FINDING OF NO SIGNIFICANT IMPACT

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)

Pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality regulations implementing NEPA (40 CFR 1500-1508) and Department of the Interior (DOI) regulations implementing NEPA (43 CFR 46), the Bureau of Ocean Energy Management (BOEM) prepared an environmental assessment (EA) to determine whether the issuance of a negotiated agreement for the use of Outer Continental Shelf (OCS) sand from Canaveral Shoals II (CS II) in the Brevard County (North and South Reach) Shore Protection Project would have a significant effect on the human environment and whether an environmental impact statement (EIS) should be prepared. BOEM has prepared this EA and reviewed the analyses incorporated by reference therein and determined that the potential impacts of the proposed action have been adequately addressed.

BOEM's proposed action is the issuance of a negotiated agreement, and its purpose is to authorize use of an OCS borrow area, Canaveral Shoals II, so that the project proponents, the USACE and local sponsor Brevard County, can obtain the necessary sand resources to undertake the beach nourishment project. The project is needed to address shoreline erosion and protect valuable property along the North and South Reaches in Brevard County, Florida. The Brevard County Shore Protection Project was authorized for initial and maintenance construction by Section 101(b)(7) of the Water Resources Development Act of 1996, Public Law 104-303. The Project is presently being constructed using Flood Control and Coastal Emergency (FCCE) rehabilitation funding provided through Disaster Relief Appropriations Act of 2013 following impacts from Hurricane Sandy.

Pursuant to NEPA, the USACE described the affected environment, evaluated potential environmental impacts resulting from the proposed action, and developed and described alternatives to the proposed action in its *Brevard County Shore Protection Feasibility and EIS* (USACE 1996; EA Appendix A). The USACE prepared an EA, entitled *Environmental Assessment of a Proposed Sand Borrow Area for the Purposes of Beach Nourishment in Brevard County, Florida* (1998; EA Appendix B), to evaluate the potential impacts of using the CS II borrow area, which was not previously considered in the 1996 EIS. In 2005 and 2009 BOEM (then the Minerals Management Service) prepared additional EAs (*Issuance of a Non-competitive Lease for Canaveral Shoals II* and *Issuance of a Negotiated Agreement for Use of Outer Continental Shelf Sand from Canaveral Shoals in the Brevard County (South Reach) Shore Protection Project*) (EA Appendices C and D). The 1998, 2005, and 2009 EAs tiered and/or incorporated by reference from the 1996 EIS and were used by BOEM to support leasing decisions in 2002, 2005 and 2009. This EA incorporates by reference the effects analyses that have been determined to still be valid and augments a subset of analyses in light of new information.

The USACE and BOEM identified and reviewed new information to determine if any resources should be re-evaluated, or if the new information would result in significantly different effects

determinations. New information was identified that further supports or elaborates on the analyses or information presented in existing NEPA documents. No new significant impacts were identified, nor was it necessary to change the conclusions of the types, levels, or locations of impacts described in those documents

Alternatives to the Proposed Action

The 1996 EIS 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 beach nourishment as the non-structural alternative that would best meet its needs for the Brevard County Shore Protection Project (North Reach and South Reach). The project was initially constructed in 2001, and maintenance construction cycles were completed in 2005 and 2010. This EA considers the third maintenance cycle in order to return the Brevard County shoreline to the condition described in the 1996 EIS preferred alternative.

As an alternative to the proposed action, BOEM considered not authorizing use of the CSII borrow area. The project proponents could either (a) re-evaluate the project to choose another alternative method or sand source to restore the North and South Reaches, or (b) locate an onshore source of comparable high-quality sand. 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 a cost-effective 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 area to allow for vessel usage. This extra effort would not only be a financial burden but could also lead to additional environmental concerns. Additional alteration of the habitat would lead to 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 nourishment and sea turtle nesting. Option B is not considered to be viable as sources of approved onshore sand are limited. Plus, 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 of and overland transport. Alternatively, the USACE and Brevard could not undertake the project at this time. In the case of the no project option, 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.

Environmental Effects

The EA evaluates potential environmental effects resulting from the issuance of a negotiated agreement. The connected actions of conveyance and placement of the sand are considered. The EA and FONSI identify all mitigation, monitoring, and reporting requirements necessary to avoid, minimize, and/or reduce and track any foreseeable adverse impacts that may result from all phases of construction. A subset of mitigation, monitoring, and reporting requirements, specific to activities under BOEM jurisdiction, will be incorporated into the negotiated agreement to avoid, minimize, and/or reduce and track any foreseeable adverse impacts (Attachment 1).

