Draft Environmental Assessment

Town of Jupiter Island Blowing Rocks Dune Restoration
FEMA-4468-DR-FL
Town of Jupiter Island, Florida
September 2020

U. S. Department of Homeland Security
Region IV – Atlanta, GA

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ACRONYMS AND ABBREVIATIONS

APE	Area of Potential Effects
BFE	Base Flood Elevation
BGEPA	Bald and Golden Eagle Protection Act
BO	Biological Opinion
CBRA	Coastal Barrier Resource Act
CFR	*Code of Federal Regulations*
CWA	Clean Water Act
CY	Cubic Yards
CZMA	Coastal Zone Management Act
EA	Environmental Assessment
EO	Executive Order
ESA	Endangered Species Act
FDEP	Florida Department of Environmental Protection
FEMA	Federal Emergency Management Agency
FGS	Florida Geological Service
FMSF	Florida Master Site File
GHGs	Greenhouse gases
MBTA	Migratory Bird Treaty Act
MSA	Magnusson-Stevens Fishery Conservation and Management Act
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NPS	National Park Service
NRHP	National Register of Historic Places
NOAA	National Oceanic and Atmospheric Administration
NRCS	Natural Resource Conservation Service
OPA	Otherwise Protected Area
PA	Public Assistance
PL	Public Law
RHA	Rivers and Harbors Act
SHPO	State Historic Preservation Office
SPBO	Statewide Programmatic Biological Opinion
Stafford Act	Robert T. Stafford Disaster Relief and Emergency Assistance Act
USACE	United States Army Corps of Engineers

1.0 INTRODUCTION

Hurricane Dorian impacted Florida between August 28, 2019 and September 9, 2019, bringing strong winds, storm surge, and flooding. President Trump signed a disaster declaration (FEMA-4468-DR-FL) on October 21, 2019 authorizing the Department of Homeland Security's Federal Emergency Management Agency (FEMA) to provide federal assistance to the designated areas of Florida. This assistance is provided pursuant to the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), and Public Law (PL) 93-288, as amended. Section 406 of the Stafford Act authorizes FEMA's Public Assistance (PA) Program to repair, restore, and replace state and local government and certain private nonprofit facilities damaged as a result of the event.

The Town of Jupiter Island, in Martin County, Florida was designated to receive federal assistance for this disaster. The Town of Jupiter Island has applied for funding from FEMA under the PA program to restore the Blowing Rocks dune system that eroded as a result of FEMA-4468-DR-FL. The project site is located between Florida Department of Environmental Protection (FDEP) Monuments R-126 (26.974053, -80.0813608) on the north end and R-127.4 (26.971069, -80.080741) on the south end, for an approximate length of 1,100 linear feet (LF).

The construction, maintenance and repair of this engineered beach dune project is the legal responsibility of the Town of Jupiter Island, and the beach is authorized for nourishment events by the U.S. Army Corps of Engineers (USACE). USACE authorized a permit modification on October 16, 2018 (SAJ-1992-01740(MOD-LCK) for sand dredging and beach re-nourishment of Jupiter Island Beach which included re-nourishment of the Blowing Rocks dune, see Attachment M.

The Blowing Rocks dune system restoration project was initially constructed in 2004 with the placement of 7,028 cubic yards (CY) of beach-compatible sand from an approved upland source. This project was funded by FEMA as a Category B project for emergency protective measures to construct an emergency berm to prevent further losses and potential damage to residences and County Road 707 which is an evacuation route for the Town of Jupiter Island. The dunes have been re-nourished three times since their construction, all under emergency orders to repair storm damages. The first re-nourishment in 2012 included the placement of 8,600 CY of sand and planting 13,150 sea oats, the second re-nourishment in 2014 included the placement of 1,800 CY of sand and planting 1,955 sea oats, and the last re-nourishment in 2017 included the placement of 4,800 CY of sand and planting of 3,300 sea oats.

This draft Environmental Assessment (EA) has been conducted in accordance with NEPA, the President's Council on Environmental Quality regulations for implementing NEPA (40 Code of Federal Regulations [CFR] 1500-1508) and regulations adopted pursuant to Department of Homeland Security Directive 023-01, Rev 01, and FEMA Directive 108-1.

2.0 PURPOSE AND NEED

As a result of the storm surge and wave action caused by Hurricane Dorian, the Town of Jupiter Island's Blowing Rocks dune system was eroded. The purpose of the dune system is to protect the community and coastal infrastructure including adjacent roads and residences from storm surge, wave action and flooding. The community has identified the need to restore the dunes to withstand future storm events, reduce erosion, and decrease risk to human life and improved property from future events while preserving the recreational and natural value of the beach.

3.0 ALTERNATIVES

The alternatives considered in addressing the purpose and need stated are the No Action Alternative, the pre-disaster dune restoration project, and the comprehensive restoration project (Preferred Alternative).

3.1. Alternative 1 – No Action Alternative

Under the No Action Alternative, the dune restoration project would not be completed. Thus, the beach and community would not be protected from future storm surge events. Erosion would continue to occur along the shoreline, and negative impacts to species and the recreational value of the area would occur.

3.2. Alternative 2 – Pre-Disaster Condition Dune Restoration

Under Alternative 2, the engineered design template for the dune system would only be filled with the quantity of sand lost during Hurricane Dorian, not to the full beach template. This alternative project would replace only 1,463 CY of beach-compatible sand and include planting 1,468 sea oats. The sand source would be Stewart Mine in Fort Pierce, Florida. The project would partially maintain a viable dune system for nesting habitat for threatened and endangered nesting sea turtles, as well as partially protect and maintain nesting habitat for shorebird species including the threatened piping plover. The project would provide a level of storm protection to the existing shore, upland habitat, and coastal infrastructure, but the area would be susceptible to future damages by storms and tidal waters.

3.3. Alternative 3 – Comprehensive Dune Restoration (Preferred Alternative)

Under Alternative 3, the full dune system profile would be filled to the engineered design template. The proposed project would include replacing an estimated total of 5,463 CY of sand and planting 1,468 sea oats. Approximately 1,463 CY of this total is hurricane-related sand losses and the additional 4,000 CY would be added as part of the regular maintenance nourishment plan. This alternative not only restores the dune system to pre-disaster condition, but it strengthens the dune system back to its intended design profile. A healthy dune system can serve as a repository for sand to naturally replenish beaches that have experienced significant erosion from coastal storms. Therefore, this option will enhance the existing beach and dune system, restore the initial storm and flood protection provided by the dune system, and restore the dune system habitat for threatened and endangered species. Combining the hurricane-related sand losses with planned

maintenance re-nourishment efforts, rather than conducting an interim re-nourishment to restore only the disaster related losses, will minimize the overall cost of the project and reduce the frequency of environmental impacts in the project area.

4.0 AFFECTED ENVIRONMENT AND POTENTIAL CONSEQUENCES

The Blowing Rocks dune system is located on the southern end of Jupiter Island Beach near the Martin and Palm Beach County division. The majority of the coastline is developed with single family residential homes on the east side of County Road 707 and recreational areas, mainly boat docks over the Intracoastal Waterway, on the west side.

Impact significance and context evaluation criteria for potential impacts

Impact Scale	Criteria
None/Negligible	The resource area would not be affected and there would be no impact, OR changes or benefits would either be non-detectable or, if detected, would have effects that would be slight and local. Impacts would be well below regulatory standards, as applicable.
Minor	Changes to the resource would be measurable, but the changes would be small and localized. Impacts or benefits would be within or below regulatory standards, as applicable. Mitigation measures would reduce any potential adverse effects.
Moderate	Changes to the resource would be measurable and have either localized or regional scale impacts/benefits. Impacts would be within or below regulatory standards, but historical conditions would be altered on a short-term basis. Mitigation measures would be necessary, and the measures would reduce any potential adverse effects.
Major	Changes to the resource would be readily measurable and would have substantial consequences/benefits on a local or regional level. Impacts would exceed regulatory standards. Mitigation measures to offset the adverse effects would be required to reduce impacts, though long-term changes to the resource would be expected.

4.1. Potential Environmental Consequences

The potential environmental consequences as a result of Alternatives 1, 2 and 3 are summarized in Table 4.1.

