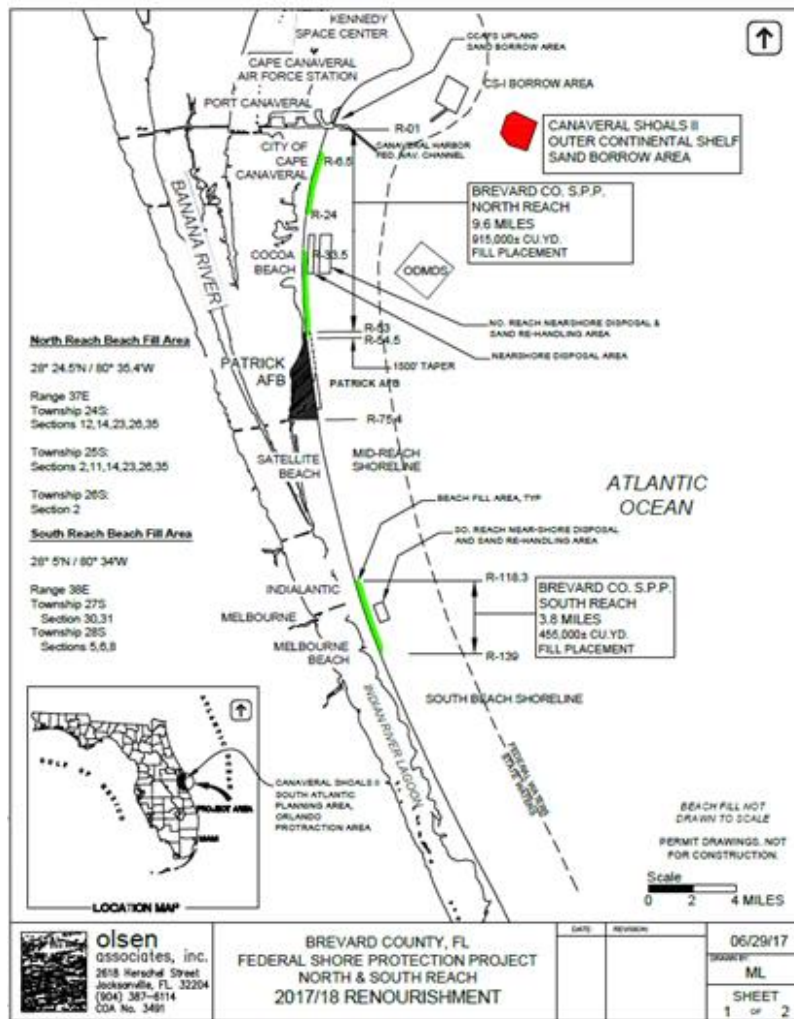


# Issuance of a Negotiated Agreement for Use of Outer Continental Shelf Sand from Canaveral Shoals II in the Brevard County Shore Protection Project (North Reach and South Reach)

## Environmental Assessment



U.S. Department of the Interior  
 Bureau of Ocean Energy Management  
 Division of Environmental Assessment

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# 1 INTRODUCTION

This Environmental Assessment (EA) provides an updated evaluation of the potential environmental impacts associated with the Bureau of Ocean Energy Management (BOEM) authorization for the use of up to 2,000,000 cubic yards (cy) of Outer Continental Shelf (OCS) sand from the Canaveral Shoals Borrow Area II (CS II) offshore Cape Canaveral, Florida in the Brevard County Shore Protection Project (North Reach and South Reach) following significant erosion associated with Hurricanes Matthew and Irma. BOEM proposes to enter into a noncompetitive agreement with the U.S. Army Corps of Engineers (USACE), Jacksonville District and Brevard County Board of County Commissioners so that the project proponents can extract, transport, and place sand from CS II along 9.6 miles of shoreline known as the North Reach segment and 3.8 miles known as the South Reach (Figure 1) along the Brevard County shoreline.

Pursuant to the National Environmental Policy Act (NEPA), the USACE described the affected environment, evaluated potential environmental impacts resulting from the proposed action (initial construction and nourishment events), and developed and described alternatives to the proposed action in an Environmental Impact Statement (EIS) (USACE 1996). An Environmental Assessment (EA) was subsequently prepared to evaluate the potential impacts of using the CS II borrow area, which tiered from the 1996 EIS (USACE, 1998). In 2005, 2009, and 2013 BOEM (previously the Minerals Management Service) prepared three additional EAs for incremental actions utilizing sediment from the CS II borrow area (MMS, 2005; MMS, 2009; BOEM, 2013). The 2005, 2009, and 2013 EAs incorporated by reference the prior USACE and BOEM documents and were used by BOEM to support subsequent leasing decisions. The current EA, prepared and led by BOEM, accompanies those existing NEPA analyses. The purpose of this EA is to determine if the proposed action, in light of new information, would have any significant effect on the human environment and whether an EIS must be prepared.

The USACE 1996 EIS, cited above, considered in detail a range of potential shore protection alternatives, including structural and non-structural options, varying beach berm widths, and multiple sources of fill material. Based upon a combination of economic, engineering, and environmental factors, the USACE selected for implementation the non-structural beach nourishment alternative that would best meet the shore protection needs of Brevard County. Therefore, the focus of this EA is to evaluate potential environmental impacts from nourishing the Brevard County shoreline to the condition described in the 1996 EIS preferred alternative. Accordingly, the No Action Alternative and the Proposed Action are evaluated in this EA.

BOEM, with the help of the USACE, identified and reviewed new information to determine if any resources should be re-evaluated or if the new information would alter prior effects determinations. While this EA further supports and elaborates on the analyses and information presented in existing NEPA documents, it does not change the conclusions of any of those prior NEPA analyses. Pursuant to 43 CFR part 46, the analyses are still deemed valid and are incorporated by reference (Table 1). No new information was identified that would lead to a determination of significantly different impacts from prior analyses. No major revisions to prior

impact analyses are needed; thus, preparation of an EIS is not required.

BOEM has integrated the process of NEPA compliance with other environmental requirements, including the Coastal Zone Management Act (CZMA), Endangered Species Act (ESA), Magnuson-Stevens Fishery Management and Conservation Act (MSA), and National Historic Preservation Act (NHPA). The USACE has served in the role of lead federal agency for environmental compliance activities, while BOEM has acted in a cooperating role. Pursuant to Subpart D of the implementing regulations for the CZMA (15 CFR 930), Brevard County provided renewed consistency concurrences from the Florida Department of Environmental Protection (FDEP) for both Brevard North (dated March 20, 2015) and South (dated June 12, 2017) reaches, indicating the proposed actions are consistent with the Florida's Coastal Zone Management Program (Appendix A).

The potential project-related impacts on sea turtles, North Atlantic right whales, and humpback whales were previously coordinated by USACE with the National Marine Fisheries Service (NMFS) and are covered under the 1997 South Atlantic Regional Biological Opinion (SARBO) (original dated September 25, 1997). The USACE and BOEM reinitiated consultation with NMFS on April 30, 2007 requesting an updated SARBO for dredging activities in the Southeastern United States. BOEM's action was not previously contemplated in the 1997 SARBO; however, BOEM has been a joint consulting agency on the consultation since 2007 with USACE serving as the lead. In the interim of receiving a revised SARBO, USACE and BOEM also initiated consultation with NMFS on July 30, 2009 for potential impacts of dredging activities on smalltooth sawfish associated with the Brevard County project. Smalltooth sawfish had not been previously analyzed in the 1997 SARBO. NMFS provided written concurrence that the dredging and construction operations associated with the Brevard project may affect, but is not likely to adversely affect smalltooth sawfish (Appendix B). Additionally, while under reinitiation of the SARBO, USACE and BOEM have incrementally prepared and transmitted effects analyses for all other new listed species and/or critical habitat since 2007. A re-submission of the South Atlantic Regional Biological Assessment containing all requested and updated information was transmitted to NMFS on June 27, 2017. BOEM has concluded that all NMFS Section 7 responsibilities have been satisfied based on the following: (1) USACE is lead agency for all ESA Section 7 requirements for the proposed action (BOEM serving a cooperating role), (2) USACE has received prior approval from NMFS to proceed under the 1997 SARBO for dredging activities while under re-initiation (via letter dated 25 October 2007), (3) USACE (lead agency) and BOEM (joint consulting agency), while under reinitiation, have incrementally prepared and transmitted effects analyses for all new listed species and/or critical habitat since 2007 and, (4) NMFS provided concurrence on August 3, 2017 that the project could proceed under the 1997 SARBO (N. Bonine, personal communication, August 3, 2017). All Reasonable and Prudent Measures (RPM's) and Terms and Conditions (T&C's) outlined in the 1997 SARBO will be implemented as a component of the proposed action.

The U.S. Fish and Wildlife Service (USFWS) was notified by letter on July 12, 2017 that the USACE intended to utilize the State Programmatic Biological Opinion (SPBO), issued on August 22, 2011 and revised on February 27, 2015, and Programmatic Piping Plover Biological Opinion (P3BO), dated May 22, 2013, for Section 7 coverage for nesting sea turtles, manatees,

beach mice, piping plovers, and rufa red knot. The FWS was also contacted via email on August 1, 2017 to clarify BOEM's involvement in potentially authorizing the borrow area. The USACE and BOEM concluded that the project may affect, and is likely to adversely affect nesting and hatching sea turtles and may affect, but is not likely to adversely affect, beach mice, manatee, piping plover, and rufa red knot. The USFWS provided concurrence on September 21, 2017 provided that all terms and conditions associated with the SPBO and P3BO are applied to this project (Appendix C).

The USACE (lead agency) previously consulted with NMFS concerning Essential Fish Habitat (EFH) in late 2004 using existing NEPA documents; a supporting detailed EFH assessment was provided in the 2005 BOEM EA (previously Minerals Management Service). NMFS issued Conservation Recommendations on January 12, 2005 focusing on protecting sensitive nearshore rock habitat and communities (Appendix D). Concerns associated with nearshore rock habitat and communities are primarily confined within the Mid-Reach portion of Brevard County which is not included within this construction event. Post-construction monitoring surveys in the nearshore were performed annually from 2006 through 2008 to monitor potential impacts. Results indicated that the nearshore rock habitat and communities were not adversely affected by placement of sand on the South Reach and were not extended beyond 2008. Following construction in 2010, no additional monitoring of the nearshore worm rock areas along South Reach occurred. The 2005 Conservation Recommendations were implemented for the 2005, 2009, and 2013 construction events, each of which BOEM prepared an EA/FONSI and associated EFH analysis. On August 3, 2017, BOEM notified NMFS of the intent to proceed with the maintenance renourishment of North and South Reach and that it would adhere to the NMFS 2005 Conservation Recommendations. NMFS concurred and encouraged BOEM to utilize results from its ongoing comprehensive Canaveral Shoals study to inform future EFH consultations within the project area (P. Wilber, personal communication, August 3, 2017).

Following the most recent construction event in 2013, the U.S. Army Corps of Engineers Jacksonville District contracted with Panamerican Consultants, Inc. to conduct a comprehensive remote sensing survey of the CS I and II borrow areas (including a portion of CS II not previously surveyed) using new SHPO methods to better define the sand thickness and validate the potential for and location of pre-historic and historic resources. Consultation with the SHPO and appropriate federally recognized tribes was subsequently updated on 1 September 2017 based on the results of this new survey (Appendix E). The proposed action is the same as previously consulted on and within the same borrow area and placement footprint. All previously identified targets will be avoided in accordance with previously established 300-foot buffers. It is anticipated that reuse of the borrow area and sand placement area will have no adverse effect on historic properties eligible or potentially eligible for listing in the National Register of Historic Places (NRHP) based upon the 2017 consultation.

## **2 PURPOSE AND NEED FOR THE PROPOSED ACTION**

The Brevard County Shore Protection Project is authorized by Section 101(b)(7) of the Water Resources Development Act of 1996, Public Law 104-303, to reduce damage to structures and

shorefront property related to erosion and storms. Initial construction of the North and South Reach segments was completed in 2002 and 2003 and involved the placement of approximately 5 million cubic yards of sand on the beach. The North and South Reach were renourished in 2005 with approximately 2 million cy of sand under authorization of the Flood Control and Coastal Emergencies (FCCE) Act. The CS II borrow area was used for both projects. In 2010, approximately 640,000 cy of sand from CS II was dredged and placed along 3.8 miles of South Reach. In 2013, approximately 2,400,000 cy of sand from CS II was dredged and placed along North Reach and South Reach. Since then, storm activity severely eroded portions of Brevard County North Reach and South Reach, including Hurricanes Matthew (October 2016) and Irma (September 2017) which caused significant erosion to both the North and South Reaches. The extent of damages to the Brevard County project areas are described in the USACE Project Information Reports and Addendums prepared in response to Hurricanes Matthew and Irma (USACE, 2016; USACE, 2017). The proposed project is being constructed using FCCE rehabilitation funding. BOEM's proposed action is to authorize use of up to 2,000,000 cy of OCS sand from CS II to re-nourish the North and South Reaches and enhance storm damage protection.

### **3 DESCRIPTION OF THE PROPOSED ACTION**

The USACE proposes to place approximately 1,430,000 cy of beach-compatible sand along portions of the Brevard County, Florida Atlantic Ocean shoreline to restore sand eroded from the Brevard County Shore Protection Project following Hurricane Matthew; following Hurricane Irma, an additional 570,000 cy may be needed. Based on initial post-Matthew estimates, approximately 825,000 cy of sand will be placed along all or parts of the 9.4-mile North Reach segment, between FDEP monuments R1 and R53 (City of Cape Canaveral and Cocoa Beach) with south-end transition of up to 1500-ft length extending to R54.5. Approximately 275,000 cy of sand will be placed along all or parts of the 3.4-mile South Reach segment, between FDEP reference monuments R118 and R139 (Melbourne Beach and Indialantic) (Figure 1). Due to losses associated with Hurricane Irma (which occurred after Hurricane Matthew dredge estimates were developed), the USACE estimates an additional need of approximately 570,000 cy for Brevard County. Therefore, BOEM analyzed the effects of issuing a lease for 2,000,000 cy from CS II. Actual limits and volumes may vary based upon conditions at the time of final project design and construction.

The proposed action would dredge up to approximately 2,000,000 cy of sand from an offshore borrow area south of Cape Canaveral and east of Port Canaveral: Canaveral Shoals II located in Federal waters on the Outer Continental Shelf (Figure 2). Canaveral Shoals II (CS II) is roughly 5 miles from its nearest landward point (Cape Canaveral Air Force Station). It is approximately 6,000 x 6,500 feet with existing depths ranging from -11 to -42 feet. The difference in volume (dredged vs. placed) provides for any loss during the dredging process as well as a contingency volume if additional sand needs to be placed to achieve the design template. From the core borings and sediment analysis, the substrate of the site consists of beach quality sand (medium sand with a significant shell fraction) which meets state-issued criteria. This borrow area has been dredged on eight prior occasions for purposes of placing renourishment sand along the



Brevard County beaches, including six times for the North and South Reach segments in 2000/01 through 2013/14, and twice for the Patrick Air Force Base shoreline in 2000/01 and 2005. Approximately 20 million cy of sand are currently available within the existing permitted limits of CS II. The proposed action will limit dredging activity to within the footprint that has been previously dredged at CS II.

The proposed action would occur between November 1 and April 30 in accordance with the SPBO and P3BO. Sand placement and construction activity on the beach would occur only after October 31. It is anticipated that construction of the North and South Reach segments of the project may be built concurrently, at least in part.

The North and South Reach segments would be constructed with one or more hopper dredges using direct hopper dredge pump-out to the beach or, if elected by the dredge contractor, temporary storage in the nearshore rehandling areas and subsequent transfer by a cutterhead-pipeline dredge to the beach. Permitting authority for the re-handling area lies with FDEP since the area is within State waters and these permissions are included in the State Permit. Hopper dredging is expected to occur over approximately 180 to 210 days to obtain the necessary volume. The time estimated to complete each dredge and placement cycle, including idle time, is approximately 4 to 6 hours per load for the North Reach and 6 to 8 hours for the South Reach. Hopper dredging would operationally occur over a relatively small footprint within the designated borrow area. Efficient dredging practice entails excavating sand in 1 to 4 foot thicknesses along relatively straight and adjacent runs along the seabed. The sand dredged from the hydraulic suction heads would be discharged into the vessel's open hopper, and most of the seawater effluent would spill over the sides of the hopper. The hopper dredges would transport the dredged material a distance of approximately 10 or 22 nautical miles, for the North Reach and South Reach respectively, to pump-out mooring buoys positioned approximately 0.5 to 1 mile from shore, from which the material would be pumped directly from the hopper barge via pipeline to the beach. The placement and relocation of the nearshore mooring buoys used during pump-out may involve the use of tender tugboats and a pipeline hauler or crane. Alternatively, dredged material may be placed by the hopper dredges into previously permitted rehandling areas and henceforth dredged from the rehandling area and pumped onto the beach via a cutterhead pipeline dredge. The permitted North Reach rehandling area is 9,500-ft alongshore by 2,750-ft wide and is centrally located along the North Reach segment between approximately 4000 and 6800 feet from shore. The permitted South Reach rehandling is 4,500-ft alongshore by 2,450-ft wide and is centrally located along the South Reach segment between 2,600- and 5,050-ft from shore (Figure 1).

The beach construction template is identical to that previously constructed along the North and South Reaches. The template would include an approximate 60 to 100-ft wide berm at elevation +8.2 ft NAVD'88 (with +/- 0.5 ft vertical tolerance), of which the seaward 60 to 100-ft slopes to elevation +6.7 ft at the seaward edge of the berm at between 1(v):40(h) and 1(v):57(h) gradient, thence sloping at 1(v):15(h) along the berm face to the intersection with the existing seabed. Landward of the sloped segments, the berm (elevation +8.2 ft) is flat and of variable width, depending on the position of the existing beach, and intersecting with the existing +8.2 ft elevation or vegetation line, whichever is furthest seaward. Unless already present, the landward

end of the template along the South Reach will include a dune feature with crest elevation +10.2 feet with 1V: 10H seaward and landward facing slopes. The landward end of the template toes into the existing beach profile at +7.5 ft NAVD'88. The use of up to three bulldozers and/or pipeline movers and two trucks is anticipated on the beach during construction to distribute and grade the hydraulically placed sand. This berm has been designed to be turtle friendly. Unlike a typical beach berm, the seaward elevation of the proposed berm is lower in order to reduce potential scarping resulting from storm activity or the natural equilibration of the beach and to reduce ponding of water. Scarping (the formation of steep slopes) and ponding can prevent sea turtles from being able to crawl upon the beach to nest and can inundate existing nests with seawater.

Figure 1. Brevard County, North and South Reach 2017/2018 Project Area

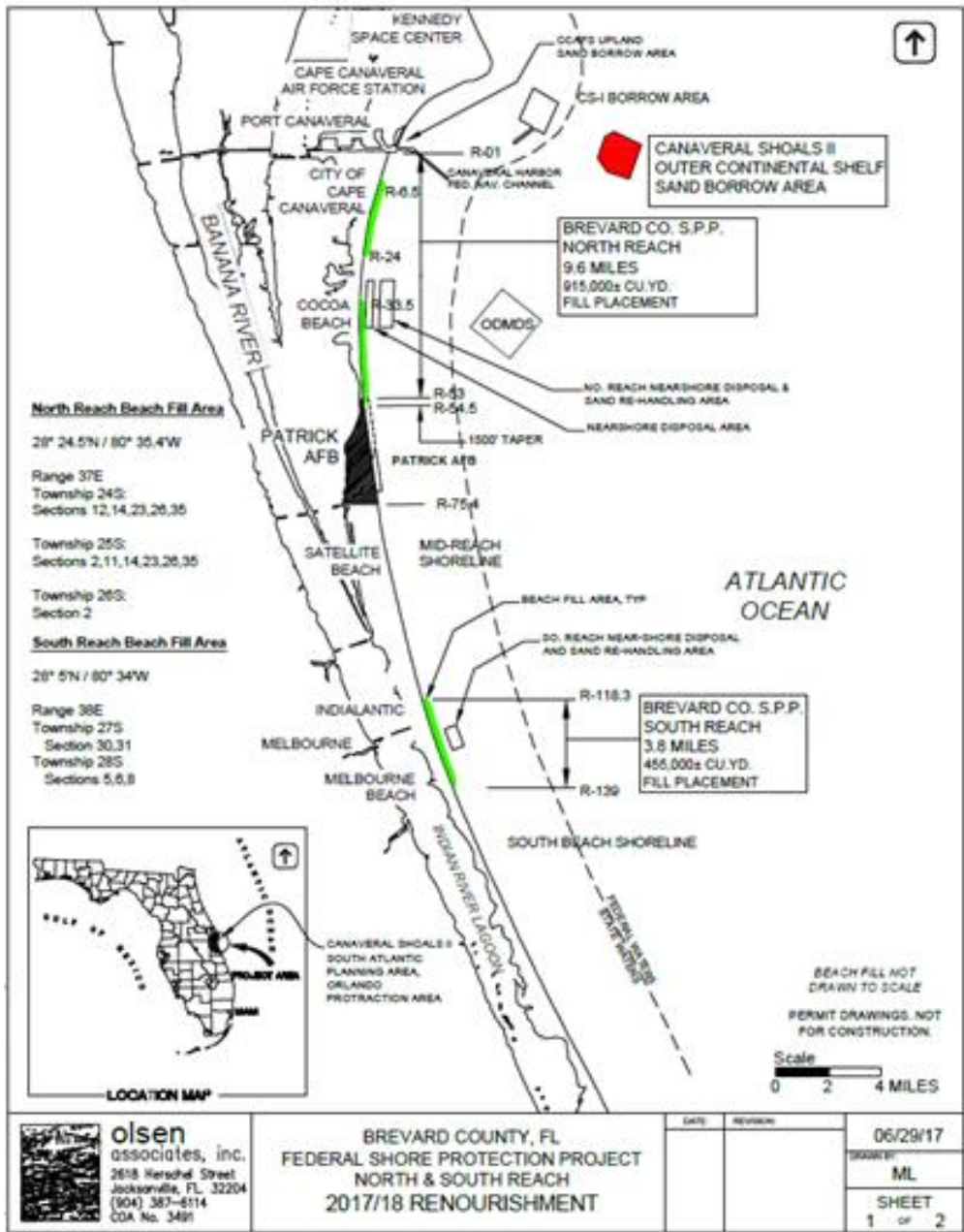
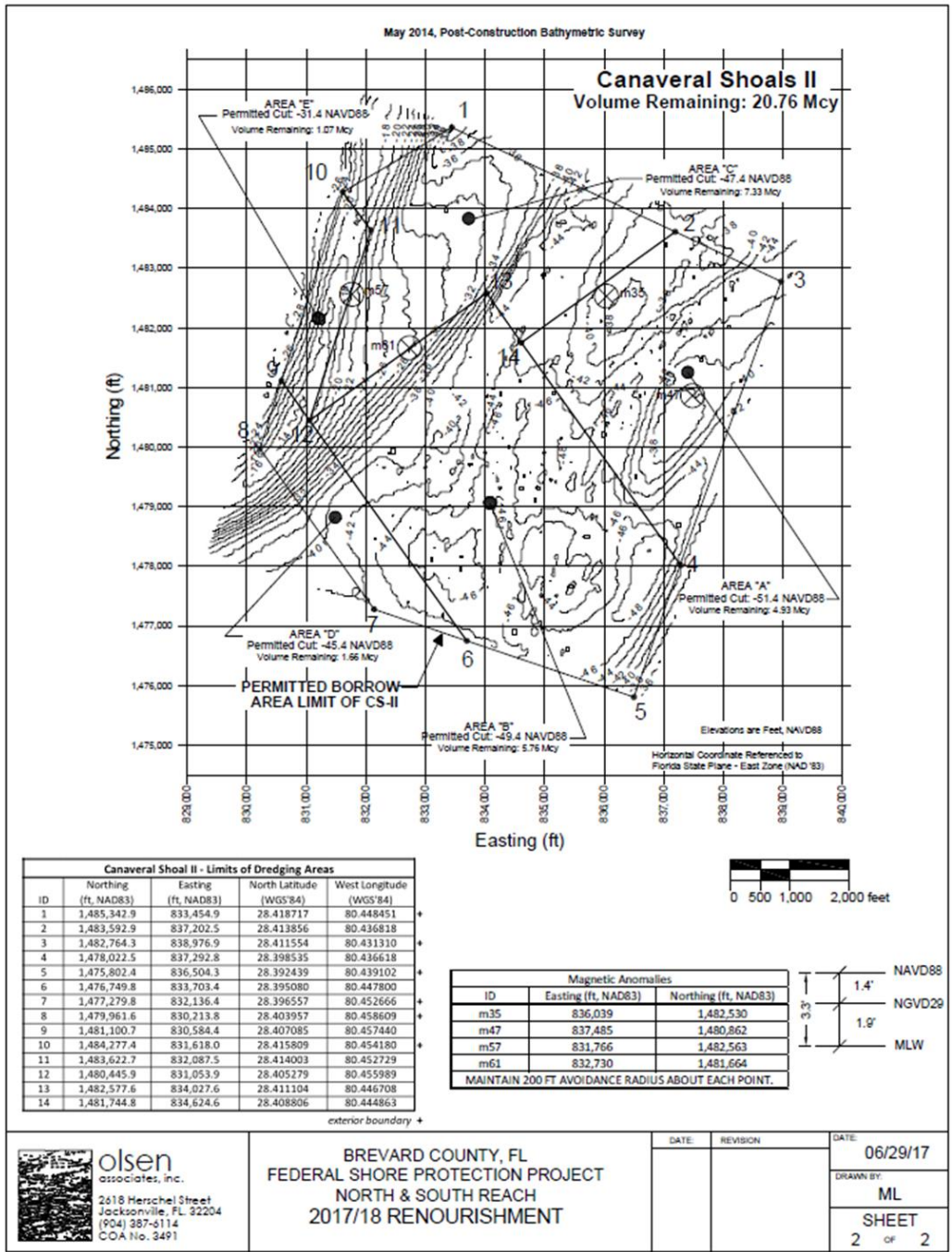


Figure 2. Canaveral Shoals II Borrow Area



## **4 DESCRIPTION OF THE AFFECTED ENVIRONMENT AND ENVIRONMENTAL EFFECTS**

Pursuant to the NEPA, the proposed action is being evaluated to determine the potential environmental impacts that may result from issuing a noncompetitive agreement to authorize use of OCS sand resources for beach nourishment. As previously stated, this EA supplements the 1996 EIS prepared by the USACE, the 1998 EA prepared by the USACE, and EAs prepared by BOEM in 2005, 2009, and 2013. Those previous analyses remain accurate and are therefore not repeated here. This EA only provides additional information on the status of and potential impacts to archaeology/cultural resources, threatened and endangered species, water quality, and benthic habitat and morphology. The reasons for providing this additional evaluation include the following: 1) new archaeology information; 2) updated sea turtle nesting and other protected species data; 3) new water quality and physical monitoring data from the 2013 project; and 4) additional monitoring data associated with habitat and morphology changes within the CSII borrow area.

Previous NEPA documents (USACE 1996; USACE 1998; MMS 2005; MMS 2009; BOEM 2013) evaluated impacts to other resources including aesthetics, beach and coastal habitat, benthic resources, wildlife, fish and essential fish habitat, non-threatened marine mammals, recreation and tourism, other threatened and endangered species, and cumulative impacts. These evaluations have been determined to remain valid since the project limits and construction methodologies, scope, and timing have remained the same and relevant Federal laws have not changed in a manner that would require re-evaluation of these resources. The existing analyses adequately address most of the potential environmental impacts of the proposed action and are incorporated by reference and summarized in Table 1.

**Table 1: Summary of Environmental Impacts and Mitigation**

<b>ENVIRONMENTAL RESOURCE</b>	<b>USACE 1996 EIS IMPACTS</b>	<b>USACE 1998 EA IMPACTS</b>	<b>BOEM 2005 EA IMPACTS</b>	<b>BOEM 2009 EA IMPACTS</b>	<b>BOEM 2013 EA IMPACTS</b>	<b>BOEM 2017 EA IMPACTS</b>	<b>MITIGATION (See 8.0 for Proposed Mitigation Measures)</b>
AESTHETICS	Temporary adverse visual impact from construction equipment; long-term positive visual impact from restored beach (5.27)	No new information.	No new information.	No new information.	No new information.	No new information.	NA.
AIR QUALITY	Temporary and localized decrease in air quality from construction-equipment emissions. (5.33)	Temporary and localized decrease in air quality from construction-equipment emissions. (5.1)	No new information.	Temporary and localized decrease in air quality from construction-equipment emissions. Estimated emissions within national ambient air quality standards.	Dispersion modeling utilizing the 2010 project data indicates that the cumulative impact for all criteria pollutants were less the National Ambient Air Quality Standards (NAAQS). Projected emissions from the proposed action would not have substantial impacts.	No new information.	NA.
ARCHAEOLOGY/ CULTURAL RESOURCES	No historic or cultural properties identified in the placement area along South Reach. (5.19)	Sixteen targets detected within CS II. No effect with designation of protective buffer zones. (5.10)	No effect since investigations indicate no prehistoric sites within CS II or immediate placement area (p. 4)	Diver investigation revealed 8 space debris sites of cultural significance within or in the vicinity of CS II. No effect with designation of protective buffer zones.	Previously identified 8 space debris sites of cultural significance within or in the vicinity of CS II. No effect with designation of protective buffer zones.	Revised surveys of the CS I and II borrow areas were conducted. No sub-bottom paleo-features with the potential for submerged prehistoric sites were identified. A total of 4 confirmed space debris sites were located within CS II. No effect with protective buffer zones.	Implement 300 foot avoidance buffer on 4 identified space debris sites within CS II; implement chance find clause as necessary.  Implement dredge with positioning equipment.
BEACH COMPATIBILITY / COASTAL HABITAT	Stabilization of eroding beach and dune habitats (5.01).	No adverse impacts are anticipated. (5.4)	No new information.	No new information.	No new information.	No new information.	Implement best construction practices, beach sampling, and beach profiling requirements of FDEP Consistency Certification.
BENTHIC RESOURCES	Short-term and localized reduction in beach infaunal invertebrates. (5.01)	Possible mortality for nonmotile invertebrates in immediate area of dredging. Temporary and	Possible mortality for nonmotile invertebrates in immediate area of dredging. Temporary and	No new information.	No new information.	No new information.	NA.

<b>ENVIRONMENTAL RESOURCE</b>	<b>USACE 1996 EIS IMPACTS</b>	<b>USACE 1998 EA IMPACTS</b>	<b>BOEM 2005 EA IMPACTS</b>	<b>BOEM 2009 EA IMPACTS</b>	<b>BOEM 2013 EA IMPACTS</b>	<b>BOEM 2017 EA IMPACTS</b>	<b>MITIGATION (See 8.0 for Proposed Mitigation Measures)</b>
		localized defaunation from bottom disturbance, sub-lethal effects from elevation turbidity, burial, and habitat degradation. Long term suppression not expected due to dredging intervals. Recolonization expected to occur. (5.5)	localized defaunation from bottom disturbance, sub-lethal effects from elevated turbidity, burial, and habitat degradation. Long term suppression not expected due to dredging intervals and highly adaptive benthic assemblages. Recolonization of physically dominated environment expected to occur within 2-3 years. (p. 5-9)				
BIRDS AND WILDLIFE	Short and localized disruption of feeding, foraging, and nesting during construction activities. (5.01)  See U.S. FWS Coordination Act Report (1995).	No new information.	No new information.	No new information.	During dredging and placement activities, bird habitat may be adversely or beneficially affected; similar, short-term and local disturbances may affect individual bird behavior. Implementation of bird protection policy should minimize adverse effects.	No new information.	USACE migratory bird protection plan will be implemented.  Surveys for nesting shorebirds conducted daily if construction occurs during April-September (FDEP).  300 ft buffer zones around nesting or courting shorebirds.  Compaction testing, tilling, and escarpment removal outside of bird nesting season
FISH AND ESSENTIAL FISH HABITAT (EFH)	Short and localized disturbance of surf zone habitat and fish during pump-out and sand re-distribution from elevated	Fish and EFH would be temporarily and locally impacted by dredge activity including sub-lethal and lethal effects	Possible entrainment and sub-lethal effects from turbidity, noise, and burial. Effects are expected to be minor	No new information.	No new information.	No new information.	No beach fill within 50 feet of any coquina or worm rock outcrops and continue monitoring program per NMFS

<b>ENVIRONMENTAL RESOURCE</b>	<b>USACE 1996 EIS IMPACTS</b>	<b>USACE 1998 EA IMPACTS</b>	<b>BOEM 2005 EA IMPACTS</b>	<b>BOEM 2009 EA IMPACTS</b>	<b>BOEM 2013 EA IMPACTS</b>	<b>BOEM 2017 EA IMPACTS</b>	<b>MITIGATION (See 8.0 for Proposed Mitigation Measures)</b>
	noise and Turbidity levels, as well as burial. Potential burial of nearshore coquina and scattered worm rock outcrops by longshore transport. (5.01)	related to turbidity, prey availability, and dredge entrainment or burial. Long term disruption not expected due to fish mobility and dredging intervals. (5.9)	because of species mobility, avoidance behavior, and widespread occurrence of comparable habitat. Possible trophic effects from benthic disturbance and locally reduced prey. EFH could be temporarily and locally physically disturbed by dredging or beach shaping activity. Long term suppression not expected due to dredging intervals and widely available habitat. Minor impact to nearshore rock habitat (Habitat of Particular Concern) from burial may be avoided or mitigated with protective measures. (p. 9-24)				Conservation Recommendations  Turbidity monitoring in the vicinity of dredging and beach fill operations.
NON-THREATENED MARINE MAMMALS	Not evaluated.	No adverse impacts are anticipated because of species avoidance mechanisms, but strikes are possible. (5.8)	No new information.	No new information.	Minor behavioral effects related to noise exposure. Minor strike risk as mobile marine mammals can avoid slow moving vessels. Strike risk is minimized with use of observers and implementation of speed restrictions.	No new information.	Use of protected species observers during daylight and avoidance of sighted animals.  Speed restrictions at night.
PHYSICAL IMPACTS	Not evaluated.	Minor effects anticipated to incident wave field and longshore transport due to bathymetric modification. Infilling of dredge cuts likely from southerly	Modification of offshore bathymetry may result in minor effects in offshore sediment transport pathways, incident wave field, and longshore	No new information.	Monitoring indicates that infilling of 1-3 vertical feet occurs following each dredging cycle. There has been no substantial change in the borrow area	Monitoring since 2000 indicates that infilling of 1-3 vertical feet occurs following each dredging cycle. A net decrease of 9.3 mcy has occurred, but	Conduct pre- and post-construction bathymetric surveys to monitor physical changes in borrow area.