Significance Review

Pursuant to 40 CFR 1508.27, BOEM evaluated the significance of potential environmental effects considering both CEQ context and intensity factors. The potential significance of environmental effects has been analyzed in both spatial and temporal context. Potential effects are generally considered reversible because they will be minor to moderate, localized, and short-lived. No long-term significant or cumulatively significant adverse effects were identified. The ten intensity factors were considered in the EA and are specifically addressed below:

1. *Impacts that may be both beneficial and adverse.*

No impacts to hardbottom communities near CS II are expected from beach fill equilibration or alongshore spreading. Temporary displacement of birds near the borrow area or beach placement could occur. Birds may be attracted to feeding near the hopper as it is being filled at the borrow area or near discharge pipelines on the beach. Impacts would be short-term, localized and temporary and should have no lasting effects on bird populations in the area. Temporary reduction of water quality is expected due to turbidity during dredging and placement operations. Small, localized, temporary increases in concentrations of air pollutant emissions are expected but the short-term impact by emissions from the dredge or the tugs would not affect the overall air quality of the area. A temporary increase in noise level and a temporary reduction in the aesthetic value offshore during construction in the vicinity of the dredging would occur. For safety reasons, navigational and recreational resources located in the vicinity of the dredging operation would temporarily be unavailable for public use. Archaeological resources (8 space debris sites) will be avoided during dredging operations by a 300-ft buffer. GPS-positioning equipment will be used to ensure the dredge is operating in the authorized location. An unexpected finds clause would be implemented in the case an archaeological resource is discovered during operations. Other effects to sensitive biological resources are discussed below. Effects to sea turtles, marine mammals, smalltooth sawfish, nesting and courting shorebirds, and water quality will be monitored.

2. *The degree to which the proposed action affects public health or safety.*

The proposed activities are not expected to significantly affect public health. Construction noise will temporarily increase ambient noise levels and equipment emissions would decrease air quality in the immediate vicinity of placement activities. The public is typically prevented from entering the segment of beach under construction, so recreational activities will not be occurring in close proximity to operations. Dredging operations will be performed in accordance with an environmental protection plan, addressing marine pollution, waste disposal, and air pollution. The USACE will be conducting inspections to ensure compliance with the plan.

3. *Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.*

No prime or unique farmland, park lands, designated Wild and Scenic reaches, or wetlands would be impacted by implementation of this project No prime or unique farmland, designated Wild and Scenic reaches, or wetlands would be impacted by implementation of this project. No critical habitat for the listed species is located within the project area. The South Atlantic Fishery Management Council (SAFMC) has designated CS II as Essential Fish Habitat (EFH). Dredging may affect feeding success of EFH species due to turbidity and loss of benthic

organisms. Impacts to EFH would occur in CS II, but the limited spatial and temporal extent of dredging suggests these impacts will not adversely affect EFH on a broad scale. Dredging within the offshore borrow area (CS II) will occur where the borrow area is expected to fill in most quickly once dredging has completed. Potential impacts to nearshore hardbottom and benthic communities will be minimized by placing pipeline corridors in areas devoid of hardbottom.

4. *The degree to which the effects on the quality of the human environment are likely to be highly controversial.*

No effects are expected that are scientifically controversial. Effects from beach nourishment projects, including dredging on the OCS, are well studied. The effects analyses in the EA has relied on the best available scientific information, including information collected from previous dredging and nourishment activities in and adjacent to the project area. Numerous studies and monitoring efforts have been undertaken along the coast of Florida evaluating the effects of dredging and beach nourishment on shoreline change, benthic communities, nesting and swimming sea turtles, and shorebirds.

