April 2022

ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT

ADDITIONAL OFFSHORE BORROW AREAS – ST. JOHNS COUNTY, FLORIDA SHORE PROTECTION PROJECT AND ST. JOHNS COUNTY, FLORIDA COASTAL STORM RISK MANAGEMENT PROJECT (SOUTH PONTE VEDRA BEACH AND VILANO BEACH REACHES)

US Army Corps
of Engineers®
Jacksonville District

U.S. Army Corps of Engineers
JACKSONVILLE DISTRICT

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ENVIRONMENTAL ASSESSMENT FOR ADDITIONAL OFFSHORE BORROW AREAS – ST. JOHNS COUNTY, FLORIDA SHORE PROTECTION PROJECT AND ST. JOHNS COUNTY, FLORIDA COASTAL STORM RISK MANAGEMENT PROJECT (SOUTH PONTE VEDRA BEACH AND VILANO BEACH REACHES)

The U.S. Army Corps of Engineers, Jacksonville District (Corps) has conducted an environmental analysis in accordance with the National Environmental Policy Act of 1969, as amended (NEPA). The Environmental Assessment (EA), incorporated herein by reference, evaluates the proposed dredging of new borrow areas S-1 and N-3 for the federally authorized St. Johns County, Florida Shore Protection Project and the St. Johns County, Florida Coastal Storm Risk Management Project (South Ponte Vedra Beach and Vilano Beach Reaches) in St. Johns County, Florida (hereafter referred to as the Preferred Alternative). Beach quality material would be dredged in the Atlantic Ocean in federal waters off St. Johns County, Florida and placed within the authorized template. The potential effects of the Preferred Alternative were evaluated, and the conclusions are provided here in summary:

a. The projects will be conducted in accordance with the Endangered Species Act of 1973, as amended, (ESA) and specifically in compliance with the National Marine Fisheries Service (NMFS) 2020 South Atlantic Regional Biological Opinion for Dredging and Material Placement Activities in the Southeast United States, as amended (SARBO), and the U.S. Fish and Wildlife Service (USFWS) Biological Opinions (Statewide Programmatic Biological Opinion (SPBO), Programmatic Piping Plover Biological Opinion (P3BO), and individual consultations). The placement of beach quality sand on the authorized projects has been evaluated through previous NEPA documents described in Section 1.4 of the EA. The SPBO and P3BO are not applicable to the proposed dredging of borrow areas S-1 and N-3; therefore, these Biological Opinions are not discussed in this NEPA evaluation. The work would not jeopardize the continued existence of any threatened or endangered species or destroy or adversely modify any designated critical habitat. Additional details on environmental compliance with the ESA can be found in Section 6 Table 9 and Appendix B of the EA.

b. This project is being coordinated with the State of Florida, and all applicable water quality standards will be met. Water Quality Certificate No. 0295429-003-JC from Florida Department of Environmental Protection (FDEP) for St. Johns County Shore Protection Project was issued September 26, 2011 and expires September 26, 2026. Water Quality Certificate No. 0377120-001-JC from FDEP for St. Johns County Coastal Storm Risk Management Project was issued March 26, 2020 and expires March 26, 2035. The use of any offshore borrow sites will require a modification for both water quality certificates to incorporate those areas. Additional details on environmental compliance with the Clean Water Act can be found in Section 6 Table 9 and Appendix B of the EA.

c. The State of Florida previously concurred with the Corps' consistency determination that the proposed work is consistent with the enforceable policies of the Florida Coastal Management Program through issuance of the projects' water quality certifications. The new borrow areas are located outside of state waters and dredging of the borrow areas is not subject to state authorization. A water quality certification modification will be required to indicate that the material from that borrow areas complies with the state sand rule and can be used to renourish the certified beach projects. No new effects from placing material from the S-1 and N-3 sand borrow areas are expected to occur; therefore, this EA incorporates by reference the previously completed Coastal Zone Management Act (CZMA) determinations. In a letter dated March 18, 2022, the Florida State Clearinghouse staff reviewed the draft EA and based on the information submitted and minimal project impacts, the state has no objections to the subject project and therefore, it is consistent with the Florida Coastal Management Program (FCMP). Additional details on environmental compliance with the Coastal Zone Management Act can be found in Section 6 Table 8 and Appendix B of the EA.

d. The Corps has received concurrence on a determination of no effect to historic properties from the Florida State Historic Preservation Officer (SHPO) for the new sand borrow areas; however, the Corps has also determined that additional cultural resource investigations are needed to meet the design specification for the new sand placement pipeline corridors. Should any resources be identified during these investigations, they will be buffered and avoided to eliminate any potential impacts. Due to continued changes to project parameters, the Corps cannot complete all determinations of effect for project features prior to approval of the project and will employ Stipulation V of its 2021 *Programmatic Agreement among the United States Army Corps of Engineers, the Florida State Historic Preservation Officer, the Bureau of Ocean Energy Management, and the Advisory Council on Historic Preservation Regarding Compliance with Section 106 of the National Historic Preservation Act during Implementation of the United States Army Corps of Engineers, Jacksonville District Operation, Navigation, and Shore Protection Programs* in order to meet its Section 106 compliance requirements. Additional details on environmental compliance can be found in Section 6 Table 9 and

Appendix B of the EA. Coordination documents with the Florida SHPO and federally recognized tribes can be found in Appendix A of the EA.

e. Public benefits will be provided via storm damage reduction and beach recreation from shoreline placement of sand in the authorized project template from these new borrow areas.

In consideration of the information summarized, I find that the proposed dredging of new borrow areas for the St. Johns County, Florida Shore Protection Project and St. Johns County, Florida Coastal Storm Risk Management Project (South Ponte Vedra Beach and Vilano Beach Reaches) will not significantly affect the human environment and does not require an Environmental Impact Statement.

A copy of the proposed Finding of No Significant Impact (FONSI), draft EA, and associated appendices were made available to the public at the following website for a 30-calendar day public and agency review period on January 21, 2022:

https://www.saj.usace.army.mil/About/DivisionsOffices/Planning/Environmental-Branch/Environmental-Documents/ (Click "+St. Johns" and scroll down to the project name.)

A copy of the comments received, as well as a summary matrix of the comments and Corps' responses, have been included in the final document and incorporated, as applicable. The EA and FONSI will be posted on the above website.

Based on information analyzed in the EA, reflecting pertinent information obtained from agencies having jurisdiction by law and/or special expertise, as well as reviews by other Federal, State, and local agencies, Tribes, input of the public, and the review by my staff, I conclude that the Preferred Alternative will not significantly impact the quality of the human environment and does not require an Environmental Impact Statement.

BOOTH.JAMES.LAFAYETTE.1186925935
Digitally signed by BOOTH.JAMES.LAFAYETTE.1186925935
Date: 2022.05.03 14:40:25 -04'00'

03 MAY 22
Date

James L. Booth
Colonel, U.S. Army
District Commander

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ENVIRONMENTAL ASSESSMENT FOR ADDITIONAL OFFSHORE BORROW AREAS – ST. JOHNS COUNTY, FLORIDA SHORE PROTECTION PROJECT AND ST. JOHNS COUNTY, FLORIDA COASTAL STORM RISK MANAGEMENT PROJECT (SOUTH PONTE VEDRA BEACH AND VILANO BEACH REACHES)

1.0 PROJECT PURPOSE AND NEED

1.1 PROJECT DESCRIPTION

The U.S. Army Corps of Engineers, Jacksonville District (Corps), is considering dredging beach-compatible sand by hopper dredge and designating new offshore borrow areas to supply sand for authorized beach renourishment projects along shorelines of St. Johns County (SJC), Florida. The projects would hopper dredge sand from the offshore borrow areas, transport the material by the hopper vessel approximately 6 to 8 miles through federal and state waters, and then directly pump material from the hopper dredge through pipeline corridors (approximately ½ mile) to the shoreline at the federally authorized projects. The St. Johns County, Florida Coastal Storm Risk Management Project (South Ponte Vedra Beach and Vilano Beach Reaches) (SJC CSRM) consists of 2.6 Miles of shoreline from Florida Department of Environmental Protection (FDEP) reference monument R-103.5 to R-116.5 in Vilano Beach, St. Johns County, Florida (Figure 1). The St. Johns County, Florida Shore Protection Project (SJC SPP) project area starts about 2.7 miles south of St. Augustine inlet in Anastasia State Park and extends south for 2.5 miles (13,200 feet) along the shoreline of the City of St. Augustine Beach from FDEP reference monument R-137 to R-150 in St. Augustine Beach, St. Johns County, Florida. Borrow area S-1 lies east of the St. Augustine Beach within federal waters approximately 6 miles offshore and 9 miles southeast of St. Augustine Inlet. In prior geotechnical studies, SJC's coastal engineering consultant (Taylor Engineering, Inc.) identified borrow area N-3 as the most suitable sand borrow resource for the South Ponte Vedra Beach reach (SJC 2020). N-3 is positioned east of the Vilano Beach reach within federal waters approximately 8 miles offshore and 9 miles northeast of St. Augustine Inlet. The projects are to dredge sand from S-1 and N-3 borrow areas, respectively, and transport the material to a nearshore location for pump-out offloading of the hopper dredge with shore-connected pipeline for renourishment to support the projects.

The initial construction of the Vilano Beach reach of the SJC CSRM, sand placement for which commenced in October 2020 and was completed in February 2021, placed approximately 1.3 million cubic yards (mcy) of sand on the beach (Corps 2017). The authorized project calls for the placement of periodic nourishment of approximately 866,000 cubic yards (cy) of beach compatible fill every 12 years from the St. Augustine Inlet Complex. The design template is characterized by a 60-foot extension at the +8-foot North American Vertical Datum of 1988 (NAVD88) contour of the idealized existing

(August 2015) beach profile between the berm (+8 ft-NAVD88) and the estimated depth of closure (-20 feet NAVD88). The authorized design template also includes a dune feature that reflects maintenance of the existing (August 2015) dune condition.

The St. Augustine Beach authorized project includes a 60-foot berm extension of the pre-project + 12-foot mean low water (MLW) contour, with a foreshore slope of 1 vertical on 20 horizontal (1V:20H) from the berm to MLW and 1V:30H thereafter to intersection with the existing beach (Corps 1998). Initial construction took place in two phases from September 2001 to October 2001 and April 2002 to January 2003 with approximately 4.2 mcy of beach quality material being placed. This quantity is comprised both of sand placed within the 2.8-mile-long Federal project as well as an additional 1.0-mile-long segment to the north that was sponsored by the State of Florida. Renourishment projects have been constructed in 2008 (2.8 mcy), 2012 (2.1 mcy), and 2018 (0.9 mcy). The authorized project calls for the placement of periodic nourishment of approximately 1.625 mcy of beach compatible fill every 5 years from the St. Augustine Inlet Complex located approximately 4.5 miles from the center of the project area.

The Corps has identified in prior geotechnical studies several potential sources of beach quality sand offshore SJC that could serve as borrow areas for the previously authorized shoreline projects north and south of St. Augustine Inlet. Beach-compatible sand by hopper dredge could be used on the SJC CSRM Project, which consists of the South Ponte Vedra and Vilano Beach reaches/segments, and the SJC SPP, which consists of the St. Augustine Beach reach/segment.

Proposed additional sand borrow areas are located in Federal waters (>3 nautical miles offshore) on the Outer Continental Shelf (OCS) and the Bureau of Ocean Energy Management (BOEM) is acting as a cooperating agency on this National Environmental Policy Act (NEPA) document. Their proposed action is the issuance of a negotiated agreement to authorize use of new sand borrow sources so that the Corps, along with the projects local sponsor (SJC), can obtain the necessary sand resources for the Vilano and St. Augustine Beach renourishment projects. Impacts associated with the use of the OCS borrow area and placement for the Vilano and St. Augustine Beach renourishment projects were previously considered in the following sources:

- SJC and BOEM's Environmental Assessment (EA) *"Use of Outer Continental Shelf Sand from Borrow Area N-3 for the South Ponte Vedra Beach Restoration Project"* which considered the use of OCS sand from N-3 for beach material use at specified areas in South Ponte Vedra with FEMA funding (SJC 2020) (but did not consider the use of N-3 sand along Vilano Beach)
- The Corps' *St. Johns County Coastal Storm Risk Management Project, Final Integrated Feasibility Study and Environmental Assessment (EA) and Findings of No Significant Impact (FONSI). South Ponte Vedra Beach, Vilano Beach, and Summer Haven Reaches St. Johns County, Florida.* (Corps 2017) which includes the previously authorized Vilano Beach project description.

- The Corps' *1998 General Reevaluation Report (GRR) with Final EA and FONSI, St. Johns County, Florida, Shore Protection Project.* which includes the previously authorized St. Augustine Beach project description.
- The Corps' *1979 Feasibility Report for Beach Erosion Control, Appendix 3, Environmental Impact Statement (EIS), St. Johns County, Florida* which includes a detailed description of St. Johns County SPP and potential impacts.
- Pursuant to NEPA, this EA was prepared by the Corps and BOEM in support of the decision to authorize the use of OCS sand from borrow area S-1 to support the SJC SPP and N-3 to support SJC CSRM. This EA incorporates by reference the existing NEPA analyses and focuses on the potential environmental effects associated with extracting and transporting sand from borrow area N-3 and S-1 to Vilano and St. Augustine Beach.

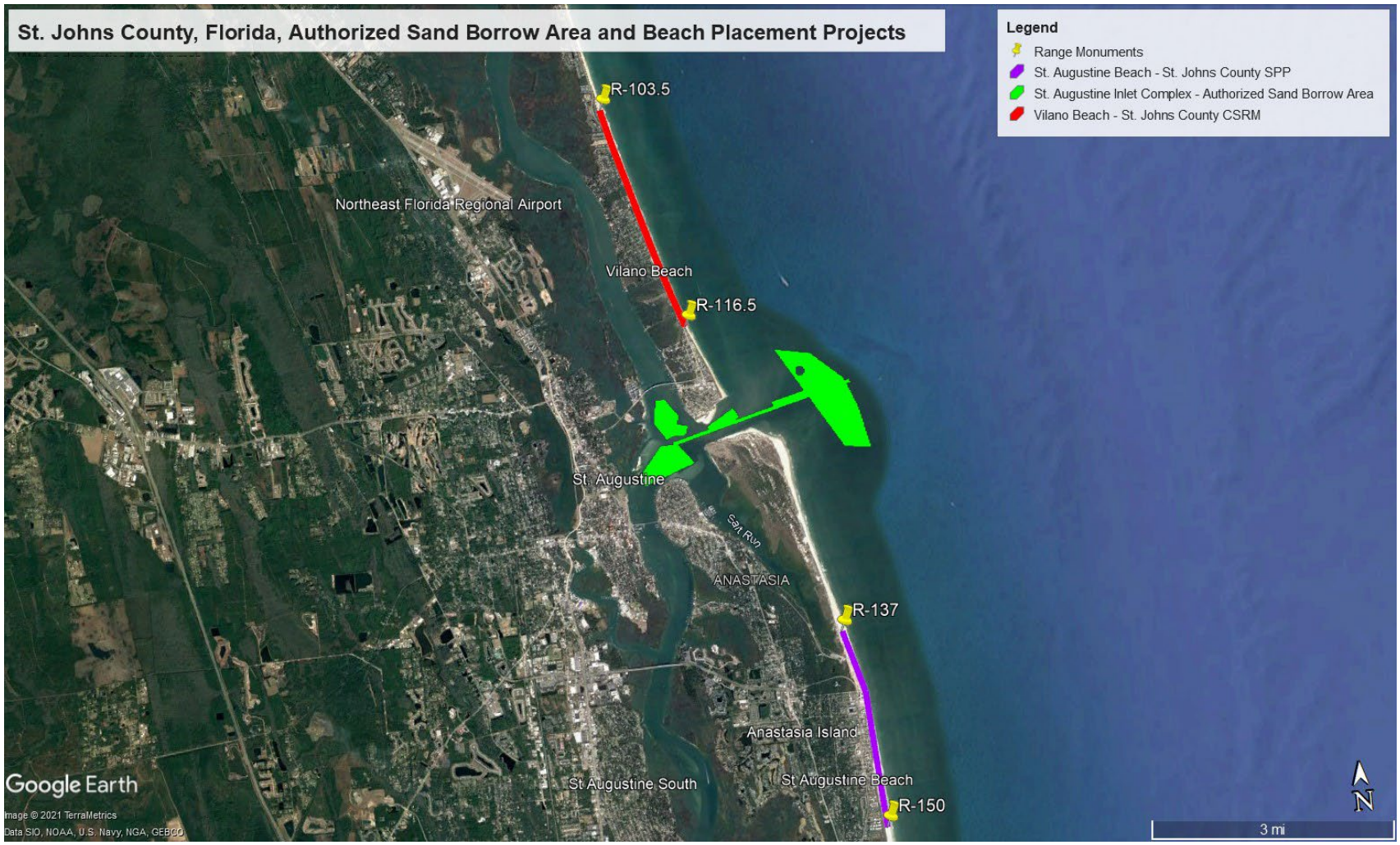

Figure 1. Project Map with Key Boundaries and Reference Points

1.2 PROJECT NEED OR OPPORTUNITY

The SJC SPP and SJC CSRM authorized projects provide coastal storm risk management to shoreline development, environmental habitat, and infrastructure at risk from beach erosion along SJC (Table 1 and Table 2). Historical storm damages and ongoing erosion have contributed to shoreline storm barrier loss and destabilization. Over the past decade the SJC beaches have been severely impacted by coastal storms (most notably Hurricanes Matthew, Irma, and Dorian). The recent storm damages resulted in 2019 Federal Emergency Management Agency (FEMA) EA for emergency beach berm and dune restoration activities along the SJC coastline (SJC 2020). The existing sand borrow source for the SJC SPP and SJC CSRM has historically been the St. Augustine Inlet and Ebb Shoal Complex. After the recent (2021) completion of the initial construction of the SJC CSRM project, post construction surveys indicate that there is currently a total volume of between 200,000 and 400,000 cy available sand within the St. Augustine Inlet Complex borrow areas. However, it is not expected that this quantity of sand could be efficiently removed given that it exists as a very thin layer of beach compatible material. The St. Augustine Inlet Ebb Shoal is currently estimated to contain approximately 1.6 to 1.8 mcy of beach compatible sand. More material is required for future nourishment of the SJC CSRM (Vilano Beach), SJC SPP (St. Augustine Beach), potential emergency projects, and conceivable future authorized projects in SJC. Both the SJC CSRM and SJC SPP are subject to placement regulations set out by the Inlet Management Plan (IMP) which establishes strategies to best manage sediment in the inlet and sand bypassing activities for placement of beach quality sand on adjacent eroding beaches of inlets or passes. The St. Augustine IMP calls for one third of the sediment removed from the inlet to be placed on the shoreline to the north and the remaining two thirds to be placed on the shoreline to the south. The IMP limits the available quantity of sand that could be dredged for either project at any given time, which may limit the ability of the Corps to build the construction template. The continued use of the St. Augustine Inlet as the primary/only sand source in SJC for the SJC SPP and SJC CSRM projects is unsustainable. Therefore, new borrow sources for beach quality sand are needed for the SJC CSRM and the SJC SPP projects.

1.3 PROJECT AUTHORITY

A list of authorizations and authorizing documents for the SJC SPP and SJC CSRM projects are provided below in Table 1. Authorizations for the St. Johns County, Florida Shore Protection Project

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Table 1. Authorizations for the St. Johns County, Florida Shore Protection Project

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AUTHORIZATIONS FOR THE EXISTING ST. JOHNS COUNTY, FLORIDA SHORE PROTECTION PROJECT

Acts	Work Authorized	Documents
1962	Section 110 of the Rivers and Harbors Act of 1962 (feasibility study)	PL 87-874
17 Nov 1986	St. Johns County, Florida, Shore Protection Project (SPP) (construction)	PL 99-662

Table 2. Authorizations for the St. Johns County, Florida Coastal Storm Risk Management Project (South Ponte Vedra Beach and Vilano Beach Reaches)

AUTHORIZATIONS FOR THE EXISTING ST. JOHNS COUNTY, FLORIDA COASTAL STORM RISK MANAGEMENT PROJECT (SOUTH PONTE VEDRA BEACH AND VILANO BEACH REACHES)

Acts	Work Authorized	Documents
1962	Section 110 of the Rivers and Harbors Act of 1962 (feasibility study)	PL 87-874
21 June 2000	Granted authority for a survey of the St. Johns County study area	House Resolution 2646
2018	Section 1401(3) of the Water Resources Development Act of 2018 (construction)	PL 115-270

In addition, BOEM's connected action is to authorize the use of sand from an Outer Continental Shelf (OCS) sand borrow area for the project under the OCS Lands Act (43 U.S.C. § 1337(k)(2)). In 1994, OCS Lands Act was amended to allow BOEM to convey, on a noncompetitive basis, the rights to OCS sand, gravel, or shell resources for use in a program for shore protection, beach restoration, or coastal wetlands restoration undertaken by a Federal, State, or local government agency (43 U.S.C. § 1337(k)(2)(A)(i)).

