFS) jurisdiction and no consultation with NMFS is required.

In addition to the proposed project's FCD (included as Attachment 3), the renourishment of Segment III has been previously reviewed under CZMA in the 2004 Final Environmental Impact Statement (FEIS) for the Broward County SPP Segments II and III. Consistency was issued by FDEP through the issuance of permit #0163435-001-JC in May 2003. The 2004 FEIS FCD and CZMA coordination covers periodic renourishment of the entire Segment II and III shoreline with sand being sourced from offshore locations and placed on the beach hydraulically. In addition, this type of work was also reviewed under CZMA in the 2013 EA for Broward County SPP Segment II FCCE Truck Haul Beach Renourishment Project as well as the 2015 EA for full renourishment of Segment II, which was issued FDEP Permit# 0314535-001-JC on January 31, 2014. The 2013 EA FCD and CZMA coordination covers periodic renourishment of Segment II shoreline only with sand being sourced from upland mines, truck hauled to the project site, and placed on the beach mechanically. The 2015 Segment II EA covers the periodic renourishment of the full project template of the Segment II section of the Broward County SPP. (See Attachment 4 for the Segment II EA Corps' request letter, project FCD, and State concurrence. See Attachment 5 for the FEIS Corps' request letter, project FCD, and State concurrence.) The proposed project is significantly smaller in scope than the activities covered in the 2004 FEIS. There is no difference in project scope between the 2013 Segment II and proposed Segment III work.

The Corps has determined that the proposed project, implemented under the FCCE, is consistent with Florida's approved Coastal Zone Management Program. Due to project's urgent need and the similarity of this project to the activities covered by the 2004 FEIS and the 2013 and 2015 Segment II EAs, the Corps respectfully requests concurrence on this FCD within 30 days of receipt of this letter and attached documentation. Any questions concerning the project or FCD should be submitted to Kristen Donofrio at the letterhead address, via email to Kristen.L.Donofrio@usace.army.mil, or by telephone at (904)232-3662 within 30 days from the date of this letter.

Sincerely,

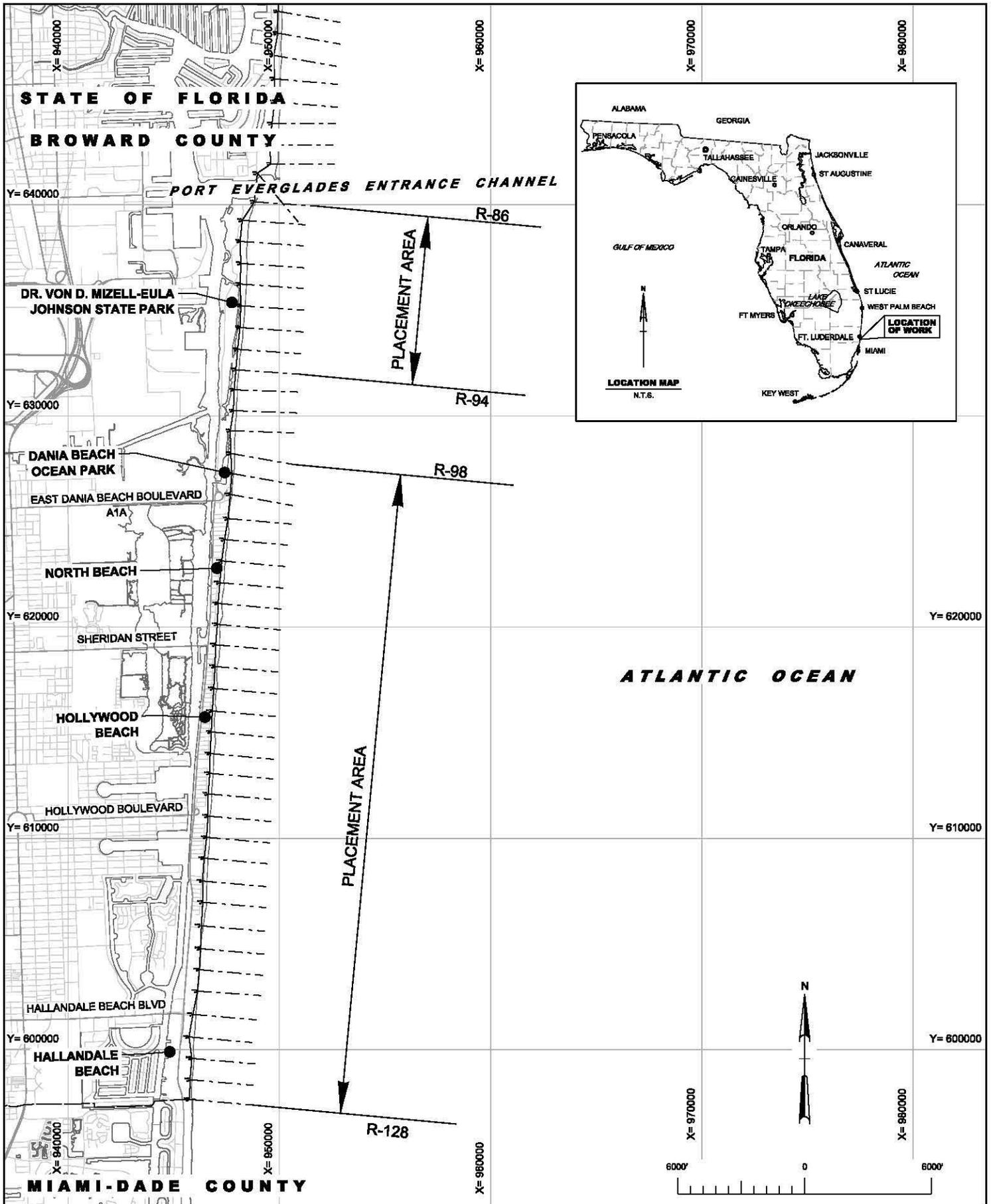


Gina Paduano Ralph, Ph.D.
Chief, Environmental Branch

Enclosures

ATTACHMENT 1:

Flood Control and Coastal Emergency Act (FCCE)
Truck Haul and Placement of Sand on
Broward County Shore Protection Project (SPP) Segment III
Location Map



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BEACH EROSION CONTROL PROJECT
 BROWARD COUNTY, FLORIDA

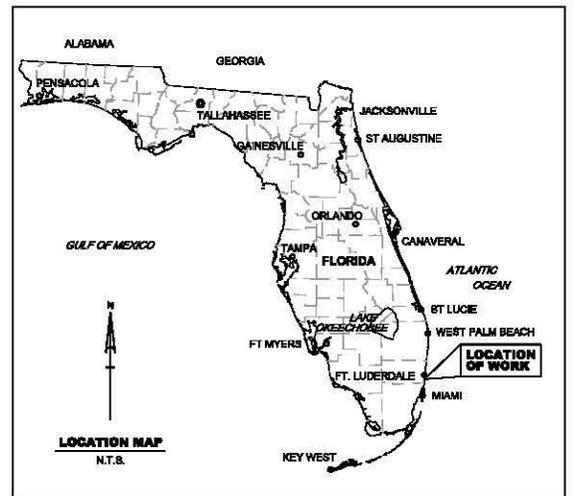
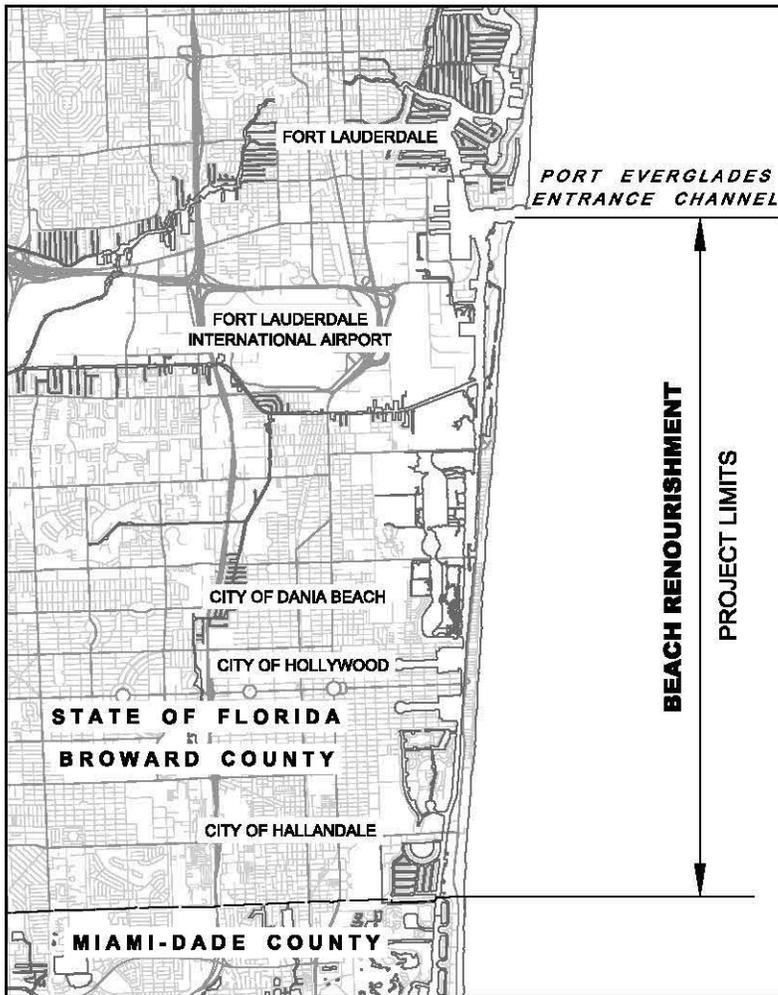
BROWARD COUNTY SEGMENT III

GENERAL PROJECT OVERVIEW

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ATTACHMENT 2:

Flood Control and Coastal Emergency Act (FCCE)
Truck Haul and Placement of Sand on
Broward County Shore Protection Project (SPP) Segment III
Permit Drawings



ATLANTIC OCEAN



PLATE INDEX

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BEACH EROSION CONTROL PROJECT
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GENERAL
COVER SHEET AND PLATE INDEX

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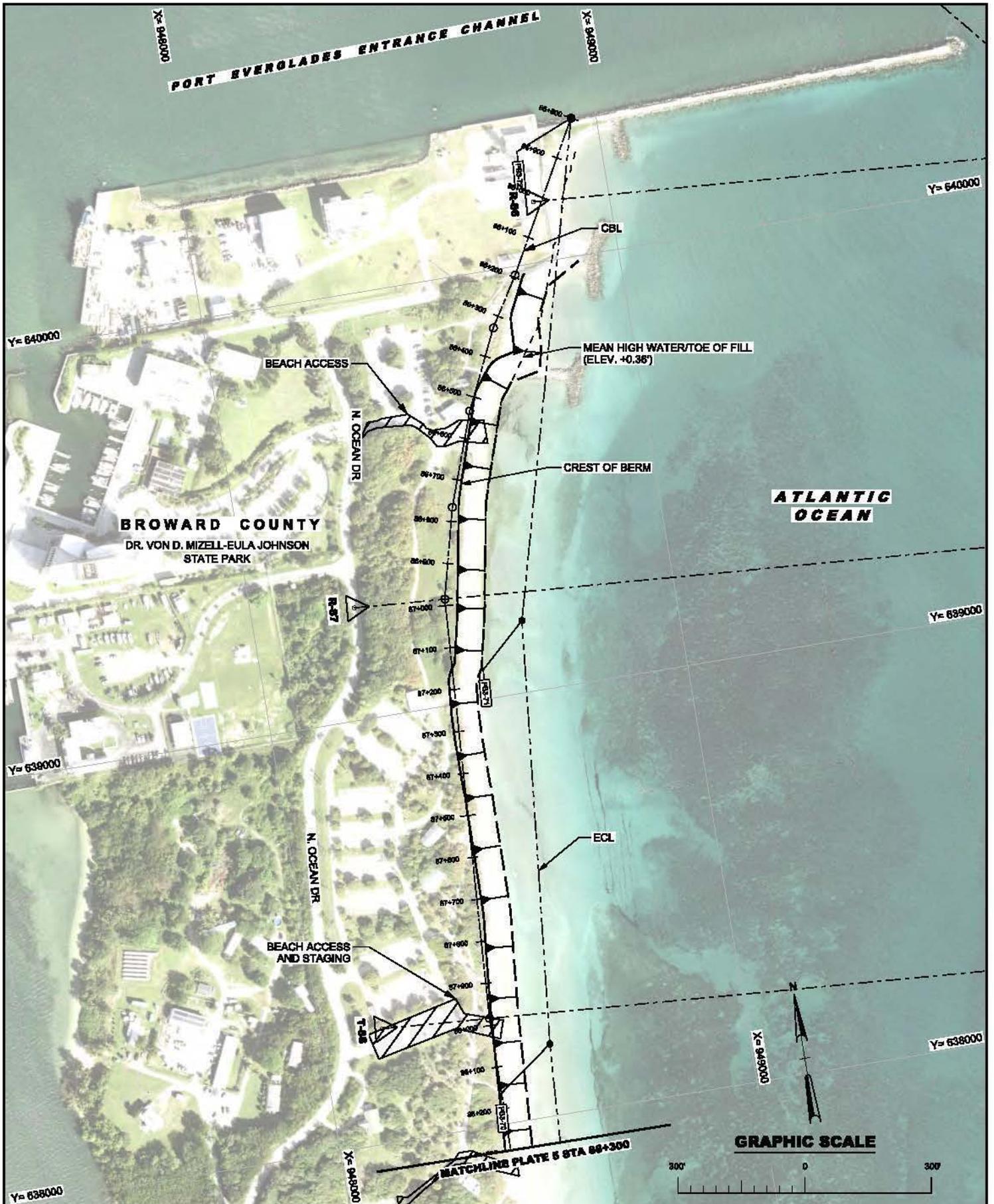
DRAWING SET TABLE OF CONTENTS

DISCIPLINE DESIGNATOR	IDENTITY SYMBOL KEY	REFERENCE SYMBOL KEY
G - GENERAL V - SURVEY / MAPPING TOPOGRAPHIC ELEVATIONS BATHYMETRIC SOUNDINGS ENVIRONMENTAL RESOURCE MAPPING B - GEOTECHNICAL C - CIVIL S - STRUCTURAL R - RESOURCES	<p>4255-123 CONSTRUCTION BASELINE POINT (CBL) 1 on 20 FILL SLOPE 1' VERTICAL TO 20' HORIZONTAL</p> <p>4255-124 EROSION CONTROL POINT (ECL) FILL SLOPE INDICATOR SYMBOL</p> <p>FDEP MONITORING MONUMENT W/ AZMITH BEARING FDEP RANGE MONUMENT WITH AZMITH BEARING</p>	<p>SECTION NAME OBJECT REFERENCED VIEWING PLANE</p> <p>DRAWING WHERE SHOWN</p> <p>CROSS SECTION IDENTIFIER REDUCED TO FIT</p>

TERMS AND ABBREVIATIONS	PROJECT LEGEND	REFERENCE SYMBOL KEY
APPROX APPROXIMATE BLVD BOULEVARD CBL CONSTRUCTION BASELINE CL CENTERLINE CR COUNTY ROUTE DWG DRAWING ECL EROSION CONTROL LINE EL ELEVATION EXIST EXISTING ECWB EDGE OF BERM FDEP FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION FDOT FLORIDA DEPARTMENT OF TRANSPORTATION FT FOOTFEET HORZ HORIZONTAL INV INVERT IP IRON PIPE LF LINEAR FOOT MHW MEAN HIGH WATER MLLW MEAN LOWER LOW WATER MLW MEAN LOW WATER NAVD88 NORTH AMERICAN VERTICAL DATUM OF 1988 NOAA NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION N.T.S. NOT TO SCALE PI POINT OF INTERSECTION RD ROAD RFI REQUEST FOR INFORMATION RGE RANGE SBDA SAND BYPASS DREDGE AREA SF SQUARE FEET SSLE SOVEREIGNTY SUBMERGED LANDS EASEMENT ST STREET STA STATION TOB TOP OF BERM TOL TOLERANCE TOS TOE OF SLOPE TYP TYPICAL USACE UNITED STATES ARMY CORPS OF ENGINEERS USCG UNITED STATES COAST GUARD 480+00 CBL STATION VERT VERTICAL	CONSTRUCTION BASELINE POINT WITH STATIONING EROSION CONTROL LINE / POINT WITH STATIONING EROSION CONTROL POINT HORIZONTAL AND VERTICAL CONTROL RANGE LINE MONUMENT TOE OF CONSTRUCTION SLOPE EXIST STORMWATER OUTFALL FILL SLOPE SYMBOL EXISTING CONTOUR LINE WITH NOTATION SOUNDING / ELEV. 4.5 +4.8 BEACH FILL AREA (PLAN VIEW) BEACH FILL (PROFILE VIEW) STAGING AREA AND ACCESS LOCATION FALLS OFF PAGE BE CCAFS 2T CORE BORING (MIRACORE) LOCATION WITH NOTATION VB-DUC-13-02-16 EXISTING GRADE AVOIDANCE AREA PIPELINE ROUTE MAXIMUM DREDGING DEPTH 14	<p>TITLE NORTH INDICATOR</p> <p>PLAN GRAPHIC SCALE 0 100 200</p> <p>DRAWING AREA TITLE REDUCED TO FIT</p> <p>SECTION NAME TITLE CROSS SECTION GRAPHIC SCALE 0 20 40 200 400</p> <p>DRAWING AREA TITLE WITH ASYMMETRICAL SCALES REDUCED TO FIT</p> <p>SECTION NAME TITLE PROFILE GRAPHIC SCALE 0 20 40 200 400</p> <p>DRAWING AREA TITLE WITH ASYMMETRICAL SCALES REDUCED TO FIT</p>
LEGEND - GEOTECHNICAL BORINGS	LEGEND - AIDS TO NAVIGATION	PATTERN SYMBOL KEY
<p>CB-110-02 CORE BORING IDENTIFIER</p> <p>P-110-02 PROBE IDENTIFIER</p> <p>GS-110-02 GRAB SAMPLE IDENTIFIER</p> <p>VB-110-02 VIBRACORE BORING IDENTIFIER</p>	<p>! LIGHTED BEACON</p> <p>■ GREEN DAYBEACON</p> <p>▲ RED DAYBEACON</p> <p>● RED LIGHTED BUOY / GREEN LIGHTED BUOY</p> <p>⚓ CAN BUOY</p> <p>⚓ NUN BUOY</p>	<p>DREDGING AREA</p> <p>PIPELINE CORRIDOR</p> <p>ARCHEOLOGICAL PRESERVE</p> <p>OTHER</p> <p>ARTIFICIAL REEF</p> <p>PROBABLE HARDBOTTOM</p> <p>POSSIBLE HARDBOTTOM</p> <p>PATCHY SEAGRASS</p>

GENERAL NOTES	
1. THIS PROJECT WAS DESIGNED BY THE JACKSONVILLE DISTRICT OF THE U.S. ARMY CORPS OF ENGINEERS. THE INITIALS OR SIGNATURES AND REGISTRATION DESIGNATIONS OF INDIVIDUALS APPEAR ON THESE PROJECT DOCUMENTS WITHIN THE SCOPE OF THEIR EMPLOYMENT AS REQUIRED BY ER 1110-1-6152. 2. ALL PLANIMETRIC LAND FEATURES DEPICTED ON THESE PLANS ARE FOR INFORMATION ONLY AND WERE NOT PHYSICALLY LOGATED BY SURVEY UNLESS OTHERWISE INDICATED. NOT ALL EXISTING STRUCTURES ARE INDICATED ON THE DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL SUCH FEATURES THAT HE/SHE DETERMINES ARE NECESSARY FOR OR AFFECT THE PERFORMANCE OF CONSTRUCTION OF THIS PROJECT. DATE OF AERIAL IMAGERY - 2017 3. THE SPATIAL COORDINATES SHOWN HEREIN ARE IN THE FLORIDA STATE PLANE COORDINATE SYSTEM, EAST ZONE (9901) AND ARE REFERENCED TO THE 2011 ADJUSTMENT OF THE NORTH AMERICAN DATUM OF 1983 (NAD83(2011)). THE UNIT OF MEASURE IS U.S. SURVEY FOOT. 4. DESIGN ELEVATIONS ARE IN U. S. SURVEY FEET AND REFERENCE THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). ALL ELEVATIONS SHOWN ABOVE REFERENCED DATUM WILL BE ASSIGNED THE PLUS SYMBOL (+).	