Table 4.1 Potential Environmental Consequences on Resources for Each Alternative

Resource Type	Resource	Alternative 1	Alternative 2	Alternative 3
Physical Resources	Geology and Soils	No impact	No impact, beach compatible sand will be used	No impact, beach compatible sand will be used

Resource Type	Resource	Alternative 1	Alternative 2	Alternative 3
Physical Resources	Clean Air Act	No impact	Minor, short term impacts to air quality due to exhaust from construction equipment	Minor, short term impacts to air quality due to exhaust from construction equipment
	Climate Change	No impact	Minor impact from construction equipment used	Minor impact from construction equipment used
Water Resources	Clean Water Act (CWA)	No impact	No impact	No impact
	Floodplain Management (EO 11988)	No impact, risk to human life and improved property continues at the current level	Minor impact as the dunes would partially reduce flood risk to adjacent improved property while preserving open space	Moderate impact as the dune system would be restored and would reduce flood risk to adjacent infrastructure while preserving open space
	Protection of Wetlands (EO 11990)	No impact	Short term minor impacts from construction	Short term minor impacts from construction
	Drinking Water	No impact	No impact	No impact
Coastal Resources	Coastal Zone Management (CZMA)	No impact	Minor impact due to partial restoration of coastal dune system	Minor impact due to full restoration of coastal dune system
	Coastal Barrier Resource Act (CBRA)	No impact	Minor impact due to partial restoration of system unit	Minor impact due to full restoration of the system unit

Resource Type	Resource	Alternative 1	Alternative 2	Alternative 3
Biological Resources	Fish & Wildlife Resources	No impact	Short term impacts would occur to species that live in, or utilize, beach habitat. Due to partial restoration, impacts would be more frequent. After construction, these species would be expected to recover.	Short term impacts would occur to species that live in, or utilize, beach habitat. After construction, these species would be expected to recover. Long term benefit for species habitat restoration.
	Vegetation	Minor, continuing erosion could lead to further loss of dune vegetation	Minor impact to dune vegetation as a result of dune planting incorporated into project	Minor impact to dune vegetation as a result of dune planting incorporated into project and full dune restoration
	Threatened and Endangered Species	Minor, loss of suitable habitat for listed species	Minor effects due to increased habitat for shorebirds. Potential for incidental take during construction minimized by application of measures set forth in U.S. Fish and Wildlife Service (USFWS) Biological Opinion (BO). Due to partial restoration, impacts would be more frequent.	Moderate effects due to increased habitat for shorebirds. Potential for incidental take during construction minimized by application of measures set forth in U.S. Fish and Wildlife Service (USFWS) Biological Opinion (BO).

Resource Type	Resource	Alternative 1	Alternative 2	Alternative 3
	Migratory Bird Treaty Act (MBTA)	No impact	Minor impacts minimized by measures set forth by USFWS in their BO	Minor impacts minimized by measures set forth by USFWS in their BO
Biological Resources	Magnusson-Stevens Fisheries Conservation Act (MSA)	No impact	Negligible impacts, amount of sand is unlikely to affect essential fish habitat	Minor impact minimized by project conditions
	Bald and Golden Eagle Protection Act (BGEPA)	No impact	No impact	No impact
Cultural Resources	Historic and Archaeological Resources	No impact	No impact, concurrence from SHPO received on 7/3/2019. Six Indian tribes consulted; two comments received.	No impact, concurrence from SHPO received on 7/3/2019. Six Indian tribes consulted; two comments received.
Socioeconomic Resources	Land use and planning	No impact	No impact	No impact
	Noise	No impact	Minor short-term impacts by equipment used	Minor short-term impacts by equipment used
	Transportation	Minor, continuous erosion would decrease road protection	Minor short-term impacts from construction equipment	Minor short-term impacts from construction equipment, long term benefit from dune protection
	Environmental Justice (EO 12898)	Minor, impacts to residences could result from future storm	Minor impact by storm damage reduction to population along the shoreline.	Moderate impact by storm damage reduction to population along the shoreline.
	Hazardous Materials/Waste and solid waste	No impact	Minor short-term impact due to potential for spills during construction.	Minor short-term impact due to potential for spills during construction.

4.2. Physical Resources

4.2.1. Geology and Soils

According to the Florida Geological Survey (FGS), the landform in which the project area is located is considered Eastern Valley and the Florida Stratigraphic Geology of the project area is from the Pleistocene, within the Quaternary period. The coastal areas of the Town of Jupiter Island consist of Qa and Qph sediments, and the project area falls within Qa sediments, consisting of Anastasia formation, which is a lithified coquina of shells and sands, and unlithified fossiliferous sand. According to Natural Resources Conservation Service (NRCS) soil data, soils underlying the project area are classified as Palm Beach-Beaches (National Map unit 1jq7s), described as beaches and dunes on marine terraces. The soil has a 0 to 8 percent slope. These map units are not classified as prime farmland by the NRCS. Prime farmland is defined as land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and is available for these uses.

4.2.1.1. Alternative 1: No Action Alternative

The No Action Alternative would not involve any construction activities and regrading, thus there will be no impact to existing geology and soil conditions.

4.2.1.2. Alternative 2: Pre-Disaster Condition

Under alternative 2, the partial dune restoration would have no long-term impacts on the geology and soils as beach compatible sand, meeting the engineering and aesthetic requirements put forth by FDEP, will be used during construction.

4.2.1.3. Alternative 3: Comprehensive Dune Restoration

Under alternative 3, the full restoration of the dune system would have no long-term impacts on the geology and soils as beach compatible sand, meeting the engineering and aesthetic requirements put forth by FDEP, will be used during construction.

4.2.2. Clean Air Act

The Clean Air Act requires the Environmental Protection Agency (EPA) to establish national ambient air quality standards for certain common and widespread pollutants based on standards set for the following six common “criteria pollutants:” particle pollution, ozone, sulfur dioxide, nitrogen dioxide, carbon monoxide, and lead. Areas that meet the air quality standard for the criteria pollutants are designated as being in attainment. Areas that do not meet the air quality standard for one of the criteria pollutants are designated as being in nonattainment for that standard. All counties in the state of Florida are currently in attainment with all criteria pollutants.

4.2.2.1. Alternative 1: No Action Alternative

The No Action Alternative would not involve any construction activities, therefore there would be no impacts to air quality.

4.2.2.2. Alternative 2: Pre-Disaster Condition

Alternative 2 would have a negligible short-term impact on air quality due to the temporary use of construction equipment resulting in temporary air emissions from fuel usage.

4.2.2.3. Alternative 3: Comprehensive Dune Restoration

Alternative 3 would have a negligible short-term impact on air quality due to the temporary use of construction equipment resulting in temporary air emissions from fuel usage for a longer period of time compared to alternative 2.

4.2.3. Climate Change

Greenhouse gases (GHGs) are emitted by both natural processes and human activities, and their accumulation in the atmosphere regulates temperature. GHGs include water vapor, carbon dioxide, methane, nitrous oxides, and other compounds. There are no established thresholds or standards for GHGs.

4.2.3.1. Alternative 1: No Action Alternative

The no action alternative wo not involve any construction activities, therefore no GHG would be emitted.

4.2.3.2. Alternative 2: Pre-Disaster Condition

Alternative 2 would result in minor short-term impacts from construction equipment resulting in temporary air emissions due to fuel usage. These temporary emissions would be below regulatory standards and would have a minor impact.

4.2.3.3. Alternative 3: Comprehensive Dune Restoration

Alternative 3 would result in minor short-term impacts from construction equipment resulting in temporary air emissions due to fuel usage for a longer period of time compared to alternative 2. These temporary emissions would be below regulatory standards and would have a minor impact.

4.3. Water Resources

4.3.1. Clean Water Act

Section 401/404 of the Clean Water Act (CWA)/Section 10 of Rivers and Harbors Act (RHA) Existing Conditions: The Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters (https://www.epa.gov/laws-regulations/summary-clean-water-act). Section 404 of the Clean Water Act (CWA) establishes a program to regulate the discharge of dredged or fill material into waters of the United States, including wetlands. Activities in waters of the United States regulated under this program include fill for development, water resource projects (such as dams and levees), infrastructure development (such as highways and airports) and mining projects. Section 404 requires a permit before dredged or fill material may be discharged into waters of the

United States, unless the activity is exempt from Section 404 regulation (e.g., certain farming and forestry activities).

4.3.1.1. Alternative 1: No Action Alternative

The No Action Alternative would not involve any construction activities, therefore there would be no impacts to waters of the United States.

4.3.1.2. Alternative 2: Pre-Disaster Condition

Under alternative 2, the dune restoration work would consist of work above the annual high tide line, and thus there will be no impact to waters of the United States.

4.3.1.3. Alternative 3: Comprehensive Dune Restoration

Under alternative 3, the full dune restoration work would consist of work above the annual high tide line, and thus there will be no impact to waters of the United States.