<b>ENVIRONMENTAL RESOURCE</b>	<b>USACE 1996 EIS IMPACTS</b>	<b>USACE 1998 EA IMPACTS</b>	<b>BOEM 2005 EA IMPACTS</b>	<b>BOEM 2009 EA IMPACTS</b>	<b>BOEM 2013 EA IMPACTS</b>	<b>BOEM 2017 EA IMPACTS</b>	<b>MITIGATION (See 8.0 for Proposed Mitigation Measures)</b>
		sediment transport. (5.2)	transport. Infilling anticipated over long-term. (p.24-39)		sediment and habitat relative to pre-dredging conditions.	there has been no substantial change in the borrow area sediment and habitat relative to pre-dredging conditions.	
RECREATION AND TOURISM	Significantly increased area for beach recreation; temporary and localized visual and noise impact from construction activities. (5.30)	Local and short-term disruption to navigation. Recreational opportunities and tourism would benefit from beach nourishment. (5.11)	No new information.	No new information.	No new information.	No new information.	Publish Local Notice to Mariners.
THREATENED AND ENDANGERED SPECIES	Potential increase of nesting habitat for sea turtles; potential disturbance and take of sea turtles, right whales, and related to beach scarping, lighting, dredge entrainment, and vessel strike. (5.09)	Possible entrainment dredge may lead to injury and mortality sea turtles (5.6). Noise and vessel collision may lead to injury and mortality of marine mammals (5.7). Effects to marine turtles and marine mammals may be avoided or minimized with protective measures.	Dredging may affect, but not likely to adversely affect smalltooth sawfish with approved protective measures. No effect to Johnson's seagrass or Southeastern beach mouse since no critical habitat in project area. (p.21-24)	Hopper dredging and beach placement may adversely affect marine turtles. Adverse effects to sea turtles, marine mammals, and smalltooth sawfish may be avoided or minimized with protective measures.	Hopper dredging and beach placement may adversely affect marine turtles and piping plover. Adverse effects to sea turtles, marine mammals, and smalltooth sawfish may be avoided or minimized with protective measures	Hopper dredging and beach placement may adversely affect marine turtles and piping plover. Adverse effects to sea turtles, marine mammals, and smalltooth sawfish may be avoided or minimized with protective measures.	Implement terms and conditions of 1) NMFS 1995/1997 Regional Biological Opinions, 2) NMFS 2009 Concurrence, and 3) 2015 FWS SPBO; NMFS' Smalltooth Sawfish Construction Conditions; and the 2013 P3BO
WATER QUALITY	Temporary, minor impacts (elevated turbidity, decreased dissolved oxygen) in placement area. (5.24)	Temporary, minor impacts (elevated turbidity, decreased dissolved oxygen) to the water column in borrow area. Accidental spills or toxic materials are not expected. (5.3)	No new information.	No new information.	Monitoring during the 2009-2010 project indicated that turbidity levels elevate temporarily but do not exceed State thresholds.	Monitoring during the 2013-2014 project indicated that turbidity levels elevate temporarily but do not exceed State thresholds.	Monitoring water quality conditions per requirements of FDEP Consistency Certification.  Implement marine pollution control plan.  Ensure compliance with U.S. Coast Guard requirements and U.S. EPA Vessel General Permit as applicable.
CUMULATIVE IMPACTS	Restore beach and ecosystem and prevent property damage. (5.37)	No new information.	Currently proposed, past and future use of CS II and beach nourishments	No new information.	No new information.	No new information.	See mitigation for Fish and Essential Fish Habitat

<b>ENVIRONMENTAL RESOURCE</b>	<b>USACE 1996 EIS IMPACTS</b>	<b>USACE 1998 EA IMPACTS</b>	<b>BOEM 2005 EA IMPACTS</b>	<b>BOEM 2009 EA IMPACTS</b>	<b>BOEM 2013 EA IMPACTS</b>	<b>BOEM 2017 EA IMPACTS</b>	<b>MITIGATION (See 8.0 for Proposed Mitigation Measures)</b>
			expected to be minor to possibly moderate. Of primary concern are long-term impacts to nearshore hardbottom located north of South Reach. (p.39-46)				

## **4.1 Archaeology/Cultural Resources**

Multiple geophysical surveys and diver identifications have been conducted to date within the proposed CS II borrow area. These survey efforts and associated SHPO consultations date back to 1994 at which point in time (DHR file No. 942533) six potentially significant targets were identified within CS II. A follow-up remote sensing survey and diver verification effort was conducted in 1999 (DHR Nos. 992156 and 2000-02415) and confirmed that the targets identified in 1994 were not significant. However, eight additional potentially significant targets were identified in an expanded portion of the borrow area. In 2001, an additional diver investigation was conducted in order to identify and evaluate these eight targets along with investigation of an additional six anomalies at the request of the State of Florida Department of Historic Resources. The results of the diver evaluations revealed that of the fourteen targets, some were products of the United States space and/or missile programs, one was the remains of a modern fishing vessel, and another was identified as a section of steel cable (DHR file No. 2001-316). The USACE determined that eight of the targets were potentially significant cultural resources of which, five were specifically located within the CS II borrow area. The SHPO concurred with the USACE determination that the space debris discovered within CS II, while modern, are potentially significant cultural resources. Additional areas were surveyed in 2002 (DHR file No. 2002-06980); however, no new anomalies were identified.

Following the most recent construction event in 2013, the U.S. Army Corps of Engineers Jacksonville District contracted with Panamerican Consultants, Inc. to conduct a comprehensive remote sensing survey of the Canaveral Shoals Borrow Areas I and II (including a portion of CS II not previously surveyed) using new SHPO methods to better define the sand thickness and validate the potential for and location of pre-historic and historic resources. The survey was conducted using a magnetometer, side-scan sonar, and sub-bottom profiler between June 4 and July 11, 2013 (Final report dated January 2014). A total of 76 magnetic anomalies and 25 side-scan sonar targets were identified. No sub-bottom paleo-features with the potential for submerged prehistoric sites were identified. Analysis of data indicated that of the 76 magnetic anomalies, 25 have magnetic signature characteristics potentially indicative of significant historic resources, namely National Aeronautics and Space Administration/U.S. Air Force rocket cylinders. A total of 16 new magnetic anomalies, two with sonar contacts, located in areas not previously surveyed, are thought, based on their signal characteristics, to represent rocket cylinders. The 16 anomalies and two associated sonar contacts were recommended for avoidance or further investigation. However, only 4 of these sites are located within CS II footprint proposed for this construction event. Target C2-13 which was identified within CS II during previous surveys was not relocated and therefore removed from the target avoidance list (a 300' buffer still remains in this location to protect an existing acoustic receiver). Revised SHPO and THPO correspondence was conducted on 1 September 2017 regarding the updated survey activities associated with the proposed project (Appendix E). All five identified target areas and associated 300' buffers will be integrated into project plans. Significant impacts to cultural resources in the borrow area are not anticipated provided the mitigation below is implemented:

### *Onshore Prehistoric or Historic Resources*

If the USACE discovers any previously unknown historic or archeological resources while accomplishing the activity on Brevard County beaches, the USACE will notify BOEM of any finding. The USACE will initiate the Federal and State coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

### *Offshore Prehistoric or Historic Resources*

There are five anomalies that must be avoided during dredging operations by at least 300 feet (Table 2).

**Table 2. Anomalies to be Avoided during Dredging Operations**

Target	Area/Block	Amplitude (gammas)	Duration (ft)	FL East State Plane Coordinates NAD 1983 (X / Y Coordinate)	Avoidance Radius (ft)	Note
m57	Canaveral Shoals II	147	140	██████████	300	Cultural Resource
m35	Canaveral Shoals II	51	125	██████████	300	Cultural Resource
DRE 2	Canaveral Shoals II	NA	NA	██████████	300	Acoustic Receiver
m47	Canaveral Shoals II	61	165	██████████	300	Cultural Resource
m61	Canaveral Shoals II	52	100	██████████	300	Cultural Resource

Targets identified as a “Cultural Resource” are potentially significant historical resources (e.g., debris related to space program). The target identified as an “Acoustic Receiver” is an operational scientific instrument used in a BOEM scientific study. In the event that the parties and/or dredge operators discover any archaeological resources prior dredging operations in CS II or in the vicinity of pump-out operations, the USACE will report the discovery to the Chief, Leasing Division, BOEM electronically in a timely manner. The Corps Planning Division will coordinate with BOEM on the measures needed to evaluate, avoid, protect, and, if needed, mitigate adverse impacts from an unanticipated discovery. If investigations determine that the resource is significant, the parties will together determine how best to protect it.

If the parties and/or dredge operators discover any archaeological resources while conducting dredging operations, the USACE will require that dredge and/or pump-out operations be halted immediately and avoid the resource per the requirements of the USACE specifications for unanticipated finds. The USACE will then immediately report the discovery to the Chief of the Leasing Division at BOEM electronically in a timely manner. The Corps Planning Division will coordinate with BOEM on the measures needed to evaluate, avoid, protect, and, if needed, mitigate adverse impacts from an unanticipated discovery. If investigations determine that the resource is significant, the parties will together determine the necessary further action required

and how to best to protect the resource.

There is no new information in regards to archaeology/cultural resources that suggests there is the potential for significantly different effects not previously considered (i.e., those effects must be substantially different from those indicated in past analyses and effects may be possibly significant). Those previous effects analyses/conclusions are adequate and remain valid. The expected effects level on this resource is to be local, minor, and temporary due to the implementation of the mitigation measures outlined herein.

## **4.2 Threatened and Endangered Species**

### Sea turtles - Offshore

The proposed dredging event will be performed in compliance with the Reasonable and Prudent Measures (RPMs) and associated Terms and Conditions (T&Cs) of the 1995/1997 South Atlantic Regional Biological Opinion (SARBO) to minimize impacts on protected loggerhead (*Caretta caretta*), Kemp's ridley (*Lepidochelys kempii*), green (*Chelonia mydas*), and hawksbill (*Eretmochelys imbricata*) sea turtles. On April 30, 2007 the USACE and BOEM reinitiated consultation with NMFS on the SARBO. USACE received prior approval from NMFS to proceed under the 1997 SARBO for dredging activities while under re-initiation (via letter dated 25 October 2007). BOEM has been a joint consulting agency on the re-initiated consultation since 2007 with USACE serving as the lead. A revised South Atlantic Biological Assessment (SARBA), including updated analyses pertaining to sea turtle species and their associated critical habitat in the project area, was transmitted on 27 June 2017. BOEM notified NMFS of its cooperating role on the proposed nourishment of Brevard County's North and South reaches and the intent of both the USACE and BOEM to utilize the SARBO to satisfy Section 7 consultation responsibilities for this project. NMFS provided concurrence on August 3, 2017 that the proposed project was covered under the 1995/1997 SARBO, assuming implementation of the RPMs and T&Cs (N. Bonine, personal communication, August 3, 2017).

In compliance with the SARBO, the following protective measures, in summary, shall be implemented to minimize the risk of taking sea turtles during proposed hopper dredging activities at the CS II borrow area:

- The Contractor shall instruct all personnel associated with the project of the potential presence of threatened and endangered species, such as sea turtles, and the need to avoid collisions with these animals or harming them in any way.
  
- All construction personnel shall be advised that there are civil and criminal penalties for harming, harassing, or killing sea turtles, which are protected under the Endangered Species Act. The Contractor may be held responsible for any threatened and endangered species harmed, harassed, or killed as a result of construction activities.
  
- During dredging operations, an observer approved by the NMFS shall be aboard the dredge to monitor for the presence of sea turtles.

- Any take concerning a sea turtle or sighting of any injured or incapacitated sea turtle shall be reported immediately to the USACE contracting officer.
- Hopper dredge drag heads shall be equipped with rigid sea turtle deflectors which are rigidly attached. No dredging shall be performed by a hopper dredge without an installed turtle deflector device approved by the USACE contracting officer.
- The Contractor shall install baskets or screening over the hopper inflow(s) with no greater than 4" x 4" openings. The method selected shall depend on the construction of the dredge used and shall be approved by the contracting officer prior to commencement of dredging. The screening shall provide 100% screening of the hopper inflow(s). The screens and/or baskets shall remain in place throughout the performance of the work.
- The Contractor shall install and maintain floodlights suitable for illumination of the baskets or screening to allow the observer to safely monitor the hopper basket(s) during non-daylight hours or other periods of poor visibility. Safe access shall be provided to the inflow baskets or screens to allow the observer to inspect for turtles, turtle parts or damage.
- The Contractor shall operate the hopper dredge to minimize the possibility of taking sea turtles and to comply with the requirements stated in the Incidental Take Statement provided by the NMFS.
- The turtle deflector and inflow screens shall be maintained in operation condition for the entire dredging operation.
- When initiating dredging, suction through the drag heads shall be allowed just long enough to prime the pumps, and then the drag heads must be placed firmly on the bottom. When lifting the drag heads from the bottom, suction through the drag heads shall be allowed just long enough to clear the lines, and then must cease. Pumping water through the drag heads shall cease while maneuvering or during travel to/from the disposal area.
- Raising the drag head off the bottom to increase suction velocities is not acceptable.
- The Contractor shall keep the drag head buried a minimum of 6 inches in the sediment at all times.
- During turning operations the pumps must either be shut off or reduced in speed to the point where no suction velocity or vacuum exists.

The entire suite of T&Cs required by NMFS is provided in the 1995 /1997 SARBO. The annual regional incidental take, by injury or mortality, authorized by the SARBO includes: 35 loggerheads, 7 Kemp's ridley, 7 green turtles, and 2 hawksbill. Any incidental take associated with this project will be counted against this regional incidental take statement.

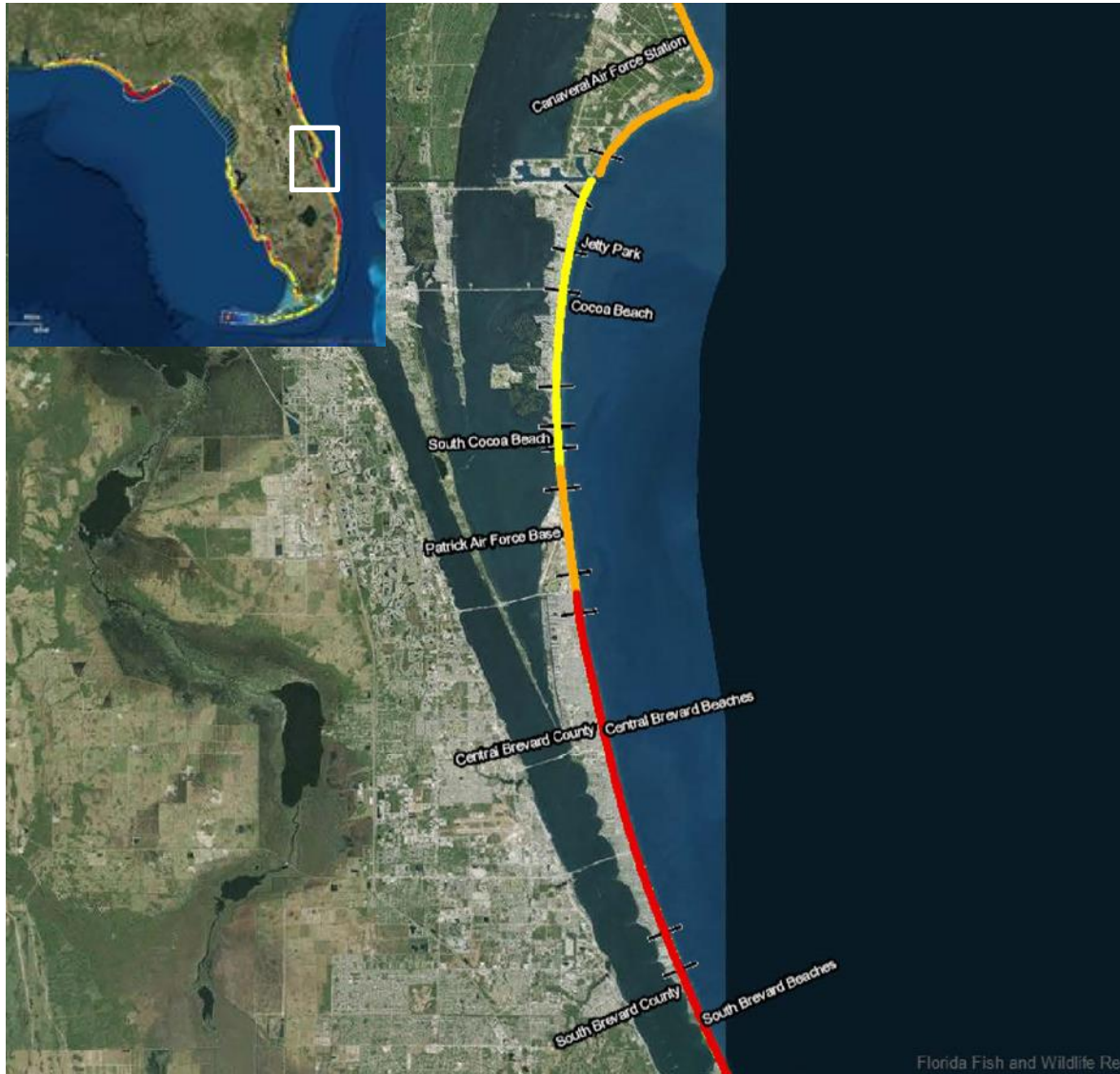
Based on known distribution patterns and prior satellite telemetry work of sea turtles in the Canaveral Shoals vicinity, BOEM anticipates that four species of sea turtles may occur in the CS II borrow area throughout the year including loggerhead, green, Kemp's ridley, and leatherback (*Dermochelys coriacea*) sea turtles (OBIS SEAMAP, <http://seamap.env.duke.edu/>). The size class distribution and population structure likely varies throughout the year; however, some resident populations (i.e., sub-adult loggerheads) may occur in the Canaveral Shoals vicinity year round (Henwood, 1987). During the most recent 2013 nourishment event utilizing sand resources from the CSII borrow area, a total of three sub-adult loggerhead sea turtles were lethally entrained during hopper dredging operations on three separate events (i.e., 12/5/13, 3/31/14, and 4/5/14). No sea turtles were lethally entrained during the 2010 dredge event. Though relocation trawling activities were not conducted in association with this 2013 event, during a 2010 dredging event in Canaveral Shoals a total of 16 loggerhead and 2 leatherback sea turtles were non-lethally taken and relocated outside of the project area. While the full extent of understanding each sea turtle's distribution is incomplete, BOEM can make a reasoned conclusion based on project-specific information and available scientific research. Loggerhead, green, Kemp's ridley, and leatherback sea turtles may occur in CS II; and although a small number of individuals may be killed or injured, with the mitigations and analyses of the SARBO, effects on the population are expected to be localized, minor, and short-term.

In an effort to gather additional data on the spatial and temporal distribution patterns of sea turtles within CS II, BOEM recently (Summer 2017) tagged total of 30 turtles (20 loggerhead and 10 green turtles) with acoustic and satellite tags in order to examine spatial and temporal movements in the Canaveral shoals region. Another 10 acoustic and satellite tags along with 10 Inertial Measurement Unit tags will be deployed on loggerhead turtles in the Spring of 2018 to further refine our understanding of the turtle's usage of the offshore sand shoal area. The results of these tagging initiatives are forthcoming and will inform risk assessments associated with future dredging events in Canaveral Shoals as well as pre/post dredge movements and behaviors. The addition of these loggerhead and green sea turtle tagging initiatives will also add taxonomic diversity to a larger BOEM study examining fish usage and response within the offshore borrow area.

### Sea Turtles – Onshore

Brevard county beaches support some of the highest sea turtle nesting densities in the State of Florida. Three sea turtle species are known to frequently nest within the North and South Reach beach placement areas. In order of abundance, they are the loggerhead, green, and leatherback sea turtles (Figure 3 and Table 3).

Figure 3. Florida Fish and Wildlife Research Institute (FWRI) Sea Turtle Nesting Density Classifications for Brevard County, FL (2011-2015); Yellow = low; Orange = medium; Red = high. (Source: <http://ocean.floridamarine.org/SeaTurtle/nesting/FlexViewer/>)





**Table 3. Fish and Wildlife Commission (FWC) FWRI Statewide Nesting Beach Survey Data for Loggerhead, Green, and Leatherback Sea Turtle Nesting Activities in Brevard County, 2011-2015. (Source: FWC/FWRI Statewide Nesting Beach Survey Program Database as of 17 March 2016)**

Species	Year				
	2011	2012	2013	2014	2015
<b>Loggerhead</b>	22,893	33,799	24,630	23,457	23,977
<b>Green</b>	7,530	4,425	18,190	2,196	18,549
<b>Leatherback</b>	102	91	76	122	100

Density surveys of loggerhead turtle nests from the 2012 nesting season along the South Reach indicated 3,101 nests were deposited by August 31, 2012. Three additional clutches were laid between September 2-7, 2012, bringing the total to 3,104 nests, or 477.5 nests per km (Table 4). The distribution of these nests corresponds with patterns seen in previous years, with high numbers nesting toward the southern end of the beach. Previously, nest densities recorded from the South Reach area ranged from 185 to 518 nests per km between 1989 through 2008 nesting seasons (Ehrhart and Williamson 2009).

**Table 4. Distribution of Loggerhead Turtle Nests on the South Reach Beach Profile in 2012 (Ehrhart et al. 2012)**

Location	Nests	% Overall Nesting
<b>Gradient Scarp</b>	0	0.0%
<b>Gradient</b>	19	0.6%
<b>Berm</b>	2934	94.5%
<b>Dune</b>	151	4.9%
<b>Total</b>	3104	100.0%

Five green turtle nests were reported along the North Reach in 2007 and a total of 192 green turtle nests were deposited on the South Reach by 31 August 2012. An additional 23 nests were deposited along the South Reach during the late season, bringing the total number of green turtle nests for the 2012 season to 215 (Table 5).

**Table 5. Distribution of Green Turtle Nests on the South Reach Beach Profile in 2012 (Ehrhart et al. 2012)**

Location	Nests	% Overall Nesting
<b>Gradient Scarp</b>	1	0.47%

<b>Gradient</b>	2	0.9%
<b>Berm</b>	114	53.0%
<b>Dune</b>	98	45.6%
<b>Total</b>	215	100.0%

In 2007, there were five leatherback nests reported in the North Reach area. Leatherback nesting within the South Reach ranged from 0 to 7 between 2005 and 2008 (Ehrhart et al. 2006-2009) and the 2012 monitoring reported 8 nests (Table 6).

**Table 6. Distribution of Leatherback Turtle Nests on the South Reach Beach Profile in 2012 (Ehrhart et al. 2012)**

<b>Location</b>	<b>Nests</b>	<b>% Overall Nesting</b>
<b>Gradient</b>	1	12.5%
<b>Berm</b>	7	87.5%
<b>Dune</b>	0	0%
<b>Total</b>	8	100.0%

Data from both the 2007 and 2012 monitoring reports indicate that CS II is a viable sand source for successful sea turtle nesting habitat for loggerhead, green, and leatherback sea turtles. The data obtained from nests inventoried during the 2007 North Reach monitoring season showed excellent loggerhead hatching (83.8%) and hatchling emergence (81.9%) success. The 2012 monitoring of South Reach indicated that Term Hatching Success Rates (from nests that incubated to term and were inventoried) was relatively high for both loggerheads (80.43%) and for green turtles (81.6%). These results are comparable to many beaches statewide and exceed documented statewide means of 50.77% for hatching and 48.03% for hatchling emergence success for loggerhead sea turtles. The higher hatching and hatchling emergence success in 2006 and again in 2012 indicates the fill is suitable for sea turtle nesting purposes. Only one nest of each species, from marked nests, was washed out and no depredations were seen. Sand grain size was relatively large with a good mixture of shell fragments which may have prevented the hydraulically placed fill material from compacting too much, adversely affecting sea turtle nesting success (Ehrhart et al. 2012).

The USACE determined that the beach placement of dredged material will occur during the late and early sea turtle nesting season and may adversely affect nesting sea turtles and may affect, but is not likely to adversely modify designated loggerhead sea turtle critical habitat unit LOGG-T-FL-07. Via letter dated 12 June 2017, USACE initiated coordination with U.S. Fish and Wildlife Service (USFWS) for coverage under the Statewide Programmatic Biological Opinion (SPBO). The USFWS's SPBO for the U.S. Army Corps of Engineers (Corps) (including BOEM's interconnected action) considered planning and regulatory sand placement activities in Florida and their effects on loggerhead, green, leatherback, hawksbill, and Kemp's ridley sea turtles, and their critical habitat. USFWS concurred with the use of the SPBO for the 2017

proposed project by letter on September 21, 2017. The terms and conditions of the SPBO shall be implemented in order to avoid or minimize take of sea turtles or adverse modification to loggerhead critical habitat. These conditions, in abbreviated summary, include:

- Use of beach quality sand suitable for sea turtle nesting, incubation and hatchling emergence.
- No construction activity or equipment on the beach from May 1 through October 31.
- Daily early morning nesting surveys and restricted nest relocation and/or avoidance beginning March 1 if beach construction activities occur between March 1 and April 30.
- Daily early morning nesting surveys beginning 65 days prior to construction, through September 30 for beach construction activity from November 1 through 30.
- Measurement of sand compaction and tilling of the nourished beach if required, prior to March 1, after construction and for three subsequent years.
- Visual surveys for escarpments after construction and for three subsequent years, and removal of escarpments prior to March 1 (and thereafter, pursuant to coordination with the USFWS and FWC) that interfere with sea turtle nesting.
- Minimization of storage of construction equipment upon the beach from March 1 through April 30 and from November 1 through 30.
- Avoidance and minimization of lighting of the beach and nearshore waters, and upon offshore equipment, from March 1 through April 30 and from November 1 through 30.

Sea turtle nesting occurs on beaches proposed for nourishment. Adding sand to this habitat may create long-term beneficial effects on nesting success. During construction, however, there may be adverse impacts; using an environmental window is expected to create indirect effects rather than direct. Because of compatibility standards and compaction monitoring, indirect effects on sea turtle nesting beaches are expected to be localized, minor, and short-term.

### Marine Mammals

USACE will implement standard manatee protection measures for all in-water activities, such that impacts to the threatened West Indian manatees (*Trichechus manatus*) would be negligible. Humpback whales (*Megaptera novaeanglia*), though included in the previous SARBO, are no longer listed under the ESA but would benefit from protections for other protected whale species, including the North Atlantic right whale (*Eubalaena glacialis*).

During the 2013 project, endangered species observers reported two sightings of right whales (4/3/14 and 3/21/14) and two sightings of humpbacks (1/28/14 and 3/21/14) from the dredge. The dredge operated at 5 knots or less on 2 nights due to confirmed right whale sightings from the dredge or from aerial surveys. Dredging operations did not appear to harass or induce any behavioral response in these species.

Dredging operations may present risk of vessel strike and noise-related harassment to North Atlantic right whales. Principal effects or risk of exposure would be limited to strike risk and/or possible harassment from broadband vessel and dredging noise < 10 kHz. Strike risk is limited in a number of ways, including speed restrictions, observer monitoring during transit and dredging operations, mandatory 500 yard separation distance during transit and survey operations, and mandatory participation in the Early Warning System. The southeastern U.S. coast is a known wintering area for North Atlantic right whales and calving occurs from December through March. In an on-going study to describe the acoustic behavior of North Atlantic right whale mother-calf, mother-calf pairs produced very few sounds that were detectable (at ranges of ~100 m or more) in the Southeastern U.S. when the calf was less than four months of age (Kraus et al., 2016). Instances when sounds were documented involved interaction between the mother-calf pair and either another whale or a novel object in their environment that elicited a curious approach. In terms of surface behavior, calves were consistently in much closer proximity to their mothers in the Southeastern U.S. and spent more time at the surface compared to mother and older calf pairs in the Bay of Fundy. The shorter distance between mother-calf in southern waters indicates that masking of mother/calf communication when calves are less than four months of age (in the Southeastern U.S.) may be more minor than potential communication masking in the Northeast U.S. when the calves are older. To increase understanding of habitat use, an on-going BOEM study is using hydrophones and passive acoustic monitoring (PAM) at five fixed-stations around the CSII borrow area to collect data before, during, and after dredging (J. Bucatari, personal communication, August 3, 2017). Information collected will be used to investigate habitat use by soniferous fishes and vocalizing marine mammals, while recording operational dredge noise.

The USACE has previously determined that hopper dredging activities may affect, but is not likely to adversely affect protected species of whales, and NMFS concurred, given compliance with the 1995/1997 SARBO. During the period December through March for the 2017 proposed dredge event, barges or dredges moving through project waters shall implement the following precautionary measures in order to protect listed whales:

- The Contractor shall instruct all personnel associated with the project of the potential presence of threatened and endangered species, such as whales, and the need to avoid collisions with these animals or harming them in any way.
- All construction personnel shall be advised that there are civil and criminal penalties for harming, harassing, or killing whales, which are protected under the Endangered Species Act and the Marine Mammal Protection Act. The Contractor may be held responsible for any protected species harmed, harassed, or killed as a result of construction activities.
- During dredging operations, an observer approved by the NMFS shall be aboard the dredge to monitor for the presence of whales.
- All North Atlantic Right whale sightings, including those reported from the right whale Early Warning System, will be immediately communicated by marine radio to the dredging contractor. During evening hours or when there is limited visibility due to fog

or sea states greater than Beaufort 3, the tug/barge or dredge operator shall slow down to 5 knots or less when traversing between areas if whales have been spotted within 15 nautical miles (nm) of the vessel's path within the previous 24 hours.

- If a right whale or any other species of whale is reported within the area, then the vessel operator will be required to follow the NMFS' Southeast Region Vessel Strike Avoidance Measures and Reporting for Mariners. The tug/barge or dredge operator shall maintain a 500-yard buffer between the vessel and any whale.
- If a stranded/injured/incapacitated whale is observed within the construction site, the contractor is requested to immediately contact the NMFS Whale Stranding Network pager number at 305-862-2850.

North Atlantic Right Whales occur in the project area and are vulnerable to impacts, but with the full mitigations of the SARBO including speed restrictions, protected species observers, and the Early Warning System, project impacts are anticipated to be localized, minor, and temporary.

### Smalltooth Sawfish

Smalltooth sawfish (*Pristis pectinata*) is currently listed as endangered by NMFS and rarely occur within the project area; it has not been observed during previous dredging events. The National Sawfish Encounter Database managed by the Florida Museum of Natural History, University of Florida indicated 9 encounters offshore Brevard County between 1998 and 2011, but encounters date as far back as 1895 (Burgess et al. 2011). One of the sightings was a small juvenile and occurred as recently as from May 2010 and May 2011 offshore of southern Brevard County. In the Canaveral Shoals complex, there are six records of smalltooth sawfish since 2004, with only one occurring within the borrow area (J. Bucatari, personal communication, August 3, 2017); as additional individuals are acoustically tagged, there may be an increase in detection off of Brevard County. Currently, the core of the smalltooth sawfish Distinct Population Segment is surviving and reproducing in the waters of southwest Florida and Florida Bay, primarily within the jurisdictional boundaries of Everglades National Park where important habitat features are still present and less fragmented than in other parts of the historic range. The NMFS proposed critical habitat for the sawfish in 2008, but the project area does not overlap any of these proposed locations.

The project area is not an established nursery or foraging area for smalltooth sawfish, and it generally does not support the type of habitat favored by juvenile sawfish. While adults may move through or forage in the project area, NMFS has previously determined that the proposed project would not impact the sawfish from critical habitat loss or entrainment. The risk of injury was presumed to be discountable due to the species' mobility and implementation of NMFS' Smalltooth Sawfish Construction Conditions. In 2009 and 2013, NMFS provided concurrence for respective projects and determined that the smalltooth sawfish may be affected, but is not likely to be adversely affected by the proposed action.

In order to protect this species, the USACE proposes to continue to implement the smalltooth

sawfish construction conditions (Appendix B), which include the following:

- The Contractor shall instruct all personnel associated with the project of the potential presence of this species and the need to avoid collisions with smalltooth sawfish. All construction personnel are responsible for observing water-related activities for the presence of smalltooth sawfish.
- The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing smalltooth sawfish, which are protected under the Endangered Species Act.
- Siltation barriers shall be made of material in which a smalltooth sawfish cannot become entangled, be properly secured, and be regularly monitored to avoid protected species entrapment.
- All vessels associated with the construction project shall operate at “no wake/idle” speeds at all times while in the construction area and while in water depths where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will preferentially follow deep-water routes (e.g., marked channels) whenever possible.
- If a smalltooth sawfish is seen within 100 yards of the active daily construction/dredging operation or vessel movement, all appropriate precautions shall be implemented to ensure its protection. These precautions shall include cessation of operation of any moving equipment closer than 50 feet of a smalltooth sawfish. Operation of any mechanical construction equipment shall cease immediately if a smalltooth sawfish is seen within a 50-ft radius of the equipment. Activities may not resume until the protected species has departed the project area of its own volition.
- Any collision with and/or injury to a smalltooth sawfish shall be reported immediately to the National Marine Fisheries Service’s Protected Resources Division (727-824-5312) and the local authorized sea turtle stranding/rescue organization.

Smalltooth sawfish may occur in the project area, though historical presence has been rare. Because of the species’ ability to avoid a dredge and borrow area and special construction conditions, impacts are expected to be localized, minor, and temporary.

#### Piping Plover and Rufa Red Knot

The piping plover (*Charadrius melodus*) became a federally listed species in 1985. The piping plover is a small, migratory shorebird that breeds only in three geographic regions of North America: on sandy beaches along the Atlantic Ocean, on sandy shorelines throughout the Great Lakes, and on riverine systems and prairie wetlands of the Northern Great Plains. The Great Lakes population is listed as endangered, whereas the Atlantic Coast and Great Plains populations are listed as threatened. In 2001, the FWS designated 137 areas along the coasts of North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, and Texas as

critical habitat for the wintering population of the piping plover. The critical habitat includes approximately 2,891 kilometers of mapped shoreline and approximately 165,211 acres along the Gulf and Atlantic Coasts and margins of interior bays, inlets, and lagoons. Though this species does not breed in Florida, individuals from the three breeding populations winter in Florida (USFWS 1999). The complete winter distribution of the piping plover remains to be determined, but generally the plover arrives from July through September and returns to breeding sites from February to May. Neither North Reach nor South Reach is listed as critical wintering habitat for the piping plover. The closest critical habitat is found north of Brevard County in a small area near Daytona Beach and south of Brevard County in a small area in Palm Beach County.