1.4 RELATED ENVIRONMENTAL DOCUMENTS

Related NEPA documents for the SJC SPP and SJC CSRM projects include the following and are available for download at the following link, under St. Johns County, unless otherwise noted:

https://www.saj.usace.army.mil/About/DivisionsOffices/Planning/Environmental-Branch/Environmental-Documents/ (Click "+St. Johns" and scroll down to the project name.)

- 1979. Feasibility Report for Beach Erosion Control, Appendix 3, Environmental Impact Statement, St. Johns County, Florida.

- 1998 – General Reevaluation Report (GRR) with Final Environmental Assessment (EA) and Finding of No Significant Impact (FONSI), St. Johns County, Florida, Shore Protection Project.

- 2010 – Final EA and FONSI, Maintenance Dredging, St. Augustine Inlet and Adjacent Intracoastal Waterway, St. Johns County, Florida.

- 2015 – Final Supplemental EA and FONSI, Maintenance Dredging, St. Augustine Inlet and Adjacent Intracoastal Waterway, St. Johns County, Florida.

- 2017 - St. Johns County Coastal Storm Risk Management Project, Final Integrated Feasibility Study and EA. South Ponte Vedra Beach, Vilano Beach, and Summer Haven Reaches St. Johns County, Florida.

- 2020 - EA and FONSI, Use of Outer Continental Shelf Sand from Borrow Area N-3 for the South Ponte Vedra Beach Restoration Project, St. Johns County, Florida. Issuance of a Negotiated Agreement for Use of Outer Continental Shelf Sand from Borrow Area N-3 for the South Ponte Vedra Beach Restoration Project, St. Johns County, Florida BOEM https://www.boem.gov/marine-minerals/mmp-your-state/florida-projects

Table 3 provides a summary of the 1998 GRR/EA, 2017 SJC CSRM EA, and 2020 EA environmental analyses that are being incorporated by reference into this EA:

Table 3. Summary of the 1998 GRR/EA, 2017 SJC CSRM EA, and 2020 EA environmental analyses that are being incorporated by reference into this EA.

ENVIRONMENTAL RESOURCE	Corps' 1998 GRR/EA	Corps' 2017 SJC CSRM EA	SJC's 2020 EA
GENERAL ENVIRONMENTAL SETTING	Completion of the project will ensure that a wide beach exists at high tide as well as a protective sand dune system above the supralittoral zone. The new beach will have a positive effect on the existing dune system. Besides providing protection to the dunes from wave and tidal generated energy, opportunistic and salt tolerant grasses and other beach vegetation will tend to trap wind-blown sand, thereby further building up the dune system in the project area. Addition of a beach and dune system will provide increased foraging habitat for many small birds, mammals, and reptiles as well as protection from storm waves and tides for residents and infrastructure of the coastline.	The environmental effects associated with the Recommended Plan are primarily temporary in nature, and most affected resources would return to pre-construction conditions either immediately after dredging (with respect to resources such as aesthetics and noise) or within one or two years (with respect to sea turtle nesting and benthic resources). However, dredging inlets and altering the shoreline has the potential to change how sediment transport occurs regionally. The use of the St. Augustine Inlet was extensively studied, and the FDEP IMP supports the usage of the inlet system as identified in the Recommended Plan.	Project dredging supports beach and dune creation for shoreline stabilization. Vessel activity at sand transfer point is insufficient to impact shoreline stability. Borrow area bathymetric changes are insufficient and too distant to affect shoreline wave climate and stability.
GEOLOGY	The nearshore area is located 3- 5 miles south of St. Augustine Harbor and encompasses 2.7 square miles. The area is sandy bottom with 10 to 20 feet of sand covering the rock substrate. No features such as hardbottoms or rock outcrops occur in this area. Beach compatible material will be obtained from the St. Augustine Inlet ebb shoal delta located north and south of the oceanward extent of the inlet channel. The borrow site lies in 10-30 feet of water. The material found in this area was shown to consist primarily of beach quality sand.	Sediments eroding from north of St. Augustine Inlet will be deposited into the inlet system; approximately 1/3 of the sediment in the system will be dredged and placed north of the Inlet. However, dredging inlets and altering the shoreline has the potential to change how sediment transport occurs regionally. The use of the St. Augustine Inlet was extensively studied, and the FDEP IMP supports the usage of the inlet system as identified in the Recommended Plan.	Construction activities will result in shallow, gently sloped depression of flat areas within the large bathymetric structure in the shoal system surrounding the proposed borrow area. Project dredging design avoids conditions suitable for development of anoxic zones. Dredging design includes preserving up to seven feet of beach-suitable sand at the bottom of the dredge template ensuring that the sediments exposed by dredging are similar to those previous surface sediments and will therefore remain suitable for expected rapid benthic recolonization.

ENVIRONMENTAL RESOURCE	Corps' 1998 GRR/EA	Corps' 2017 SJC CSRM EA	SJC's 2020 EA
THREATENED AND ENDANGERED (T&E) SPECIES	Contract plans and specifications and environmental commitments address potential presence of whales, sea turtles, manatees and beach mice in the borrow and/or beach fill areas, their endangered status, the need for precautionary measures, and the Endangered Species Act (ESA) prohibition on taking and/or harassing any of these species. Measures to prevent or minimize effects on sea turtles and beach mice will be implemented during and after project completion. Both the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (USFWS) have concurred that there will be no adverse effects on other T&E species.	With the implementation of the protective measures listed in this section, the Corps determined that the Recommended Plan may affect, but is not likely to adversely affect, sea turtles in the water (may affect if a hopper dredge is used), manatees, piping plover, red knot, or whales. The Conservation Measures outlined in the 1991 NMFS South Atlantic Division Regional Biological Opinion (SARBO; revised 1995 and 1997), the 2013 USFWS Piping Plover Programmatic Biological Opinion (P3BO), and the 2015 USFWS Statewide Programmatic Biological Opinion (SPBO) will be adhered to for these species as appropriate. In addition, the Corps determined that the presence of a dredge in the nearshore waters and pipeline on the beach could temporarily impact the physical or biological features (PBF) and primary constituent elements (PCE) of loggerhead critical habitat unit LOGG-N-14 during construction. Standard protective measures would be taken during placement activities to ensure the safety of manatees and whales.	Applicable project design criteria (PDCs) from the 2020 SARBO will be implemented during the project. The project will also adhere to both the Standard Manatee Conditions for In-Water Work (USFWS 2011) and the Sea Turtle and Smalltooth Sawfish Construction Conditions (NMFS 2006). By implementing the applicable PDCs, terms and conditions (T&Cs), and standard construction conditions, minimal effects to whales, smalltooth sawfish, Florida manatees, and giant manta ray are expected. Even with implementation of the SARBO PDCs, the use of a hopper dredge may adversely affect sea turtles through lethal entrainment; however, take resulting from hopper dredging operations will not jeopardize the continued existence of any sea turtle species.
WATER QUALITY	During project construction, an insignificant increase in turbidity in the immediate area can be expected due to the beach fill operations. As the background conditions in the project area are naturally turbid due to the dynamic physical conditions of the	Temporary increases in local turbidity due to construction; no long-term change. Turbidity will be monitored according to state protocols during the proposed beach placement work. If at any time the turbidity standards are	Temporary increases in turbidity will occur near active dredging site within borrow area. Turbidity monitoring and compliance with the certified/authorized turbidity levels will maintain appropriate water quality conditions in the nearshore adjacent to beach/dune fill activities.

ENVIRONMENTAL RESOURCE	Corps' 1998 GRR/EA	Corps' 2017 SJC CSRM EA	SJC's 2020 EA
	area, this elevated increase in turbidity will be a temporary condition and is not expected to detrimentally affect organisms in the nearshore zone.	exceeded, the activities causing the violation would temporarily cease.	
ESSENTIAL FISH HABITAT (EFH)	Not evaluated.	Placement of dredged material on the beach could directly and indirectly impact approximately 15,500 feet of ocean high salinity surf zone. Long-term adverse impacts (i.e., suppression of re-colonization of the infaunal community) are not anticipated if nourishment events are spaced more than five years apart. Beach placement is anticipated to take three to four months and migrating larvae and/or juvenile fish could be subject to project-related elevated turbidity and suspended sediment levels during that time period.	Motile species will avoid dredging activity. Temporary reduction in sessile benthic habitat prey species and immature or small finfish and shellfish unable to avoid the dredging will occur. Benthic habitat recovery is expected within 2-3 years. Motile species will avoid turbidity plumes. Potential impacts to planktonic or slow-moving water column species.
BENTHIC RESOURCES	Not evaluated.	Sediments eroding from north of St. Augustine Inlet will be deposited into the inlet system; approximately 1/3 of the sediment in the system will be dredged and placed north of the Inlet. Although benthic organisms would be temporarily impacted at the beach placement site and at the sand source locations (including both the inlet system and the offshore sand source locations), recovery of the benthic community is expected to occur with normal seasonal recruitment patterns.	Dredging the surficial sand sheet in Borrow Site N3 will result in localized, lethal, and sub-lethal impacts to infauna and borrowing and motile epifauna within the dredging footprint due to likely entrainment, burial and sedimentation, and interruption of feeding. Potential effects include temporary and localized decreases in density, abundance, biomass, diversity, and productivity. Dredging and beach placement would impact benthic communities for up to a few years.

ENVIRONMENTAL RESOURCE	Corps' 1998 GRR/EA	Corps' 2017 SJC CSRM EA	SJC's 2020 EA
FISH AND WILDLIFE RESOURCES	During the beach renourishment construction phase, there may be some short-term displacement of foraging and resting activities for birds as well as small mammals and reptiles that utilize the project area. Areas north and south of the project area with similar characteristics may be utilized by displaced species while construction activities are ongoing. Elevated turbidity levels from placement of fill material on the beach is not expected to have a significant detrimental effect to such sight feeders as the brown pelican or other shorebirds, waterfowl and wading birds. After the initial construction, invading grasses and other beach vegetation will provide additional refuge and foraging opportunities to small rodents and reptiles. The inhabitants of the intertidal zone typically possess high fecundity and rapid turnover rates during the summer breeding season. No long-term adverse effects are expected to organisms in the supralittoral or intertidal zone from the SJC SPP.	The dredging activity may attract some seabirds to the dredge area for potentially increased food availability. Changes to water clarity resulting from the re-suspension of sediments during dredging operations would negatively affect the foraging capabilities of some species. Water quality would quickly return to pre-dredging conditions upon completion of construction. Suitable foraging areas exist outside of the project area to prevent significant impacts to both shorebirds and fish species foraging on the benthic. The Corps would implement its migratory bird protection measures. If the offshore sand source were used, the impacts to fish and wildlife species other than those protected under the ESA will be similar to those effects identified for the use of the inlet system.	Minimal impact to seabirds that feed along shorelines, as ample habitat north and south of the site would allow feeding while benthic populations redevelop. Some feeding may occur in the dredging plume. Other wildlife temporarily displaced from dredging and dredging plume areas would return after construction is complete. Noise from the dredging and vessel operation may disrupt fish and/or marine mammals. Marine mammals' ability to detect, recognize, or discriminate between acoustic signals if interested (e.g., prey detection, predator avoidance, intraspecific communications, and social interactions) (84 FR 51118); however, marine mammals are not likely to be adversely affected by the project as these animals should be able to easily avoid the hopper dredge. Incorporation of safeguards to protect T&E species during project construction would also protect marine mammals in the area.
CULTURAL, HISTORIC, AND ARCHAEOLOGICAL RESOURCES	No known significant historic properties were located on the beach segment nourished for this project. Eleven potentially significant magnetic and sidescan sonar targets were identified in the ebb shoal borrow area. Placement of sand on the beach will	No impacts to potentially significant cultural resources were reported for the beach nourishment areas. The proposed sand sources involve the use of the ebb, flood, and Vilano Point shoals around the St. Augustine Inlet. A number of potentially	Surveys of the N-3 borrow area and associated pipeline corridors were completed in September 2019 and February 2020 respectively. No significant cultural resources were located in either the N-3 borrow area, or associated pipeline corridors. Concurrence from the Florida SHPO regarding both the N-3 borrow area

ENVIRONMENTAL RESOURCE	Corps' 1998 GRR/EA	Corps' 2017 SJC CSRM EA	SJC's 2020 EA
	have no adverse effect on known significant historic properties. Subsequent diver investigations of the 11 targets revealed that none are eligible for listing in the NRHP. Concurrence from the Florida State Historic Preservation Officer (SHPO) was received in August 1998.	significant cultural resources are located within these areas; however, in coordination with the Florida SHPO, these sites will be protected through the use of avoidance buffers.	and the associated pipeline corridors was received in September 2020.
NATIVE AMERICANS	Not evaluated.	There are no known Native American properties within the project area, and the project should not have any effects to Native Americans.	Not evaluated.
AIR QUALITY	There will be no long-term accumulation of particulates in the project area because offshore sea breezes are likely to disperse pollutants away from the barrier island and the construction activity is brief and temporary in nature. No air quality permits are required for this permit.	Short term impacts from dredge emissions and other construction equipment associated with the Recommended Plan would not significantly impact air quality. No air quality permits would be required.	Localized, short-term impacts to air quality in the project area due to emissions from dredges and other fossil fuel burning construction equipment.
NOISE	The immediate project area may experience an increase in noise levels during the beach fill construction phase. Construction equipment will be properly maintained in order to minimize the effects of noise. The elevated noise levels will be localized in nature and will not persist because of the brief, temporary nature of the construction activity.	Dredging noise can affect marine mammals, sea turtles, and fishes. Possible effects of dredging noise can vary depending on a variety of internal and external factors and can be divided into masking (obscuring sounds of interest by the production of interfering sounds, generally at similar frequencies), response, discomfort, hearing loss, and injury. Noise generated on the beaches by equipment placing the dredged material will be relatively low level and	Equipment noise would be minimal at the shoreline, as dredging activities are about 8 miles offshore. Some noise from hopper dredge when transferring sand to the beach. Noise will occur during beach construction from equipment used to shape the sand and transport workers, etc.

ENVIRONMENTAL RESOURCE	Corps' 1998 GRR/EA	Corps' 2017 SJC CSRM EA	SJC's 2020 EA
		will be of a short duration (construction period of approximately three to four months). Construction equipment such as booster pumps will be properly maintained to minimize effects of noise. Once dredging and beach placement have concluded, noise levels will drop back to background levels for the beach area.	
AESTHETIC RESOURCES	The project will restore beaches which have been severely eroded by high tides, storm generated waves, and heavy winds. Restored beach and dune areas will help restore the natural appearance and thus the aesthetic resources of the St. Johns t County beaches.	The aesthetics of the beach placement area would be temporarily adversely impacted during construction due to the presence of construction equipment on the beach. In the longer term, the beach aesthetics will be improved over the previously eroded shoreline with the construction of a more natural beach. Aesthetics of the sand source locations would also experience temporary adverse impacts due to the presence of dredge equipment during construction.	The proposed borrow area is about 8 miles offshore, below the horizon at the shoreline. Hopper dredge activities would temporarily affect aesthetic resources when visible during transits to the material transfer point near the beach. Post-project no further impacts to aesthetic resources would occur.
RECREATIONAL RESOURCES	Once the SJC beach renourishment project is complete, the beach will contain a larger sand berm which will provide more space for both active and passive saltwater beach recreation activities. A wider sand berm along the beach will provide for improved family-oriented recreation activities which is a significant tourist and county resident attraction. The additional sand will also function to help separate active and passive recreational activities.	Recreational use of the beach, including sunbathing and surfing, would be temporarily disrupted for up to several months during construction due to the presence of construction equipment on the beach. In addition, recreational use of the inlet system and the offshore sand sources (e.g., boating, kayaking, and windsurfing) would be temporarily adversely affected by the dredging operations. Recreational usage in the future with-project condition would be improved	Recreational and commercial vessels will have to avoid dredging and hopper dredge transit areas during construction. Once completed, no additional impacts to recreation. Beach recreation will be temporarily halted during construction. Extensive and accessible beach north and south of the project area will provide alternative recreation locations during construction. Higher quality beach will be available after construction.

ENVIRONMENTAL RESOURCE	Corps' 1998 GRR/EA	Corps' 2017 SJC CSRM EA	SJC's 2020 EA
		over the long-term due to the availability of a wider beach face.	
SAFETY & NAVIGATION	Considering the important safety issues associated with dredging and beach renourishment, the Corps intends to implement all T&Cs within the limits established by the U.S. Coast Guard, Occupational Safety and Health Act, and other reasonable requirements. Further coordination with the FWS and FLOEP's ESQ is underway concerning this issue.	Temporary impacts to vessel traffic could occur due to the presence of dredge equipment in St. Augustine Inlet during construction. Use of the inlet system as a sand source is not expected to increase the shoaling rates in the inlet. However, an offshore sand source may cause additional shoaling in the inlet system due to the material added to the sediment budget in the region.	Vessels will have to avoid active dredging and hopper dredges transiting to and from offload locations nearer the beach fill site. Activities and activity areas will be published in USCG Local Notice to Mariners.
SOCIOECONOMICS	Not evaluated.	The project will provide CSRM benefits to a number of residences and commercial structures, including 105 single-family residences, 9 multi-family residences, and 5 commercial structures. The Recommended Plan will also reduce damages to a key piece of critical infrastructure, SR A1A, increasing the accessibility of the area and uninterrupted ingress/egress of emergency vehicles and affected population during storm events, as well as the daily traffic count of up to 14,000 vehicles per day. Tourism can increase the population.	Impacts to socio-economic resources such as noise and closure to beach access will be short term and mostly confined to the location of the pump out which will periodically move along the shoreline at approximately 100 to -300 ft. per day. Construction equipment on the beach may have a minor effect on tourism interests for the duration of construction (3 to 6 months). Following project construction, the long-term result of dune restoration and beach restoration nourishment will have an overall increased value to properties abutting the beach. The temporary loss of access to the beach may pose an impact or hardship to affected property owners. Dredging and pump out may cause temporary shifts in fishing activities during construction.

ENVIRONMENTAL RESOURCE	Corps' 1998 GRR/EA	Corps' 2017 SJC CSRM EA	SJC's 2020 EA
COASTAL BARRIER RESOURCES	The project will enhance the integrity of the portions of the project located within the Coastal Barrier Resources System.	The Federal government will not cost share in the sand placement within Unit P04A (Usinas Beach). The proposed project does not include the construction of structures that would require Federal Flood Insurance. Although sand will be removed from Unit P05, the project will not result in effects that are contrary to the purposes of CBRA. Therefore, the Recommended Plan will not affect the Units P04A or P05 (Conch Island) with respect to the goals of CBRA. The USFWS found the project to be consistent with the purposes of CBRA in a letter dated October 25, 2016.	BOEM does not consider authorization for the use of federal sand as federal assistance which triggers the need for consultation under the CBRA.

1.5 DECISIONS TO BE MADE

The decision to be made is whether to approve use of new borrow sites by the Corps for maintenance of the existing SJC CSRM and SJC SPP. The purpose of this EA is to determine if the Preferred Alternative (the utilization of the N-3 and S-1 borrow areas for SJC CSRM and SJC SPP), in light of new information or circumstances, could result in different effects and potentially contribute to significant effects on the human environment. This EA, prepared pursuant to 40 CFR § 1502.9 by the Corps and BOEM as a cooperating agency, supplements the existing analyses and updates potential environmental effects resulting from sand dredging/mining and transport from the newly proposed borrow areas to previously authorized project footprints. The Corps and BOEM identified and reviewed new information to determine if any resources and effects previously analyzed should be re-evaluated or if the new information could alter previous effects determinations. This EA further supports or elaborates on the analyses or information presented in existing NEPA documents. Pursuant to 40 CFR § 1506.3, the Corps determined that portions of the existing NEPA analyses are still valid and are incorporated by reference where applicable.