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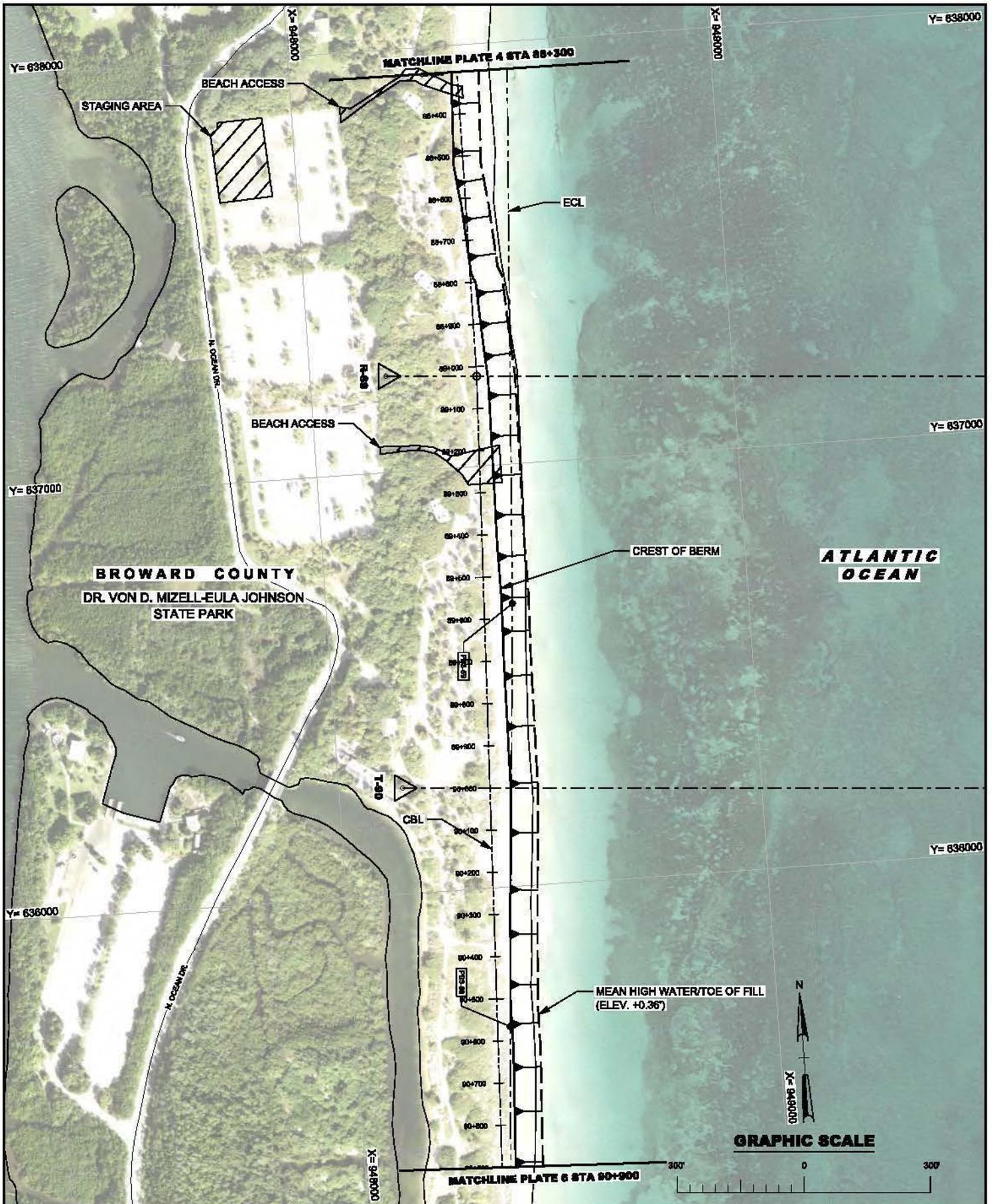
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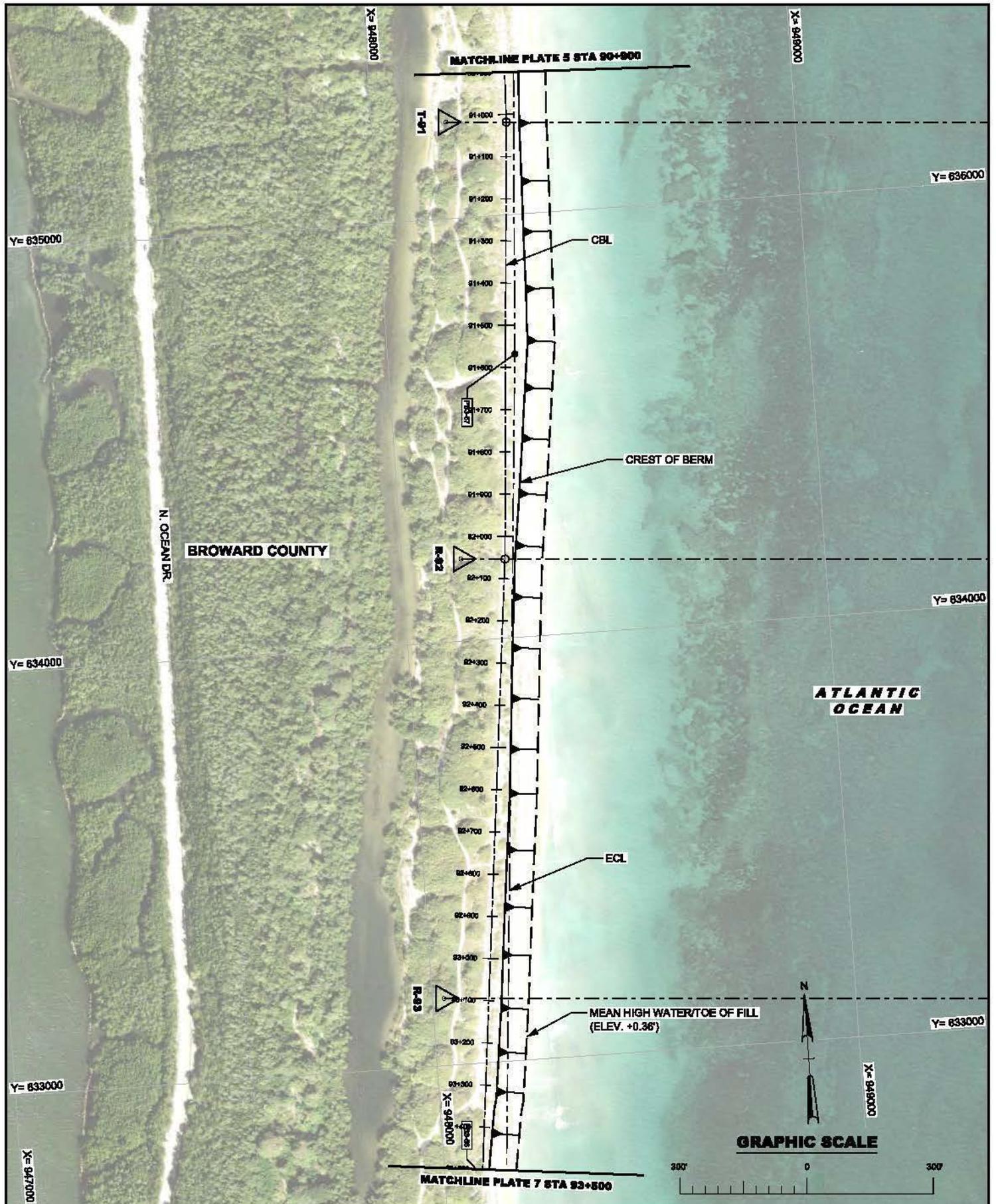
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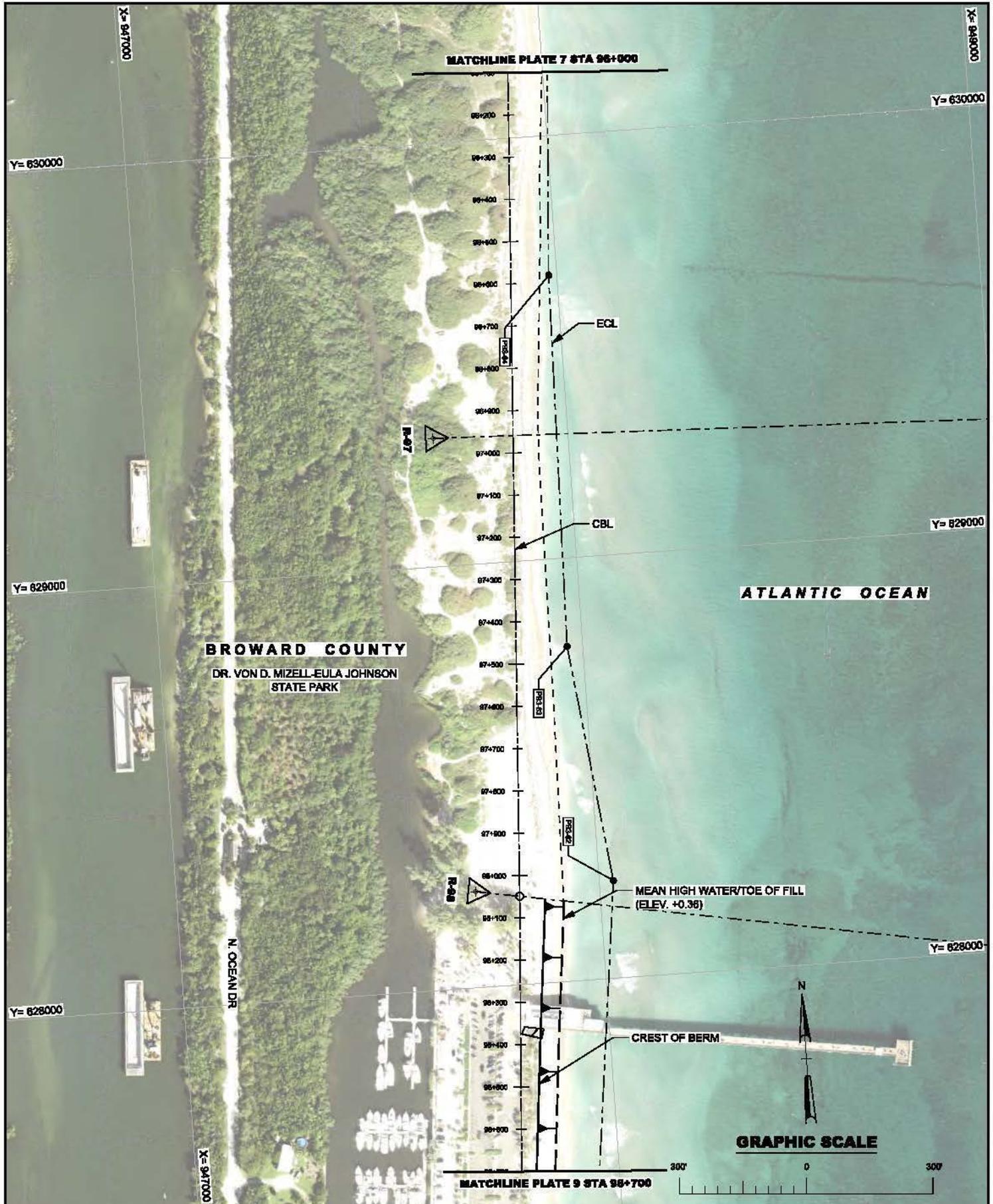
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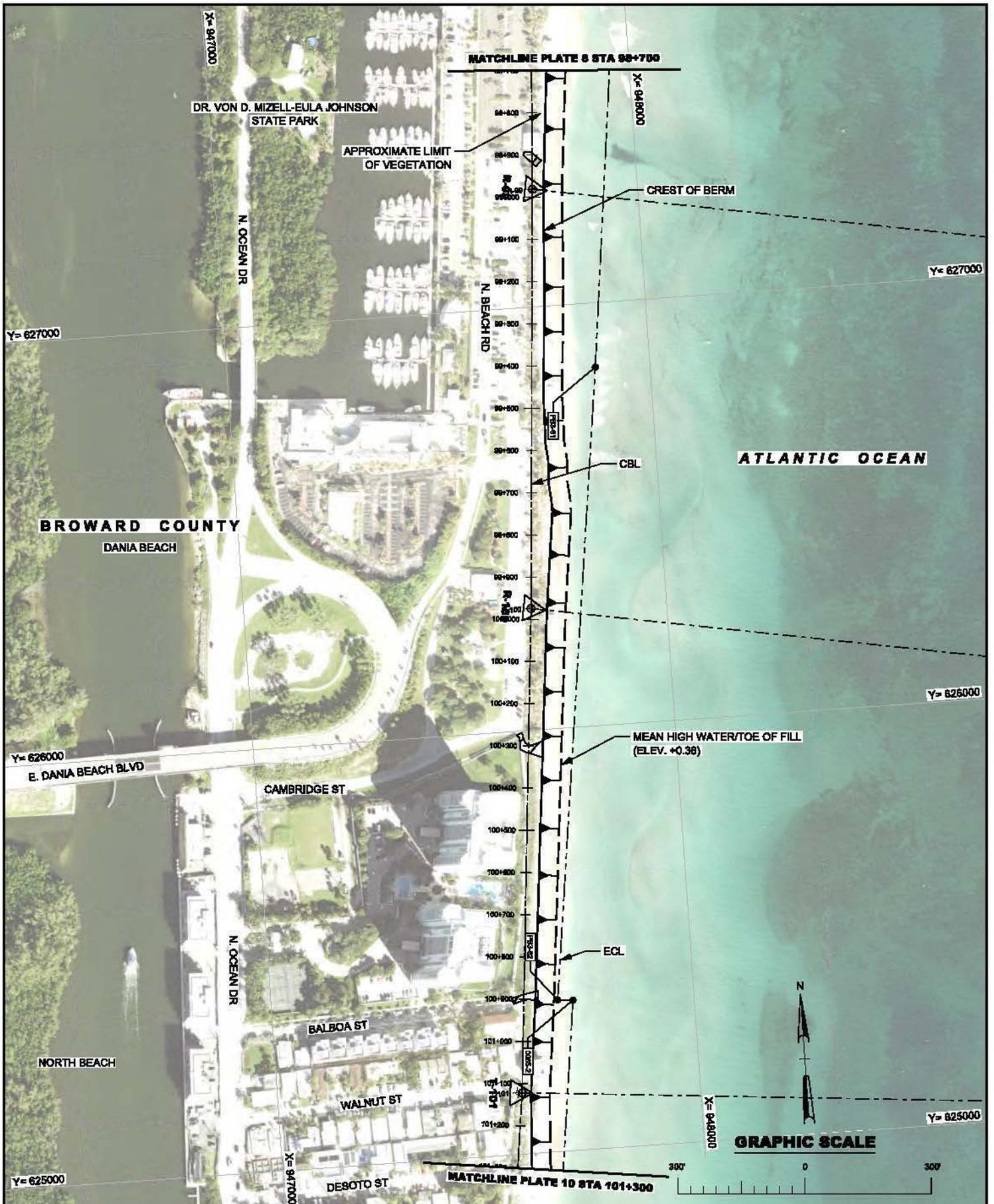
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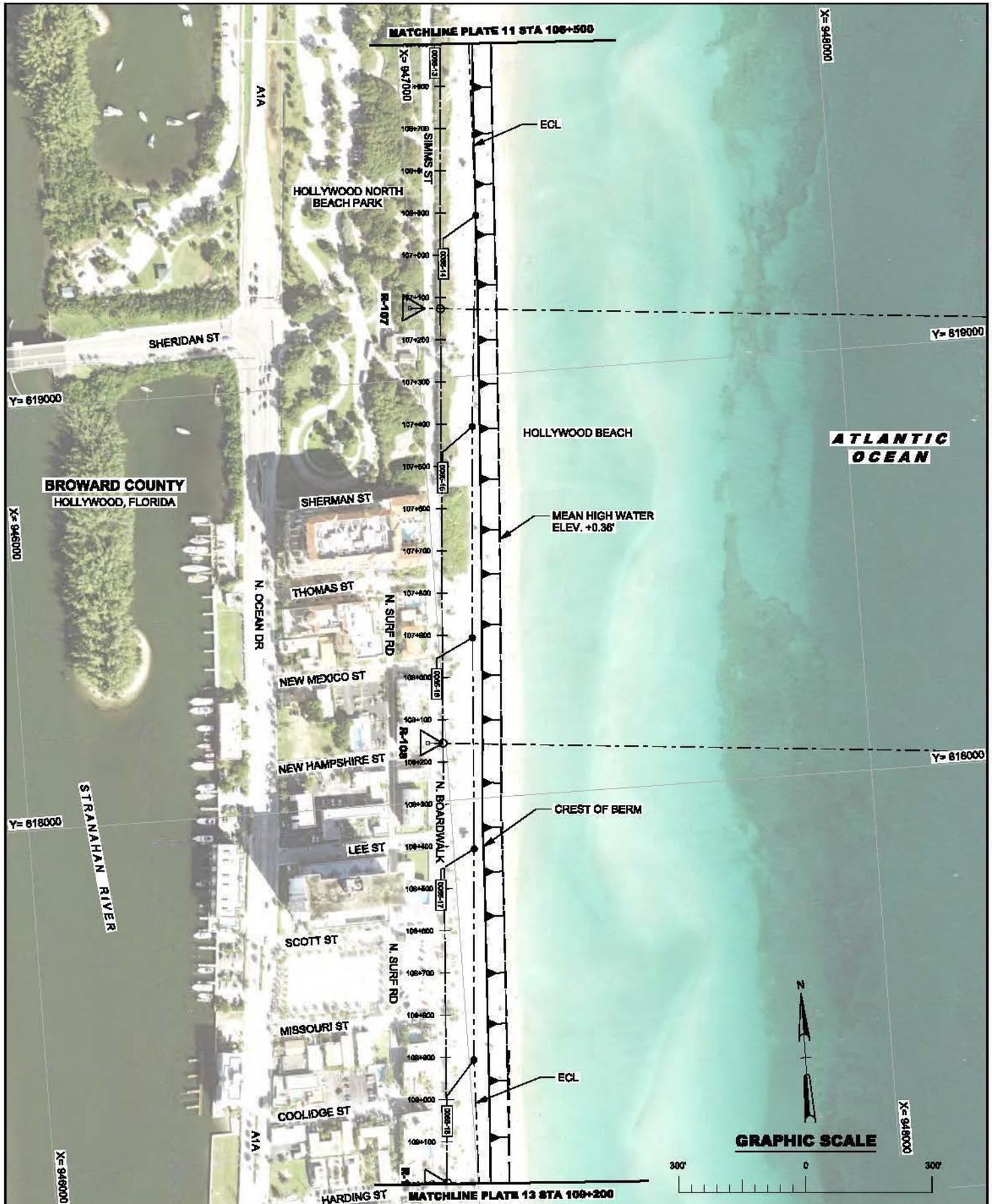
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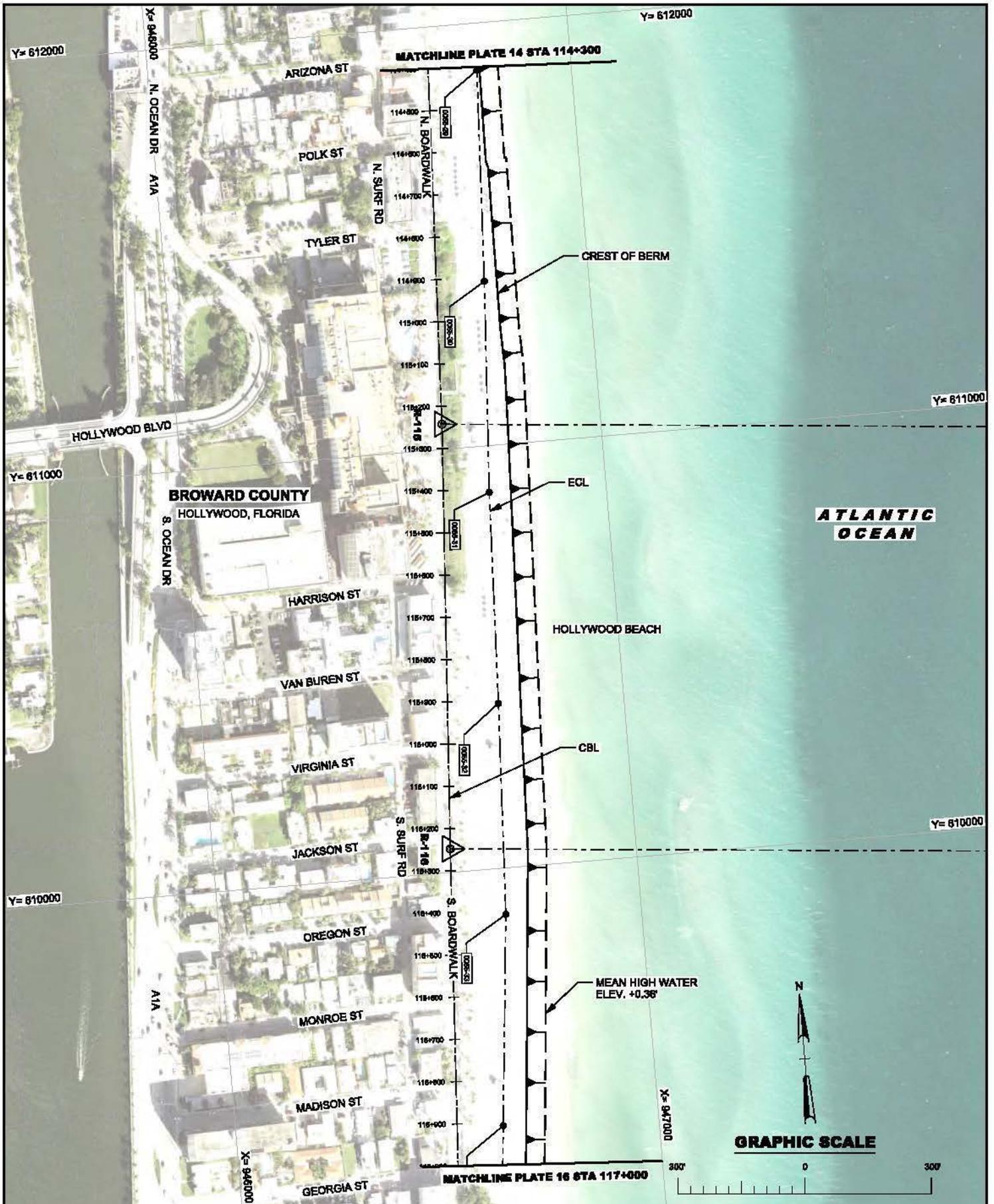
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BROWARD COUNTY, FLORIDA

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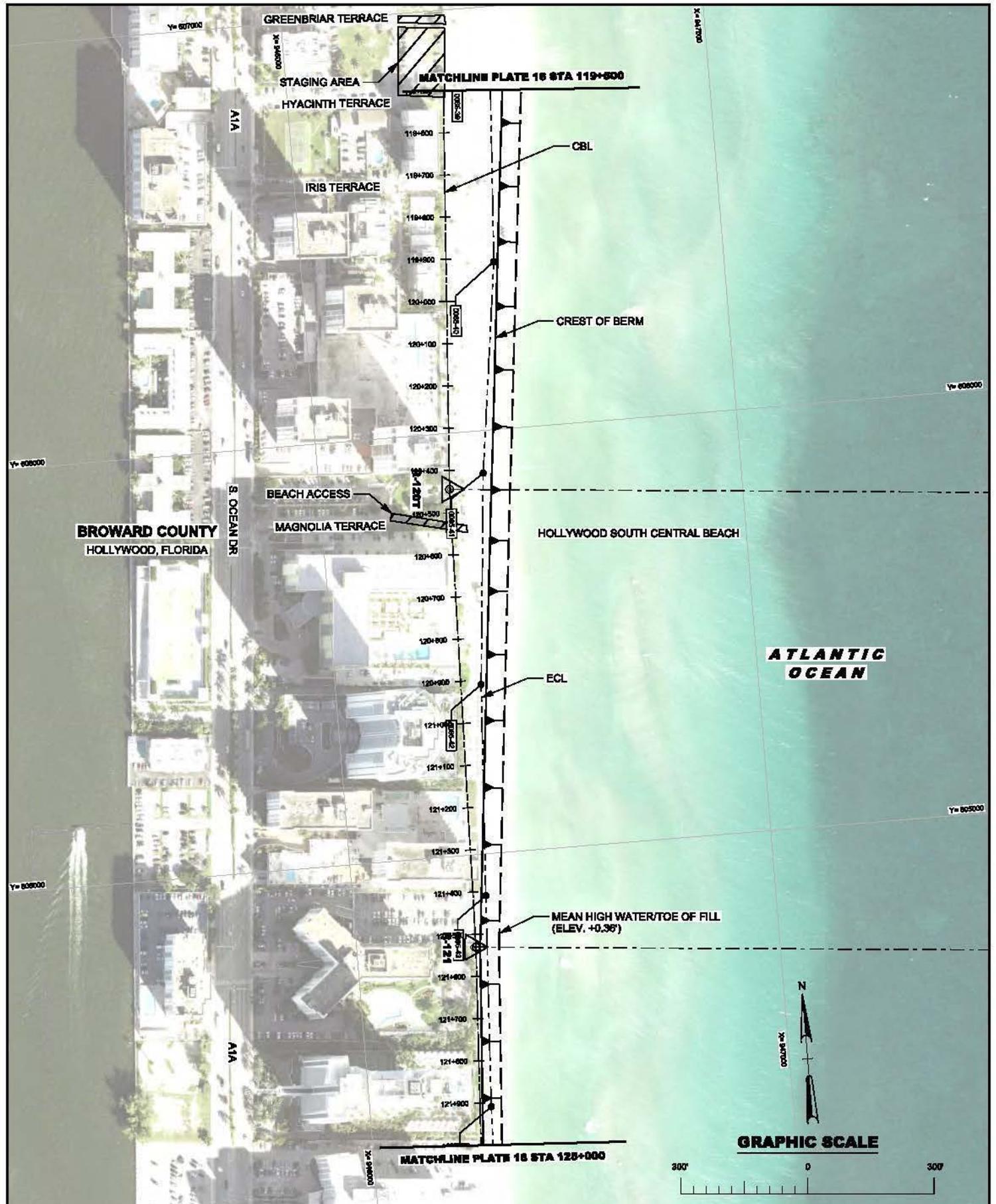
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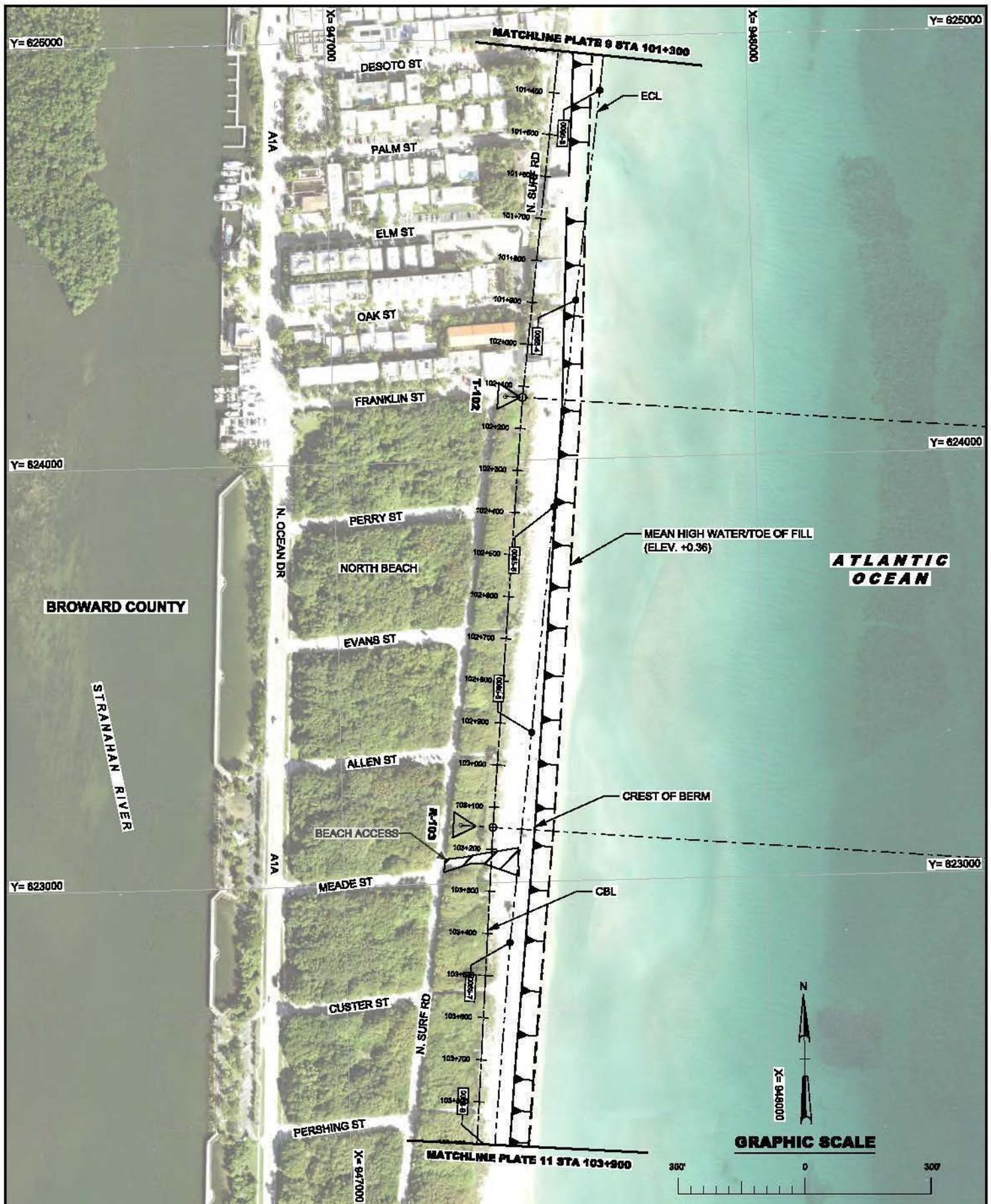
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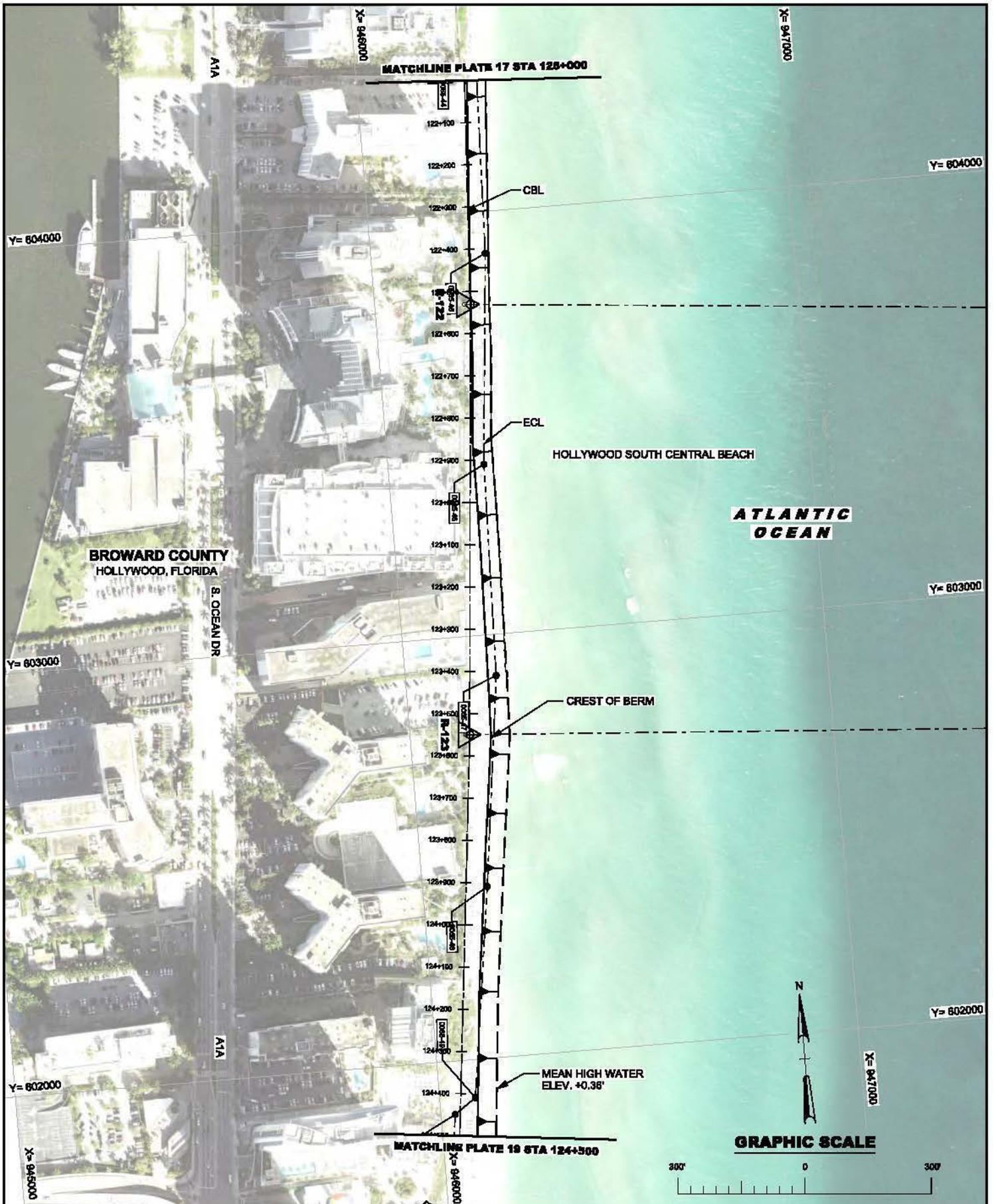
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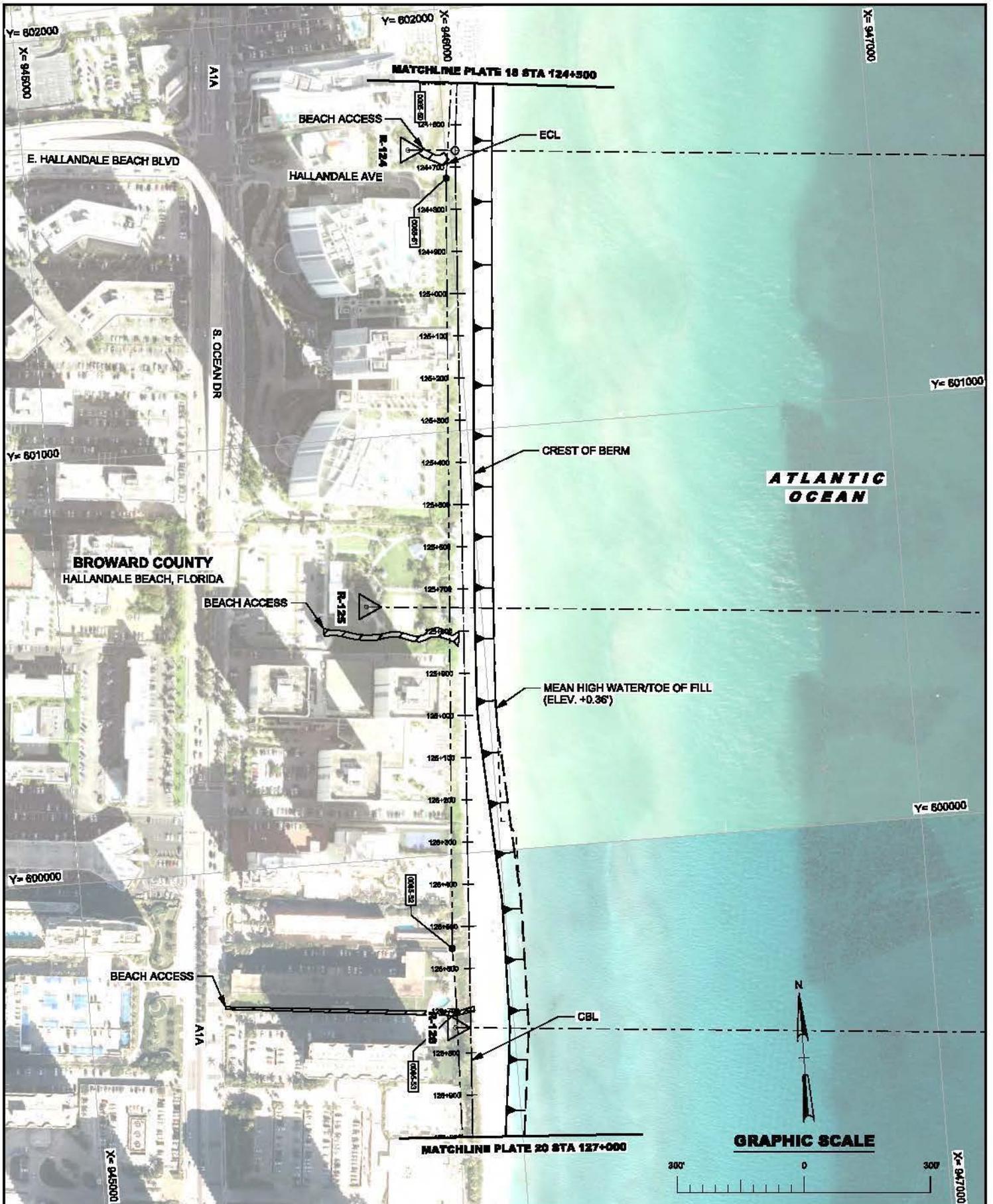
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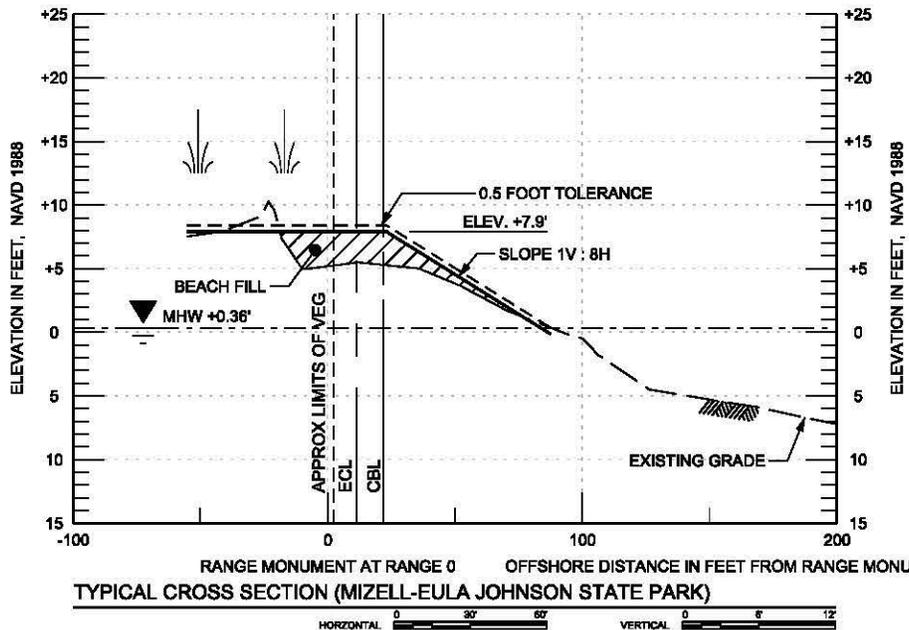


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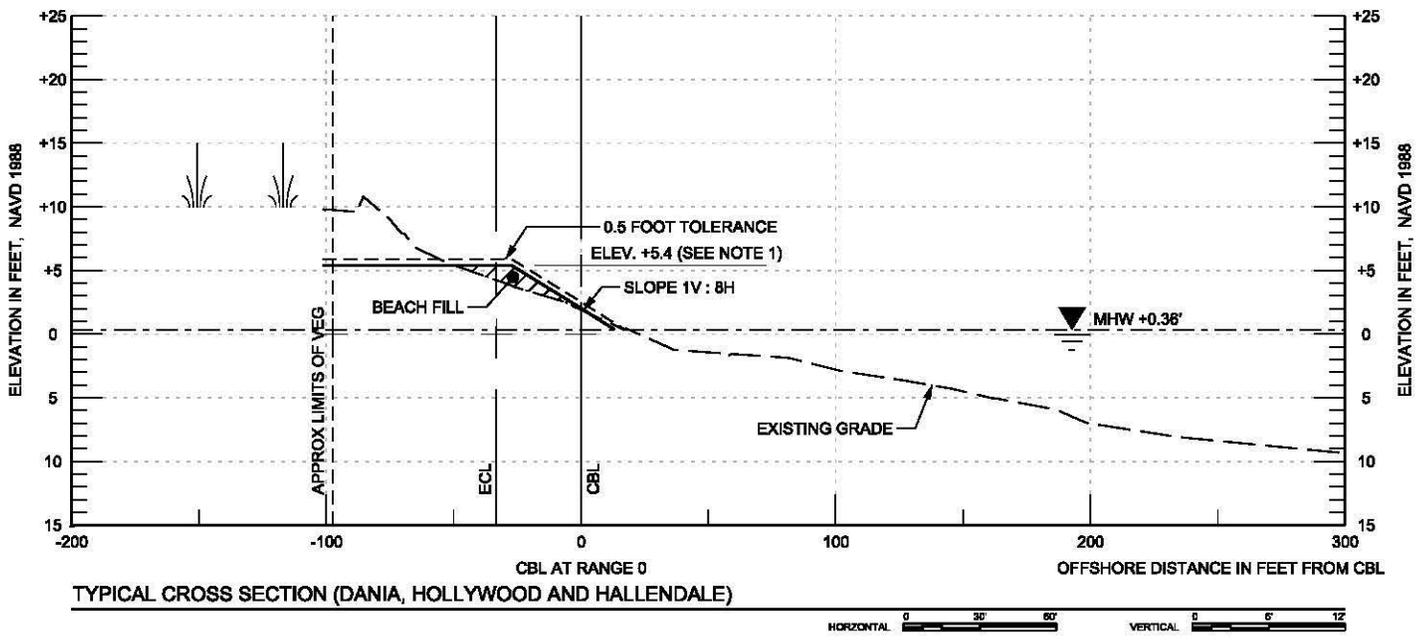
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BEACH EROSION CONTROL PROJECT
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RANGE MONUMENT AT RANGE 0 OFFSHORE DISTANCE IN FEET FROM RANGE MONUMENT
 TYPICAL CROSS SECTION (MIZELL-EULA JOHNSON STATE PARK)



CBL AT RANGE 0
 TYPICAL CROSS SECTION (DANIA, HOLLYWOOD AND HALLENDALE)