The USACE is lead agency (BOEM is cooperating agency) in the P3BO consultation with the FWS. The USACE and BOEM received concurrence of the proposed project from the USFWS on September 21, 2017 for piping plovers, making a may affect, not likely to adversely affect determination under the terms and conditions of the P3BO.

The rufa red knot (*Calidris canutus rufa*), a migratory shorebird, was listed as threatened on January 12, 2015. Throughout its migration, the rufa red knot breeds in the Canadian Arctic and winters in the US, Caribbean, and South America, stopping over in the spring and fall along the US Atlantic coast. The rufa red knot can be found in Brevard County, FL during winter and migration times; however, critical habitat has not been designated. Although the rufa red knot is not included in the P3BO, the USFWS provided concurrence in a letter on September 21, 2017 that the species would also be protected by mitigation actions implemented for the piping plover. Therefore, the rufa red knot may be affected, but is not likely to be adversely affected.

The USACE has proposed to implement the following Conservation Measures to reduce impacts on piping plovers for all projects (those in both non-optimal and optimal piping plover habitat) included in the P3BO consultation with the potential to affect piping plovers or their critical habitat:

- Adhere to appropriate seasonal windows to the maximum extent possible;
- Implement survey guidelines for non-breeding shorebirds when appropriate. For Corps Civil Works projects, the “surveys” must be limited to the term of the construction unless they are otherwise authorized and funded by Congress;
- Pipeline alignment and associated construction activities may be modified to reduce impacts to foraging, sheltering, and roosting;
- Avoid impacts to the primary constituent elements (PCEs) of piping plover Critical Habitat to the maximum extent possible;
- The Corps or Applicant will evaluate the project area prior to consultation for the presence of piping plover PCEs as a basis for making their initial determination of effect;
- The Corps will work with the Service to develop shore protection design guidelines and/or mitigation measures that can be utilized during future project planning to protect and/or enhance high value piping plover habitat locations (i.e., washover fans). For Corps Civil Works projects, "enhancement" must be limited to the extent authorized and funded as a project feature or project purpose.
- The Corps will attempt to time the construction of Civil Works sand placement and dredging projects to prevent two adjacent beaches or inlets from being constructed in the same year.

- The Corps Civil Works program will work with the Florida Department of Environmental Protection (FDEP) to consider the value and context of inlet habitat features (i.e., emergent spits, sand bars, etc.) within each inlet’s management plan and adjust future dredging frequencies, to the maximum extent practicable and consistent with applicable law, so that adjacent habitats are made available and total habitat loss would not occur at one time within a given inlet complex.
- The Corps Civil Works program will consider placing dredged materials in the nearshore region as an alternative to beach placement to minimize effects to piping plovers and their habitat.

Seasonal occurrence of the piping plover and rufa red knot overlaps with the project area, though critical habitat has not been designated in the beaches proposed for renourishment. Placement of dredged material may directly and indirectly affect these species’ behavior, particularly foraging and resting. Effects are expected to be localized, moderate, and short-term with the implementation of mitigation measures from the P3BO.

There is no new information in regards to threatened and endangered species that suggests there is the potential for significantly different effects not previously considered (i.e., those effects must be substantially different from those indicated in past analyses and effects may be possibly significant). Those previous effects analyses/conclusions are adequate and remain valid. The expected effects level on protected species resources is to be minor to moderate due to the implementation of the mitigation and minimization measures outlined herein. For sea turtles (swimming and nesting) and marine mammals, this includes the implementation of the terms and conditions of 1) NMFS 1995/1997 SARBO, 2) USFWS 2015 SPBO, and 3) NMFS 2017 Concurrence. For manatees, standard manatee protection measures will be used for in-water activities. For the smalltooth sawfish, NMFS’ Smalltooth Sawfish Construction Conditions will be implemented. For the piping plover and rufa red knot, the terms and conditions within the 2013 P3BO will be applied.

### **4.3 Water Quality**

During the 2013 Brevard County renourishment project, turbidity was monitored at least twice during daylight construction activity at the borrow area and at a background site at least 500 m upcurrent and away from any dredge-related turbidity. Measured turbidity did not approach or exceed the maximum permitted turbidity of +29 Nephelometric Turbidity Units (NTU) above background (Olsen Associates, Inc. 2014a).

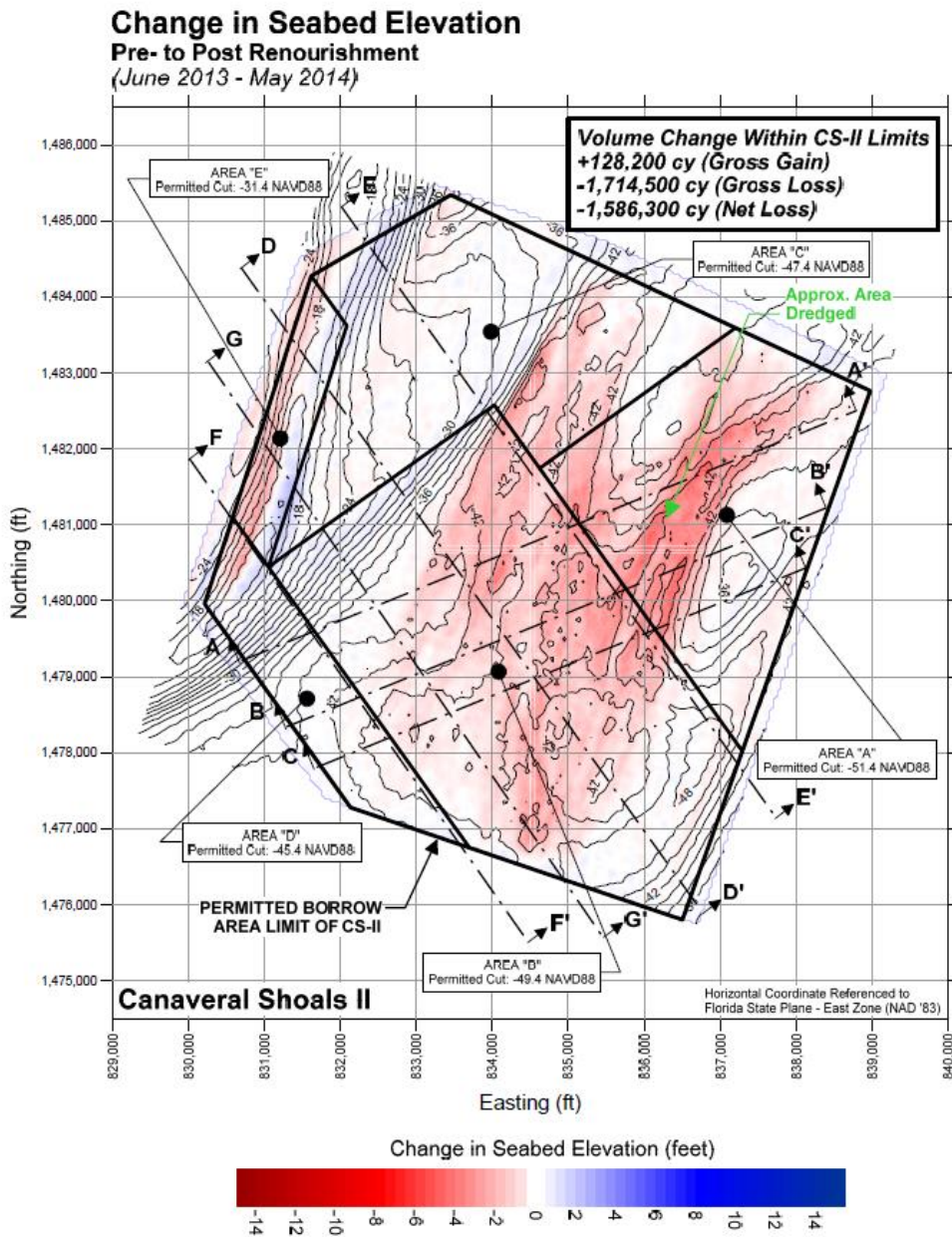
The results from the 2013 monitoring data indicate that there will not be significant impacts to water quality from the proposed action. The FDEP will require similar water quality/turbidity monitoring as a permit condition/mitigation measure for this project. There is no new information in regards to water quality that suggests there is the potential for significantly different effects not previously considered. Those previous effects analyses/conclusions are adequate and remain valid. The expected effects level on this resource is expected to be minor, localized, and temporary.



#### ***4.4 Physical Impacts to Borrow Area Habitat and Geomorphology***

Habitat and morphology changes within the CSII borrow area have been monitored since 2000. Dredging has led to the cumulative loss of approximately 9,300,000 cy of sand from the CS II borrow area (Olsen and Associates 2014b). Figure 4 depicts the change in seabed elevation at CS II between the June 2013 (pre-construction) and May 2014 (post-construction) associated with last dredging cycle. This most recent dredge event was authorized for use of up to 2,400,000 cy, with 1,724,476 cy dredged. Areas in red depict sediment loss, whereas areas in blue depict sediment gains. Cut depths are between 0 and 4 feet below the seabed and are typical for dredging cycles. Across the overall survey area, comparison of the pre- and post-construction surveys indicates gross seabed loss of -1,714,500 cy, and gross seabed gains of +128,200 cy. The latter was principally associated with an apparent influx of material from the shallower banks along the west-northwest edge of the borrow area, outside of the area dredged. The net overall change was a loss of -1,586,300 cy from before and after the 2013/2014 dredge event.

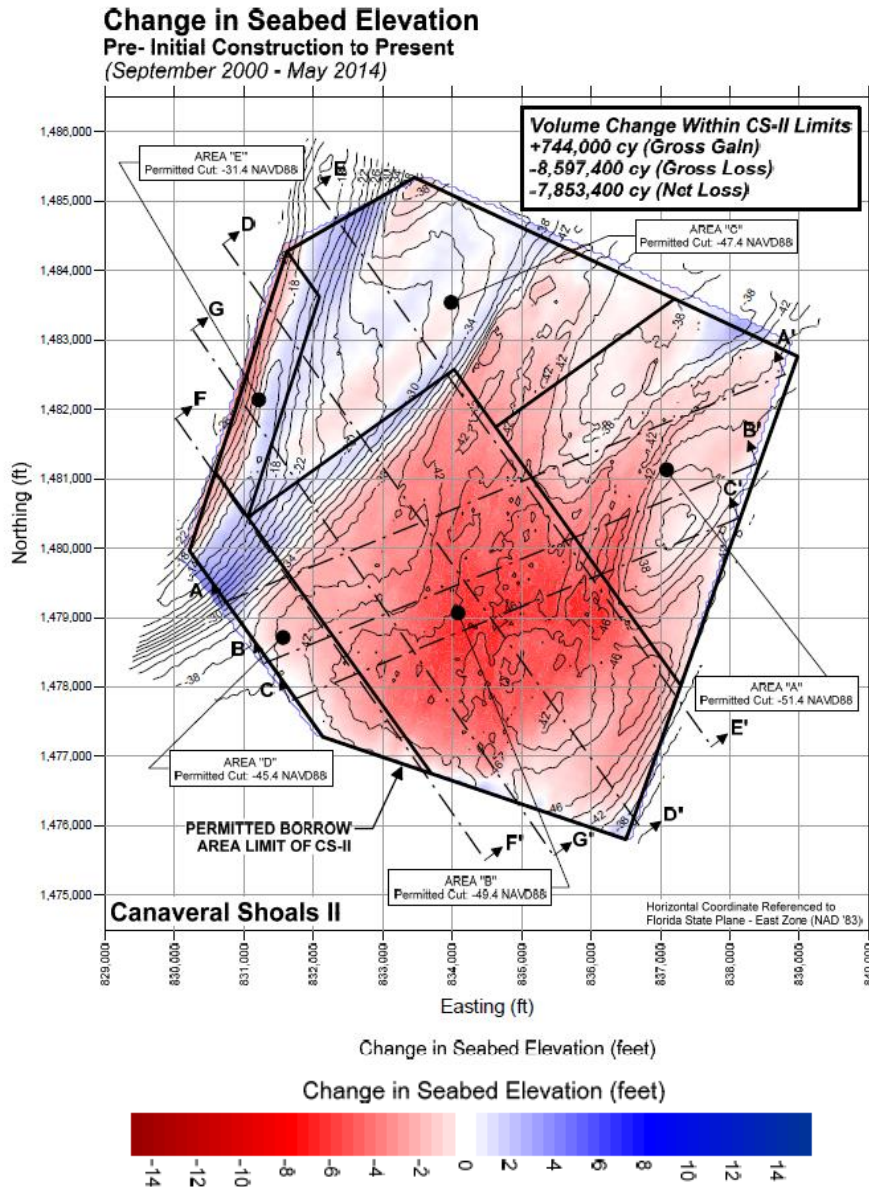
**Figure 4: Change in Seabed Elevation and Volumes Computed for the 2013 Dredge Event (Olsen and Associates, 2014b)**



Bathymetric survey data from prior to the initial dredge event in 2000 and data post-2014 dredge event were also compared to examine the change in seabed elevation during more than a decade of dredging operations (Figure 5). The following measurements include a change in vertical datum between 2000 (MLLW) and 2013 (NAVD88), so is subject to additional uncertainty. The pre-2000 and post-2014 comparison indicates a gross gain of +744,000 cy and an overall net loss

of -8,597,400 cy across the borrow area. During this 14- year interval, approximately 9,300,000 cy were dredged from the borrow area. Simply, the difference between dredge volume and loss (9.3-8.6) indicates a net gain of about 700,000 cy over the monitoring period. The total current volume within the limits of the CS II borrow area is approximately 20,760,000 cy of sand.

**Figure 5: Change in Seabed Elevation and Volumes from Pre-2000 to Post-2013 (Olsen and Associates 2014b)** (Bathymetric isopach includes a vertical datum adjustment between the 2000 (MLLW) and 2009 (NAVD88) survey data)



Short-term infilling of the CS II borrow area can also be assessed by comparing bathymetric surveys. Inter-annual bathymetric survey comparisons indicate an average annual net volumetric recovery rate of approximately 150,000 cy/yr, but there is substantial variability in this physically, storm-dominated setting. Monitoring data indicate that seabed infilling of 1-3 vertical feet occurs across the entirety of the borrow area following each dredging event. Beach-side sampling and grain size analyses of placed dredged material during the last three construction cycles also demonstrates that there has been no substantial change in the borrow area sediment relative to pre-dredging conditions. The most dynamic changes are associated with a migrating sand ridge in the northwestern quadrant of the borrow area. The most recent dredging activities were located along the eastern base and leading edge of this feature. These observed effects to the borrow area habitat and morphology are consistent with previous effects analyses. The USACE and Brevard County have an adaptive plan to use the sand resources strategically and that addresses dredge production concerns, project cost implications, and beach compatibility concerns. BOEM will require that bathymetric surveys be conducted pre- and post-construction and 3 years after construction to continue monitoring physical changes.

There is no new information in regards to physical impacts that suggests there is the potential for significantly different effects not previously considered. Those previous effects analyses/conclusions are adequate and remain valid. The expected effects level on this resource is to be localized, moderate, and long-term due to the loss of substrate within the borrow area although some degree of infilling is to be expected.

This section included updated information on a selection of resources originally analyzed. For those resources analyzed previously, new information was not found to be relevant to environmental concerns or have bearing on project impacts. Through the findings of this EA, impacts from the proposed renourishment of Brevard County on the affected environment are not expected to be significant and therefore, BOEM determined that an Environmental Impact Statement is not needed.

## **5 ALTERNATIVE TO THE PROPOSED ACTION**

BOEM considered the following as an alternative to the proposed action:

No Action: Under this alternative, the USACE and Brevard County Board of County Commissioners would not be authorized to use the CS II borrow area. The project proponents could either:

- Option A: re-evaluate the project to choose another alternative method or sand source to restore the North and South Reaches,
- Option B: locate an onshore source of comparable high-quality sand, or
- Option C: do not undertake the project at this time.

Option A may be viable if another sand source, such as CS I, is considered. The borrow area at CS I has several constraints that limit this as an option. First, the water depth is too shallow to utilize a hopper or cutterhead dredge. Therefore, a cut would need to be made through the borrow site to allow for vessel usage. This extra effort would not only be a financial burden but

could also lead to additional environmental concerns from loss of benthic resources and disturbance of habitat previously undisturbed. Second, while the sand in CS I has been deemed beach quality, the sand in CS II has been shown to be well suited for beach renourishment and sea turtle nesting.

Option B is not considered to be viable as sources of approved onshore sand are limited. Even if a sufficient amount of high-quality sand is located onshore, Option B is likely to result in increased environmental disruption/effect from the onshore excavation and overland transport.

In the case of no project under Option C, coastal erosion would continue, sea turtle and shorebird nesting habitat would deteriorate, the recreational amenity associated with the public beach would be severely affected, and the likelihood and frequency of property and storm damage would increase.

## **6 CONSULTATION AND COORDINATION**

### List of agencies and persons consulted:

Pace Wilber, National Marine Fisheries Service, Southeast Regional Office, Habitat Conservation Division  
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## **8 PROPOSED MITIGATION MEASURES**

### **1. Plans and Performance Requirements**

The USACE will include this MOA as a reference document in the advertised “Construction Solicitation and Specifications Plan” (hereinafter referred to as the “Plan”). The USACE will ensure that all operations at CS II are conducted in accordance with the final approved Plan and all terms and conditions in this MOA, as well as all applicable statutes, regulations, orders and any guidelines or directives specified or referenced herein. The USACE will send BOEM a copy of the plans and its modification when publicly available.

The dredging method for removing sand from CS II will be consistent with those evaluated in all applicable NEPA documents and approved in the authorizing documents, as well as project permits. The USACE will allow BOEM to review and comment on modifications to the Plan that may affect the borrow area or pipeline corridors on the OCS, including the use of submerged or floated pipelines to directly convey sediment from the borrow area to the placement site. Said comments will be delivered in a timely fashion so as to not unnecessarily delay the USACE’s construction contract or schedule.

If dredging and/or conveyance methods are not wholly consistent with those evaluated in relevant NEPA documents prepared by BOEM for this Project, and environmental and cultural resource consultations, and those authorized by the Joint Coastal Permits (JCPs), additional environmental review may be necessary. If the additional NEPA, consultations, or permit modifications would impact or otherwise supplement the provisions of the MOA, an amendment may be required.

Prior to the commencement of construction, the USACE must electronically provide BOEM with a summary of the construction schedule consistent with Paragraph 15. The USACE, at the reasonable request of BOEM or the Bureau of Safety and Environmental Enforcement (BSEE), must allow access, at the site of any operation subject to safety regulations, to any authorized Federal inspector and must provide BOEM or BSEE any documents and records that are pertinent to occupational or public health, safety, environmental protection, conservation of natural resources, or other use of the OCS as may be requested.

### **2. Environmental Responsibilities and Environmental Compliance**

The USACE is the lead agency on behalf of the Federal Government to ensure the Project complies with applicable environmental laws, including but not limited to the ESA, MSA, MBTA, NHPA, and CZMA, and any consultations or limitations imposed thereunder. Brevard County is responsible for compliance, with the specific conditions of the JCPs, as authorized by the CZMA.

The USACE will serve as the lead Federal agency for ESA Section 7 consultation concerning protected species under the purview of the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS). The USACE will instruct its contractor(s) to implement the mitigation terms, conditions, and measures required by the USFWS, NMFS,

Florida DEP, and BOEM pursuant to applicable Federal and State laws and regulations prior to commencement of activities authorized under this MOA, including extraction, transportation and placement of sand resources from CS II. The required mitigation terms, conditions, and measures are reflected in the relevant Biological Opinions, Conservation Recommendations, Consistency Determinations, and JCPs. Electronic copies of all relevant correspondence, monitoring data, and reports related to the activities covered by this MOA, will be provided electronically to BOEM within 14 days of issuance (including observer, FDEP, and dredging reports). The County is responsible for compliance with the Specific Conditions of the JCP. Construction may not commence until the pre-construction requirements have been completed.

### **3. Pre-Construction Notification of Activity in or near the Borrow Area**

The USACE will invite BOEM to attend a pre-construction meeting that describes the USACE's and/or its contractors' or agents' plan and schedule to construct the Project.

The USACE will notify BOEM electronically at least 72 hours prior to the commencement, and within 24 hours after termination, of operations at CS II. BOEM will electronically notify the USACE in a timely manner of any OCS activity within the jurisdiction of the DOI that may adversely affect the USACE's ability to use OCS sand for the Project.

### **4. Dredge Positioning**

During all phases of the Project, the USACE will ensure that the dredge and any bottom-disturbing equipment is outfitted with an onboard global positioning system (GPS) capable of maintaining and recording location within an accuracy range of no more than plus or minus 3 meters. The GPS must be installed as close to the hydraulic dredge as is practicable or must use appropriate instrumentation to accurately represent the position of the hydraulic dredge. During dredging operations, the USACE will immediately notify BOEM electronically if dredging occurs outside of the approved borrow area. Such notification will be made as soon as possible after the time USACE becomes aware of dredging outside of the approved borrow area.

Anchoring, spudding, or other bottom disturbing activities are not authorized outside of the approved borrow area on the OCS, except for immediate concerns of safety, navigation risks or emergency situations.

The USACE will provide BOEM, electronically, with all appropriate Dredging Quality Management (DQM) data acquired during the Project using procedures jointly developed by the USACE's National Dredging Quality Management (DQM) Data Program Support Center and BOEM. The USACE will submit the DQM data, including draghead, cutterhead, or other hydraulic or mechanical dredging device depth biweekly. A summary DQM dataset will be submitted within 90 days of completion of the Project. If available, the USACE will also submit Automatic Identification System (AIS) data for vessels qualifying under the International Maritime Organization's (IMO) International Convention for the Safety of Life at Sea.

## **5. Dredge Operation**

Dredging will occur preferentially in naturally accreting areas of CS II and dredging will be avoided in erosional areas of the shoal to the extent possible. If a hopper dredge is used, dredging will be performed so that the hopper dredge excavates material using relatively shallow, uniform passes to an overall cut depth not to exceed that permitted under the Florida JCP Final Order addressing sand compatibility requirements. The USACE will use the methods necessary to maintain the relative profile and shape of the sand shoal complex to the extent practicable, as determined by the USACE, to avoid creating deep depressions or pits.

## **6. Submittal of Production and Volume Information**

The USACE, in cooperation with the dredge operator, must submit to BOEM a summary of the dredge track lines, outlining any deviations from the original Plan on a biweekly basis. A color-coded plot of the draghead, cutterhead, or other hydraulic or mechanical dredging device will be submitted, showing any horizontal or vertical dredge violations. The dredge track lines must show dredge status: hotelling, dredging, transiting, or unloading. This map will be provided in PDF format.

The USACE will electronically provide at least a biweekly report of the construction progress including estimated volumetric production rates to BOEM. The project completion report, as described below, will also include production and volume information, including Daily Operational Reports.

## **7. Local Notice to Mariners**

The USACE will require its contractor(s) for the Project to place a notice in the U.S. Coast Guard Local Notice to Mariners regarding the timeframe and location of dredging and construction operations in advance of commencement of dredging.

## **8. Marine Pollution Control and Contingency Plan**

The USACE will require its contractor(s) and subcontractor(s) to prepare for and take all necessary precautions to prevent discharges of oil and releases of waste or hazardous materials that may impair water quality. In the event of such an occurrence, notification and response will be in accordance with applicable requirements of 40 C.F.R. Part 300. All dredging and support operations must be compliant with U.S. Coast Guard regulations and the U.S. Environmental Protection Agency's Vessel General Permit, as applicable. The USACE will notify BOEM of any noncompliant discharges and remedial actions taken, and will provide copies of reports of the incident and resultant actions electronically.

## **9. Encounter of Ordnance**

If any ordnance is encountered while conducting dredging activities at CS II, the USACE will report the discovery within 24 hours to Dr. Jeff Reidenauer, Chief, BOEM Marine Minerals Branch, at (703) 787-1851 and [dredgeinfo@boem.gov](mailto:dredgeinfo@boem.gov).

## 10. Bathymetric Surveys

The Corps will provide BOEM with pre- and post-dredging bathymetric surveys of the Borrow Area. The pre-dredging survey of the Borrow Area will be conducted within 60 days prior to the commencement of dredging and the data will be provided to BOEM for review via [dredgeinfo@boem.gov](mailto:dredgeinfo@boem.gov), allowing for a minimum of 7 working days for BOEM to provide concurrence prior to the commencement of dredging. A qualified hydrographic surveyor, independent from the dredging/construction contractor, must conduct, oversee, and approve the survey results before transmitting to BOEM. The post-dredging survey of the Borrow Area will be conducted within 60 days after the completion of dredging. BOEM recommends that the Corps conduct additional bathymetric surveys of the Borrow Area one (1) and three (3) years after the completion of dredging to document borrow area evolution and provide information to inform future decisions and consultations regarding use of OCS sand resources. Surveys, error analysis, and reporting will be performed in accordance with the most recent edition of the National Oceanic and Atmospheric Administration's (NOAA's) Office of Coast Survey Hydrographic Survey Field Procedure Manual. Survey standards and requirements are specified and can be found on the Coast Survey Document Library (<https://www.nauticalcharts.noaa.gov/hsd/specs/specs.htm>).

For bathymetric surveys, one hundred percent coverage using multi-beam bathymetric survey methods is required. All bathymetric data will be roll, pitch, heave, and tide corrected using best practices. Sound velocity corrections will be applied based on measurements made during and throughout the duration of the survey using a profiling sound velocity meter to obtain water column sound velocities with casts that log the entire water column to the seafloor. Survey lines of the specific dredge area will be established at intervals necessary to provide 100 percent coverage. All survey lines will extend at least 100 meters (328 feet) beyond the edge of the Borrow Area limits as defined in this MOA.

All data will be collected in such a manner that post-dredging bathymetric surveys are compatible with the pre-dredging bathymetric survey data to enable the latter to be subtracted from the former to calculate the volume of sand removed, the shape of the excavation, and the nature of post-dredging bathymetric change. Pre-dredge bathymetric survey transects will be reoccupied during the post-dredging surveys. Surveys will be conducted using kinematic GPS referenced to a GPS base station occupying an established (NAVD 88 vertical control) monument within 15 kilometers (9 miles) of the survey area, a National Geodetic Survey real-time network, or a water-level gauge deployed within the vicinity of the Borrow Area and referenced to an established monument (NAVD 88 vertical control), unless alternative methods are approved by BOEM. Pre- and post-dredging surveys will be referenced to the same water-level gauge, tide gauge, real-time network, benchmark, or BOEM-approved method. An uncertainty or error analysis will be conducted on the bathymetric dataset based on calculated differences of measured elevations (depths) at all transect crossings (also note that other best practices typically employed to identify potential error or quantify uncertainty, such as daily bar-checks, will be conducted and documented). A methods and results of the uncertainty analysis report, field notes, and metadata must be submitted to BOEM with the processed bathymetric data products.

If data accuracy, coverage, quality, or other parameters for either pre- or post-dredging surveys are not sufficient to provide for accurate comparisons between the pre-dredge and post-dredge surveys (e.g., do not meet specifications and standards discussed or referenced above), BOEM may require that a new survey (at the pre-dredge and/or post-dredge phase) be conducted.

The delivery format for bathymetry data submission is an ASCII file containing x, y, z data and a digital elevation model in a format agreed upon between BOEM and USACE in writing. The horizontal data will be provided in the NAD83 Florida State Plane East, U.S. survey feet. Vertical data will be provided in the NAVD 88, U.S. survey feet unless otherwise specified. An 8.5 x 11 inch plan view plot of the pre- and post-construction data will be provided showing the survey vessel navigation tracks, as well as contour lines at appropriate elevation intervals. A plot of the digital elevation model will also be provided. These plots will be provided in Adobe PDF format. Images and descriptions of side scan sonar or bathymetric anomaly targets will be included and identified on an index map.

## 11. Archaeological Resources

### *Onshore Prehistoric or Historic Resources*

If the USACE discovers any previously unknown historic or archeological resources while accomplishing the activity on Brevard County beaches, the USACE will notify BOEM of any finding. The USACE will initiate the Federal and State coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

### *Offshore Prehistoric or Historic Resources*

The following five anomalies (**Table 7**) must be avoided during dredging operations by at least 300 feet:

**Table 7. Anomalies to be Avoided during Dredging Operations**

Target	Area/Block	Amplitude (gammas)	Duration (ft)	FL East State Plane Coordinates NAD 1983 (X / Y Coordinate)	Avoidance Radius (ft)	Note
m57	Canaveral Shoals II	147	140	██████████	300	Cultural Resource
m35	Canaveral Shoals II	51	125	██████████	300	Cultural Resource
DRE 2	Canaveral Shoals II	NA	NA	██████████	300	Acoustic Receiver
m47	Canaveral Shoals II	61	165	██████████	300	Cultural Resource
m61	Canaveral Shoals II	52	100	██████████	300	Cultural Resource

Targets identified as a “Cultural Resource” are potentially significant historical resources (e.g., debris related to space program). The target identified as an “Acoustic Receiver” is an operational scientific instrument used in a BOEM scientific study. In the event that the parties and/or dredge operators discover any archaeological resources prior to dredging operations in CS II or in the vicinity of pump-out operations, the USACE will report the discovery to the Chief, Leasing Division, BOEM electronically in a timely manner. The Corps Planning Division will coordinate with BOEM on the measures needed to evaluate, avoid, protect, and, if needed, mitigate adverse impacts from an unanticipated discovery. If investigations determine that the resource is significant, the parties will together determine how best to protect it.

If the parties and/or dredge operators discover any archaeological resources while conducting dredging operations, the USACE will require that dredge and/or pump-out operations be halted immediately and avoid the resource per the requirements of the USACE specifications for unanticipated finds. The USACE will then immediately report the discovery to Chief, Division of Environmental Assessment, BOEM electronically in a timely manner. The Corps Planning Division will coordinate with BOEM on the measures needed to evaluate, avoid, protect, and, if needed, mitigate adverse impacts from an unanticipated discovery. If investigations determine that the resource is significant, the parties will together determine the necessary further action required and how to best protect the resource.

## **12. Responsibilities**

BOEM does not warrant that the OCS sand resources used in this project are suitable for the purpose for which they are intended by the USACE and the County. BOEM’s responsibility under this Project is limited to the authorization of access to OCS sand resources from CS II, as described in this MOA, and therefore BOEM disclaims any and all responsibility for the physical and financial activities undertaken by other Parties in pursuit of the Project.

## **13. Project Completion Report**

Consistent with Paragraph 15, a project completion report will be submitted by the USACE to BOEM within 120 days following completion of the activities authorized under this MOA. This report and supporting materials should be sent in writing and electronically. The report will contain, at a minimum, the following information:

- the names and titles of the project managers overseeing the effort (for the USACE, the engineering firm (if applicable), and the contractor), including contact information (phone numbers, mailing addresses, and email addresses);
- the location and description of the project, including the final total volume of material extracted from the borrow area and the volume of material actually placed on the beach or shoreline (including a description of the volume calculation method used to determine these volumes);
- DQM data, in ASCII files, containing the x, y, z and time stamp of the cutterhead or drag arm locations;



- a narrative describing the final, as-built features, boundaries, and acreage, including the restored beach width and length;
- a narrative discussing the construction sequences and activities, and, if applicable, any problems encountered and solutions;
- a list and description of any construction change orders issued, if applicable;
- a list and description of any safety-related issues or accidents reported during the life of the project;
- a narrative and any appropriate tables describing any environmental surveys or efforts associated with the project and costs associated with these surveys or efforts;
- a table listing significant construction dates beginning with bid opening and ending with final acceptance of the project by the USACE;
- a table, an example of which is illustrated below, showing the various key project cost elements;

	Cost Incurred as of Construction Completion (\$)
Construction	
Engineering and Design	
Pre- and Post-Dredging Bathymetric Surveys	
Compilation of Project Completion Report	
Total	

- a table showing the various phases of the project construction, the types of construction equipment used, the nature of their use;
- digital appendices containing the as-built surveys, beach-fill cross-sections, and survey data; and
- any additional pertinent comments.

## 9 APPENDICES

### **Appendix A. Florida Dept. of Environmental Protection Consistency Certification (2015 and 2017)**

### **Appendix B. USACE-NMFS Correspondence (2013)**

### **Appendix C. Fish and Wildlife Service Correspondence (2017)**

### **Appendix D. NMFS Essential Fish Habitat Conservation Recommendations (2005)**

### **Appendix E. Florida State Historic Preservation Office and Tribal Historic Preservation Office Coordination (2017)**

## APPENDIX A

# Florida Department of Environmental Protection Consistency Certification



**FLORIDA DEPARTMENT OF  
ENVIRONMENTAL PROTECTION**

BOB MARTINEZ CENTER  
2600 BLAIR STONE ROAD, MS 3544  
TALLAHASSEE, FLORIDA 32399-2400

RICK SCOTT  
GOVERNOR

CARLOS LOPEZ-CANTERA  
LT. GOVERNOR

JONATHAN P. STEVERSON  
SECRETARY

**CONSOLIDATED JOINT COASTAL PERMIT AND  
SOVEREIGN SUBMERGED LANDS AUTHORIZATION**

**PERMITTEE:**

Brevard County  
c/o Mike McGarry  
2725 Judge Fran Jamieson Way  
Building A  
Viera, Florida. 32940

**AGENT:**

Kevin R. Bodge, Ph.D., P.E.  
4438 Herschel Street  
Jacksonville, FL 32210

**PERMIT INFORMATION:**

Permit Number: 0134869-009-JC

Project Name: Brevard County North Reach  
Beach Nourishment

County: Brevard

Issuance Date: March 20, 2015

Expiration Date: March 20, 2030

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**REGULATORY AUTHORIZATION:**

This permit is issued under the authority of Chapter 161 and Part IV of Chapter 373, Florida Statutes (F.S.), and Title 62, Florida Administrative Code (F.A.C.). Pursuant to Operating Agreements executed between the Department of Environmental Protection (Department) and the water management districts, as referenced in Chapter 62-113, F.A.C., the Department is responsible for reviewing and taking final agency action on this activity. **Permit No. 0134869-009-JC hereby supersedes Permit No. 0134869-002-JC.**

**PROJECT DESCRIPTION:**

The project is to periodically nourish all or portions of a 9.6-mile segment of beach in the North Reach. For each nourishment event, approximately 1.5 million cubic yards of beach-quality sand may be dredged from one or both of the two offshore borrow areas (Canaveral Shoals I and II). In order to gain access to the Canaveral Shoals I borrow area, an access channel (Access Lane) may be dredged to a width of 500 feet, a length of 5300 feet and a depth of -30.3 feet NAVD. The beach-compatible fill material will be hydraulically placed on the beach by one or both of the following methods: (a) direct hopper dredge pump-out onto the beach; or (b) hopper dredge discharge into the Nearshore Disposal and Sand Rehandling Area (NDSRA), with subsequent transfer to the beach by cutterhead pipeline dredge. Material dredged from the access channel leading to the Canaveral Shoals I borrow area that contains between 5% and 20 % fines will be discharge by the hopper dredge into the Nearshore Disposal Area (NDA), and dredged material containing more than 20% fines will be placed in the

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Canaveral Ocean Dredged Material Disposal Site (ODMDS). The landward portion of the beach berm will be flat and will tie into the existing berm at an elevation of +8.2 feet North American Vertical Datum (NAVD), with a variable width of up to 80 feet. From there, the berm will have a seaward slope of 1:40 (vertical:horizontal) to an elevation of +6.7 feet NAVD, over a distance of 60 feet. The foreshore slope of the berm will be 1:15 (vertical:horizontal) until it ties into the existing seabed.