1.6 SCOPING AND ISSUES

1.6.1 RELEVANT ISSUES

This EA supplements the previous NEPA documents listed in section 1.4 above. It provides an evaluation of the effects of dredging suitable material from new borrow areas (S-1 and N-3) and also evaluates whether changes in the proposed action, new circumstances not previously analyzed, and information not previously available contribute to a determination of significantly different environmental effects (43 CFR § 46.120). The following issues were identified as relevant to the proposed mining of the new borrow areas and need further evaluation: cultural resources; threatened and endangered (T&E) species including sea turtles, whales, West Indian manatee, smalltooth sawfish, and Atlantic sturgeon; essential fish habitat (EFH); benthic resources; turbidity and water quality; air quality; fish and wildlife resources; and noise produced during dredging operations.

1.6.2 ISSUES ELIMINATED FROM FURTHER ANALYSIS

Previous NEPA documents in Section 1.4 have described the Affected Environment in detail and evaluated the potential effects on other resources of concern, including physical oceanography, Clean Water Act 404(b)1 discharge of dredged material evaluation, and cumulative effects. The conclusions of the existing effects analyses for most resources, except those resources discussed in more detail herein, have been determined to be valid. 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. Those environmental effects are summarized in Section 5 of the 2020 EA (SJC 2020).

1.7 PUBLIC INTEREST FACTORS

While the Corps does not process and issue permits for its own activities, pursuant to 33 CFR § 336.1, the Corps meets all applicable substantive legal requirements, including public notice, and opportunity for public hearing where its activities result in regulated discharges. As part of its review, the Corps evaluates potential effects, including cumulative effects, of the proposed activity and its intended use and/or effect on public interest. All factors which may be relevant to the proposal must be considered including the cumulative effects thereof. These factors may include:

- Economics
- Aesthetics
- General Environmental Concerns
- Conservation
- Historic Properties
- Fish and Wildlife Values
- Navigation
- Recreation
- Water Quality
- Wetlands
- Shore Erosion and Accretion
- Mineral Needs
- Safety
- Consideration of Property Ownership
- Needs and Welfare of the People

The following factors were considered, but were determined to be not applicable to this project:

- Energy Needs
- Flood Hazards
- Floodplain Values
- Land Use
- Water Supply and Conservation
- Food and Fiber Production
- Hazardous, Toxic and Radioactive Waste
- Formally Used Defense Sites

The proposed action will result in short-term adverse effects to aesthetics, fish and wildlife, recreation, safety, and water quality. These short-term adverse effects will cease with the completion of construction. Long-term beneficial effects associated with the action are expected to shore erosion and accretion, fish and wildlife, recreation, navigation, safety, and needs and welfare of the people. These long-term benefits would be expected to remain for years following construction.

Based on the analysis provided in Section 4 of this EA, the Corps concludes that the proposed activity is in the public interest.

2.0 ALTERNATIVES

The alternatives section describes the No Action Alternative and other reasonable alternatives that were evaluated and/or eliminated from further analysis. The beneficial and adverse environmental effects of the alternatives are presented in comparative form, providing a clear basis for choice to the decisionmaker and the public. A preferred alternative was selected based on the information and analysis presented in the Affected Environment (Section 3) and Environmental Effects sections of this EA (Section 4).

2.1 DESCRIPTION OF ALTERNATIVES

2.1.1 ALTERNATIVE 1: NO ACTION (STATUS QUO)

The No Action Alternative would not include federal offshore borrow areas as new sand sources for SJC SPP and SJC CRSM projects, so the projects would continue to rely on the Augustine Inlet Complex as the sole sand source. The inlet complex requires years to recharge and is currently nearly depleted. Alternative sand sources would need to be identified for future renourishment activities to proceed. Otherwise, future events would be limited to the availability of sand in the inlet complex which would result in less frequent events and/or a reduced volume of sand being placed on the beach. Without additional sand sources, erosion of the shoreline would continue resulting in a loss of the beach template and increased threats to infrastructure.

2.1.2. ALTERNATIVE 2: NEW BORROW AREAS S-1 & N-3

The new borrow areas alternative is to use S-1 (SJC SPP) and N-3 (SJC CSRM) to obtain beach compatible fill material for the renourishment of the Vilano and St. Augustine Beach authorized projects shorelines, respectively (see circled sources in Figure 2). These are the closest proven sand sources near SJC CSRM and SJC SPP. Beach compatible fill[1] would be dredged from the ocean bottom from S-1 and N-3 and placed along the SJC SPP and SJC CSRM shoreline, respectively (Figure 1). The authorized projects would incorporate the use of these alternate sources, as needed, to supplement the use of the St. Augustine Inlet Complex sand borrow source sites. SJC CSRM is expected to use N-3 for up to two scheduled renourishments during its remaining authorized project lifecycle; the SJC SPP is expected to use S-1 for up to three scheduled renourishments during its remaining authorized project lifecycle. The proposed offshore borrow areas N-3 and S-1 may be utilized as early as 2022. The anticipated dredging interval infrequent and is approximately every 5-15 years, however dredging may occur sporadically for emergency use. Hopper dredging, transport, and placement is expected to occur for approximately 60-120 days to obtain the necessary

[1] Beach compatible fill is described in 62B-41.007 Florida Administrative Code (F.A.C).

volumes. Efficient dredging practice involves excavating sand in a succession of long, parallel, and relatively straight cuts of 2-5-foot thickness. The dredged sand will travel through the dragheads into the dredge's open hopper and most of the turbid seawater effluent will drain out the overflow structures in the hopper. The vessel will transport the dredged material 6-8 miles from the borrow site to offloading pump-outs positioned within approximately ½ mile offshore where the material will be pumped from the hopper via pipeline to the beach (Figure 3). Multiple pump-outs and pipeline landings will be positioned alongshore to allow for efficient pumping of sand. Pipeline will be rafted, floated into place, and flooded and submerged to the sea floor. The placement and relocation of the nearshore mooring buoys may involve the use of tender tugboats and a barged pipeline hauler or crane. Pump-out buoys may be anchored using multi-ton point anchors and/or clump weights. Support vessels and tugs may support the hopper dredge in other activities, such as crew rotations and pump-out connection. Pipelines will use existing corridors, and new corridors may be established. Any new pipeline corridors will avoid areas of hardbottom. There may be potential need for relocation trawling to remove ESA listed sea turtles from N-3 and S-1 immediately prior to daily dredge operations. Trawling could be utilized if needed and would be coordinated through the South Atlantic Regional Biological Opinion for Dredging and Material Placement Activities in the Southeast United States, as amended, (SARBO) process with U.S. Army Corps of Engineers South Atlantic Division (SAD) and NMFS.

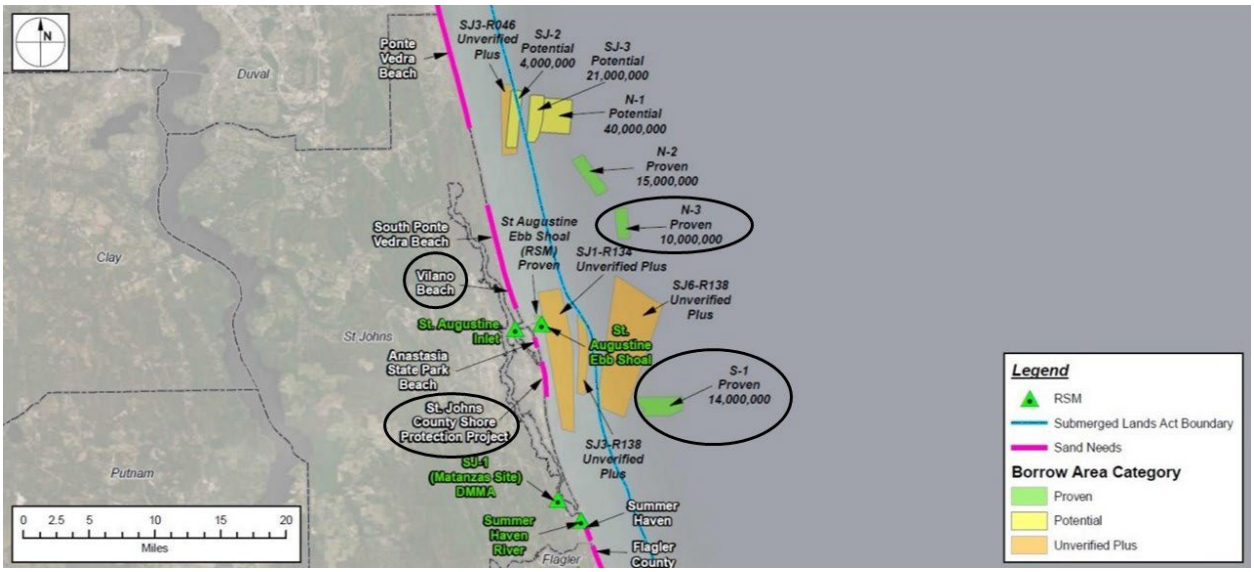

Figure 2. Key Project Reference Points and Sand Borrow Areas. Note: Sand volumes stated below borrow areas may be different than what is stated in this EA.

2.2.3 ALTERNATIVE 3: UNPROVEN OFFSHORE BORROW AREAS

The use of unproven and undeveloped sand borrow areas requires completion of surveys and studies and ability to meet suitability requirements to address engineering, geotechnical, economic, cultural, and environmental obligations. There are several areas offshore of the SJC shoreline that have the potential to provide beach compatible

sand to the authorized projects (see the unverified and potential sites identified in Figure 2). However, these sites have not been sufficiently studied to “prove” the quantity and compatibility of that sand. The closest potential source to the SJC SPP and SJC CSRM projects is labeled SJ1-R134 in Figure 2. This alternative would use the same methodologies described in Section 2.3. Undeveloped borrow areas require significant bathymetric, geotechnical, and cultural investigations. New borrow area development would not align with the timeline of this study and may ultimately prove unfruitful. N-3 and S-1, having already been investigated, are the closest proven and developed offshore borrow areas for the SJC CSRM and SJC SPP sites containing sand of compatible quality and sufficient quantity.

2.2.4 ALTERNATIVE 4: UPLAND SAND SOURCES

Truck haul from an upland sand mine in a common method obtaining material for beach nourishment in Florida. This Alternative was considered but eliminated from further analysis. Given the size of nourishments expected for each project, truck haul is expected to be cost prohibitive. Upland sand sources, such as mines and dredge material management areas (DMMA) are potential sources of sand for beach nourishment projects. DMMA SJ-1 is located approximately 18 miles from the SJC SPP and 21 miles from the SJC CSRM projects (see Figure 2). This is the closest potential upland sand source but has not been studied to “prove” the quantity and compatibility of the sand with the needs of the placement area. Upland sand sources are brought to the project area by dump trucks into a staging area and sand is spread throughout the project template using heavy machinery. The 2017 EA also determined that there are no viable upland mines in north Florida with sufficient volumes of beach compatible sand (Corps 2017). Additional NEPA analysis would need to be completed for upland mines.

2.3 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER EVALUATION

Alternatives 3 and 4 were considered but were eliminated from further evaluation. Alternative 3 (unproven offshore borrow areas) was not carried forward because the closest site (SJ1-R134) is undeveloped and would require significant bathymetric, geotechnical, and cultural investigations that would not align with the timeline of this study and may ultimately prove unfruitful.

Alternative 4 (upland sand sources) was not carried forward due to the lack of known available sources and availability of access points. Only one site may be available, DMMA SJ-1, and additional investigations to determine the capacity and compatibility of the site need to be conducted. Additional investigations at this time would not align with the timeline of this study and may ultimately prove unfruitful. Also, the 2020 EA determined that the South Ponte Vedra beach access points were insufficient to accommodate reasonable use of efficient truck haul placement and the beach itself is too narrow (SJC 2020). Lastly, given the size of nourishments expected for each project, truck haul from currently known, available sites are expected to be cost prohibitive due

to the distance from the sources to the project area, volume of beach quality sand needed, and timing to study/prove a sand source for the projects.

2.4 PREFERRED ALTERNATIVE

The Preferred Alternative is to use the currently proven borrow areas S-1 (SJC SPP) and N-3 (SJC CSRM) to obtain beach compatible fill material for the renourishment of the St. Augustine Beach and Vilano authorized projects shorelines, respectively. N-3 and S-1, having already been investigated, are the closest proven and developed offshore borrow areas for the SJC SPP and SJC CSRM projects site containing sand of compatible quality and sufficient quantity. Although there are additional potential viable offshore sources, these sites may be investigated in the future but will require bathymetric, geotechnical, cultural, and environmental investigations that would not align with the timeline of this study and may ultimately prove unfruitful.

Figure 3. Hopper dredge with shore-connected offloading pipeline during the 2011 renourishment north in Duval County will be a similar sand delivery method for S-1 and N-3. (Source: Corps 2015)

2.5 COMPARISON OF ALTERNATIVES: ISSUES AND BASIS FOR CHOICE

Table 4 lists the alternatives carried forward for analysis (Alternative 1: No Action and Alternative 2: New Borrow Areas S-1 and N-3) and summarizes the major features and consequences of the alternatives for comparison purposes. See Section 4.0 Environmental Effects for a more detailed discussion of impacts of alternatives.

The No Action Alternative (Alternative 1) is carried forward as a basis of comparison to the Preferred Alternative for NEPA purposes. It is noted however, the No Action Alternative would not allow the Corps to continue to meet the mission for either the SJC SPP or SJC CSRM.

Alternative 2 (Beach compatible fill would be dredged from the ocean bottom from S-1 and N-3 and placed along the SJC SPP and SJC CSRM shorelines) is carried forward as the Preferred Alternative as this best meets the objectives for both the SJC SPP and SJC CSRM. The Preferred Alternative is the least cost, environmentally acceptable alternative. The Corps has determined this proposed plan is not contrary to public interest and is carried forward as the Preferred Alternative as documented in the Environmental Effects discussion in Section 4.

Table 4.Summary of direct and indirect impacts compared between the project alternatives.

ENVIRONMENTAL FACTOR	ALTERNATIVE 1: NO ACTION	ALTERNATIVE 2: NEW BORROW AREAS S-1 AND N-3 (PREFERRED ALTERNATIVE)
GEOLOGY	**Limited sand would be available from the inlet complex for beach placement at the SJC SPP and SJC CSRM projects. These areas would continue to erode, and the beach and dune system would decrease in size. There would be no effect to geology from this alternative in the offshore borrow areas because dredging would not occur.**	**The amount of bottom sediment at N-3 and S-1 will be affected by removal and become a thinner layer. Dredge cuts are not anticipated to cause adverse impacts to the existing SJC shoreline, because the dredging will occur several miles offshore. At the proposed depths, the dredge cuts are not expected to backfill at an observable rate over the project's life span.**
SEA TURTLES	**Potential effects of dredging the inlet and sand placement would still occur; however, there would be no effect at the offshore borrow areas. Due to limited availability of sand in the St. Augustine Inlet Complex, shoreline erosion will continue to occur resulting in reduced available habitat for nesting sea turtles.**	**All applicable SPBO T&Cs and SARBO PDCs will be implemented on the project to minimize potential impacts. Hopper dredging may affect, likely to adversely affect sea turtles. Risk of entrainment during hopper dredging operations is possible; however, these potential impacts are minimized through implementation of SARBO PDCs. Hopper dredge pump-out and offloading pipeline sites occur within designated loggerhead nearshore reproductive critical habitat (LOGG-N-14) but is not likely to adversely modify Designated Critical Habitat (DCH).**
WHALES	**Potential effects of dredging the inlet would still occur. There would be no effect at the offshore borrow areas.**	**May affect, but not likely to adversely affect with implementation of SARBO PDCs. Dredging the borrow sites will not likely adversely modify on North Atlantic right whale DCH.**
WEST INIDIAN MANATEE	**Potential effects of dredging the inlet and sand placement would still occur. There would be no effect at the offshore borrow areas.**	**May affect, but not likely to adversely affect with implementation of USFWS standard protection measures.**
ATLANTIC STURGEON	**Potential effects of dredging the inlet and sand placement would still occur. There would be no effect at the offshore borrow areas**	**May affect, but not likely to adversely affect due to anticipated rare occurrence. (May affect, likely to adversely affect if relocation trawling is implemented due to potential entrainment.)**

ENVIRONMENTAL FACTOR	ALTERNATIVE 1: NO ACTION	ALTERNATIVE 2: NEW BORROW AREAS S-1 AND N-3 (PREFERRED ALTERNATIVE)
GIANT MANTA RAY	Potential effects of dredging the inlet and sand placement would still occur. There would be no effect at the offshore borrow areas	May affect, but not likely to adversely affect due to anticipated rare occurrence. (May affect if relocation trawling is implemented due to potential entrainment.)
OCEANIC WHITETIP SHARK	Potential effects of dredging the inlet and sand placement would still occur. There would be no effect at the offshore borrow areas	May affect, but not likely to adversely affect due to anticipated rare occurrence.
SCALLOPED HAMMERHEAD SHARK	Potential effects of dredging the inlet and sand placement would still occur. There would be no effect at the offshore borrow areas	May affect, but not likely to adversely affect due to anticipated rare occurrence.
SMALLTOOTH SAWFISH	Potential effects of dredging the inlet and sand placement would still occur. There would be no effect at the offshore borrow areas	May affect, but not likely to adversely affect due to anticipated rare occurrence.
ESSENTIAL FISH HABITAT	Potential effects of dredging the inlet and sand placement on EFH would still occur. There would be no effect at the offshore borrow areas.	Marine water column and unconsolidated substrate habitat would be temporarily impacted during dredging. Long term infaunal community impacts not expected due to anticipated dredging intervals (see section 2.3 of this EA).
BENTHIC RESOURCES	Potential effects to the benthos during dredging the inlet and sand placement would still occur. There would be no effect at the offshore borrow areas.	Benthos would be temporarily impacted during dredging. Long term suppression not expected due to dredging intervals (see section 2.3 of this EA).
WATER QUALITY	Proposed borrow sites S-1 and N-3 would not be used in upcoming renourishment events, so there would be no effect to water quality at these offshore locations. The existing authorized sand borrow area, St. Augustine Inlet Complex, would continue to be used as the site recharges. Impacts to water quality would continue to occur as described in previously authorized studies.	Temporary impacts to the water column during dredging. Monitoring will be implemented to ensure compliance with certified limits. Suspension of operations would occur should 29 Nephelometric Turbidity Unit (NTU) Surface Water Standard be exceeded.