0

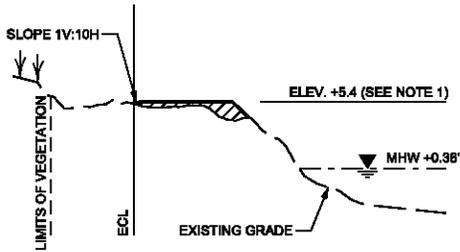
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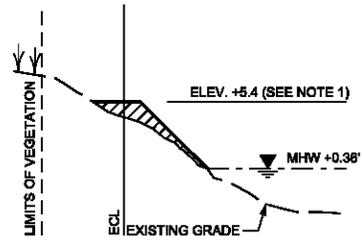
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 JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
 JACKSONVILLE, FLORIDA

BEACH EROSION CONTROL PROJECT
 BROWARD COUNTY, FLORIDA
BROWARD COUNTY SEGMENT III
 CIVIL
TYPICAL CROSS SECTION

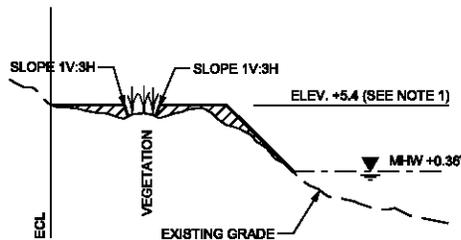
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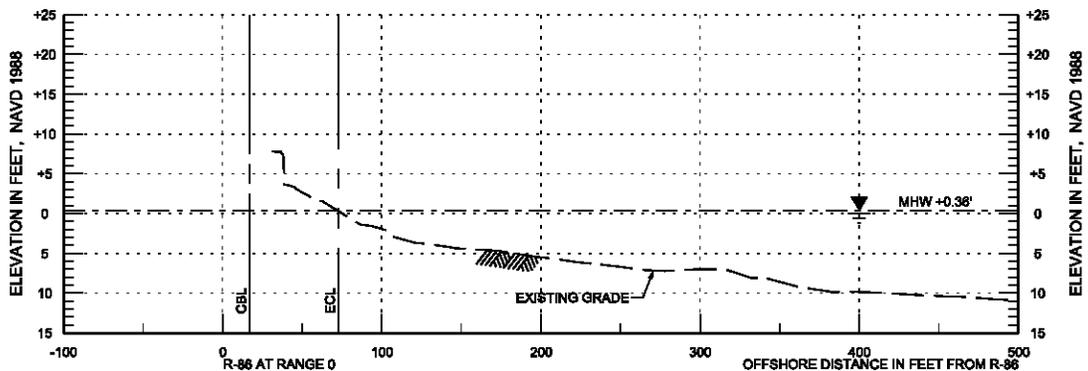
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CROSS SECTION AT R-86



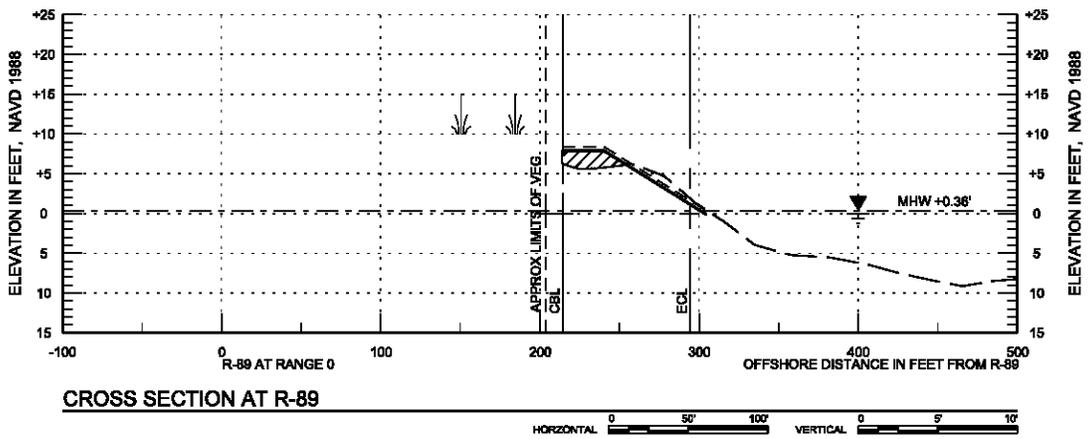
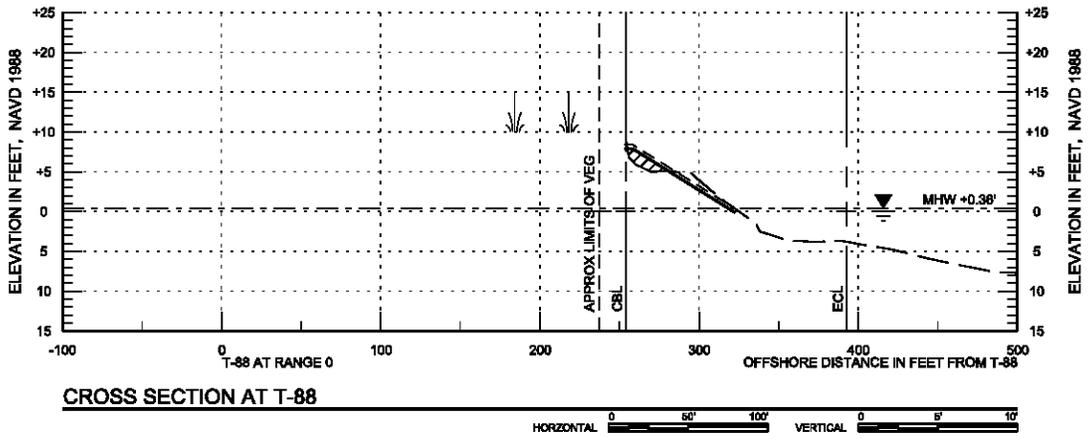
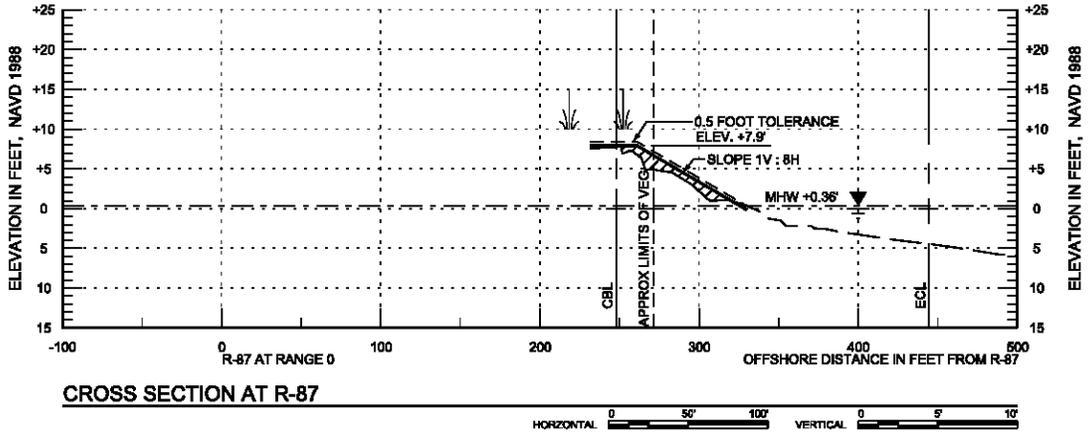
US Army Corps
of Engineers
Jacksonville District

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JACKSONVILLE, FLORIDA

BEACH EROSION CONTROL PROJECT
BROWARD COUNTY, FLORIDA
BROWARD COUNTY SEGMENT III
CIVIL
CROSS SECTIONS

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			AUG 2018
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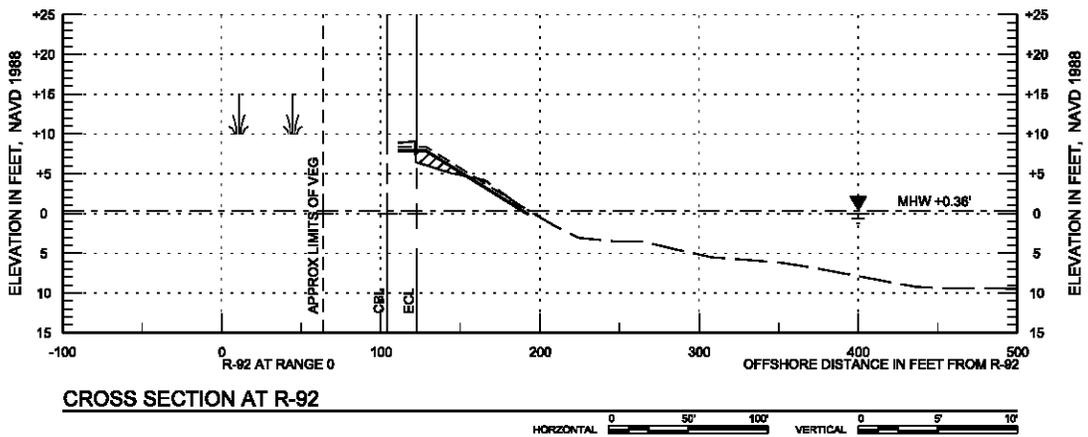
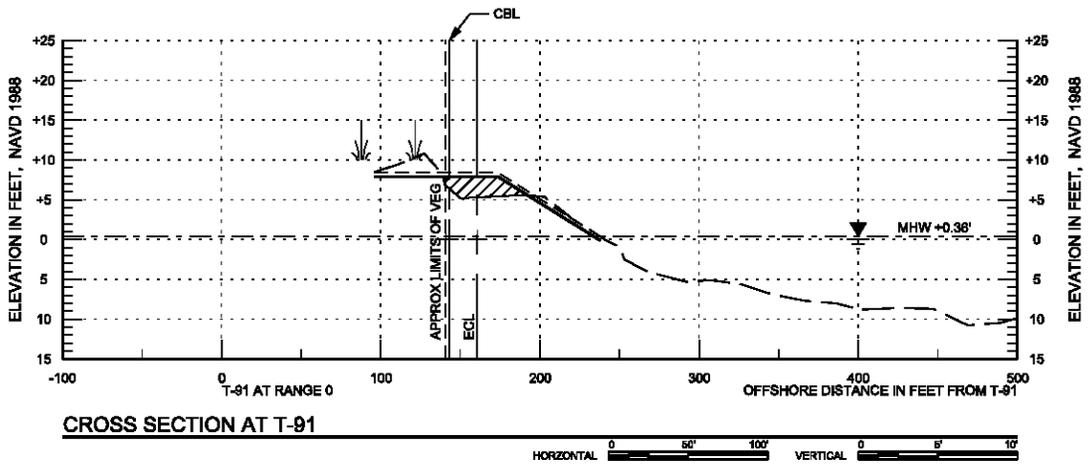
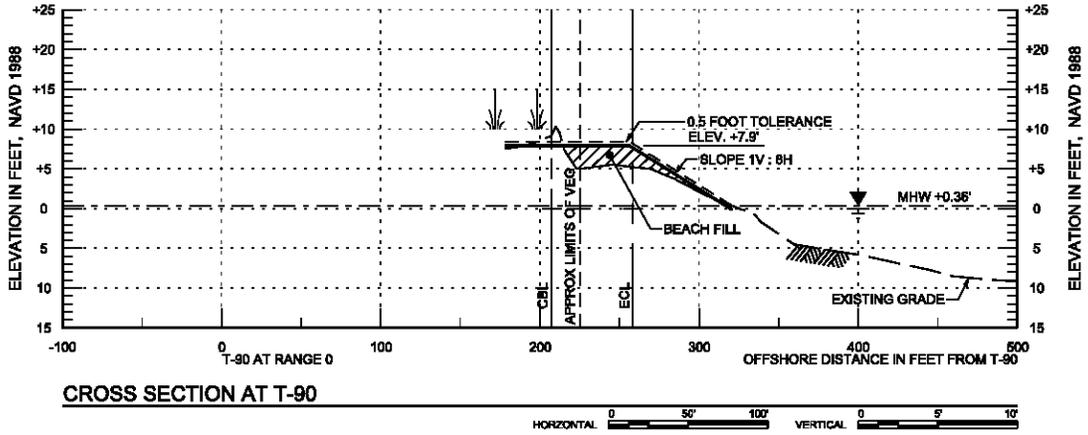


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JACKSONVILLE, FLORIDA

BEACH EROSION CONTROL PROJECT
BROWARD COUNTY, FLORIDA
BROWARD COUNTY SEGMENT III
CIVIL
CROSS SECTIONS

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			AUG 2018
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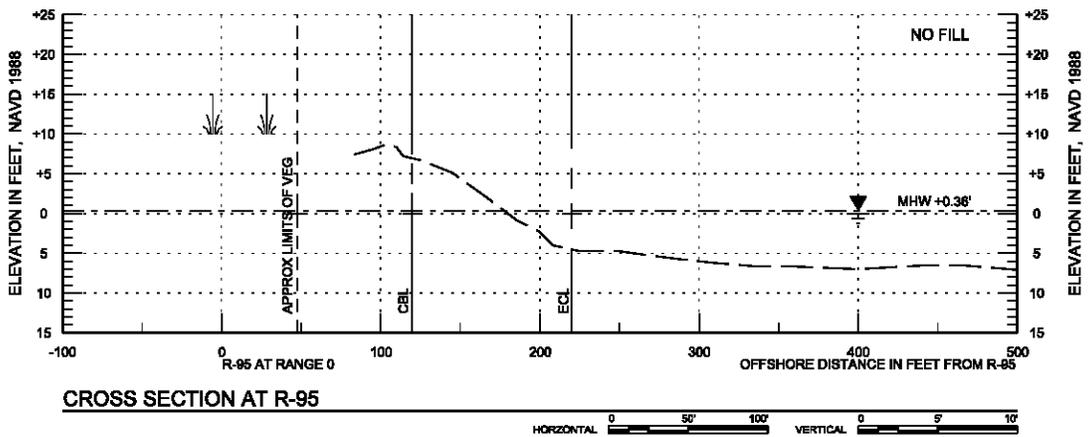
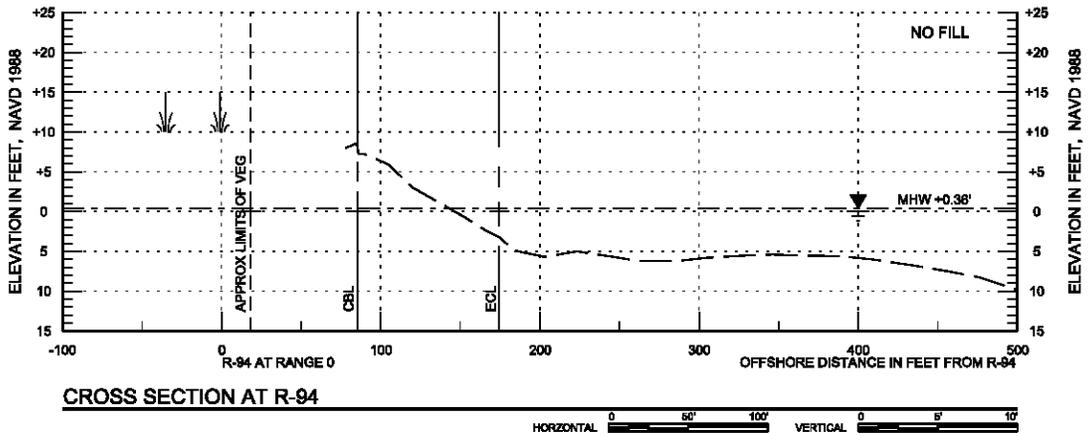
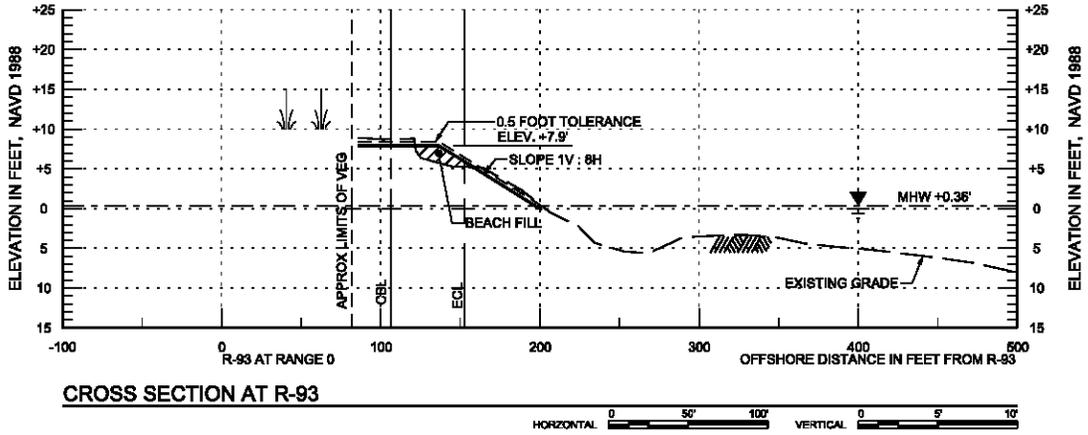


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JACKSONVILLE, FLORIDA

BEACH EROSION CONTROL PROJECT
BROWARD COUNTY, FLORIDA
BROWARD COUNTY SEGMENT III
CIVIL
CROSS SECTIONS

DATE	APPROVED	REVISION	DATE:
			AUG 2018
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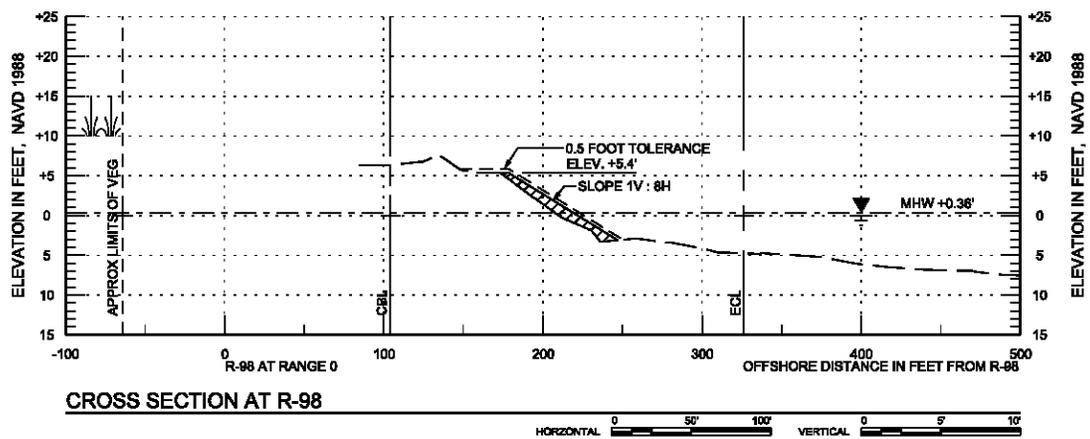
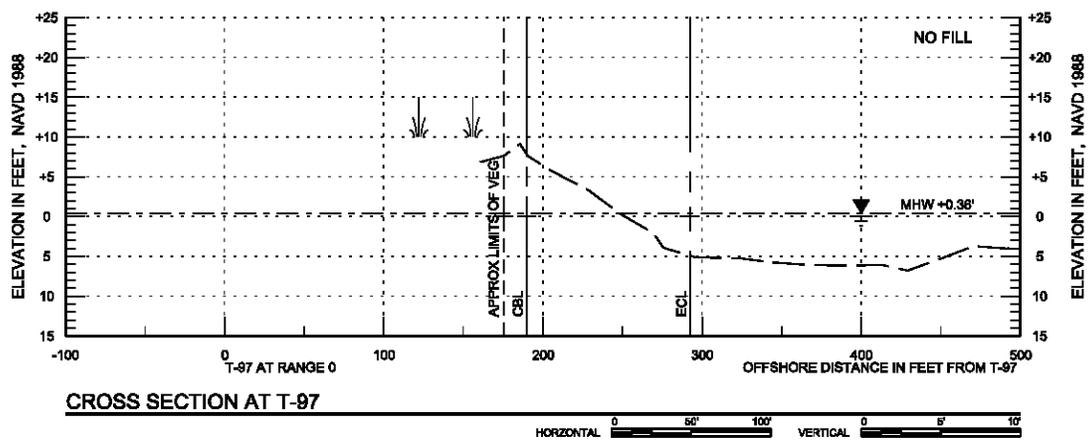
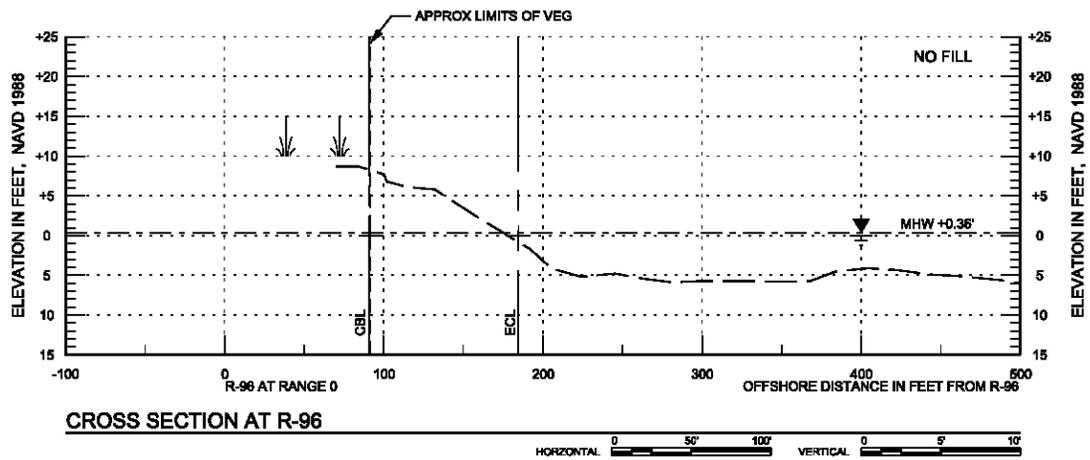


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JACKSONVILLE, FLORIDA

BEACH EROSION CONTROL PROJECT
BROWARD COUNTY, FLORIDA
BROWARD COUNTY SEGMENT III
CIVIL
CROSS SECTIONS

DATE	APPROVED	REVISION	DATE:
			AUG 2018
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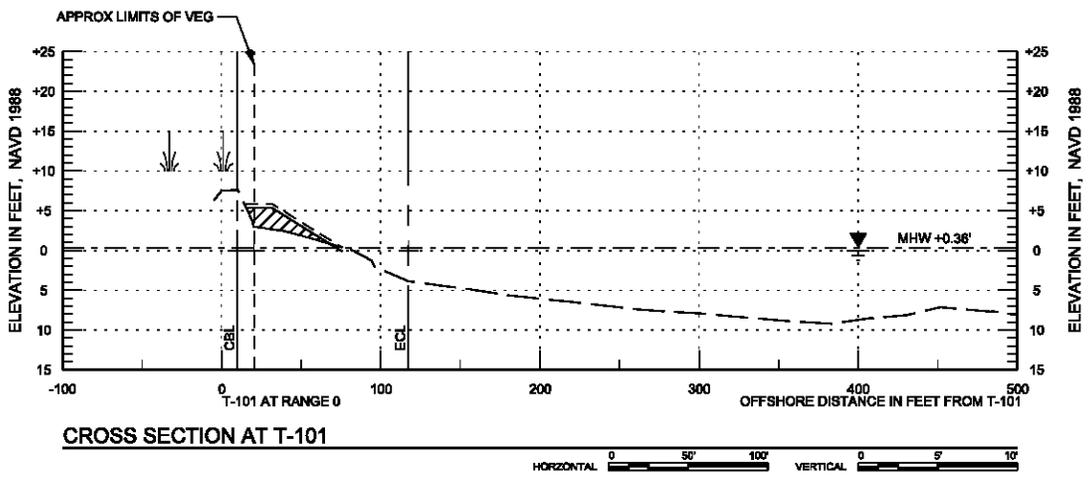
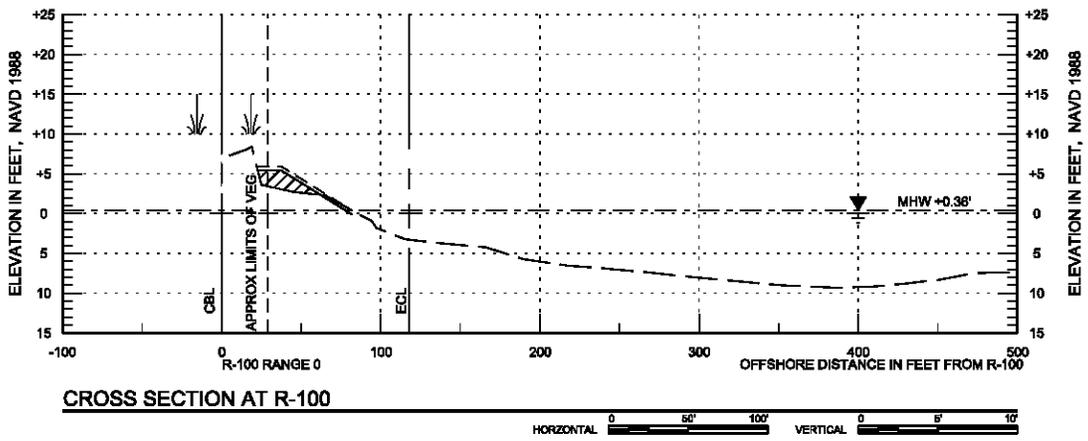
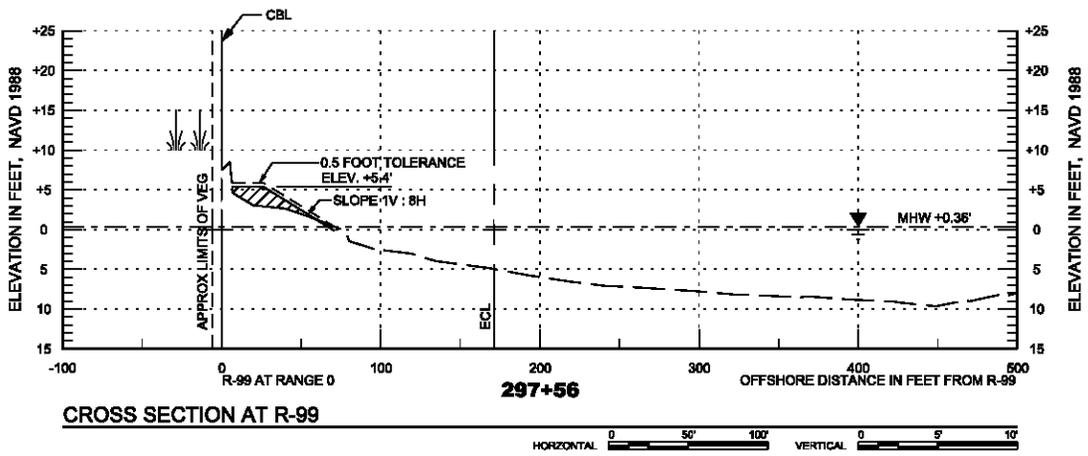


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JACKSONVILLE, FLORIDA

BEACH EROSION CONTROL PROJECT
BROWARD COUNTY, FLORIDA
BROWARD COUNTY SEGMENT III
CIVIL
CROSS SECTIONS

DATE	APPROVED	REVISION	DATE:
			AUG 2018
			DWN BY: AMB
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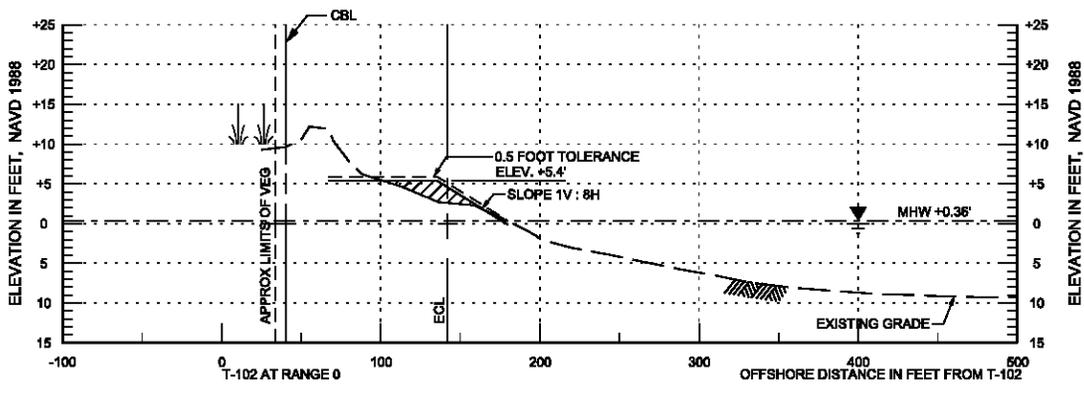


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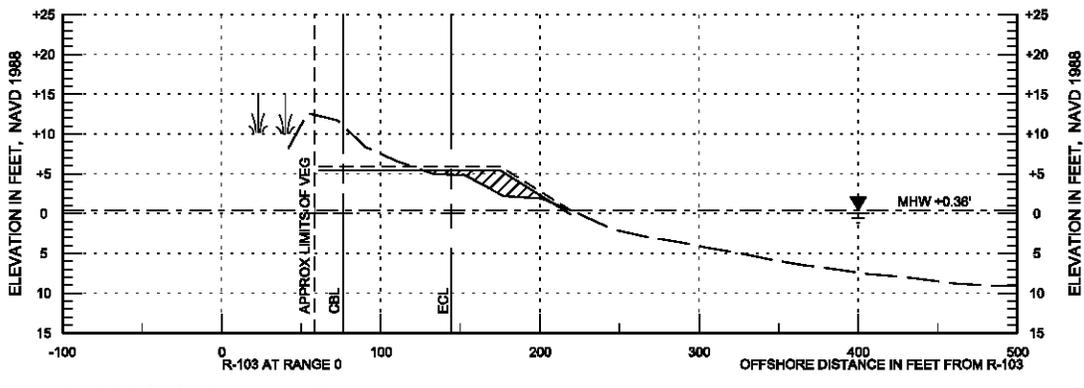
DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

BEACH EROSION CONTROL PROJECT
BROWARD COUNTY, FLORIDA
BROWARD COUNTY SEGMENT III
CIVIL
CROSS SECTIONS

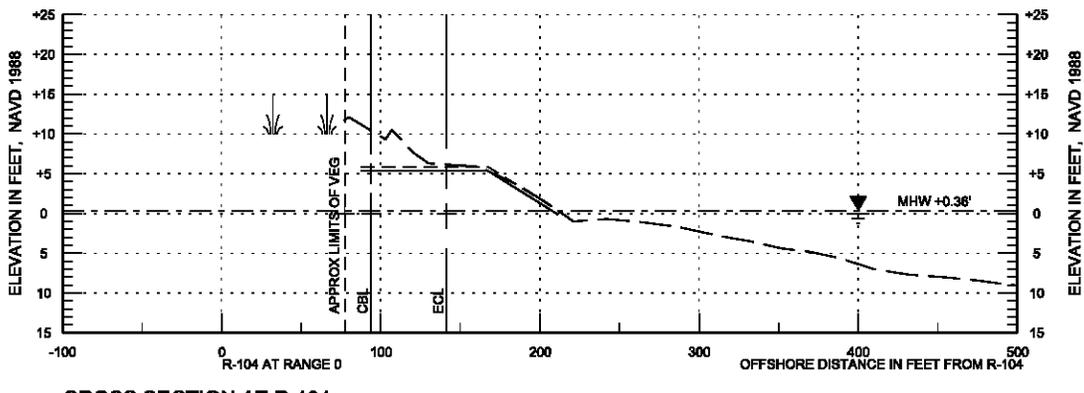
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			AUG 2018
			DWN BY: AMB
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CROSS SECTION AT T-102