**PROJECT LOCATION:**

The 9.6-mile beach nourishment site extends from DEP Reference Monuments R-1 through R-54.5 in Brevard County, Sections 11-15, 22, 23, 26 and 35, Township 24 South, Range 37 East; Sections 2, 3, 10, 11, 14, 15, 22 and 23, Township 25 South, Range 37 East; and Sections 26, 27 and 35, Township 25 South, Range 37 East. The NDA and the NDSRA are located offshore of the beach nourishment site, approximately between R-28 and R-38. The NDA extends approximately between the -15-foot and -28-foot NAVD contour lines, and the NDSRA extends approximately between the -33-foot and -43-foot NAVD contour lines. The Canaveral Shoals I borrow area is located southeast of Cape Canaveral, approximately 1.6 miles offshore (in State Waters); and the Canaveral Shoals II borrow area is located southeast of Cape Canaveral, approximately 5 miles offshore (outside of State Waters). The project is located in the Atlantic Ocean, Class III waters.

**PROPRIETARY AUTHORIZATION:**

This activity also requires a proprietary authorization, as the activity is located on sovereign submerged lands held in trust by the Board of Trustees of the Internal Improvement Trust Fund (Board of Trustees), pursuant to Article X, Section 11 of the Florida Constitution, and Sections 253.002 and 253.77, F.S. The activity is not exempt from the need to obtain a proprietary authorization. The Board of Trustees delegated, to the Department, the responsibility to review and take final action on this request for proprietary authorization in accordance with Section 18-21.0051, F.A.C., and the Operating Agreements executed between the Department and the water management districts, as referenced in Chapter 62-113, F.A.C. This proprietary authorization has been reviewed in accordance with Chapter 253, Chapter 18-21 and Section 62-330.075, F.A.C., and the policies of the Board of Trustees.

As staff to the Board of Trustees, the Department has reviewed the project described above, and has determined that use of the beach nourishment site, the NDA and the NDSRA qualifies for a Letter of Consent to use sovereign, submerged lands, as long as the work performed is located within the boundaries as described herein and is consistent with the terms and conditions herein. Therefore, consent is hereby granted, pursuant to Chapter 253.77, F.S., to perform the activity on the specified sovereign submerged lands.

The use of Canaveral Shoals I Borrow Area and Access Lane is already authorized under a perpetual public easement granted to Brevard County (Easement No. 30166). Canaveral Shoals II Borrow Area is located outside of State Waters and does not require proprietary authorization from the State.

**COASTAL ZONE MANAGEMENT:**

This permit constitutes a finding of consistency with Florida's Coastal Zone Management Program, as required by Section 307 of the Coastal Zone Management Act.

**WATER QUALITY CERTIFICATION:**

This permit constitutes certification of compliance with state water quality standards pursuant to Section 401 of the Clean Water Act, 33 U.S.C. 1341.

**OTHER PERMITS:**

Authorization from the Department does not relieve you from the responsibility of obtaining other permits (Federal, State, or local) that may be required for the project. When the Department received your permit application, a copy was sent to the U.S. Army Corps of Engineers (Corps) for review. The Corps will issue their authorization directly to you, or contact you if additional information is needed. If you have not heard from the Corps within 30 days from the date that your application was received by the Department, contact the nearest Corps regulatory office for status and further information. Failure to obtain Corps authorization prior to construction could subject you to federal enforcement action by that agency.

**AGENCY ACTION:**

The above named Permittee is hereby authorized to construct the work that is outlined in the project description and project location of this permit and as shown on the approved permit drawings, plans and other documents attached hereto. This agency action is based on the information submitted to the Department as part of the permit application, and adherence with the final details of that proposal shall be a requirement of the permit. **This permit and authorization to use sovereign submerged lands are subject to the General Conditions, General Consent Conditions and Specific Conditions, which are a binding part of this permit and authorization.** Both the Permittee and their Contractor are responsible for reading and understanding this permit (including the permit conditions and the approved permit drawings) prior to commencing the authorized activities, and for ensuring that the work is conducted in conformance with all the terms, conditions and drawings.

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**GENERAL CONDITIONS:**

1. All activities authorized by this permit shall be implemented as set forth in the plans and specifications approved as a part of this permit, and all conditions and requirements of this permit. The Permittee shall notify the Department in writing of any anticipated deviation from the permit prior to implementation so that the Department can determine whether a modification of the permit is required pursuant to section 62B-49.008, Florida Administrative Code.
2. If, for any reason, the Permittee does not comply with any condition or limitation specified in this permit, the Permittee shall immediately provide the Beaches Inlets and Ports Program and the appropriate District office of the Department with a written report containing the following information: a description of and cause of noncompliance; and

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the period of noncompliance, including dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

3. This permit does not eliminate the necessity to obtain any other applicable licenses or permits that may be required by federal, state, local, special district laws and regulations. This permit is not a waiver or approval of any other Department permit or authorization that may be required for other aspects of the total project that are not addressed in this permit.
4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of sovereignty land of Florida seaward of the mean high-water line, or, if established, the erosion control line, unless herein provided and the necessary title, lease, easement, or other form of consent authorizing the proposed use has been obtained from the State. The Permittee is responsible for obtaining any necessary authorizations from the Board of Trustees of the Internal Improvement Trust Fund prior to commencing activity on sovereign lands or other state-owned lands.
5. Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered specifically approved unless a specific condition of this permit or a formal determination under section 373.421(2), F.S., provides otherwise.
6. This permit does not convey to the Permittee or create in the Permittee any property right, or any interest in real property, nor does it authorize any entrance upon or activities on property which is not owned or controlled by the Permittee. The issuance of this permit does not convey any vested rights or any exclusive privileges.
7. This permit or a copy thereof, complete with all conditions, attachments, plans and specifications, modifications, and time extensions shall be kept at the work site of the permitted activity. The Permittee shall require the contractor to review the complete permit prior to commencement of the activity authorized by this permit.
8. The Permittee, by accepting this permit, specifically agrees to allow authorized Department personnel with proper identification and at reasonable times, access to the premises where the permitted activity is located or conducted for the purpose of ascertaining compliance with the terms of the permit and with the rules of the Department and to have access to and copy any records that must be kept under conditions of the permit; to inspect the facility, equipment, practices, or operations regulated or required under this permit; and to sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules. Reasonable time may depend on the nature of the concern being investigated.

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9. At least forty-eight (48) hours prior to commencement of activity authorized by this permit, the Permittee shall submit to the Beaches Inlets and Ports Program (JCP Compliance Officer) and the appropriate District office of the Department a written notice of commencement of construction indicating the actual start date and the expected completion date and an affirmative statement that the Permittee and the contractor, if one is to be used, have read the general and specific conditions of the permit and understand them.
10. If historic or archaeological artifacts, such as, but not limited to, Indian canoes, arrow heads, pottery or physical remains, are discovered at any time on the project site, the Permittee shall immediately stop all activities in the immediate area that disturb the soil in the immediate locale and notify the State Historic Preservation Officer and the Beaches Inlets and Ports Program (JCP Compliance Officer). In the event that unmarked human remains are encountered during permitted activities, all work shall stop in the immediate area and the proper authorities notified in accordance with Section 872.02, F.S.
11. Within 30 days after completion of construction or completion of a subsequent maintenance event authorized by this permit, the Permittee shall submit to the Beaches Inlets and Ports Program (JCP Compliance Officer) and the appropriate District office of the Department a written statement of completion and certification by a registered professional engineer. This certification shall state that all locations and elevations specified by the permit have been verified; the activities authorized by the permit have been performed in compliance with the plans and specifications approved as a part of the permit, and all conditions of the permit; or shall describe any deviations from the plans and specifications, and all conditions of the permit. When the completed activity differs substantially from the permitted plans, any substantial deviations shall be noted and explained on two paper copies and one electronic copy of as-built drawings submitted to the Beaches Inlets and Ports Program (JCP Compliance Officer). Note: Certification by a licensed professional engineer is not required for written statements of completion submitted by the Corps.

**GENERAL CONSENT CONDITIONS:**

1. Authorizations are valid only for the specified activity or use. Any unauthorized deviation from the specified activity or use and the conditions for undertaking that activity or use shall constitute a violation. Violation of the authorization shall result in suspension or revocation of the grantee's use of the sovereignty submerged land unless cured to the satisfaction of the Board.
2. Authorizations convey no title to sovereignty submerged land or water column, nor do they constitute recognition or acknowledgment of any other person's title to such land or water.

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3. Authorizations may be modified, suspended or revoked in accordance with their terms or the remedies provided in Sections 253.04 and 258.46, F.S., or Chapter 18-14, F.A.C.
4. Structures or activities shall be constructed and used to avoid or minimize adverse impacts to sovereignty submerged lands and resources.
5. Construction, use or operation of the structure or activity shall not adversely affect any species that is endangered, threatened or of special concern, as listed in Rules 68A-27.003, 68A-27.004 and 68A-27.005, F.A.C.
6. Structures or activities shall not unreasonably interfere with riparian rights. When a court of competent jurisdiction determines that riparian rights have been unlawfully affected, the structure or activity shall be modified in accordance with the court's decision.
7. Structures or activities shall not create a navigational hazard.
8. Structures shall be maintained in a functional condition and shall be repaired or removed if they become dilapidated to such an extent that they are no longer functional. This shall not be construed to prohibit the repair or replacement subject to the provisions of Rule 18-21.005, F.A.C., within one year, of a structure damaged in a discrete event such as a storm, flood, accident or fire.
9. Structures or activities shall be constructed, operated and maintained solely for water dependent purposes, or for non-water dependent activities authorized under paragraph 18-21.004(1)(f), F.A.C., or any other applicable law.

**SPECIFIC CONDITIONS:**

1. All reports or notices relating to this permit shall be electronically submitted to the Department's JCP Compliance Officer (e-mail address: [JCPCCompliance@dep.state.fl.us](mailto:JCPCCompliance@dep.state.fl.us)) unless otherwise specified in the specific conditions of this permit.
2. The Permittee shall not store or stockpile tools, equipment, materials, etc., within littoral zones or elsewhere within surface waters of the state without prior written approval from the Department. Storage, stockpiling or access of equipment on, in, over or through beds of submerged aquatic vegetation, wetlands or hardbottom is prohibited unless it occurs within a work area or ingress/egress corridor that is specifically approved by this permit. Anchoring or spudding of vessels and barges within beds of aquatic vegetation or hardbottom is also prohibited.
3. The Permittee shall not conduct project operations or store project-related equipment in, on or over dunes, or otherwise impact dune vegetation, outside the approved staging, beach access and dune restoration areas designated in the permit drawings.



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4. No work shall be conducted under this permit until the Permittee has received a written **Notice to Proceed** from the Department for each event. At least 30 days prior to the requested date of issuance of the notice to proceed, the Permittee shall submit a written request for a Notice to Proceed along with the following items for review and approval by the Department:
  - a. An electronic copy of detailed final construction **plans and specifications** for all authorized activities. The plans and specifications must be consistent with the project description of this permit and the attached permit drawings, and shall also be certified by a professional engineer (P.E.), who is registered in the State of Florida. Note: Certification by a licensed professional engineer is not required for written statements of completion submitted by the Corps. The plans and specifications shall include a description of the dredging and construction methods to be utilized and drawings and surveys that show all biological resources to be avoided and work spaces (e.g., anchoring areas, pipeline corridors, staging areas, boat access corridors, etc.) allowed to be used for this project.
  - b. **Turbidity monitoring qualifications.** Construction at the project site shall be monitored closely to assure that turbidity levels do not exceed the compliance standards established in this permit. This monitoring shall be conducted by an individual(s) with training in water quality monitoring and professional experience in turbidity monitoring for coastal construction projects. The monitor shall not be directly employed by the dredging company or the Permittee, but may be a sub-contractor of the dredging company or the Permittee. Also, an individual familiar with beach construction techniques and turbidity monitoring shall be present at all times when fill material is discharged on the beach. This individual, who may work for the dredging company, shall have authority to alter construction techniques or shut down the dredging or beach construction operations if turbidity levels exceed the compliance standards established in this permit. The names and qualifications of those individuals performing these functions, along with 24-hour contact information, shall be submitted for the Department's approval.
5. The Permittee shall conduct a **pre-construction conference** to review the specific conditions and monitoring requirements of this permit with Permittee's contractors, the engineer of record, those responsible for turbidity monitoring and the JCP Compliance Officer (or designated alternate) prior to each construction event. In order to ensure that appropriate representatives are available, at least twenty-one (21) days prior to the intended commencement date for the permitted construction, the Permittee is advised to contact the Department, and the other agency representatives listed below:

JCP Compliance Officer  
E-mail: [JCPCCompliance@dep.state.fl.us](mailto:JCPCCompliance@dep.state.fl.us)

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Imperiled Species Management Section  
Florida Fish & Wildlife Conservation Commission  
620 South Meridian Street  
Tallahassee, Florida 32399-1600  
Phone: (850) 922-4330  
Fax: (850) 921-4369 or email: [marineturtle@myfwc.com](mailto:marineturtle@myfwc.com)

The Permittee is also advised to schedule the pre-construction conference at least a week prior to the intended commencement date. At least seven (7) days in advance of the pre-construction conference, the Permittee shall provide written notification, advising the participants of the agreed-upon date, time and location of the meeting, and also provide a meeting agenda and a teleconference number.

6. Implementation of, and adherence to, the Physical Monitoring Plan (approved by the Department on March 20, 2015) is a condition of this permit. However, if the Plan conflicts with Permit Conditions, permit conditions shall prevail.
7. Implementation of, and adherence to, the attached "Beach Fill Sediment Quality Assurance/Quality Control Plan" (approved by the Department on September 16, 2014) is a condition of this permit.
8. When discharging slurried sand onto the beach from a pipeline, the Permittee shall employ best management practices (BMPs) to reduce turbidity. At a minimum, these BMPs shall include the following:
  - a. Use of shore-parallel sand dike to promote settlement of suspended sediment on the beach before return water from the dredged discharge reenters the Atlantic Ocean; and
  - b. The pipeline discharge location shall be a minimum of 50 feet landward from open water. If 50 feet is not attainable due to a narrow beach berm, the pipeline discharge location shall be placed as far landward on the beach berm as possible without disturbing the dune.
9. Sediment quality shall be assessed as outlined in the Sediment QA/QC Plan (approved September 16, 2014). Any occurrences of placement of material not in compliance with the Plan shall be handled according to the protocols set forth in the Sediment QA/QC plans. The sediment testing result shall be submitted to the JCP Compliance Officer within 90 days following the completion of beach construction. The Sediment QA/QC plans include the following:
  - a. If during construction, the Permittee or Engineer determines that the beach fill material does not comply with the sediment compliance specifications, measures

shall be taken to avoid further placement of noncompliant fill, and the sediment inspection results shall be reported to the JCP Compliance Officer.

- b. The Permittee shall submit post-construction sediment testing results and an analysis report as outlined in the Sediment QA/QC plan to the JCP Compliance Officer within 90 days following beach construction. The sediment testing results shall be certified by a P.E. or P.G. from the testing laboratory. A summary table of the sediment samples and test results for the sediment compliance parameters as outlined in Table 1 of the Sediment QA/QC plan shall accompany the complete set of laboratory testing results. A statement of how the placed fill material compares to the sediment analysis and volume calculations from the geotechnical investigation shall be included in the sediment testing results report.

A post-remediation report containing the site map, sediment analysis, and volume of noncompliant fill material removed and replaced shall be submitted to the JCP Compliance Officer within 7 days following completion of remediation activities.

10. Vessels used to deposit and/or remove dredged material at the NDSRA shall be equipped with real-time navigation control with maximum horizontal error of less than five (5) meters. Sole reliance upon Loran-C navigation control is prohibited. All in water rehandling shall be limited to the boundaries of the NDSRA. When utilizing the NDSRA the Permittee shall maintain a log of the vessel locations while operating within 100 feet of the NDSRA.

**MARINE TURTLES:**

11. In the event a hopper dredge is utilized, the following requirements shall be met:
  - a. Handling of sea turtles captured during hopper dredging projects shall be conducted only by persons with prior experience and training in these activities and who are duly authorized to conduct such activities through a valid permit issued by the Florida Fish and Wildlife Conservation Commission (FWC), pursuant to Florida Administrative Code 68E-1.
  - b. *Dredging Pumps:* Dredging pumps shall be disengaged by the operator when the dragheads are not firmly on the bottom, to prevent impingement or entrainment of sea turtles within the water column. This precaution is especially important during the cleanup phase of dredging operations.
  - c. *Sea Turtle Deflecting Draghead:* A state-of-the-art rigid deflector draghead shall be used on all hopper dredges at all times of the year.
  - d. The Sea Turtle Stranding and Salvage Network (STSSN) Coordinator, Dr. Allen Foley, shall be notified at (904) 696-5904 of the start-up and completion of hopper dredging operations.

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- i. Relocation trawling shall be undertaken at all projects as required by the current National Marine Fisheries Service Incidental Take Authorization for Hopper Dredging.

The Permittee shall e-mail ([marineturtle@MyFWC.com](mailto:marineturtle@MyFWC.com)) weekly reports to the Imperiled Species Management section on Friday each week that relocation trawling is conducted in Florida water. These reports shall include the species and number of turtles captured in Florida waters, their general health, and release information. A summary of all turtles captured in Florida waters shall be submitted to the ISM by January 15 of the following year. The summary shall include all measurements, the latitude and longitude (in decimal degrees) of captures and tow start-stop points, and times for the start-stop points of the tows, including those tows on which no turtles are captured.

12. Beach nourishment shall be started after October 31 and be completed before May 1. During the May 1 through October 31 period, no construction equipment or pipes shall be placed and/or stored on the beach.
13. For sand placement projects that occur during March 1 through April 30, daily early morning surveys shall be conducted for sea turtle nests until completion of the project (whichever is earliest), and eggs shall be relocated per the following requirements of this condition. For sand placement projects that occur during the period from October 15 through November 30, daily early morning sea turtle nesting surveys shall be conducted 65 days prior to project initiation and continue through November 30, or until 2 weeks after the last documented crawl. Eggs shall be relocated per the requirements listed in a. through d. below.
  - a. Nesting surveys and egg relocations shall only be conducted by personnel with prior experience and training in nesting survey and egg relocation procedures. Surveyors must have a valid FWC permit issued pursuant to Florida Administrative Code Rule 68E-1. Nesting surveys shall be conducted daily, between sunrise and 9 a.m. The contractor shall not initiate work outside the lighted overnight construction area until daily notice has been received from the sea turtle permit holder that the morning survey has been completed. Surveys shall be performed in such a manner so as to ensure that construction activity does not occur in any location prior to completion of the necessary sea turtle protection measures.
  - b. Only those nests that may be affected by sand placement activities shall be relocated. Nests requiring relocation shall be moved no later than 9 a.m. on the morning following deposition to a nearby self-release beach site in a secure setting where artificial lighting will not interfere with hatchling orientation. The nest relocation site must be approved by FWC Marine Turtle Management staff in the Tequesta Field office. Relocated nests shall not be placed in organized groupings, but instead shall be randomly staggered along the length and width of

the beach. The relocated nests shall not be placed in settings that are expected to experience daily inundation by high tides that are known to routinely experience severe erosion and egg loss, that are subject to artificial lighting, or that are historically impacted by predation. Nest relocations in association with construction activities shall cease when sand placement activities no longer threaten nests.

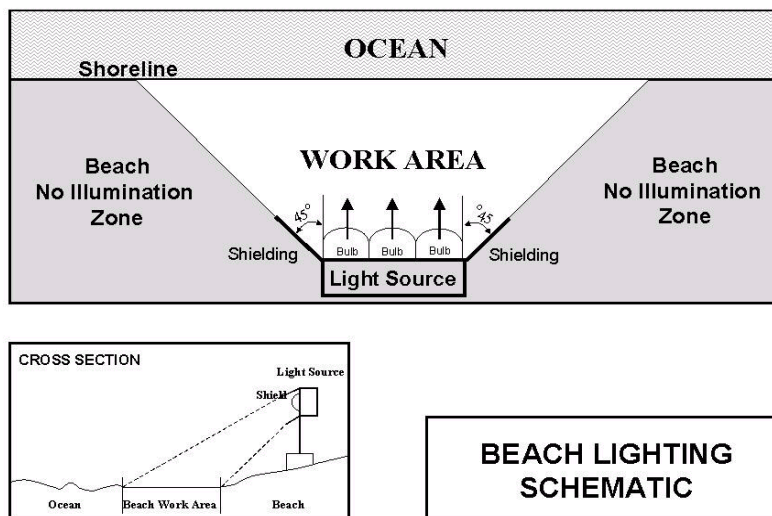
- c. Nests deposited within areas where construction activities have ceased or will not occur for 65 days shall be marked and left *in situ* unless other factors threaten the success of the nest. The Marine Turtle Permit Holder shall install an on-beach marker at the nest site and/or a secondary marker at a point landward as possible to assure that future location of the nest will be possible should the on-beach marker be lost. A series of stakes and highly visible survey ribbon or string shall be installed to establish a 10-foot radius around the nest. No activity shall occur within this area nor shall any activities occur that could result in impacts to the nest. Nest sites shall be inspected daily to ensure nest markers remain in place and the nest has not been disturbed by the beach nourishment activity.
  - d. If construction activity will be conducted on the beach during the period from October 15 through November 30, then daily early morning surveys for late nesting sea turtles shall be conducted 65 days prior to project initiation and continue through September 30, or until two weeks after the last documented crawl, and eggs shall be relocated per the preceding requirements.
14. During the sea turtle nesting season, the contractor shall not conduct beach construction activities more than 500 feet along the shoreline from a properly-lighted beach construction area (including travel corridors and staging areas) between dusk and the following day until the daily nesting survey has been completed and the beach cleared for fill advancement. An exception to this may occur if there is a Marine Turtle Permit Holder present on-site to ensure no nesting or hatchling sea turtles are present within the extended work area. The Permittee may submit a request for an alternate distance to FWC, and FWC will decide if that distance is acceptable during the preconstruction meeting.
  15. Immediately after completion of the beach nourishment, and prior to March 1 for three (3) subsequent years, if placed sand still remains on the beach, the beach shall be tilled as described below, or the Permittee may follow the procedure outlined below to request a waiver of the tilling requirement. During tilling, at a minimum, the protocol listed in this condition shall be followed:
    - a. The area shall be tilled to a depth of 36 inches. All tilling activity shall be completed prior to March 1.

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- b. An annual summary of any tilling operations and/or compaction surveys performed as part of a tilling waiver request (see Specific Condition 16, below) shall be submitted to the FWC.
  - c. If the project is completed just before the nesting season begins, tilling shall not occur during nesting season in areas where nests have been left in place or areas to which nests have been relocated.
  - d. This condition shall be evaluated annually and may be modified if necessary to address sand compaction problems identified during the previous year.
16. In support of any request to waive the tilling requirement, the Permittee is advised to measure sand compaction in the area of nourishment in accordance with the following protocol:
- a. Compaction sampling stations shall be located at 500-foot intervals along the project area. One station shall be at the seaward edge of the dune/bulkhead line (when material is placed in this area) and one station shall be midway between the dune line and the high water line (normal wrack line).
  - b. At each station, the cone penetrometer shall be pushed to a depth of 6, 12 and 18 inches three times (three replicates). Material may be removed from the hole if necessary to ensure accurate readings of successive levels of sediment. The penetrometer may need to be reset between pushes, especially if sediment layering exists. Layers of highly compact material may lie over less compact layers. Replicates shall be located as close to each other as possible, without interacting with the previous hole and/or disturbed sediments.
  - c. The three replicate compaction values for each depth shall be averaged to produce final values for each depth at each station. Reports shall include all 18 values for each transect line, and the final 6 averaged compaction values.
  - d. If the average value for any depth exceeds 500 psi for any two or more adjacent stations, then that area shall be tilled prior to March 1. If values exceeding 500 psi are distributed throughout the project area, but in no case do those values exist at two adjacent stations at the same depth, then consultation with the FWC shall be required to determine if tilling is required. If a few values exceeding 500 psi are present randomly within the project area, tilling shall not be required.
17. Visual surveys for escarpments along the beach fill area shall be made immediately after completion of the sand placement and prior to March 1 of the following two years. In addition, weekly surveys of the project area shall be conducted during the two nesting seasons following completion of the beach nourishment. The protocol provided below shall be followed:

- a. The number of escarpments and their location relative to DEP reference monuments shall be recorded during each weekly survey and reported relative to the length of the beach surveyed. Notations on the height of these escarpments shall be included (0 to 18 inches, 18 inches to 4 feet, and 4 feet or higher) as well as the maximum height of all escarpments.
  - b. Escarpments that interfere with sea turtle nesting or that exceed 18 inches in height for a distance of 100 feet shall be leveled to the natural beach contour by March 1. Any escarpment removal shall be reported relative to R-monument.
  - c. If weekly surveys during the marine turtle nesting season document subsequent reformation of escarpments that exceed 18 inches in height for a distance of 100 feet, then the Permittee shall contact the FWC to determine the appropriate action to be taken. Upon written notification, the Permittee shall level escarpments in accordance with mechanical methods prescribed by the FWC.
18. From March 1 through April 30 and November 1 through November 30, staging areas for construction equipment shall be located off the beach to the maximum extent practicable and no construction equipment shall be parked on the beach where it can hinder marine turtle nesting or hatchling emergence. In addition, all construction pipes that are placed on the beach shall be located as far landward as practicable without compromising the integrity of the existing or reconstructed dune system. Temporary storage of pipes on the beach shall be in such a manner so as to impact the least amount of nesting habitat and shall likewise not compromise the integrity of the dune systems.
19. During the early (March 1 – April 30) and late (November 1 – November 30) portions of marine turtle nesting season, all on-beach lighting associated with the project shall be limited to the immediate area of active construction only and shall be minimized through reduction, shielding, lowering, and appropriate placement of lights to avoid excessive illumination. Lighting on offshore equipment shall be similarly minimized through reduction, shielding, lowering, and appropriate placement of lights to avoid excessive illumination of the water, while meeting all U.S. Coast Guard and OSHA requirements.

**Diagram 1**



20. A survey shall be conducted of all lighting visible from the constructed beach, using standard techniques for such a survey. The survey shall be conducted between May 1 and May 15, and between July 15 and August 1, in the year following construction. For each light source visible, the Permittee shall take actions to notify the property owner(s) and/or the Cities of Cocoa Beach and Cape Canaveral (in which the property(s) may be located) of the light and to specify the action(s) recommended for correcting the light within a reasonable resolution timeframe. A summary report of the surveys and of actions taken toward reduction or elimination of visible lights shall be submitted to FWC by December 1 of each year in which surveys are conducted.
21. The Permittee shall arrange a meeting between representatives of the contractor, the FWC, and the permitted person responsible for marine turtle nest monitoring at least 30 days prior to the commencement of work for each nourishment event. At least 15 days advance notice shall be provided prior to conducting this meeting. This will provide an opportunity for explanation and/or clarification of the sea turtle protection measures. These meetings may be combined with the pre-construction conferences required in Specific Condition 5.
22. Electronic summaries of all nesting activity shall be provided to FWC for the initial nesting season (or portion thereof) following the completion of construction and for two (2) additional nesting seasons thereafter (i.e., post-construction monitoring), for a total of three (3) nesting seasons. Monitoring of nesting activity in the seasons following construction shall include daily surveys and any additional measures authorized by the FWC. Information submitted shall include daily report sheets noting all crawl activity,



nesting success rates, hatching success of all relocated nests, hatching success of a representative sampling of nests left in place (if any), dates of construction and names of all personnel involved in nest surveys and relocation activities. Data shall be reported separately for the nourished areas and for an equal length of adjacent beach that is not nourished, as practicable, in accordance with the attached Table. Summaries of nesting activity shall be submitted in electronic format (Excel spreadsheets). All reports shall be submitted by January 15 of the following year.

23. In the event a sea turtle nest is excavated during construction activities, all work shall cease in that area immediately and the permitted person responsible for egg relocation for the project shall be notified so the eggs can be moved to a suitable relocation site.
24. Upon locating a dead or injured sea turtle adult, hatchling, or egg that may have been harmed or destroyed as a direct or indirect result of the project, the Permittee shall notify FWC Wildlife Alert at 1-888-404-FWCC (3922). Care shall be taken in handling injured or dead turtles or eggs to ensure effective treatment or disposition, and in handling dead specimens to preserve biological materials in the best possible state for later analysis.

**SHOREBIRDS:**

25. *Shorebird Surveys.* Shorebird surveys shall be conducted by trained, dedicated individuals (Shorebird Monitor) with proven shorebird identification skills and avian survey experience. Credentials of the Shorebird Monitor shall be submitted to the FWC Regional Biologist for review and approval. Shorebird Monitors shall use the survey protocols in Specific Condition 26. If properly trained, a Marine Turtle Permit Holder may serve concurrently as the Shorebird Monitor.
26. *Nesting Season Surveys.* Shorebird Monitors shall review and become familiar with the general information and data collection protocols outlined on the FWC's Beach-Nesting Bird Website (<http://myfwc.com/shorebirds/>). An outline of what data should be collected, including downloadable field data sheets, is available on the website.
  - a. The nesting season is generally April 1 – September 1, but some nesting may occur through September.
  - b. Nesting season surveys shall begin on April 1, or 10 days prior to project commencement (including surveying activities and other pre-construction presence on the beach), whichever is later, and be conducted daily throughout the construction period, or through August, whichever is earlier. Weekly surveys of the project site shall continue through August, or through fledgling or loss of identified nests or hatchlings, whichever is later.
  - c. Nesting season surveys shall be conducted in all potential beach-nesting bird habitats within the project boundaries that may be impacted by construction or pre-construction activities during the nesting season. Portions of the project in

which there is no potential for project-related activity during the nesting season may be excluded.

- d. Surveys for detecting new nesting activity shall be completed on a daily basis prior to movement of equipment, operation of vehicles, or other activities that could potentially disrupt nesting behavior or cause harm to the birds or their eggs or young.
27. Once breeding is confirmed by the presence of a scrape, eggs or young, the Bird Monitor shall notify the Regional Nongame Biologist of the FWC at within 24 hours.
- a. All breeding activity shall be reported to the Beach-Nesting Bird website within one week of data collection.
28. *Buffer Zones and Travel Corridors.* Within the project area, the Permittee shall establish a 300-foot wide buffer zone around any location where shorebirds have been engaged in nesting behavior, including territory defense. Any and all construction activities, including movement of vehicles, should be prohibited in the buffer zone.
- a. The width of the buffer zone shall be increased if birds appear agitated or disturbed by construction or other activities in adjacent areas.
  - b. Site-specific buffers may be implemented upon approval by FWC, as needed.
  - e. Reasonable and traditional pedestrian access should not be blocked where nesting birds will tolerate pedestrian traffic. This is generally the case with lateral movement of beach-goers walking parallel to the beach at or below the highest tide line. Pedestrian traffic may also be tolerated when nesting was initiated within 300 feet of an established beach access pathway. The Permittee shall work with FWC staff to determine if pedestrian access can be accommodated without compromising nesting success.
  - f. Designated buffer zones shall be posted with clearly marked signs around the perimeter. If pedestrian pathways are approved within the 300-foot buffer zone, these should be clearly marked. These markings shall be maintained until nesting is completed or terminated. In the case of solitary nesters, nesting is not considered to be completed until all chicks have fledged.
  - e. No construction activities, movement of vehicles, or stockpiling of equipment shall be allowed within the buffer area.
29. FWC-approved travel corridors shall be designated and marked outside the buffer areas. Heavy equipment, other vehicles or pedestrians may transit past nesting areas in these

corridors. However, other activities such as stopping or turning shall be prohibited within the designated travel corridors adjacent to the nesting site.

- a. Where such a travel corridor must be established within the project area, it shall avoid critical areas for shorebirds (known nesting sites, wintering grounds, FWC-designated Critical Wildlife Areas, and U.S. Fish & Wildlife Service-designated critical piping plover habitat) as much as possible, and be marked with signs clearly delineating the travel corridor from the shorebird buffer areas described above.
  - b. To the degree possible, the Permittee should maintain some activity within these corridors on a daily basis, without directly disturbing any shorebirds documented on site or interfering with sea turtle nesting, especially when those corridors are established prior to commencement of construction. Passive methods to modify nesting site suitability must be approved by FWC Regional Biologist for that region.
30. *Notification.* If shorebird nesting occurs within the project area, a bulletin board shall be placed and maintained in the construction area with the location map of the construction site showing the bird nesting areas and a warning, clearly visible, stating that “BIRD NESTING AREAS ARE PROTECTED BY THE FLORIDA THREATENED AND ENDANGERED SPECIES ACT AND THE STATE AND FEDERAL MIGRATORY BIRD ACTS”.
31. *Beach Contours.* All tilling and scarp removal shall be done outside the shorebird nesting season as practicable, and if required during shorebird nesting season shall require a shorebird monitor to survey the beach in immediate advance of the activity. It is the responsibility of the contractors to avoid tilling or scarp removal in areas where nesting birds are present.
- a. A relatively even surface, with no deep ruts or furrows, shall be created during tilling. To do this, chain-linked fencing or other material shall be dragged over those areas as necessary after tilling.
  - b. The slope between the mean high water line and the mean low water line shall be maintained in such a manner as to approximate natural slopes.
32. *Placement of Equipment and Sand.* If it will be necessary to extend construction pipes past a known shorebird nesting site or over-wintering area for piping plovers, then whenever possible those pipes should be placed landward of the site before birds are active in that area. No pipe or sand shall be placed seaward of a known shorebird nesting site during the shorebird nesting season.