4.3.2. Executive Order 11988 (EO 11988) Floodplain Management

EO 11988, Floodplain Management, amended January 29, 2015, and as implemented in 44 CFR 9, requires federal agencies to "avoid to the extent possible the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative." The 100-year floodplain is the area covered by water in the event of a 100-year flood, which is a flood that has a 1 percent chance of being equaled or exceeded in magnitude in any given year. The 500-year floodplain is the area covered by water in the event of a 500-year flood, which is a flood that has a 0.2 percent chance of being equaled or exceeded in magnitude in any given year. The VE zone is the coastal area subject to a velocity hazard (wave action) where Base Flood Elevations (BFEs) are provided. The VE zones as well as the 100- and 500-year floodplains are mapped on FEMA Flood Insurance Rate Maps.

4.3.2.1. Alternative 1: No Action Alternative

The No Action Alternative would not involve any construction activities, therefore there would be no impacts to floodplains. Improved property adjacent to the project area would remain at risk from future flooding events.

4.3.2.2. Alternative 2: Pre-Disaster Condition

The coastal dune system restoration project would occur within the floodplain. The dune system would serve to reduce the flood risk to the areas landward of the existing shoreline, including improved property and upland habitat. Alternative 2 would provide partial protection as the dune system would only be fully restored. The coastal dunes are functionally dependent upon their location within the floodplain. The dunes also serve to facilitate open space use of the floodplain for recreational value, which is one of the natural and beneficial values of floodplains, outlined in 44 CFR Part 9.

4.3.2.3. Alternative 3: Comprehensive Dune Restoration

The coastal dune system restoration project would occur within the floodplain. The dune system would serve to reduce the flood risk to the areas landward of the existing shoreline, including improved property and upland habitat. Alternative 3 would provide greater protection as the dune system would be restored to the full extent of its engineered design profile. The coastal dunes are functionally dependent upon their location within the floodplain. The dunes also serve to facilitate open space use of the floodplain for recreational value, which is one of the natural and beneficial values of floodplains, outlined in 44 CFR Part 9. An 8-step checklist, as required by 44 CFR Part 9 (Appendix A), has been completed for Alternative 3 (the Preferred Alternative).

4.3.3. Wetlands

EO 11990, Protection of Wetlands, requires federal agencies to avoid, to the extent possible, the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative. Information about the wetlands potentially affected by the proposed project was gathered from USFWS National Wetlands Inventory (NWI) Web Map Services. According to the maps in Appendix C, the project area is directly adjacent to a designated estuarine and marine deep-water wetland.

4.3.3.1. Alternative 1: No Action Alternative

The No Action Alternative would not involve any construction activities, therefore there would be no impacts to the adjacent wetland.

4.3.3.2. Alternative 2: Pre-Disaster Condition

The proximity to the designated wetlands would cause temporary impacts to the adjacent wetland from sand displacement during construction. No direct impacts from sand removal from marine wetlands as sand source is uplands. The restoration activity is within the current coastal dune footprint thus making the impacts to adjacent wetlands negligible.

4.3.3.3. Alternative 3: Comprehensive Dune Restoration

The proximity to the designated wetlands could cause temporary impacts to the adjacent wetland from sand displacement during construction. No direct impacts from sand removal from marine wetlands as sand source is uplands. The restoration activity is within the current coastal dune footprint thus making the impacts to adjacent wetlands negligible.

4.3.4. Drinking water

The Safe Water Drinking Act, passed in 1974, authorizes the EPA to set national health-based standards for drinking water to protect against both naturally occurring and man-made contaminants that may be found in drinking water. According to the EPA's Map of Sole Source Aquifer Locations (https://www.epa.gov/dwssa/map-sole-source-aquifer-locations), there are no Sole Source Aquifers located within the Town of Jupiter Island.

4.3.4.1. Alternative 1: No Action Alternative

The No Action Alternative would not involve any construction activities, therefore there would be no impact to drinking water resources.

4.3.4.2. Alternative 2: Pre-Disaster Condition

The coastal dune system restoration project would not have an impact on drinking water as there are no Sole Source Aquifers in the Town of Jupiter Island.

4.3.4.3. Alternative 3: Comprehensive Dune Restoration

The coastal dune system restoration project would not have an impact on drinking water as there are no Sole Source Aquifers in the Town of Jupiter Island.

4.4. Coastal Resources

4.4.1. Coastal Zone Management Act (CZMA)

The Coastal Zone Management Act (CZMA) provides for the management of the nation's coastal resources. The CZMA defines the coastal zones where development must be managed to protect areas of natural resources unique to coastal regions. States are required to define the area that will comprise coastal zone and develop management plans that will protect these unique resources through enforceable policies of state coastal zone management (CZM) programs. As defined in the Act, the coastal zone includes coastal waters extending to the outer limit of state submerged land title and ownership, adjacent shorelines, and land extending inward to the extent necessary to control shorelines.) Federal as well as local actions must be determined to be consistent with the CZM plans and policies before they can proceed.

4.4.1.1. Alternative 1: No Action Alternative

The No Action Alternative would not involve any construction activities, therefore there would be no impact to the coastal zone.

4.4.1.2. Alternative 2: Pre-Disaster Condition

Under alternative 2, activity and construction would occur in the coastal zone. The Town of Jupiter Island has obtained a Consolidated Joint Coastal Permit and Sovereign Submerged Lands Authorization from FDEP's Beaches, Inlets, and Ports Program on June 20, 2018 (Permit Number: 0186991-008-JC), which lists construction conditions and monitoring requirements. Issuance of this permit constitutes a consistency review for Town of Jupiter Island Beach.

4.4.1.3. Alternative 3: Comprehensive Dune Restoration

Under alternative 3, activity and construction would occur in the coastal zone. The Town of Jupiter Island has obtained a Consolidated Joint Coastal Permit and Sovereign Submerged Lands Authorization from FDEP's Beaches, Inlets, and Ports Program on June 20, 2018 (Permit Number:

0186991-008-JC), which lists construction conditions and monitoring requirements. Issuance of this permit constitutes a consistency review for Town of Jupiter Island Beach.

4.4.2. Coastal Barrier Resource Act (CBRA)/ Coastal Barrier Improvement Act (CBIA)

The Coastal Barrier Resources Act of 1982 and subsequent amendments are designed to address problems caused by coastal barrier development by restricting most Federal expenditures and financial assistance that tend to encourage such development. Three important goals of CBRA are to minimize loss of human life by discouraging development in high risk areas, reduce wasteful expenditure of federal resources; and protect the natural resources associated with coastal barriers. The Coastal Barrier Improvement Act of 1990 reauthorized the CBRA and added new units. The CBIA, an addition to the CBRA, also designated a new category of lands called "otherwise protected areas" (OPAs). OPAs are based on areas established under federal, state, or local law, or held by a qualified organization, primarily for wildlife refuge, sanctuary, recreational, or natural resource conservation purposes.

A portion of this project is located within the boundary of Unit P12 of the Coastal Barrier Resource System (CBRS); the Unit name is Blowing Rocks. This Unit was designated on November 16, 1990.

4.4.2.1. Alternative 1: No Action Alternative

The No Action Alternative would not involve any construction activities, therefore there would be no impact to the coastal barrier system.

4.4.2.2. Alternative 2: Pre-Disaster Condition

The coastal dune system restoration project would involve work in the CBRS system unit P12 (Blowing Rocks). FEMA determined the project meets the exception 16 U.S.C. 3505(a)(6)(G) and 44 CFR §206.345(b)(6) for the pre-disaster dune restoration.

4.4.2.3. Alternative 3: Comprehensive Dune Restoration

The coastal dune system restoration project would involve work in the CBRS system unit P12 (Blowing Rocks). FEMA determined the project meets the exception 16 U.S.C. 3505(a)(6)(G) and 44 CFR §206.345(b)(6) for the proposed dune restoration projects. USFWS was unable to provide an opinion at this time and allowed FEMA to proceed, see USFWS correspondence received on September 4, 2020. See consultation with USFWS in Appendix D.

4.5. Biological Resources

4.5.1. Fish & Wildlife Resources

The natural sandy beaches on which the engineered dune system is located serve as foraging and nesting habitat for numerous species, not just threatened and endangered species. These include various species of shorebirds (discussed further in section 4.5.4.), wading birds, sea birds, crabs, mammals, and sea turtles (discussed further in section 4.5.3.).

4.5.1.1. Alternative 1: No Action Alternative

The No Action Alternative would not involve any construction activities, therefore there would be no direct impact to beach wildlife or fish populations. Species habitat would continue to decline due to continued erosion of the dunes.