ENVIRONMENTAL FACTOR	ALTERNATIVE 1: NO ACTION	ALTERNATIVE 2: NEW BORROW AREAS S-1 AND N-3 (PREFERRED ALTERNATIVE)
COASTAL BARRIER RESOURCES SYSTEMS (CBRS)	**Without additional sand borrow areas, limited sand would be available from the inlet complex for beach placement to the existing CBRS along SJC SPP and SJC CSRM projects. The shoreline would continue to erode, and the beach and dune system would decrease in size.**	**Dredging of N-3 and S-1 sand borrow sites do not occur in designated CBRS units; however, placement will restore and stabilize the beaches in the designated CBRS units.**
FISH AND WILDLIFE RESOURCES	**Potential effects to fish and other wildlife resources from dredging the St. Augustine Inlet Complex would occur as described in previously authorized. Beach nourishment would be limited to the availability of sand. Shoreline erosion will continue to occur which may reduce available nesting and foraging habitat for wildlife (e.g., shorebirds, etc.) using this area. There would be no effect to the offshore sand borrow sites.**	**Fish and wildlife would be temporarily displaced during dredging and placement activities. Loss of prey species is anticipated to recover in approximately 1-3 years post-dredging.**

ENVIRONMENTAL FACTOR	ALTERNATIVE 1: NO ACTION	ALTERNATIVE 2: NEW BORROW AREAS S-1 AND N-3 (PREFERRED ALTERNATIVE)
CULTURAL RESOURCES HISTORIC, AND ARCHAEOLOGICAL RESOURCES	**Undetermined effects.**	**The Corps has received concurrence on a determination of no effect to historic properties from the Florida State Historic Preservation Officer (SHPO) for the new sand borrow areas; however, the Corps has also determined that additional cultural resource investigations are needed to meet the design specification of for the new sand placement pipeline corridors. Effects to cultural, historic, and archaeological resources for the beach placement pipeline corridors are undetermined at this time; therefore, the Corps will employ Stipulation V of its 2021 *Programmatic Agreement among the United States Army Corps of Engineers, the Florida State Historic Preservation Officer, the Bureau of Ocean Energy Management, and the Advisory Council on Historic Preservation Regarding Compliance with Section 106 of the National Historic Preservation Act during Implementation of the United States Army Corps of Engineers, Jacksonville District Operation, Navigation, and Shore Protection Programs,* which allows for the NEPA process to continue if the Corps is unable to make a determination of effects to historic properties prior to completion of the appropriate NEPA documentation, in order to meet its Section 106 compliance requirements.**
NATIVE AMERICANS	**No effect.**	**Consultation occurred between the Corps and Native American tribes having ancestral ties to this region, including the Seminole Tribe of Florida, the Seminole Nation of Oklahoma, the Thlopthlocco Tribal Town, and the Miccosukee Tribe of Indians of Florida and Muscogee (Creek) Nation. The Seminole Tribe of Florida has provided a statement of no objections, while the other listed tribes have not responded within 30 days, thus implying concurrence.**
AIR QUALITY	**Potential effects of dredging the inlet and sand placement would still occur. There would be no effect at the offshore borrow areas**	**Minor, temporary degradation of air quality due to emissions from dredging and placement operations and associated heavy equipment and machinery.**

ENVIRONMENTAL FACTOR	ALTERNATIVE 1: NO ACTION	ALTERNATIVE 2: NEW BORROW AREAS S-1 AND N-3 (PREFERRED ALTERNATIVE)
NOISE	**Potential effects of dredging the inlet and sand placement would still occur. There would be no effect at the offshore borrow areas**	**Noise during construction activities will likely be minor and short term with minimal impacts to fish and wildlife that use the project area.**
AESTHETIC RESOURCES	**Potential effects of dredging the inlet and sand placement would still occur. There would be no effect at the offshore borrow areas. The shoreline would continue to erode, and the beach and dune system would decrease in size due to limited Inlet sand. Shoreline erosion will continue to occur which would negatively affect aesthetic resources of the beach area due to increased erosion and the continued narrowing of the beach**	**Short term adverse aesthetic impacts would occur during construction due to the presence of construction equipment (hopper dredge, support boats, and offloading pipelines) and the impacts to the staging area.**
RECREATIONAL RESOURCES	**Sand borrow areas N-3 and S-1 and pipeline corridors are not likely to change from existing conditions. Beach nourishment would be limited to the availability of sand in the inlet complex, shoreline erosion will continue to occur resulting in the continued narrowing of the beach, which will make it less suitable for recreating due to a reduction in the area available to engage in recreational activities.**	**Construction equipment (hopper dredge, support boats, and offloading pipe) would temporarily impact recreation during sand mining and offloading operations due to the equipment located near the beach.**
NAVIGATION & SAFETY	**The shoreline would continue to erode, and the beach and dune system would decrease in size, negatively affecting safety of the beach area by exposing more hard structures through erosion, which might make swimmers and shallow water waders more exposed to harm. With continued erosion, low lying dwellings and roads would be more susceptible to over wash and flooding from storm events and sea level rise causing safety concerns.**	**Nearshore and offshore navigation of small vessels such as kayaks and jet skis may be temporarily impacted during hopper dredging and offloading from pipeline corridors.**

ENVIRONMENTAL FACTOR	ALTERNATIVE 1: NO ACTION	ALTERNATIVE 2: NEW BORROW AREAS S-1 AND N-3 (PREFERRED ALTERNATIVE)
SOCIOECONOMICS	**Without additional sand borrow areas, limited sand would be available from the inlet complex for beach placement to the existing SJC SPP and SJC CSRM projects. The shoreline would continue to erode, and the beach and dune system would decrease in size. The narrowing of the beach would occur, which will make it less suitable for recreating. Reduced recreation and tourism and would negatively affect socioeconomics for the area.**	**Continued beach nourishment reduces damages to the area's infrastructure caused by erosion and coastal storm damages. From the perspective of regional economic development (RED) and other social effects (OSE), minor disruptions to local businesses could occur as a result of construction activities. However, throughout the life of the Federal project a reduction in damages could produce RED and OSE benefits. Also, revenue and jobs generated by a project would have positive RED impacts.**
ENVIRONMENTAL JUSTICE (EJ)	**No Effect.**	**The study area which comprises the project does not constitute an EJ community because the study area does not contain a high concentration of people of color or low-income populations.**

3.0 AFFECTED ENVIRONMENT

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

The effects of sand placement on SJC SPP and SJC CSRM projects have been evaluated in previous NEPA documents (see Section 1.4). The effects of nourishing and sand placement at the portion of the project above mean high water (MHW) are similar in nature to the effects of other portions of the project previously evaluated by these previously authorized project's recent NEPA (see Section 1.4) and are hereby incorporated by reference. The effects analyses presented here on the dredging, transporting, offloading pump-out, and pipeline corridors of beach quality sand from the newly proposed borrow areas (the Preferred Alternative) address potential impacts to environmental and cultural resources which were not previously evaluated.

3.1 GENERAL ENVIRONMENTAL SETTING

The 2017 EA describes the SJC coastline as follows:

> "*The St. Johns County coastline totals 42 miles, spanning three island segments that vary in width from 750 feet to three miles. The islands are separated from the mainland by the Matanzas River, Guana River, Salt Run, and the Tolomato River. The Intracoastal Waterway (IWW) follows the Matanzas and Tolomato Rivers. A dune system backs much of the shoreline, varying in height from 10 to 21 feet, relative to the North American Vertical Datum of 1988 (NAVD88). This is approximately equal to 10.5 to 21.5 feet above Mean Sea Level (MSL).*
>
> *The study area consists of an open sandy coast subject to frequent storm events. Properties adjacent to the shoreline can be categorized as urban, and include residential, commercial, and recreational properties. Many factors influence the coastal processes characteristic to the St. Johns County, Florida shoreline. Natural factors include winds, tides, currents, waves, storm effects, and sea level rise. Human-related (anthropogenic) factors include other shore protection projects, navigation projects, and development. The role of each of these factors, and their contribution to beach erosion in St. Johns County, are briefly described in the following paragraphs. The county's population is approximately 220,000 and increases seasonally with tourist visits. An estimated 6.5 million tourists visit the county annually (sponsor-provided information) of which a large percentage visit the barrier islands and coastline.*
>
> *The St. Johns County barrier islands have inlets at St. Augustine and at Fort Matanzas. There are low tidal marshes and lagoons between the barrier islands and the mainland. The barrier islands are composed principally of quartz and carbonate sand, and are underlain by silty, clayey marsh deposits that formed at lower sea level stages. The sands are principally fine to medium-grained sand-sized quartz with variable amounts of shell and shell fragments.*
>
> *Offshore of the beaches and modern barrier islands is the continental shelf. The continental shelf has a broad, shallow, low relief and extends approximately 80 miles offshore near St. Johns County. The shelf contains relic Pleistocene and Holocene terraces and submerged beach sand ridges. The wave climate and sediment transportation system creates a linear sandy coastline."*

Existing sand sources for the Federally authorized project include the St. Augustine Inlet Complex. In conjunction with this investigation, a Regional Sediment Management (RSM) analysis incorporating navigation projects near the study area (Intracoastal Waterway and St. Augustine Inlet) and the constructed Federal shore protection project at St. Augustine Beach has sought to integrate current and future project sand needs

around the inlet vicinity. This work is published in the Engineer Research and Development Center (ERDC), Coastal Hydraulics Laboratory (CHL), 2016 technical report, Regional Sediment Management Strategies for the Vicinity of St. Augustine Inlet, St. Johns County, Florida, ERDC/CHL TR-16-12. The technical report is based, in part, on investigations and modeling completed between 2010 and 2012 cited in the state's IMP for St. Augustine Inlet.

The St. Augustine Inlet system has approximately 6.5 mcy of beach quality sand per FDEP water quality certification standards. FDEP certifies any dredging that would be necessary to access this source. The FDEP St. Augustine IMP states 278,000 cy of sand can be dredged from the inlet system per year. The material obtained from the inlet system shall be distributed to the adjacent Atlantic Ocean fronting beaches with a placement ratio of approximately one third of material placement to the north and two thirds of material placement to the south (Corps 2017).

The proposed new borrow area for SJC CSRM (which includes South Ponte Vedra and Vilano Beach) and SJC SPP (which includes St. Augustine Beach) are located on the OCS in the Atlantic Ocean. Site S-1 lies east of the St. Augustine Beach within federal waters approximately 6 miles offshore and 9 miles southeast of St. Augustine Inlet and is estimated to contain 15 mcy of beach compatible sand which has been identified and developed. Approximately 10 mcy of beach compatible sand has been identified, developed, and permitted in N-3. N-3 is positioned east of the Vilano project within federal waters, approximately 8 miles offshore and 9 miles northeast of St. Augustine Inlet, sand borrow source. BOEM executed a lease with SJC in April 2021 for use of up to 1.1 mcy from N-3 to facilitate the construction of a non-federal beach nourishment project along the South Ponte Vedra Beach segment of the SJC shoreline immediately adjacent to the federal SJC CSRM project. The S-1 is approximately 2,700-acres in size in water depths between 50-60 feet NAVD88. N-3 is approximately 1,200-acres in size in water depths between 40-60 feet NAVD88. Potential sand resources in shoals and banks of St. Johns County are estimated to range on the order of 100 mcy of sand (ICONS Study) (Meisburger et. al. 1975).

3.2 GEOLOGY

NEW BORROW AREA S-1.

Sediment samples of the bottom substrate in the new borrow area from 2006, 2009, and 2012 indicate the presence of poorly-graded, fine-grained sand sized quartz with few to some medium sand-sized shell and trace silt. The average visual shell content is 13.1 percent. The mean sediment grain size is 0.25 mm with a standard deviation of 0.84 phi. All samples within the area contain less than 5 percent silt with an average silt content of 1.85 percent. Based on the above analysis, the borrow area material is suitable for beach placement based on the Florida "Sand Rule" (F.A.C. 62B-41.007(2)(j)). In 2010 and 2014, side-scan sonar surveys including the identification and delineation of bottom habitat(s) and substrate types within the new borrow area

were conducted. The new borrow area substrates were confirmed to be unconsolidated (sand) sediments with no features such as hardbottoms or rock outcrops (SJC 2020).

NEW BORROW AREA N-3
Sediment samples of the bottom substrate in the new borrow area from 1996, 2006, 2009 and 2015 indicate the presence of poorly-graded, fine-grained sand sized quartz with few to some medium sand-sized shell and trace silt with an average visual shell content of 14.1 percent. The mean sediment grain size is 0.29 mm with a standard deviation of 0.93 phi. All samples within the area contain less than 5 percent silt with an average silt content of 0.96 percent. Based on the above analysis, the borrow area material is suitable for beach placement based on the Florida "Sand Rule" (F.A.C. 62B-41.007(2)(j)). In 2019, side-scan sonar surveys including the identification and delineation of bottom habitat(s) and substrate types within the new borrow area were conducted. The new borrow area substrates were confirmed to be unconsolidated (sand) sediments with no features such as hardbottoms or rock outcrops (SJC 2020). Please see Section 3.3 of the 2020 "Use of Outer Continental Shelf Sand from Borrow Area N-3 for the South Ponte Vedra Beach Restoration Project" EA for additional information regarding borrow area conservation that is incorporated by reference here.

3.3 THREATENED AND ENDANGERED SPECIES

The list of T&E species developed for this EA were compiled from the *National Marine Fisheries Service (NMFS) 2020 South Atlantic Regional Biological Opinion for Dredging and Material Placement Activities in the Southeast United States, as amended (SARBO),* the *2015 Statewide Programmatic Biological Opinion for Shore Protection Activities along the Coast of Florida (SPBO),* the *2013 Programmatic Piping Plover Biological Opinion for Shore Protection Activities in the Geographical Region of the North and South Florida Ecological Services Field Offices (P3BO)*, as well as project specific biological assessments and biological opinions prepared for previous projects which have taken place in the vicinity of the proposed project.

T&E species protected under the ESA that may occur in the focused project area and potentially be affected by the proposed work are found in Table 5.

Table 5. Status of Federally Listed Species that May Occur Within the Project Area

Scientific Name	Common Name	Federal Status/Coordinating Agency	Biological Opinion
Reptiles			
Chelonia mydas[1]	Green Sea Turtle	Threatened - NMFS	SARBO 2020
Caretta caretta[2]	Loggerhead Sea Turtle	Threatened - NMFS	SARBO 2020
Lepidochelys kempii	Kemp's Ridley Sea Turtle	Endangered - NMFS	SARBO 2020
Eretmochelys imbricata	Hawksbill Sea Turtle	Endangered - NMFS	SARBO 2020
Dermochelys coriacea	Leatherback Sea Turtle	Endangered - NMFS	SARBO 2020
Fish			
Acipenser oxyrinchus	Atlantic Sturgeon	Endangered - NMFS	SARBO 2020
Manta birostris	Giant Manta Ray	Threatened - NMFS	SARBO 2020
Carcharhinus longimanus	Oceanic Whitetip Shark	Threatened - NMFS	SARBO 2020
Sphyrna lewini	Scalloped Hammerhead Shark	Endangered - NMFS	SARBO 2020
Pristis pectinata	Smalltooth Sawfish	Endangered - NMFS	SARBO 2020
Mammals			
Trichechus manatus latirostris	West Indian (Florida) Manatee	Threatened - USFWS	SPBO 2015
Eubalaena glacialis	North Atlantic Right Whale	Endangered - NMFS	SARBO 2020
Balaenoptera musculus	Blue Whale	Endangered - NMFS	SARBO 2020
Balaenoptera physalus	Fin Whale	Endangered - NMFS	SARBO 2020
Balaenoptera borealis	Sei Whale	Endangered - NMFS	SARBO 2020
Physeter macrocephalus	Sperm Whale	Endangered - NMFS	SARBO 2020
Critical Habitats			
Caretta caretta	Loggerhead Sea Turtle	LOGG-N-14 - NMFS	SARBO 2020
Eubalaena glacialis	North Atlantic Right Whale	Southeastern U.S. Calving Area Unit 2 - NMFS	SARBO 2020

[1] North Atlantic distinct population segment (DPS). [2]Northwest Atlantic DPS.

SEA TURTLES

The sea turtle species potentially occurring within the vicinity of the new borrow area include loggerhead (*Caretta caretta*), leatherback (*Dermochelys coriacea*), green (*Chelonia mydas*), Hawksbill (*Eretmochelys imbricata*) and Kemp's ridley (*Lepidochelys kempii*) sea turtles. All of these species are federally endangered except the loggerhead, which is designated as threatened. Loggerheads, greens, and leatherbacks regularly nest within the shorelines of SJC is between April and October. Adult loggerhead females inhabit nearshore waters during the summer months between nesting attempts, typically laying three to six clutches in two-week intervals. Sub-adults may use nearshore waters year-round for foraging. The coastal waters of SJC primarily provide migratory and reproductive habitat for these species. Mating generally takes place in offshore waters near the nesting beach, and males rarely come ashore (Fuller 1978). Migrating nesting females and hatchlings may traverse through the borrow area.

The only sea turtle species for which NMFS has designated critical habitat is the loggerhead. The project is located in designated loggerhead nearshore reproductive

critical habitat unit LOGG-N-14 (from the MHW line seaward 1.6 km) from the southern boundary of Kathryn Abbey Hanna Park to Matanzas Inlet (see Figure 4). Nearshore reproductive habitat is a portion of the nearshore waters adjacent to the nesting beach that is used by hatchlings to egress to the open-water environment as well as by nesting females to transit between the beach and open water during the nesting season. There are currently not any units designated by the USFWS as terrestrial nesting beach (the extra-tidal or dry sandy beach from the MHW line shoreward to the toe of the secondary dune) in SJC SPP and SJC CSRM projects.

The primary Federal action evaluated in this EA is the dredging of beach compatible sediment from offshore borrow sources and transport to the placement location. Previous documents discussing beach nesting can be found in previous NEPA documents discussed in section 1.4 and are incorporated herein by reference.

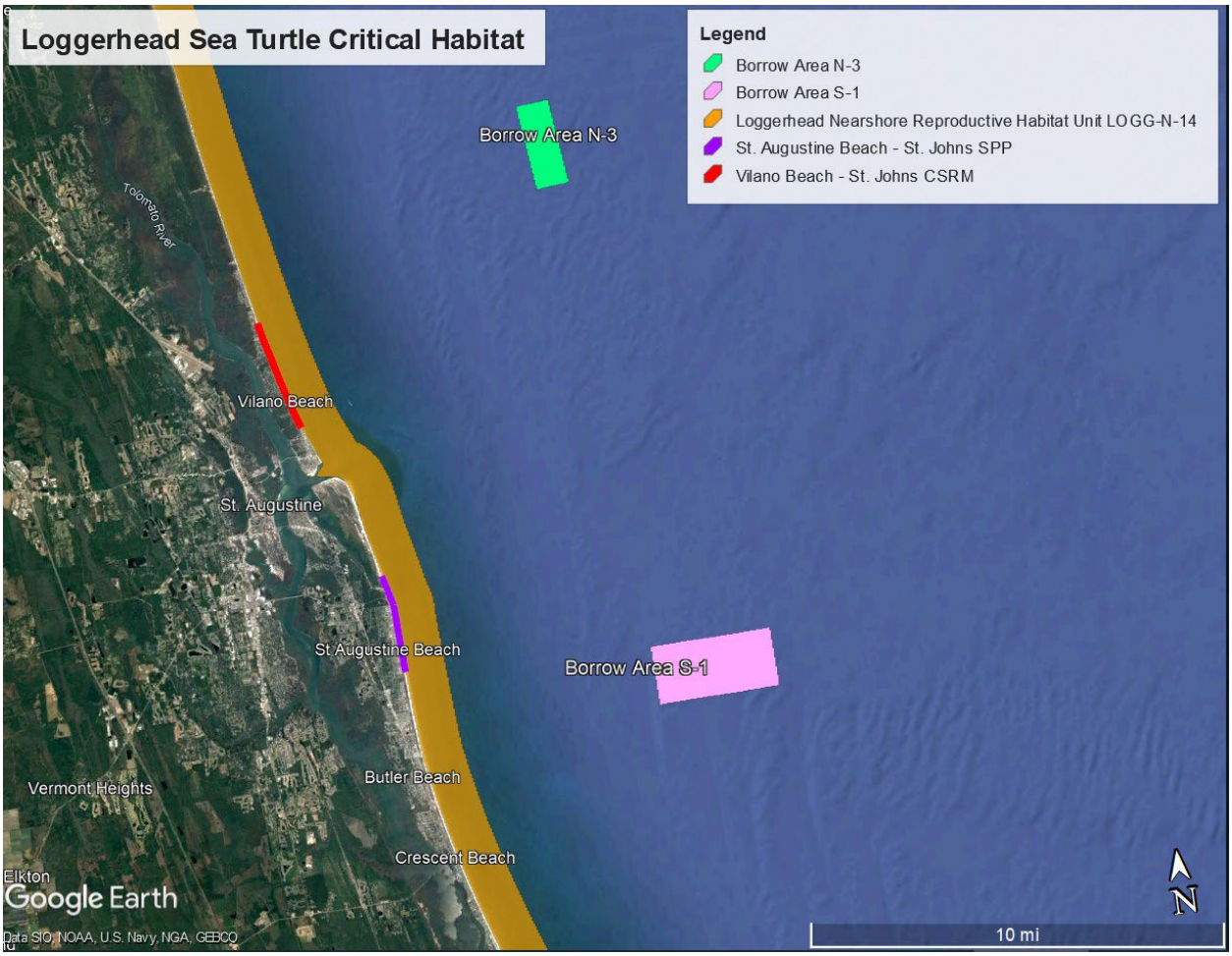

Figure 4. Loggerhead Critical Habitat

WHALES

Five whale species listed as federally endangered occur in the Atlantic Ocean along the county's coastline during certain times of the year. These species include the 1) North Atlantic right whale (*Eubalaena glacialis*), 2) Sei Whale (*Balaenoptera borealis*), 3) Fin Whale (*Balaenoptera physalus*), 4) Blue Whale (*Balaenoptera musculus*), and 5) Sperm Whale (*Physeter catadon macrocephalus*). Portions of the offshore sand-source boundaries are located in North Atlantic right whale designated critical habitat. The borrow area boundaries and the transit corridors are located within the designated critical habitat. Though dredging and transiting will occur in the critical habitat area, these activities will not impact the Physical and Biological Features (PBF) used to define the critical habitat. Right whales are known to concentrate off the northeast coast of Florida during November through April. NMFS has established the Southeast Seasonal Management Area between November 15 to April 15 since the southeast Atlantic Coast serves as calving and nursery grounds for this endangered species (Figure 5).