**MANATEES:**

33. All personnel associated with the project shall be instructed about the presence of manatees and manatee speed zones, and the need to avoid collisions with and injury to manatees. The Permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act, the Endangered Species Act, and the Florida Manatee Sanctuary Act.
34. All vessels associated with the construction project shall operate at "Idle Speed/No Wake" at all times while within 2,000 feet of the beach (excluding the Port Canaveral Entrance Channel) and while in water where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels should follow routes of deep water whenever possible.
35. All on-site project personnel are responsible for observing water-related activities for the presence of manatee(s). All in-water operations, including vessels, shall be shut down if a manatee(s) comes within 50 feet of the operation. Activities shall not resume until the manatee(s) has moved beyond the 50-foot radius of the project operation, or until 30 minutes elapses if the manatee(s) has not reappeared within 50 feet of the operation. Animals shall not be herded away or harassed into leaving.
36. Any collision with or injury to a manatee shall be reported immediately to the FWC Hotline at 1-888-404-3922.
37. Temporary signs concerning manatees shall be posted prior to and during all in-water project activities. All signs shall be removed by the Permittee upon completion of the project. Awareness signs that have already been approved for this use by the FWC shall be used. One sign measuring at least 3 feet by 4 feet, which reads *Caution: Manatee Area*, shall be posted at the primary dredge/vessel boarding area. A second sign measuring at least 8 ½" by 11" explaining the requirements for "Idle Speed/No Wake" and the shutdown of in-water operations shall be posted on every vessel, in a location prominently visible to all personnel engaged in water-related activities.

**RIGHT WHALES:**

38. In order to ensure that right whales are not adversely affected by the construction activities authorized by this permit, the Permittee shall adhere to the following conditions:
  - a. From December 1 to March 31 all vessels shall post a dedicated observer to spot right whales in the southeastern critical habitat area. The southeastern critical habitat area extends from 31°15'N to 30°15'N out 15 miles offshore and from 30°15'N to 28°00'N out 5 miles offshore. If a whale is seen, the vessel speed shall be reduced (8 knots is suggested) and the vessel operator shall stay 500 yards from the whale and take the necessary precautions to avoid the whale. Daily

updates of whale sightings during this portion of the year are available from the U.S. Coast Guard on VHF marine channel 14 and/or through NOAA Fisheries Service website at <http://www.nefsc.noaa.gov/psb/surveys/>

- b. During evening hours or when there is limited visibility due to fog or sea states greater than Beaufort 3, the tug/barge or dredge operator shall slow down to 5 knots or less when traversing between areas if whales have been spotted within 15 nautical miles (nm) of the vessel's path within the previous 24 hours.

**WATER QUALITY MONITORING REQUIRED:**

39. Turbidity shall be monitored and reported as follows:

Units: Nephelometric Turbidity Units (NTUs).

Frequency: 2 times daily, at least 6 hours apart, during all dredging or sand placement operations. Sampling shall be conducted **while the highest project-related turbidity levels are crossing the edge of the mixing zone**. Since turbidity levels can be related to pumping rates, the dredge pumping rates shall be recorded, and provided to the Department upon request. The compliance samples and the corresponding background samples shall be collected at approximately the same time, i.e., one shall immediately follow the other.

Location: Background: At surface, mid-depth, and (for sites with depths greater than 25 feet) 2 meters above the bottom, clearly outside the influence of any artificially generated turbidity plume or the influence of an outgoing inlet plume.

**Dredge Site:** Samples shall be collected at least 300 meters up-current from the source of turbidity at the dredge site.

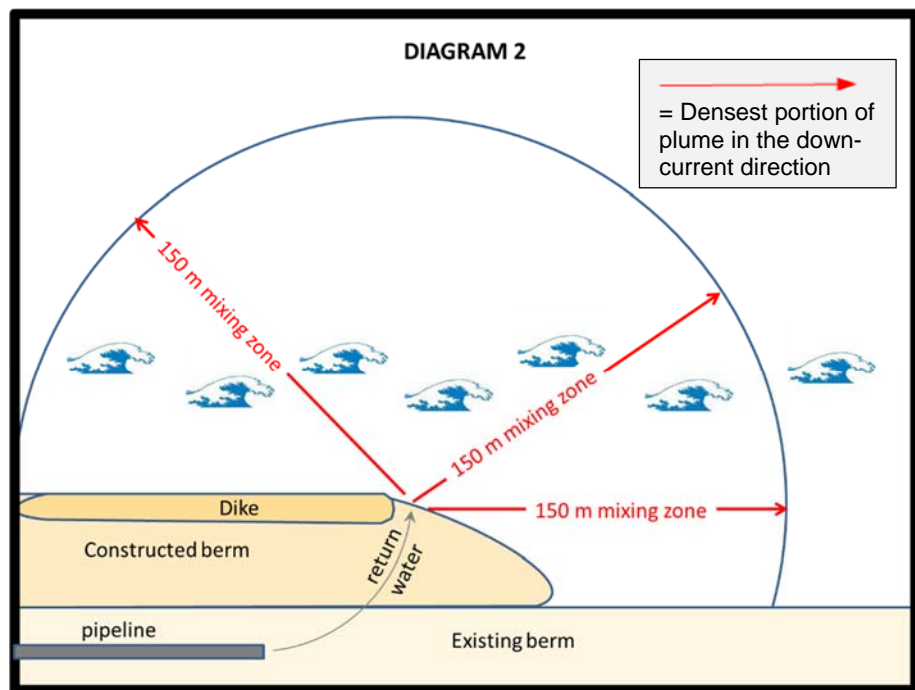
**Beach Site:** Samples shall be collected at least 300 meters up-current from any portion of the beach that has been, or is being, filled during the current construction event, at the same distances offshore as the associated compliance samples.

**NDSRA or NDA:** Samples shall be collected at least 300 meters up-current from any of the discharge points that have been used during the current construction event.

Compliance: At surface, mid-depth, and (for sites with depths greater than 25 feet) 2 meters above the bottom.

**Dredge Site:** Samples shall be collected 150 meters down-current from the dredge head **and** from any other source of turbidity generated by the dredge, in the densest portion of any visible turbidity plume. If no plume is visible, follow the likely direction of flow.

**Beach Site:** Samples shall be collected where the densest portion of the turbidity plume crosses the edge of the mixing zone, which measures 150 meters from the point where the return water from the dredged discharge reenters the Atlantic Ocean. *Note: If the plume flows parallel to the shoreline, the densest portion of the plume may be close to shore, in shallow water. In that case, it may be necessary to access the sampling location from the shore, in water that is too shallow for a boat. See Diagram 2.*



**NDSRA or NDA:** Samples shall be collected 150 meters down-current from the current discharge point.

**Calibration:** The instruments used to measure turbidity shall be fully calibrated with primary standards within one month of the commencement of the project, and at least once a month throughout the project. Calibration with secondary standards shall be verified each morning prior to use, after each time the instrument is turned on, and after field sampling using two secondary turbidity “standards” that bracket the anticipated

turbidity samples. If the post-sampling calibration value deviates more than 8% from the previous calibration value, results shall be reported as estimated and a description of the problem shall be included in the field notes.

Analysis of turbidity samples shall be performed in compliance with DEP-SOP-001/01 FT 1600 Field Measurement of Turbidity:

<http://publicfiles.dep.state.fl.us/dear/sas/sopdoc/2008sops/ft1600.pdf>

If the turbidity monitoring protocol specified above prevents the collection of accurate data, the person in charge of the turbidity monitoring shall contact the JCP Compliance Officer to establish a more appropriate protocol. Once approved in writing by the Department, the new protocol shall be implemented through an administrative permit modification.

40. The **compliance** locations given above shall be considered the limits of the temporary mixing zone for turbidity allowed during construction. If monitoring reveals turbidity levels at the **compliance** sites that are greater than 29 NTUs above the corresponding background turbidity levels, construction activities shall **cease immediately** and not resume until corrective measures have been taken and turbidity has returned to acceptable levels. Any such occurrence shall also be immediately reported to the JCP Compliance Officer via email at [JCPCCompliance@dep.state.fl.us](mailto:JCPCCompliance@dep.state.fl.us) and include in the subject line, "TURBIDITY EXCEEDANCE", and the Project Name and Permit Number. Also notify the Department's Southeast District office.

Any project-associated turbidity source other than dredging, fill placement for beach nourishment or placement of dredged material into the NDSRA or NDA (e.g., scow or pipeline leakage) shall be monitored as close to the source as possible. If the turbidity level exceeds 29 NTUs above background, the construction activities related to the exceedance shall **cease immediately** and not resume until corrective measures have been taken and turbidity has returned to acceptable levels. This turbidity monitoring shall continue every hour until background turbidity levels are restored or until otherwise directed by the Department. The Permittee shall notify the Department, by separate email to the JCP Compliance Officer, of such an event within 24 hours of the time the Permittee first becomes aware of the discharge. The subject line of the email shall state "OTHER PROJECT-ASSOCIATED DISCHARGE, TURBIDITY EXCEEDANCE".

When reporting a turbidity exceedance, the following information shall also be included:

- a. the Project Name;
- b. the Permit Number;
- c. location and level (NTUs above background) of the turbidity exceedance;

- d. the time and date that the exceedance occurred; and
- e. the time and date that construction ceased.

Prior to re-commencing the construction, a report shall be emailed to the JCP Compliance Officer with the same information that was included in the “Exceedance Report”, plus the following information:

- a. turbidity monitoring data collected during the shutdown documenting the decline in turbidity levels and achievement of acceptable levels;
  - b. corrective measures that were taken; and
  - c. cause of the exceedance.
41. **Turbidity Reports:** All turbidity monitoring data shall be submitted within one week of analysis. The data shall be presented in tabular format, indicating the measured turbidity levels at the compliance sites for each depth, the corresponding background levels at each depth and the number of NTUs over background at each depth. Any exceedances of the turbidity standard (29 NTUs above background) shall be highlighted in the table. In addition to the raw and processed data, the reports shall also contain the following information:
- a. time of day samples were taken;
  - b. dates of sampling and analysis;
  - c. GPS location of sample;
  - d. depth of water body;
  - e. depth of each sample;
  - f. antecedent weather conditions, including wind direction and velocity;
  - g. tidal stage and direction of flow;
  - h. water temperature;
  - i. a map, overlaid on an aerial photograph, indicating the sampling locations, dredging and discharge locations, and direction of flow. A sample map shall reviewed and approved by the Department prior to construction;



- j. a statement describing the methods used in collection, handling, storage and analysis of the samples;
- k. a statement by the individual responsible for implementation of the sampling program concerning the authenticity, precision, limits of detection, calibration of the meter, accuracy of the data and precision of the GPS measurements;
- l. When samples cannot be collected, include an explanation in the report. If unable to collect samples due to severe weather conditions, include a copy of a current report from a reliable, independent source, such as an online weather service.

**PHYSICAL MONITORING REQUIRED:**

42. Pursuant to 62B-41.005(16), F.A.C., physical monitoring of the project is required through acquisition of project-specific data to include, at a minimum, topographic and bathymetric surveys of the beach, the offshore, and the borrow site areas, as well as aerial photography and engineering analysis. The monitoring data are necessary in order for both the project sponsor and the Department to regularly observe and assess, with quantitative measurements, the performance of the project, any adverse effects that have occurred, and the need for any adjustments, modifications, or mitigative response to the project. The scientific monitoring process also provides the project sponsor and the Department with information that would be necessary to plan, design and optimize subsequent follow-up projects. This information would potentially reducing the need for, and costs of, unnecessary work, as well as potentially reduce any environmental impacts that may have occurred or would be expected to occur.

The Permittee shall adhere to the physical monitoring aspects of the attached “Brevard County Shore Protection Project - North Reach” (“Monitoring Plan”), approved by the Department on March 20, 2015. Details of the Monitoring Plan that are not specified by the specific conditions of this permit can be revised at any later time by written request of the Permittee and with the written approval of the Department. If, subsequent to approval of the Monitoring Plan, there is a request for modification of the permit, the Department may require revised or additional monitoring requirements as a condition of approval of the permit modification. As guidance for obtaining Department approval, the plan shall generally contain the following items:

- a. Topographic and bathymetric profile surveys of the beach and offshore shall be conducted within 90 days prior to commencement of construction, and within 60 days following completion of construction of the project. Thereafter, monitoring surveys shall be conducted **biennially (every other year) beginning approximately one-year following completion of construction** until the next beach nourishment event or the expiration of the project design life, whichever occurs first. Post construction biennial surveys shall be conducted at **every other R monument** between R-1 and R-60. The monitoring surveys shall be conducted during a spring or summer month, and repeated as close as practicable during that

same month of the year. If the time period between the immediate post-construction survey and the first annual monitoring survey is less than six months, then the Permittee may request a postponement of the first monitoring survey until the following spring/summer. The request should be submitted as part of the cover letter for the post-construction report. A prior design survey of the beach and offshore may be submitted for the pre-construction survey if consistent with the other requirements of this condition.

- b. The monitoring area shall include profile surveys at every other of the Department reference monuments within the bounds of the beach fill area and along at least 5,000 feet of the adjacent shoreline, on both sides of the beach fill area (R-1 through R-60). For those project areas that contain erosion control structures, such as groins or breakwaters, additional profile lines shall be surveyed at a sufficient number of intermediate locations to accurately identify patterns of erosion and accretion within this subarea. All work activities and deliverables shall be conducted in accordance with the latest update of the Department's *Monitoring Standards for Beach Erosion Control Projects, Sections 01000 and 01100*.
- c. Bathymetric surveys of the borrow area(s) shall be conducted within 90 days prior to commencement of construction, and within 60 days following completion of construction of the project concurrently with the beach and offshore surveys required above. Thereafter, monitoring surveys of the borrow areas shall be dependent on their location. Borrow sites located in tidal inlet shoals or in nearshore waters above the depth of closure for littoral transport processes shall be at two (2) year intervals concurrently with the beach and offshore surveys required above. These biennially monitoring surveys are not required for borrow sites located below the depth of closure for littoral transport processes. A prior design survey of the borrow area may be submitted for the pre-construction survey if consistent with the other requirements of this condition.

Survey grid lines across the borrow area(s) shall be spaced to provide sufficient detail for accurate volumetric calculations but spaced not more than 500 feet apart, and shall extend a minimum of 500 feet beyond the boundaries of the borrow site. For borrow sites located in tidal inlet shoals, bathymetric surveys of the entire shoal complex, including any attachment bars, shall be conducted unless otherwise specified by the Department based upon the size of the shoal and the potential effects of the dredging on inlet processes. In all other aspects, work activities and deliverables shall be consistent with the Department's *Monitoring Standards for Beach Erosion Control Projects, Section 01200*.

- d. The Permittee shall submit an engineering report and the monitoring data to the JCP Compliance Officer within 90 days following completion of the post-construction survey and each biennial monitoring survey.

The report shall summarize and discuss the data, the performance of the beach fill project, and identify erosion and accretion patterns within the monitored area. Results shall be analyzed for patterns, trends, or changes between annual surveys and cumulatively since project construction. In addition, the report shall include a comparative review of project performance to performance expectations and identification of adverse effects attributable to the project. The report shall specifically include:

- The volume and percentage of advance nourishment lost since the last beach nourishment project as measured landward of the MHW line of the most recent survey;
- The most recent MHW shoreline positions (feet) in comparison with the design profile at each individual monument location;
- The MHW shoreline position changes (feet) relative to the pre-construction survey at each monument location for all the monitoring periods;
- The total measured remaining volume (cy) in comparison with the total predicted remaining volume (cy) above the MHW line and above the Depth of Closure for the entire project area over the successive monitoring periods; and,
- Other shoreline position and volumetric analysis the Permittee or engineer deem useful in assessing, with quantitative measurements, the performance of the project.

The report shall include computations, tables and graphic illustrations of volumetric and shoreline position changes for the monitoring area. An appendix shall include superimposed plots of the two most recent beach profile surveys, the design profile, and pre- and post-construction beach profile at each monument location.

- e. A digital copy of the monitoring report and a digital file of the survey data shall be emailed to the JCP Compliance Officer. Failure to submit reports and data in a timely manner constitutes grounds for revocation of the permit. When submitting any monitoring information to the JCP Compliance Officer, please include a transmittal cover letter clearly labeled with the following at the top of each page: **"This monitoring information is submitted in accordance with the approved Monitoring Plan for Permit No. 0134869-009-JC for the monitoring period [XX]."**
43. If the Permittee is unable to complete two maintenance events within the 15-year life of the permit, the Permittee may request (prior to the expiration date of the permit), and the

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Department shall grant, an extension of the permit expiration date in order to allow completion of the second maintenance event. The extension would be documented through an administrative modification.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL PROTECTION



Martin K. Seeling, Administrator  
Beaches, Inlets and Ports Program

**FILING AND ACKNOWLEDGMENT**

FILED, on this date, pursuant to Section 120.52, Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.



Deputy Clerk

March 20, 2015

Date

Prepared by Gregory Garis.

Attachments: Permit Drawings (sheets 1 through 21)  
Sediment QA/QC Plan (Approved 09-16-2014)  
Physical Monitoring Plan (Approved 03-20-2015)



# 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

## CONSOLIDATED JOINT COASTAL PERMIT AND SOVEREIGN SUBMERGED LANDS AUTHORIZATION

### PERMITTEE:

Brevard County  
2725 Judge Fran Jamieson Way, Bldg A  
Viera, Florida 32940

### AGENT:

Kevin R. Bodge, Ph.D., P.E.  
Olsen Associates, Inc.  
2618 Herschel Street  
Jacksonville, Florida 32204

### PERMIT INFORMATION:

Permit Number: 0137212-016-JC

Project Name: Brevard County Shore Protection  
Project; South Reach

County: Brevard

Issuance Date: June 12, 2017

Expiration Date: June 12, 2032

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### REGULATORY AUTHORIZATION:

This permit is issued under the authority of Chapter 161 and Part IV of Chapter 373, Florida Statutes (F.S.), and Title 62, Florida Administrative Code (F.A.C.). Pursuant to Operating Agreements executed between the Department of Environmental Protection (Department) and the water management districts, as referenced in Chapter 62-113, F.A.C., the Department is responsible for reviewing and taking final agency action on this activity.

### PROJECT DESCRIPTION:

This permit authorizes periodic beach and dune nourishment along approximately 3.8 miles of the Atlantic Ocean shoreline in Brevard County, between Department reference monuments R-118.3 and R-139 using two borrow sources, Canaveral Shoals I and II. Each nourishment event will involve placement of approximately 750,000 cubic yards of dredged, breach-compatible material onto beach locations within the permitted template.

The dune feature will have a minimum construction crest elevation of +12 feet NAVD'88 and a landward slope of approximately 1 vertical (V): 2 horizontal (H) terminating at the landward limit of vegetation. The dune feature will slope seaward from approximately 1V: 1.5H to 1V:4H to the existing beach berm elevation of +8.7 feet NAVD'88. The upper flat portion of the beach berm, constructed at a maximum elevation of +8.7 feet NAVD'88, will have a variable length of up to approximately 80 feet. Seaward thereof, the construction berm will slope seaward

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Brevard County Shore Protection Project; South Reach  
Permit No. 0137212-016-JC  
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at approximately 1V:35H to an elevation of +6.7 feet, thence sloping at approximately 1V:15H to the intersection with the existing seabed.

The authorized activity also includes use of the 2,450 by 4,500 foot South Reach Nearshore Disposal and Sand Rehandling Area (SR-NDSRA). The SR-NDSRA may be used to stockpile beach compatible material dredged from the authorized borrow areas, which would then be subsequently dredged and placed onto the beach. Material dredged from either borrow area that does not meet the standards for beach compatibility, as described by the attached Sediment QA/QC plan, will be deposited into the Canaveral Ocean Dredged Material Disposal Site (ODMDS).

**PROJECT LOCATION:**

The project is located in Brevard County, Sections 25, 30, and 31, Township 27 South, Range 38 East; Sections 5, 6, 7, and 8 Township 28 South, Range 38 East; within the Atlantic Ocean, Class III Waters. Canaveral Shoals Borrow Areas I and II are located approximately 1.6 miles east-southeast and 4.5 miles east-southeast of Cape Canaveral, respectively. Canaveral Shoals Borrow Area II is in federal waters. The SR-NDSRA is centrally located along the project area between R-126 and R-130.5, approximately 2,900 ft. from the shoreline, between the -38 ft. and -48 ft. NAVD'88 contours. The ODMDS is located approximately 5.6 miles offshore within Federal Waters, east of Cocoa Beach.

**PROPRIETARY AUTHORIZATION:**

This activity also requires a proprietary authorization, as the activity is located on sovereign submerged lands held in trust by the Board of Trustees of the Internal Improvement Trust Fund (Board of Trustees), pursuant to Article X, Section 11 of the Florida Constitution, and Sections 253.002 and 253.77, F.S. The activity is not exempt from the need to obtain a proprietary authorization. The Board of Trustees delegated, to the Department, the responsibility to review and take final action on this request for proprietary authorization in accordance with Section 18-21.0051, F.A.C., and the Operating Agreements executed between the Department and the water management districts, as referenced in Chapter 62-113, F.A.C. This proprietary authorization has been reviewed in accordance with Chapter 253, Chapter 18-21, Section 62-330.075, F.A.C., and the policies of the Board of Trustees.

The Department has also determined that the nourishment activity and use of the SR-NDSRA qualify for a Letter of Consent to use sovereign, submerged lands, as long as the work performed is located within the boundaries as described herein and is consistent with the terms and conditions herein. Therefore, consent is hereby granted, pursuant to Chapter 253.77, F.S., to perform the activity on the specified sovereign submerged lands.

As staff to the Board of Trustees, the Department has reviewed the project described above, and has determined that the borrow area activity within Canaveral Shoals I requires a public easement for the use of those lands, pursuant to Chapter 253.77, F.S. The Department

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intends to issue the public easement, subject to the limits, conditions, and locations of work shown in the attached drawings, and is also subject to the General Conditions and Specific Conditions, which are a binding part of this permit.

The final documents required to execute the public easement have been sent to the Department's Division of State Lands. The Department intends to issue the public easement upon satisfactory execution of those documents. **You may not begin construction of this activity on state-owned, sovereign submerged lands in Canaveral Shoals I borrow area until the public easement has been executed to the satisfaction of the Department.**

**COASTAL ZONE MANAGEMENT:**

This permit constitutes a finding of consistency with Florida's Coastal Zone Management Program, as required by Section 307 of the Coastal Zone Management Act.

**WATER QUALITY CERTIFICATION:**

This permit constitutes certification of compliance with state water quality standards pursuant to Section 401 of the Clean Water Act, 33 U.S.C. 1341.

**OTHER PERMITS:**

Authorization from the Department does not relieve you from the responsibility of obtaining other permits (Federal, State, or local) that may be required for the project. When the Department received your permit application, a copy was sent to the U.S. Army Corps of Engineers (Corps) for review. The Corps will issue their authorization directly to you, or contact you if additional information is needed. If you have not heard from the Corps within 30 days from the date that your application was received by the Department, contact the nearest Corps regulatory office for status and further information. Failure to obtain Corps authorization prior to construction could subject you to federal enforcement action by that agency.

**AGENCY ACTION:**

The above named Permittee is hereby authorized to construct the work that is outlined in the Project Description and Project Location of this permit and as shown on the approved permit drawings, plans and other documents attached hereto. This agency action is based on the information submitted to the Department as part of the permit application, and adherence with the final details of that proposal shall be a requirement of the permit. **This permit and authorization to use sovereign submerged lands are subject to the General Conditions, General Consent Conditions and Specific Conditions, which are a binding part of this permit and authorization.** Both the Permittee and their Contractor are responsible for reading and understanding this permit (including the permit conditions and the approved permit drawings) prior to commencing the authorized activities, and for ensuring that the work is conducted in conformance with all the terms, conditions and drawings.

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**GENERAL CONDITIONS:**

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Brevard County Shore Protection Project; South Reach  
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1. All activities authorized by this permit shall be implemented as set forth in the project description, permit drawings, plans and specifications approved as a part of this permit, and all conditions and requirements of this permit. The permittee shall notify the Department in writing of any anticipated deviation from the permit prior to implementation so that the Department can determine whether a modification of the permit is required pursuant to Rule 62B-49.008, F.A.C.
2. If, for any reason, the permittee does not comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department and the appropriate District office of the Department with a written report containing the following information: a description of and cause of noncompliance; and the period of noncompliance, including dates and times; and, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.
3. This permit does not eliminate the necessity to obtain any other applicable licenses or permits that may be required by federal, state, local or special district laws and regulations. This permit is not a waiver or approval of any other Department permit or authorization that may be required for other aspects of the total project that are not addressed in this permit.
4. Pursuant to Sections 253.77 and 373.422, F.S., prior to conducting any works or other activities on state-owned submerged lands, or other lands of the state, title to which is vested in the Board of Trustees, the permittee must receive all necessary approvals and authorizations under Chapters 253 and 258, F.S. Written authorization that requires formal execution by the Board of Trustees shall not be considered received until it has been fully executed.
5. Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered specifically approved unless a specific condition of this permit or a formal determination under Section 373.421(2), F.S., provides otherwise.
6. This permit does not convey to the permittee or create in the permittee any property right, or any interest in real property, nor does it authorize any entrance upon or activities on property which is not owned or controlled by the permittee. The issuance of this permit does not convey any vested rights or any exclusive privileges.
7. This permit or a copy thereof, complete with all conditions, attachments, plans and specifications, modifications, and time extensions shall be kept at the work site of the



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- permitted activity. The permittee shall require the contractor to review the complete permit prior to commencement of the activity authorized by this permit.
8. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel with proper identification and at reasonable times, access to the premises where the permitted activity is located or conducted for the purpose of ascertaining compliance with the terms of the permit and with the rules of the Department and to have access to and copy any records that must be kept under conditions of the permit; to inspect the facility, equipment, practices, or operations regulated or required under this permit; and to sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.
  9. At least 48 hours prior to commencement of activity authorized by this permit, the permittee shall electronically submit to the Department, by email at [JCPCCompliance@dep.state.fl.us](mailto:JCPCCompliance@dep.state.fl.us) , and the appropriate District office of the Department a written notice of commencement of construction indicating the actual start date and the expected completion date and an affirmative statement that the permittee and the contractor, if one is to be used, have read the general and specific conditions of the permit and understand them.
  10. If any prehistoric or historic artifacts, such as pottery or ceramics, stone tools or metal implements, shipwreck remains or anchors, dugout canoes or other physical remains that could be associated with Native American cultures, or early Colonial 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 immediate vicinity of such discoveries. The permittee, or other designee, shall contact the Florida Department of State, Division of Historical Resources, Compliance and Review Section at (850)245-6333 or (800)847-7278, as well as the appropriate permitting agency office. Project activities shall not resume without verbal and/or written authorization from the Division of Historical Resources. 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, F.S.
  11. Within 30 days after completion of construction or completion of a subsequent maintenance event authorized by this permit, the permittee shall electronically submit to the Department, by email at [JCPCCompliance@dep.state.fl.us](mailto:JCPCCompliance@dep.state.fl.us) , and the appropriate District office of the Department a written statement of completion and certification by a registered professional engineer. This certification shall state that all locations and elevations specified by the permit have been verified; the activities authorized by the permit have been performed in compliance with the plans and specifications approved as a part of the permit, and all conditions of the permit; or shall describe any deviations from the plans and specifications, and all conditions of the permit. When the completed

activity differs substantially from the permitted plans, any substantial deviations shall be noted and explained on as-built drawings electronically submitted to the Department, by email at [JCPCCompliance@dep.state.fl.us](mailto:JCPCCompliance@dep.state.fl.us). Note: Certification by a licensed professional engineer is not required for written statements of completion submitted by the Corps.

**GENERAL CONSENT CONDITIONS:**

1. Authorizations are valid only for the specified activity or use. Any unauthorized deviation from the specified activity or use and the conditions for undertaking that activity or use shall constitute a violation. Violation of the authorization shall result in suspension or revocation of the grantee's use of the sovereignty submerged land unless cured to the satisfaction of the Board.
2. Authorizations convey no title to sovereignty submerged land or water column, nor do they constitute recognition or acknowledgment of any other person's title to such land or water.
3. Authorizations may be modified, suspended or revoked in accordance with their terms or the remedies provided in Sections 253.04 and 258.46, F.S., or Chapter 18-14, F.A.C.
4. Structures or activities shall be constructed and used to avoid or minimize adverse impacts to sovereignty submerged lands and resources.
5. Construction, use or operation of the structure or activity shall not adversely affect any species that is endangered, threatened or of special concern, as listed in Rules 68A-27.003, 68A-27.004 and 68A-27.005, F.A.C.
6. Structures or activities shall not unreasonably interfere with riparian rights. When a court of competent jurisdiction determines that riparian rights have been unlawfully affected, the structure or activity shall be modified in accordance with the court's decision.
7. Structures or activities shall not create a navigational hazard.
8. Structures shall be maintained in a functional condition and shall be repaired or removed if they become dilapidated to such an extent that they are no longer functional. This shall not be construed to prohibit the repair or replacement subject to the provisions of Rule 18-21.005, F.A.C., within one year, of a structure damaged in a discrete event such as a storm, flood, accident or fire.

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9. Structures or activities shall be constructed, operated and maintained solely for water dependent purposes, or for non-water dependent activities authorized under paragraph 18-21.004(1)(f), F.A.C., or any other applicable law.

**SPECIFIC CONDITIONS:**

1. All reports or notices relating to this permit shall be electronically submitted to the Department's JCP Compliance Officer (e-mail address: [JCPCCompliance@dep.state.fl.us](mailto:JCPCCompliance@dep.state.fl.us)) unless otherwise specified in the specific conditions of this permit.
2. The Permittee shall not store or stockpile tools, equipment, materials, etc., within littoral zones or elsewhere within surface waters of the state without prior written approval from the Department. Storage, stockpiling or access of equipment on, in, over or through beds of submerged aquatic vegetation, wetlands or hardbottom is prohibited unless it occurs within a work area or ingress/egress corridor that is specifically approved by this permit and is shown on the approved permit drawings.
3. The Permittee shall not conduct project operations or store project-related equipment in, on or over dunes, or otherwise impact dune vegetation, outside the approved staging, beach access and dune restoration areas designated in the permit drawings.
4. No work shall be conducted under this permit until the Permittee has received a written notice to proceed from the Department for each event. At least 30 days prior to the requested date of issuance of the notice to proceed, the Permittee shall submit a written request for a Notice to Proceed along with the following items for review and approval by the Department:
  - a. An electronic copy of detailed ***final construction plans and specifications*** for all authorized activities. The plans and specifications must be consistent with the project description of this permit and the attached permit drawings, and shall also be certified by a professional engineer (P.E.), who is registered in the State of Florida. The Permittee shall point out any deviations from the Project Description of this permit (as stated above) or the approved permit drawings (attached to this permit), and any significant changes would require a permit modification. The plans and specifications shall include a description of the dredging and construction methods to be utilized and drawings and surveys that show all biological resources and work spaces (e.g., anchoring areas, pipeline corridors, staging areas, boat access corridors, etc.) to be used for this project.
  - b. ***Turbidity monitoring qualifications***: In order to assure that turbidity levels do not exceed the compliance standards established in this permit, construction at the project site shall be monitored closely by an independent third party with formal training in

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- water quality monitoring and professional experience in turbidity monitoring for coastal construction projects. Also, an individual familiar with beach construction techniques and turbidity monitoring shall be present at all times when fill material is discharged on the beach. This individual shall have authority to alter construction techniques or shut down the dredging or beach construction operations if turbidity levels exceed the compliance standards established in this permit. The names and qualifications of those individuals performing these functions, along with 24-hour contact information, shall be submitted for approval;
- c. A *Scope of Work* for the turbidity monitoring to ensure that the right equipment is available to conduct the monitoring correctly at any location, and under any condition;
  - d. The terms, conditions and provisions of the required Public Easement (Instrument No. 30166, BOT File No. 050219523) for the Canaveral Shoals I borrow area shall be met. The Notice to Proceed shall not be issued and construction of this activity engaging the Public Easement areas shall not commence on sovereign submerged lands, title to which is held by the Board of Trustees, until all easement documents have been executed to the satisfaction of the Department.
  - e. Documentation from the U.S. Fish and Wildlife Service (FWS) that this work will be covered under a Statewide Programmatic **Biological Opinion** or a Biological Opinions (BO) issued for construction on this project site. If the BO contains conditions that are not already contained herein, the permit shall be modified to include those additional conditions.
5. **Pre-Construction Conference.** Prior to each construction event, the Permittee shall conduct a pre-construction conference to review the specific conditions and monitoring requirements of this permit with Permittee's contractors, the engineer of record, those responsible for turbidity monitoring, the JCP Compliance Officer (or designated alternate), the Marine Turtle Monitor (Marine Turtle Permit Holder), the Bird Monitors, and staff representatives of the Florida Fish and Wildlife Conservation Commission (FWC). In order to ensure that appropriate representatives are available, at least twenty-one (21) days prior to the intended commencement date for the permitted construction, the Permittee is advised to contact the agency representatives listed below:
- JCP Compliance Officer: [JCPCCompliance@dep.state.fl.us](mailto:JCPCCompliance@dep.state.fl.us)
- FWC Imperiled Species Management Section: [marineturtle@myfwc.com](mailto:marineturtle@myfwc.com)
- FWC Regional Species Conservation Biologist: [Alex.Kropp@myfwc.com](mailto:Alex.Kropp@myfwc.com)

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The Permittee is also advised to schedule the pre-construction conference at least a week prior to the intended commencement date. At least seven (7) days in advance of the pre-construction conference, the Permittee shall provide written notification, advising the participants of the **agreed-upon** date, time and location of the meeting, and shall also provide a meeting agenda and a teleconference number.