CROSS SECTION AT R-103



CROSS SECTION AT R-104

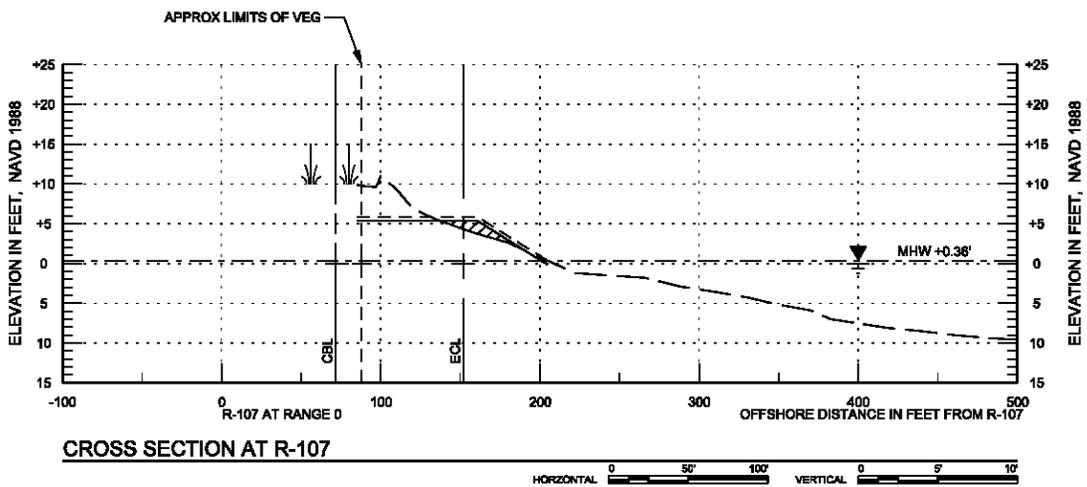
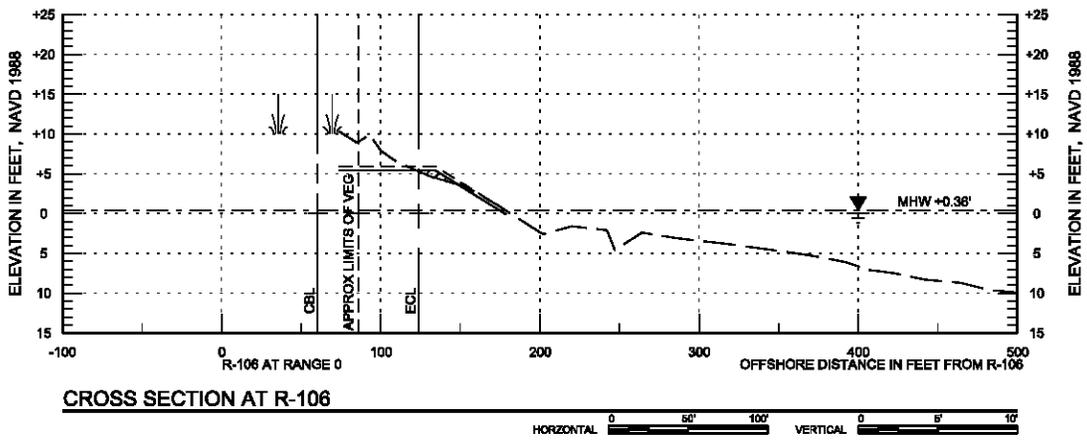
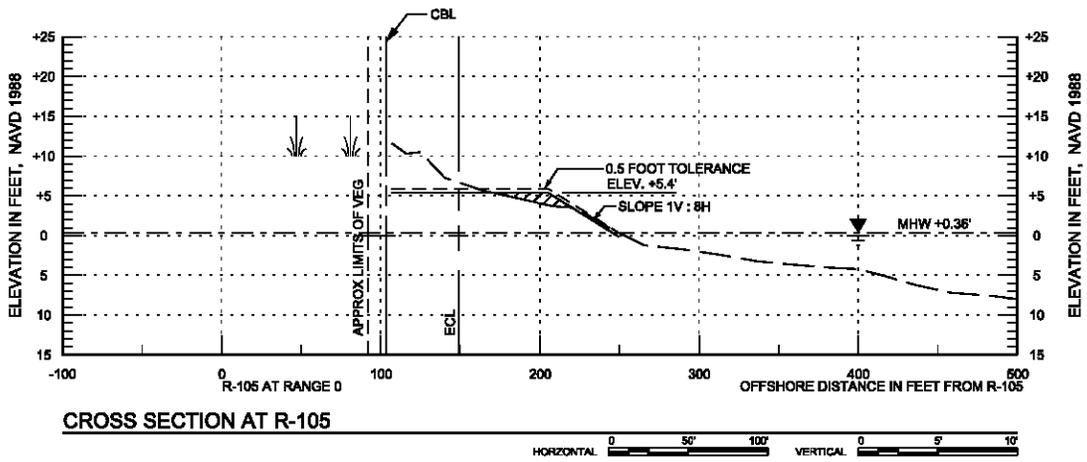


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JACKSONVILLE, FLORIDA

BEACH EROSION CONTROL PROJECT
BROWARD COUNTY, FLORIDA
BROWARD COUNTY SEGMENT III
CIVIL
CROSS SECTIONS

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			AUG 2018
			DWN BY: AMB
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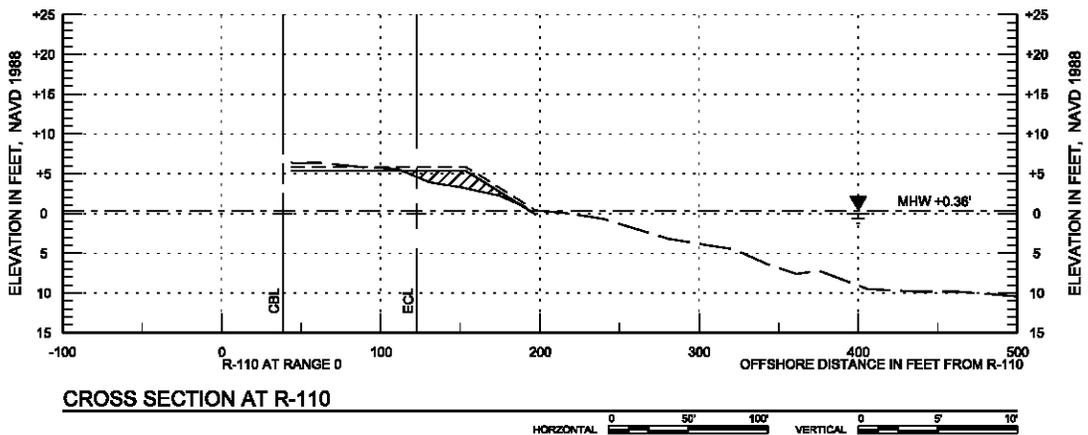
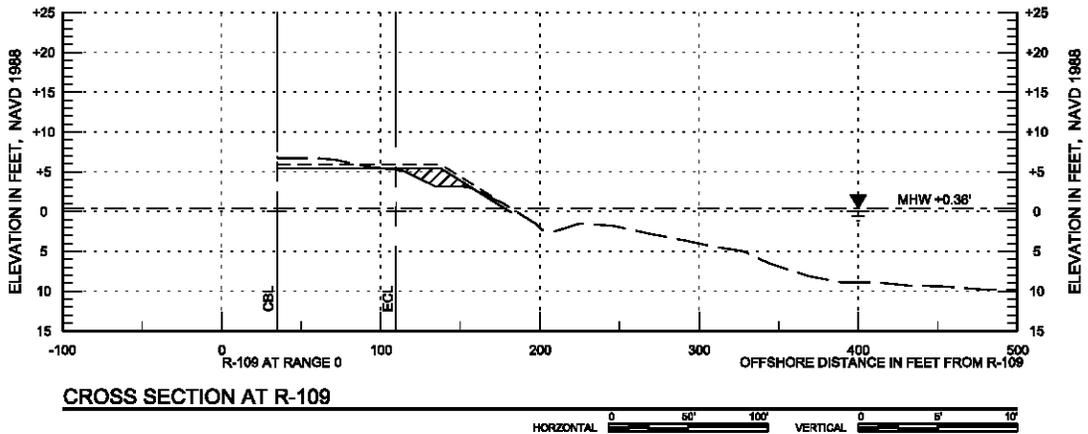
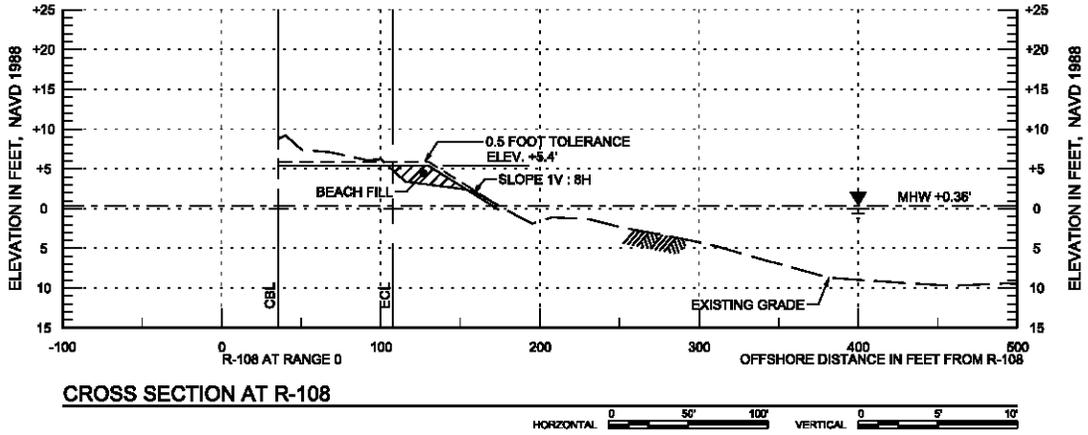


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JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

BEACH EROSION CONTROL PROJECT
BROWARD COUNTY, FLORIDA
BROWARD COUNTY SEGMENT III
CIVIL
CROSS SECTIONS

DATE	APPROVED	REVISION	DATE:
			AUG 2018
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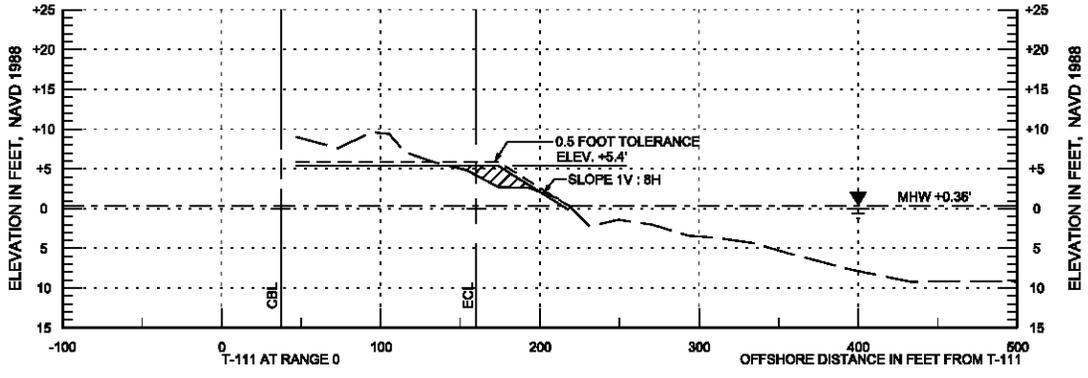


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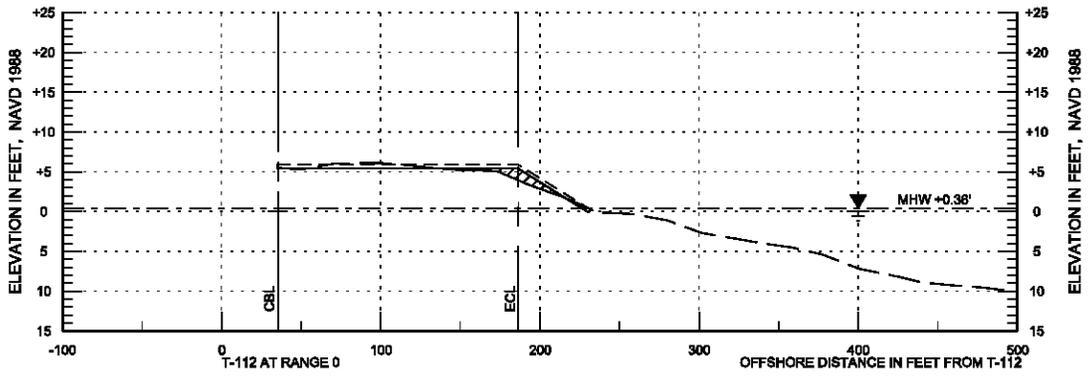
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JACKSONVILLE, FLORIDA

BEACH EROSION CONTROL PROJECT
BROWARD COUNTY, FLORIDA
BROWARD COUNTY SEGMENT III
CIVIL
CROSS SECTIONS

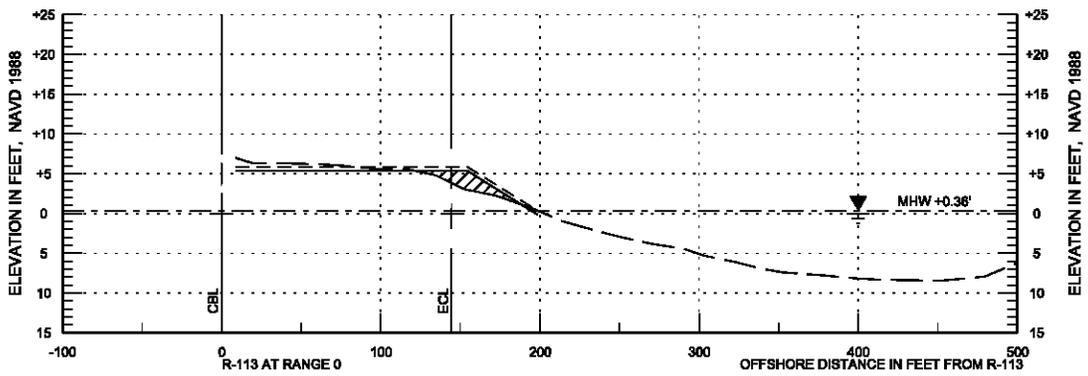
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			AUG 2018
			DWN BY: AMB
			PLATE: 30 OF 36



CROSS SECTION AT T-111



CROSS SECTION AT T-112



CROSS SECTION AT R-113



US Army Corps of Engineers
Jacksonville District

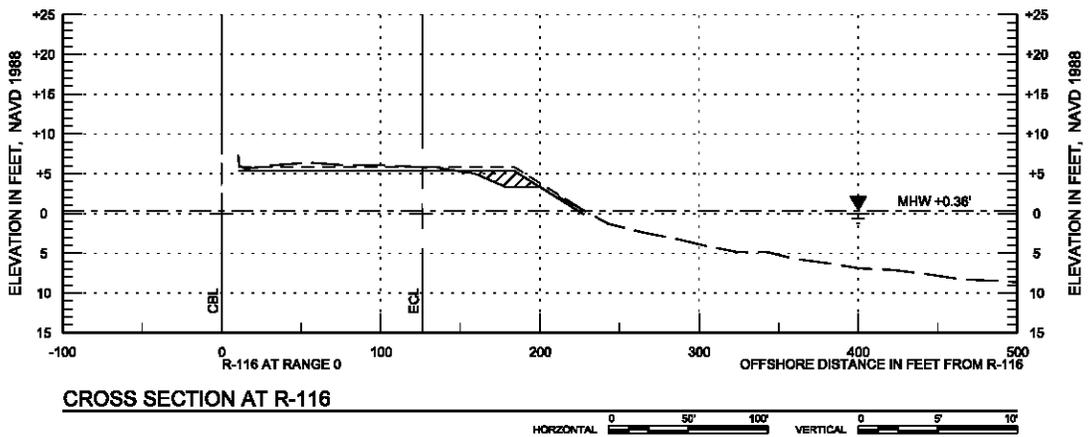
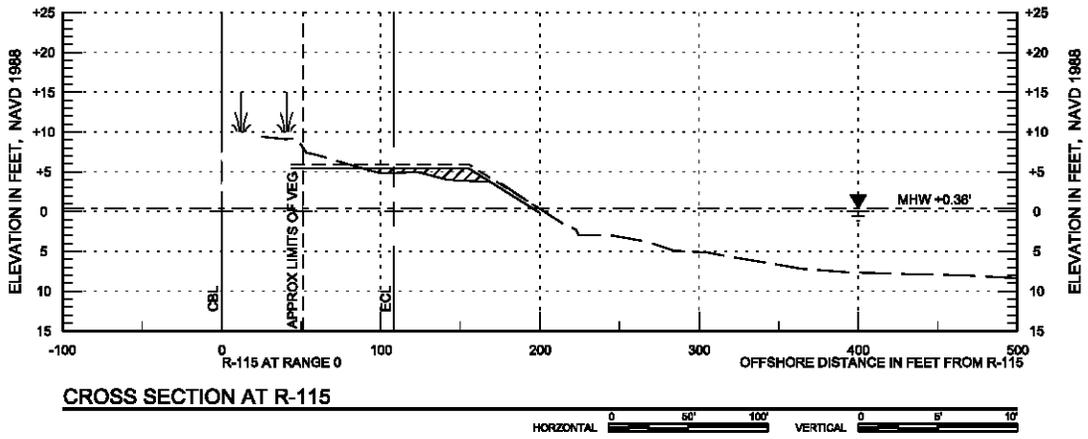
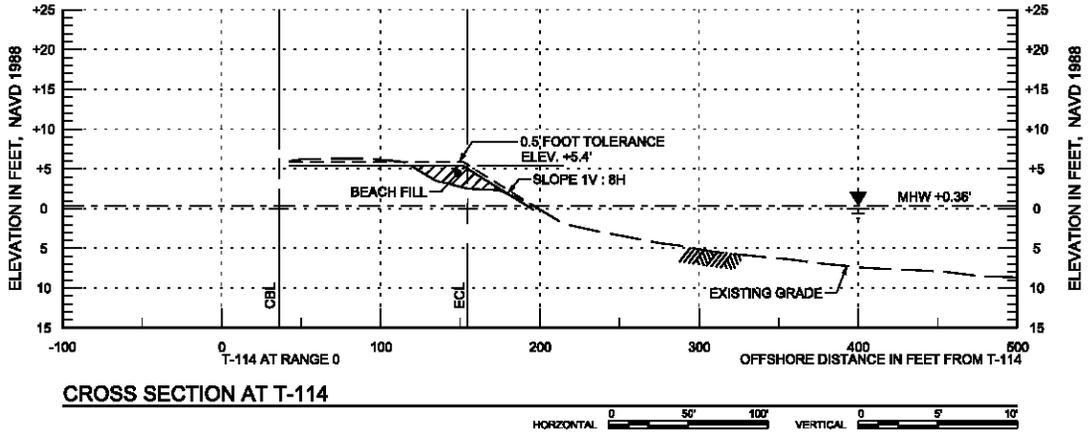
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JACKSONVILLE, FLORIDA

BEACH EROSION CONTROL PROJECT
BROWARD COUNTY, FLORIDA

**BROWARD COUNTY SEGMENT III
CIVIL
CROSS SECTIONS**

DATE	APPROVED	REVISION	DATE:
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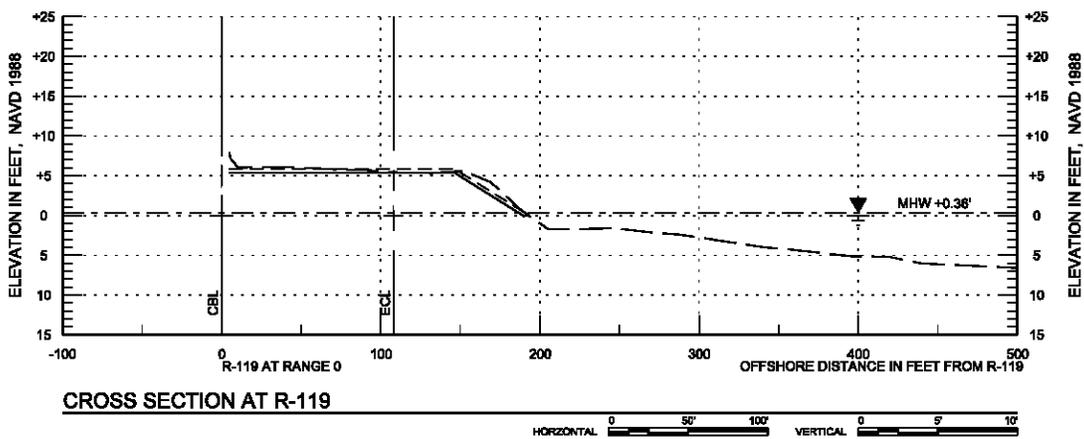
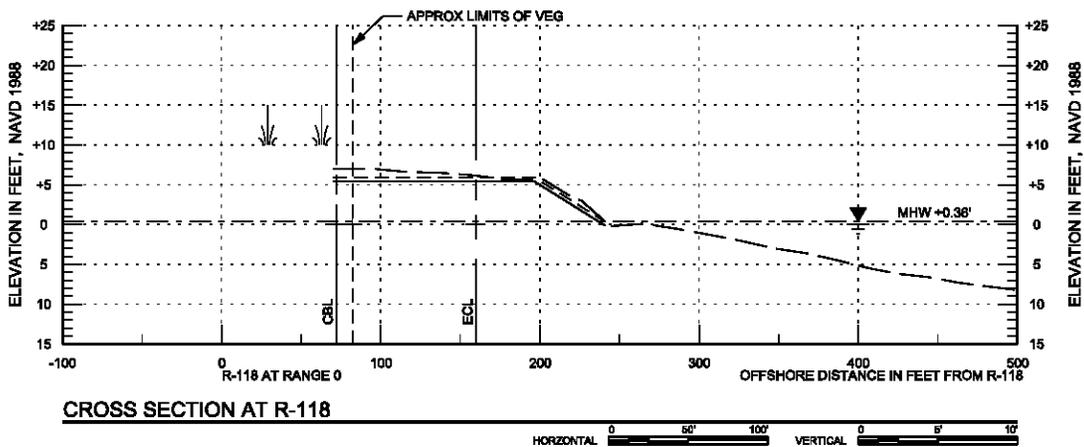
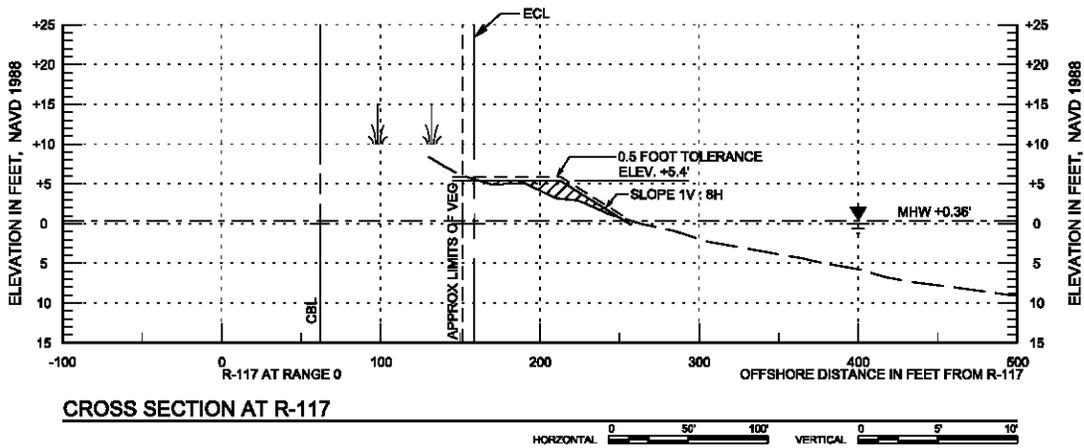


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JACKSONVILLE, FLORIDA

BEACH EROSION CONTROL PROJECT
BROWARD COUNTY, FLORIDA
BROWARD COUNTY SEGMENT III
CIVIL
CROSS SECTIONS

DATE	APPROVED	REVISION	DATE:
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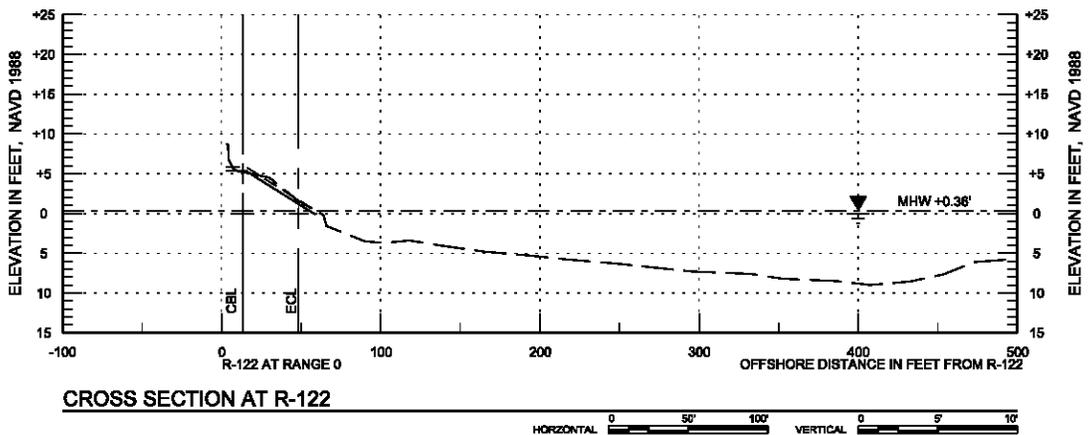
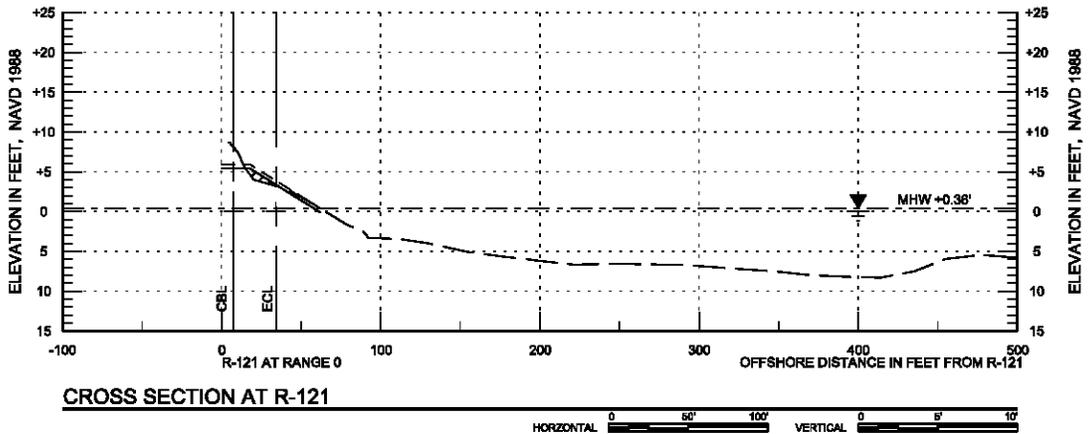
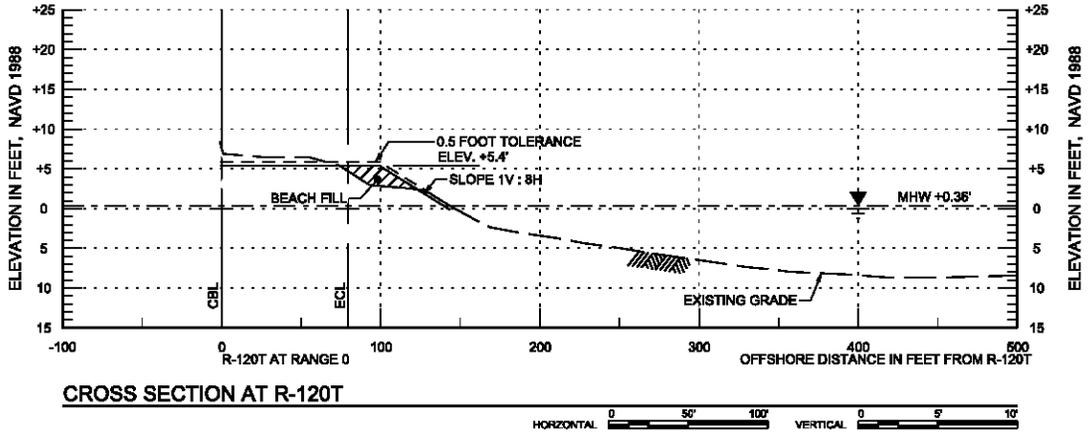


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BEACH EROSION CONTROL PROJECT
BROWARD COUNTY, FLORIDA
BROWARD COUNTY SEGMENT III
CIVIL
CROSS SECTIONS

DATE	APPROVED	REVISION	DATE:
			AUG 2018
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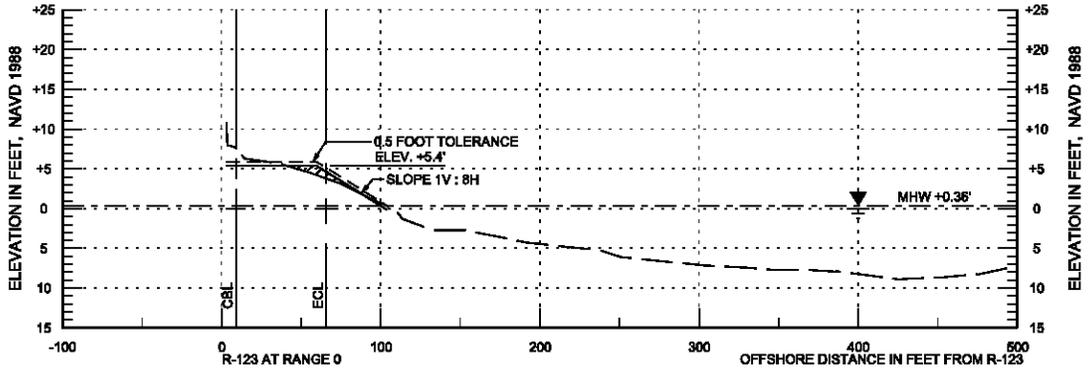


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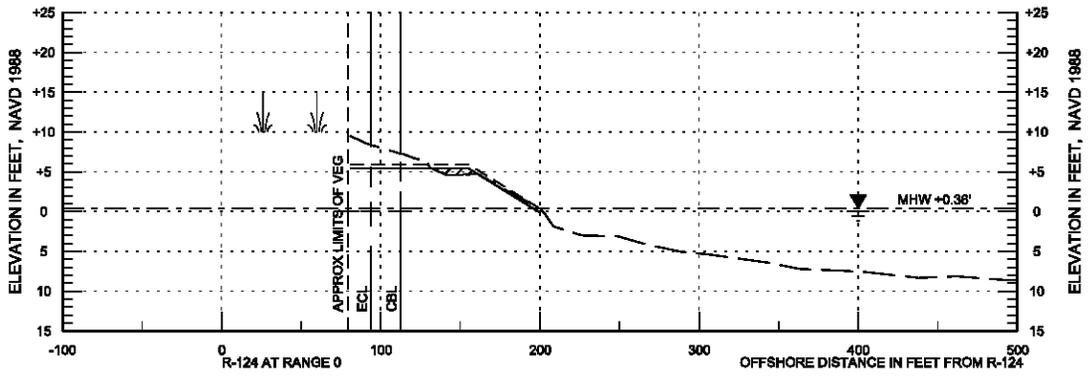
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JACKSONVILLE, FLORIDA