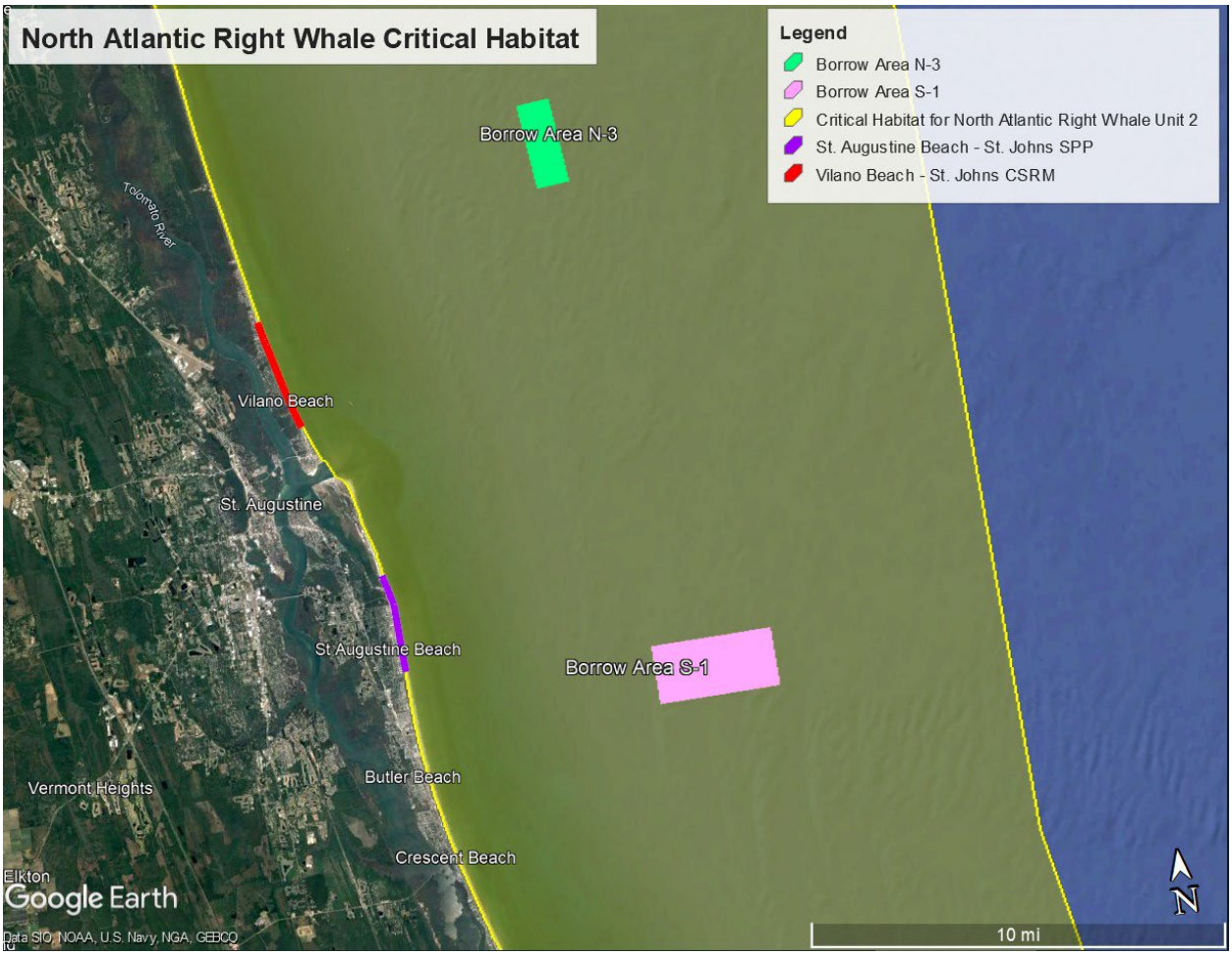

Figure 5. North Atlantic Right Whale Critical Habitat

WEST INDIAN MANATEE

Manatees (*Trichechus manatus*) can be found in the inshore waters of the project vicinity and in the coastal waters of the Atlantic Ocean primarily during migration. Manatees are found throughout SJC, including the study area. They primarily use the IWW and the estuary to migrate and forage for food. The lack of submerged vegetation indicates the project area is not suitable foraging habitat for manatees. Preferred habitats include areas near the shore featuring underwater vegetation like seagrass and eelgrass. They feed along seagrass bed margins with access to deep water channels. Critical habitat does not occur in the offshore waters of SJC and therefore the proposed work does not overlap with any designated critical habitat for this species.

ATLANTIC STURGEON

Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) are currently listed as endangered by NMFS and may occur within the project area; however, it has not been encountered during previous dredging events adjacent to the proposed new borrow area. The historic range of the Atlantic sturgeon was from St. Croix, Maine, to the St. Johns River,

Florida. They spend most of their lives in marine waters and migrate up rivers from February through March to spawn. Therefore, because the Atlantic sturgeon spends most of its life in marine waters, this species may be present in the offshore area in the vicinity of the proposed new borrow area as it is just 30 miles south of the St. Johns river.

GIANT MANTA RAY

Listed as threatened by NMFS in 2018 (83 FR 2916), the giant manta ray is the world's largest ray with a 29-foot wingspan. Easily recognizable by their large body and elongated wing-like pectoral fins, this species is a filter feeder and eats large amounts of zooplankton. Although migratory, this species has small, fragmented populations that are distributed sparely across the world and can be found in tropical, subtropical, and temperate waters, commonly offshore in oceanic waters or near productive coastlines.

This species uses a wide range of depths for feeding (10 meters to over 1,000 meters deep). Generally solitary, giant manta rays will aggregate to feed and mate. Although these rays have been reported to live at least 40 years, this species has one of the lowest reproductive rates at 1 pup every two to three years.

OCEANIC WHITETIP SHARK

The oceanic whitetip shark, named for its distinctive pattern of mottled white markings on the tips of the dorsal, pectoral, and tail fins, was listed as threatened by NMFS in 2018 (81 FR 4153). DCH has not been designated for this species. A highly migratory species, the oceanic whitetip shark has a worldwide distribution and can be found in tropical and subtropical waters. Generally remaining offshore, oceanic whitetip sharks are considered surface-dwelling, preferring the surface mixed layer of warm waters, but can also be found offshore in the open ocean on the outer continental shelf or around oceanic islands in deep water.

Considered a top predator, their diet is opportunistic and generally consists of cephalopods and ray-finned fish as well as sea birds, marine mammals, other sharks and rays, and crustaceans. The reproductive cycle is thought to be biennial, and females may give birth to litters ranging from 1-14 pups, depending on the female's size. Lifespan is thought to average approximately 19 years, but some individuals may live over 30 years.

SCALLOPED HAMMERHEAD SHARK

Four distinct population segments (DPS) of the scalloped hammerhead shark were listed in July 2014. The Eastern Atlantic DPS and Eastern Pacific DPS were listed as endangered. The Central and Southwest Atlantic DPS and Indo-West Pacific DPS were listed as threatened. The scalloped hammerhead shark is a coastal pelagic species that typically resides in coastal warm temperate and tropical seas and feeds on crustaceans, cephalopods, and rays. Adult aggregations are common at seamounts, but otherwise adults are generally found alone or in pairs.

SMALLTOOTH SAWFISH

Smalltooth sawfish (*Pristis pectinata*) is currently listed as endangered by the NMFS and may rarely occur within the project area; however, 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, has documented three encounters in SJC. Most recently in 2018 a commercial shrimp trawler caught one off Ponte Vedra Beach, one was encountered on Crescent Beach just south of St. Augustine Beach in 2009, and one was caught off a St. Augustine intercoastal waterway fishing pier in 2000, however these occurrences are rare. Currently, the core of the smalltooth sawfish DPS 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 designated critical habitat for the sawfish in 2009, but the project area does not overlap any of these proposed locations.

3.4 WATER QUALITY

The waters offshore SJC within the vicinity of proposed new borrow area have been designated by the State of Florida as Class III - Recreation, Propagation, and Maintenance of a Healthy, Well-Balanced Population of Fish and Wildlife (popularly referred to as fishable/swimmable). These waters are suitable for recreation as well as propagation and maintenance of a healthy and well-balanced population of fish and wildlife. Commercial/recreational boating, recreational fishing, kayaking, and other recreational uses are common in this area. The Florida Current dominates circulation along the east Florida continental shelf and is the local manifestation of the Gulf Stream, the intense western boundary current of the North Atlantic that transports heat north from the equator (Hammer et al. 2005).

3.5 ESSENTIAL FISH HABITAT

This section describes the existing conditions for the study area's EFH, federally managed fisheries, and associated species such as major prey species, including affected life history stages. EFH is defined as those waters and substrate necessary for fish to spawn, breed, feed, or grow to maturity. The Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA; PL 94-265), as amended by the Sustainable Fisheries Act of 1996 (PL 104-297), requires Federal agencies to consult with NMFS for spawning, breeding, or growth to maturity.

The South Atlantic Fish Management Council (SAFMC 1998) designated seagrasses, corals, coral reefs, hardbottom, and unconsolidated sediments as EFH. Marine/offshore EFH within the boundaries of the proposed new borrow area consists of water column with an unconsolidated substrate. There is no hardbottom located within the vicinity of the proposed new borrow areas (N-3 and S-1). EFH within the nearshore area where the pipelines will be placed to move the sand from the hopper to the beach placement area and where decanted water from the placement activities will flow includes benthic

habitat (unconsolidated, unvegetated substrate), water column, and oceanic high-salinity surf zones. In addition, review of existing hardbottom data sources including the SAFMC and Florida Fish and Wildlife Conservation Commission (FWC) Fish and Wildlife Research Institute (FWRI) identified no hardbottom resources within the beach placement sites). A variety of managed fisheries EFH is found in Table 6. Pursuant to the MSFCMA, as amended, the Integrated Feasibility Report and Environmental Assessment is prepared consistent with the Finding between the Corps and NMFS Southeast Regional Office regarding the coordination of EFH consultation requirements with NEPA (NMFS 1999 (revised 2000)). The SJC SPP 1998 GRR EA and the SJC CSRM 2017 EA analyzed the effects of dredging and beach placement on EFH in the project area. That analysis is incorporated by reference.

Table 6 Sand Borrow Area S-1 and N-3 Project EFH Species/Management Units.

Species/Management Unit Life Stage(s)	Lifestage(s) Found at Locations
Penaeid Shrimp (Brown Shrimp, Pink Shrimp, White Shrimp)	ALL
Coastal Migratory Pelagics	ALL
Snapper-Grouper Complex	ALL
Spiny Lobster	ALL
Atlantic Sharpnose Shark	ALL
Basking Shark	ALL
Blacknose Shark	ALL
Blacktip Shark	ALL
Bluefish	ALL
Bonnethead Shark	ALL
Bull Shark	Juvenile/Adult
Finetooth Shark	ALL
Great Hammerhead Shark	ALL
Nurse Shark	Juvenile/Adult
Lemon Shark	ALL
Sailfish	Juvenile/Adult
Sand Tiger Shark	ALL
Sandbar Shark	Adult
Scalloped Hammerhead Shark	ALL
Spinner Shark	ALL
Summer Flounder	ALL
Tiger Shark	ALL
White Shark	Juvenile/Adult

Source: National Oceanic and Atmospheric Administration (NOAA) EFH Mapper tool (https://www.habitat.noaa.gov/apps/efhmapper/)

3.6 BENTHIC RESOURCES

Benthic organisms such as crustaceans, echinoderms, anthozoans, annelid worms, mollusks, and demersal fish play a major role in altering underlying benthic substrates and in breaking down organic material which provides sustenance for economically important species of pelagic fishes (Sumich 1988). These organisms are important marine ecological community members because they burrow within and oxygenate the sediments, may filter large volumes of water, contribute organic materials to the overall marine system, and serve as food for bottom-feeding fish and other invertebrates. The predominant infaunal invertebrates inhabiting the sand-bottom habitats of the nearshore east Florida shelf include polychaete worms, crustaceans, echinoderms, and mollusks (Zarillo et al. 2009). See section 5.2 of the 2020 EA (SJC 2020) for a detailed analysis of the benthic community within the proposed new borrow area N-3 which will be similar to the resources found in S-1. Section 3.8 describes the status of cultural resource surveys regarding pipeline corridors for hopper dredge pump-out and offloading, the placement of the pipeline corridors is currently being studied and the determination of locations is ongoing. Pipeline corridors will avoid hardbottom benthic habitat.

3.7 FISH AND WILDLIFE RESOURCES

Marine life common to northeast Florida can be found within the proposed new borrow area. Marine mammal species known to occur in the project area include bottlenose dolphin (*Tursiops truncatus*), Atlantic spotted dolphin (*Stenella frontalis*), and North Atlantic right whale (*Eubalaena glacialis*) (discussed separately in Section 3.3). Avian species most likely to occur in the study area offshore are pelagic birds, pelicans, gulls, and terns. A wide variety of fin fish and shellfish species that dwell in softbottom and coastal pelagic (i.e., at or near the sea surface in the water column) habitats are caught and landed off the coast of northeast Florida. Important commercial fisheries species from these groups include northern brown shrimp, northern white shrimp (softbottom), snappers, and king mackerel (coastal pelagic). See section 5.3 of the 2020 EA (SJC 2020) for a further analysis of the fish and wildlife resources within the proposed new borrow area N-3 which will be similar to the resources found in S-1.

3.8 CULTURAL, HISTORIC, AND ARCHAEOLOGICAL RESOURCES

BORROW AREA N-3 CULTURAL, HISTORIC, AND ARCHAELOGICAL RESOURCES
Cultural resources have been described in prior documents for the N-3 borrow area. The Corps contracted Sonographics, Inc. (Sonographics) to complete a cultural resources remote sensing survey in July and August 2019 which consisted of magnetometer, sidescan sonar, and subottom profiler investigations of the N-3 borrow area. Analysis of the survey data was conducted by Panamerican Consultants, Inc. (Panamerican) in order to locate potentially significant cultural resource targets within the N-3 borrow area. This analysis was completed in September 2019. Both the survey methodology and analysis were conducted to appropriate State of Florida and BOEM guidelines for submerged cultural resources investigations and no potentially significant cultural resources were identified within the N-3 borrow area (Derlikowski, et al. 2019).

The Corps Regulatory Division provided a copy of Panamerican's Report of Findings to the Florida Division of Historical Resources (DHR) on August 24, 2020, and the DHR responded with a concurrence of no effect to historic properties on September 24, 2020 (DHR Project File No.: 2020-0690-B; Appendix A). The dimensions and location of the N-3 borrow area remain consistent with the area investigated in July 2019 and August 2019.

BORROW AREA S-1 CULTURAL, HISTORIC, AND ARCHAELOGICAL RESOURCES
The proposed new S-1 borrow area is located approximately 11 miles southeast of the St. Augustine inlet in 50-60 feet of water and measures roughly 2,500 acres. The western half of the S-1 borrow area (roughly 1,267 acres) was subject to submerged cultural resources investigations by Panamerican in 2016 (James, et al. 2017) under contract to the Corps. This survey identified one cluster of six potentially significant magnetic targets that warrant avoidance or further investigation. In a 2016 correspondence between the Corps and Florida DHR, the Corps proposed to employ a 300-foot avoidance buffer around the magnetic cluster, to which the Florida DHR agreed in a letter dated January 9, 2017 (DHR Project File No.: 2016-3127; Appendix A). In this same correspondence, Florida DHR provided concurrence on no adverse effect to historic properties contingent upon the maintenance of the aforementioned avoidance buffer.

The Corps contracted with SEARCH, Inc. (SEARCH) to conduct a comprehensive remote sensing survey of the eastern half of the S-1 borrow area (roughly 1,233 acres) in October 2021. This survey, the results of which are presented in the report titled *Submerged Cultural Resources Assessment Survey for the St. Johns County Sand Borrow Area Project, St. Johns County, Florida* (Lent, et al. 2022) did not identify potentially significant cultural, historic, or archaeological resources. Florida DHR provided concurrence on a determination of no effect to historic properties on February 15, 2022 (DHR Project File No.: 2022-0226).

BEACH PLACEMENT PIPELNE CORRIDORS CULTURAL, HISTORIC, AND ARCHAELOGICAL RESOURCES
The Corps has identified five pipeline corridors for potential beach placement that have previously been surveyed and cleared for cultural resources by Panamerican in 2020 (Derlikowski and James, 2020; DHR Project File No.: 2020-0690-B; Appendix A). The Corps anticipates the need to utilize eight additional beach placement pipeline corridors; however, the exact location of those corridors is at yet unknown. Surveys of the additional pipeline corridors will be completed, cleared for cultural resources, and coordinated with the Florida DHR and BOEM prior to use.

3.9 NATIVE AMERICANS

Native American resources have been described in prior NEPA documents for the project, which are incorporated herein by reference. No portion of the proposed action is located within or adjacent to known Native American-owned lands, reservation lands, or

Traditional Cultural Properties. However, Native American groups have lived throughout the region in the past and their descendants continue to live within the State of Florida and throughout the United States. Pursuant to Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108), obligations regarding the Corps' Trust Responsibilities to federally-recognized Native American Tribes, and in consideration of the Burial Resources Agreement between the Corps and the Seminole Tribe of Florida, consultation with Native American tribes having ancestral ties to this region, including the Seminole Tribe of Florida, the Seminole Nation of Oklahoma, the Thlopthlocco Tribal Town, and the Miccosukee Tribe of Indians of Florida and Muscogee (Creek) Nation has been initiated on July 29, 2021, and updated on December 22, 2021 to provide the results of the S-1 borrow area survey and address the addition of the beach placement pipeline corridors. None of the tribes identified resources, interests, or concerns within the study area following either consultation. Surveys of the additional pipeline corridors will be completed and coordinated with federally-recognized Native American Tribes prior to use.

3.10 AIR QUALITY

The Clean Air Act (CAA), as amended (42 U.S.C. 7401 et seq.), requires Federal actions to conform to an approved state implementation plan (SIP) designed to achieve or maintain an attainment designation for air pollutants as defined by the National Ambient Air Quality Standard (NAAQS). The NAAQS were designed to protect public health and welfare. The criteria pollutants include carbon monoxide (CO), ozone (O3), nitrogen dioxide (NO2), sulfur dioxide (SO2), particulate matter (PM2.5 and PM10), volatile organic compounds (VOC), and lead (Pb). The General Conformity Rule (40 CFR Parts 51 and 93) implements these requirements for actions occurring in air quality nonattainment areas.

The project area is in the Jacksonville (Florida)-Brunswick (Georgia) Interstate Air Quality Control Region, as established by 40 CFR § 81.91. U.S. Environmental Protection Agency (USEPA) (40 CFR § 81.310) designates air quality compliance on a county level. A review of USEPA data indicates that the project area (SJC) is in attainment status for all of the criteria pollutants. USEPA has not established air quality standards for Federal waters.

3.11 NOISE

Ambient noise levels in the project area are low to moderate. The major noise producing sources are breaking surf and adjacent residential and resort areas. Ambient sources of noise within the project area are recreational activities (boating and fishing), commercial vessels transiting up and down the coast, and natural sounds from the physical and biological environment.

3.12 AESTHETIC RESOURCES

The aesthetic, or visual, resources in the area are the open ocean, beaches, and marine life in the vicinity. The project area is developed along the majority of its length.

3.13 RECREATIONAL RESOURCES

Recreational uses of the project area include swimming, fishing, surfing, sun-bathing, scuba diving, and boating. These recreational uses are used year-round with an increase in tourism in the winter months. The project area has public access and receives heavy use by swimmers and sunbathers. The high diversity of fish species in this area supports sport and recreational fishing opportunities. Both offshore fishing and diving utilize the natural areas located within and adjacent to the project area.

There is no documentation to suggest that either borrow areas are utilized by recreational or commercial fishermen. However, a wide variety of finfish and shellfish species that dwell in softbottom and coastal pelagic (i.e., at or near the sea surface in the water column) species are caught and landed off the coast of northeast Florida. Important commercial fisheries species from these groups include northern brown shrimp, northern white shrimp (softbottom), snappers, and king mackerel (coastal pelagic) (Minerals Management Service 2004).