5. *The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.*

Beach nourishment is a common solution to coastal erosion problems along the south Atlantic coast. Beach nourishment in Florida and Brevard County has been ongoing for several decades. Federally-authorized beach nourishment in Brevard County has been ongoing since the 1980's. BOEM, then MMS, originally authorized use of the OCS Canaveral Shoals borrow area for hydraulic dredging and pumping of borrow material for Brevard County beaches in 2000/2001 after storm damage on Patrick Air Force Base; CS II was used again in 2005 after a destructive hurricane season in 2004 and in 2009 for a further renourishment effort along South Reach. No significant adverse effects have been documented during or as a result of these past operations. Prior dredge events at CS II (April/May 2005) caused the death, or take, of three loggerhead sea turtles. The potential impacts on sea turtles, North Atlantic right whales, and humpback whales were previously coordinated with the National Marine Fisheries Service (NMFS) and are covered under the 1995/1997 South Atlantic Regional Biological Opinion (SARBO) (http://el.erdc.usace.army.mil/seaturtles/index.cfm). Prior dredge events at CS II (April/May 2005) have entrained and killed three loggerhead sea turtles, but such take was considered in the applicable biological opinion and determined not to jeopardize the continued existence of the species. The USACE notified the NMFS on April 18, 2013 of their intent to utilize the SARBO and BOEM's involvement in the proposed action. On July 30, 2009, NMFS provided written concurrence that the dredging and construction operations at the South Reach may affect, but is not likely to adversely affect smalltooth sawfish (EA Appendix F). The USACE has determined and requested similar concurrence that dredging and construction operations for this construction cycle may affect, but is not likely to adversely affect the smalltooth sawfish (EA Appendix F). The terms and conditions required per the SARBO include conditions such as the use of turtle deflectors, maintaining protected wildlife species' observers on the dredge ships, participation in the Right Whale Early Warning System, implementation of the NMFS' Southeast Region Vessel Strike Avoidance Measures and Reporting for Mariners, maintaining a 500-yard buffer between the vessel and any North Atlantic right whale [50 CFR 224.103(c)], and operating vessels at 10 knots or less during the right whale calving season (15 Nov- 15 April) when traveling between the shoreline to 5 nautical miles. Additionally, the NMFS' Sea Turtle and Smalltooth Sawfish

Construction Conditions are also included as conditions in the SARBO. The USACE will also implement voluntary non-capture sweep trawling to discourage turtles from staying within the borrow area. The U.S. Fish and Wildlife Service (FWS) was notified by letter on April 4, 2013 that the USACE intended to utilize the State Programmatic Biological Opinion (SPBO) (http://www.fws.gov/northflorida/BOs/20110822_bo_USFWS_Statewide_Programmatic_BO_Beach_Nourish_signed.pdf) for Section 7 coverage for manatees and nesting sea turtles. The USACE and BOEM initiated consultation with the FWS on May 7, 2013 for piping plovers, making a may affect, is not likely to adversely affect determination and seeking to apply the Peninsular Piping Plover Biological Opinion (P3BO) to the proposed activities. The P3BO was issued on May 22, 2013 and all terms and conditions associated with it will be applied to this project (EA Appendix G). The project design is typical of beach nourishment activities. Mitigation and monitoring efforts are similar to that undertaken for past projects and have been demonstrated to be effective. The effects of the proposed action are not expected to be highly uncertain, and the proposed activities do not involve any unique or unknown risks.

6. *The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.*

No precedent for future action or decision in principle for future consideration is being made in BOEM's decision to authorize re-use of the CS II for this construction cycle. BOEM considers each use of a borrow area on the OCS as a new federal action. The Bureau's authorization of the use of the borrow area does not dictate the outcome of future leasing decisions. Future actions will also be subject to the requirements of NEPA and other applicable environmental laws.

7. *Whether the action is related to other actions with individually insignificant but cumulatively significant impacts.*

Significance may exist if it is reasonable to anticipate cumulatively significant impacts that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions. The EA and previous NEPA documents conclude that the activities related to the proposed action are not reasonably anticipated to incrementally add to the effects of other activities to the extent of producing significant effects. Because the seafloor is expected to equilibrate and moving sand will slowly accumulate in CS II, the proposed project provides an incremental, but localized effect on the reduction of offshore sand resources. Although there will be a short-term and local decline in benthic habitat and populations, both are expected to recover within a few years. Therefore, no significant cumulative impacts to benthic habitat are expected from the use of the borrow site.