4.5.1.2. Alternative 2: Pre-Disaster Condition Dune Restoration

The pre-disaster condition restoration of the coastal dune system would have minor short-term impacts to species living on the coastal dune system as the sand placement activities would bury the majority of the existing benthic infauna, crustacean, and faunal wildlife that may live in the project area, which could have an impact to the foraging habitat of predator species, such as birds. Due to the limited amount of sand that would be placed in the area for this alternative, the area is expected to recover quickly, and no long-term impacts are expected. Additionally, dune restoration activity with upland sand would likely have limited direct impacts to species in the water. Due to the partial restoration to the dunes, this alternative would allow for more frequent impacts.

4.5.1.3. Alternative 3: Comprehensive Dune Restoration

The full restoration of the coastal dune would have short-term impact to species living on the coastal dune system. The sand placement activities would bury the majority of the existing benthic infauna, crustacean, and faunal wildlife that may live in the project area, which could have an impact to the foraging habitat of predator species, such as birds. However, these areas and associated wildlife species are expected to recover over time and the long-term impacts would be minor. Additionally, dune restoration activity with upland sand would likely have limited direct impacts to species in the water.

4.5.2. Vegetation

Vegetation is a necessary component of a functioning coastal dune as the root systems serve to keep the dunes structure intact and resistant to erosion caused by wind and storm surge. In addition, dune vegetation provides foraging and nesting habitat to animals such as shorebirds.

4.5.2.1. Alternative 1: No Action Alternative

The No Action Alternative would not involve any construction activities, therefore there would be no impact to the remaining coastal dune vegetation. Remaining dune vegetation could recede due to continued erosion.

4.5.2.2. Alternative 2: Pre-Disaster Condition

This dune restoration activity would have a minor beneficial effect on dune vegetation. Sea oats would be planted on 18-inch centers, and these are salt tolerant plants that would help stabilize the dunes. The Town of Jupiter Island would be required to follow the conditions of the USFWS Sand Placement Statewide Programmatic Biological Opinion (SPBO), listed in Section 6.0, which includes dune planting conditions in order to mitigate the impacts to species. Coastal dune

plantings would also serve to protect the integrity of the dune system, which would increase their resiliency to erosion and in turn protect improved property.

4.5.2.3. Alternative 3: Comprehensive Dune Restoration

This dune restoration activity would have a minor beneficial effect on dune vegetation. Sea oats would be planted on 18-inch centers, and these are salt tolerant plants that would help stabilize the dunes. The Town of Jupiter Island would be required to follow the conditions of the USFWS Sand Placement Statewide Programmatic Biological Opinion (SPBO), listed in Section 6.0, which includes dune planting conditions in order to mitigate the impacts to species. Coastal dune plantings would also serve to protect the integrity of the dune system, which would increase their resiliency to erosion and in turn protect improved property.

4.5.3. Threatened and Endangered Species

The Endangered Species Act (ESA) of 1973 provides for the conservation of threatened and endangered plants and animals and the habitats in which they are found. The lead Federal agencies for implementing ESA are the USFWS and the U.S. National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS). As relevant to the proposed action, the USFWS has regulatory authority for species occurring on land within the project area. The law requires federal agencies to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of designated critical habitat of such species. The law also prohibits any action that causes a "take" of any listed species of endangered fish or wildlife. A "take" includes the following actions: "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct."

In accordance with Section 7 of the Endangered Species Act (ESA) of 1973, the project was evaluated for the potential impact to federally listed threatened and endangered species that may be present in the project area identified by accessing the USFWS Information for Planning and Consultation (IPaC) database on July 1, 2020. The threatened species likely to occur in the project area are the Piping Plover (*Charadrius melodus*), Red knot (*Calidris canutus rufus*) and Loggerhead sea turtle (*Caretta caretta*). The endangered species likely to occur in the project area are Hawksbill sea turtle (*Eretmochelys imbricata*), Leatherback sea turtle (*Dermochelys coriacea*) and Beach jacquemontia (*Jacquemontia reclinata*). The project location overlaps with Loggerhead sea turtle designated critical habitat. The shoreline and coastal dune system associated with the project area is suitable nesting habitat for the listed sea turtles, as well as foraging habitat for shorebirds.

Other federally threatened and endangered species with the potential to occur in or near the area include the Wood stork (*Mycteria americana*), Four-petal Pawpaw (*Asimina tetramera*), and Lakela's Mint (*Dicerandra immaculata*). However, the project is likely to have no effect as the project area does not provide suitable habitat for these species. Southern Beach mouse (*Peromyscus pplionotus*) were historically present in the area, however due to population decline they are no longer found in Martin County (USFWS, 2009).

4.5.3.1. Alternative 1: No Action Alternative

The No Action Alternative would not involve any construction activities, therefore there would be no impact to threatened or endangered species. Nesting and foraging habitat for the seabirds, and nesting habitat for the sea turtles, would continue to decline due to coastal erosion. Negative long-term impacts are expected with the no action alternative.

4.5.3.2. Alternative 2: Pre-Disaster Condition Dune Restoration

Under the pre-disaster condition alternative, environmental impacts to species along the shoreline are anticipated due to construction activities. Sea turtles and shorebirds would be impacted by the temporary disruption of the dune habitat. The impacts would be temporary, and the species are expected to recover once construction has been completed. The restoration of the dunes to pre-disaster condition would benefit threatened and endangered species by the partial restoration of the eroded habitat.

4.5.3.3. Alternative 3: Comprehensive Dune Restoration

Under the preferred alternative, environmental impacts to species along the shoreline would be anticipated due to construction of the coastal dunes. If the sand placement activities occur during sea turtle nesting season, these actions may have an adverse effect on nesting sea turtles and turtle hatchlings. The Town of Jupiter Island would be required to follow the conditions of the USFWS Statewide BO to minimize impacts to sea turtles, which includes the following: installation of beach compatible sand; sand placement shall not occur during the period of peak sea turtle egg laying and egg hatching, to reduce the possibility of sea turtle nest burial, crushing of eggs, or nest excavation, (May 1 through October 31 for Martin County); the placement and design of the dune shall emulate the natural dune system to the maximum extent possible; monitoring and surveying for turtle nests as well as potentially relocating them; storing equipment off of the beach. For the full list of conditions, see Section 6.0. Upon implementation of the Conservation Measures included in the USFWS Statewide PBO and FDEP permit conditions, the project is not likely to jeopardize the continued existence of the loggerhead, leatherback, or hawksbill sea turtles; and the action “may affect, but is not likely to adversely affect” the terrestrial critical habitat of the loggerhead sea turtle population.

The project would also have moderate short-term adverse impacts to the piping plover, red knot, and other shorebird species due to the disruption in the foraging and nesting habitat caused by construction activities. With the implementation of the Conservation Measures of the USFWS Piping Plover BO and FDEP permit conditions, it was determined the proposed activities may affect, but are not likely to adversely affect, the listed shorebirds mentioned above. The Reasonable and Prudent Measures and Terms and Conditions from the Piping Plover BO would also minimize effects to the red knot. Upon completion of the dune restoration project, long term beneficial effects are expected due to increased habitat for species dependent on the dune habitat.

4.5.4. Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) of 1918 provides a program for the conservation of migratory birds that fly through lands of the United States. The lead Federal agency for implementing the MBTA is the USFWS. The law requires Federal agencies to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of any migratory birds or result in the destruction or adverse modification of designated critical habitat of such species. The law makes it illegal for anyone to "take," possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or their parts, feathers, nests, or eggs. "Take" is defined as "to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or any attempt to carry out these activities."

The entire state of Florida is considered a flyway zone for migratory birds. According to USFWS IPaC, approximately thirteen (13) migratory bird species were identified as being potentially present within the project area, and twelve (12) of those species have a designated breeding season which could occur within the project vicinity. The shoreline and coastal dune system associated with the project area is suitable foraging habitat for the species known to occur along the coast and near aquatic habitats.

4.5.4.1. Alternative 1: No Action Alternative

The No Action Alternative would not involve any construction activities, therefore there would be no potential for effects and a "take" would not occur since there would be no destruction or adverse modification of the surrounding habitat. Suitable foraging habitat for shore birds would continue to be reduced in the project area due to coastal erosion.