6. Construction activities within the SR-NDSRA shall be started after September 30 and completed before May 1. In the event that nesting and hatching conclude earlier than September 30 for any given year, the permittee may request a minor modification of the specific permit condition.
7. Dredging equipment operating within the SR-NDSRA shall be equipped with real-time navigation control with maximum horizontal error of less than 5 meters. Sole reliance upon Loran-C navigation control shall not be permitted.
8. When discharging slurried sand onto the beach from a pipeline, the Permittee shall employ best management practices (BMPs) to reduce turbidity. At a minimum, these BMPs shall include the following:
  - a. Use of shore-parallel sand dike to promote settlement of suspended sediment on the beach before return water from the dredged discharge reenters the Atlantic Ocean; and
  - b. The pipeline discharge location shall be a minimum of 50 feet landward from open water. If 50 feet is not attainable due to a narrow beach berm, the pipeline discharge location shall be placed as far landward on the beach berm as possible without disturbing the dune.
9. The existing stormwater outflows (located at R-119.5, R-121.5, and R-123.5) shall be monitored after each significant rainfall event in order to gauge the degree to which flow occurred through the beach berm. In the event that flooding, or uncontrolled discharge and/or erosion through the berm becomes a prevalent problem, then alternate short-term approaches to manage the discharge shall be presented to the Department for review and approval as a permit modification.
10. **In-water Activity.** The Permittee shall adhere to the following requirements for all in-water activity:
  - a. All personnel associated with the project shall be instructed about the presence of marine turtles and manatees, and the need to avoid collisions with (and injury to) these protected marine species. The Permittee/Contractor shall advise all construction personnel that there are civil and criminal penalties for harming,

- harassing, or killing manatees or marine turtles, which are protected under the Endangered Species Act, the Marine Mammal Protection Act, the Marine Turtle Protection Act and the Florida Manatee Sanctuary Act.
- b. All vessels associated with the construction project shall operate at "Idle Speed/No Wake" at all times while in the immediate project area and while in water where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels shall follow routes of deep water whenever possible.
  - c. Siltation or turbidity barriers (if used) shall be made of material in which manatees and marine turtles cannot become entangled, shall be properly secured, and shall be regularly monitored to avoid manatee entanglement or entrapment. Barriers shall not impede manatee or marine turtle movement or travel.
  - d. All on-site project personnel are responsible for observing water-related activities for the presence of marine turtles and manatees. All in-water operations, including vessels, shall be shut down if a marine turtle or manatee comes within 50 feet of the operation. Activities shall not resume until the animal(s) has moved beyond the 50-foot radius of the project operation, or until 30 minutes elapses if the animal(s) has not reappeared within 50 feet of the operation. Animals shall not be herded away or harassed into leaving.
  - e. Any collision with (or injury to) a marine turtle or manatee shall be reported immediately to the FWC Hotline at 1-888-404-3922, and to FWC at [ImperiledSpecies@myFWC.com](mailto:ImperiledSpecies@myFWC.com). Any collision with (and/or injury to) a marine turtle shall also be reported immediately to the Sea Turtle Stranding and Salvage Network (STSSN) at [SeaTurtleStranding@myfwc.com](mailto:SeaTurtleStranding@myfwc.com).
  - f. Temporary signs concerning manatees shall be posted prior to and during all in-water project activities. All signs shall be removed by the Permittee upon completion of the project. Temporary signs that have already been approved for this use by the FWC shall be used. One sign which reads "Caution Boaters – Watch for Manatees" shall be posted. A second sign measuring at least 8 ½" by 11" explaining the requirements for "Idle Speed/No Wake" and the shutdown of in-water operations shall be posted in a location prominently visible to all personnel engaged in water-related activities. These signs can be viewed at [MyFWC.com/manatee](http://MyFWC.com/manatee). Questions concerning these signs can be sent to [ImperiledSpecies@myFWC.com](mailto:ImperiledSpecies@myFWC.com).
11. **Hopper Dredging:** If a hopper dredge is used for this project, the following requirements shall be met:

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- a. Handling of captured marine turtles during hopper dredging activities shall be conducted only by persons with prior experience and training in these activities, and who are duly authorized to conduct such activities through a valid Marine Turtle Permit issued by the FWC, pursuant to Chapter 68E-1, F.A.C.
  - b. In order to minimize impingement or entrainment of marine turtles within the water column, dredging pumps shall be disengaged by the operator, or the draghead bypass valve shall be open and in use when the dragheads are not firmly on the bottom. This precaution is especially important during the cleanup phase of dredging operations.
  - c. A state-of-the-art rigid deflector draghead shall be used on all hopper dredges, at all times of the year.
  - d. The STSSN Coordinator shall be notified at 1-904-573-3930 or via e-mail at [Allen.Foley@myfwc.com](mailto:Allen.Foley@myfwc.com) of the start-up and completion of hopper dredging operations. If a marine turtle is captured or marine turtle parts are recovered, the STSSN shall be contacted at [seaturtlestranding@myfwc.com](mailto:seaturtlestranding@myfwc.com).
12. **Trawling.** If relocation trawling or non-capture trawling for marine turtles is required as per applicable National Marine Fisheries Service Biological Opinions and Incidental Take authorizations, the following is required:
- a. Any activity involving the use of nets to harass and/or to capture and handle marine turtles in Florida waters requires a Marine Turtle Permit from FWC prior to trawling.
  - b. The Permittee or their contractor shall e-mail ([MTP@MyFWC.com](mailto:MTP@MyFWC.com)) weekly reports to the FWC's Imperiled Species Management Section on Friday of each week that trawling is conducted in Florida waters. These weekly reports shall include the species and number of turtles captured, their general health, and release information. A summary of all trawling activity (including non-capture trawling) shall be submitted to [MTP@myfwc.com](mailto:MTP@myfwc.com) by January 15 of the following year, or at the end of the project. The summary shall be provided on the FWC provided Excel spreadsheet (available at <http://myfwc.com/media/3333816/Trawl-Report-Template.pdf> ), and shall list all turtles captured in Florida waters, the measurements of all captured turtles, the location of captures (latitude and longitude in decimal degrees), the location of tow start-stop points (latitude and longitude in decimal degrees), and times for the start-stop points of the tows (including tows when no turtles are captured).
13. **Beach Related Activities.** The Permittee shall adhere to the following requirements for all beach-related activities:

- a. Beach Driving. All vehicles shall be operated in accordance with the FWC's Best Management Practices for Operating Vehicles on the Beach (<http://myfwc.com/conservation/you-conserve/wildlife/beach-driving/>). Specifically, the vehicle shall be operated at a speed <6 mph, and run at or below the high-tide line. All personnel associated with the project shall be instructed about the potential presence of shorebirds and marine turtles, and the need to avoid Take of (including disturbance to) these protected species.
  - b. Beach Maintenance. All debris, including derelict coastal armoring material, concrete and metal shall be removed from the beach to the maximum extent practicable prior to any placement of construction material on the beach. If debris removal activities will take place during protected species nesting seasons, the work shall be conducted during daylight hours only, and shall not commence until completion of daily monitoring surveys each day. All excavations and temporary alteration of beach topography shall be filled or leveled to the natural beach profile prior to 9:00 p.m. each day. The beach surface shall be inspected subsequent to completion of the project, and all tracks or impressions left by construction equipment on the beach shall be removed.
  - c. Equipment Storage and Placement. Staging areas for construction equipment shall be located off the beach, if off-beach staging areas are available. Nighttime storage of construction equipment that is not in use shall be located off the beach to minimize disturbance to shorebird and marine turtle nesting and hatching activities. In addition, all construction pipes that are placed on the beach shall be located as far landward as possible without compromising the integrity of the existing or reconstructed dune system. Pipes placed parallel to the dune shall be 5 to 10 feet away from the toe of the dune. Temporary storage of pipes shall be located off the beach to the maximum extent possible. If it will be necessary to extend construction pipes past a known shorebird nesting site, or over-wintering area for piping plovers, then whenever possible, those pipes shall be placed landward of the site before birds are active in that area. No pipe or sand shall be placed seaward of a shorebird nesting site during the shorebird nesting season.
14. **Shorebird Monitoring.** The Permittee shall comply with the following shorebird monitoring requirements:
- a. Shorebird surveys shall be conducted by trained, dedicated individuals (Bird Monitor), with proven shorebird identification skills and avian survey experience.
  - b. **Selection of Bird Monitors.** A list of Bird Monitors shall be provided to the FWC, along with their contact information and a summary of their qualifications, including bird identification skills and avian survey experience. This information shall be



- submitted to the FWC Regional Biologist ([alex.kropp@myfwc.com](mailto:alex.kropp@myfwc.com)) for review and consultation prior to any construction or shorebird surveys.
- c. Surveys during the breeding season shall begin on the first day of the breeding season, or 10 days before any site work begins, whichever is later. The breeding season in Brevard County begins April 1. Surveys shall be conducted through August 31, or until all breeding activity has concluded, whichever is later. However, if construction is completed before the end of the shorebird breeding season, weekly shorebird surveys shall be conducted until all nesting activity has concluded. If no nesting has been initiated on site prior to July 15, nesting surveys may be concluded on or after that date.
  - d. During the breeding season, the Bird Monitor(s) shall survey all potential beach-nesting bird habitats that may be affected by construction or pre-construction activities.
  - e. The Bird Monitor(s) shall complete surveys on a daily basis to detect breeding activity and the presence of flightless chicks before (1) equipment is moved to the area, (2) vehicles are operated in the area, and (3) any other activities occur that have the potential to disrupt breeding behavior or cause harm to the birds, their eggs or their young. Once construction is completed and all personnel and equipment have been removed from the beach, surveys may be conducted at weekly intervals. If no nesting has been initiated on site prior to July 15, surveys may be concluded on or after that date.
  - f. The Bird Monitor(s) shall survey the project area by walking and looking for evidence of (1) shorebirds exhibiting breeding behavior, (2) shorebird chicks, or (3) shorebird juveniles, as outlined in the FSD's Breeding Bird Protocol for Shorebirds and Seabirds. The Bird Monitor(s) shall use binoculars for these surveys.
  - g. If an ATV or other vehicle is needed to cover large project areas, operators shall adhere to the FWC's Best Management Practices for Operating Vehicles on the Beach (<http://myfwc.com/conservation/you-serve/wildlife/beach-driving/>). Specifically, the vehicle shall be operated at a speed under 6 mph, and only on beaches at or below the high-tide line. The Bird Monitor(s) shall stop at no greater than 200-meter intervals to look for breeding activity.
  - h. Once the Bird Monitor(s) confirms that birds are breeding, as evidenced by the presence of a scrape, eggs, or young, the Bird Monitor(s) shall notify the FWC Regional Species Conservation Biologist (see the attached FWC contact information exhibit) within 24 hours. The Bird Monitor(s) shall report all breeding activity to the FSD website within one week of data collection.

15. **Shorebird Buffer Zones and Travel Corridors.** The Bird Monitor(s) shall establish a disturbance-free buffer zone around any location within the project area where shorebirds have been engaged in breeding behavior, including territory defense. The FWC considers a 300-foot-wide buffer to be adequate based on published studies; however, a smaller, site-specific buffer may be established if approved by the FWC Regional Species Conservation Biologist. Reasonable measures shall be taken to ensure that human disturbance (including pedestrians, pets and vehicles) be prohibited in the buffer zone.
- a. The Bird Monitor(s) shall keep breeding sites under sufficient surveillance to determine if birds appear agitated or disturbed by construction or other activities in adjacent areas. If birds appear to be agitated or disturbed by these activities, then the Bird Monitor(s) shall immediately widen the buffer zone to a sufficient size to protect breeding birds.
  - b. Reasonable and traditional pedestrian access shall not be blocked in situations where breeding birds will tolerate pedestrian traffic. This is generally the case with lateral movement of beach-goers walking parallel to the beach at or below the highest tide line. Pedestrian traffic may also be tolerated when breeding was initiated within 300 feet of an established beach access pathway. The Bird Monitor(s) shall work with the FWC Regional Species Conservation Biologist to determine if pedestrian access can be accommodated without compromising nesting success.
  - c. Perimeters of designated buffer zones shall be marked with posts, twine, and signs stating, "Do Not Enter, Important Nesting Area" or similar language. The signs shall include the name and a phone number of the entity responsible for posting. Posts shall not be higher than 3 feet once installed. "Symbolic fencing" (i.e., twine, string or rope) shall be placed between all posts and be clearly visible to pedestrians. In areas where marine turtles nest, the ropes shall be at least 2.5 feet above the ground. If pedestrian pathways are approved by the FWC Regional Biologist within the 300-foot buffer zone, these shall be clearly marked. Posting shall be maintained in good repair until breeding is completed or terminated. Although solitary nesters may leave the buffer zone with their chicks, the posted area continues to provide a potential refuge for the family until breeding is complete. Breeding is not considered to be completed until all chicks have fledged.
  - d. All reasonable measures shall be taken to ensure that no construction activities, pedestrians, moving vehicles, or stockpiled equipment are allowed within the buffer area.
  - e. The Bird Monitor(s) shall designate and mark travel corridors outside the buffer areas so as not to cause disturbance to breeding birds. Heavy equipment, other vehicles, or pedestrians may go past breeding areas in these corridors. However, other activities

- such as stopping or turning heavy equipment and vehicles shall be prohibited within the designated travel corridors adjacent to the breeding site.
- f. If flightless shorebird chicks are present within or adjacent to an equipment travel corridor, a Shorebird Monitor shall be present during the operation to ensure that the equipment does not operate within 300 feet of the flightless chicks. It is the Permittee's responsibility to have their contractor ensure that no chicks are in the path of the moving vehicles and that the vehicles leave no tracks capable of trapping flightless chicks. The Bird Monitor shall conduct a shorebird education and identification program with the Contractor to ensure protection of precocial (mobile) chicks.
  - g. The FWC recommends that some activity in the travel corridor is maintained on a daily basis in order to discourage birds from nesting within the travel corridor. These activities shall not be allowed to disturb shorebirds nesting on site or interfere with marine turtle nesting, especially if the corridors are established before construction has started.
  - h. Notification. If the Bird Monitor finds that shorebirds are breeding within the project area, the Permittee shall ensure that an informational bulletin board is placed and maintained in the construction staging area. This bulletin board shall display the location map of the construction site, depict the location(s) of the bird breeding areas, and include a clearly visible warning stating: "NESTING BIRDS ARE PROTECTED BY LAW, INCLUDING THE FLORIDA ENDANGERED AND THREATENED SPECIES ACT AND THE STATE AND FEDERAL MIGRATORY BIRD ACTS".
16. **Marine Turtle Nest Surveys and Relocation.** Sand placement shall be started after October 31 and be completed before May 1. Daily surveys shall be conducted between sunrise and 9 a.m. of all sandy beaches within the project area and all areas used for beach access. No construction activity may commence until completion of the marine turtle survey each day.
- a. Turtle Monitors. Nesting surveys and egg relocations shall only be conducted by persons with prior experience and training in these activities and who are duly authorized to conduct such activities through a valid permit issued by FWC, pursuant to Chapter 68E-1, F.A.C. Please contact FWC's Marine Turtle Management Program in Tequesta at [MTP@MyFWC.com](mailto:MTP@MyFWC.com) for information on the turtle permit holder in the project area. It is the responsibility of the Permittee to ensure that nesting surveys are completed by the authorized Marine Turtle Permit Holder.

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- i. Daily nesting surveys shall be initiated March 1 and shall continue until November 11, or until two weeks after the last crawl in the project area, whichever is earlier.
  - ii. After the sand placement is completed, marine turtle nest monitoring and reporting shall continue throughout the nesting season, and shall be conducted according to the Post-construction Monitoring and Reporting of Marine Turtle Nesting and shorebird nesting requirements in Specific Conditions 14, 23, 24, and 25.
- b. During the period from March 1 through April 30, daytime surveys shall be conducted for leatherback sea turtle nests beginning March 1. Nighttime surveys for leatherback marine turtles shall begin when the first leatherback crawl is recorded within the project or adjacent beach area through April 30, or until completion of the project, whichever is earliest. Nightly nesting surveys shall be conducted from 9 p.m. until 6 a.m. The project area shall be surveyed at 1-hour intervals and eggs shall be relocated per the preceding requirements. Since leatherbacks require at least 1.5 hours to complete nesting, the 1-hour interval will ensure that all nesting leatherbacks are encountered.
- c. If nests are laid in areas where they may be affected by sand placement activities, eggs shall be relocated as follows.
- i. Only those nests laid in the area where sand placement will occur shall be relocated. Nest relocation shall no longer occur after the sand placement is completed. Nests requiring relocation shall be moved no later than 9:00 a.m., the morning following deposition, to a nearby self-release beach site in a secure setting, where artificial lighting would not interfere with hatchling orientation. Relocated nests shall not be placed in organized groupings. Relocated nests shall be randomly staggered along the length and width of beach settings that are not expected to experience any of the following: inundation by high tides; severe erosion; previous egg loss; or illumination by artificial lighting. Nest relocations in association with construction activities shall cease when sand placement activities no longer threaten nests.
  - ii. Nests deposited within areas where construction activities will not occur for 65 days, or nests laid in the nourished berm prior to tilling, shall be marked and left in place. The turtle permit holder shall install an on-beach marker at the nest site, and shall also install a secondary marker at a point as far landward as possible to assure that the nest can be located in the future should the on-beach marker be lost. No activity shall occur within this area, nor shall any activities occur that could result in impacts to the nest. Nest sites shall be inspected daily

to assure nest markers remain in place and the nest has not been disturbed by the project activity.

17. **Marine Turtle or Nest Encounters.** Upon locating a dead or injured marine turtle adult, hatchling or egg that may have been harmed or destroyed as a direct or indirect result of the project, the Permittee shall notify FWC Wildlife Alert at 1-888-404-FWCC (3922). Care shall be taken in handling injured marine turtles or eggs to ensure effective treatment or disposition, and in handling dead specimens to preserve biological materials in the best possible state for later analysis. If a marine turtle nest is excavated during construction activities, but not as part of the authorized nest relocation process outlined in these specific conditions, the permitted person responsible for egg relocation for the project shall be notified immediately so the eggs can be moved to a suitable relocation site.
  
18. **Project Lighting.** Direct lighting of the beach and nearshore waters during the marine turtle nesting season shall be limited to the immediate construction area and shall comply with safety requirements. Lighting on offshore or onshore equipment shall be minimized through reduction, shielding, lowering and appropriate placement to avoid excessive illumination of the water's surface and nesting beach, while meeting codified requirements for human safety. Light intensity of lighting equipment shall be reduced to the minimum standard required for General Construction areas, in order to avoid misdirecting marine turtles. Shields shall be affixed to the light housing and shall be large enough to block light from all lamps from being transmitted outside the construction area (Figure 1 below).

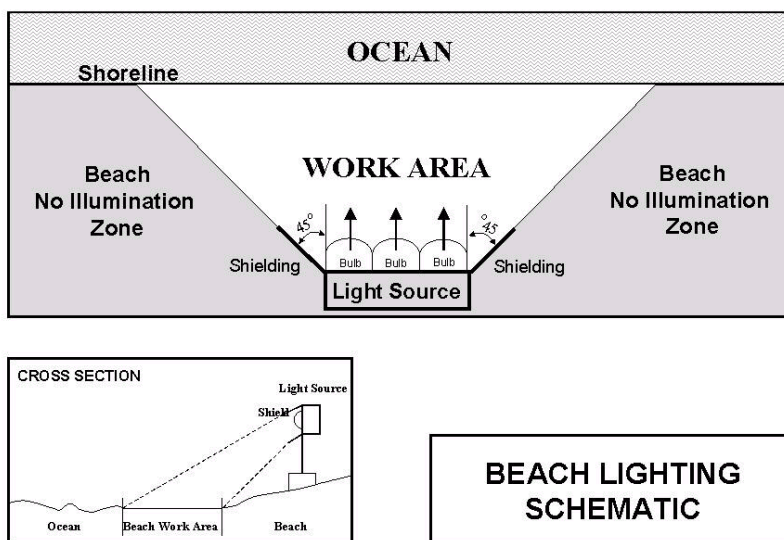


Figure 1

19. **Fill Restrictions.** During the marine turtle nesting season the contractor shall not advance the beach fill more than 500 feet along the shoreline between dusk and the

following day until the daily nesting survey has been completed and the beach has been cleared for fill advancement. An exception to this may occur if there is permitted marine turtle monitor present on-site to ensure that no nesting and hatching marine turtles are present within the extended work area. If the 500-foot advancement limitation is not feasible for the project, an agreed upon distance shall be established during the preconstruction meeting. Once the beach has been cleared for fill advancement, and the necessary nest relocations have been completed, the contractor shall be allowed to proceed with the placement of fill during daylight hours until dusk, at which time the 500-foot advancement limitation shall apply.

20. **Compaction Sampling.** The requirement for compaction monitoring can be eliminated if the placed sand is tilled, regardless of post-construction compaction levels. To request a waiver of tilling requirement, sand compaction shall be monitored in the area of sand placement immediately after completion of the nourishment event, and two weeks prior to marine turtle nesting season, for three (3) subsequent years, and shall be monitored in accordance with a protocol agreed to by the FWC and the Permittee. Out-year compaction monitoring and remediation are not required if placed sand no longer remains on the beach. At a minimum, the protocol provided under Specific Conditions 21(a)-(e). (below) shall be followed. If the average value for any depth exceeds 500 pounds per square inch (psi) for any two or more adjacent stations, then that area shall be tilled prior to the beginning of marine turtle nesting season. If values exceeding 500 psi are distributed throughout the project area, but in no case do those values exist at two adjacent stations at the same depth, then the Permittee shall consult with the FWC to determine if tilling is required. If a few values exceeding 500 psi are present randomly within the project area, tilling will not be required. Compaction monitoring and tilling are not required if placed sand no longer remains on the beach.
21. **Tilling Requirements.** If tilling is required, as specified in Specific Condition 20, above, the area shall be tilled to a depth of 36 inches. All tilling activity shall be completed prior to the marine turtle nesting season. If tilling occurs during shorebird nesting season, shorebird surveys shall be required prior to tilling, per the Shorebird Conditions included within this document. It is the responsibility of the Permittee to ensure that their contractors avoid tilling, scarp removal or dune vegetation planting in areas where nesting birds are present. Each pass of the tilling equipment shall be overlapped to allow thorough and even tilling. If the project is completed during the marine turtle nesting season, tilling shall not be performed in areas where nests have been left in place or relocated.
  - a. No tilling shall occur within 300 feet of any shorebird nest.
  - b. If flightless shorebird young are present within the work zone or equipment travel corridor, a Bird Monitor shall be present during the operation to ensure that

- equipment does not operate within 300 feet of the flightless young.
- c. A relatively even surface, with no deep ruts or furrows, shall be created during tilling. To do this, chain-linked fencing or other material shall be dragged over those areas as necessary after tilling.
  - d. Tilling shall occur landward of the wrack line, and shall avoid all naturally vegetated areas that are at least 3 square feet in size, as well as any planted areas that have been authorized by the Department. A 3-foot-wide No-Tilling buffer shall be maintained around the vegetated areas. The slope between the mean high water line and the mean low water line shall be maintained to approximate natural slopes.
  - e. Any vehicles operated on the beach in association with tilling shall operate in accordance with the FWC's Best Management Practices for Operating Vehicles on the Beach (<http://myfwc.com/conservation/you-protect/wildlife/beach-driving/>).
22. **Escarpment Surveys.** Visual surveys for escarpments along the project area shall be made immediately after completion of sand placement, and two weeks prior to marine turtle nesting season, for three (3) subsequent years if placed sand still remains on the beach.
- a. Escarpments that interfere with marine turtle nesting or that exceed 18 inches in height for a distance of at least 100 feet shall be leveled and the beach profile shall be reconfigured to minimize scarp formation by the beginning of marine turtle nesting season. Any escarpment removal shall be reported by location to FWC, with a copy sent to the JCP Compliance Officer. If the project is completed during the marine turtle nesting and hatching season, escarpment leveling may be required immediately, while protecting nests that have been relocated or left in place.
  - b. The Permittee shall contact FWC immediately if subsequent reformation of escarpments occurs during the nesting and hatching season, and the escarpments interfere with marine turtle nesting or if the escarpments exceed 18 inches in height for a distance of 100 feet. The FWC would then determine the appropriate action to be taken. If it is determined that escarpment leveling is required during the nesting or hatching season, the FWC will provide a brief written authorization that describes methods to be used to reduce the likelihood of impacting existing nests.
  - c. An annual summary of escarpment surveys and actions taken shall be submitted electronically to [marineturtle@myfwc.com](mailto:marineturtle@myfwc.com) along with the annual summary, as described below. If escarpment removal will occur during shorebird breeding season, shorebirds surveys shall be required prior to removal, per the Shorebird Conditions included within this document. NOTE: Out-year escarpment monitoring and

- remediation are not required if placed material no longer remains on the dry beach.
- d. No heavy equipment shall operate within 300 feet of any shorebird nest.
  - e. If flightless shorebird young are present within the work zone or equipment travel corridor, a Shorebird Monitor shall be present during the operation to ensure that equipment does not operate within 300 feet of the flightless young.
  - f. Any vehicles operated on the beach in association with escarpment surveys or removal shall operate in accordance with the FWC's Best Management Practices for Operating Vehicles on the Beach (<http://myfwc.com/conservation/you-protect/conservation/wildlife/beach-driving/>).
23. **Post-construction Shorebird Protection.** If the Permittee conducts beach cleaning on the nourished beach, a minimum of 30% of the biotic material within the wrack line shall be left on the beach after cleaning. The biotic material shall be left at the strand line, in a natural configuration to ensure that the nourished beach re-establishes its function as foraging habitat for shorebirds. This shall occur for as long as the placed sand remains on the beach.
24. **Post-construction Monitoring and Reporting of Marine Turtle Nesting.** Reports on all marine turtle nesting activity shall be provided for the initial marine turtle nesting season and for up to two additional nesting seasons as follows:
- a. For the remainder of the nesting season immediately following construction, and for the following year, the number and type of emergences (nests or false crawls) shall be reported per species in accordance with Table 1 (below). One or more additional years of nesting surveys may be required if nesting success for any species on the nourished beach is less than 40%.
  - b. For the remainder of the nesting season immediately following construction, reproductive success shall be reported per species in accordance with Table 1 (below). Reproductive success shall be reported for all loggerhead, Kemp's ridley, green and leatherback nests.
  - c. If the documented reproductive success for each species meets or exceeds the required criteria, as outlined in Table 1 (below), monitoring for reproductive success shall be recommended, but not required for the second year post-construction.
  - d. Monitoring of nesting activity in the seasons following construction shall include daily surveys and any additional measures authorized by the FWC. Summaries shall include all crawl activity, nesting success rates, hatching success of all relocated



nests, hatching success of a representative sampling of nests left in place (if any) by species, project name, permit numbers and dates of construction.

- e. Two lighting surveys shall be conducted of all artificial lighting visible from the nourished berm. The first survey shall be conducted between May 1 and May 15 of the first nesting season following construction, or immediately after placement if construction is not completed until after May 15. The second survey shall be conducted between July 1 and July 15. The survey shall be conducted from the top of the foreshore slope (i.e., the seaward edge of the filled berm before it slopes into the water), facing landward. The survey shall follow standard techniques for such a survey and include number and type of visible lights, location of lights and photo documentation. For each visible light source, the Permittee shall document that the property owner has been notified of the problem light and has been provided with recommendations for correcting the light. Recommendations shall be in accordance with local lighting ordinances, and a report summarizing all visible lights shall be forwarded to local code enforcement, or if no lighting ordinances exist, the recommendation shall be that no lights, light sources or glow shall be visible from the newly elevated beach. A report summarizing all visible lights shall be submitted to FWC Imperiled Species Management Section at [marineturtle@myfwc.com](mailto:marineturtle@myfwc.com) and copied to [JCPcompliance@DEP.State.FI.US](mailto:JCPcompliance@DEP.State.FI.US) within 28 days following the survey. A summary report documenting what corrective actions or local enforcement actions have been taken shall also be submitted by December 15 of that year. After the annual report is completed, the Permittee shall set up a meeting with the county or municipality and FWC to discuss the survey report, as well as any documented marine turtle disorientations in or adjacent to the project area.
25. Data shall be reported for the nourished areas in accordance with the Table 1 (below), and shall include the number of nests that were lost to erosion or that were washed out. Summaries of nesting activity shall be submitted in electronic format (Excel spreadsheets) to the FWC Imperiled Species Management Section at [marineturtle@MyFWC.com](mailto:marineturtle@MyFWC.com) and copied to [JCPcompliance@DEP.State.FI.US](mailto:JCPcompliance@DEP.State.FI.US). All summaries shall be submitted by January 15th of the following year. The FWC Excel spreadsheet is available upon request from [marineturtle@MyFWC.com](mailto:marineturtle@MyFWC.com)

Table 1. Marine Turtle Monitoring for Beach Placement of Material

Metric	Duration	Variable	Criterion
Nesting Success	Year of in-season construction, two years post construction if placed sand remains on beach and variable does not meet criterion based on previous year.	Number of nests and non-nesting events.	40% or greater

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Hatching Success	Year of in-season construction. And one year post construction if placed sand remains on beach and variable does not meet success criterion based on previous year.	Number of hatchlings by species to hatch from egg.	60 percent or greater (a statistically valid number of loggerhead and green nests, and all leatherback nests).
Emergence Success	Year of in-season construction and one year post construction if placed sand remains on beach and variable does not meet success criterion based on previous year.	Number of hatchlings by species to emerge from nest onto beach	80 percent or greater (a statistically valid number of loggerhead and green nests, and all leatherback nests).
Disorientation	Year of in-season construction and two years post construction if placed sand remains on the beach.	Number of nests and individuals that misorient or disorient.	Disorientation Report Form <a href="http://myfwc.com/media/418153/Seaturtle_Guidelines_A_LDIR_Directions.pdf">http://myfwc.com/media/418153/Seaturtle_Guidelines_A_LDIR_Directions.pdf</a>
Lighting Surveys	Two surveys the year following construction, one survey between May 1 and May 15 and second survey between July 15 and August 1.	Number, location and photographs of lights visible from nourished berm, corrective actions and notifications made	Lighting survey and meeting resulting with plan for reduction in lights visible from nourished berm within one to two-month period.
Compaction	Three seasons following construction. Not required if the beach is tilled prior to nesting season each year placed sand remains on beach.	Shear resistance	Less than 500 psi
Escarpment Surveys	Weekly during nesting season for up to three years each year placed sand remains on the beach.	Number of scarps 18 inches or greater extending for more than 100 feet that persist for more than 2 weeks	Successful remediation of all persistent scarps as needed

26. **Dune Planting.** Planting of dune vegetation is encouraged outside of marine turtle nesting season. However, planting activities may occur during the marine turtle nesting season March 1 through October 31 under the following conditions:
- a. It is the responsibility of the permittee to ensure that the project area and access sites are surveyed for marine turtle nesting activity. All nest surveys, nest relocations screening or caging activities etc. shall be conducted only by persons with prior experience and training in these activities and is duly authorized to conduct such activities through a valid permit issued by FWC pursuant to Florida Administrative

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- Code 68E-1. For information regarding whether the project beach is surveyed by qualified personnel, contact the Imperiled Species Management Section at [MTP@myfwc.com](mailto:MTP@myfwc.com).
- b. Marine turtle nest surveys shall be initiated at the beginning of the nesting season or 65 days prior to installation of plants (whichever is later). Surveys shall continue until completion of the project or through September 15 (whichever is earliest). Surveys shall be conducted throughout the project area and all beach access sites.
  - c. Any nests deposited in an area not requiring relocation for conservation purposes (as determined by the marine turtle permit holder) shall be left in situ. The marine turtle permit holder shall install an on-beach marker at any nest site and a secondary marker located at a point as far landward as possible to ensure that future location of the nest will be possible should the on-beach marker be lost. A series of stakes and survey ribbon or string shall be installed to establish an area of 3 feet radius surrounding the nest. No planting or other activity shall occur within this area nor shall any activity occur which might cause indirect impacts within this area. Nest sites shall be inspected daily to ensure nest markers have not been removed.
  - d. The use of heavy equipment (trucks) is not authorized seaward of the dune crest or armoring structure. A lightweight (ATV style) vehicle, with tire pressures of 10 p.s.i. or less can operate on the beach.
  - e. Any vegetation planting or temporary placement of irrigation materials shall be installed by hand labor/tools only.
  - f. Temporary irrigation lines proposed along the landward side of the dune shall be entrenched 1 to 3 inches below grade so as not to pose a barrier to hatchlings and to allow for easy removal. Irrigation piping shall avoid all marked nests by a minimum of ten (10) feet. The irrigation system shall be designed and maintained so that watering of the unplanted sandy beach does not occur. No irrigation lines shall be installed on the crest or seaward side of the dune. In the event a marine turtle nest is deposited within the newly established dune planting area, the permittee shall modify the irrigation system so that watering within 10 feet of the nest does not occur. Daily inspection of the irrigation system shall be accomplished by the permittee to ensure compliance with this condition. All irrigation lines shall be removed once plants become established.
  - g. All activity shall be confined to daylight hours and shall not occur prior to the completion of all necessary marine turtle surveys and conservation activities within

the project area. Nighttime storage of equipment or materials shall be off the beach (landward of the dune crest, existing seawalls or bulkheads).

- h. In the event a nest is disturbed or uncovered during planting activity, the permittee shall cease all work and immediately contact the person(s) responsible for marine turtle conservation measures within the project area. If a nest(s) cannot be safely avoided during construction, all activity within the affected project area shall be delayed until complete hatching and emergence of the nest.

**PHYSICAL MONITORING REQUIRED:**

27. **Monitoring and reporting of the permitted project shall be conducted in accordance with the Physical Monitoring Plan dated November 1, 2016.**

The approved Physical Monitoring Plan can be revised at any later time by written request of the Permittee and with the written approval of the Department. If subsequent to approval of the Monitoring Plan there is a request for modification of the permit, the Department may require revised or additional monitoring requirements as a condition of approval of the permit modification.

As guidance for obtaining Department approval, the plan shall generally contain the following items:

- a. Topographic and bathymetric profile surveys of the beach and offshore shall be conducted prior to commencement of construction, immediately following completion of construction, and biennially thereafter beginning one or two years following completion of construction. A pre-construction survey of the project area to receive beach fill may use surveys conducted for purposes of construction bidding, contracting or construction management. The post-construction survey of the beach fill may use surveys and other information collected periodically during construction for purposes of construction management and payment. Alternatively, the post-construction survey may consist of a single beach-offshore profile survey event of the project monitoring area conducted within 60 days after completion of beach fill placement.

Thereafter, monitoring surveys shall be conducted biennially beginning approximately one year following completion of construction until the next beach nourishment event or the expiration of the project design life, whichever occurs first. The monitoring surveys shall be conducted during a spring or summer month and repeated as close as practicable during that same month of the year. If the time period between the post-construction survey and the first biennial monitoring survey is less

than six months, then the Permittee may at their discretion postpone the first monitoring survey until the following spring/summer.

The monitoring area shall include profile surveys at each of the Department of Environmental Protection's DNR reference monuments within the bounds of the beach fill area and along the adjacent shoreline on both sides of the beach fill area from R-110 through R-145. All work activities and deliverables for the biennial monitoring surveys shall be conducted in accordance with the latest update of the Department's Monitoring Standards for Beach Erosion Control Projects, Sections 01000 and 01100.

- b. Bathymetric surveys of the offshore borrow area(s) [and if used, the SR-NDSRA] used for construction shall be conducted within 90 days prior to commencement of construction and within 60 days following completion of construction of the project. Alternatively, the post-construction survey of the borrow area may consist of surveys and other information collected during construction for purposes of construction management.