8. *The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.*

The proposed action is not expected to adversely affect historic resources. Seafloor-disturbing activities (e.g., dredging, anchoring, pipeline emplacement and relocation) may occur during proposed construction activities. The greatest risk to cultural resources exists in the borrow area where dredging will occur. An archaeological clearance survey was performed and 8 space debris sites of cultural significance were identified within the CS II borrow area (EA Appendix I). These identified cultural resources shall be protected by providing a location map to the dredging contractor and requiring them to maintain a 300-foot buffer zone around each of these

sites. BOEM will also work with DHR/SHPO should shipwreck remains be unexpectedly discovered (30 CFR 250.194 and 30 CFR 250.1010). No significant impacts to cultural resources in the project area (borrow, placement or pump-out areas), as result of the proposed action, are anticipated with implementation of the measures to protect existing identified resources, cease of work if an unexpected discovery occurs, and immediate notification to DHR/SHPO so they can determine if the resource is significant or not and make the determination of the best means to protect the resource. All of these activities have been completed in accordance with the National Historic Preservation Act (NHPA), as amended; the Archeological and Historic Preservation Act (AHPA), as amended; and Executive Order 11593. The project is in full compliance with the NHPA as well as the AHPA and E.O. 11593.

9. *The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.*

Brevard County will comply with all requirements of biological opinions associated with this project provided under the Endangered Species Act (ESA) including the USFWS SPBO, USFWS P3BO, and NMFS SARBO.

Nesting and swimming sea turtles, the North Atlantic Right Whale, and manatees present in the project area during and after construction operations may be adversely affected. If a hopper dredge is used for the dredging operations, potential impacts to sea turtles could occur. To minimize the risk to swimming sea turtles, standard sea turtle protection conditions will be implemented such as the use of a state-of-the-art rigid deflector draghead at all times, inflow screens, voluntary non-capture sweep trawling, and/or observer monitoring of the operation. To minimize the risk to nesting sea turtles, standard sea turtle protection conditions will be implemented such as environmental windows, monitoring surveys, sand compaction monitoring, and lighting restrictions. Brevard County will implement the Standard Manatee Construction Protection Specifications to ensure manatee protection.

North Atlantic right whales, humpback whales, leatherback and hawksbill sea turtles occur only rarely in the project area and therefore the likelihood of adverse impacts are very low and the chances of the proposed action affecting them are discountable. Strike risk for whales is limited in a number of ways, including speed restrictions in right whale critical habitat during December 1 to March 30, 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.

BOEM and the USACE have 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 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.

Placement of material on the PAFB shoreline from CS II may affect, but is not likely to adversely affect, the piping plover. Impacts would be short-term and temporary and should have

no lasting effects on the wintering piping plover population of Brevard County. Brevard County has agreed to conditions as defined in P3BO (EA Appendix G).

This project was fully coordinated under the ESA and is in full compliance with the Act. BOEM and the USACE have consulted with the USFWS and NMFS. If the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat in a manner or to an extent not previously considered, or if a new species is listed or critical habitat designated that may be affected by the identified action, consultation will need to be reinitiated.

10. Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.

The USACE and Brevard County must comply with all applicable Federal, State, and local laws and requirements. The dredging contractor is required to provide an environmental protection plan that verifies compliance with environmental requirements. BOEM and the USACE have undertaken the necessary consultations with NMFS, USFWS, and relevant state agencies. A Joint Coastal Permit (JCP) and consistency concurrence from the Florida Department of Environmental Protection (FDEP) has been issued for the proposed action. The JCP Final Order is available online at http://bcs.dep.state.fl.us/env-prmt/brevard/issued/. The JCP includes mitigation and monitoring requirements that are applicable to the connected state activities, but not to BOEM's proposed action.

The proposed action is in compliance with the Marine Mammal Protection Act. Marine mammals are not likely to be adversely affected by the project and incorporation of safeguards to protect threatened and endangered species during project construction would also protect marine mammals in the area. Migratory birds are not likely to be adversely affected by the proposed action. No recent nesting of migratory birds has been reported on the North and South Reach beaches. Water quality will be monitored to ensure state water quality standards are not violated.

Consultations and Public Involvement

The USACE, serving as the lead Federal agency, and BOEM, in a consulting role, has coordinated with the U.S. FWS, NMFS, FDEP, and Florida SHPO in support of this leasing decision. Pertinent correspondence with Federal and state agencies are provided in Appendices E-I of the EA. After signature of this Finding of No Significant Impact (FONSI), a Notice of Availability of the FONSI and EA will be prepared and published by BOEM in the Federal Register or by other appropriate means. The EA and FONSI will be posted to BOEM web site [http://www.boem.gov/Non-Energy-Minerals/Marine-Minerals-Program.aspx].