4.5.4.2. Alternative 2: Pre-Disaster Condition

Under alternative 2 impacts to species which may be found along the shoreline and coastal dune system could occur due to the sand placement activities. If the sand placement activities occur during breeding season, these actions may adversely affect nesting shore birds and their young, and the disruption in the foraging habitat during construction activities could cause short-term impacts for migratory bird species near the project area. Due to the moderate short-term impact, the proposed action will be required to follow the conditions from the FDEP JCP Permit listed in Section 6.0, which includes shorebird conditions and requirements to mitigate impacts to migratory bird species. Once the project is complete, the coastal dune system would provide long-term positive effects by providing a restored habitat and foraging area for these species.

4.5.4.3. Alternative 3: Comprehensive Dune Restoration

Under alternative 3 impacts to species which may be found along the shoreline and coastal dune system could occur due to the sand placement activities. If the sand placement activities occur during breeding season, these actions may adversely affect nesting shore birds and their young, and the disruption in the foraging habitat during construction activities could cause short-term impacts for migratory bird species near the project area. Alternative 3 provides a more suitable habitat restoration option and would provide a longer longevity of available habitat for the species.

Due to the moderate short-term impact, the proposed action will be required to follow the conditions from the FDEP JCP Permit listed in Section 6.0, which includes shorebird conditions and requirements to mitigate impacts to migratory bird species. Once the project is complete, the coastal dune system would provide long-term positive effects by providing a restored habitat and foraging area for these species.

4.5.5. Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (MSA) is the primary law governing marine fisheries management in U.S. federal waters and is meant to foster long-term biological and economic sustainability of our nation's marine fisheries. Key objectives of the MSA are to prevent overfishing, rebuild overfished stocks, increase long-term economic and social benefits, and ensure a safe and sustainable supply of seafood.

The NOAA Essential Fish Habitat (EFH) Mapper online tool was accessed on June 30, 2020. The results indicated several designated EFH for species are located offshore from the project site, however, none are expected to be impacted by the proposed project as the work will be completed outside of the water. The Florida Fish and Wildlife Conservation Commission (FWC) - Fish and Wildlife Research Institute hardbottom habitat data was accessed on June 4, 2020, and the results indicated the nearest hardbottom habitat is approximately 100 feet east from the project location. The project area is located next to an estuarine and marine wetland; however, no salt marshes or seagrass habitats are located near the project areas.

4.5.5.1. Alternative 1: No Action Alternative

The No Action Alternative would not involve any construction activities, therefore there would be no impact on fisheries or breeding habitat.

4.5.5.2. Alternative 2: Pre-Disaster Condition

Due to the small amount of sand that will be placed within a small section of the dune system, the use of an upland beach-compatible sand source, and the placement of sand above the annual highest tide line, the impact to adjacent fisheries resources is expected to be negligible.

4.5.5.3. Alternative 3: Comprehensive Dune Restoration

The higher amount of sand has a greater possibility of washing offshore, but due to the limited amount of sand that will be placed within a small section of the dune system, the use of an upland beach-compatible sand source, and the placement of sand above the annual high tide line, the impact to adjacent fisheries resources is expected to be minor.

4.5.6. Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668-668c), enacted in 1940 and amended several times since, prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" bald or golden eagles, including their parts, nests, or eggs. The Act provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden

eagle], alive or dead, or any part, nest, or egg thereof." The Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." "Disturb" means: "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior." In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle's return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death or nest abandonment.

According to Florida Fish and Wildlife Conservation Commission (FWC) Bald Eagle Nest mapping data, the nearest documented bald eagle nest is located approximately 4 miles west from the project location. Golden eagles inhabit tundra, grasslands, forested habitat and woodland-brushlands, south to arid deserts, which is not consistent with the habitat of the project location. Therefore, the presence of a golden eagle is unlikely to occur within the project area and no impacts are expected to occur to this species.

4.5.6.1. Alternative 1: No Action Alternative

The No Action Alternative would not involve any construction activities, therefore there would be no impact to bald or golden eagles.

4.5.6.2. Alternative 2: Pre-Disaster Condition

The proposed construction of the partial dune profile is not within the vicinity of a known bald eagle nest nor is the area suitable for golden eagle habitat, therefore, the project will likely have no impact to these species.

4.5.6.3. Alternative 3: Comprehensive Dune Restoration

The proposed construction of the full dune profile is not within the vicinity of a known bald eagle nest nor is the area suitable for golden eagle habitat, therefore, the project will likely have no impact to these species.

4.6. Cultural Resources

As a Federal agency, FEMA must consider the potential effects of its actions upon cultural resources prior to engaging in any undertaking. Cultural resources include historic architectural properties (including buildings, structures, and objects), prehistoric and historic archaeological sites, historic districts, designed landscapes, and traditional cultural properties. The primary federal authorities that apply to cultural resources are NEPA and Section 106 of the National Historic Preservation Act (NHPA). Cultural resources are specifically included under one of the mandates of NEPA: to "preserve important historic, cultural, and natural aspects of our national heritage…." (42 USC 4331). The implementing regulation for the NHPA is the Protection of Historic Properties

(36 CFR 800), which defines historic properties as any prehistoric or historic district, site, building, structure, or object that is included in, or eligible for inclusion in, the National Register of Historic Places (NRHP) (36 CFR. 800.16). Under the NHPA, a property possesses significance if it meets the NRHP criteria listed in 36 CFR 60.4 and retains sufficient integrity to convey that significance. Generally, properties must be at least 50 years old to be eligible for the NRHP, unless they are proven to have exceptional importance.

FEMA, the Florida State Historic Preservation Office (SHPO), the Florida Division of Emergency Management, the Choctaw Nation of Oklahoma, and the Advisory Council on Historic Preservation have executed a Statewide Programmatic Agreement dated September 10, 2014, to streamline the Section 106 review process. The APE for this dune restoration is from FDEP Coastal Monument R-126 to R-127.4. FEMA evaluated potential resources in the Area of Potential Effects (APE) utilizing the National Park Service (NPS) National Register of Historic Places (NRHP) GIS resource, the Florida Master Site File (FMSF), and previous cultural resource investigations. The review found there are no properties listed in or eligible for listing in the National Register of Historic Places or National Historic Landmarks, no known historic structures, historic cemeteries or historic bridges within the proposed project's APE. One previously conducted survey ostensibly reviewed the area of the proposed dune restoration but did not involve a subsurface review of the areas.

On July 3, 2019, FEMA received concurrence with a finding of No Historic Properties Affected from the Florida SHPO for a previous dune restoration repair project for the same area associated with Hurricane Irma. FEMA's Programmatic Agreement with the Florida SHPO permits the use of a previous concurrence issued by their office as long as the project area remains the same as previously reviewed and the previous concurrence was issued within five (5) years of the proposed new project. Six Tribal Nations with interest in the Martin County area were also consulted for this project, and two comments were received, from The Seminole Tribe of Florida and The Muscogee Nation with no objections to the proposed work. The consultation letters were sent via electronic mail to the Alabama-Quassarte Tribal Town, Miccosukee Tribe, Muscogee (Creek) Nation, Poarch Band of Creek Indians and Seminole Tribe of Florida on June 24, 2020. A consultation letter was sent via conventional mail to the Seminole Nation of Oklahoma on June 25, 2020.

4.6.1. Alternative 1: No Action Alternative

The No Action Alternative would not involve any construction activities and no federal undertaking would occur, therefore, there would be no impact to cultural resources or further responsibility under Section 106.

4.6.2. Alternative 2: Pre-Disaster Condition

The dune restoration activity would be constructed using an upland sand source. They are no properties listed in or eligible for listing in the National Register of Historic Places or National Historic Landmarks, no known historic structures, historic cemeteries or historic bridges within the proposed project's APE. If any inadvertent discovery is found, the applicant will stop all work and notify FEMA and SHPO.

4.6.3. Alternative 3: Comprehensive Dune Restoration

The dune restoration activity would be constructed using an upland sand source. They are no properties listed in or eligible for listing in the National Register of Historic Places or National Historic Landmarks, no known historic structures, historic cemeteries or historic bridges within the proposed project's APE. If any inadvertent discovery is found, the applicant will stop all work and notify FEMA and SHPO.

4.7. Socioeconomic Resources

4.7.1. Land Use and Planning

According to the Martin County Property Appraiser's website, the project area consists of undeveloped coastal beach, federally owned conservation land, and is adjacent to residential improved properties. The proposed project to restore the eroded dune system would not alter or change the current intended land use of the area.

4.7.1.1. Alternative 1: No Action Alternative

The No Action Alternative would not involve any construction activities, therefore there would be no alteration of the current land use. By restoring the dune system, the current land use is maintained, and further development is avoided.