BEACH EROSION CONTROL PROJECT
BROWARD COUNTY, FLORIDA
BROWARD COUNTY SEGMENT III
CIVIL
CROSS SECTIONS

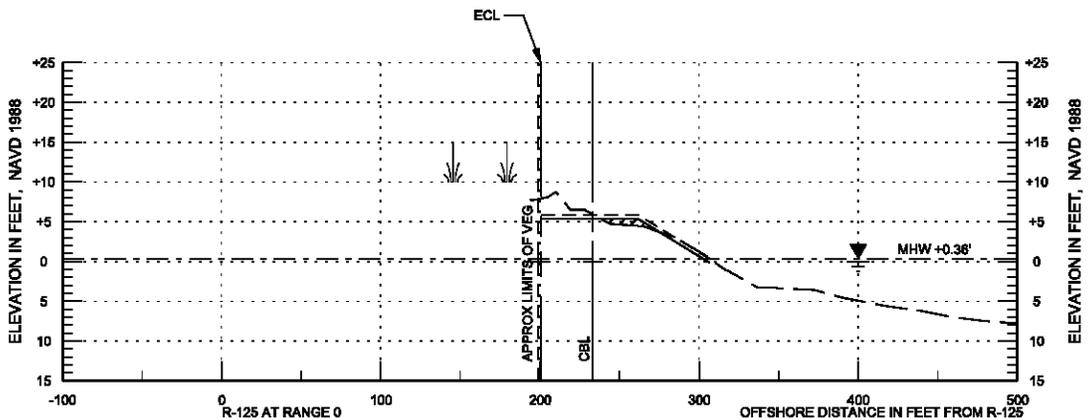
DATE	APPROVED	REVISION	DATE:
			AUG 2018
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CROSS SECTION AT R-123



CROSS SECTION AT R-124



CROSS SECTION AT R-125

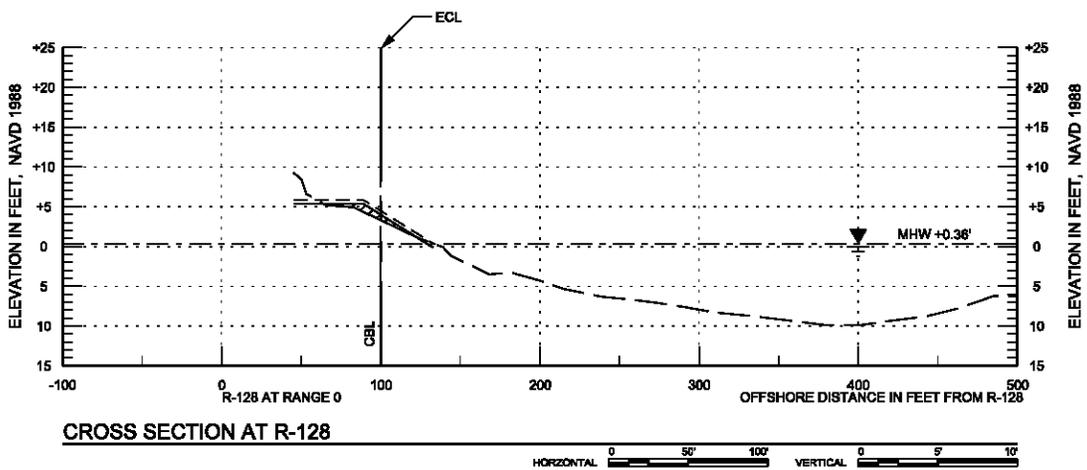
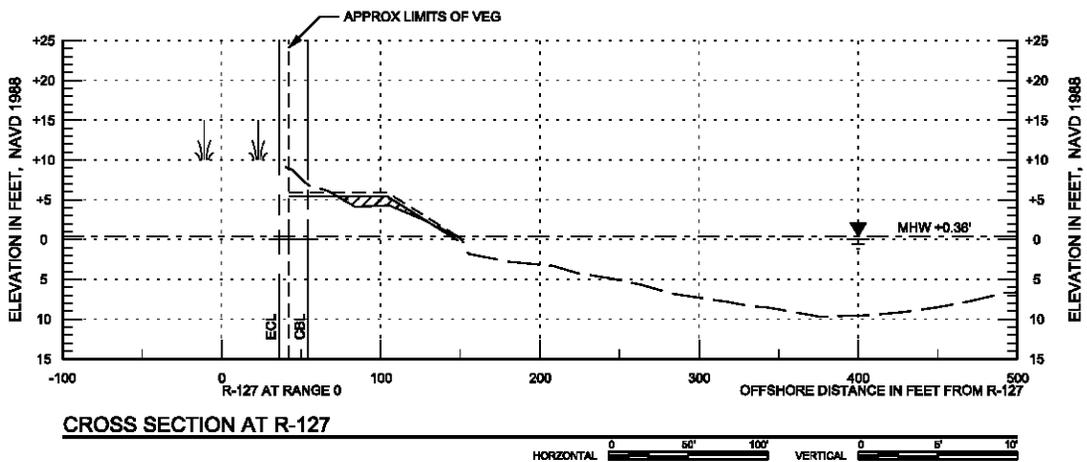
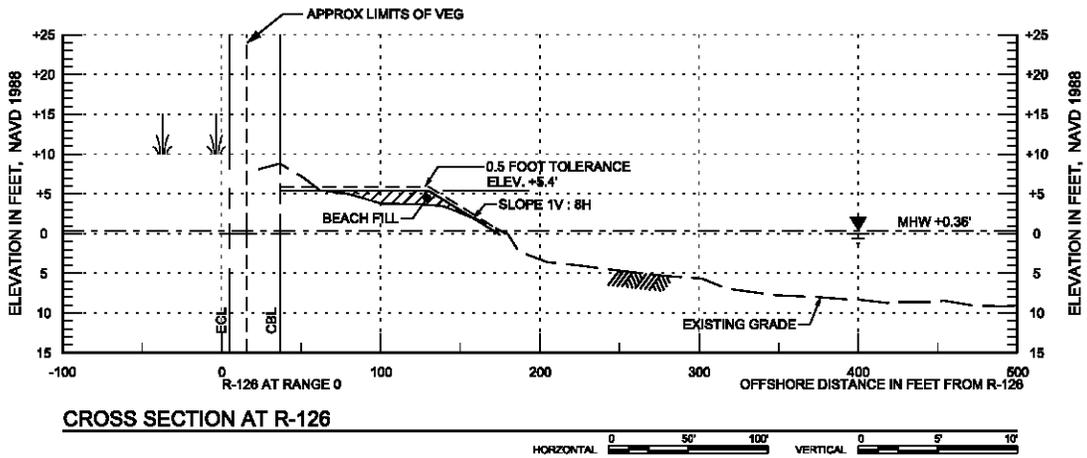


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JACKSONVILLE, FLORIDA

BEACH EROSION CONTROL PROJECT
BROWARD COUNTY, FLORIDA
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BEACH EROSION CONTROL PROJECT
BROWARD COUNTY, FLORIDA
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ATTACHMENT 3:

Flood Control and Coastal Emergency Act (FCCE)
Truck Haul and Placement of Sand on
Broward County Shore Protection Project (SPP) Segment III
Coastal Zone Management Act (CZMA) – Federal Consistency Determination (FCD)

**Florida Coastal Zone Management Program Evaluation Procedures
Federal Consistency Determination (FCD)**

**FLOOD CONTROL AND COASTAL EMERGENCIES ACT (FCCE)
TRUCK HAUL AND PLACEMENT OF SAND ON
BROWARD COUNTY SHORE PROTECTION PROJECT (SPP) SEGMENT III IN
BROWARD COUNTY, FLORIDA
AUGUST 2018**

Enforceable Policy. Florida Statutes considers “enforceable policy” under the Coastal Zone Management Act (www.dep.state.fl.us/cmp/federal/24_statutes.htm).

Applicability of the Coastal Zone Management Act. The following table summarizes the process and procedures under the Coastal Zone Management Act for Federal Actions and for non-Federal Applicants*.

Item	Non-Federal Applicant (15 CFR 930, subpart D)	Federal Action (15 CFR 930, subpart C)
Enforceable Policies	Reviewed and approved by NOAA (in FL www.dep.state.fl.us/cmp/federal/24_statutes.htm)	Same
Effects Test	Direct, Indirect (cumulative, secondary), adverse or beneficial	Same
Review Time	6 months from state receipt of Consistency Certification (30-days for completeness notice) Can be altered by written agreement between State and applicant	60 Days, extendable (or contractible) by mutual agreement
Consistency	Must be Fully Consistent	To Maximum Extent Practicable**
Procedure Initiation	Applicant provides Consistency Certification to State	Federal Agency provides “Consistency Statement” to State
Appealable	Yes, applicant can appeal to Secretary (NOAA)	No (NOAA can “mediate”)
Activities	Listed activities with their geographic location (State can request additional listing within 30 days)	Listed or Unlisted Activities in State Program
Activities in Another State	Must have approval for interstate reviews from NOAA	Interstate review approval NOT required
Activities in Federal Waters	Yes, if activity affects state waters	Same

* There are separate requirements for activities on the Outer Continental Shelf (subpart E) and for “assistance to an applicant agency” (subpart F).

** Must be fully consistent except for items prohibited by applicable law (generally does not count lack of funding as prohibited by law, 15 CFR 930.32).

Coastal Zone Consistency Statement by Statute/Enforceable Policy

1. CHAPTER 161, F.S., BEACH AND SHORE PRESERVATION.

Coastal areas are among the state's most valuable natural, aesthetic, and economic resources; and they provide habitat for a variety of plant and animal life. The state is required to protect coastal areas from imprudent activities that could jeopardize the stability of the beach-dune system, accelerate erosion, provide inadequate protection to upland structures, endanger adjacent properties, or interfere with public beach access. Coastal areas used, or likely to be used, by sea turtles are designated for nesting, and the removal of vegetative cover that binds sand is prohibited. This statute provides policy for the regulation of construction, reconstruction, and other physical activities related to the beaches and shores of the state. Additionally, this statute requires the restoration and maintenance of critically eroding beaches.

RESPONSE: The proposed plans and information will be submitted to the State in compliance with this chapter. The purpose of the proposed project is to restore a portion of Broward County shoreline damaged by Hurricane Irma.

2. CHAPTER 163, PART II, F.S., INTERGOVERNMENTAL PROGRAMS: GROWTH POLICY, COUNTY AND MUNICIPAL PLANNING: LAND DEVELOPMENT REGULATION

The purpose of this statute is to provide for the implementation of comprehensive planning programs to guide and control future development in the state. The comprehensive planning process encourages units of local government to preserve, promote, protect, and improve the public health, safety, comfort, good order, appearance, convenience, law enforcement and fire prevention, and general welfare; prevent the overcrowding of land and avoid undue concentration of population; facilitate the adequate and efficient provision of public facilities and services; and conserve, develop, utilize, and protect natural resources within their jurisdictions.

RESPONSE: The proposed project will be coordinated with Federal, State, federally-recognized Native American tribes, local agencies, and other interested parties during the planning process. The proposed project meets the primary goal of the State Comprehensive Plan through preservation and protection of shorefront development and infrastructure including beach and dune systems. The proposed project is consistent with the goals of this chapter.

3. CHAPTER 186, F.S., STATE AND REGIONAL PLANNING

The state comprehensive plan provides basic policy direction to all levels of government regarding the orderly social, economic, and physical growth of the state. The goals, objectives, and policies of the state comprehensive plan are statewide in scope and are consistent and compatible with each other. The statute provides direction for the delivery of governmental services, a means for defining and achieving the specific goals of the state, and a method for evaluating the accomplishment of those goals.

RESPONSE: The proposed project will be coordinated with Federal, State, federally-recognized Native American tribes, local agencies, and other interested parties during the planning process. The proposed project meets the primary goal of the State Comprehensive Plan through preservation and protection of shorefront development and infrastructure through the renourishment of the beach system. The proposed project is consistent with the goals of this chapter.

4. CHAPTER 252, F.S., EMERGENCY MANAGEMENT

The state of Florida is vulnerable to a wide range of emergencies, including natural, technological, and manmade disasters. This vulnerability is exacerbated by the tremendous growth in the state's population. This statute directs the state to reduce the vulnerability of its people and property to natural and manmade disasters; prepare for, respond to and reduce the impacts of disasters; and decrease the time and resources needed to recover from disasters.

Disaster mitigation is necessary to ensure the common defense of Floridians' lives and to protect the public peace, health, and safety. The policies provide the means to assist in the prevention or mitigation of emergencies that may be caused or aggravated by the inadequate planning or regulation of facilities and

land uses. State agencies are directed to keep land uses and facility construction under continuing study and identify areas that are particularly susceptible to natural or manmade catastrophic occurrences.

RESPONSE: The proposed project involves placing sand on a critically eroding shoreline as a protective measure for residents, development, and infrastructure in response to damages from Hurricane Irma. The proposed project is consistent with the efforts of Division of Emergency Management and the goals of this chapter.

5. CHAPTER 253, F.S., STATE LANDS

The Board of Trustees of the Internal Improvement Trust Fund (Trustees) is vested and charged with the acquisition, administration, management, control, supervision, conservation, protection, and disposition of all lands owned by the state. Lands acquired for preservation, conservation and recreation serve the public interest by contributing to the public health, welfare and economy. In carrying out the requirements of this statute, the Trustees are directed to take necessary action to fully: conserve and protect state lands; maintain natural conditions; protect and enhance natural areas and ecosystems; prevent damage and depredation; and preserve archaeological and historical resources.

All submerged lands are considered single-use lands to be maintained in natural condition for the propagation of fish and wildlife and public recreation. Where multiple-uses are permitted, ecosystem integrity, recreational benefits and wildlife values are conserved and protected.

RESPONSE: The proposed project will be coordinated with Federal, State, federally-recognized Native American tribes, local agencies, and other interested parties during the planning process. The proposed project will improve the recreational beach and maintain the potential sea turtle nesting habitat. Placement of sand will be above MHW; therefore, no submerged resources are located within the area proposed for renourishment. The proposed project is consistent with the goals of this chapter.

6. CHAPTER 258, F.S., STATE PARKS AND PRESERVES

The statute addresses the state's administration of state parks, aquatic preserves, and recreation areas, which are acquired to emblemize the state's natural values and to ensure that these values are conserved for all time. Parks and preserves are managed for the non-depleting use, enjoyment, and benefit of Floridians and visitors and to contribute to the state's tourist appeal.

Aquatic Preserves are recognized as having exceptional biological, aesthetic, and scientific value and are set aside for the benefit of future generations. Disruptive physical activities and polluting discharges are highly restricted in aquatic preserves. State managed wild and scenic rivers possess exceptionally remarkable and unique ecological, fish and wildlife, and recreational values and are designated for permanent preservation and enhancement for both the present and future.

RESPONSE: The proposed project will renourish approximately 1.52 miles of shoreline at the Dr. Von D. Mizell-Eula Johnson State Park, which is located between FDEP monuments R-86 to R-94. The renourishment of the shoreline will improve the recreational beach and maintain the potential sea turtle nesting habitat. The proposed project will be coordinated with Federal, State, federally-recognized Native American tribes, local agencies, and other interested parties during the planning process. The proposed project is consistent with the goals of this chapter.

7. CHAPTERS 259, F.S., LAND ACQUISITION FOR CONSERVATION OR RECREATION

The statute addresses public ownership of natural areas for purposes of maintaining the state's unique natural resources; protecting air, land, and water quality; promoting water resource development to meet the needs of natural systems and citizens of this state; promoting restoration activities on public lands; and providing lands for natural resource based recreation. Lands are managed to protect or restore their natural resource values, and provide the greatest benefit, including public access, to the citizens of this state.

RESPONSE: The proposed project will not permanently effect public access to beaches within Broward County. Temporary closures during construction will occur. The proposed project complies with the goals of this chapter.

8. CHAPTERS 260, F.S., FLORIDA GREENWAYS AND TRAILS ACT

A statewide system of greenways and trails is established in order to conserve, develop, and use the natural resources of Florida for healthful and recreational purposes. These greenways and trails provide open space benefiting environmentally sensitive lands and wildlife and provide people with access to healthful outdoor activities. The greenways and trails serve to implement the concepts of ecosystem management while providing, where appropriate, recreational opportunities such as horseback riding, hiking, bicycling, canoeing, jogging, and historical and archaeological interpretation. As of August 29th, 2016, Chapter 260, F.S., does not contain any enforceable policies for federal consistency purposes.

RESPONSE: The proposed project will not impact Florida greenways or trails.

9. CHAPTER 267, F.S., HISTORICAL RESOURCES

The management and preservation of the state's archaeological and historical resources are addressed by this statute. This statute recognizes the state's rich and unique heritage of historic resources and directs the state to locate, acquire, protect, preserve, operate and interpret historic and archeological resources for the benefit of current and future generations of Floridians.

Objects or artifacts with intrinsic historic or archeological value located on, or abandoned on, state-owned lands or state-owned submerged lands belong to the citizens of the state. The state historic preservation program operates in conjunction with the National Historic Preservation Act of 1966 to require state and federal agencies to consider the effect of their direct or indirect actions on [significant] historic and archeological resources. These resources cannot be destroyed or altered unless no prudent alternative exists. Unavoidable impacts must be mitigated.

RESPONSE: In accordance with Section 106 of the National Historic Preservation Act, as amended, and its implementing regulations (36 CFR Part 800), USACE is initiating consultation with the State Historic Preservation Office (SHPO) and federally-recognized tribes regarding the proposed work. Consultation with the Florida SHPO and appropriate Federally-recognized tribes will be concluded prior to project implementation. The proposed project is consistent with the goals of this chapter.

10. CHAPTER 288, F.S., COMMERCIAL DEVELOPMENT AND CAPITAL IMPROVEMENTS

The framework to promote and develop general business, trade, and tourism components of the state economy are established in this statute. The statute includes requirements to protect and promote the natural, coastal, historical, and cultural tourism assets of the state; foster the development of nature-based tourism and recreation; and upgrade the image of Florida as a quality destination. Natural resource-based tourism and recreational activities are critical sectors of Florida's economy. The needs of the environment must be balanced with the need for growth and economic development.

RESPONSE: The proposed project will maintain the beach for recreation and provide protection of recreational facilities along the shoreline. Renourishment of the beach will maintain/improve tourism for this area. The proposed project is consistent with the goals of this chapter.

11. CHAPTER 334, F.S., TRANSPORTATION ADMINISTRATION

The statute addresses the state's policy concerning transportation administration. It establishes the responsibilities of the state, the counties, and the municipalities in the planning and development of the transportation systems; and the development of an integrated, balanced statewide transportation system. This is necessary for the protection of public safety and general welfare and for the preservation of all transportation facilities in the state. As of October 9th, 2017, Chapter 334, F.S., does not contain any enforceable policies for federal consistency purposes.

RESPONSE: Public transportation systems will not be affected by the proposed project.

12. CHAPTER 339, F.S., TRANSPORTATION FINANCE AND PLANNING

The statute addresses the finance and planning needs of the state's transportation system.

13. RESPONSE: Public transportation systems will not be affected by the proposed project. The proposed project is consistent with the goals of this chapter.

14. CHAPTER 373, F.S., WATER RESOURCES

The waters in the state of Florida are managed and protected to conserve and preserve water resources, water quality, and environmental quality. This statute addresses sustainable water management; the conservation of surface and ground waters for full beneficial use; the preservation of natural resources, fish, and wildlife; protecting public land; and promoting the health and general welfare of Floridians. The state manages and conserves water and related natural resources by determining whether activities will unreasonably consume water; degrade water quality; or adversely affect environmental values such as protected species habitat, recreational pursuits, and marine productivity.

Specifically, under Part IV of Chapter 373, the Department of Environmental Protection, water management districts, and delegated local governments review and take agency action on wetland resource, environmental resource, and stormwater permit applications. These permits address the construction, alteration, operation, maintenance, abandonment, and removal of any stormwater management system, dam, impoundment, reservoir, or appurtenant work or works (including dredging, filling and construction activities in, on, and over wetlands and other surface waters).

RESPONSE: The proposed project will be coordinated with Federal, State, federally-recognized Native American tribes, local agencies, and other interested parties during the planning process. Renourishment of the beach will improve the recreational beach and maintain the potential sea turtle nesting habitat. Placement of sand will be above MHW; therefore, no effects to in-water resources are anticipated. The proposed project is consistent with the goals of this chapter.

15. CHAPTER 375, F.S., OUTDOOR RECREATION AND CONSERVATION LANDS

The statute addresses the development of a comprehensive outdoor recreation plan. The purpose of the plan is to document recreational supply and demand, describe current recreational opportunities, estimate the need for additional recreational opportunities, and propose the means to meet the identified needs.

RESPONSE: The proposed project will maintain the beach for recreation and provide protection of recreational facilities along the shoreline. Renourishment of the beach will maintain/improve tourism for this area. The proposed project is consistent with the goals of this chapter.

16. CHAPTER 376, F.S., POLLUTANT DISCHARGE PREVENTION AND REMOVAL

Regulating the transfer, storage, and transportation of pollutants, and the cleanup of pollutant discharges is essential for maintaining the coastal waters, estuaries, tidal flats, beaches, and public lands adjoining the seacoast in as close to a pristine condition as possible. The preservation of the seacoast as a source of public and private recreation and the preservation of water and certain lands are matters of the highest urgency and priority.

This statute provides a framework for the protection of the state's coastline from spills, discharges, and releases of pollutants. The discharge of pollutants into or upon any coastal waters, estuaries, tidal flats, beaches, and lands adjoining the seacoast of the state is prohibited. The statute provides for hazards and threats of danger and damages resulting from any pollutant discharge to be evaluated; requires the prompt containment and removal of pollution; provides penalties for violations; and ensures the prompt payment of reasonable damages from a discharge.

Portions of Chapter 376, F.S., serve as a complement to the national contingency plan portions of the federal Water Pollution Control Act.

RESPONSE: The proposed beach nourishment does not involve the transportation or discharge of pollutants. The contract specifications will prohibit the contractor from dumping oil, fuel, or hazardous wastes in the work area and will include conditions on how to handle inadvertent spills of pollutants, such as vehicle fuels. A spill prevention plan will be required. The proposed project is consistent with the goals of this chapter.

17. CHAPTER 377, F.S., ENERGY RESOURCES

The statute addresses the regulation, planning, and development of the energy resources of the state. The statute provides policy to conserve and control the oil and gas resources in the state, including products made therefrom and to safeguard the health, property and welfare of Floridians. The Department of Environmental Protection (DEP) is authorized to regulate all phases of exploration, drilling, and production of oil, gas, and other petroleum products in the state.

The statute describes the permitting requirements and criteria necessary to drill and develop for oil and gas. DEP rules ensure that all precautions are taken to prevent the spillage of oil or any other pollutant in all phases of extraction and transportation. The state explicitly prohibits pollution resulting from drilling and production activities. No person drilling for or producing oil, gas, or other petroleum products may pollute land or water; damage aquatic or marine life, wildlife, birds, or public or private property; or allow any extraneous matter to enter or damage any mineral or freshwater-bearing formation.

Penalties for violations of any provisions of this chapter are detailed.

RESPONSE: The proposed project does not involve the development of energy resources.

18. CHAPTER 379, F.S., FISH AND WILDLIFE CONSERVATION

The framework for the management and protection of the state of Florida's wide diversity of fish and wildlife resources are established in this statute. It is the policy of the state to conserve and wisely manage these resources. Particular attention is given to those species defined as being endangered or threatened. This includes the acquisition or management of lands important to the conservation of fish and wildlife.

This statute contains specific provisions for the conservation and management of marine fisheries resources. These conservation and management measures permit reasonable means and quantities of annual harvest, consistent with maximum practicable sustainable stock abundance, as well as ensure the proper quality control of marine resources that enter commerce.

Additionally, this statute supports and promotes hunting, fishing and the taking of game opportunities in the State. Hunting, fishing, and the taking of game are considered an important part in the state's economy and in the conservation, preservation, and management of the state's natural areas and resources.

RESPONSE: The proposed beach fill may represent a temporary short-term impact to infaunal invertebrates by burying these organisms. However, these organisms are highly adapted to the periodic burial by sand in the intertidal zone. These organisms are highly fecund and are expected to return to pre-construction levels within six months to one year after construction. Nourishment activities would not be performed during the main part of the sea turtle nesting season or is not located on a high nesting density beach. It is not expected that sea turtles would be significantly impacted by this project. In addition, the project will have no effect on aquatic life or wild animal life. Based on the overall impacts of the project, the project is consistent with the goals of this chapter.

19. CHAPTER 380, F.S., LAND AND WATER MANAGEMENT

Land and water management policies are established to protect natural resources and the environment; and to guide and coordinate local decisions relating to growth and development. The statute provides that state land and water management policies, to the maximum possible extent, be implemented by local governments through existing processes for the guidance of growth and development and that all the existing rights of private property be preserved in accord with constitutions of this state and of the United States.

The chapter establishes the Areas of Critical State Concern designation, the Florida Communities Trust as well as the Florida Coastal Management Act. The Florida Coastal Management Act provides the basis for the Florida Coastal Management Program which seeks to protect the natural, commercial, recreational, ecological, industrial, and aesthetic resources of Florida's coast.

The proposed project involves placing sand on a critically eroding shoreline as a protective measure for residents, development, and infrastructure in response to damages from Hurricane Irma. Renourishment of the beach will also maintain/improve tourism for this area by restoring the beach for recreation and providing protection of recreational facilities along the shoreline. The proposed project is consistent with the goals of this chapter.

20. CHAPTER 381, F.S., PUBLIC HEALTH: GENERAL PROVISIONS

The statute establishes public policy concerning the state's public health system, which is designated to promote, protect, and improve the health of all people in the state.

RESPONSE: The state's public health system will not be affected by the proposed project.

21. CHAPTER 388, F.S., MOSQUITO CONTROL

Mosquito control efforts of the state are to achieve and maintain such levels of arthropod control as will protect human health and safety; promote the economic development of the state; and facilitate the enjoyment of its natural attractions by reducing the number of pestiferous and disease-carrying arthropods.

It is the policy of the state to conduct arthropod control in a manner consistent with protection of the environmental and ecological integrity of all lands and waters throughout the state.

RESPONSE: The proposed project will not further the propagation of mosquitoes or other pest arthropods. The proposed project is consistent with the goals of this chapter.

22. CHAPTER 403, F.S., ENVIRONMENTAL CONTROL

Environmental control policies conserve state waters; protect and improve water quality for consumption and for the propagation of fish and wildlife; and maintain air quality to protect human health and plant and animal life. This statute provides wide-ranging authority to address various environmental control concerns, including air and water pollution; electrical power plant and transmission line siting; the Interstate Environmental Control Compact; resource recovery and management; solid and hazardous waste management; drinking water protection; pollution prevention; ecosystem management; and natural gas transmission pipeline siting.

RESPONSE: Environmental protection measures will be implemented to ensure that no lasting adverse effects on water quality, air quality, or other environmental resources will occur. Clean Water Act Section 401 water quality certification is not required due to the placement of sand above MHW. The proposed project is consistent with the goals of this chapter.

23. CHAPTER 553, F.S., BUILDING AND CONSTRUCTION STANDARDS

The statute addresses building construction standards and provides for a unified Florida Building Code.

RESPONSE: The proposed project does not include building construction.

24. CHAPTER 582, F.S., SOIL AND WATER CONSERVATION

It is the state's policy to preserve natural resources; control and prevent soil erosion, prevent floodwater and sediment damages and to further the conservation, development and use of soil and water resources, and the disposal of water.

Farm, forest, and grazing lands are among the basic assets of the state; and the preservation of these lands is necessary to protect and promote the health, safety, and general welfare of its people.

These measures help to preserve state and private lands, control floods, maintain water quality, prevent impairment of dams and reservoirs, assist in maintaining the navigability of rivers and harbors, preserve wildlife and protect wildlife habitat, protect the tax base, protect public lands, and protect and promote the health, safety, and general welfare of the people of this state.

RESPONSE: The project is not located on or near agricultural lands. The proposed project will include appropriate erosion control plans and measures where applicable. The proposed project is consistent with the goals of this chapter.

25. CHAPTER 597, F.S., AQUACULTURE

The statute establishes public policy concerning the cultivation of aquatic organisms in the state. The intent is to enhance the growth of aquaculture, while protecting Florida's environment. This includes a requirement for a state aquaculture plan which provides for: the coordination and prioritization of state aquaculture efforts; the conservation and enhancement of aquatic resources; and mechanisms for increasing aquaculture production.

RESPONSE: The proposed project does not include aquaculture.

ATTACHMENT 4:

Broward County Shore Protection Project (SPP) Segment II
Flood Control and Coastal Emergency Act (FCCE) Truck Haul
2013 Environmental Assessment
Coastal Zone Management Act (CZMA) – Federal Consistency Determination (FCD)
and 2013 State of Florida conditional concurrence letter

From: [Dunn, Angela E SAJ](mailto:Dunn,Angela.E.SAJ)
To: Jordan-Sellers, Terri SAJ
Subject: FW: Federal Consistency Determination and CZM Transmittal-Broward II FCCE Truck Haul (UNCLASSIFIED)
Date: Thursday, June 27, 2013 7:58:47 AM

Classification: UNCLASSIFIED
Caveats: NONE

Angie Dunn
PPD-ES
x2108
(BB) 904.563.6775

-----Original Message-----

From: Dow, Roxane [<mailto:Roxane.Dow@dep.state.fl.us>]
Sent: Tuesday, June 25, 2013 4:50 PM
To: Dunn, Angela E SAJ
Cc: Milligan, Lauren
Subject: RE: Federal Consistency Determination and CZM Transmittal-Broward II FCCE Truck Haul (UNCLASSIFIED)

We will be calling this 'conditionally consistent" pending all the requirements of the regular permitting requirements required under Chapter 161, Florida Statutes, per the CFR.

[16 CFR 930.39

(e) State permit requirements. Federal law, other than the CZMA, may require a Federal agency to obtain a State permit. Even when Federal agencies are not required to obtain State permits, Federal agencies shall still be consistent to the maximum extent practicable with the enforceable policies that are contained in such State permit programs that are part of a management program.]

As noted in the pre-application conference, we are concerned about ponding and scarping in placement design, and one cross section isn't enough. We will need concurrence from the local government as to compliance with zoning and setbacks. There may be other issues, as it is in review by a number of folks.

We are also concerned about the reaction of the local government and citizens, but I don't know how to approach that yet. Will keep you posted.

Roxane R. Dow
Environmental Specialist III
Beaches, Mines and ERP Support Program
Division of Water Resource Management
Florida Department of Environmental Protection
3900 Commonwealth Boulevard Mail Station 300
Tallahassee, Florida 32399-3000
Telephone: 850-922-7852
Mobile: 850-322-5773
roxane.dow@dep.state.fl.us

-----Original Message-----

From: Dunn, Angela E SAJ [<mailto:Angela.E.Dunn@usace.army.mil>]
Sent: Tuesday, June 25, 2013 4:31 PM
To: Dow, Roxane
Cc: Milligan, Lauren

Subject: RE: Federal Consistency Determination and CZM Transmittal-Broward II FCCE Truck Haul (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Roxane,

Wanted to check in to see if anything came out of your internal meeting last week concerning Federal CZM Consistency Determination provided to Clearinghouse on 6/7/13. Please let me know if you, or other DEP staff, need any additional information to facilitate your review.