Conclusion

BOEM has considered the consequences of issuing a negotiated agreement to authorize use of OCS sand from CS II in the Brevard County Shore Protection Project (North Reach and South Reach). BOEM prepared the attached EA (Attachment 2) and finds that it complies with the relevant provisions of the CEQ regulations implementing NEPA, DOI regulations implementing NEPA, and other Marine Mineral Program requirements. Based on the NEPA and consultation process, appropriate terms and conditions enforceable by BOEM will be incorporated into the negotiated agreement to avoid, minimize, and/or mitigate any foreseeable adverse impacts (Appendix A).

Based on the evaluation of potential impacts and mitigating measures discussed in the EA, BOEM finds that entering into a negotiated agreement, with the implementation of the mitigating measures, does not constitute a major Federal action significantly affecting the quality of the human environment, in the sense of NEPA Section 102(2)(C), and will not require preparation of an EIS.

James F. Bennett
Chief, Division of Environmental Assessment

6/13/13
Date

Attachment 1

Mitigation, Monitoring, and Reporting Requirements

The following mitigation measures, monitoring requirements, and reporting requirements are proposed by BOEM to avoid, minimize, reduce, or eliminate environmental impacts associated with the Proposed Action (herein referred to as the "Project"). Mitigation measures, monitoring requirements, and reporting requirements in the form of terms and conditions are added to the negotiated agreement and are considered enforceable as part of the agreement.

Plans and Performance Requirements

The USACE will include the 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 the 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 publically available.

The dredging method for removing sand from CS II will be consistent with the NEPA and 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 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 USCAE 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.

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.

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.

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.

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.

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 provide at least a biweekly report electronically, 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.

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.

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.

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: Chief, BOEM Leasing Division, at (703) 787-1215 and dredgeinfo@boem.gov.

Bathymetric Surveys

The USACE will provide the BOEM with pre- and post-dredging bathymetric surveys of CS II. The pre-dredging survey will be conducted within the 60 days prior to dredging. The post-dredging survey will be conducted within 60 days after the completion of dredging. Additional bathymetric surveys are recommended within one (1) year and three (3) years following the completion of dredging. Hydrographic surveys will be performed in accordance with the USACE Hydrographic Surveying Manual EM 1110-2-1003, providing one hundred percent seamless coverage using interferometric swath or multibeam bathymetry. All bathymetric data will be roll, pitch, heave, and tide corrected using accepted practices. Survey lines of the specific dredge area, within Borrow Area CS II, will be established at intervals necessary to provide 100 percent coverage. Three equidistant cross-tie lines will be established parallel to the principal survey baseline. All survey lines will extend at least 100 meters beyond the edge of the dredge areas. All data will be collected in such a manner that post-dredging bathymetry 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 nature of post-dredging bathymetric change.

Copies of pre-dredging and post-dredging hydrographic data will be submitted to the BOEM electronically within ninety (90) days after each survey is completed. The delivery format for data submission is an ASCII file containing corrected x, y, z data. The horizontal data will be provided in the North American Datum of 1983 (NAD '83) Florida State Plane, U.S. survey feet unless otherwise specified. Vertical data will be provided in the North American Vertical Datum of 1988 (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 individual survey points, and/or vessel track lines, as well as contour lines at appropriate elevation intervals. These plots will be provided in PDF format. Survey metadata will also be provided.

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

There are eight anomalies (coordinates will be provided in the lease document) that must be avoided during dredging operations by at least 300 feet.

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 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 to 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, 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;
- a table listing significant construction dates beginning with bid opening and ending with final acceptance of the project by the USACE;
- digital appendices containing the as-built surveys, beach-fill cross-sections, and survey data; and
- any additional pertinent comments.

- a table, an example of which is illustrated below, showing the various items of work construction, final quantities, and monetary amounts;

Item No.	Item	Estimated Quantity	Unit	Unit Price	Estimated Amount	Final Quantity	Bid Unit Price	Final Amount	% Over/ Under
1	Mobilization and Demobilization								
2	Beach Fill								
3	Any beach or offshore hard structure placed or removed								

- a listing of construction and construction oversight information, including the prime and subcontractors, contract costs, etc.;
- a list of all major equipment used to construct the project;
- 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; digital appendices containing the as-built drawings, beach-fill cross-sections, and survey data; and any additional pertinent comments.