Survey grid lines across the borrow area(s) shall be spaced to provide sufficient detail for accurate volumetric calculations but spaced not more than a maximum of 500 feet apart, and shall extend a minimum of 500 feet beyond the boundaries of the borrow site. In all other aspects, work activities and deliverables shall be consistent with the Department's Monitoring Standards for Beach Erosion Control Projects, Section 01200.

- c. The Permittee shall submit an engineering report and the monitoring data to the BBCS within 90 days following completion of the construction and each biennial monitoring survey.

The report shall summarize and discuss the data, the performance of the beach fill project, and identify erosion and accretion patterns within the monitored area. Results shall be analyzed for patterns, trends, or changes between annual surveys and cumulatively since project construction. In addition, the report shall include a comparative review of project performance to performance expectations and identification of adverse effects attributable to the project. The report shall specifically include:

- A record of the volume and location of all beach fill or inlet sand bypassing material placed within the project area;
- The volume and percentage of advance nourishment lost since the last beach nourishment project as measured landward of the MHW line of the most recent survey;

- The most recent MHW shoreline positions (ft) in comparison with the design profile at each individual monument location;
- The MHW shoreline position changes (ft) relative to the pre-construction survey at each individual monument location for all the monitoring periods;
- The total measured remaining volume (cy) in comparison with the total predicted remaining volume (cy) above the MHW line and above the Depth of Closure for the entire project area over the successive monitoring periods; and
- Other shoreline position and volumetric analysis the Permittee or engineer deem useful in assessing, with quantitative measurements, the performance of the project.

The report shall include computations, tables and graphic illustrations of volumetric and shoreline position changes for the monitoring area. An appendix shall include superimposed plots of the two most recent beach profile surveys, the design profile, and pre- and post-construction beach profile at each individual monument location.

- d. A digital copy of the monitoring report and a digital file of the survey data shall be submitted to the Division of Water Resource Management in Tallahassee. Failure to submit reports and data in a timely manner constitutes grounds for revocation of the permit. When submitting any monitoring information to the Division, please include a transmittal cover letter clearly labeled with the following at the top of each page:  
"This monitoring information is submitted in accordance with the approved Physical Monitoring Plan for Permit No. 0137212-016-JC for the monitoring period [XX]."

## **SEDIMENT QUALITY**

28. Sediment quality will be assessed as outlined in the attached Sediment QA/QC plan, dated November 1, 2016. Any occurrences of placement of material not in compliance with the Plan shall be handled according to the protocols set forth in the Sediment QA/QC plan. The sediment testing result shall be submitted to FDEP within 90 days following the completion of beach construction. The Sediment QA/QC Plan includes the following:
- a. If during construction, the Permittee or Engineer determines that the beach fill material does not comply with the sediment compliance specifications, measures will be taken to avoid further placement of noncompliant fill, and the sediment inspection results will be reported to the Department.
  - b. The Permittee will submit post-construction sediment testing results and an analysis report as outlined in the Sediment QC/QA plan to the Department within 90 days following beach construction. The sediment testing results will be certified by a P.E.

or P.G. from the testing laboratory. A summary table of the sediment samples and test results for the sediment compliance parameters as outlined in Table 1 of the Sediment QC/QA plan shall accompany the complete set of laboratory testing results. A statement of how the placed fill material compares to the sediment analysis and volume calculations from the geotechnical investigation shall be included in the sediment testing results report.

- c. A post-remediation report containing the site map, sediment analysis, and volume of noncompliant fill material removed and replaced will be submitted to the Department within 7 days following completion of remediation activities.
29. The disposal location of dredged material from the access lane of Canaveral Shoals Borrow Area I shall be determined by the depth of cut. Beach quality material (defined in Rule 62B-41.007(2)(j), F.A.C.) dredged from above -25.0 ft. NAVD'88 may be placed directly within the Beach Fill Area. Material dredged from between elevations -25.0 ft and -30.3 ft. containing less than 20% fines shall be placed within the SR-NDSRA. Material dredged from between elevations -25.0 ft and -30.3 ft. containing greater than 20% fines shall be placed in the Canaveral Ocean Dredged Material Disposal Site (ODMDS). During construction, an on-site inspector with training in the determination of sediment characteristics will evaluate the suitability of dredged material with less than 20% fines for nearshore disposal vs. ocean disposal.

**MONITORING REQUIRED:**

30. Water Quality- Turbidity shall be monitored as follows:

Units: Nephelometric Turbidity Units (NTUs)

Dredging at Canaveral Shoals I Borrow Site and/or the SR-NDSRA:

Frequency: Every 6 hours, or, if a hopper dredge is used then approximately midway through each fill cycle while the dredge is actively dewatering or discharging overflow, during daylight hours only.

Background: 300 meters from the dredge in the opposite direction of the prevailing current flow. Sampling shall occur at surface, mid-depth, and (for sites with depths greater than 25 feet) 2 meters above the bottom, clearly outside the influence of any artificially generated turbidity plume.

Compliance: Samples shall be collected no more than 150 meters downcurrent from the dredge, in the densest portion of any visible turbidity plume. Sampling shall occur at surface, mid-depth, and (for sites with depths greater than 25 feet) 2 meters above the bottom.

**Joint Coastal Permit  
Brevard County Shore Protection Project; South Reach  
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**Beach Nourishment Site:**

**Frequency:** Once every 6 hours during a beach disposal operation, during daylight hours only.

**Background:** At least 300 meters up-current from the point where discharge water is re-entering waters of the State (discharge point), clearly outside of the influence of any turbid plume, during daylight hours only. Sampling shall occur at surface, mid-depth, and (for sites with depths greater than 25 feet) 2 meters above the bottom, clearly outside the influence of any artificially generated turbidity plume. Samples shall be collected at the same distance offshore as the compliance station.

**Compliance:** Samples shall be collected no more than 150 meters downcurrent from the discharge point within the densest portion of any visible turbidity plume caused by the construction activities. If a plume is not visible, the samples shall be collected 50 m from the shoreline. Sampling shall occur at surface, mid-depth, and (for sites with depths greater than 25 feet) 2 meters above the bottom. *Note: If the plume flows parallel to the shoreline, the densest portion of the plume may be close to shore, in shallow water. In that case, it may be necessary to access the sampling location from the shore, in water that is too shallow for a boat. See Diagram 1.*

**Disposal at the NDSRA:**

**Frequency:** Approximately every 6 hours between 15 and 30 minutes after disposal of a barge load of material during daylight hours only.

**Background:** 300 meters from the disposal barge in the opposite direction of the prevailing current flow, clearly outside the influence of any turbid plume. Sampling shall occur at surface, mid-depth, and (for sites with depths greater than 25 feet) 2 meters above the bottom.

**Compliance:** No more than 150 meters downcurrent from the barge, in the densest portion of any visible turbidity plume. Sampling shall occur at surface, mid-depth, and (for sites with depths greater than 25 feet) 2 meters above the bottom.

**Nearshore Placement Site, using Rainbow Discharge (i.e., Surface Spray):**

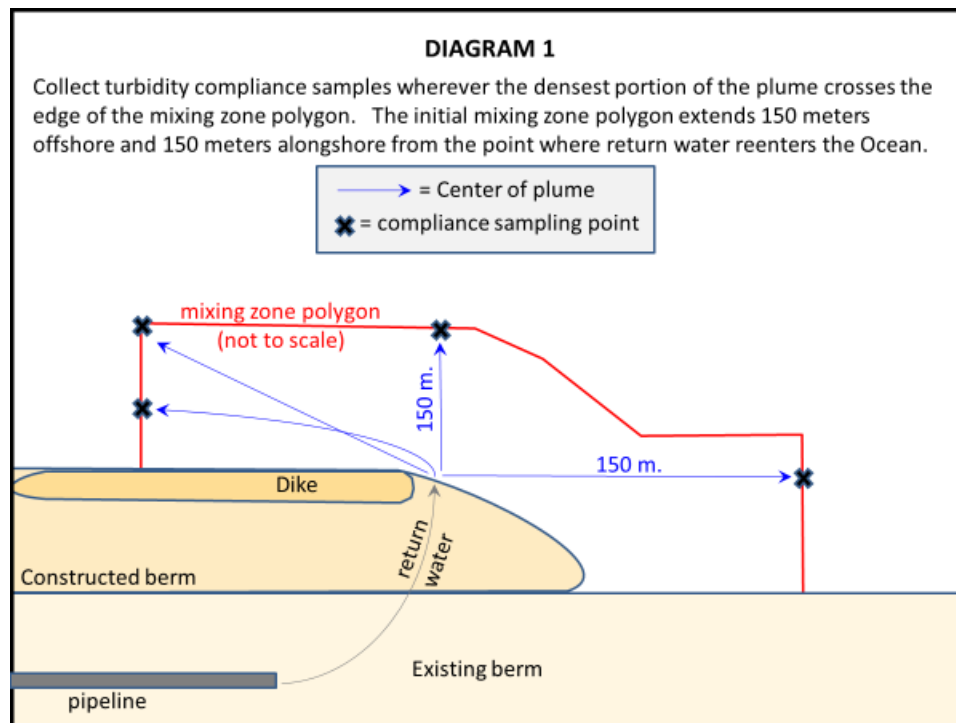
**Frequency:** At least two (2) times for each discharge episode, starting approximately 10 to 20 minutes after rainbow discharge begins (once the turbidity plume reaches the edge of the mixing zone), and again every 20 minutes until



discharge has ceased, plus at least one measurement AFTER rainbow discharge has ceased.

**Background:** At least 300 meters from the disposal barge or hopper dredge in the opposite direction of the prevailing current flow, clearly outside the influence of any turbid plume. Sampling shall occur at surface, mid-depth, and (for sites with depths greater than 25 feet) 2 meters above the bottom.

**Compliance:** No more than 150 meters downcurrent from the barge or hopper dredge, in the densest portion of any visible turbidity plume. Sampling shall occur at surface, mid-depth, and (for sites with depths greater than 25 feet) 2 meters above the bottom.



**Calibration:** The instruments used to measure turbidity shall be fully calibrated with primary standards within one month of the commencement of the project, and at least once a month throughout the project. Calibration with secondary standards shall be verified each morning prior to use, after each time the instrument is turned on, and after field sampling using two secondary turbidity “standards” that bracket the anticipated turbidity samples. If the post-sampling calibration value deviates more than 8% from the previous calibration value, results shall be reported as estimated and a description of the problem shall be included in the field notes.

Analysis of turbidity samples shall be performed in compliance with DEP-SOP-001/01 FT 1600 Field Measurement of Turbidity:

<http://publicfiles.dep.state.fl.us/dear/sas/sopdoc/2008sops/ft1600.pdf>

If the turbidity monitoring protocol specified above prevents the collection of accurate data, the person in charge of the turbidity monitoring shall contact the JCP Compliance Officer to establish a more appropriate protocol. Once approved in writing by the Department, the new protocol shall be implemented through an administrative permit modification.

31. The **compliance** locations given above shall be considered the limits of the temporary mixing zone for turbidity allowed during construction. If monitoring reveals turbidity levels at the **compliance** sites that are greater than 29 NTUs above the corresponding background turbidity levels, construction activities shall **cease immediately** and not resume until corrective measures have been taken and turbidity has returned to acceptable levels. Any such occurrence shall also be immediately reported to the JCP Compliance Officer via email at [JCPCCompliance@dep.state.fl.us](mailto:JCPCCompliance@dep.state.fl.us) and include in the subject line, "TURBIDITY EXCEEDANCE", and the Project Name and Permit Number. Also notify the Department's Southeast District office.

Any project-associated turbidity source other than dredging or fill placement for beach nourishment (e.g., scow or pipeline leakage) shall be monitored as close to the source as possible. If the turbidity level exceeds 29 NTUs above background, the construction activities related to the exceedance shall **cease immediately** and not resume until corrective measures have been taken and turbidity has returned to acceptable levels. This turbidity monitoring shall continue every hour until turbidity levels are restored to less than 29 NTU above background. The Permittee shall notify the Department, by separate email to the JCP Compliance Officer, of such an event within 24 hours of the time the Permittee first becomes aware of the discharge. The subject line of the email shall state "OTHER PROJECT-ASSOCIATED DISCHARGE, TURBIDITY EXCEEDANCE".

When reporting a turbidity exceedance, the following information shall also be included:

- a. the Project Name;
- b. the Permit Number;
- c. location and level (NTUs above background) of the turbidity exceedance;
- d. the time and date that the exceedance occurred; and
- e. the time and date that construction ceased.

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Within 24 hours of re-commencing the construction, a report shall be emailed to the Department with the same information that was included in the "Exceedance Report", plus the following information:

- a. turbidity monitoring data collected during the shutdown documenting the decline in turbidity levels and achievement of acceptable levels;
  - b. corrective measures that were taken; and
  - c. cause of the exceedance.
32. **Turbidity Reports:** All turbidity monitoring data shall be submitted within one week of analysis. The data shall be presented in tabular format, indicating the measured turbidity levels at the compliance sites for each depth, the corresponding background levels at each depth and the number of NTUs over background at each depth. Any exceedances of the turbidity standard (29 NTUs above background) shall be highlighted in the table. In addition to the raw and processed data, the reports shall also contain the following information:
- a. time of day samples were taken;
  - b. dates of sampling and analysis;
  - c. GPS location of sample;
  - d. depth of water body;
  - e. depth of each sample;
  - f. antecedent weather conditions, including wind direction and velocity;
  - g. tidal stage and direction of flow;
  - h. water temperature;
  - i. a map, overlaid on an aerial photograph, indicating the sampling locations, dredging and discharge locations, and direction of flow. A sample map shall reviewed and approved by the Department prior to construction;
  - j. a statement describing the methods used in collection, handling, storage and analysis of the samples;

- k. a statement by the individual responsible for implementation of the sampling program concerning the authenticity, precision, limits of detection, calibration of the meter, accuracy of the data and precision of the GPS measurements;
- l. When samples cannot be collected, include an explanation in the report. If unable to collect samples due to severe weather conditions, include a copy of a current report from a reliable, independent source, such as an online weather service.

## **NOTICE OF RIGHTS**

This action is final and effective on the date filed with the Clerk of the Department unless a petition for an administrative hearing is timely filed under Sections 120.569 and 120.57, F.S., before the deadline for filing a petition. On the filing of a timely and sufficient petition, this action will not be final and effective until further order of the Department. Because the administrative hearing process is designed to formulate final agency action, the hearing process may result in a modification of the agency action or even denial of the application.

### **Petition for Administrative Hearing**

A person whose substantial interests are affected by the Department's action may petition for an administrative proceeding (hearing) under Sections 120.569 and 120.57, F.S. Pursuant to Rule 28-106.201, F.A.C., a petition for an administrative hearing must contain the following information:

- (a) The name and address of each agency affected and each agency's file or identification number, if known;
- (b) The name, address, any email address, any facsimile number, and telephone number of the petitioner; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests are or will be affected by the agency determination;
- (c) A statement of when and how the petitioner received notice of the agency decision;
- (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
- (e) A concise statement of the ultimate facts alleged, including the specific facts that the petitioner contends warrant reversal or modification of the agency's proposed action;
- (f) A statement of the specific rules or statutes that the petitioner contends require reversal or modification of the agency's proposed action, including an explanation of how the alleged facts relate to the specific rules or statutes; and
- (g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wishes the agency to take with respect to the agency's proposed action.

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The petition must be filed (received by the Clerk) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000. Also, a copy of the petition shall be mailed to the applicant at the address indicated above at the time of filing.

**Time Period for Filing a Petition**

In accordance with Rule 62-110.106(3), F.A.C., petitions for an administrative hearing by the applicant must be filed within 14 days of receipt of this written notice. Petitions filed by any persons other than the applicant, and other than those entitled to written notice under Section 120.60(3), F.S., must be filed within 14 days of publication of the notice or within 14 days of receipt of the written notice, whichever occurs first. Under Section 120.60(3), F.S., however, any person who has asked the Department for notice of agency action may file a petition within 14 days of receipt of such notice, regardless of the date of publication. The failure to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention (in a proceeding initiated by another party) will be only at the discretion of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

**Extension of Time**

Under Rule 62-110.106(4), F.A.C., a person whose substantial interests are affected by the Department's action may also request an extension of time to file a petition for an administrative hearing. The Department may for good cause shown, grant the request for an extension of time. Requests for extension of time must be filed with the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, before the applicable deadline for filing a petition for an administrative hearing. A timely request for extension of time shall toll the running of the time period for filing a petition until the request is acted upon.

**Mediation**

Mediation is not available in this proceeding.

**FLAWAC Review**

The applicant, or any party within the meaning of Section 373.114(1)(a) or 373.4275, F.S., may also seek appellate review of this order before the Land and Water Adjudicatory Commission under Section 373.114(1) or 373.4275, F.S. Requests for review before the Land and Water Adjudicatory Commission must be filed with the Secretary of the Commission and served on the Department within 20 days from the date when this order is filed with the Clerk of the Department.

**Judicial Review**

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Once this decision becomes final, any party to this action has the right to seek judicial review pursuant to Section 120.68, F.S., by filing a Notice of Appeal pursuant to Rules 9.110 and 9.190, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 3900 Commonwealth Boulevard, M.S. 35, Tallahassee, Florida 32399-3000; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date this action is filed with the Clerk of the Department.

When there has been no publication of notice of agency action or notice of proposed agency action as prescribed in Rule 62-110.106, F.A.C., a person may request a copy of the agency action. The Department shall upon receipt of such a request, if agency action has occurred, promptly provide the person with notice. The Department does not require notice of this agency action to be published. However, the applicant may elect to publish notice as prescribed in Rule 62-110.106, F.A.C., which constitutes notice to the public and establishes a time period for submittal of any petition.

**Attachments:** Approved Permit Drawings (13 pages, dated November 1, 2016)  
Sediment QA/QC Plan (dated November 1, 2016)  
Approved Physical Monitoring Plan (dated November 1, 2016)

**EXECUTION AND CLERKING:**

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION



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Lainie Edwards, Ph.D.  
Program Administrator  
Beaches, Inlets and Ports Program  
Division of Water Resource Management

**Joint Coastal Permit  
Brevard County Shore Protection Project; South Reach  
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**CERTIFICATE OF SERVICE**

The undersigned duly designated deputy clerk hereby certifies that this permit and all copies were sent on the filing date below:

**FILING AND ACKNOWLEDGMENT**

FILED, on this date, pursuant to Section 120.52, F. S., with the designated Department Clerk, receipt of which is hereby acknowledged.

*Kaelyn Massey* 6/12/2017  
Clerk Date

## APPENDIX B

### USACE – NMFS Correspondence





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

17 MAY 2003

Dr. Roy Crabtree  
NOAA-National Marine Fisheries Service  
Southeast Regional Office  
263 13<sup>th</sup> Avenue South  
St. Petersburg, FL 33701-5505

Dear Dr. Crabtree:

The U.S. Army Corps of Engineers (Corps), Jacksonville District, and the Bureau of Ocean Energy Management request informal consultation regarding potential effects to smalltooth sawfish from the Brevard County (Florida) Federal Shore Protection Project (North and South Reach). The Corps is serving as lead agency for this Endangered Species Act (ESA) Section 7 consultation. Although five species of sea turtles (loggerhead, green, hawksbill, Kemp's ridley, and leatherback), the North Atlantic right whale, and humpback whale can be found in or near the action area and may be affected by the proposed action, any effects to and incidental take of those species are already covered by the 1997 South Atlantic Regional Biological Opinion. Subsequent to completion of the Regional Biological Opinion, the smalltooth sawfish was federally listed in 2003. The Corps and Minerals Management Service, a predecessor to BOEM, informally consulted with the National Marine Fisheries Service (NMFS) on the smalltooth sawfish for maintenance construction of Brevard County, South Reach in 2009 (I/SER/2009/02797). We have not previously concluded a consultation on the smalltooth sawfish for the North Reach segment of the Brevard County Federal Shore Protection Project. Please note that the re-initiated South Atlantic Regional Biological Opinion, re-initiated in April 2007, would cover this project if it were concluded.

The Corps proposes to place approximately 1,605,000 cubic yards (cy) of beach-compatible sand along portions of the Brevard County, Florida Atlantic Ocean shoreline to restore sand eroded from (Enclosure). Approximately 585,500 cy of sand will be placed along all or parts of the 3.8-mile South Reach segment of the Brevard County Federal Shore Protection Project (BCSPP) between Melbourne Beach and Indialantic Beach. Approximately 1,020,000 cy of sand will be placed along all or parts of the 9.8-mile North Reach segment of the BCSPP between the City of Cape Canaveral and Cocoa Beach. The south-end will transition another 1500-ft. The proposed action will involve the use of a hopper dredge to dredge sand from one or both of two offshore borrow areas south of Cape Canaveral and east of Port Canaveral: Canaveral Shoals I, located in State of Florida waters, and/or Canaveral Shoals II, located in Federal waters on the Outer Continental Shelf. Any dredging in Canaveral Shoals II will be authorized by BOEM. The dredged sand will be directly placed on the beach, or a portion may be placed in nearshore rehandling areas for later rehandling by a cutterhead dredge. The project area is located within a known calving area for the North Atlantic right whale. The project area is

not located in critical habitat for the smalltooth sawfish. There is no hardbottom in the borrow area or in the immediate vicinity of rehandling areas, pipeline corridors, or the placement area.

The proposed action will occur between October 1 and April 30 in order to avoid sea turtle nesting activities. Dredge activity may commence as early as October 1 if the dredge contractor elects to use a rehandling area. Sand placement and upland construction activity will occur only after October 31. It is anticipated that construction of the North and South Reach segments of the project will be built concurrently. Hopper dredging is expected to occur over approximately 180 to 210 days to obtain the necessary volume. The hopper dredge will transport the dredged material a distance of approximately 10 or 22 nautical miles, for the North Reach and South Reach respectively, to pump-out mooring buoys positioned approximately 0.5 to 1 mile from shore, from which the material will be pumped directly via pipeline to the beach. Alternatively, dredged material may be placed by the hopper dredges into previously permitted rehandling areas and dredged from the rehandling area and pumped onto the beach via a cutterhead pipeline dredge. The placement and relocation of the nearshore mooring buoys used during pump-out, or emplacement and retrieval of submerged pipeline, may involve the use of tender tugboats and a pipeline hauler or crane.

The beach construction template is identical to that previously constructed. The landward template along the South Reach will include a dune feature. The beach template will include an approximate 60 to 100-ft wide berm. The berm has been designed to be turtle friendly. Unlike a typical beach berm, the seaward elevation of the proposed berm is lower in order to reduce potential scarping resulting from storm activity or the natural equilibration of the beach and to reduce ponding of water. The use of up to three bulldozers and/or pipeline movers and two trucks is anticipated on the beach during construction to distribute and grade the hydraulically placed sand.

The Corps will require the contractor(s) to follow the Terms and Conditions in NMFS' 1997 Regional Biological Opinion on Hopper Dredging along the South Atlantic Coast. The 1997 Regional Biological Opinion incorporates by reference NMFS' 1995 Biological Opinion on hopper dredging of channels and beach nourishment activities in the southeastern United States from North Carolina through Florida East Coast. The Corps will place material on the beach between November 1 and April 30 to avoid sea turtle nesting activities to the extent possible. The Corps will also require the contractor(s) to follow NMFS' March 23, 2006, Sea Turtle and Smalltooth Sawfish Construction Conditions.

The Corps has determined that the proposed action may affect, but is not likely to adversely affect the smalltooth sawfish. Effects on smalltooth sawfish include the risk of injury or harassment associated with dredging, rehandling, and pipeline emplacement and retrieval activities. Due to the location of the project, the species' mobility, and the implementation of NMFS' Sea Turtle and Smalltooth Sawfish Construction Conditions, the risk of injury and harassment is discountable. If smalltooth sawfish are in the project area, they are likely to be adults. Smalltooth sawfish are associated with a number of habitats. Juveniles (<1m) are often closely associated with mangroves and shallow, euryhaline waters close to shore, while adults have been observed in various habitats and water depths. The project area is not a known nursery or foraging area for smalltooth sawfish. Further, the project area does not support the type of habitat (i.e., mangroves and shallow, euryhaline waters close to shore) that is favored by juvenile sawfish. While adults may move through the area or forage there, no adverse effects are expected related to habitat loss.

We request your concurrence in this matter. If you have questions, please contact Mr. Paul DeMarco at 904-232-3271.

Sincerely,



Eric P. Summa  
Chief, Environmental Branch

Enclosure (Map)

cc:  
Dr. Jennifer Culbertson  
Bureau of Ocean Energy Management  
381 Elden Street  
Herndon, VA 20170



## APPENDIX C

### Fish and Wildlife Service Correspondence



DEPARTMENT OF THE ARMY  
JACKSONVILLE DISTRICT CORPS OF ENGINEERS  
701 San Marco Boulevard  
JACKSONVILLE, FLORIDA 32207-8175

REPLY TO  
ATTENTION OF

JUL 12 2017

Planning and Policy Division  
Environmental Branch

Mr. Larry Williams, Director  
U. S. Fish & Wildlife Service  
North Florida Ecological Services Office  
7915 Baymeadows Way, Suite 200  
Jacksonville, FL 32256-7517.

Dear Mr. Williams:

The U.S. Army Corps of Engineers, Jacksonville District (Corps) would like to initiate coordination under the Programmatic Piping Plover Biological Opinion (P<sup>3</sup>BO; 2013) and the Statewide Programmatic Biological Opinion (SPBO; 2015) for the proposed nourishment of the Brevard County Shore Protection Project (South Reach and North Reach). Please note that the proposed South Reach work would be performed due to significant damage caused by Hurricane Matthew. The Corps has determined that this hurricane meets the "extraordinary storm" criteria for Flood Control and Coastal Emergency (FCCE) rehabilitation. Due to this determination, the Corps respectfully requests an expedited review of this consultation.

The Brevard South Reach is approximately 3.4 miles in length commencing in the Town of Indialantic and extending to the Town of Melbourne Beach between Florida Department of Environmental Protection [FDEP] monuments R-119 and R-137.5 (Figure 1). An estimated 280,000 cubic yards of beach quality sand would be placed within the South Reach limits. The Brevard North Reach is approximately 9.6 miles in length commencing at Port Canaveral and extending to just north of Patrick Air Force Base (between FDEP monuments R-1 to R-53). An estimated 570,000 cubic yards of beach quality sand would be placed within the North Reach. Both reaches would utilize Canaveral Shoals II as a borrow source. Construction for this project will begin late November or early December with a duration period of 3 to 4 months.


The Corps will abide by all terms and conditions within the SPBO. Standard Manatee protection measures would be imposed on activities in the water. The Corps' determination is that the proposed work may affect nesting sea turtles and may affect, but is not likely to adversely affect, manatee, piping plover and rufa red knot. Protection measures for nesting sea turtles and piping plovers shall be incorporated into the project plans and specifications in order to comply with the terms and conditions of the SPBO and P<sup>3</sup>BO.

Red knots may occasionally use the Project area during winter and migration periods. 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 P<sup>3</sup>BO Conservation Measures.

The U.S. Fish and Wildlife Service has jurisdiction over sea turtles on the beach (nesting adults, incubating eggs, or hatching young). The Corps has determined construction will occur during the late and early sea turtle nesting season and the proposed activity may affect, but is not likely to adversely modify, designated loggerhead sea turtle critical habitat unit LOGG-T-FL-07 (terrestrial nesting beach). The construction phase typically takes 3-4 months approximately every 6 years and the daily construction activity occurs on only a small area at a time (approximately 500-1,000 feet of beach per 24 hours). In addition, the SPBO includes conditions that minimize incidental take of sea turtles. Finally, since the placed sand is highly compatible with existing sand this may increase sea turtle nesting habitat. Compaction and escarpment remediation measures will be incorporated into the project (*i.e.* the project complies with the terms and conditions of the SPBO). Therefore, the Corps has determined that the project will not destroy or adversely modify loggerhead critical habitat. Additionally, the FCCE 2014 and 2015 Sea Turtle Monitoring reports are provided for reference.

Should you determine that the proposed activity is not within the scope of the SPBO and the P<sup>3</sup>BO 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 15 days of the date of this letter. If you have any questions, please contact Wendy Dauberman at 904-232-3206 or by email ([wendy.s.dauberman-zerby@usace.army.mil](mailto:wendy.s.dauberman-zerby@usace.army.mil)).

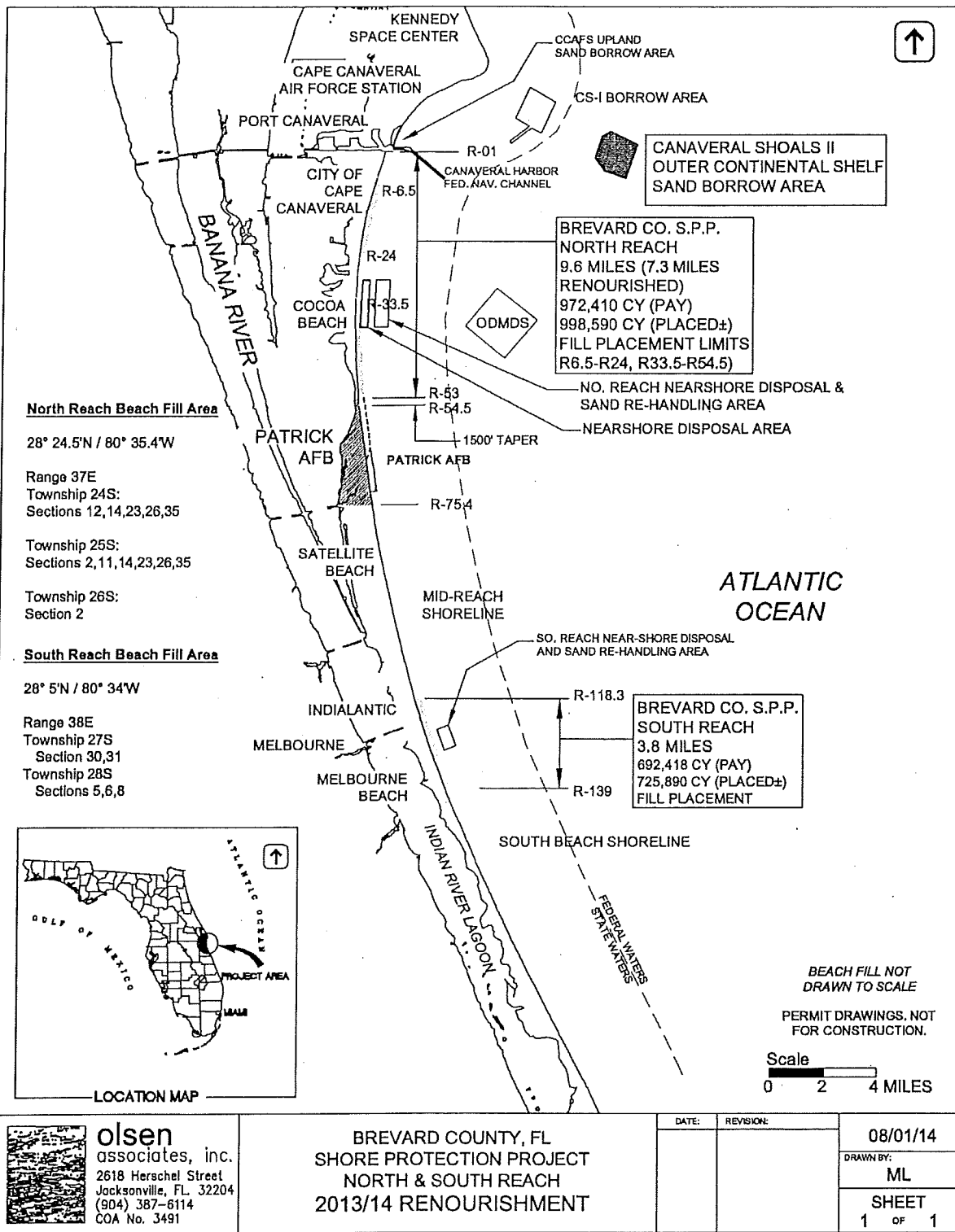
Sincerely,



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

Enclosures

Cc:Tina Nguyen, U. S. Fish & Wildlife Service, North Florida Ecological Services Field Office,  
7915 Baymeadows Way, Suite 200, Jacksonville, FL 32256



**Figure 1: Map of Brevard County (South Reach and North Reach) Shore Protection Project Limits. (Loggerhead Critical Habitat, LOGG-T-FL-07)**





# United States Department of the Interior

## U. S. FISH AND WILDLIFE SERVICE

7915 BAYMEADOWS WAY, SUITE 200  
JACKSONVILLE, FLORIDA 32256-7517

IN REPLY REFER TO:

FWS Log No. 04EF1000-2017-I-0482

September 21, 2017

Gina Paduano Ralph, Ph.D.  
Chief Environmental Branch  
Jacksonville District Corps of Engineers  
701 San Marco Boulevard  
Jacksonville, Florida 32207-8175  
(Attn: Wendy Dauberman, Paul Stodola)

Dear Dr. Ralph:

The U.S Fish and Wildlife Service (USFWS) reviewed the proposed beach nourishment of the Brevard County Shore Protection project along the North Reach and South Reach shorelines in Brevard County, Florida and its effects on loggerhead (*Caretta caretta*); green (*Chelonia mydas*); leatherback (*Dermochelys coriacea*); hawksbill (*Eretmochelys imbricata*); and Kemp's ridley (*Lepidochelys kempii*) hatching and nesting sea turtles; Florida Manatee (*Trichechus manatus*), piping plover (*Charadrius melodus*) and red knot (*Calidris canutus rufa*). Your correspondence dated July 12, 2017, with additional information regarding the following project placement areas and cubic yardage on August 29, 2017, requesting consultation was received, and we submit the following comments in accordance with Section 7 of the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 *et seq.*).

The Brevard South Reach is approximately 3.8 miles in length commencing in Indialantic and extending to Melbourne Beach (between FDEP monuments R-119 and R-139). An estimated 275,000 cubic yards of beach quality sand would be placed within the South Reach limits. The Brevard North Reach is approximately 9.6 miles from Port Canaveral and extending north of Patrick Air Force Base (between FDEP monuments R-3 through R-54A). The proposed action would place up to approximately 825,000 cubic yards of beach quality sand within the North Reach. Both reaches would utilize Canaveral Shoals II as a borrow source. Construction is proposed to begin late November or early December of 2017 with an anticipated duration of approximately 3 to 4 months. The proposed South Reach work would be performed to address impacts from Hurricane Matthew determined by the Corps to meet the "extraordinary storm" criteria for Flood Control and Coastal emergency (FCCE) rehabilitation. However, the project could be modified if post hurricane assessments determine that impacts from Hurricane Irma on September 10-11, 2017 or following hurricanes have altered the SPP.