3.14 SAFTEY & NAVIGATION

Navigation in the project area is generally limited to watercraft used for commercial enterprises (e.g., fishing) and recreational activities (e.g., fishing, sailing, jet skiing, pleasure boating, etc.). Transit for recreation fishing and diving does occur in the project area.

3.15 SOCIOECONOMICS

Adjacent to these beaches are residential homes and many condominiums and hotels used by long-term and short-term visitors and residents of the area. Commercial enterprises along the beach rent beach chairs, cushions, umbrellas, and jet skis. Food vendors can also be found along the beach areas. The revenue generated by beachgoers supports a strong business district in the project vicinity. There is no evidence that commercial dive operations occur within either borrow area, especially considering the absence of hardbottom or reef structure.

4.0 ENVIRONMENTAL EFFECTS

This section is the scientific and analytic basis for the comparisons of the alternatives. See Table 3 in section 2.0 Alternatives, for summary of impacts. The following includes anticipated changes to the existing environment including direct, indirect, and cumulative effects.

This section discusses the potential effects to the affected environment described in Section 3. This section presents the effects analysis of the No Action Alternative and the Preferred Alternative as required by NEPA (40 CFR § 1502.16). This section is organized by resource topic as described in Section 3 with the potential effects of each alternative described within each resource section for the Preferred Alternative. The effects of dredging/mining sand from the existing sources and associated sand placement on SJC SPP and CSRM, have been discussed and disclosed in the referenced NEPA documents mentioned in this report's Section 1.1, 1.2 and 1.4 (specifically the Corps 1998, Corps 2017, SJC 2020, and associated FONSIs). The Preferred Alternative would have substantially similar effects to the dredging of the previously evaluated borrow areas (SJC 2020). Additionally, the beach quality sand material placement impacts from the newly proposed in-water borrow areas are similar in nature to effects from the other sources previously evaluated by the NEPA documents. Additionally, use of these sites would be conducted in compliance with the SARBO's applicable project design criteria (PDCs).

NEPA Implementing Regulations, 40 CFR § 1508.1(g), define effects or impacts as changes to the human environment from the Proposed Action or alternatives that are reasonably foreseeable and have a reasonably close causal relationship to the alternatives, including those effects that occur at the same time and place as the alternatives and may include effects that are later in time or farther removed in distance from the alternatives. The potential impacts of the alternatives are described in this EA using the following terms:

- **Beneficial**: A positive change in the condition or appearance of the resource or a change that moves the resource toward a desired condition.
- **Adverse**: A change that moves the resource away from a desired condition or detracts from its appearance or condition.
- **Short-term**: impacts generally occur during construction or for a limited time thereafter, generally less than two years, by the end of which the resources recover their pre-construction conditions.
- **Long-term**: impacts last beyond the construction period, and the resources may not regain their preconstruction conditions for a longer period.

Past, present, and reasonably foreseeable actions and plans include beach nourishment projects, maintenance dredging of navigation channels, and general urbanization. Section 1.4 of this EA contains more details on environmental reports

completed in/around the project's vicinity. In addition, it is expected that the public, State of Florida, and local governments could have permitted activities in or around the project area. Federal activities are evaluated under NEPA directly for each project. Other projects that take place in-water or would affect wetlands are evaluated under a permit issued by the Corps' Regulatory Division. Reasonably foreseeable future actions and plans could include continued use of N-3 and S-1 sand borrow sites for use at other federally authorized projects or planning efforts (i.e., St. Johns County, Florida Coastal Storm Risk Management Feasibility Study (Ponte Vedra Beach)), dune walk-overs/restoration, emergency beach renourishment, and Jacksonville Harbor port operations as well as dredging to maintain authorized depths. Additionally, BOEM executed a lease with SJC in April 2021 for near future use of up to 1.1 mcy from N-3 to facilitate the construction of a non-federal beach nourishment project along the South Ponte Vedra Beach segment of the SJC shoreline immediately adjacent to the federal SJC CSRM project. Other nearby offshore borrow areas are being utilized for FEMA-based renourishment projects. Another BOEM lease was executed with SJC in September 2021 for the "North" Ponte Vedra beach non-federal project. This lease authorizes the county to dredge up to 2.2. mcy of sand from "Borrow Area A" to nourish a total of 8.9 miles of the Ponte Vedra Beach shoreline. This borrow area has never been dredged and is located just north of the N-3 borrow area. Other proposed future actions and plans include the South Atlantic Coastal Study; however, potential effects of the proposed future actions and plans associated with this study are speculative at this time. Preparation of a separate NEPA document, which would contain detailed analysis of potential effects, will be required during the development of the proposed future projects.

4.1 GENERAL ENVIRONMENTAL SETTING

4.1.1 NO ACTION ALTERNATIVE (STATUS QUO)

The St. Augustine inlet sand resources are unsustainable to meet the county's federally authorized project needs as the inlet complex requires years to recharge and is currently nearly depleted. Future renourishment would be limited to the availability of sand in the inlet complex which would result in less frequent events and/or a reduced volume of sand being placed on the beach. Shoreline erosion and degradation of the beach template would continue to occur on SJC SPP and SJC CSRM areas. Various plants and animals using the beach in these areas would be impacted by loss of habitat (e.g., reduced area for nesting, foraging, etc.). The dune will continue to erode and eventually be eliminated, along with the associated dune vegetation, in the developed portions of the shoreline.

4.1.2 NEW BORROW AREA ALTERNATIVE (PREFERRED ALTERNATIVE)

Additional sand sources will allow for the SJC SPP and SJC CSRM projects to occur as needed to maintain the authorized beach templates and protect the nearby infrastructure. Inclusion of the alternate borrow areas will also provide time for the St.

Augustine Inlet Complex to recharge its available sand resources. Potential effects of dredging, transporting, and offloading the sand from the proposed borrow sites S-1 and N-3 are specifically addressed in the following sections.

4.2 GEOLOGY

4.2.1 NO ACTION ALTERNATIVE (STATUS QUO)

Without additional sand borrow areas, future events would be limited to the availability of sand in the inlet complex which would result in less frequent events and/or a reduced volume of sand being placed on the beach. The shoreline would continue to erode, and the beach and dune system would decrease in size. In some sections of the projects, sediments may over top the dunes affecting the shoreline beach template. There would be no effect to geology from this alternative in the offshore borrow areas because dredging would not occur.

4.2.2 NEW BORROW AREA ALTERNATIVE (PREFERRED ALTERNATIVE)

The Preferred Alternative includes using the total footprint of both S-1 and N-3 offshore borrow areas. Proposed new borrow area S-1 is approximately 2,700 acres in size, with an average cut depth of 5 feet. Water depths in S-1 range from -50 to -60 feet (NAVD88). Proposed new borrow area N-3 is approximately 1,200 acres in size, with an average cut depth of 7 feet. Water depths in N-3 range from -40 to -60 feet (NAVD88). It is estimated that 15 mcy of beach-compatible material exist in S-1 and 18 mcy of beach-compatible sand exist in N-3. Borrow areas are designed with a minimum of two feet of sediment to be left in place below the proposed dredge cut. Borrow areas S-1 and N-3 are located approximately six and eight miles offshore, respectively. As such, the dredge cuts are not anticipated to cause any adverse impacts to the existing SJC shoreline. At these depths, the dredge cuts are not expected to backfill at an observable rate over the project's life span.

For the SJC 2020 project, the project action includes the dredging of 1.1 mcy of beach compatible sand from N-3. Hopper dredging would operationally occur over a relatively small footprint within the N-3 borrow area, encompassing less than half the borrow area acreage. For the SJC project, the proposed offshore borrow area is a subset of the Corps' borrow exploration site N-3. The total estimated volume of beach compatible sand from SJC 2020 EA equals 9.5 mcy within the proposed borrow area and 18 mcy within the total N-3 exploration area footprint for site N-3 overall. This area has never been dredged and, therefore, there is additional sand for future use in the proposed action considered under this EA. The remaining volume for N-3 is being considered for this proposed action and the remaining 50-year life of the project. Borrow area S-1 has not been dredged and contains up to 15 mcy. The total volume and footprint for S-1 is being considered for this proposed action for the remaining life of the project.

N-3 and S-1 borrow areas are a small portion of the greater outer continental shelf sand shoals off the northeast coast of Florida. The borrow areas themselves represents a fraction (<5% in area and volume) of a larger sand shoal complex off the SJC coast. The borrow areas lie within the Corps-designated exploration area North Offshore Borrow Area (NOBA), which encompasses 79 square miles and contains an estimated 65 mcy of beach quality sand north of St. Augustine Inlet (Corps 2017). South of the inlet lies South Offshore Borrow Area (SOBA), encompassing 30 square miles and containing an estimated 130 mcy of beach quality sand (Corps 2017). Thus, the proposed dredging areas do not represent a significant portion of the surrounding shoals in the region.

4.3 THREATENED AND ENDANGERED SPECIES

4.3.1 NO ACTION ALTERNATIVE (STATUS QUO)

Under the No Action Alternative, proposed borrow sites S-1 and N-3 would not be used in upcoming renourishment events so no effects to T&E species in the offshore borrow areas due to the renourishment efforts proposed in this action would occur. The existing authorized sand borrow area, St. Augustine Inlet Complex, would continue to be used as the site recharges. Potential effects to T&E species from dredging the St. Augustine Inlet Complex would occur as described in previously authorized studies (see Section 1.4). However, beach nourishment would be limited to the availability of sand in the inlet complex which would result in less frequent events and/or a reduced volume of sand being placed on the beach. Shoreline erosion will continue to occur on SJC SPP and SJC CSRM which may reduce available habitat for nesting sea turtles and Endangered Species Act (ESA) listed shorebirds (i.e., piping plover and red knot) and other species found in the dunes (i.e., Anastasia Island beach mouse).

4.3.2 NEW BORROW AREA ALTERNATIVE (PREFERRED ALTERNATIVE)

The Corps determined that the proposed new borrow area dredging may affect sea turtles, but is not likely to adversely affect, manatees, whales, Atlantic sturgeon, oceanic whitetip shark, smalltooth sawfish, scalloped hammerhead shark, and the giant manta ray (see Table 7). This determination is based on the implementation of species-specific protective measures. If relocation trawling is implemented as a part of the action, then the effects conclusion for Atlantic sturgeon and giant manta ray would change to may affect, likely to adversely affect.

Table 7. Corps' effect determinations for T&E species listed under the ESA (May Affect, but is not Likely to Adversely Affect (MANLAA), Not Likely to Adversely Affect (NLAA), Not Likely to Adversely Modify (NLAM)).

Common Name	Scientific Name	Coordinating Agency	Corps' Effect Determination
Green sea turtle	*Chelonia mydas*	NMFS	May Affect
Hawksbill sea turtle	*Eretmochelys imbricata*	NMFS	May Affect
Leatherback sea turtle	*Dermochelys coriacea*	NMFS	May Affect
Loggerhead sea turtle	*Caretta caretta*	NMFS	May Affect
Kemp's ridley sea turtle	*Lepidochelys kempii*	NMFS	May Affect
Florida manatee	*Trichechus manatus latirostris*	USFWS	MANLAA
Blue whale	*Balaenoptera musculus*	NMFS	MANLAA
Fin whale	*Balaenoptera physalus*	NMFS	MANLAA
Humpback whale	*Megaptera novaeangliae*	NMFS	MANLAA
North Atlantic right whale	*Eubalaena glacialis*	NMFS	MANLAA
Sei whale	*Balaenoptera borealis*	NMFS	MANLAA
Sperm whale	*Physeter macrocephalus*	NMFS	MANLAA
Smalltooth sawfish	*Pristis pectinata*	NMFS	MANLAA
Oceanic whitetip shark	*Carcharhinus longimanus*	NMFS	MANLAA
Giant manta ray	*Manta birostris*	NMFS	MANLAA (May affect (if relocation trawling is implemented)
Scalloped Hammerhead Shark	*Sphyrna lewini*	NMFS	MANLAA
Atlantic Sturgeon	*Acipenser oxyrinchus oxyrinchus*	NMFS	MANLAA (May affect (if relocation trawling is implemented)
Critical Habitats			
Loggerhead Sea Turtle - LOGG-N-14	*Caretta caretta*	NMFS	NLAM
North Atlantic Right Whale - Southeastern U.S. Calving Area Unit 2	*Eubalaena glacialis*	NMFS	NLAM

Hopper dredges, with their trailing dragheads, may impact swimming sea turtles through entrainment of adults and sub-adults. Entrainment risk associated with hopper dredge operations may impact other ESA-listed species in the draghead area as well, however, this risk is reduced through implementation of the SARBO PDCs. Relocation trawling for the removal of sea turtles prior to dredge operations in the offshore borrow areas also has the potential to incidentally impact other ESA-listed species, specifically the Atlantic sturgeon and/or giant manta ray. If relocation trawling is needed, this action would first be coordinated with SAD and NMFS. There is also a risk of vessel strikes to ESA-listed species in the project transit corridor areas (whales, including North Atlantic right whale); however, this risk is reduced through implementation of the SARBO PDCs. Additionally, these species are highly mobile and, with reduced vessel speeds, would likely be able to avoid equipment working in this area.

The project will implement all applicable SARBO PDCs and USFWS' SPBO and P3BO terms and conditions (T&Cs) to minimize any potential impacts to federally listed species during the project's construction. Details on the consultation with USFWS and NMFS for compliance with the ESA are included in Appendix B "Environmental Compliance". Consultation letters to USFWS and NMFS are included in Appendix A "Pertinent Correspondence".

4.4 WATER QUALITY

4.4.1 NO ACTION ALTERNATIVE (STATUS QUO)

Under the No Action Alternative, proposed borrow sites S-1 and N-3 would not be used in upcoming renourishment events so no effects to water quality in the offshore borrow areas due to the renourishment efforts proposed in this action would occur. Under the No Action Alternative, existing borrow areas would continue to be used, so there would be no effect to water quality at these offshore locations. The existing authorized sand borrow area, St. Augustine Inlet Complex, would continue to be used as the site recharges. Impacts to water quality would continue to occur as described in previously authorized studies (see Section 1.4). However, beach nourishment would be limited to the availability of sand in the inlet complex, which would result in less frequent events and/or a reduced volume of sand being placed on the beach.

4.4.2 NEW BORROW AREA ALTERNATIVE (PREFERRED ALTERNATIVE)

The primary anticipated change in water quality at the new borrow area would be a temporary increase in turbidity during dredging. The increase in turbidity during hopper dredging is attributed to overflow associated with hopper operations. Studies of past projects indicate that the extent of the sediment plume is generally limited to between 1,640 – 4,000 feet from the hopper dredge and that elevated turbidity levels are generally short-lived, on the order of an hour or less. (Corps 1983; Hitchcock et al. 1999; MMS 1999; Anchor Environmental 2003; Wilber et al. 2006). The length and shape of the plume depend on the hydrodynamics of the water column and the

sediment grain size. Given that the dominant substrate at the borrow sites is sand, it is expected to settle rapidly and cause less turbidity and oxygen demand than finer-grained sediments. No appreciable effects on dissolved oxygen, pH, or temperature are anticipated because the dredged material has low levels of organics and low biological oxygen demand. Additionally, dredging activities would occur within the open ocean where the hydrodynamics of the water column are subject to mixing and exchange with oxygen rich surface waters. Any resultant water column turbidity would be short term (i.e., present for approximately an hour) and would not be expected to extend more than several thousand feet from the dredging operation. Accordingly, it is anticipated that the project would have only minor impacts on marine waters at the offshore borrow area. Per the State of Florida water quality certification, turbidity would be monitored at the point of discharge to ensure compliance with State of Florida water quality standards or those activities causing the violation would temporarily cease.

4.5 ESSENTIAL FISH HABITAT

4.5.1 NO ACTION ALTERNATIVE (STATUS QUO)

Under the No Action Alternative, proposed borrow sites S-1 and N-3 would not be used in upcoming renourishment events so no effects to essential fish habitat in the offshore borrow areas due to the renourishment efforts proposed in this action would occur. Under the No Action Alternative, the existing authorized sand borrow area, St. Augustine Inlet Complex, would continue to be used as the site recharges. Impacts to EFH would continue to occur as described in previously authorized studies (see Section 1.4). However, beach nourishment would be limited to the availability of sand in the inlet complex, which would result in less frequent events and/or a reduced volume of sand being placed on the beach.

4.5.2 NEW BORROW AREA ALTERNATIVE (PREFERRED ALTERNATIVE)

As stated in section 3.5 above, section 3.3.7 and NEPA documents listed in Section 1.4, identify EFH and Federally managed fisheries within the project area. EFH impacts include direct removal of benthic organisms as a result of dredging; turbidity/siltation effects, including increased light attenuation from turbidity; noise disturbance to aquatic organisms; and alteration of hydrodynamic regimes and physical habitat. Dredging the proposed new borrow area could affect a total of 2,700-acres at S-1 in size in water depths between 50-60 feet NAVD88 and 1,200-acres in size in water depths between 40-60 feet NAVD88 at N-3 of unconsolidated substrate on the borrow site. While managed species may be impacted (i.e., coastal migratory pelagics) the majority of the effects would be on associated prey species for managed species. Benthic infaunal organisms and sessile organisms that serve as prey to managed species are expected to be affected by dredging activities. These effects however should be temporary in nature as these organisms should re-colonize the borrow area from adjacent similar habitat. Best management practices (BMP) to minimize impacts to the benthos will be implemented. These BMPs, which are similar to those discussed in the SJC 2020 EA,

include limiting dredging depths to avoid deep pits, anoxic conditions, and/or settling of fine sediments, providing a 2 foot-buffer of sediment left in place to ensure that post-dredge sediment type is the same as pre-dredge. Hardbottom is not present in the offshore borrow areas and any hardbottom will be avoided when establishing new pipeline corridors.

Noise associated with all aspects of the dredging process may affect organisms in several ways. Continental Shelf Associates, Inc. (2004) reviewed effects of noise on fishes. This report stated that all fish species investigated can hear, with varying degrees of sensitivity, within the frequency range of sound produced by cutterhead dredges, hopper dredges, and clamshell excavators. These sounds can mask the sounds normally used by fishes in their normal acoustic behaviors at levels as low as 60 to 80 decibels (dB) (just above detection thresholds for many species). Levels as high as 160 dB may cause receiving fish to change their behaviors and movements that may temporarily affect the usual distribution of animals and commercial fishing. Continuous, long-term exposure to levels above 180 dB has been shown to cause damage to the hair cells of the ears of some fishes under some circumstances. These effects may not be permanent because damaged hair cells are repaired and/or regenerated in fishes. None of the dredge types proposed for this project produce continuous sounds above 120 dB (Richardson et al. 1995). Due to the short duration of dredge projects, the effects of underwater noise on fish populations should be minimal.

The Corps has determined that the proposed action would not have a significant adverse impact on EFH or federally managed fisheries along the northeast coast of Florida. This determination is based on the fact that the substrate of the project area is naturally dynamic and unconsolidated, and measures shall be taken to protect adjacent habitat. (See Section 6 for more information on environmental commitments and measures.) Turbidity could affect vision of marine life within any sediment plume as well as those marine organisms with gills and dredge noise could cause behavioral disturbance, but these effects would be temporary as they would be limited to the time of construction. SJC CSRM and SJC SPP are expected to use sites N-3 and S-1 for scheduled nourishment events as well as on an as-needed basis to address emergency shoreline restoration (details of the dredging cycle are discussed in Section 2.3). The anticipated dredging interval infrequent and is approximately every 5-15 years and thus re-colonization of benthic organisms is expected between events. Also, it is important to note that the new borrow areas encompasses a fraction of the entire water body and similar habitat occurs immediately adjacent. EFH coordination with the NMFS' Habitat Conservation Division (HCD) was initiated concurrently with noticing of the draft NEPA document. In an email between BOEM and NMFS dated 31 January 2022, NMFS stated that they would not be providing comments for this project, and the Corps did not receive any EFH conservation recommendations. Email correspondence can be found in Appendix A "Pertinent Correspondence".

4.6 BENTHIC RESOURCES

4.6.1 NO ACTION ALTERNATIVE (STATUS QUO)

Under the No Action Alternative, proposed borrow sites S-1 and N-3 would not be used in upcoming renourishment events so no effects to benthic resources in the offshore borrow areas due to the renourishment efforts proposed in this action would occur. Under the No Action Alternative, the existing authorized sand borrow area, St. Augustine Inlet Complex, would continue to be used as the site recharges. Impacts to the benthos would continue to occur as described in previously authorized studies (see Section 1.4). However, beach nourishment would be limited to the availability of sand in the inlet complex, which would result in less frequent events and/or a reduced volume of sand being placed on the beach. Erosion of the beach at the SJC SPP and SJC CSRM projects would continue unabated. However, impacts to benthic resources would not be anticipated.