Angie Dunn
PPD-ES
x2108
(BB) 904.563.6775

-----Original Message-----

From: Milligan, Lauren [<mailto:Lauren.Milligan@dep.state.fl.us>]
Sent: Friday, June 07, 2013 11:49 AM
To: Klug, Geoffrey SAJ
Cc: Jordan-Sellers, Terri SAJ; Dunn, Angela E SAJ
Subject: RE: Federal Consistency Determination and CZM Transmittal-Broward II FCCE Truck Haul

Thanks, Geoffrey:

RE: Department of the Army, Jacksonville District Corps of Engineers - Consistency Determination - Broward County Segment II Flood Control and Coastal Emergency Act (FCCE Act) Truck Haul Beach Renourishment Project, South of Hillsboro Inlet - Broward County, Florida.

SAI # FL201306076613C

Clearinghouse Letter Due: 7/22/2013

Got it - will send to DEP, FWC and SHPO staffs for review. Though this project may not require a separate WQC from the Department, would this upland beach renourishment activity be covered by the attached JCP Modification No. 0163435-014-JN time extension or eventually be covered under the pending JCP Application No. 0314535-001-JC? If so, I don't think you'd need to get separate CZM approval through our review process.

Lauren

Lauren P. Milligan, Environmental Manager

Florida State Clearinghouse

Florida Department of Environmental Protection

3900 Commonwealth Blvd, M.S. 47

Tallahassee, FL 32399-3000

ph. (850) 245-2170

fax (850) 245-2190

Please take a few minutes to share your comments on the service you received from the department by clicking on this link DEP Customer Survey <<http://survey.dep.state.fl.us/?refemail=Lauren.Milligan@dep.state.fl.us>> .

From: Klug, Geoffrey SAJ [<mailto:Geoffrey.M.Klug@usace.army.mil>]
Sent: Thursday, June 06, 2013 4:14 PM
To: Milligan, Lauren
Cc: Jordan-Sellers, Terri SAJ; Dunn, Angela E SAJ
Subject: Federal Consistency Determination and CZM Transmittal-Broward II FCCE Truck Haul

Ms. Milligan:

The attached documents are being provided by the U.S. Army Corps of Engineers, Jacksonville District for review under the Coastal Zone Management Act. The Federal Consistency Determination is included. The proposed project, Broward County Segment II Flood Control and Coastal Emergency Act Truck Haul, would place material above the Mean High Water as described in the attached documents. Therefore, a water quality certificate pursuant to Section 401 of the Clean Water Act is not required.

Hard copies of the attached documents are being mailed to you as well. Any questions concerning the project or the Federal Consistency Determination should be directed to Ms. Terri Jordan-Sellers by telephone at 904-232-1817 or by email at Terri.Jordan-Sellers@usace.army.mil <<mailto:Terri.Jordan-Sellers@usace.army.mil>> or Mr. Geoffrey Klug at 904-232-3608 or Geoffrey.m.klug@usace.army.mil <<mailto:Geoffrey.m.klug@usace.army.mil>> .

Respectfully,

Geoffrey Klug, EI

U.S Army Corps of Engineers

Jacksonville District

(904) 232-3608

Geoffrey.m.klug@usace.army.mil <<mailto:Geoffrey.m.klug@usace.army.mil>>

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE



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

REPLY TO
ATTENTION OF

Planning and Policy Division
Environmental Branch

JUN 06 2013

Ms. Lauren P. Milligan
Florida Department of Environmental Protection
State Clearinghouse
3900 Commonwealth Boulevard, MS 47
Tallahassee, Florida 32399-3000

Dear Ms. Milligan,

The following information is being provided by the U.S. Army Corps of Engineers, Jacksonville District (Corps) for review under the Coastal Zone Management Act. The Federal Consistency Determination (CD) has been included with this letter as well. The proposed project, Broward County Segment II Flood Control and Coastal Emergency Act (FCCE) Truck Haul, would place material above the Mean High Water (MHW) as described below. Therefore, a water quality certificate pursuant to Section 401 of the Clean Water Act is not required.

The activity entails the renourishment of 5.1 miles of critically eroded shoreline immediately south of Hillsboro Inlet, between Florida Department of Environmental Protection (FDEP) Range Monuments R-26 to R-53 (map provided in Enclosure 1). The design beach has a berm elevation of +8.4 feet, NAVD88. The total volume of fill placed along the project will be roughly 115,000 cubic yards. As this work is authorized under the FCCE Act, it is notable that only the volume of material determined to be lost due to the disaster (primarily Hurricane Sandy) will be placed. The width of the restored beach is controlled by the pre-project MHW and will not be extended seaward by the project. Placement of fill landward of the ECL will not be allowed in locations where easements have not been obtained. (An example cross-section is provided in Enclosure 1).

The sand for the proposed project will be from an upland source, truck hauled to the project location. The upland source will be selected by the Corps' contractor and shall meet the physical criteria required in the contract specifications (example contract language is provided in Enclosure 2).

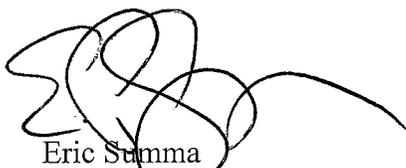
Multiple measures will be taken to preserve and protect the environmental resources in the project area. With respect to marine turtles, the activity will be undertaken in accordance with the Statewide Programmatic Biological Opinion (SPBO) for beach placement of sand issued by the U.S. Fish and Wildlife Service (FWS). All the binding terms and conditions of the SPBO will be applied to this project. Notably, all construction activity on the beach will take place outside of the main part of turtle nesting season. The FWS coordination letters will be provided.

Protection of existing vegetation is an important requirement of the project. Stands of dune/beach vegetation with a minimum contiguous area of 25 square feet will be avoided. If encountered, fill may be placed at vegetated areas of lesser extent, however comparable vegetation will be replanted. It is also acknowledged that vegetation may be impacted at the construction access areas. The contractor will be required to submit a Vegetation Protection Plan identifying protection measures to be implemented, plants to be impacted and revegetation plans for the Contracting Officer's approval.

Furthermore, the decision to only place fill above the mean high water line was based on avoiding impacts to the hardbottom and coral resources in the vicinity of the project. Given the very small fill density (~4cy/ft avg), placement above mean high water and sediment characteristics, no effects to benthic resources are anticipated.

The Corps has determined the proposed project, implemented under the FCCE Act, is consistent with the goals of the Florida Coastal Management Program. Concurrence on this Federal CD is requested within 45 days of receipt of this letter and attached documentation. Any questions concerning the project or the Federal Consistency Determination should be directed to Ms. Terri Jordan-Sellers by telephone at 904-232-1817 or by email at Terri.Jordan-Sellers@usace.army.mil or Mr. Geoffrey Klug by telephone at 904-232-3608 or by email at Geoffrey.Klug@usace.army.mil ..

Sincerely,



Eric Summa
Chief, Environmental Branch

Enclosures

COASTAL ZONE MANAGEMENT CONSISTENCY

**FLORIDA COASTAL ZONE MANAGEMENT PROGRAM
FEDERAL CONSISTENCY DETERMINATION**

**BROWARD COUNTY SEGMENT II FCCE PROJECT
BROWARD COUNTY, FLORIDA**

Enforceable Policy. Florida State Statutes considered “enforceable policy” under the Coastal Zone Management Act (www.dep.state.fl.us/cmp/federal/24_statutes.htm).

Applicability of the Coastal Zone Management Act. The following table summarizes the process and procedures under the Coastal Zone Management Act for Federal Actions and for non-Federal Applicants*.

Item	Non Federal Applicant (15 CFR 930, subpart D)	Federal Action (15 CFR 930, subpart C)
Enforceable Policies	Reviewed and approved by NOAA (in FL www.dep.state.fl.us/cmp/federal/24_statutes.htm)	Same
Effects Test	Direct, Indirect (cumulative, secondary), adverse or beneficial	Same
Review Time	6 months from state receipt of Consistency Certification (30-days for completeness notice) Can be altered by written agreement between State and applicant	60 Days, extendable (or contractible) by mutual agreement
Consistency	Must be Fully Consistent	To Maximum Extent Practicable**
Procedure Initiation	Applicant provides Consistency Certification to State	Federal Agency provides “Consistency Statement” to State
Appealable	Yes, applicant can appeal to Secretary (NOAA)	No (NOAA can “mediate”)
Activities	Listed activities with their geographic location (State can request additional listing within 30 days)	Listed or Unlisted Activities in State Program
Activities in Another State	Must have approval for interstate reviews from NOAA	Interstate review approval NOT required
Activities in Federal Waters	Yes, if activity affects state waters	Same

* There are separate requirements for activities on the Outer Continental Shelf (subpart E) and for “assistance to an applicant agency” (subpart F).

** Must be fully consistent except for items prohibited by applicable law (generally does not count lack of funding as prohibited by law, 15 CFR 930.32).

COASTAL ZONE CONSISTENCY STATEMENT BY STATUTE/ENFORCEABLE POLICY

1.1 CHAPTER 161, F.S., BEACH AND SHORE PRESERVATION

Coastal areas are among the state's most valuable natural, aesthetic, and economic resources; and they provide habitat for a variety of plant and animal life. The state is required to protect coastal areas from imprudent activities that could jeopardize the stability of the beach-dune system, accelerate erosion, provide inadequate protection to upland structures, endanger adjacent properties, or interfere with public beach access. Coastal areas used, or likely to be used, by sea turtles are designated for nesting, and the removal of vegetative cover that binds sand is prohibited. This statute provides policy for the regulation of construction, reconstruction, and other physical activities related to the beaches and shores of the state. Additionally, this statute requires the restoration and maintenance of critically eroding beaches.

Response: The proposed plans and information will be submitted to the state in compliance with this chapter. The purpose of the proposed project is to restore a portion of Broward County Beaches damaged by Hurricane Sandy.

1.2 CHAPTER 163, PART II, F.S., INTERGOVERNMENTAL PROGRAMS: GROWTH POLICY, COUNTY AND MUNICIPAL PLANNING: LAND DEVELOPMENT REGULATION

The purpose of this statute is to provide for the implementation of comprehensive planning programs to guide and control future development in the state. The comprehensive planning process encourages units of local government to preserve, promote, protect, and improve the public health, safety, comfort, good order, appearance, convenience, law enforcement and fire prevention, and general welfare; prevent the overcrowding of land and avoid undue concentration of population; facilitate the adequate and efficient provision of public facilities and services; and conserve, develop, utilize, and protect natural resources within their jurisdictions.

Response: The proposed project meets the primary goal of the State Comprehensive Plan through preservation and protection of the shorefront development and infrastructure including beach and dune systems.

1.3 CHAPTER 186, F.S., STATE AND REGIONAL PLANNING

The state comprehensive plan provides basic policy direction to all levels of government regarding the orderly social, economic, and physical growth of the state. The goals, objectives, and policies of the state comprehensive plan are statewide in scope and are consistent and compatible with each other. The statute provides direction for the delivery of governmental services, a means for defining and achieving the specific goals of the state, and a method for evaluating the accomplishment of those goals.

Response: The proposed project meets the primary goal of the State Comprehensive Plan through preservation and protection of the shorefront development and infrastructure through renourishment of the beach system.

1.4 CHAPTER 252, F.S., EMERGENCY MANAGEMENT

The state of Florida is vulnerable to a wide range of emergencies, including natural, technological, and manmade disasters and this vulnerability is exacerbated by the tremendous growth in the state's population, especially the growth in the number of persons residing in coastal areas, in the elderly population, in the number of seasonal vacationers, and in the number of persons with special needs. This statute directs the state to reduce the vulnerability of its people and property to natural and manmade disasters; prepare for, respond to and reduce the impacts of disasters; and decrease the time and resources needed to recover from disasters. Disaster mitigation is necessary to ensure the common defense of Floridians' lives and to protect the public peace, health, and safety. The policies provide the means to assist in the prevention or mitigation of emergencies that may be caused or aggravated by the inadequate planning or regulation of facilities and land uses. State agencies are directed to keep land uses and facility construction under continuing study and identify areas that are particularly susceptible to natural or manmade catastrophic occurrences.

Response: The proposed project involves the placing of beach compatible material onto an eroding beach as a protective means for residents, development, and infrastructure in response to damage inflicted by Hurricane Sandy. Therefore, this project would be consistent with the efforts of Division of Emergency Management.

1.5 CHAPTER 253, F.S., STATE LANDS

The Board of Trustees of the Internal Improvement Trust Fund (Trustees) is vested and charged with the acquisition, administration, management, control, supervision, conservation, protection, and disposition of all lands owned by the state. Lands acquired for preservation, conservation and recreation serve the public interest by contributing to the public health, welfare and economy. In carrying out the requirements of this statute, the Trustees are directed to take necessary action to fully: conserve and protect state lands; maintain natural conditions; protect and enhance natural areas and ecosystems; prevent damage and depredation; and preserve archaeological and historical resources. All submerged lands are considered single-use lands to be maintained in natural condition for the propagation of fish and wildlife and public recreation. Where multiple-uses are permitted, ecosystem integrity, recreational benefits and wildlife values are conserved and protected.

Response: The proposed beach nourishment would improve the recreational beach and maintain potential sea turtle nesting habitat. No submerged resources are located within the area proposed to receive fill as proposed fill is landward of the MHW. The proposed project would comply with the intent of this chapter.

1.6 CHAPTER 258, F.S., STATE PARKS AND PRESERVES

The statute addresses the state's administration of state parks, aquatic preserves, and recreation areas, which are acquired to emblemize the state's natural values and to ensure that these values are conserved for all time. Parks and preserves are managed for the non-depleting use, enjoyment, and benefit of Floridians and visitors and to contribute to the state's tourist appeal. Aquatic Preserves are recognized as having exceptional biological, aesthetic, and scientific value

and are set aside for the benefit of future generations. Disruptive physical activities and polluting discharges are highly restricted in aquatic preserves. State managed wild and scenic rivers possess exceptionally remarkable and unique ecological, fish and wildlife, and recreational values and are designated for permanent preservation and enhancement for both the present and future.

Response: The proposed project will not impact any State parks or preserves. This chapter is not applicable.

1.7 CHAPTERS 259, F.S., LAND ACQUISITION FOR CONSERVATION OR RECREATION

The statute addresses public ownership of natural areas for purposes of maintaining the state's unique natural resources; protecting air, land, and water quality; promoting water resource development to meet the needs of natural systems and citizens of this state; promoting restoration activities on public lands; and providing lands for natural resource based recreation. Lands are managed to protect or restore their natural resource values, and provide the greatest benefit, including public access, to the citizens of this state.

Response: The proposed project will not permanently impact public access to beaches within Broward County. Temporary closures during construction would occur. The proposed project is consistent with the goals of this chapter.

1.8 CHAPTERS 260, F.S., FLORIDA GREENWAYS AND TRAILS ACT

A statewide system of greenways and trails is established in order to conserve, develop, and use the natural resources of Florida for healthful and recreational purposes. These greenways and trails provide open space benefiting environmentally sensitive lands and wildlife and provide people with access to healthful outdoor activities. The greenways and trails serve to implement the concepts of ecosystem management while providing, where appropriate, recreational opportunities such as horseback riding, hiking, bicycling, canoeing, jogging, and historical and archaeological interpretation.

Response: The proposed project will not impact Florida greenways or trails. This chapter is not applicable.

1.9 CHAPTER 267, F.S., HISTORICAL RESOURCES

The management and preservation of the state's archaeological and historical resources are addressed by this statute. This statute recognizes the state's rich and unique heritage of historic resources and directs the state to locate, acquire, protect, preserve, operate and interpret historic and archeological resources for the benefit of current and future generations of Floridians. Objects or artifacts with intrinsic historic or archeological value located on, or abandoned on, state-owned lands or state-owned submerged lands belong to the citizens of the state. The state historic preservation program operates in conjunction with the National Historic Preservation Act of 1966 to require state and federal agencies to consider the effect of their direct or indirect actions on [significant] historic and archeological resources. These resources cannot be destroyed or altered unless no prudent alternative exists. Unavoidable impacts must be mitigated.

Response: State Historic Preservation Officer (SHPO) and Tribal coordination is being initiated and will be ongoing until the project is completed. The actions are consistent with the intent of this chapter.

1.10 CHAPTER 288, F.S., COMMERCIAL DEVELOPMENT AND CAPITAL IMPROVEMENTS

The framework to promote and develop general business, trade, and tourism components of the state economy are established in this statute. The statute includes requirements to protect and promote the natural, coastal, historical, and cultural tourism assets of the state; foster the development of nature-based tourism and recreation; and upgrade the image of Florida as a quality destination. Natural resource-based tourism and recreational activities are critical sectors of Florida's economy. The needs of the environment must be balanced with the need for growth and economic development.

Response: The proposed beach nourishment would help maintain the space for recreation and provide protection of recreational facilities along the receiving beach. This would be compatible with tourism for this area and therefore, is consistent with the goals of this chapter.

1.11 CHAPTER 334, F.S., TRANSPORTATION ADMINISTRATION

The statute addresses the state's policy concerning transportation administration. It establishes the responsibilities of the state, the counties, and the municipalities in the planning and development of the transportation systems serving the people of the state and to assure the development of an integrated, balanced statewide transportation system. This is necessary for the protection of public safety and general welfare and for the preservation of all transportation facilities in the state.

Response: The proposed project would not adversely affect public transportation and therefore, is consistent with the goals of this chapter.

1.12 CHAPTER 339, F.S., TRANSPORTATION FINANCE AND PLANNING

The statute addresses the finance and planning needs of the state's transportation system.

Response: The proposed project would not adversely affect public transportation and therefore, is consistent with the goals of this chapter.

1.13 CHAPTER 373, F.S., WATER RESOURCES

The waters in the state of Florida are managed and protected to conserve and preserve water resources, water quality, and environmental quality. This statute addresses sustainable water management; the conservation of surface and ground waters for full beneficial use; the preservation of natural resources, fish, and wildlife; protecting public land; and promoting the health and general welfare of Floridians. The state manages and conserves water and related natural resources by determining whether activities will unreasonably consume water; degrade water quality; or adversely affect environmental values such as protected species habitat, recreational pursuits, and marine productivity.

Specifically, under Part IV of Chapter 373, the Department of Environmental Protection, water management districts, and delegated local governments review and take agency action on wetland resource, environmental resource, and stormwater permit applications, which address the construction, alteration, operation, maintenance, abandonment, and removal of any stormwater management system, dam, impoundment, reservoir, or appurtenant work or works, including dredging, filling and construction activities in, on, and over wetlands and other surface waters.

Response: The proposed beach nourishment does not involve water resources as described in this chapter. Therefore, this chapter is not applicable.

1.14 CHAPTER 375, F.S., OUTDOOR RECREATION AND CONSERVATION LANDS

The statute addresses the development of a comprehensive multipurpose outdoor recreation plan. The purpose of the plan is to document recreational supply and demand, describe current recreational opportunities, estimate the need for additional recreational opportunities, and propose the means to meet the identified needs.

Response: The proposed beach nourishment would help maintain the recreational beach and provide protection of recreational facilities along the receiving beach. This would be compatible with tourism for this area and therefore, is consistent with the goals of this chapter.

1.15 CHAPTER 376, F.S., POLLUTANT DISCHARGE PREVENTION AND REMOVAL

Regulating the transfer, storage, and transportation of pollutants, and the cleanup of pollutant discharges is essential for maintaining the coastal waters, estuaries, tidal flats, beaches, and public lands adjoining the seacoast in as close to a pristine condition as possible. The preservation of the seacoast as a source of public and private recreation and the preservation of water and certain lands are matters of the highest urgency and priority. This statute provides a framework for the protection of the state's coastline from spills, discharges, and releases of pollutants as a result of the transfer, storage, and transportation of such products. The discharge of pollutants into or upon any coastal waters, estuaries, tidal flats, beaches, and lands adjoining the seacoast of the state is prohibited. The statute provides for hazards and threats of danger and damages resulting from any pollutant discharge to be evaluated; requires the prompt containment and removal of pollution; provides penalties for violations; and ensures the prompt payment of reasonable damages from a discharge. Portions of Chapter 376, F.S., serve as a complement to the national contingency plan portions of the federal Water Pollution Control Act.

Response: The proposed beach nourishment does not involve the transportation or discharge of pollutants. Conditions will be placed in the contract to handle inadvertent spills of pollutants such as vehicle fuels. The proposed project will comply with this chapter.

1.16 CHAPTER 377, F.S., ENERGY RESOURCES

The statute addresses the regulation, planning, and development of the energy resources of the state. The statute provides policy to conserve and control the oil and gas resources in the state, including products made therefrom and to safeguard the health, property and welfare of

Floridians. The Department of Environmental Protection (DEP) is authorized to regulate all phases of exploration, drilling, and production of oil, gas, and other petroleum products in the state. The statute describes the permitting requirements and criteria necessary to drill and develop for oil and gas. DEP rules ensure that all precautions are taken to prevent the spillage of oil or any other pollutant in all phases of extraction and transportation. The state explicitly prohibits pollution resulting from drilling and production activities. No person drilling for or producing oil, gas, or other petroleum products may pollute land or water; damage aquatic or marine life, wildlife, birds, or public or private property; or allow any extraneous matter to enter or damage any mineral or freshwater-bearing formation. Penalties for violations of any provisions of this chapter are detailed.

Response: The project does not involve the development of energy resources of the state, and contract specifications will require the contractor to handle all fuels, oils, and hazardous materials in accordance with all state and federal laws. A spill prevention plan will be required.

1.17 CHAPTER 379, F.S., FISH AND WILDLIFE CONSERVATION

The framework for the management and protection of the state of Florida's wide diversity of fish and wildlife resources are established in this statute. It is the policy of the state to conserve and wisely manage these resources. Particular attention is given to those species defined as being endangered or threatened. This includes the acquisition or management of lands important to the conservation of fish and wildlife. This statute contains specific provisions for the conservation and management of marine fisheries resources. These conservation and management measures permit reasonable means and quantities of annual harvest, consistent with maximum practicable sustainable stock abundance, as well as ensure the proper quality control of marine resources that enter commerce.

Additionally, this statute supports and promotes hunting, fishing and the taking of game opportunities in the State. Hunting, fishing, and the taking of game are considered an important part in the state's economy and in the conservation, preservation, and management of the state's natural areas and resources.

Response: The proposed beach fill may represent a temporary short-term impact to infaunal invertebrates by burying these organisms. However, these organisms are highly adapted to the periodic burial by sand in the intertidal zone. These organisms are highly fecund and are expected to return to pre-construction levels within six months to one year after construction. Nourishment activities would not be performed during the main part of the sea turtle nesting season or is not located on a high nesting density beach. It is not expected that sea turtles would be significantly impacted by this project. In addition, the project will have no effect on aquatic life or wild animal life. Based on the overall impacts of the project, the project is consistent with the goals of this chapter.

1.18 CHAPTER 380, F.S., LAND AND WATER MANAGEMENT

Land and water management policies are established to protect natural resources and the environment; and to guide and coordinate local decisions relating to growth and development. The statute provides that state land and water management policies, to the maximum possible extent, be implemented by local governments through existing processes for the guidance of growth and development and that all the existing rights of private property be preserved in

accord with constitutions of this state and of the United States. The chapter establishes the Areas of Critical State Concern designation, the Florida Communities Trust as well as the Florida Coastal Management Act. The Florida Coastal Management Act provides the basis for the Florida Coastal Management Program which seeks to protect the natural, commercial, recreational, ecological, industrial, and aesthetic resources of Florida's coast.

Response: The proposed beach nourishment is consistent with the goals of this chapter.

1.19 CHAPTER 381, F.S., PUBLIC HEALTH: GENERAL PROVISIONS

The statute establishes public policy concerning the state's public health system, which is designated to promote, protect, and improve the health of all people in the state.

Response: The proposed beach nourishment is consistent with the goals of this chapter.

1.20 CHAPTER 388, F.S., MOSQUITO CONTROL

Mosquito control efforts of the state are to achieve and maintain such levels of arthropod control as will protect human health and safety and foster the quality of life of the people, promote the economic development of the state, and facilitate the enjoyment of its natural attractions by reducing the number of pestiferous and disease-carrying arthropods. It is the policy of the state to conduct arthropod control in a manner consistent with protection of the environmental and ecological integrity of all lands and waters throughout the state.

Response: The proposed project will not further the propagation of mosquitoes or other pest arthropods.

1.21 CHAPTER 403, F.S., ENVIRONMENTAL CONTROL

Environmental control policies conserve state waters; protect and improve water quality for consumption and for the propagation of fish and wildlife; and maintain air quality to protect human health and plant and animal life. This statute provides wide-ranging authority to address various environmental control concerns, including air and water pollution; electrical power plant and transmission line siting; the Interstate Environmental Control Compact; resource recovery and management; solid and hazardous waste management; drinking water protection; pollution prevention; ecosystem management; and natural gas transmission pipeline siting.

Response: Environmental protection measures will be implemented to ensure that no lasting adverse effects on water quality, air quality, or other environmental resources will occur. Water Quality Certification is not required due to placement of material above MHW. The project complies with the intent of this chapter.

1.22 CHAPTER 553, F.S., BUILDING AND CONSTRUCTION STANDARDS

The statute addresses building construction standards and provides for a unified Florida Building Code.

Response: The proposed work does not involve building construction; therefore, this chapter does not apply.

1.23 CHAPTER 582, F.S., SOIL AND WATER CONSERVATION

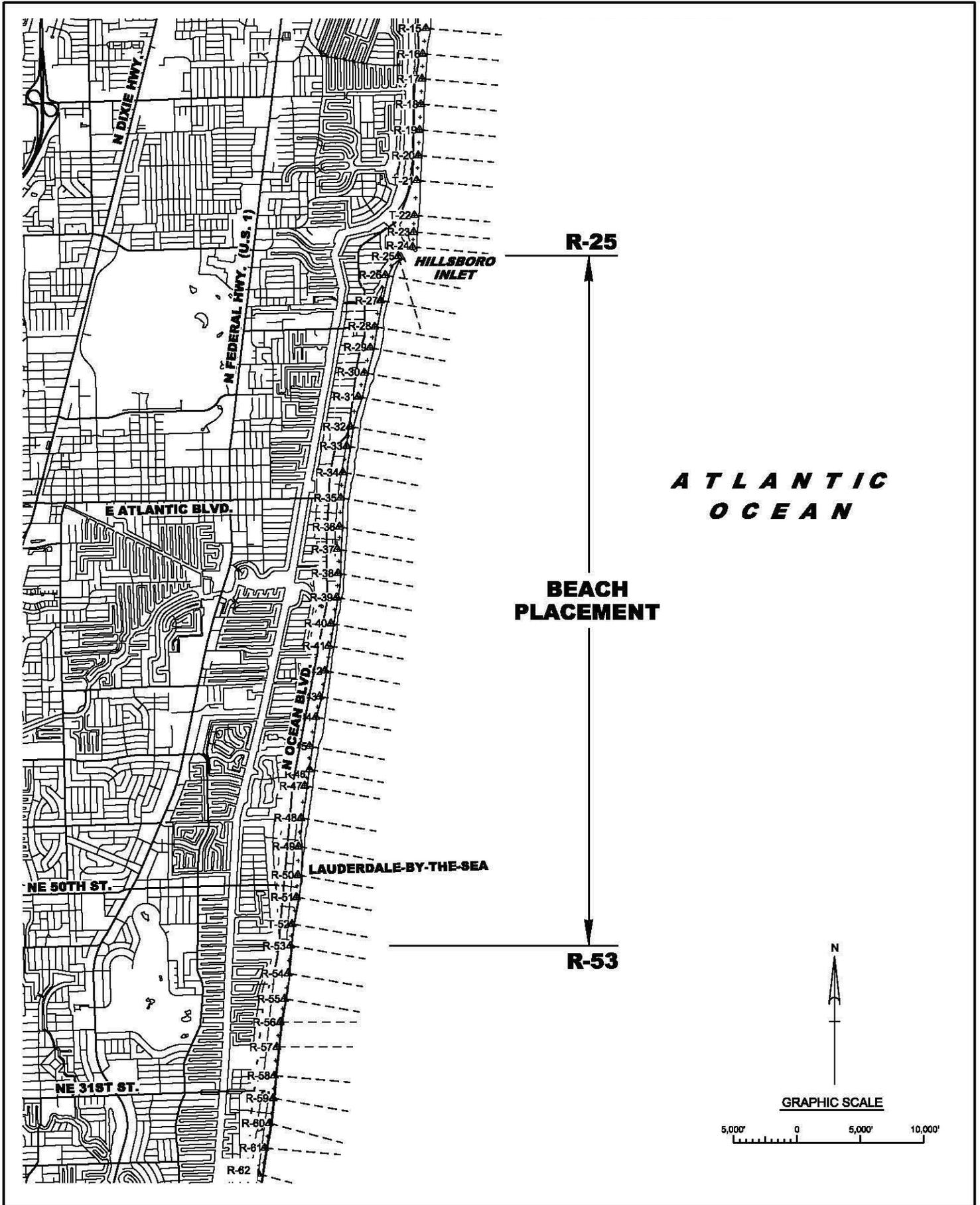
It is the state's policy to preserve natural resources; control and prevent soil erosion, prevent floodwater and sediment damages and to further the conservation, development and use of soil and water resources, and the disposal of water. Farm, forest, and grazing lands are among the basic assets of the state; and the preservation of these lands is necessary to protect and promote the health, safety, and general welfare of its people. These measures help to preserve state and private lands, control floods, maintain water quality, prevent impairment of dams and reservoirs, assist in maintaining the navigability of rivers and harbors, preserve wildlife and protect wildlife habitat, protect the tax base, protect public lands, and protect and promote the health, safety, and general welfare of the people of this state.

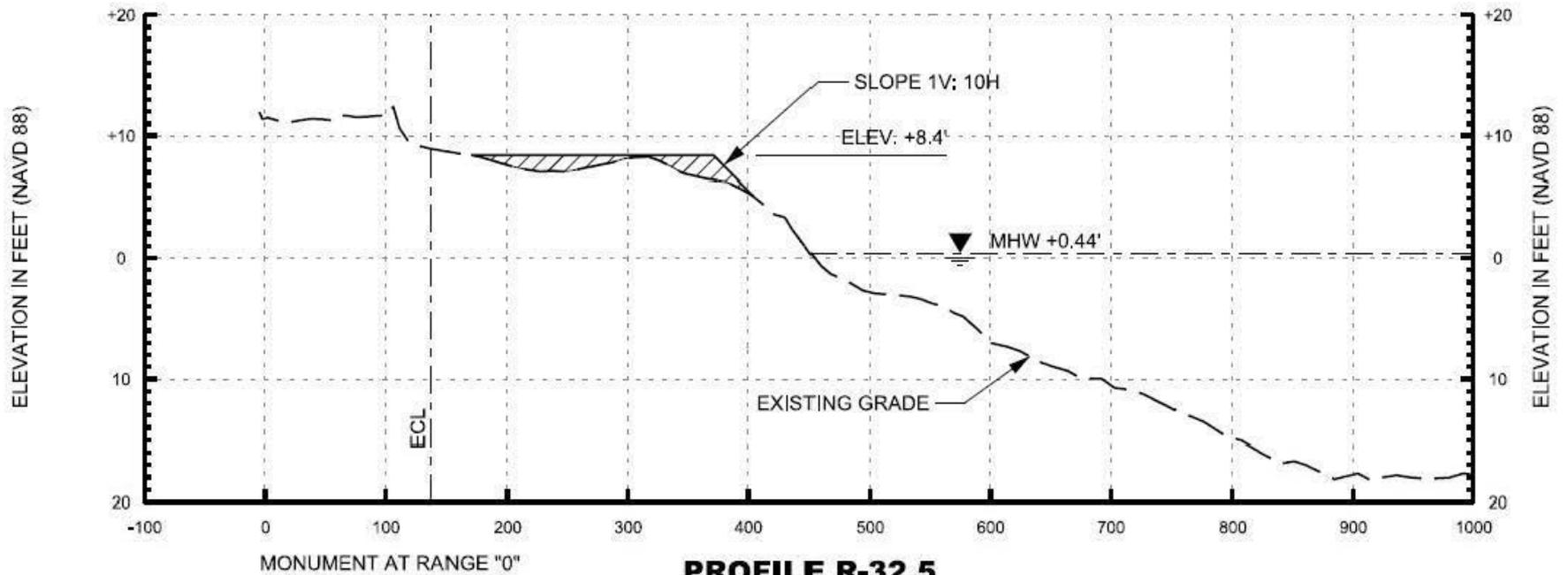
Response: The proposed project is not located near or on agricultural lands; therefore, this chapter does not apply.