Outer Continental Shelf (OCS) sand resources located within the Canaveral II borrow area are proposed to be dredged for this project. Bureau of Ocean Energy Management (BOEM) is authorized under Public Law 103-426 [43 United States Code (U.S.C.) 1337 (k) (2)] to negotiate

on a non-competitive basis the rights to OCS sand resources for shore protection projects. BOEM may undertake a connected action (i.e., authorize use of the OCS borrow areas) that is related to, but unique from, the Corps' proposed action. BOEM's proposed action is to issue a negotiated agreement authorizing use of the sand source areas at the request of the local sponsor and the Corps. Sand placement as an associated authorization of sand extraction from the OCS by BOEM is covered by both the revised Statewide Programmatic Biological Opinion (2015-SPBO) dated, February 27, 2015, and the Piping Plover Programmatic (P<sup>3</sup>BO) dated May 22, 2013.

The Corps has determined that the proposed project “may affect, but is not likely to adversely affect” the West Indian manatee and the piping plover (*Charadrius melodus*) and “may affect, but is not likely to adversely affect” *rufa* red knot (*Calidris canutus rufa*). In addition, the Corps determined that the proposed project “may affect and is likely to adversely affect” nesting and hatching sea turtles [loggerhead (*Caretta caretta*); green (*Chelonia mydas*); leatherback (*Dermochelys coriacea*); hawksbill (*Eretmochelys imbricata*); and Kemp’s ridley (*Lepidochelys kempii*)] and “may affect, but is not likely to adversely affect” designated loggerhead sea turtle critical habitat unit LOGG-T-FL-07 (terrestrial nesting beach). The Corps has requested that adverse impacts to the sea turtles be addressed under the Service’s 2015-SPBO.

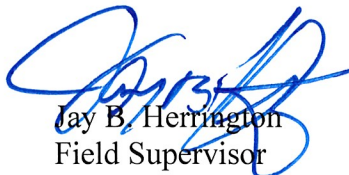
For the red knot, the proposed action may affect migrating and wintering red knots and their habitat within the action area. Construction activities can lead to temporarily diminished quantity and quality of intertidal foraging and roosting habitats, resulting in decreased survivorship of migrating and wintering knots and temporary adverse effects to suitable foraging and roosting habitat. The Corps determination was based on an assessment that significant use of the area would be avoided in the Northern Reach (north of FDEP monuments R-3 and between R-24 to R-33) and effects of the beach nourishment projects, both beneficial and detrimental, are typically temporary or relatively short in duration. The Corps states it will apply minimization measures for non-optimal piping plover habitat from the P<sup>3</sup>BO for the red knot as well. Based on the preceding, the USFWS concurs that the project “may affect but is not likely to adversely affect” red knot provided the Conservation Measures for non-optimal piping plover habitat from the P<sup>3</sup>BO are implemented.

The Service has determined that the proposed project is appropriate to apply to the Statewide Programmatic Biological Opinion (2015-SPBO) concerning sand placement activities along the coast of Florida for the Corps dated September 19, 2017 (FWS Log No. 04EF1000-2017-I-0482). The minimization measures, reasonable and prudent measures, and terms and conditions in the SPBO are applicable to the proposed project and must be followed for nesting and hatching sea turtles: [loggerhead sea turtle, the green sea turtle, the leatherback sea turtle, the hawksbill sea turtle, and the Kemp’s ridley sea turtle], and the West Indian manatee. In addition, the Service has determined that the proposed project is appropriate to apply to the 2013 Piping Plover Programmatic Biological Opinion (P3BO) in regards to the piping plover and the *rufa* red knot. Based on the preceding the USFWS concurs with these determinations.

Reinitiation of consultation is required if modifications are made to the project that may adversely affect listed species or their habitats; if the applicant fails to comply with the permit conditions; if additional information involving potential effects to these or other listed species becomes available; or if take of manatees or other listed species occurs.

Thank you for your cooperation in the effort to conserve fish and wildlife resources. Should you have any questions or require clarification regarding this letter, please contact Ms. Tina Nguyen of my staff by e-mail at [tina\\_nguyen@fws.gov](mailto:tina_nguyen@fws.gov), or by calling (904) 731-3098.

Sincerely,



Jay B. Herrington  
Field Supervisor

cc: Bureau of Ocean Energy Management, Division of Environmental Assessment

## APPENDIX D

# NMFS Essential Fish Habitat Conservation Recommendations



6f1Qf13

DEPARTMENT OF THE INTERIOR Mail- RE: Brewrd Monitoring Data for nearshore hardbottom

Culbertson, Jennifer <Jennifer.culbertson@boem.gov>

## RE: Brevard Monitoring Data for nearshore hardbottom

Kevin Bodge <kbodge@olsen-associates.com> Reply-To: kbodge@olsen-associates.com  
To: Culbertson, Jennifer <jennifer.culbertson@boem.gov> Cc: "Stodola, Paul E SAJ" <Paul.E.Stodola@usace.army.mil>

Mon. May 20, 2013 at 10:53 AM

To my knowledge, the NMFS never responded. Paul Stodola (cc:above) might know.

---

Kevin R. Bodge, Ph.D., P.E.

Olsen Associates, a.c.

2618 Herschel Street

Jacksonville, FL 32204 USA.

Office (904) 387-6114 / Fax (904) 384-7368

[kbodge@olsen-associates.com](mailto:kbodge@olsen-associates.com)

R-om: Culbertson, Jennifer [mailto:[jennifer.culbertson@boem.gov](mailto:jennifer.culbertson@boem.gov)]

Sent: Monday, May 20, 2013 9:13 AM

To: [kbodge@olsen-associates.com](mailto:kbodge@olsen-associates.com)

Subject; Re: Brevard Monitoring Data for nearshore hardbottom

Thanks Kevin! I take a look at this report. In the 2009 project consultation with NMFS the USACE stated:

..the Corps and its local sponsor, Brevard County, propose to continue to monitor nearshore rock in the years when physical monitoring is required (years 1, 2, 3, 5 post construction) and the results submitted to your office.

I don't see the response from NMFS in our files. Was this monitoring not a requirement?

Thanks,

Jen

Jennifer Culbertson, Ph.D

Oceanographer

hUps:/mail.google.oordmail/ui()?U=2&iifd4d7150dac&'liew=pl&q=stocilla&psize=20&pnr=1oo&pdr=50&s..ch=apps&n.g=13ec26Edc3959c9

113

611CV13

DEPARTMENT OF THE INTERIOR Mail- RE: Brewrd Monitoring Data for nearshore hardbottom

[Jennifer.Culbertson@boem.gov](mailto:Jennifer.Culbertson@boem.gov)

703-787-1742

Department of the Interior, Bureau of Ocean Energy Management Headquarters, Division of Environmental Assessment

381 Elden Street  
Hemdon, VA 20170-4817

On Fri, May 17, 2013 at 3:51 PM, Kevin Bodge <[kbodge@olsen-associates.com](mailto:kbodge@olsen-associates.com)> wrote:

Jen,

No new reports published from the South Reach since before 2009 (i.e., same as you previously cited). We did only three years of monitoring there (2005-2008).

Monitoring at the south end of Patrick AFB was conducted for seven years. The final summary report for that study is attached.

The degree of natural variability in rock exposure over 7 years (unrelated to project) was pretty interesting.

Kevin

---

Kevin R Bodge, Ph.D., P.E.

Olsen Associates, Inc.

2618 Herschel Street

Jacksonville, FL 32204 USA

Office (904) 387-6114 / Fax (904) 384-7368

[kbodge@olsen-associates.com](mailto:kbodge@olsen-associates.com)

**From:** Culbertson, Jennifer [mailto:[jennifer.culbertson@boem.gov](mailto:jennifer.culbertson@boem.gov)]

**Sent:** Friday, May 17, 2013 1:28PM

**To:** [kbodge@olsen-associates.com](mailto:kbodge@olsen-associates.com)

**Subject:** Brevard Monitoring Data for nearshore hardbottom

Hi Kevin,

I am working on the N and S Reach EA and was wondering if you had any nearshore hardbottom monitoring data that may be relevant. I know a monitoring program was in place per NMFS CRs for, at least, South Reach. Do you have any information from this or any other data that may be new since 2009 that I could reference in the EA?

Thanks!

Jen

<https://rssl.google.com/mail/u/1/?ui=2&ik=d4d7150dac&f!NFpt&q=stodaa&psize=20&pnT=100&pdr=50&search=apps&msg=13ec26eadc3959c9> 213

611CV13 DEPARTMENT OF THE INTERIOR Mail- RE: Brewrd M111itrcing Data for nearslue hardbottom

Jennifer Culbertson, Ph.D

Oceanographer

[Jennifer.Culbertson@boem.gov](mailto:Jennifer.Culbertson@boem.gov)

703-787-1742

Department of the Interior, Bureau of Ocean Energy Management Headquarters, Division of Environmental Assessment

381 Elden Street

Hemdon, VA 20170-4817

<https://rssl.google.com/mail/u/1/?ui=2&ik=d4d7150dac&f!NFpt&q=stodaa&psize=20&pnT=100&pdr=50&search=apps&msg=13ec26eadc3959c9>

313



Wikel, Geoffrey &lt;geoffrey.wikel@boem.gov&gt;

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**RE: Brevard North and South Reach FCCE Renourishment Projects  
(UNCLASSIFIED)**

---

**DeMarco, Paul M SAJ** <Paul.M.DeMarco@usace.army.mil>  
To: Geoffrey Wikel <geoffrey.wikel@boem.gov>

Mon, May 6, 2013 at 8:41 AM

Classification: UNCLASSIFIED  
Caveats: NONE

No response to the follow-up email below.

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

From: Geoffrey Wikel [mailto:[geoffrey.wikel@boem.gov](mailto:geoffrey.wikel@boem.gov)]  
Sent: Saturday, May 04, 2013 8:41 AM  
To: DeMarco, Paul M SAJ  
Subject: Re: Brevard North and South Reach FCCE Renourishment Projects (UNCLASSIFIED)

Any response to this note?

Geoffrey Wikel  
Bureau of Ocean Energy Management  
Division of Environmental Assessment  
703-787-1283

On Apr 19, 2013, at 10:42 AM, "DeMarco, Paul M SAJ"  
<[Paul.M.DeMarco@usace.army.mil](mailto:Paul.M.DeMarco@usace.army.mil)> wrote:

- > Classification: UNCLASSIFIED
- > Caveats: NONE
- >
- > Good morning George and Pace,
- >
- > The USACE has been designated the lead agency for compliance with MSA requirements for the proposed maintenance of Brevard North and South Reach Segments.
- >
- > Please see the attached correspondence from your office that explains the notification provided and its basis.
- > The USACE has complied with BOEM's request to provide courtesy notice to NMFS about the proposed maintenance work.
- >
- > Please review the section entitled "Finding - Consultation Initiation." Since the proposed action is considered a maintenance of a previously constructed project, we have determined, according to the agreement, that separate consultation is not required.
- >
- > For this project, the parameters have not appreciably changed and therefore do not trigger specific re-initiation.
- > Please note that the 2005 Conservation Recommendations were previously re-considered and re-applied in 2009 following these same procedures.
- >
- > BOEM is preparing a brief environmental assessment that considers the observed effects of past projects and any new environmental information relevant to potentially different, significant effects that could result from BOEM's decision to authorize use of OCS sand. At this time, BOEM has not identified any information that suggests that there will be significantly different environmental effects to federally managed fish species and fish





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> --  
> Pace Wilber, Ph.D.  
> HCD Atlantic Branch Supervisor  
> NOAA Fisheries Service  
> 219 Ft Johnson Road  
> Charleston, SC 29412  
>  
> Voice: 843-762-8601  
> FAX: 843-953-7205  
> [Pace.Wilber@noaa.gov](mailto:Pace.Wilber@noaa.gov)<mailto:[Pace.Wilber@noaa.gov](mailto:Pace.Wilber@noaa.gov)>  
>  
>  
> Classification: UNCLASSIFIED  
> Caveats: NONE  
>  
> <5-3-99\_NMFS\_SERO\_EFH\_Finding\_of\_Adequacyltr-signed (3).pdf>

Classification: UNCLASSIFIED  
Caveats: NONE

Southeast Regional Office  
9721 Executive Center Drive North  
St. Petersburg, Florida 33702-2432

January 12, 2005

James C. Duck  
Chief, Planning Division  
Jacksonville District, Corps of Engineers  
P.O. Box 4970  
Jacksonville, Florida 32232-0019

Dear Mr. Duck:

The National Marine Fisheries Service (NOAA Fisheries) has reviewed the essential fish habitat (EFH) consultation you provided concerning beach restoration along the Atlantic Ocean at the "North Reach" and "South Reach" areas of Brevard County, Florida. According to the information provided, the work is needed to protect critically eroded shoreline.

As noted during a several interagency emergency-permitting meetings, a large area of high value Coquina/Sabellariid rock formation is present in the mid-reach reef area off Brevard County. This extends northward to the southern boundary of Patrick Air Force Base (PAFB). The South Atlantic Fishery Management Council (SAFMC) has identified Coquina/Sabellariid rock, nearshore hard bottom, and the ocean water column as EFH. Federally managed fishery resources associated with these habitats include postlarval and juvenile red drum (*Sciaenops ocellata*), white shrimp (*Litopenaeus setiferus*), pink shrimp (*Farfantepenaeus duorarum*), and brown shrimp (*Farfantepenaeus aztecus*). The SAFMC has also designated Coquina/Sabellariid rock reefs as a habitat area of particular concern (HAPC) for postlarval/juvenile and subadult pink shrimp and postlarval/juvenile and subadult red drum. HAPC's are subsets of EFH that are rare, particularly susceptible to human-induced degradation, have special ecological importance, or are located in an environmentally stressed area. Detailed information concerning federally managed fisheries and their EFH is provided in the 1998 comprehensive amendments of the Fishery Management Plans for the SAFMC and MAFMC. The 1998 amendment was prepared in accordance with the requirements of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) (P.L. 104-297). The project area may also provide nursery and forage habitat for other species including black drum (*Pogonias cromis*), Atlantic menhaden (*Brevoortia tyrannus*), and blue crab (*Callinectes sapidus*) which serve as prey for other species (e.g., mackerels, snappers, and groupers) that are managed by the SAFMC, and for highly migratory species (e.g., billfishes and sharks) that are managed by NOAA Fisheries.

As discussed with your staff, NOAA Fisheries is concerned that placement of sand fill in the North and South Reach areas is likely to result in burial of portions of Coquina/Sabellariid rock formations. Burial of Coquina/Sabellariid rock formations would result in the subsequent loss or diminishment of highly significant nursery, maturation, cover, and forage base functions which this habitat provides for federally managed fishery resources. This concern is further heightened given that the proposed project would be constructed concurrently with planned beach nourishment at PAFB. The combined effect of these projects would include nourishment of 17.8 miles of the Atlantic Coast shoreline with 2.4 million cubic yards of sand.

Based on discussions with the project sponsors (PAFB, Brevard County, and the U.S. Army Corps of Engineers) and other state and federal resource agencies, it is apparent that several issues require resolution prior to authorization and construction of these projects. Specifically, agreement should be reached on the following needs/issues:

1. An acceptable survey methodology needs to be developed. Presently, a combination of aerial photography, trained multi-spectral image classification, and ground-truthing transects has been proposed;
2. A baseline pre-construction bottom profile which includes mapping and acreage calculation of Coquina/Sabellariid rock coverage should be prepared. This includes determination of which agencies will be responsible for monitoring development of a plan for compensatory mitigation (if needed) in the Mid-Reach sector; and
3. A resource agency approved plan for providing full compensatory mitigation for direct, indirect, and cumulative impacts to Coquina/Sabellariid rock and other EFH. This plan should address compensation for loss of productivity and habitat availability, including that which may be realized during the period between the onset of any impact and reestablishment of a comparable replacement resource.

Due to the magnitude of this historic beach renourishment event, the potential for direct, indirect and cumulative impacts to Coquina/Sabellariid rock formations and other categories of EFH exists. Given that the greatest likelihood for degradation and loss of EFH is through redistribution of sand used for beach nourishment, NOAA Fisheries recommends that the Department of the Army incorporate the following provisions into the project plan:

### **EFH Conservation Recommendations**

1. No fill sand shall be deposited within 50 feet of any Coquina/Sabellariid rock outcrops;
2. A baseline, pre-construction bottom profile which includes mapping and an acreage assessment of Coquina/Sabellariid rock habitat shall be established for the North, South, and the Mid-Reach areas. Post-construction monitoring surveys shall be performed at one year intervals, following project completion. A consistent survey methodology which provides a reliable measure of shoreline accretion and erosion and change in Coquina/Sabellariid rock exposure shall be developed by Brevard County, the U.S. Army Corps of Engineers and PAFB and all monitoring reports shall be made available for review by NOAA Fisheries, and other state and federal resource agencies;

3. A plan for assigning areas of monitoring and mitigation responsibility within the Mid-Reach shall be developed by PAFB, Brevard County and the U.S. Army Corps of Engineers. Details of the plan shall be made available for NOAA Fisheries review and approval prior to project implementation; and
4. A plan for providing full compensation for unavoidable direct, indirect, and cumulative impacts to Coquina/Sabellariid rock outcrops and other categories of EFH shall be developed and made available for NOAA Fisheries' review prior to project implementation. The plan shall address compensation for loss of productivity and habitat availability, including that which may be realized during the period between the onset of any impact and reestablishment of a comparable replacement resource.

The Magnuson-Stevens Act and the regulation to implement the EFH provisions (50 CFR 600.920) require your office to provide a written response to this letter. That response must be provided within 30 days and at least 10 days prior to final agency action. A preliminary response is acceptable if final action cannot be completed within 30 days. Your final response must include a description of measures to be required to avoid, mitigate, or offset the adverse impacts of the activity. If your response is inconsistent with our EFH conservation recommendations, you must provide an explanation of the reasons for not implementing those recommendations.

We appreciate the opportunity to provide these comments. Please direct related questions or comments to the attention of Mr. George Getsinger, at our Jacksonville Office. He may be reached at 6620 Southpoint Drive South, Suite 310, Jacksonville, Florida 32216-0958, or at (904) 232-2580 ext. 138.

Sincerely,

Miles M. Croom  
Assistant Regional Administrator  
Habitat Conservation Division

cc:  
EPA, ATL  
FWS, JAX  
DEP, JAX  
FFWCC, TAL  
F/SER4  
F/SER43-Ruebsamen  
SAFMC



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL MARINE FISHERIES SERVICE  
Southeast Regional Office  
9721 Executive Center Drive N.  
St. Petersburg, Florida 33702  
(727) 570-5317, FAX 570-5300

PD

May 3, 1999

Colonel Joe R. Miller  
District Engineer, Jacksonville District  
Department of the Army, Corps of Engineers  
Post Office Box 4970  
Jacksonville, Florida 32232-0019

Dear Colonel Miller:

Staff of the National Marine Fisheries Service (NMFS) and the Jacksonville District (District) have met to discuss Essential Fish Habitat (EFH) consultation requirements of the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA). This letter concerns the District's planning and operations activities subject to provisions of the National Environmental Policy Act (NEPA). The EFH regulations (50 CFR 600.920) specify that after discussion with a Federal action agency, the NMFS may make a finding that an agency's existing consultation/environmental review processes are adequate, or can be modified, to satisfy EFH consultation requirements.

Three criteria must be achieved to meet the consultation provisions of the regulations. These provisions are: 1) the existing process must provide NMFS with timely notification of actions that may adversely affect EFH; 2) notification must include an assessment of impacts of the proposed action as discussed in Section 600.920 (g); and, 3) NMFS must have made a finding pursuant to Section 600.920(e)(3) that the existing process satisfies the requirements of Section 305(b)(2) of the MSFCMA.

#### **Timely Notification**

The District's NEPA process, involving the planning for and preparation of environmental assessments and impact statements and your coordination associated with operational activities, provides the NMFS with timely notification of proposed actions. Your District's public review process generally provides 30 to 90 days before a final decision is rendered on a project.

#### **EFH Assessment**

Our staffs have agreed that draft NEPA documents prepared by the District could be modified to contain sufficient information to satisfy the requirements in Section 600.920(g). For purposes of an EFH assessment the documents must include: 1) a description of the proposed action; 2) an analysis of individual and cumulative effects on EFH, Federally managed fisheries, and associated species



such as major prey species, including affected life history stages; 3) the District's views regarding effects; and, 4) proposed mitigation, if applicable. The draft documents could incorporate such information by reference to a NEPA document prepared for a similar or related action, supplemented with any relevant new project specific information. Incorporation of information by reference meets EFH consultation requirements provided the proposed action involves similar adverse impacts to EFH in the same geographic area or similar ecological setting, and the referenced document has been provided to NMFS.

In some cases the District prepares notices to supplement NEPA actions or may coordinate on environmental issues prior to initiation of the NEPA review process. When supplemental notices are prepared, they could be modified to reference EFH assessments contained in a companion environmental document or EFH could be addressed separately. Similarly, the District could accomplish "pre-NEPA" consultations by providing NMFS a separate request for EFH consultation and an EFH assessment. In this latter case, a summary of the consultation should be included in any resulting NEPA document.

### **Finding**

#### Consultation Initiation

The NMFS finds that your agency's NEPA process for Federal works activities can be used to satisfy the consultation requirements of the MSFCMA. Specifically, notification of potential impacts on EFH will occur when the District sends NMFS a draft NEPA document, a project notification, or a separate request for consultation prior to initiating formal NEPA action. In cases involving maintenance activities (especially navigation channels) EFH consultation normally will not be conducted for each event. Rather, consultation will be incorporated into the District's NEPA compliance or public notification events which occur no more frequently than every 5 to 10 years, unless project design parameters change.

#### Assessment

The evaluation of project impacts on EFH will be addressed in the draft documents in a section or chapter titled "EFH Assessment" or by reference to companion documents. The EFH assessment may also be presented as a separate request for consultation. The information should include both an identification of affected EFH and an assessment of impacts. The EFH discussion may reference pertinent information on the affected environment and environmental consequences when they are provided in other sections, chapters, or companion documents.

#### Coordination

After receiving an EFH consultation request and assessment, and within the specified public comment period, NMFS will provide the District with a written project evaluation which will include EFH conservation recommendations, when appropriate. NMFS will provide such recommendations as a part of our overall project comments. When EFH issues are raised, they will be contained in a separate section titled "EFH Conservation Recommendations." Written concurrences with District determinations that a project would not adversely impact EFH are not required and will not be provided, although consistent with past practice, NMFS normally will provide a written response indicating that we have no recommendations to offer.

Under Section 305(b)(4)(B) of the MSFCMA, the Jacksonville District has a statutory requirement to respond in writing within 30 days to EFH recommendations made by the NMFS. If the District will not be able to complete a signed Finding of No Significant Impact (FONSI), Record of Decision (ROD), or other final action within 30 days of receiving NMFS EFH Conservation Recommendations, the District should provide NMFS with an interim written response within 30 days. District personnel should then provide a detailed response at least 10 days prior to taking final action (e.g., signing a FONSI or ROD).

#### Higher Level Review

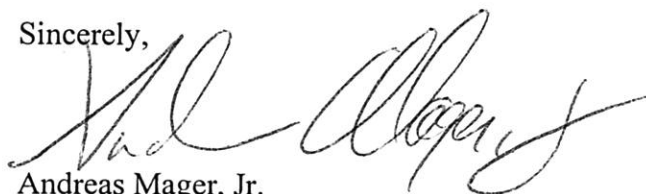
If a District decision is inconsistent with NMFS EFH conservation recommendations, NMFS will endeavor to resolve any such issues at the field level wherever possible. However, 50 CFR 600.920(j)(2) allows the NOAA Assistant Administrator for Fisheries to request a meeting with a Department of the Army headquarters official to discuss the proposed action and opportunities for resolving any disagreements.

The overall consultation process is briefly outlined in enclosure 1. Also, to assist you in document preparation, I have included, as enclosure 2, a summary of information necessary for an EFH assessment.

#### **Conclusion**

If you agree with the procedures described in this finding, a response letter to that effect is requested. Please contact Mr. Rickey Ruebsamen, the Southeast Region's EFH Coordinator, at 727/570-5317, if you have any questions or wish to discuss this finding.

Sincerely,



Andreas Mager, Jr.  
Assistant Regional Administrator  
Habitat Conservation Division

Enclosures

### **Outline of NMFS - Jacksonville District Process for EFH Consultation for Federal Project Planning and Operations**

- ▶ COE provides the NMFS with an environmental document, Federal project notice, or “pre-NEPA” notification
  - ▶ The COE document indicates that it is intended to initiate EFH consultation
  - ▶ Document includes the required components of an EFH assessment
  - ▶ NMFS is allowed sufficient time to review and comment
- ▶ NMFS provides EFH conservation recommendations, as appropriate, within specified time frames
- ▶ COE responds to NMFS EFH conservation recommendations
  - ▶ A final response is provided to the NMFS within 30 days, or an interim response may be transmitted if final action on the project can not be completed within that time
  - ▶ Final response is provided to the NMFS at least 10 days prior to final action/approval (e.g., signing of a FONSI or ROD)
  - ▶ If NMFS recommendations are not accepted, the COE response includes a detailed explanation of why NMFS recommendations are not being followed and a scientific justification for any disagreements over anticipated EFH impacts
- ▶ NMFS may seek headquarters-level review of those Jacksonville District decisions contrary to NMFS conservation recommendations



## APPENDIX E

# Florida State Historic Preservation Office and Tribal Historic Preservation Office Coordination



DEPARTMENT OF THE ARMY  
JACKSONVILLE DISTRICT CORPS OF ENGINEERS  
701 San Marco Boulevard  
JACKSONVILLE, FLORIDA 32207-8175

REPLY TO  
ATTENTION OF

Planning and Policy Division  
Environmental Branch

SEP 01 2017

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

Dear Dr. Parsons:

The U.S. Army Corps of Engineers (Corps), Jacksonville District is studying the effects of sand placement south of Port Canaveral along the shoreline of Brevard County, Florida. As with prior shore protection projects in 2005 and 2013, placement of sand will be from range markers R-3 to R-54A, the North Reach, and R-118 to R-139, the South Reach, and includes sand source material dredged from the Canaveral Shoals II Borrow Area (Figure 1).

The Canaveral Shoals II Borrow Area has been used for periodic sand placement since 1999. The most recent sand placement event along the present project area shoreline that utilized the borrow area occurred in 2013. In a letter dated July 2, 2013, your office concurred with the Corps' finding that no historic properties will be adversely affected by conducting dredging or by placement along these two reaches (DHR Project File No. 2013-02675).

Submerged cultural resources surveys previously conducted within Canaveral Shoals Borrow Area II in 1999 (Watts) identified five potentially significant targets (DHR Project File No. 992156 and 2000-02415). Subsequent diver investigation of these targets in 2001 (DHR Project File No. 2001-316) determined the anomalies to be debris from the Space Program and avoidance was recommended. An updated survey of the borrow area in July 2013 confirmed that these targets remain in their originally recorded locations (DHR Survey 20957). As with prior dredging events in the borrow area, a 300 foot buffer will be used for these five targets during this 2017 shore protection project and during future dredging activities within Borrow Area II. Contingent upon maintaining these buffers, the Corps finds that no historic properties will be adversely affected by the proposed activities.

I request your comments on the Corps' determination of no effects for this project. If there are any questions, please contact Mr. Robin Moore at 904-232-3270 or e-mail at [robin.e.moore@usace.army.mil](mailto:robin.e.moore@usace.army.mil).

Sincerely,

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

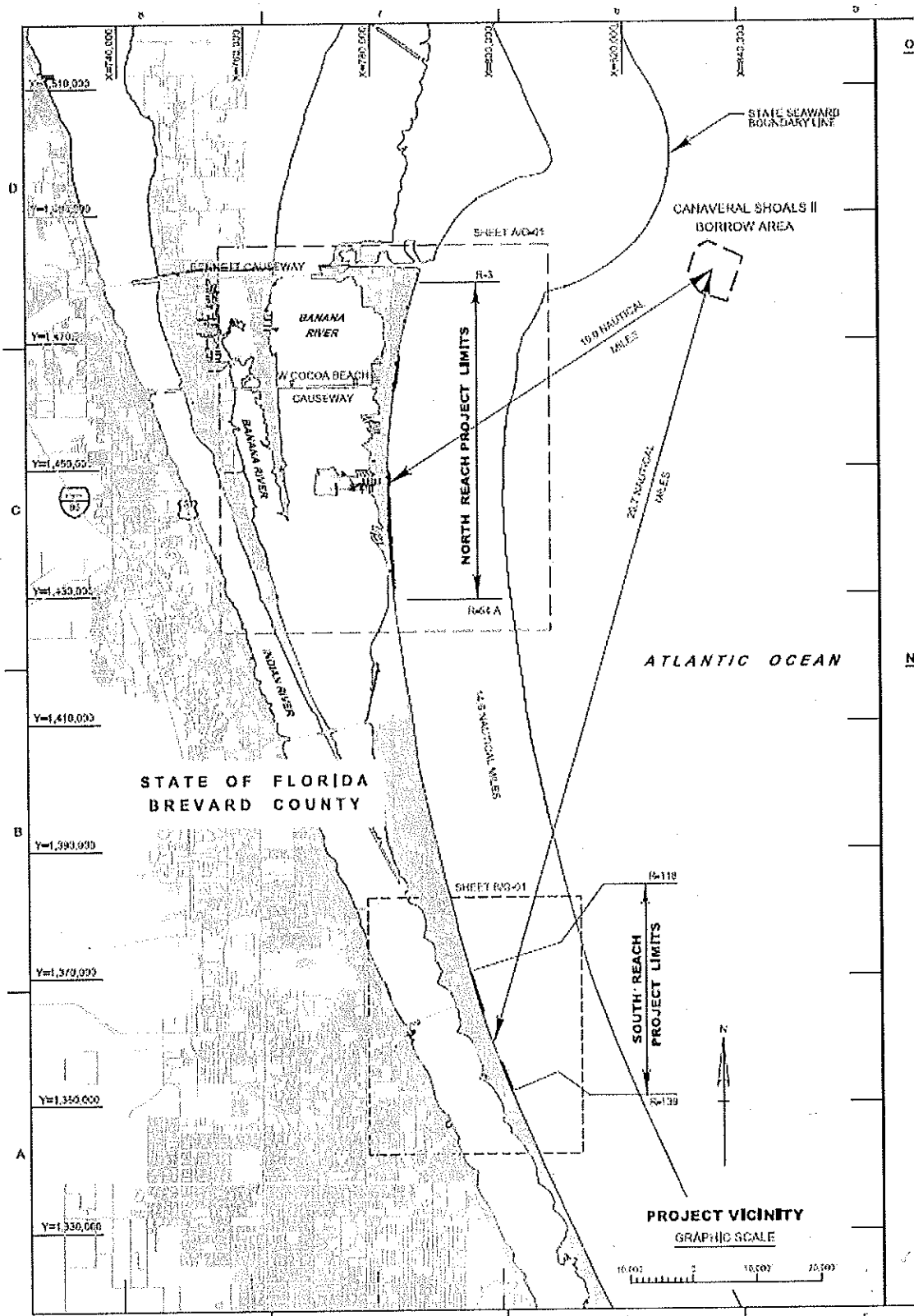


Figure 1. Project location, including North and South Reaches for sand placement, and the Canaveral Shoals Borrow Area II.



DEPARTMENT OF THE ARMY  
JACKSONVILLE DISTRICT CORPS OF ENGINEERS  
701 San Marco Boulevard  
JACKSONVILLE, FLORIDA 32207-8175

REPLY TO  
ATTENTION OF

Planning and Policy Division  
Environmental Branch

SEP 01 2017

Paul Backhouse, Ph.D., THPO  
Seminole Tribe of Florida  
Tribe Historic Preservation Office  
30290 Josie Billie Highway  
PMP 1004  
Clewiston, FL 33440

Dear Dr. Backhouse:

The U.S. Army Corps of Engineers (Corps), Jacksonville District is studying the effects of sand placement south of Port Canaveral along the shoreline of Brevard County, Florida. As with prior shore protection projects in 2005 and 2013, placement of sand will be from range markers R-3 to R-54A, the North Reach, and R-118 to R-139, the South Reach, and includes sand source material dredged from the Canaveral Shoals II Borrow Area (Figure 1).

The Canaveral Shoals II Borrow Area has been used for periodic sand placement since 1999. The most recent sand placement event along the present project area shoreline that utilized the borrow area occurred in 2013. In a letter dated July 2, 2013, your office concurred with the Corps' finding that no historic properties will be adversely affected by conducting dredging or by placement along these two reaches (DHR Project File No. 2013-02675).

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Sincerely,

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



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JACKSONVILLE DISTRICT CORPS OF ENGINEERS  
701 San Marco Boulevard  
JACKSONVILLE, FLORIDA 32207-8175

REPLY TO  
ATTENTION OF

Planning and Policy Division  
Environmental Branch

SEP 01 2017

Mr. Fred Dayhoff, Tribal Representative  
NAGPRA, Section 106  
Miccosukee Tribe of Indians of Florida  
HC 61 SR 68  
Ochopee, Florida 34141

Dear Mr. Dayhoff:

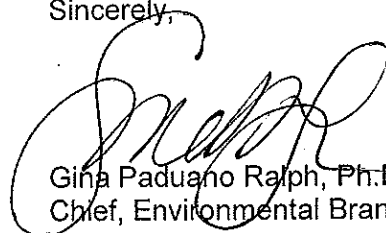
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Sincerely,

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



## FLORIDA DEPARTMENT *of* STATE

**RICK SCOTT**  
Governor

**KEN DETZNER**  
Secretary of State

District Engineer  
Palm Beach Gardens, USACE  
4400 PGA Boulevard, Suite 500  
Palm Beach Gardens, FL 33410

October 11, 2017

RE: DHR Project File No.: 2017-4459, Received by DHR: September 14, 2017  
Project Name: *Shore Protection Project, Brevard County, Florida*  
County: Brevard

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*.

Our office concurs with the Corps proposed actions of placing a 300 foot buffer around the five targets of debris from the Space Program. It is the opinion of this office that the proposed project is unlikely to affect historic properties. However, the permit, if issued, should include the following special condition regarding unexpected 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 Sites Specialist, by email at [Rachel.Thompson@dos.myflorida.com](mailto:Rachel.Thompson@dos.myflorida.com), or by telephone at 850.245.6453 or 800.847.7278.

Sincerely,

For  
Timothy A Parsons, Ph.D., RPA  
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](http://FLHeritage.com)