4.6.2 NEW BORROW AREA ALTERNATIVE (PREFERRED ALTERNATIVE)

Dredging in the proposed new borrow areas could affect a total of 3,900 acres of unvegetated, open sandy substrate on the OCS. (See Section 4.2.2 for detailed information on the geology.) This will result in a localized reduction in the abundance, diversity, and biomass of the immediate fauna. Species affected most are those that have limited capabilities or are incapable of avoiding the dredging activities. The fauna most affected would predominantly include invertebrates such as crustaceans, echinoderms, mollusks, polychaetes, and annelids. Brooks et al. (2006) found in most cases, polychaetes were the first to recolonize dredged sites, with crustaceans, specifically amphipods, also recolonizing relatively quickly. Some studies note that carnivores recolonized dredged areas in a short amount of time, speculating that this response may be tied to the food resources available in dredged areas due to dead and injured organisms resulting from the dredging process itself (Corps 2015). Measurements of recovery, however, were varied, with some studies looking at general abundance of organisms, and others evaluating community structure (Corps 2015). Those evaluating entire communities often indicated that while the abundance of organisms may increase to background levels relatively quickly, community structure may remain altered for some time, and, in repetitively mined areas, may have difficulty ever recovering to their original state. Hammer et al. (2005) indicated that potential impacts from dredging within proposed borrow areas are expected to be localized and short-term because surrounding areas can serve as a primary source for re-colonization of the benthos. Therefore, due to the relatively small area that will be impacted as viewed on a spatial scale, impacts to the benthic community are anticipated to be minimal due to the relatively short period of recovery by infaunal communities following disturbance. Adjacent areas not impacted would most likely be the primary source of recruitment to the impacted area.

4.7 FISH AND WILDLIFE RESOURCES

4.7.1 NO ACTION ALTERNATIVE (STATUS QUO)

Under the No Action Alternative, proposed borrow sites S-1 and N-3 would not be used in upcoming renourishment events so no effects to fish and wildlife resources in the offshore borrow areas due to the renourishment efforts proposed in this action would occur. Under the No Action Alternative, the existing authorized sand borrow area, St. Augustine Inlet Complex, would continue to be used as the site recharges. Potential effects to fish and other wildlife resources from dredging the St. Augustine Inlet Complex would occur as described in previously authorized studies (see Section 1.4). However, beach nourishment would be limited to the availability of sand in the inlet complex which would result in less frequent events and/or a reduced volume of sand being placed on the beach. Shoreline erosion will continue to occur on SJC SPP and SJC CSRM which may reduce available nesting and foraging habitat for wildlife (e.g., shorebirds, etc.) using this area.

4.7.2 NEW BORROW AREA ALTERNATIVE (PREFERRED ALTERNATIVE)

Fish and wildlife could be temporarily displaced during dredging operations. However, negative impacts to these species are expected to be minimal due to the limited extent of the dredging operations relative to the abundance of similar adjacent habitat and the mobility of these resources. There is entrainment risk associated with hopper dredge operations to fish and wildlife in the area of the dredge draghead and with relocation trawling for ESA listed sea turtles (SARBO) prior to dredge operations in the offshore borrow areas.

4.8 CULTURAL, HISTORIC, AND ARCHAEOLOGICAL RESOURCES

4.8.1 NO ACTION ALTERNATIVE (STATUS QUO)

No adverse effects to historic properties exist within the proposed project footprint from the No Action Alternative.

4.8.2 NEW BORROW AREA ALTERNATIVE (PREFERRED ALTERNATIVE)

4.8.2.1 NEW BORROW AREA N-3

Following a cultural resources assessment survey of borrow area N-3 in 2019 (Derlikowski, et al. 2019), the Corps has determined the use of the new borrow area N-3 alternative will have no effect to historic properties, with the concurrence of the Florida SHPO per August 2021 and September 2021 correspondence with the Florida DHR (DHR Project File No.: 2020-0690-B; Appendix A). The Corps maintains an inadvertent discoveries clause wherein should any prehistoric or historic artifacts be recovered during project activities all such activities will cease, and the Corps will consult with SHPO to develop a plan to move forward.

4.8.2.2 NEW BORROW AREA S-1

Following cultural resources assessment surveys of the S-1 borrow area in 2016 (James, et al. 2017) and 2021 (Lent, et al. 2022), the Corps has determined that the use of the new borrow area S-1 alternative will have no effect to historic properties, contingent upon the maintenance of a 300-foot avoidance buffer around a potentially significant magnetic anomaly cluster located during the 2017 survey (James, et al. 2017). With this protection in place, the Florida SHPO concurred with the Corps' determination of no effect to historic properties in letters dated January 9, 2017 and February 15, 2022 (DHR Project File No.: 2016-3127; DHR Project File No.: 2022-0226; Appendix A). The Corps maintains an inadvertent discoveries clause wherein should any prehistoric or historic artifacts be recovered during project activities all such activities will cease, and the Corps will consult with SHPO to develop a plan to move forward.

4.8.2.3 NEW BEACH PLACEMENT PIPELINE CORRIDORS

The Corps has identified five pipeline corridors for potential beach placement that have previously been surveyed and cleared for cultural resources by Panamerican in 2020 (Derlikowski and James 2020; DHR Project File No.: 2020-0690-B; Appendix A). However, the Corps anticipates the need to utilize eight additional beach placement pipeline corridors. The exact locations of these newly proposed beach placement pipeline corridors are unknown as of the writing of this EA. As such, a determination has not yet been made regarding the effects of the Corps' actions on potentially significant historic properties within the beach placement pipeline corridors. Cultural resources consultation for the additional proposed beach placement corridors is ongoing. The Corps will employ Stipulation V of its 2021 *Programmatic Agreement among the United States Army Corps of Engineers, the Florida State Historic Preservation Officer, the Bureau of Ocean Energy Management, and the Advisory Council on Historic Preservation Regarding Compliance with Section 106 of the National Historic Preservation Act during Implementation of the United States Army Corps of Engineers, Jacksonville District Operation, Navigation, and Shore Protection Programs* which allows for the NEPA process to continue if the Corps is unable to make a determination of effects to historic properties prior to completion of the appropriate NEPA documentation, in order to meet Section 106 compliance requirements. Once pipeline corridors have been identified, the Corps will coordinate the findings per the referenced Programmatic Agreement.

4.9 NATIVE AMERICANS

4.9.1 NO ACTION ALTERNATIVE (STATUS QUO)

The No Action Alternative (status quo) would follow the previously recommended plan set forth in the St. Johns County, Florida South Ponte Vedra Beach, Vilano Beach, and Summer Haven Reaches Coastal Storm Risk Management Project Final Integrated Feasibility Study and Environmental Assessment (Corps 2017). Effects to Native

American lands or resources from such action are addressed in the St. Johns County, Florida South Ponte Vedra Beach, Vilano Beach, and Summer Haven Reaches Coastal Storm Risk Management Project Final Integrated Feasibility Study and Environmental Assessment (Corps 2017). Florida SHPO provided concurrence on a No Effect determination on January 9, 2017 (DHR Project File No.: 2016-3127). No response was received from any of the federally recognized tribes to consultation letters sent on July 22, 2016, implying concurrence with a No Effect determination.

4.9.2 NEW BORROW AREA ALTERNATIVE (PREFERRED ALTERNATIVE)

As discussed in Section 3, there are no known tribal lands, resources, or areas of historic significance within the N-3 or S-1 borrow areas. Furthermore, any seabed disturbances will take place within Holocene sediments and will not disturb paleo-landforms of tribal interest. Therefore, use of the N-3 and S-1 borrow areas per the New Borrow Area Alternative will have no effect on Native Americans. Submerged cultural resource assessment surveys to determine if tribal lands, resources, or areas of historic significance are present within the proposed beach placement pipeline corridors have not yet taken place since the locations of those corridors is as yet unknown. Consultation between the Corps and Native American tribes having ancestral ties to this region, including the Seminole Tribe of Florida, the Seminole Nation of Oklahoma, the Thlopthlocco Tribal Town, the Miccosukee Tribe of Indians of Florida, and Muscogee (Creek) Nation was initiated on July 29, 2021, and updated on December 21, 2021, to provide the results of the S-1 sand borrow area survey. The Seminole Tribe of Florida has provided a response of “no objections or other comments,” while the other listed tribes have not provided a response within 30 days, thus implying concurrence.

4.10 AIR QUALITY

4.10.1 NO ACTION ALTERNATIVE (STATUS QUO)

The air quality in the project area is not likely to change from the existing conditions in the No Action Alternative as described in the SJC SPP and SJC CSRM NEPA documents. (See Section 1.4, specifically the Corps’ 1998 GRR/EA, Corps’ 2017 EA, and SJC’s 2020 EA.)

4.10.2 NEW BORROW AREA ALTERNATIVE (PREFERRED ALTERNATIVE)

Federal actions for the project are exempt from the Clean Air Act General Conformity Regulations because the project is not located in a designated nonattainment or maintenance area. The State of Florida does not regulate emissions from off-road equipment or marine vessels (FDEP 2012); however, implementation of the Preferred Alternative would result in minor, temporary degradation of air quality due to emissions during dredging operations. Air quality is expected to revert to background levels following the completion of construction.

4.11 NOISE

4.11.1 NO ACTION ALTERNATIVE (STATUS QUO)

Under the No Action Alternative noise in the project area is not likely to change from existing conditions as described in the SJC SPP and SJC CSRM NEPA documents. (See Section 1.4, specifically the Corps' 1998 GRR/EA, Corps' 2017 EA, and SJC's 2020 EA.)

4.11.2 NEW BORROW AREA ALTERNATIVE (PREFERRED ALTERNATIVE)

Noise during construction activities will likely be minor and short term with minimal impacts to fish and wildlife that use the project area. Species with sufficient motility would avoid the project area during construction and return after completion of construction activities. Dredging noise can affect marine mammals, sea turtles, birds, and fishes. Possible effects of dredging noise can vary depending on a variety of internal and external factors and can be divided into masking (obscuring of sounds of interest by interfering sounds, generally at similar frequencies), response, discomfort, hearing loss, and injury (MALSF 2009). Deeper water operations may propagate sound over greater distances than those in confined nearshore areas (Hildebrandt 2004).

Dredging to extract sand produces broadband and continuous sound, mainly at lower frequencies. Noise associated with dredging activities can be placed into five categories:

1. Collection noise – The noise generated from the collection of material from the seafloor; for example, the operation of the drag head. This noise is dependent on the structure of the sea floor and the type of dredge used.
2. Pump noise – The noise from the pump driving the suction through the pipe.
3. Transport noise – The noise of the material being lifted from the seafloor to the dredge and pumped through a pipeline to the beach. For trailing suction hopper and cutter suction dredges, this would be the noise of the material as it passes up the suction pipe. For clamshell dredges, it would be the sound of the crane dropping/lifting the bucket.
4. Deposition noise – This noise is associated with the placement of the material within the barge or hopper.
5. Ship/machinery noise – The noise associated with the dredging ship itself. For stationary dredges, the primary source will be the onboard machinery. Mobile dredges will also have propeller and thruster noise (MALSF 2009).

Components of underwater sounds produced by each type are influenced by a host of factors including substrate type, geomorphology of the waterway, site-specific hydrodynamic conditions, equipment maintenance status, and skill of the dredge plant operator (Dickerson et al. 2001). Field investigations have been undertaken to characterize underwater sounds typical of bucket, hydraulic cutterhead, and hopper dredging operations (Dickerson et al. 2001). Preliminary findings indicate that cutterhead dredging operations are relatively quiet as compared to other dredging

operations in aquatic environments. Hopper dredges produce somewhat more intense sounds similar to those generated by vessels of comparable size. Hopper dredge noises consist of a combination of sounds emitted from two relatively continuous sources: engine and propeller noise similar to that of large commercial vessels and sounds of dragheads moving in contact with the substrate.

A recent study evaluated sound levels produced by hopper dredges operating in an offshore environment during sediment excavation, transport of material, and pump-out of material (Reine et al. 2014). When averaged across all dredging activities, Sound Pressure Levels (SPLs) averaged 142.31 dB at a distance of 164 feet and grew progressively less to 120.1 dB at 1.21 miles. At all distances from dredging activity, sound levels were highest during sediment removal activities and transition from transit to pump-out and were quietest during flushing of pipes at pump-out (132.45 dB). At a distance of 1.55 miles sounds attenuated to ambient levels.

Sound plays an important role in the marine environment; however, the function of sound in the ecology of many marine animals is not entirely understood. The extraction of sand from the marine environment produces sound that elevates levels above ambient and may disturb or cause injury to some marine fauna such as invertebrates, fishes, mammals and sea turtles. For example, in marine cephalopods, exposure to low-frequency sound was found to cause acoustic trauma to sensory structures responsible for the animals' sense of balance and position (Andre et al. 2011). Sound can also prove detrimental to fishes, especially those considered "hearing specialists" that have specialized hearing structures and those with swim bladders. The frequency and sound levels emitted by dredges overlap the range of hearing for some fish species, meaning dredging can cause adverse effects such as behavioral changes or physiological damage (Thomsen et al. 2009). Noise generated by the dredge may minimally impact those living on the beaches during project construction but will likely not be too noticeable over ambient noise of wind and waves. Equipment such as booster pumps will be properly maintained to minimize effects of noise. Once dredging has concluded, noise levels will drop back to background levels

4.12 AESTHETIC RESOURCES

4.12.1 NO ACTION ALTERNATIVE (STATUS QUO)

Under the No Action Alternative, proposed borrow sites S-1 and N-3 would not be used in upcoming renourishment events so no effects to aesthetic resources due to the renourishment efforts proposed in this action would occur in federal waters. Under the No Action Alternative, the existing authorized sand borrow area, St. Augustine Inlet Complex, would continue to be used as the site recharges. Potential effects to aesthetics from dredging the St. Augustine Inlet Complex would occur as described in previously authorized studies (see Section 1.4). However, beach nourishment would be limited to the availability of sand in the inlet complex which would result in less frequent events and/or a reduced volume of sand being placed on the beach. Shoreline erosion

will continue to occur on SJC SPP and SJC CSRM which would negatively affect aesthetic resources of the beach area due to increased erosion and the continued narrowing of the beach.

4.12.2 NEW BORROW AREA ALTERNATIVE (PREFERRED ALTERNATIVE)

Short term adverse aesthetic impacts would occur during construction due to the presence of construction equipment. Equipment used during dredging operations (including the presence of a dredging vessel working in the offshore borrow areas of S-1 and N-3 during project construction and associated pumping and offloading through pipeline corridors) would be visible during construction, which may be considered unsightly by members of the public. This may result in a temporary reduction in the aesthetic value of the offshore waters and nearby beach areas during dredging and offloading activities.

4.13 RECREATIONAL RESOURCES

4.13.1 NO ACTION ALTERNATIVE (STATUS QUO)

Under the No Action Alternative recreational resources are not likely to change from existing conditions as described in the SJC SPP and SJC CSRM NEPA documents. (See Section 1.4, specifically the 1998 GRR/EA, 2017 EA, and 2020 EA.) The existing authorized sand borrow area, St. Augustine Inlet Complex, would continue to be used as the site recharges. However, beach nourishment would be limited to the availability of sand in the inlet complex which would result in less frequent events and/or a reduced volume of sand being placed on the beach. Shoreline erosion will continue to occur on SJC SPP and SJC CSRM projects resulting in the continued narrowing of the beach, which will make it less suitable for recreating due to a reduction in the area available to engage in recreational activities (e.g., sunbathing, exercising, beach combing, biking, surf fishing) and limited access for watersports (e.g., swimming, surfing, and kayaking).

4.13.2 NEW BORROW AREA ALTERNATIVE (PREFERRED ALTERNATIVE)

Use of the new sand borrow areas N-3 and S-1 and associated pipeline corridors would temporarily impact recreation during construction due to the equipment located just offshore from the beach. Dredge vessels and associated offloading activities may cause temporary inconveniences for recreating, such as temporary impediments for those enjoying swimming, kayaking, motorboat operation, and water-based activities in the nearshore region. Recreational use of the offshore borrow areas would also be impacted due to the presence of dredge vessels and the closure of areas in proximity to the offshore borrow areas to recreational boat traffic (including recreational fishing).

4.14 NAVIGATION & SAFETY

4.14.1 NO ACTION ALTERNATIVE (STATUS QUO)

Under the No Action Alternative, proposed borrow sites S-1 and N-3 would not be used in upcoming renourishment events so no effects to navigation and safety in the offshore borrow areas due to the renourishment efforts proposed in this action would occur. Under the No Action Alternative navigation and safety effects would be as described in the existing NEPA documents and use of the St. Augustine Inlet Complex would continue. However, beach nourishment would be limited to the availability of sand in the inlet complex which would result in less frequent events and/or a reduced volume of sand being placed on the beach. Beach erosion will continue, and this would negatively affect safety of the beach area by exposing more hard structures through erosion. Waves would wash into revetments, bulkheads, and seawalls which might make swimmers and shallow water waders more exposed to harm. With continued erosion, low lying dwellings and roads would be more susceptible to over wash and flooding from storm events and sea level rise causing safety concerns.

4.14.2 NEW BORROW AREA ALTERNATIVE (PREFERRED ALTERNATIVE)

Use of the new sand borrow areas N-3 and S-1 and associated pipeline corridors could impact nearshore navigation of small vessels such as kayaks and jet skis. These activities should not be significantly affected as the dredging of N-3 and S-1 will occur further offshore, and these small vessels can easily navigate around the offloading pipeline, hookup/connection points, and dredging vessels mining sand from offshore borrow areas. Transit for commercial and recreational fishing does occur within the offshore borrow areas and will be impacted during dredge operations. Due to the availability of alternate transit routes and fishing areas and the short duration of dredging events these impacts are expected to be negligible (MMS 2004).

4.15 SOCIOECONOMICS

4.15.1 NO ACTION ALTERNATIVE (STATUS QUO)

Under the No Action Alternative, socioeconomics could be negatively affected due to availability of sand in the St. Augustine Inlet Complex. However, beach nourishment would be limited to the availability of sand in the inlet complex which would result in less frequent events and/or a reduced volume of sand being placed on the beach. Beach erosion will result in the continued narrowing of the beach, which will make it less suitable for recreating. Reduced recreation and tourism could negatively affect socioeconomics for the area.

4.15.2 NEW BORROW AREA ALTERNATIVE (PREFERRED ALTERNATIVE)

Implementation of the Preferred Alternative would ensure that beach renourishment of the SJC SPP and SJC CSRM projects continues, which will reduce the risk of coastal storm damages to infrastructure. Additionally, maintaining the beach template to its

authorized limits will also maintain the recreation and tourism benefits by reducing erosion impacts (i.e., continued narrowing of the beach). From the perspective of regional economic development (RED) and other social effects (OSE), minor disruptions to local businesses could occur as during construction activities; however, these impacts are expected to be temporary and would last only as long as construction is occurring. Throughout the life of the federal project reduction in damages could produce RED and OSE benefits. Also, revenue and jobs generated by the project would benefit the area's socioeconomics.

There is no documentation to suggest that either borrow area is utilized by recreational or commercial fishermen. However, a wide variety of finfish and shellfish species that dwell in softbottom and coastal pelagic (i.e., at or near the sea surface in the water column) species are caught and landed off the coast of northeast Florida. Transit for commercial and recreational fishing does occur within the area and could be impacted during dredge operations. Due to the availability of alternate transit routes and fishing areas and the short duration of dredging events these impacts are expected to be negligible and ultimately would not be expected to affect commercial or recreational fishing that may be occurring.

There is also no evidence that commercial dive operations occur within either borrow area, especially considering the absence of hardbottom or reef structure. Therefore, impacts to these operations are expected to be negligible (MMS 2004).

4.16 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

4.16.1 IRREVERSIBLE

An irreversible commitment of resources is one in which the ability to use and/or enjoy the resource is lost forever. Other than the use of fuel, equipment and supplies, there would be no irreversible commitment of resources.

4.16.2 IRRETRIEVABLE

An irretrievable commitment of resources is one in which, due to decisions to manage the resource for another purpose, opportunities to use or enjoy the resource as they presently exist are lost for a period of time. Dredging of the new borrow areas would result in the borrow site sand being removed from the offshore system. Additionally, dredging activities could temporarily disrupt navigation and recreational activities.