1.24 CHAPTER 597, F.S., AQUACULTURE

The statute establishes public policy concerning the cultivation of aquatic organisms in the state. The intent is to enhance the growth of aquaculture, while protecting Florida's environment. This includes a requirement for a state aquaculture plan which provides for the coordination and prioritization of state aquaculture efforts, the conservation and enhancement of aquatic resources and which provides mechanisms for increasing aquaculture production for the creation of new industries, job opportunities, income for aquaculturists, and other benefits to the state.

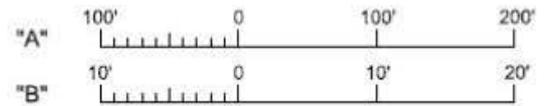
Response: The proposed project does not propose aquaculture; therefore, this chapter does not apply.





PROFILE R-32.5
 SCALE "A" (HORIZONTAL)
 SCALE "B" (VERTICAL)

GRAPHIC SCALES



Example Contract Language

Sediment Quality

Beach Fill

Compliance Criteria for Beach Fill Material

Beach fill material shall meet the requirements of the FDEP approved project QC/QA Sediment Control Plan and shall conform to the compliance values presented in Table 1 (all sieve sizes refer to U.S. Std. sieves) below. The sand shall be similar to the existing beach sediments in color and texture. Beach fill material shall be clean sand from the permitted source and free of unacceptable materials, such as construction debris, asphalt, rocks greater than 3/4 inch, clay balls, and other organics, oil, pollutants and any other foreign materials.

Table 1 - Fill Material Compliance Values

Maximum Silt Content (passing #230 sieve)	2 percent
Maximum Fine Gravel Content (retained on #4 sieve)	5 percent
Maximum Large Shell Content (retained on 3/4 inch sieve)	1 percent
Munsell Color Value (similar or lighter)	6 value
Mean Grain Size Range	0.35 to 0.65 mm
Carbonate Content	10 percent

The compliance values described above refer to the average values assessed over a 10,000 square-foot area of the placed fill material. Material which exceeds the compliance values listed in Table 1 and which exceeds the natural occurrence within a 10,000 square-foot area, will be classified as noncompliant.

Example Contract Language

Vegetation Protection

TEMPORARY CONSTRUCTION FACILITIES

Staging and Access Areas

Staging and access areas are shown on the contract drawings that have been identified for the Contractor's use. The staging areas shall not be used for stockpiling of beach fill material. The final limits of the staging and access areas indicated on the drawings shall be field-determined by the Contracting Officer in coordination with the Local Sponsor and the Contractor. It shall be the responsibility of the Contractor to investigate and obtain any additional areas which may be necessary for his/her construction operations. The additional areas will be subject to the approval of the Contracting Officer. Native dune vegetation shall be identified and marked by the Contractor so that no operations impact any areas of native dune vegetation. Impacts to dune vegetation during widening of dune access, as well as any incidental impacts to dune vegetation shall be restored by the Contractor at no additional cost to the Government prior to completion of work. Clearing and grubbing is permitted only in access and staging areas, and shall be performed in accordance with Section 01 55 10 CLEARING AND GRUBBING FOR ACCESS AND STAGING AREAS.

Construction Access

Construction access is provided as shown on the contract drawings. Procurement of additional access routes for ingress and egress to the construction area shall be obtained by and at the expense of the Contractor and shall be approved by the Contracting Officer. At all access sites to be utilized, the Contractor shall:

- a. Photo-document the condition of the access location prior to disrupting the site.
- b. Limit access width through existing vegetation to 20 feet or less.
- c. Replace any fencing, signage or curbing disturbed by the Contractor's activities; and,
- d. Restore and revegetate the access route with native dune plants subject to the approval of the Contracting Officer. Revegetation of access and staging areas shall be with sod (non-dune areas) or viable plant units (dune areas) at 18-inch maximum spacing with species and diversity equivalent to preconstruction conditions. Revegetation shall include a survival warranty of 90 percent of the plant material for 90 days. Vegetation shall be installed with fertilization and irrigation, or with initial irrigation, fertilization and approved water-absorbent polymeric gels, at no additional expense to the Government. Shrubs and trees shall be replaced to preconstruction conditions per the requirements of Section 01 57 20 ENVIRONMENTAL PROTECTION.

CLEARING AND GRUBBING FOR ACCESS AND STAGING AREAS

SCOPE

The work covered by this section consists in furnishing all plant, labor, equipment, supplies and material, and in performing all operations in connection with clearing, grubbing, and transporting of material for access and staging only as indicated on the drawings and specified herein. Clearing and grubbing is limited to construction/beach access and staging areas only. Clearing and grubbing beyond access and staging areas is prohibited. Contractor is responsible for obtaining any local construction permits associated with clearing and grubbing the access area (see clause PERMITS AND RESPONSIBILITIES of Section 00700 CONTRACT CLAUSES). The Contractor shall minimize any impact to existing vegetation and/or structures, fencing or other materials. The Contractor shall repair and/or replace any impacts to existing conditions as to the satisfaction of the Contracting Officer.

Clearing Area Plan

A written clearing area plan shall be submitted 15 days prior to the beginning of any clearing and grubbing. Approval of the detailed plan shall be obtained from the Contracting Officer prior to starting the work. If necessary, modify the plan as required to meet field conditions, and the modifications shall be approved prior to use. As a minimum, the plan shall contain the following:

- a. The proposed method of clearing and grubbing.
- b. Stockpiling plan for transport of unsatisfactory material found during clearing and grubbing operations. Within the plan, include stockpile heights, slopes, limits, and drainage around the stockpile areas.
- c. Photographs of each access area showing existing structures and vegetation, and method of protecting existing structures and vegetation.
- d. The proposed sequence of work for clearing and grubbing areas with plan views showing starting and final work locations and clearing, and grubbing limits.
- e. Methodology on the removal and screening of acceptable material from vegetation and debris material.
- f. Beach grading plan for level distribution of satisfactory material brought to rest to the existing lines and grades of the beach corridor used form construction traffic to and from the project area.

BEACH FILL

Scope

Areas of existing vegetation greater than 25 square feet within the Contractor's work area shall not be disturbed. Any vegetation within the fill template shall have fill material sloped at 1V:3H to meet existing grade around vegetation. If berm height surrounding vegetation is significantly higher, then existing vegetation shall be excavated and replanted as necessary.

ATTACHMENT 5:

Broward County Shore Protection Project (SPP) Segments II and III
2004 Final Environmental Impact Statement (FEIS)
Coastal Zone Management Act (CZMA) – Federal Consistency Determination (FCD)
and 1999 State of Florida concurrence letter



STATE OF FLORIDA
DEPARTMENT OF COMMUNITY AFFAIRS

"Dedicated to making Florida a better place to call home"

JEB BUSH
Governor

STEVEN M. SEIBERT
Secretary

December 14, 1999

Mr. Kenneth Dugger
Department of the Army
Jacksonville District Corps of Engineers
Environmental Branch, Planning Division
Post Office Box 4970
Jacksonville, Florida 32232-0019

RE: Department of the Army - Jacksonville District Corps of Engineers - Notice of Intent to Prepare a Draft Environmental Impact Statement on Renourishment of the Beach in Broward County from Hillsboro Inlet to the Dade County Line - Broward County, Florida
SAI: FL9911080881C

Dear Mr. Dugger:

The Florida State Clearinghouse, pursuant to Presidential Executive Order 12372, Gubernatorial Executive Order 95-359, the Coastal Zone Management Act, 16 U.S.C. §§ 1451-1464, as amended, and the National Environmental Policy Act, 42 U.S.C. §§ 4321, 4331-4335, 4341-4347, as amended, has coordinated a review of the above-referenced project.

The South Florida Water Management District (SFWMD) notes that, under the operating agreement between the Department of Environmental Protection (DEP) and the water management districts, this project will be reviewed by DEP. Please refer to the enclosed DEP comments.

Based on the information contained in the notification of intent and the enclosed comments provided by our reviewing agencies, the state has determined that, at this stage, the above-referenced project is consistent with the Florida Coastal Management Program (FCMP). All subsequent environmental documents prepared for this project must be reviewed to determine

2555 SHUMARD OAK BOULEVARD • TALLAHASSEE, FLORIDA 32399-2100
Phone: 850.488.8466/Suncom 278.8466 FAX: 850.921.0781/Suncom 291.0781
Internet address: <http://www.dca.state.fl.us>

FLORIDA KEYS
Area of Critical State Concern Field Office
2796 Overseas Highway, Suite 212
Marathon, Florida 33050-2227

GREEN SWAMP
Area of Critical State Concern Field Office
205 East Main Street, Suite 104
Bartow, Florida 33830-4641

Mr. Kenneth Dugger
December 14, 1999
Page Two

the project's continued consistency with the FCMP. The state's continued concurrence with the project will be based, in part, on the adequate resolution of issues identified during this and subsequent reviews.

In addition, the South Florida Regional Planning Council (SFRPC) offers several comments and has identified the policies and goals of its Strategic Regional Policy Plan which may apply to the proposed activity. The comments provided by the SFRPC are enclosed for your review and consideration.

Thank you for the opportunity to review this notice. If you have any questions regarding this letter, please contact Ms. Cherie Trainor, Clearinghouse Coordinator, at (850) 414-5495.

Sincerely,



Ralph Cantral, Executive Director
Florida Coastal Management Program

RC/cc

Enclosures

cc: Jim Golden, South Florida Water Management District
Eric Silva, South Florida Regional Planning Council

COUNTY: Broward

DATE: 11/08/1999

COMMENTS DUE-2 WKS: 11/23/1999

CLEARANCE DUE DATE: 12/17/1999

SAI#: FL9911080881C

Message:

STATE AGENCIES

WATER MANAGEMENT DISTRICTS

OPB POLICY UNITS

Community Affairs
 Environmental Protection
 Fish, & Wildlife Conserv. Comm
 State
 X Transportation

South Florida WMD

Environmental Policy/C & ED

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 NOV 18 1999
 State of Florida Clearinghouse

The attached document requires a Coastal Zone Management Act/Florida Coastal Management Program consistency evaluation and is categorized as one of the following:

- Federal Assistance to State or Local Government (15 CFR 930, Subpart F). Agencies are required to evaluate the consistency of the activity.
- Direct Federal Activity (15 CFR 930, Subpart C). Federal Agencies are required to furnish a consistency determination for the State's concurrence or objection.
- Outer Continental Shelf Exploration, Development or Production Activities (15 CFR 930, Subpart E). Operators are required to provide a consistency certification for state concurrence/objection.
- Federal Licensing or Permitting Activity (15 CFR 930, Subpart D). Such projects will only be evaluated for consistency when there is not an analogous state license or permit.

Project Description:

U.S. Department of the Army - Jacksonville District Corps of Engineers - Notice of Intent to Prepare a Draft Environmental Impact Statement on Renourishment of the Beach in Broward County from Hillsboro Inlet to the Dade County Line - Broward County, Florida.

To: Florida State Clearinghouse
 Department of Community Affairs
 2555 Shumard Oak Boulevard
 Tallahassee, FL 32399-2100
 (850) 922-5438 (SC 292-5438)
 (850) 414-0479 (FAX)

EO. 12372/NEPA

Federal Consistency

- No Comment
- Comments Attached
- Not Applicable

- No Comment/Consistent
- Consistent/Comments Attached
- Inconsistent/Comments Attached
- Not Applicable

From:

Division/Bureau: FDOT

Reviewer: Jandra Kellner

Date: 11/14/99

COUNTY: Broward

DATE: 11/08/1999

COMMENTS DUE-2 WKS: 11/23/1999

CLEARANCE DUE DATE: 12/17/1999

SAI#: FL9911080881C

Message:

STATE AGENCIES

WATER MANAGEMENT DISTRICTS

OPB POLICY UNITS

Community Affairs
Environmental Protection
Fish & Wildlife Conserv. Comm
State
Transportation

South Florida WMD

X Environmental Policy/C & ED

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NOV 25 1999

NOV 15 1999

State of Florida Clearinghouse

OFFICE OF PLANNING & BUDGETING
ENVIRONMENTAL POLICY UNIT

The attached document requires a Coastal Zone Management Act/Florida Coastal Management Program consistency evaluation and is categorized is one of the following:

Project Description:

U.S. Department of the Army - Jacksonville
District Corps of Engineers - Notice of Intent to Prepare a Draft Environmental Impact Statement on Renourishment of the Beach in Broward County from Hillsboro Inlet to the Dade County Line - Broward County, Florida.

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Outer Continental Shelf Exploration, Development or Production Activities (15 CFR 930, Subpart E). Operators are required to provide a consistency certification for state concurrence/objection.

Federal Licensing or Permitting Activity (15 CFR 930, Subpart D). Such projects will only be evaluated for consistency when there is not an analogous state license or permit.

To: Florida State Clearinghouse
Department of Community Affairs
2555 Shumard Oak Boulevard
Tallahassee, FL 32399-2100
(850) 922-5438 (SC 292-5438)
(850) 414-0479 (FAX)

EO. 12372/NEPA

Federal Consistency

- No Comment
- Comments Attached
- Not Applicable

- No Comment/Consistent
- Consistent/Comments Attached
- Inconsistent/Comments Attached
- Not Applicable

From:

Division/Bureau: OPB/Environmental Policy
Reviewer: Carl Anderson
Date: 11-17-99

COUNTY: Broward

DATE: 11/08/1999

COMMENTS DUE-2 WKS: 11/23/1999

CLEARANCE DUE DATE: 12/17/1999

Message:

SAI#: FL9911080881C

STATE AGENCIES	WATER MANAGEMENT DISTRICTS	OPB POLICY UNITS
Community Affairs Environmental Protection Fish & Wildlife Conserv. Comm State Transportation	X South Florida WMD	Environmental Policy/C & ED

The attached document requires a Coastal Zone Management Act/Florida Coastal Management Program consistency evaluation and is categorized as one of the following:

- Federal Assistance to State or Local Government (15 CFR 930, Subpart F). Agencies are required to evaluate the consistency of the activity.
- Direct Federal Activity (15 CFR 930, Subpart C). Federal Agencies are required to furnish a consistency determination for the State's concurrence or objection.
- Outer Continental Shelf Exploration, Development or Production Activities (15 CFR 930, Subpart E). Operators are required to provide a consistency certification for state concurrence/objection.
- Federal Licensing or Permitting Activity (15 CFR 930, Subpart D). Such projects will only be evaluated for consistency when there is not an analogous state license or permit.

Project Description:

U.S. Department of the Army - Jacksonville District Corps of Engineers - Notice of Intent to Prepare a Draft Environmental Impact Statement on Renourishment of the Beach in Broward County from Hillsboro Inlet to the Dade County Line - Broward County, Florida.

To: Florida State Clearinghouse
Department of Community Affairs
2555 Shumard Oak Boulevard
Tallahassee, FL 32399-2100
(850) 922-5438 (SC 292-5438)
(850) 414-0479 (FAX)

EO. 12372/NEPA

Federal Consistency

- No Comment
- Comments Attached
- Not Applicable

- No Comment/Consistent
- Consistent/Comments Attached
- Inconsistent/Comments Attached
- Not Applicable

UNDER THE OPERATING AGREEMENT BETWEEN DEP AND THE WMDs, THIS PROJECT WILL BE REVIEWED BY DEP.

From:

Division/Bureau: ENVIRONMENTAL RESOURCE RESOLUTION

Reviewer: JFM GOLDEN

Date: 11/15/99

South
Florida
Regional
Planning
Council



December 3, 1999

Ms. Cherie Trainor
Florida State Clearinghouse
Department of Community Affairs
2555 Shumard Oak Boulevard
Tallahassee, FL 32399-2100

STATE OF FLORIDA
DEPARTMENT OF COMMUNITY AFFAIRS
CLEARINGHOUSE

RE: SFRPC #99-1123, SAI #FL9911080881C - Response to a request for comments on the Notice of Intent to prepare a Draft Environmental Impact Statement on renourishment of the beach from the Hillsboro Inlet to Miami-Dade County, U.S. Army Corps of Engineers, Broward County.

Dear Ms. Trainor:

We have reviewed the above-referenced project and have the following comments:

- The project, as proposed, is generally consistent with the goals and policies of the *Strategic Regional Policy Plan for South Florida* (SRPP). Council staff recognizes that the proposed project is necessary to improve navigation and reduce sand loss.
- Beaches and dune systems are identified as natural resources of regional significance in the SRPP. Staff supports the use of buffer zones to protect these important resources. Sand movement and downdrift erosion should be monitored on a region wide basis to ensure the livelihood of wildlife habitats and the stability of the project area. All actions should be consistent with the goals and policies of the appropriate local government comprehensive plan.
- Staff recommends that, if the proposed actions are implemented, 1) impacts to the natural systems be minimized to the greatest extent feasible and 2) the permit grantor determine the extent of sensitive marine life and vegetative communities in the vicinity of each project and require protection and or mitigation of disturbed habitat. These guidelines will assist in reducing the cumulative impacts to native plants and animals, wetlands and deep water habitat and fisheries that the goals and policies of the *Strategic Regional Policy Plan for South Florida* seek to protect.
- The goals and policies of the *Strategic Regional Policy Plan for South Florida*, in particular those indicated below, should be observed when making decisions regarding this project.

Strategic Regional Goal

- 3.1 Eliminate the inappropriate uses of land by improving the land use designations and utilize land acquisition where necessary so that the quality and connectedness of Natural Resources of Regional Significance and suitable high quality natural areas is improved.

Regional Policies

- 3.1.9 Degradation or destruction of Natural Resources of Regional Significance, including listed species and their habitats will occur as a result of a proposed project only if :
- a) the activity is necessary to prevent or eliminate a public hazard, and
 - b) the activity is in the public interest and no other alternative exists, and
 - c) the activity does not destroy significant natural habitat, or identified natural resource values, and
 - d) the activity does not destroy habitat for threatened or endangered species, and
 - e) the activity does not negatively impact listed species that have been documented to use or rely upon the site.
- 3.1.10 Proposed projects shall include buffer zones between development and existing Natural Resources of Regional Significance and other suitable natural resources. The buffer zones shall provide natural habitat values and functions that compliment Natural Resources of Regional Significance values so that the natural system values of the site are not negatively impacted by adjacent uses. The buffer zones shall be a minimum of 25 feet in width. Alternative widths may be proposed if it is demonstrated that the alternative furthers the viability of the Natural Resource of Regional Significance, effectively separating the development impacts from the natural resource or contributing to reduced fragmentation of identified Natural Resources of Regional Significance.
- 3.1.11 Implement monitoring and maintenance of Natural Resources of Regional Significance and other suitable natural resources so that an Overall Positive Gain in quality and quantity of the Natural Resources of Regional Significance is achieved. The monitoring of the Natural Resources of Regional Significance shall be included on all projects that have not been demonstrated to not adversely impact the resource or associated listed species.
- 3.1.19 Uses of the land shall be consistent with the sustained ecological functioning of the Natural Resources of Regional Significance and suitable adjacent natural buffer areas and will be based upon the radius required to provide protection to the natural system and associated inhabitants. The radius will vary in size depending upon the resource or species that is to be protected.

Strategic Regional Goal

- 3.8 Enhance and preserve natural system values of South Florida's shorelines, estuaries, benthic communities, fisheries, and associated habitats, including but not limited to, Florida Bay, Biscayne Bay and the coral reef tract.

Regional Policies

- 3.8.1 Enhance and preserve natural shoreline characteristics through requirements resulting from the review of proposed projects and in the implementation of ICE, including but not limited to, mangroves, beaches and dunes through prohibition of structural shoreline stabilization methods except to protect existing navigation channels, maintain reasonable riparian access, or allow an activity in the public interest as determined by applicable state and federal permitting criteria.

- 3.8.2 Enhance and preserve benthic communities, including but not limited to seagrass and shellfish beds, and coral habitats, by allowing only that dredge and fill activity, artificial shading of habitat areas, or destruction from boats that is the least amount practicable, and by encouraging permanent mooring facilities. Dredge and fill activities may occur on submerged lands in the Florida Keys only as permitted by the Monroe County Land Development Regulations. It must be demonstrated pursuant to the review of the proposed project features that the activities included in the proposed project do not cause permanent, adverse natural system impacts.
- 3.8.3 As a result of proposed project reviews, include conditions that result in a project that enhances and preserves marine and estuarine water quality by:
- a) improving the timing and quality of freshwater inflows;
 - b) reducing turbidity, nutrient loading and bacterial loading from wastewater facilities and vessels;
 - c) reducing the number of improperly maintained stormwater systems; and
 - d) requiring port facilities and marinas to implement hazardous materials spill plans.
- 3.8.4 Enhance and preserve commercial and sports fisheries through monitoring, research, best management practices for fish harvesting and protection of nursery habitat and include the resulting information in educational programs throughout the region. Identified nursery habitat shall be protected through the inclusion of suitable habitat protective features including, but not limited to:
- a) avoidance of project impacts within habitat area;
 - b) replacement of habitat area impacted by proposed project; or
 - c) improvement of remaining habitat area within remainder of proposed project area.
- 3.8.5 Enhance and preserve habitat for endangered and threatened marine species by the preservation of identified endangered species habitat and populations. For threatened species or species of critical concern, on-site preservation will be required unless it is demonstrated that off-site mitigation will not adversely impact the viability or number of individuals of the species

Thank you for the opportunity to comment. We would appreciate being kept informed on the progress of this project. Please do not hesitate to call if you have any questions or comments.

Sincerely,



Eric Silva
Senior Planner

ES/cp

cc: Steve Somerville, Broward County DPEP
Stephen Higgins, Broward County



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

REPLY TO
ATTENTION OF

Planning Division
Environmental Branch

SEP 30 1999

TO WHOM IT MAY CONCERN:

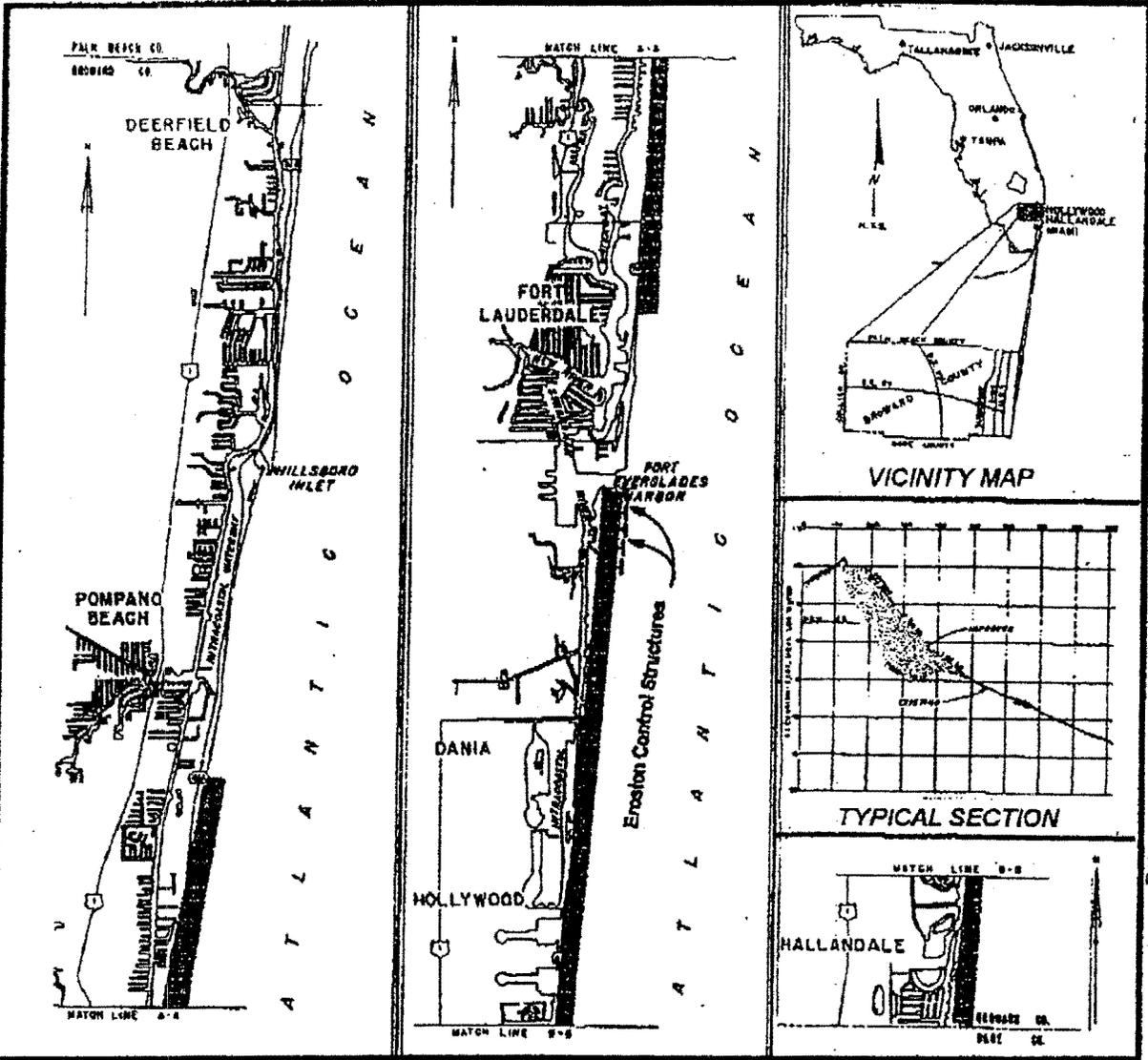
I have enclosed a Notice of Intent to prepare a Draft Environmental Impact Statement on renourishment of the beach in Broward County from Hillsboro Inlet to the Dade County line using sand from several borrow sites in the Atlantic Ocean off Broward County (see enclosed map). If you have any comments, please submit them in accordance with the notice.

If you are a property owner along the Broward County shoreline and you wish to be included on our mailing list for future notices on this project, please let me know at the letterhead address. Otherwise, you will not receive any further correspondence from this office (you will not receive notice of any public hearing or meeting or the notice of availability of the Environmental Impact Statement).

Sincerely,


James C. Duck
Chief, Planning Division

Enclosures



0 1 2
Approx. Map Scale in Miles

PROJECT SITE MAP

Adapted from U.S. Army Corps of Engineers Authorization Map

Proposed Beach Fill

Note: Width of beach fill and size of erosion control structures not to scale. Locations and extent of structures and fill subject to design and permitting considerations.

BROWARD COUNTY SHORE PROTECTION PROJECT

Broward County, Florida
Department of
Natural Resource Protection



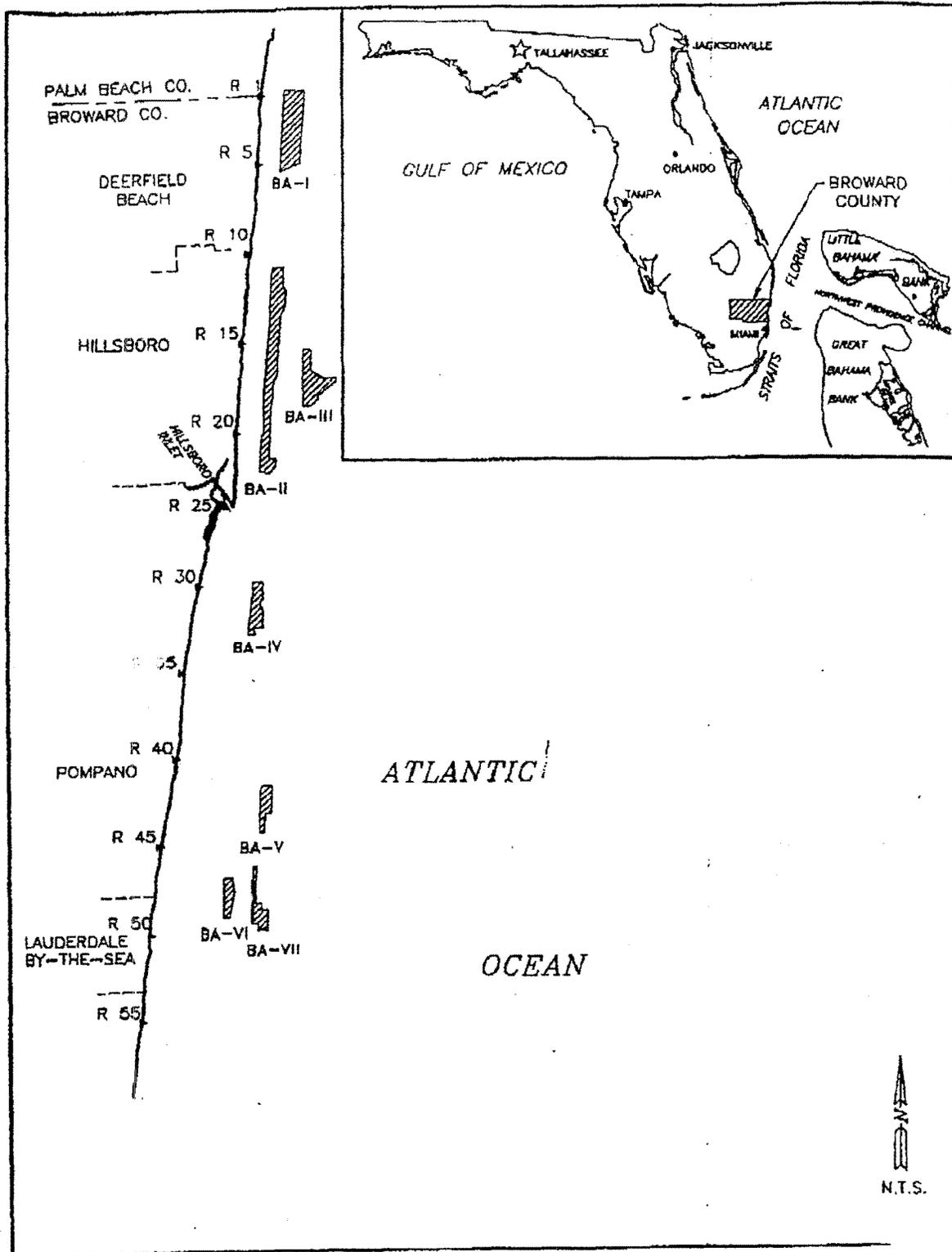


FIGURE 2.1.5

**BROWARD COUNTY
LOCATION MAP
WITH BORROW AREAS**

Source: Geotechnical Study of Offshore Sand Deposits for Beach Renourishment in Broward County, Florida. CPE. July 1997.