4.7.1.2. Alternative 2: Pre-Disaster Condition

The dune restoration activity would have no effect on land use and planning because the area is currently a coastal dune system. Restoring the dunes would not change the current intended land use of the area. Additionally, restoring the dune would have a long-term beneficial effect on land use and planning by preserving the area for public open space recreational use for the local community. The possibility of development into private commercial or residential property would be limited.

4.7.1.3. Alternative 3: Comprehensive Dune Restoration

The dune restoration activity would have no effect on land use and planning because the area is currently a coastal dune system. Restoring the dunes would not change the current intended land use of the area. Additionally, restoring the dune would have a long-term beneficial effect on land use and planning by preserving the area for public open space recreational use for the local community. The possibility of development into private commercial or residential property would be limited.

4.7.2. Noise Control

The Noise Control Act of 1972 establishes a national policy to promote an environment for all Americans free from noise that jeopardizes their health and welfare. The Act also serves to (1) establish a means for effective coordination of Federal research and activities in noise control; (2) authorize the establishment of Federal noise emission standards for products distributed in

commerce; and (3) provide information to the public respecting the noise emission and noise reduction characteristics of such products.

4.7.2.1. Alternative 1: No Action Alternative

The No Action Alternative would not involve any construction activities, therefore, there would be no effect on noise levels in the area.

4.7.2.2. Alternative 2: Pre-Disaster Condition

Alternative 2 would involve construction activity to restore the coastal dune system to pre-disaster condition, thus minor short-term impacts on noise levels resulting from the use of construction equipment in the project area would be expected. Due to the partial restoration, noise impacts for this alternative are expected to be more frequent due to the following events. After the construction activities are complete, there would be no long-term effects on noise levels in the area.

4.7.2.3. Alternative 3: Comprehensive Dune Restoration

Alternative 3 would involve construction activity to restore the full profile of coastal dune system, thus minor short-term impacts on noise levels resulting from the use of construction equipment in the project area would be expected. Due to the greater extent of work proposed for this alternative, the impacts are expected to be longer due to the longer construction period, however they would be less frequent as the dune would be restored to its full profile. After the construction activities are complete, there would be no long-term effects on noise levels in the area.

4.7.3. Transportation

The current scope of work provided by the Town of Jupiter Island for the proposed project does not include the construction of any new transportation features, as the work will be completed using the existing roads in the area. The construction equipment and vehicles will utilize CR 707 adjacent to the proposed project, and no road closures are expected during construction that would impact the local community.

4.7.3.1. Alternative 1: No Action Alternative

The No Action Alternative would not involve any construction activities, therefore, no impacts on existing infrastructure or transportation would occur within the project area.

4.7.3.2. Alternative 2: Pre-Disaster Condition

This alternative would involve construction of the coastal dune system and would have minor short-term impacts from construction equipment entering and leaving the project areas to transport sand and construction equipment to the project locations. Restoring the dune to pre-disaster condition would provide better flood and storm protection to the adjacent roads and public infrastructure.

4.7.3.3. Alternative 3: Comprehensive Dune Restoration

This alternative would involve construction of the coastal dune system and would have minor short-term impacts from construction equipment entering and leaving the project areas to transport sand and construction equipment to the project locations. The impacts from Alternative 3 would be experienced for a longer period of time due to the longer estimated construction time needed for the full restoration project, however, the completely restored engineered dunes would provide long term benefits from flood and storm protection to the adjacent roads and public infrastructure.

4.7.4. Environmental Justice (EO 12898)

On February 11, 1994, President Clinton signed EO 12898, entitled, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations". The EO directs federal agencies, "to make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States."

The U.S. Census Bureau estimated the population of Martin County to be 161,000 in 2019. Minority populations including African American, American Indian, Alaska Native, Asian, Native Hawaiian/Pacific Islanders, or a mix of these races, account for approximately 10% of the population in Martin County. Persons identified within poverty level in the County account for 10.7% of the population.

4.7.4.1. Alternative 1: No Action Alternative

The No Action Alternative would not involve any construction activities; therefore, the project would have no impact on minority or low-income populations.

4.7.4.2. Alternative 2: Pre-Disaster Condition

The restoration activity would involve construction of the coastal dune system, and no disproportionate impacts or adverse impacts to minority or low-income populations are anticipated. The beach dunes will be restored to the engineered profile with no changes to the existing design and footprint. The project benefits would be to all population members as these areas are accessible to the general public.

4.7.4.3. Alternative 3: Comprehensive Dune Restoration

The restoration activity would involve construction of the coastal dune system, and no disproportionate impacts or adverse impacts to minority or low-income populations are anticipated. The beach dunes will be restored to the engineered profile with no changes to the existing design and footprint. The project benefits would be to all population members as these areas are accessible to the general public.

4.7.5. Hazardous Materials/Waste and Solid Waste

The Resource Conservation and Recovery Act (RCRA) was passed to create the framework for the proper management of hazardous and non-hazardous solid waste. The law describes the waste management program mandated by Congress that gave the EPA authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage and disposal of hazardous waste. No known hazardous materials or solid waste is within the project area.

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, was enacted by Congress on December 11, 1980. This law created a tax on the chemical and petroleum industries and provided broad Federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. Over five years, $1.6 billion was collected and the tax went to a trust fund for cleaning up abandoned or uncontrolled hazardous waste sites. CERCLA established prohibitions and requirements concerning closed and abandoned hazardous waste sites, provided for liability of persons responsible for releases of hazardous waste at these sites, and established a trust fund to provide for cleanup when no responsible party could be identified.

According to the Superfund National Priorities List (NPL) Where You Live Map (https://www.epa.gov/superfund/search-superfund-sites-where-you-live), there are two (2) Superfund sites in Martin County, however, neither of them are near the project area. The closest of the two sites is approximately 13 miles from the project area. Additionally, the majority of the project area is an undeveloped coastal dune system, therefore, there is a low likelihood of contamination due to the lack of developed property in the area.

4.7.5.1. Alternative 1: No Action Alternative

The No Action Alternative would not involve any construction activities, therefore, there would be no potential to disturb existing hazardous materials or create any potential new hazardous waste sites within the area. There would be no effect to human health or the surrounding environment from hazardous or solid waste.

4.7.5.2. Alternative 2: Pre-Disaster Condition

The restoration activity would involve construction of the coastal dunes and would have a minor short-term impact on the dunes due to construction activities. The handling of hazardous materials and waste generated during construction activities would be handled in accordance with applicable RCRA and State regulations for managing solid and hazardous waste materials. Potential for spills from construction equipment would be minimized and handled in accordance with applicable regulations. There is no potential for any construction activities related to this project to impact hazardous waste sites designated under CERCLA as the nearest Superfund site is over 13 miles from the project location.

4.7.5.3. Alternative 3: Comprehensive Dune Restoration

The restoration activity would involve construction of the coastal dunes and would have a minor short-term impact on the dunes due to construction activities. The handling of hazardous materials and waste generated during construction activities would be handled in accordance with applicable RCRA and State regulations for managing solid and hazardous waste materials. Potential for spills from construction equipment would be minimized and handled in accordance with applicable regulations. There is no potential for any construction activities related to this project to impact hazardous waste sites designated under CERCLA as the nearest Superfund site is over 13 miles from the project location.

5.0 CUMULATIVE IMPACTS

Per the Council on Environmental Quality (CEQ) regulations, cumulative impacts refer to the impact on the environment that "results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time" (40 CFR 1508.7). In accordance with NEPA, this EA considered the combined effect of the preferred alternative and other actions occurring or proposed in the vicinity of the proposed project site.

Due to the project being in a coastal area, it is inherently susceptible to coastal erosion from tropical storms and hurricanes which may result in future presidentially approved emergency declarations, requiring FEMA funding for repairs; in addition to their scheduled maintenance re-nourishments for ongoing erosion. The proposed project is expected to increase the level of storm protection to the improved property along the existing shoreline while also protecting remaining habitat including sea turtle nesting as well as shorebird. It is not expected that that project will increase development along the shoreline but will help protect and maintain existing infrastructure.

Jupiter Island Beach and the Blowing Rocks dune system are engineered and maintained by the Town, and thus future re-nourishments due to storm or background erosion are expected. USACE authorized a permit modification on October 16, 2018 to extend the northern fill template from R-75 to R-73, extend the seaward fill template from R-76 to R-80, expand Borrow Area B and re-nourish the Blowing Rocks Preserve Dunes from R-126 to R-127. The impact of the proposal on navigation and the environment was reviewed and found to be insignificant by USACE. Given the similarity of the previous work to the current project, FEMA has determined the environmental and social impacts to be insignificant for the proposed dune restoration work.