4.17 UNAVOIDABLE ADVERSE ENVIRONMENTAL EFFECTS

The dredging of the new borrow area would adversely impact benthic organisms, some fish species, and temporarily adversely impact other wildlife.

5.0 PUBLIC INVOLVEMENT

A Notice of Availability for the proposed FONSI, draft EA, and associated appendices was coordinated with pertinent agencies and interested stakeholders for 30 calendar days (21 January through 19 February 2022) to allow for review and comment. The FONSI, Final EA and appendices are posted to the following website under St. Johns County: https://www.saj.usace.army.mil/About/DivisionsOffices/Planning/Environmental-Branch/Environmental-Documents/.

5.1 COMMENTS RECEIVED AND CORPS' RESPONSES

Comments received in the draft EA include a letter dated 18 February 2018, from FWC noting that FWC has no initial questions or concerns regarding the proposed plans and will provide recommended conditions for listed species and habitat protection to the state regulatory agency during the state permitting process for this project. A summary matrix of the FWC comment and Corps' response, along with the original comment letter are included in the final NEPA document in Appendix C "Public and Agency Comments".

6.0 ENVIRONMENTAL COMMITMENTS AND COMPLIANCE

The Corps will comply with all applicable conditions of the 401 WQC, 404(b)(1) WQC, Marine Protection, Research, and Sanctuaries Act (MPRSA) Section 103 concurrence, Coastal Zone Management Act (CZMA) Federal Consistency Determination (FCD) concurrence, and SARBO for the Preferred Alternative. Placement of beach quality sand was previously coordinated in the EA documents (SJC CSRM 2017; SJC SPP 1998). The contractor would be required to train their personnel in all phases of environmental protection. The training would include methods of detecting and avoiding pollution, familiarization with pollution standards, both statutory and contractual, and installation and care of facilities to insure adequate and continuous environmental pollution control. The contractor's quality control and supervisory personnel would be thoroughly trained in the proper use of monitoring devices and abatement equipment, and would be thoroughly knowledgeable of Federal, State, and local laws, regulations, and permits as listed in the Environmental Protection Plan (EPP) submitted by the contractor. The Corps and its contractors commit to avoiding and minimizing adverse effects during construction activities by including the commitments shown in Table 8 in the contract specifications:

Table 8. Corps' environmental commitments.

Environmental Commitment	Corps' Commitment
Protection of Fish and Wildlife Resources	Prior to the start of construction, the Contractor will submit their Environmental Protection Plan (EPP), which requires the Contractor to describe how they will implement the protective measures in the project specifications for species that require specific attention, methods for protection of features (e.g., vegetation, animals, water) to be preserved within authorized work areas, and procedures to be implemented that will provide the required environmental protection to comply with applicable laws and regulations. The Corps reviews and approves the EPP to ensure all minimization measures and environmental protections are considered and will be appropriately implemented.

Environmental Commitment	Corps' Commitment
Threatened and Endangered Species Protection	Adverse effects to T&E species will be avoided and/or minimized. For the Preferred Alternative a hopper, dredge would be used to perform the proposed work. As described in Section 4.2.2, incidental take of listed species may occur if a hopper dredge and/or capture trawling is used; however, implementation of standard protection conditions and BMPs will ensure that the potential adverse effects to these species are reduced to the maximum extent practicable. The Corps will include applicable T&Cs and PDCs of the SARBO, SPBO, and P3BO in the project plans and specifications. Additionally, NMFS' sea turtle and smalltooth sawfish construction conditions as well as the USFWS standard manatee conditions for in-water work will be implemented. T&E species protection criteria will be included in the Contractor's EPP.
Water Quality	Implementation of design and procedural controls will prevent oil, fuel, or other hazardous substances from entering the air or water. (For example, procedural controls may include the following: To prevent spills, fuel dispensers shall have a 4-foot square, 16-gauge metal pan with borders banded up and welded at corners right below the bibb. Edges of the pans shall be 8-inch minimum in depth to ascertain that no contamination of the ground takes place. Pans shall be cleaned by an approved method immediately after every dispensing of fuel and wastes disposed of offsite in an approved area. Should any spilling of fuel occur, the Contractor shall immediately recover the contaminated ground and dispose of it offsite in an approved area. Petroleum waste generated shall be stored in marked corrosion-resistant containers and recycled or disposed of in accordance with 40 CFR Part 279, State, and local regulations.) All wastes and refuse generated by project construction will be removed and properly disposed. Contractors will implement a spill contingency plan for hazardous, toxic, or petroleum material. Conditions imposed by WQCs will be implemented in order to minimize adverse effects to water quality. Conditions of the Ocean Dredged Material Disposal Site (ODMDS) Site Management and Monitoring Plan (SMMP) and 103 concurrence will be incorporated into the plans and specifications.

Environmental Commitment	Corps' Commitment
Cultural Resources	The Corps will carry out additional activities to complete necessary surveys and consultation for the proposed beach placement corridors prior to development of plans and specifications, following the terms of its 2021 *Programmatic Agreement among the United States Army Corps of Engineers, the Florida State Historic Preservation Officer, the Bureau of Ocean Energy Management, and the Advisory Council on Historic Preservation Regarding Compliance with Section 106 of the National Historic Preservation Act during Implementation of the United States Army Corps of Engineers, Jacksonville District Operation, Navigation, and Shore Protection Programs*. A 300-foot buffer has been established and will be maintained around one cluster of potential cultural resource anomalies within the S-1 borrow area. An unexpected cultural resources finds clause will be included in the project specifications. In the event that any potentially significant cultural resources are uncovered during construction activities, all activities will be halted immediately within the area. Once reported, the Corps' staff will initiate coordination with the appropriate Federal and state agencies to determine if archaeological investigation is required. Additional work in the area of the discovery will be suspended at the site until compliance with all Federal and state regulations is successfully completed and Corps' staff members provide further directive.
Protection of Migratory Birds	Although the Preferred Alternative for this NEPA is for use of new sand borrow areas, sand will be placed on the beach therefore standard migratory bird protection protocols will be incorporated into the project plans and specifications. The contractor will be required to abide by those protocols and all monitoring timeframes as specified by all applicable licenses and permits.
Air Quality	Air emissions such as vehicular exhaust and dust shall be controlled. The project is exempt from the Clean Air Act conformity requirements because it is located in a Federal attainment area (FAC 62-204.340 (1-4)). USEPA has not established air quality standards for Federal waters.

In the event of a noncompliance issue, the Corps' contracting officer would notify the contractor in writing of any observed noncompliance with Federal, State, or local laws or regulations, permits and other elements of the plans and/or specifications. The contractor would, after receipt of such notice, inform the Corps' contracting officer of the proposed corrective action and take such action, once approved. If the contractor fails to comply promptly, the Corps will issue an order stopping all or part of the work until the satisfactory corrective action has been taken.

The status of coordination and compliance of the Preferred Alternative with environmental requirements is shown in Table 8. Detailed information on environmental compliance can be found in Appendix B. The status of environmental compliance is described as follows:

- Compliant: Meets all requirements of the statute for the current stage of planning (either preauthorization or post-authorization).
- In-Progress: Not having met some of the requirements that normally are met in the current stage of planning or pending due notice of availability and comment public/agency comment period.
- Not applicable: No requirements for the statute required for the planning/ construction.

Table 9. Status of environmental compliance.

Law, Policy, and Regulations	Status	Comments
National Environmental Policy Act of 1969 (42 U.S.C. § 4321 *et seq.*)	Compliant	This EA has been prepared pursuant to NEPA and its implementing regulations. A Notice of Availability for the proposed FONSI, draft EA, and associated appendices was coordinated with pertinent agencies and interested stakeholders for 30 calendar days to allow for review and comment. The Corps and BOEM are complying with the NEPA process and will be in full compliance with the Act at the time of construction. The Corps and BOEM have updated the draft NEPA document as appropriate following public review/comment.
Anadromous Fish Conservation Act (16 U.S.C. §§ 757A-757G)	Compliant	The Preferred Alternative would not adversely affect anadromous fish species.

Law, Policy, and Regulations	Status	Comments
Archaeological Resources Protection Act of 1979 (16 U.S.C. § 470aa *et seq.*)	In Progress	This Act applies to federally owned and tribally owned lands, including Reservation lands. The Preferred Alternative does not anticipate the need to excavate or in any way disturb potentially significant cultural resources existing on federal lands. Any seabed disturbances will take place within Holocene sediments and will not disturb paleo-landforms of tribal interest. Any seabed disturbances will take place within Holocene sediments and will not disturb paleo-landforms of tribal interest.
American Indian Religious Freedom Act (42 U.S.C. §§ 1996 and 1996a)	Compliant	The policy of the U.S. is to protect and preserve for American Indians, Alaska Native Groups and Native Hawaiians, their inherent rights of Freedom to believe, express, and exercise traditional religions. These rights include, but are not limited to, access to sites, use and possession of sacred objects, and the freedom to worship through ceremony and traditional rites. The Preferred Alternative does not impeded access to sites, prevent possession of sacred objects, or deny freedom to worship through ceremony or traditional rites.
Clean Air Act (42 U.S.C. §7401 *et seq.*)	Compliant	The Corps' contractor will obtain any air quality permits, if required.
Clean Water Act, Section 401 and Section 404(B) (33 U.S.C. § 1341 and 33 U.S.C. § 1344(b))	In progress	Effects of using the S-1 and N-3 sand borrow sources are substantially similar to the effects and determinations described in the prior 404(b)(1) Guidelines Evaluation (Corps 1998, Corps 2018); therefore, this EA incorporates by reference the previously completed 404(b)(1) SJC SPP dated March 1998 (Corps 1998) and SJC CSRM March 2017 (Corps 2017). The SJC SPP and CSRM projects would be performed in compliance with the conditions of the water quality certifications issued by the Florida Department of Environmental Protection (FDEP) (No. 0295429-003-JN (SPP) and No. 0377120-001-JC (CSRM)) (and subsequently issued modifications) to ensure State of Florida water quality standards are met. The use of any offshore borrow sites will require a modification for both water quality certifications to incorporate those areas. It is anticipated that FDEP will issue a modification to the water quality certifications.

Law, Policy, and Regulations	Status	Comments
Coastal Barrier Resources Act and Coastal Barrier Improvement Act (16 U.S.C. § 3501 *et seq*. and PL 101-591)	Compliant	The borrow areas are located offshore in water depths greater than the 30 foot-contour and are not within CBRS units. Dredging of N-3 and S-1 sand borrow sites would not occur in designated CBRS units; however, placement will restore and stabilize the beaches in the designated CBRS units. Previous consultation for the placement of sand from the SJC projects within CBRS units was completed with USFWS via letter dated October 25, 2016 (Corps 2017). The Corps has consulted with USFWS and in a letter dated April 19, 2022, the Corps received the general exemption for the protection of state road A1A as an essential link; 16 U.S.C. 3505(a)(3): The maintenance, replacement, reconstruction, or repair, but not the expansion, of publicly owned or publicly operated roads, structures, or facilities that are essential links in a larger network or system. Additional details on environmental compliance and pertinent correspondence can be found in Appendix A and B of the EA.
Coastal Zone Management Act (16 U.S.C. § 1451 *et seq*.)	In progress	Pursuant to Subpart D of the implementing regulations for the Coastal Zone Management Act (CZMA) (15 CFR Part 930) water quality certificates were previously issued for the projects, indicating the SJC SPP was consistent with Florida's Coastal Management Program (No. 0295429-003-JN). Water quality certificate No. 0295429-003-JC from FDEP for the St. Augustine Beach portion was issued September 26, 2011 and expires September 26, 2026. Water quality certificate No. 0377120-001-JC from FDEP for the South Ponte Vedra and Vilano Beach portion was issued March 26, 2020 and expires March 26, 2035. The new borrow areas are located outside of state waters and dredging of the borrow areas is not subject to state authorization; however, a water quality certification modification will be required to indicate that the material from that borrow areas complies with the state sand rule and can be used to renourish the certified beach projects. In a letter dated March 18, 2022, the Florida State Clearinghouse staff reviewed the draft EA and based on the information submitted and minimal project impacts, the State has no objections to the subject project and therefore, it is consistent with the Florida Coastal Management Program (FCMP). Additional details on environmental compliance with the CZMA can be found in Appendix B of the EA.
Endangered Species Act (16 U.S.C. § 1531 *et seq*.)	Compliant	The Preferred Alternative will adhere to the applicable PDCs of the 2020 NMFS SARBO and USFWS SPBO, P3BO and individual consultations for Anastasia Island beach mouse and rufa red knot. Detailed information on the consultation with NMFS and USFWS can be found in Appendix B.

Law, Policy, and Regulations	Status	Comments
Estuary Protection Act (16 U.S.C. §§ 1221-1226)	Not applicable	No estuaries of national significance exist in the project area.
Federal Water Project Recreation Act (16 U.S.C. §§ 460(L)(12)-460(L)(21))	Compliant	Recreational opportunities as well as the effects of the Preferred Alternative on outdoor recreation have been described in Section 3 and 4.
Fish and Wildlife Coordination Act (16 U.S.C. §§ 661-666c)	Compliant	The proposed action has been coordinated with USFWS. A Memorandum for the Record, signed by USFWS on April 28, 2022, and the Corps, documents an agreement between the agencies to use the NEPA review and ESA consultation processes to complete coordination responsibilities under the Fish and Wildlife Coordination Act. The Corps is complying with the Act through the NEPA review and ESA consultation processes and is in full compliance with the Act.
Farmland Protection Policy Act (7 U.S.C. § 4201 *et seq.*)	Not applicable	No farmland would be impacted with the proposed project.
Magnuson-Stevens Fishery Conservation and Management Act, as amended (16 U.S.C. § 1801 *et seq.*)	Compliant	The EFH Assessment for the project is integrated within this report. EFH consultation was coordinated with the NMFS through the draft report's review period. In an email between BOEM and NMFS dated January 31, 2022, NMFS stated that they would not be reviewing the EA for this project, and the Corps did not receive any EFH conservation recommendations. Email correspondence can be found in Appendix A "Pertinent Correspondence".
Marine Mammal Protection Act (16 U.S.C. §§ 1361–1362, 1371-1389, 1401-1407, 1411-1418, 1421-1421h, 1423-1423h)	Compliant	Project sites are accessible to marine mammals, such as the Florida manatee and whales (especially the North Atlantic Right Whale). Incorporation of standard protection conditions, BMPs, as well as applicable T&Cs and PDCs of the SARBO, SPBO, and P3BO into the projects' plans and specifications will ensure that the potential adverse effects to these species are reduced to the maximum extent practicable. Implementation of these safeguards to protect threatened and endangered species during construction would protect marine mammals in the area. No take[2] is anticipated.

[2] Take as defined under the Marine Mammal Protection Act means "to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal" (16 U.S.C. § 1362(13))

Law, Policy, and Regulations	Status	Comments
Marine Protection, Research, and Sanctuaries Act (16 U.S.C. §§ 1431-1445, 1447-1447f and 33 U.S.C. §§ 1401-1445, 2801-2805)	Not applicable	The Preferred Alternative does not include ocean disposal of dredged material.
Migratory Bird Treaty Act (16 U.S.C. §§ 703-712) and Migratory Bird Conservation Act (16 U.S.C. §§ 715-715D, 715E, 715F-715R)	Compliant	The Corps will include standard migratory bird protection measures in the project plans and specifications and will require the contractor to abide by those requirements.
National Historic Preservation Act (54 U.S.C. § 300101 *et seq.*)	Compliant	Consultation occurred with the Florida SHPO, appropriate federally recognized tribes, and other interested parties. Due to continued changes to project parameters for the pipeline corridor, the Corps and BOEM will employ Stipulation V of its 2021 *Programmatic Agreement among the United States Army Corps of Engineers, the Florida State Historic Preservation Officer, the Bureau of Ocean Energy Management, and the Advisory Council on Historic Preservation Regarding Compliance with Section 106 of the National Historic Preservation Act during Implementation of the United States Army Corps of Engineers, Jacksonville District Operation, Navigation, and Shore Protection Programs* in order to meet its Section 106 compliance requirements.
Native American Graves Protection and Repatriation Act (25 U.S.C. § 3001 *et seq.*)	Compliant	This Act applies to Federal owned lands, including Reservation lands. The Preferred Alternative proposes impacts to federally owned lands; however, archaeological surveys of those lands do not indicate the presence of Native American graves or other burial resources. Consultation occurred with the Seminole Tribe of Florida, the Seminole Nation of Oklahoma, the Thlopthlocco Tribal Town, and the Miccosukee Tribe of Indians of Florida and Muscogee (Creek) Nation.
Outer Continental Shelf Lands Act (43 U.S.C. § 1331 *et seq.*)	In progress	The Corps is currently coordinating with BOEM to execute a lease agreement for the use of the new borrow areas N-3 and S-1 and will be in full compliance with the Act at the time of construction.
Rivers and Harbors Act of 1899, Section 10 (33 U.S.C. § 404)	Compliant	The proposed work could temporarily obstruct navigable waters of the U.S. during construction. The proposed action will be subjected to the public notice and other evaluations normally conducted for activities subject to the Act. The project complies with the Act.

Law, Policy, and Regulations	Status	Comments
Submerged Lands Act (43 U.S.C. § 1301 *et seq.*)	Compliant	The borrow area dredging would not occur on submerged lands of the State of Florida. The Corps will coordinate the project with the State of Florida through the WQC process, FCD review, and the review process of this EA. The Corps is complying with the Act through the state review processes and will be in full compliance with the Act at the time of construction.
Uniform Relocation Assistance and Real Property Acquisition Policies Act (42 U.S.C. §§ 4601-4655)	Compliant	No homeowners would be displaced as part of offshore dredging and transport. The project will be in full compliance with the Act at the time of construction.
Wild and Scenic River Act (16 U.S.C. § 1271 *et seq.*)	Not applicable	No designated wild and scenic rivers are located within project area.
Executive Order (E.O.) 11988 Floodplain Management	Compliant	The Corps concludes that the proposed project will not result in harm to people, property, and floodplain values; will not induce development in the floodplain; and the project is in the public interest. For the reasons stated above, the project complies with this E.O. (See Appendix B).
E.O. 11990 Protection of Wetlands	Not applicable	Wetlands are not located within the proposed project footprint.
E.O. 12898 Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations	Compliant	The Corps conducted an evaluation of EJ impacts using a two-step process: as a first step, the study area was evaluated to determine whether it contains a concentration of people of color and/or low-income populations. The second step includes evaluation to determine whether the proposed action would result in a disproportionately-high adverse effect on these populations. (The detailed EJ analysis can be found in Appendix B.) The Corps determined that the proposed project does not present any environmental impacts that are high, adverse, and disproportionate to low income and/or people of color populations.
E.O. 13007 Indian Sacred Sites	Not applicable	This E.O. is directed towards executive branch agencies with statutory or administrative responsibility for the management of Federal lands. The proposed action would not affect Department of Defense owned or Corps managed lands.
E.O. 13045 Protection of Children from Environmental Health and Safety Risks	Compliant	The proposed action does not affect children disproportionately from other members of the population and would not increase any environmental health or safety risks to children.
E.O. 13089 Coral Reef Protection	Not applicable	The proposed action does not occur in areas near coral reefs and hardbottom habitats.

Law, Policy, and Regulations	Status	Comments
E.O. 13112 Invasive Species	Compliant	The project's plans and specifications will include conditions to avoid the introduction and/or promotion of non-native species to the region. The Corps will require the contractor to abide by those requirements as well as submit a plan describing the protection measures to be implemented by the contractor.
E.O. 13175 Consultation and Coordination with Indian Tribal Governments	Compliant	Consultation with members and representatives of the Seminole Tribe of Florida, the Miccosukee Tribe of Indians of Florida, the Seminole Nation of Oklahoma, the Thlopthlocco Tribal Town, and the Muscogee Creek Nation have been ongoing. Pursuant to E.O. 13175, the U.S. Army Corps of Engineers, Headquarters developed the November 1, 2012 Tribal Policy Memorandum, which dictates Federal responsibilities, including Trust Responsibilities, to Federally recognized Tribes. The Corps will continue to consult as required by the E.O. and as specified by the November 1, 2012 Tribal Policy Memorandum.
E.O. 13186 Responsibilities of Federal Agencies to Protect Migratory Birds	Compliant	The Preferred Alternative is not expected to adversely affect migratory bird species.

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