DEPARTMENT OF DEFENSE
CORPS OF ENGINEERS, DEPARTMENT OF THE ARMY
JACKSONVILLE, FLORIDA, 32202

Intent to Prepare a Draft Environmental Impact Statement (DEIS) for the Broward County Beach Erosion Control Project in Broward County, Florida.

AGENCY: U.S. Army Corps of Engineers, Department of Defense

COOPERATING AGENCY: Broward County Department of Planning and Environmental Protection

ACTION: Notice of Intent.

SUMMARY: The Jacksonville District, U.S. Army Corps of Engineers intends to prepare a Draft Environmental Impact Statement for construction of appropriate reaches of Segments II (Hillsboro Inlet to Port Everglades) and III (Port Everglades to South County Line) of the Broward County Beach Erosion Control Project. The project is a cooperative effort between the U.S. Army Corps of Engineers (lead Federal agency) and Broward County Department of Planning and Environmental Protection (cooperating agency).

FOR FURTHER INFORMATION CONTACT: Kenneth Dugger, 904-232-1686, Environmental Branch, Planning Division, P.O. Box 4970, Jacksonville, Florida 32232-0019.

SUPPLEMENTARY INFORMATION: The Broward County, Florida, Beach Erosion Control and Navigation Project was authorized by Public Law (PL), Public Works-River and Harbor (79 Stat. 1073) passed 27 October 1965 in accordance with the recommendations of the Chief of Engineers in House Document 91, 89th Congress. Authorization for periodic beach nourishment of the project was extended to 50 years from the date of original construction by Section 506(a) (1) of the Water Resources Development Act of 1996. The project will involve placement of approximately 3.5 million cubic yards of material along 17.35 miles of Broward County's coastline. The authorized project includes two segments. In Segment II (Hillsboro Inlet to Port Everglades), fill will be placed along beaches in southern Pompano Beach, Lauderdale-By-The-Sea, and northern and central Fort Lauderdale. In Segment III (Port Everglades to the south County line), fill will be placed along the entire segment, including John U. Lloyd Beach State recreation Area, Dania

Beach, Hollywood, and Hallandale Beach. Fill will be obtained from seven discrete borrow areas located offshore of the central and northern portion of the County. Previous beach fill construction, totaling approximately twelve miles of beach length, has occurred twice in Segment II (Pompano Beach/Lauderdale-By-The-Sea in 1970 and 1983) and twice each in two areas of Segment III (John U. Lloyd Beach State Recreation Area in 1976 and 1989, and Hollywood/Hallandale in 1979 and 1991). Authorization for Federal participation in periodic beach nourishment of Segment II expires in 2020 and in Segment III in 2030.

Alternatives: Alternatives considered include no action, continued nourishment of previously restored areas, initial restoration of previously unconstructed areas, modifications to beach fill amounts, widths, elevations, and/or extent, construction of groins and/or breakwaters, and beach fill/groin combination. Alternative sand sources in addition to the use of a borrow area for nourishment, include the use of other sand sources such as upland sources, Bahamian sand, other foreign sands, or other distant sources.

Issues: The EIS will consider impacts on coral reefs and other hardbottom communities, protected species, shore protection, health and safety, water quality, aesthetics and recreation, fish and wildlife resources, cultural resources, energy conservation, socio-economic resources, and other impacts identified through scoping, public involvement, and interagency coordination.

Scoping: The scoping process will involve Federal, State, County and municipal agencies and other interested persons and organizations. A scoping letter will be sent to interested organizations and individuals and to Federal, State, County, and municipal agencies, requesting their comments and concerns.

Public Involvement: We invite the participation of affected Federal, State and local agencies, affected Indian tribes, and other interested private organizations and parties. At this time, we have no plans to hold a public scoping meeting.

Coordination: The proposed action is being coordinated with the U.S. Fish and Wildlife Service (FWS) and the National Marine Fisheries Service under Section 7

of the Endangered Species Act, with the FWS under the Fish and Wildlife Coordination Act, and with the State Historic Preservation Officer.

Other Environmental Review and Consultation: The proposed action would involve evaluation for compliance with guidelines pursuant to Section 404 (b) of the Clean Water Act; application (to the State of Florida) for Water Quality Certification pursuant to Section 401 of the Clean Water Act; certification of state lands, easements, and rights of way; and determination of Coastal Zone Management Act consistency.

Agency Role: As cooperating agency, non-Federal sponsor, and leading local expert; the Broward County Department of Planning and Environmental Protection, Biological Resources Division, will provide extensive information and assistance on the resources to be impacted, mitigation measures, and alternatives.

DEIS Preparation: It is estimated that the DEIS will be available to the public by January 2000.

APPENDIX B - COASTAL ZONE MANAGEMENT CONSISTENCY

**FLORIDA COASTAL ZONE MANAGEMENT PROGRAM
FEDERAL CONSISTENCY EVALUATION PROCEDURES**

**BROWARD COUNTY SHORE PROTECTION PROJECT
SEGMENTS II AND III
BROWARD COUNTY, FLORIDA**

1. Chapter 161, Beach and Shore Preservation. The intent of the coastal construction permit program established by this chapter is to regulate construction projects located seaward of the line of mean high water and which might have an effect on natural shoreline processes.

Response: The proposed plans and information will be submitted to the state in compliance with this chapter.

2. Chapters 186 and 187, State and Regional Planning. These chapters establish the State Comprehensive Plan which sets goals that articulate a strategic vision of the State's future. It's purpose is to define in a broad sense, goals, and policies that provide decision-makers directions for the future and provide long-range guidance for an orderly social, economic and physical growth.

Response: The proposed project has been coordinated with various Federal, State and local agencies during the planning process. The project meets the primary goal of the State Comprehensive Plan through preservation and protection of the shorefront development and infrastructure.

3. Chapter 252, Disaster Preparation, Response and Mitigation. This chapter creates a state emergency management agency, with the authority to provide for the common defense; to protect the public peace, health and safety; and to preserve the lives and property of the people of Florida.

Response: The proposed project involves the placement of beach compatible material onto an eroding beach as a protective means for residents, development, and infrastructure located along the Atlantic shoreline within Broward County. Therefore, this project would be consistent with the efforts of Division of Emergency Management. Appropriate mitigation for unavoidable impacts to nearshore hardbottom habitat has been proposed.

4. Chapter 253, State Lands. This chapter governs the management of submerged state lands and resources within state lands. This includes archeological and historical resources; water resources; fish and wildlife resources; beaches and dunes; submerged grass beds and other benthic communities; swamps, marshes and other wetlands; mineral resources; unique natural features; submerged lands; spoil islands; and artificial reefs.

Response: The proposed beach nourishment would create increased recreational beach and potential sea turtle nesting habitat. No seagrass beds are located within the areas proposed to receive fill or within the five proposed offshore borrow areas. The proposed project would comply with the intent of this chapter.

5. Chapters 253, 259, 260, and 375, Land Acquisition. This chapter authorizes the state to acquire land to protect environmentally sensitive areas.

Response: Since the affected property already is in public ownership, this chapter does not apply.

6. Chapter 258, State Parks and Aquatic Preserves. This chapter authorizes the state to manage state parks and preserves. Consistency with this statute would include consideration of projects that would directly or indirectly adversely impact park property, natural resources, park programs, management or operations.

Response: A 1.5 mile section of beach between R-86 and R-94 at John U. Lloyd State Park has already been restored through nourishment with a periodic renourishment interval of 6 years. Biological monitoring of the J. U. Lloyd Beach Renourishment of 1989 revealed that although major faunal shifts occurred in the softbottom communities within the toe of fill site of the beach nourishment area, no pattern of hardground organism abundance relative to dredge or fill activities was observed (Dodge et al., 1991). Coordination with the Ranger of the John U. Lloyd State Park revealed that beach nourishment was needed to combat erosion near the parking areas.

Approximately 0.9 acres of low-profile hardbottom dominated by macroalgae and blue-green algae will be directly buried at the time of construction in John U. Lloyd State Park. This habitat exhibits a high level of nutrification, evidenced by the extensive coverage of macroalgae and blue-green algae and depauperate faunal communities. Anthropogenic influences upon this habitat are likely the result of Port Everglades Inlet output of nutrient and freshwater flow, creating turbidity and sudden temperature and salinity fluctuations. Given the possible degradation of this habitat by Port Everglades Inlet-related influences, alternative replacement habitat can be created which provides higher faunal utilization. Therefore, no adverse impacts to irreplaceable hardbottom biological resources are expected. No other State Park or aquatic preserves would be directly or indirectly impacted by the proposed Broward County Shore Protection Project.

Segment II of the project area includes a 0.5 mile section of beachfront located in Hugh Taylor Birch State Park. Hugh Taylor Birch State Park is located approximately five miles north of Port Everglades between DEP monuments R-67 and R-69.5. The Park contains one of the last significant remnants of a maritime hammock in Broward County. Park visitors can access the beach, although the shoreline is not actively managed by the Park. Beach renourishment has not occurred in the section of beach, but will in the near future with the Broward County Renourishment Project.

Approximately 0.57 acres of macroalgae dominated hardbottom exists in the vicinity of R-67 adjacent to the Park. Broward County has included this area of impact in their mitigation plan which has been accepted by Federal and State regulatory authorities. There are no other state parks or aquatic preserves that will be directly or indirectly impacted by this proposed project.

7. Chapter 267, Historic Preservation. This chapter establishes the procedures for implementing the Florida Historic Resources Act responsibilities.

Response: No significant impacts to historical properties are expected from construction of the proposed Broward County Shore Protection Project based upon the results of this coordination. A magnetometer survey of the proposed borrow areas for the Broward County Shore Protection Project was conducted in December 1996/January 1997 by Coastal Planning & Engineering (Baer, 1999). The survey located twenty-seven (27) magnetic anomalies, sixteen (16) of which were located in or immediately adjacent to the original seven, proposed borrow areas. SCUBA divers investigated nineteen (19) of the 27 magnetic anomalies, three of which were not visually identified. In January 2000, the State Historic Preservation Officer specified that the magnetic anomalies not visually identified during the survey be ground-truthed prior to dredging activities (Letter dated January 26, 2000, see Appendix C).

Underwater archaeological SCUBA investigations and ROV video inspection were conducted during the first half of January 2001 (Gifford, 2001) to locate, physically examine, and document each of the previously undescribed anomalies according to National Register criteria. Results of the 2001 survey indicated that thirteen (13) of the fifteen (15) magnetic anomalies were modern debris. Two of the anomalies were identified as relatively large anchors of probable post-1950 vintage. Four anomalies were identified as modern wire rope cable; and two anomalies were identified as large modern metal objects resembling a pontoon boat and a steel tube. The remaining five anomalies are modern debris described as "small and innocuous" (Gifford, 2001). Only one of the anomalies, Anomaly A27, the bow section of the *S.S. Copenhagen* located approximately 300 feet north of

Borrow Area VI, represents a known submerged cultural resource. In a letter dated June 20, 2001, the State Historic Preservation Officer recommended that three of the anomalies be avoided by establishing a 100 foot buffer around them, and that the *S.S. Copenhagen* bow be protected by establishment of a 1500 foot buffer around the center of the vessel. After further review, the Division of Historical Resources State Historic Preservation Officer approved a 300 foot buffer around the *S.S. Copenhagen* bow (letter of August 20, 2001 from Dr. Janet Snyder Matthews, SHPO, Tallahassee to Mr. Stephen Higgins, Department of Planning and Environmental Protection, Broward County- see Appendix C). The project will be consistent with the goals of this chapter.

8. Chapter 288, Economic Development and Tourism. This chapter directs the state to provide guidance and promotion of beneficial development through encouraging economic diversification and promoting tourism.

Response: The proposed beach nourishment would provide more space for recreation and the protection of recreational facilities along the receiving beach. This would be compatible with tourism for this area and therefore, is consistent with the goals of this chapter.

9. Chapters 334 and 339, Public Transportation. This chapter authorizes the planning and development of a safe balanced and efficient transportation system.

Response: No public transportation systems would be impacted by this project.

10. Chapter 370, Saltwater Living Resources. This chapter directs the state to preserve, manage and protect the marine, crustacean, shell and anadromous fishery resources in state waters; to protect and enhance the marine and estuarine environment; to regulate fishermen and vessels of the state engaged in the taking of such resources within or without state waters; to issue licenses for the taking and processing products of fisheries; to secure and maintain statistical records of the catch of each such species; and, to conduct scientific, economic, and other studies and research.

Response: The proposed project is expected to impact a gross amount of up to 13.6 acres of sand and nearshore hardground by renourished sand. The actual net amount of hardbottom to be covered is 10.1 acres. Impacts during construction will result in the direct burial of approximately 2.0 acres: 0.9 acres of low profile hardbottom in John U. Lloyd State Park and 1.1 acres of wormrock habitat in Hollywood in Segment III. No hardbottom will be directly buried at the time of construction in Segment II. The total impact to nearshore hardbottom habitat in Segment II is 6.0 acres, and will be the result of the gradual transition of the construction beach to the more stable equilibrium profile. These impacts represent approximately 0.2% of the hardbottom in the 10 to 17 foot range in Segment II. The total impact to nearshore hardbottom in Segment III is 7.6 acres, which includes 2.0 acres of direct impact and 4.6 acres of impact resulting from beach fill equilibration. These impacts represent approximately 0.1% of the nearshore hardbottom area in Segment III.

Nearshore hardbottom habitat in the project area vicinity is determined to be significant as defined by the U.S. Fish and Wildlife Service's Mitigation Policy. The nearshore hardbottom habitats in Broward County are considered Resource Category 2 habitats, and no net loss of in-kind habitat value is recommended (U.S. Fish & Wildlife Service Final Coordination Act Report, June 2002, Appendix C). The 2001 nearshore biological investigations indicate that suitable replacement habitat can be created for impacted epibenthic species inshore of the equilibrium toe of fill. Following the goals of the Service's Mitigation Policy and guidelines of the South Atlantic Fishery Management Council (SAFMC) for habitat mitigation, Broward County is proposing the creation of 13.6 acres of nearshore mitigative reef using limestone boulders as compensation for resource losses. The eleven placement sites are located inshore of the nearshore hardbottom, offshore of the predicted equilibrium toe of fill, and in water depths of 15 to 20 feet. A 50 foot buffer from all significant nearshore hardbottom will be maintained during boulder placement. The proposed time frame for construction of the boulder reefs is to begin deployments at Mitigation Area 8 offshore of a DEP monument R-103 beginning in spring, 2003. Segment III mitigative artificial reef deployment will be carried out from April 1 through September 30. Areas not completed in 2003 will be completed in 2004, but it is anticipated that all Segment III deployments will be completed in 2003. Segment II mitigative artificial reef deployment will occur prior to commencement of beach fill activities.

A nearshore turbidity monitoring program with a plume mixing zone of 150 meters (492 feet) from the discharge site will be implemented to address turbidity impacts during project construction. The potential exists for long-term, secondary impacts to hardbottom communities adjacent to the equilibrium toe of fill resulting from sedimentation and/or chronic turbidity generated from the advancement of the beach swash zone. In order to assess the potential for a gradual shift in community structure and corresponding reduction in biodiversity related to sedimentation impacts, a long-term, nearshore hardbottom monitoring program will be implemented. A network of beach fill stations and control stations will be established offshore of the expected equilibrium toe of fill to assess changes in epibenthic community structure and fish utilization and provide long-term sedimentation data. A four-year monitoring program will be established to assess secondary impacts and evaluate possible shifts in community structure and biodiversity (See Appendix E for the Biological Monitoring Program).

The Corps and Broward County have demonstrated their commitment to avoidance and minimization of impacts to offshore hardbottom communities deemed significant by the U.S. Fish & Wildlife Service's Mitigation Policy. These avoidance efforts include elimination of two borrow areas from the project design due to the discovery of significant biological resources within and adjacent to the proposed borrow areas. The boundaries of the remaining five borrow areas have been redefined to avoid small patch reef formations, rubble areas with dense reef benthic assemblages, and areas containing seagrass (*Halophila decipiens*). The revised buffer zones vary between approximately 200 feet to the inshore reef edge to more than 1,200 to the offshore reef edge. The average buffer on the inshore edge ranges from 235 feet for Borrow Area VI to 375 feet for Borrow Area III. The average buffer on the offshore edge ranges from 512 feet for Borrow Area IV to 718 feet for Borrow Area II.

During project construction, turbidity monitoring will be conducted by Broward County. Past monitoring of Broward County nourishment projects (John U. Lloyd State Park 1991 and Hollywood/Hallandale 1995) did not document any turbidity and sedimentation rates on adjacent hardbottom communities that produced statistically significant long-term resource affects directly attributable to nourishment actions (Dodge et al., 1991, 1995). However, to minimize the potential impacts of turbidity and sedimentation observed during Miami-Dade County projects, Broward County has proposed a detailed sedimentation plan adjacent to the borrow areas which incorporates real time measurement of accumulated sediments and observations of biological stress indicators for stony and soft coral species (See Appendix E for the reef edge sedimentation monitoring plan).

Preventative measures to minimize potential sedimentation impacts to hardbottom communities are included in the County's monitoring plan. Observations of biological stress indicators will be used to evaluate the level of stress upon the epibenthic communities and to provide a check for the proposed sedimentation monitoring protocol. The intent of the histological tissue analyses of the corals is to provide a mechanism to judge the effectiveness of the sediment rate value and to provide a scientifically valid justification for changes in sedimentation rate monitoring.

Expected direct impacts to offshore hardbottom habitat are restricted to the hardbottom areas within the eight proposed pipeline corridors. Although eight corridors are proposed, one is an alternative location at R-120 or R-121 in Hollywood. It will be determined at the time of project construction if the alternative pipeline is necessary for fill to the southernmost limit of the project. The eight proposed pipeline corridors have been documented with DGPS integrated digital video. Bottom features were mapped from the video tracklines to identify the least impactful corridors feasible, given the limitations of the dredging equipment. Prior to construction Broward County DPEP staff will determine the least impactful routes through these corridors for actual pipeline placement, and site the pipelines through these routes using buoys for demarcation of routes. Pumpout terminal anchors or spuds will be sited by Broward County DPEP

SCUBA divers such that anchors or spuds are located entirely in sand. Weekly monitoring of all pipelines to shore will be performed to check for sand movement and leaks. Continuous leak monitoring will be required by the dredging contractor through fluctuations in pressure through the pipelines. A detailed mitigation plan has been developed to compensate for unavoidable impacts to nearshore hardbottom habitat.

Hardbottom impacts will be minimized through the use of pipeline support using either tires and/or H frames when needed. Impacts from pipeline placement have been estimated at 190 square feet per corridor. This damage estimate is based on a 2,500 foot distance to shore, a 50 percent hardbottom coverage with a 15 percent resource damage. For seven corridors, hardbottom resource impacts are estimated to be 1,330 square feet (0.03 acres). If eight corridors are necessary for project construction, hardbottom impacts would increase by 190 square feet to 1,520 square feet. Mitigation for hardbottom communities from pipeline placement is proposed (See Appendix F – Nearshore Hardbottom Mitigation Plan).

The potential for pipeline impacts from sand leakage at the joints during operation and from accident breakage of the pipe exists during project construction. Pipelines will be visually surveyed weekly during operation to check for sand leakage. No significant impacts are expected to occur from pipeline leakage or accidental breakage. The potential exists for direct mechanical damage to offshore hardbottom communities adjacent to the borrow areas during dredging operations. Proper controls and procedures will be used to avoid mechanical damage; and no significant impacts are expected to occur from the mechanical operation of the dredge. Construction specifications proposed by the Corps and Broward County include the use of recording and real-time precision electronic location equipment during dredging operations.

An extensive area of live staghorn coral (*Acropora cervicornis*) has been identified on the seaward edge of the first reef offshore of Fort Lauderdale (in the vicinity of FDEP monument R-66). This area of hermatypic coral coverage is located approximately 1,500 from shore, and is approximately 700 feet seaward the equilibrium toe of fill. This habitat is considered as Resource Category I by the U.S. Fish & Wildlife Service. No loss of habitat value is recommended for Resource Category I habitats, as these unique areas cannot be replaced. No impacts to this community are anticipated from project construction. The pipeline corridor originally proposed at R-66.5 was relocated to approximately 200 feet south of R-68 to avoid impacts and provide adequate buffers to irreplaceable resources within

this area. Appropriate buffer distances will protect this area from the proposed Fort Lauderdale pipelines. Potential secondary impacts from turbidity are also not anticipated due to its distance offshore of the equilibrium toe of fill. In order to address any potential, long-term turbidity impacts to this community, two monitoring stations will be located.

11. Chapter 372, Living Land and Freshwater Resources. This chapter establishes the Game and Freshwater Fish Commission and directs it to manage freshwater aquatic life and wild animal life and their habitat to perpetuate a diversity of species with densities and distributions which provide sustained ecological, recreational, scientific, educational, aesthetic, and economic benefits.

Response: The project will have no effect on freshwater aquatic life or wild animal life.

12. Chapter 373, Water Resources. This chapter provides the authority to regulate the withdrawal, diversion, storage, and consumption of water.

Response: This project does not involve water resources as described by this chapter.

13. Chapter 376, Pollutant Spill Prevention and Control. This chapter regulates the transfer, storage, and transportation of pollutants and the cleanup of pollutant discharges.

Response: The contract specifications will prohibit the contractor from dumping oil, fuel, or hazardous wastes in the work area and will require that the contractor adopt safe and sanitary measures for the disposal of solid wastes. A spill prevention plan will be required.

14. Chapter 377, Oil and Gas Exploration and Production. This chapter authorizes the regulation of all phases of exploration, drilling, and production of oil, gas, and other petroleum products.

Response: This project does not involve the exploration, drilling or production of gas, oil or petroleum product and therefore, this chapter does not apply.

15. Chapter 380, Environmental Land and Water Management. This chapter establishes criteria and procedures to assure that local land development decisions consider the regional impact nature of proposed large-scale development.

Response: The proposed renourishment project will not have any regional impact on resources in the area. Therefore, the project is consistent with the goals of this chapter.

16. Chapter 388, Arthropod Control. This chapter provides for a comprehensive approach for abatement or suppression of mosquitoes and other pest arthropods within the state.

Response: The project will not further the propagation of mosquitoes or other pest arthropods.

17. Chapter 403, Environmental Control. This chapter authorizes the regulation of pollution of the air and waters of the state by the Florida Department of Environmental Regulation (now a part of the Florida Department of Environmental Protection).

Response: A Draft Environmental Impact Statement addressing project impacts has been prepared and reviewed by the appropriate resource agencies including the Florida Department of Environmental Protection. Environmental protection measures will be implemented to ensure that no lasting adverse effects on water quality, air quality, or other environmental resources will occur. Water Quality Certification will be sought from the State prior to construction. The project complies with the intent of this chapter.

18. Chapter 582, Soil and Water Conservation. This chapter establishes policy for the conservation of the state soil and water through the Department of Agriculture. Land use policies will be evaluated in terms of their tendency to cause or contribute to soil erosion or to conserve, develop, and utilize soil and water resources both onsite or in adjoining properties affected by the project. Particular attention will be given to projects on or near agricultural lands.

Response: The proposed project is not located near or on agricultural lands; therefore, this chapter does not apply.

APPENDIX C

Public and Agency Project Comments

Environmental Assessment
Flood Control and Coastal Emergencies Act (FCCE)
Truck Haul and Placement of Sand on
Broward County Shore Protection Project (SPP) Segment III in
Broward County, Florida



US Army Corps of Engineers
JACKSONVILLE DISTRICT

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Table 1 Summary of U.S. Army Corps of Engineers (Corps) responses to comments received during the agency and public review and comment period of the proposed Finding of No Significant Impact (FONSI) and draft Environmental Assessment (EA) for the Flood Control and Coastal Emergency (FCCE) truck haul and placement of sand on Broward County Shore Protection Program (SPP) Segment III in Broward County, Florida.

#	Commenter	Comment	Response
1	Florida State Historic Preservation Officer (SHPO)	It is the opinion of this office that the proposed project is unlikely to affect historic properties.	Noted. Thank you for your comment.
2	SHPO	Unexpected finds may occur during ground disturbing activities, and we request that the permit, if issued, should include special condition language regarding inadvertent discoveries.	Standard unexpected cultural resources finds clause is included in the project specifications. More detailed information on the language included in the specifications is found in Section 6.4 of the EA.
3	Environmental Protection Agency (EPA), Region 4	The EPA recommends the USACE provide an approximate timeline for how long the beaches will be restricted due to project construction in the Final EA.	Construction is a rolling operation, therefore, access and recreation to the beach will only be restricted in the area the operations are occurring at that time. Section 4.12 (Recreation Resources) has been updated to more clearly reflect this information.
4	EPA, Region 4	The EPA recommends the USACE provide an assessment as to whether the project will contribute to cumulative impacts in the Final EA.	Table 6 (Summary of cumulative effects) has been updated.
5	EPA, Region 4	The EPA encourages the USACE to continue coordination with the U.S. Fish and Wildlife Services regarding the Fish and Wildlife Coordination Act and document any developments with the 'memorandum for record' in the Final EA.	Coordination with the USFWS on the FWCA MFR is complete. The signed MFR is included in Appendix A of the final EA.



FLORIDA DEPARTMENT *of* STATE

RICK SCOTT
Governor

KEN DETZNER
Secretary of State

Florida State Clearing House
2900 Commonwealth Blvd., MS 47
Tallahassee, FL 32399

September 28, 2018

RE: DHR Project File No.: 2018-4639 Received by DHR: August 31, 2018
Application No.: FL201808308404C
Project Name: *FLOOD CONTROL AND COASTAL EMERGENCY ACT TRUCK HAUL AND
PLACEMENT OF SAND ON SEGMENT III OF THE BROWARD COUNTY SHORE PROTECTION
PROJECT*
County: Broward

To Whom It May Concern:

The Florida State Historic Preservation Officer reviewed the referenced project for possible effects on historic properties listed, or eligible for listing, on the *National Register of Historic Places*. The review was conducted in accordance with Section 106 of the *National Historic Preservation Act of 1966*, as amended, and its implementing regulations in *36 CFR Part 800: Protection of Historic Properties*.

It is the opinion of this office that the proposed project is unlikely to affect historic properties. However, unexpected finds may occur during ground disturbing activities, and we request that the permit, if issued, should include the following special condition regarding inadvertent discoveries:

- If prehistoric or historic artifacts, such as pottery or ceramics, projectile points, dugout canoes, metal implements, historic building materials, or any other physical remains that could be associated with Native American, early European, or American settlement are encountered at any time within the project site area, the permitted project shall cease all activities involving subsurface disturbance in the vicinity of the discovery. The applicant shall contact the Florida Department of State, Division of Historical Resources, Compliance Review Section at (850)-245-6333. Project activities shall not resume without verbal and/or written authorization. In the event that unmarked human remains are encountered during permitted activities, all work shall stop immediately and the proper authorities notified in accordance with Section 872.05, *Florida Statutes*.

If you have any questions, please contact Rachel Thompson, Historic Preservationist, by email at Rachel.Thompson@dos.myflorida.com, or by telephone at 850.245.6453 or 800.847.7278.

Sincerely,

Timothy A Parsons, Ph.D.
Director, Division of Historical Resources
& State Historic Preservation Officer

Division of Historical Resources
R.A. Gray Building • 500 South Bronough Street • Tallahassee, Florida 32399
850.245.6300 • 850.245.6436 (Fax) FLHeritage.com



From: [Higgins, Jamie](#)
To: [Donofrio, Kristen L CIV USARMY CESAJ \(US\)](#)
Cc: [Higgins, Jamie](#); [Militsher, Chris](#)
Subject: [Non-DoD Source] FCCE-Broward County Segment III EA
Date: Wednesday, September 19, 2018 1:10:43 PM
Attachments: [Broward Co Seg III EA-EPA Comments-FINAL.pdf](#)

Please find attached and below EPA's comments on the FCCE-Broward County Segment III EA.

Jacksonville District, US Army Corps of Engineers (USACE)

Flood Control and Coastal Emergencies Act (FCCE)

Truck Haul and Placement of Sand on Broward County Shore Protection Project (SPP) Segment III

Draft Environmental Assessment (EA)

US Environmental Protection Agency (EPA) Comments

September 19, 2018

Background: The USACE conducted an EA to assess impacts related to the September 2018 Flood Control and Coastal Emergencies Act (FCCE) truck haul and placement of sand on Broward County Shore Protection Project (SPP) Segment III in Broward County, Florida. The project's potential impacts were previously analyzed in the Final Environmental Impact Statement (FEIS) for the Broward County Shore Protection Project, Segments II and III (May 2004). The EPA provided comment to this FEIS on February 2, 2004. The USACE evaluated a final array of three alternatives, including the Preferred and No Action Alternatives. The Preferred Alternative consists of the truck haul and placement of sand on critically eroded shoreline above the Mean High-Water line (MHW) from Florida Department of Environmental Protection (FDEP) monuments R-86 to R-94 and R-98 to R-128 in response to erosion resulting from the passage of Hurricane Irma last September. Sand would be truck hauled to the project location from two proposed commercial upland sand source mines: Ortona Mine and Witherspoon Mine.

Technical Comments and Recommendations:

Recreation: On page 51, 4.12 Recreation Resources, the USACE states that restrictions to beach use would be "temporary, lasting only until construction is complete." However, the USACE does not provide any detail as to how long the construction would last. Recommendation: For a complete National Environmental Policy Act (NEPA) analysis and disclosure, the EPA recommends the USACE provide an approximate timeline for how long the beaches will be restricted due to project construction in the Final EA.

Cumulative Impacts: In Table 6, page 56, the USACE describes cumulative impacts regarding water quality and states that "Ongoing erosion, seasonal weather, and storm event effects on water quality are unlikely to be eliminated. The Corps is committed to ensuring that projects will not result in violations of water or quality

standards.” As with other entries in this table, the EPA notes that USACE does not provide any assessment of whether the project is expected to contribute to cumulative impacts. Recommendation: The EPA recommends the USACE provide an assessment as to whether the project will contribute to cumulative impacts in the Final EA.

Fish and Wildlife Coordination Act (FWCA): On page 61, 7.3 Fish and Wildlife Coordination Act of 1958 (16 U.S.C. §661 ET SEQ.), the USACE states, “...a memorandum for the record will be submitted to USFWS to document an agreement between the Corps and USFWS to use the NEPA review and ESA consultation processes to complete coordination responsibilities under the Fish and Wildlife Coordination Act.” The EPA notes that this ‘memorandum for record’ is documented in Appendix A and the USACE has signed the ‘memorandum for record’, but the US Fish and Wildlife Service (USFWS) has not. Recommendation: Given the emergency nature of the action, the EPA understands the USACE’s expedited approach. However, the EPA encourages the USACE to continue coordination with the USFWS regarding the FWCA and document any developments with the ‘memorandum for record’ in the Final EA.

EPA appreciates the opportunity to provide comments. We also request that you provide us notification of the release of the Final EA/FONSI. Feel free to contact me should you have questions.

Jamie Higgins

National Environmental Policy Act (NEPA) Program Office

Resource Conservation Restoration Division

Region 4, Environmental Protection Agency

61 Forsyth Street, SW

Atlanta, GA 30303

404-562-9681

Jacksonville District, US Army Corps of Engineers (USACE)
Flood Control and Coastal Emergencies Act (FCCE)
Truck Haul and Placement of Sand on Broward County Shore Protection Project (SPP)
Segment III
Draft Environmental Assessment (EA)

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September 19, 2018

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