It is anticipated the proposed action will have short-term impacts to commercial and recreational usage of the shoreline due to construction activities. However, it is expected the proposed action will not have long-term negative impacts to either the residential areas or the environment in the project areas, as the proposed action is meant to protect the existing improved property and will not change the current land use. A full restoration of the dune system design profile on the existing engineered beach will allow for the continued use of the area for recreational open space use for the local community and residents of the area. In consideration of the overall impact of the

proposed project in relation to impacts from past, present, and reasonably foreseeable future activities, the proposed action is not expected to have significant adverse cumulative impacts on any resource.

6.0 PERMIT AND PROJECT CONDITIONS

1. The Town of Jupiter Island (Applicant) has received an FDEP Consolidated Joint Coastal Permit and intent to grant sovereign submerged lands authorization (Permit No. 0186991-008-JC), which constitutes consistency review under the state's coastal zone management program. The permit includes general and project specific conditions and monitoring requirements for sand placement. See pages 5 to 34 for all applicable conditions and requirements in Appendix F.

2. The applicant has received a USACE Individual Permit, SAJ-1992-01740(MOD-LCK), which includes the conditions from USFWS SPBO for sand placement activities and the following:
    a. All excavations and temporary alteration of beach topography resulting from demobilization activities will be leveled to the natural beach profile prior to dusk each day. See Appendix G.

3. Under Alternative 2 and 3, the following measures would be implemented from USFWS Statewide Programmatic Biological Opinion (SPBO) for USACE civil works and regulatory sand placement activities in Florida (dated March 13, 2015):

    Reasonable and Prudent Measures

    a. Beach quality sand suitable for sea turtle nesting, successful incubation, and hatchling emergence shall be used for sand placement.
    b. Sand placement shall not occur during the period of peak sea turtle egg laying and egg hatching, to reduce the possibility of sea turtle nest burial, crushing of eggs, or nest excavation. In Martin County, sand placement shall not occur from May 1 through October 31.
    c. All derelict material or other debris shall be removed from the beach prior to any sand placement.
    d. If a dune system is already part of the project design, the placement and design of the dune shall emulate the natural dune system to the maximum extent possible, including the dune configuration and shape.
    e. Predator-proof trash receptacles shall be installed and maintained at all beach access points used for the project construction to minimize the potential for attracting predators of sea turtles.
    f. A meeting between representatives of the Applicant, Service, FWC, the permitted sea turtle surveyor, and other species surveyors, as appropriate, shall be held prior to the commencement of work on this project.

g. If the beach nourishment project will be conducted during the sea turtle nesting season, surveys for nesting sea turtles must be conducted by the FWC-authorized Marine Turtle Permit Holder. Surveys for early and late nesting sea turtles shall be conducted where appropriate.
h. If nests are constructed in the area of proposed sand placement, the eggs shall be relocated to minimize sea turtle nest burial, crushing of eggs, or nest excavation.
i. The Applicant or Corps shall ensure that daily nesting surveys are conducted by the FWC Marine Turtle Permit Holder for two nesting seasons following construction if the new sand still remains on the beach.
j. Construction equipment and materials including pipes shall be stored off the beach in a manner that will minimize impacts to nesting and hatchling sea turtles. Expanded or newly created beach access points shall be restored following construction.
k. Lighting associated with the project construction shall be minimized to reduce the possibility of disrupting and disorienting nesting and hatchling sea turtles.
l. All vegetation planting shall be designed and conducted to minimize impacts to sea turtles. Existing vegetated habitat at beach access points and travel corridors shall be protected to the maximum extent possible to ensure vehicles and equipment transport stay within the access corridor.

   A report describing the actions taken shall be submitted to the Service following completion of the proposed work. The Service and the FWC shall be notified if a sea turtle adult, hatchling, or egg is harmed or destroyed as a direct or indirect result of the project.

Terms and Conditions

a. Beach-compatible fill shall be placed on the beach or in any associated dune system. Beach compatible fill must be sand that is similar to a native beach in the vicinity of the site that has not been affected by prior sand placement activity. The fill material must be similar in both coloration and grain size distribution to that native beach. Beach compatible fill is material that maintains the general character and functionality of the material occurring on the beach and in the adjacent dune and coastal system. Fill material shall comply with FDEP requirements pursuant to the Florida Administrative Code (FAC) subsection 62B-41.005(15). If a variance is requested from FDEP, the Service must be contacted to discuss whether the project falls outside of the SPBO. A Quality Control Plan shall be implemented pursuant to FAC Rule 62B-41.008(1)(k)4.b.
b. Sand placement shall not occur during the period of peak sea turtle egg laying and egg hatching to reduce the possibility of sea turtle nest burial, crushing of eggs, or nest excavation. Sand placement projects in Martin County shall be started after October 31 and be completed before May 1. During the May 1 through October 31 period, no construction equipment or pipes may be placed and/or stored on the beach.

c. All derelict concrete, metal, and coastal armoring geotextile material and other debris shall be removed from the beach to the maximum extent possible prior to any sand placement in accordance with the dates in b. If debris removal activities take place during shorebird breeding or peak sea turtle nesting season, the work shall be conducted during daylight hours only and shall not commence until completion of daily seabird, shorebird or marine turtle surveys each day.
d. Predator-proof trash receptacles shall be installed and maintained during construction at all beach access points used for the project construction to minimize the potential for attracting predators of sea turtles (SPBO Appendix H). The Applicant shall provide predator-proof trash receptacles for the construction workers. The Applicant shall brief workers on the importance of not littering and keeping the project area trash and debris free.
e. A meeting between representatives of the Applicant (including the project manager and/or the managing contractor), the Service, the FWC, the FWC Marine Turtle Permit Holder, and other species surveyors, as appropriate, shall be held prior to the commencement of work on projects. At least 10 business days advance notice shall be provided prior to conducting this meeting. The meeting will provide an opportunity for explanation and/or clarification of the sea turtle protection measures as well as additional guidelines when construction occurs during the sea turtle nesting season, and will include the following:
    i. Staging locations, storing equipment including fuel stations,
    ii. Coordination with the Marine Turtle Permit Holder on nesting surveys and any nighttime work,
    iii. Minimizing driving,
    iv. Egg relocation- permit holder and location (must be approved by FWC),
    v. Follow up lighting surveys - dates and inspector,
    vi. Follow up coordination during construction and post construction,
    vii. Coordination on construction lighting including dredge lighting and travel within and adjacent to the work area,
    viii. Direction of the project including progression of sand placement along the beach,
    ix. Late season nests present in project area (if any),
    x. Plans for escarpment surveys.

<u>Sea Turtle Protection</u>

a. Daily early morning surveys for sea turtle nests shall be required and continue throughout the season as outlined in SPBO Tables 16 and 17 (Nesting Season Monitoring) if construction occurs during the nesting and hatching season. Any known nests recorded just prior to the beginning of Nesting Season Monitoring must be relocated if it will be impacted by the construction activity or marked and avoided if feasible.
b. If nests are constructed in the area of anticipated sand placement, the eggs shall be relocated to minimize sea turtle nest burial, crushing of eggs, or nest excavation as

outlined in a. through f. If nests are laid on the dune outside of the immediate sand placement area, the Applicant must contact the Service to discuss whether relocation or mark and avoidance is required. Any known nests recorded just prior to the beginning of Nesting Season Monitoring must be relocated if it will be impacted by the construction activity or marked and avoided if feasible.

i. For sand placement projects in Martin County that occur during the earlier part of the nesting season (see SPBO Table 14) through April 30, daily early morning surveys shall begin March 1 and continue through the end of the beach placement window, with egg relocation continuing only until completion of fill placement. Eggs shall be relocated per the following requirements. For sand placement projects that occur during the period from November 1 through the end of hatching season (see SPBO Table 16), daily early morning sea turtle nesting surveys shall be conducted 65 days prior to project initiation and continue through November 11, and eggs shall be relocated per the requirements listed below. The Applicant must contact the Service if there are any nests still incubating after November 30.

   i. Nesting surveys and egg relocations will only be conducted by persons with prior experience and training in these activities and who are duly authorized to conduct such activities through a valid permit issued by FWC, pursuant to FAC 68E-1. Please contact FWC's Imperiled Species Management Section in Tequesta at mtp@myfwc.com for information on the permit holder in the project area. Relocation cannot begin until the Applicant has a copy of the FWC permit authorizing relocation for construction purposes at that particular sand placement project. Nesting surveys shall be conducted daily between sunrise and 9 a.m. (this is for all time zones).

   ii. Only those nests that may be affected by sand placement activities will be relocated. Nest relocation shall not occur upon completion of the project. Nests requiring relocation shall be moved no later than 9 a.m. the morning following deposition to a nearby self-release beach site in a secure setting where artificial lighting will not interfere with hatchling orientation. Relocated nests shall not be placed in organized groupings. Relocated nests shall be randomly staggered along the length and width of the beach in settings that are not expected to experience daily inundation by high tides or known to routinely experience severe erosion and egg loss, predation, or be subject to artificial lighting. Nest relocations in association with construction activities shall cease when construction activities no longer threaten nests.

   iii. Nests deposited within areas where construction activities have ceased or will not occur for 65 days shall be marked and left in situ unless other factors threaten the success of the nest. The turtle permit

holder shall install an on-beach marker at the nest site and a secondary marker at a point as far landward as possible to assure that future location of the nest will be possible should the on-beach marker be lost. No activity will occur within this area nor will any activities occur that could result in impacts to the nest. Nest sites shall be inspected daily to assure nest markers remain in place and the nest has not been disturbed by the project activity.

Daytime surveys shall be conducted for leatherback sea turtle nests beginning March 1. Nighttime surveys for leatherback sea turtles shall begin when the first leatherback crawl is recorded within the project area through April 30 or until completion of the project (whichever is earliest). Nightly nesting surveys shall be conducted from 9 p.m. until 6 a.m. The project area shall be surveyed at 1-hour intervals (since leatherbacks require at least 1.5 hours to complete nesting, this will ensure all nesting leatherbacks are encountered) and eggs shall be relocated per the requirements listed above.

c. Two surveys shall be conducted of all lighting visible from the beach placement area by the Applicant or Corps, using standard techniques for such a survey (SPBO Appendix H), in the year following construction. The first survey shall be conducted between May 1 and May 15 and a fill out FWS Sea Turtle Lighting Survey Form (SPBO Appendix H) and send electronically to seaturtle@fws.gov. The second survey shall be conducted between July 15 and August 1. A summary report of the surveys, including any actions taken, shall be submitted to the Service by December 31 of the year in which surveys are conducted. After the annual report is completed, a meeting shall be set up with the Applicant, county or municipality, FWC, Corps, and the Service to discuss the survey report, as well as any documented sea turtle disorientations in or adjacent to the project area. If the project is completed during the nesting season and prior to May 1, the Corps may conduct the lighting surveys during the year of construction.
d. Daily nesting surveys shall be conducted for two nesting seasons following construction in accordance with SPBO Table 18 and reported in accordance with SPBO Table 20 by the Corps or the Applicant if placed material still remains on the beach. Post construction year-one surveys shall record the number of nests, nesting success, reproductive success, disorientations, and lost nests due to erosion and/or inundation. Post construction year two surveys shall only need to record nest numbers, nesting success, and disorientations (SPBO Table 20). This information will be used to periodically assess the cumulative effects of these projects on sea turtle nesting and hatchling production and monitor suitability of post construction beaches for nesting.
e. Staging areas for construction equipment shall be located off the beach during peak nesting season (May 1 through October 31). Nighttime storage of construction equipment not in use shall be off the beach to minimize disturbance to sea turtle nesting and hatching activities.
f. Direct lighting of the beach and nearshore waters shall be limited to the immediate

construction area during peak nesting season (May 1 through October 31) and shall comply with safety requirements. A light management plan for the work site shall be submitted for approval by the Service and FWC prior to the pre-construction meeting. In accordance with this plan, lighting on all equipment shall be minimized through reduction, shielding, lowering, and appropriate placement to avoid excessive illumination of the water's surface and nesting beach while meeting all Coast Guard, Corps EM 385-1-1, and OSHA requirements. Light intensity of lighting equipment shall be reduced to the minimum standard required by OSHA for General Construction areas, in order not to misdirect sea turtles. Shields shall be affixed to the light housing on dredge and land-based lights and be large enough to block light from all lamps from being transmitted outside the construction area or to the adjacent sea turtle nesting beach in line-of-sight of the dredge (Figure 15).

Dune Planting

a. All vegetation planting shall be designed and conducted to minimize impacts to sea turtles. Dune vegetation planting may occur during the sea turtle nesting season under the following conditions.
    i. Daily early morning sea turtle nesting surveys (before 9 a.m.) shall be conducted during the Nest Laying period for all counties in Florida where sea turtle nesting occurs (see SPBO Tables 16 and 17). Nesting surveys shall only be conducted by personnel with prior experience and training in nesting surveys. Surveyors shall have a valid FWC permit. Nesting surveys shall be conducted daily between sunrise and 9 a.m. (all times). No dune planting activity shall occur until after the daily turtle survey and nest conservation and protection efforts have been completed. Hatching and emerging success monitoring will involve checking nests beyond the completion date of the daily early morning nesting surveys;
    ii. Any nests deposited in the dune planting area not requiring relocation for conservation purposes shall be left in place. The turtle permit holder shall install an on-beach marker at the nest site and a secondary marker at a point as far landward as possible to assure that future location of the nest will be possible should the on beach marker be lost. A series of stakes and highly visible survey ribbon or string shall be installed to establish a 3-foot radius around the nest. No planting or other activity shall occur within this area nor will any activities be allowed that could result in impacts to the nest. Nest sites shall be inspected daily to assure nest markers remain in place and the nest has not been disturbed by the planting activity;
    iii. If a nest is disturbed or uncovered during planting activity, the Applicant shall cease all work and immediately contact the project turtle permit holder. If a nest(s) cannot be safely avoided during planting, all activity

within 10 feet of a nest shall be delayed until hatching and emerging success monitoring of the nest is completed;

iv. All dune planting activities shall be conducted by hand and only during daylight hours;

v. All dune vegetation shall consist of coastal dune species native to the local area; (i.e., native to coastal dunes in the respective county and grown from plant stock from that region of Florida). Vegetation shall be planted with an appropriate amount of fertilizer and anti-desiccant material for the plant size;

vi. No use of heavy equipment shall occur on the dunes or seaward for planting purposes. A lightweight (all-terrain type) vehicle, with tire pressures of 10 psi or less may be used for this purpose; and

vii. Irrigation equipment, if needed, shall be authorized under a FDEP permit.

Reporting

a. A report with the information specified in SPBO Tables 20 and 21 shall be submitted to the Service electronically (seaturtle@fws.gov) by December 31 after completion of construction.
b. In the event a sea turtle nest is excavated during construction activities, the project turtle permit holder responsible for egg relocation for the project shall be notified immediately so the eggs can be moved to a suitable relocation site. Upon locating a dead or injured sea turtle adult, hatchling, egg that may have been harmed or destroyed as a direct or indirect result of the project, the Applicant shall be responsible for notifying FWC Wildlife Alert at 1-888-404-FWCC (3922) and the appropriate Service Field Office immediately (SPBO Table 3). Care shall be taken in handling injured sea turtles, or eggs to ensure effective treatment or disposition, and in handling dead specimens to preserve biological materials in the best possible state for later analysis.

4. Under Alternative 2 and 3, the following measures would be implemented from the USFWS Programmatic Piping Plover Biological Opinion (P^3BO) for the USACE planning and regulatory shore protection activities (dated May 22, 2013). USFWS has deemed it appropriate to adopt them for Red Knots as well:

Reasonable and Prudent Measures

a. All sand placed on the beach or in the nearshore shall be compatible with the existing beach and will maintain the general character and functionality of the existing beach.
b. The Applicant will notify the Service of the commencement of projects that utilize this P^3BO for the purposes of tracking incidental take of the species.
c. The Applicant shall provide the mechanisms necessary to monitor impacts to piping plovers and red knots within the Action Area.

Terms and Conditions

a. Beach compatible fill shall be placed on the beach or in any associated dune system.
b. Beach compatible fill must be sand that is similar to a native beach in the vicinity of the site that has not been affected by prior sand placement activity. The fill material must be similar in both coloration and grain size distribution to that native beach. Beach compatible fill is material that maintains the general character and functionality of the material occurring on the beach and in the adjacent dune and coastal system. Fill material shall comply with FDEP requirements pursuant to the Florida Administrative Code (FAC) subsection 62B-41.005(15). A Quality Control Plan shall be implemented pursuant to FAC Rule 62B-41.008(1)(k)4.b.

    The Corps or the Permittee must provide the following information to the Service Field Supervisor of the appropriate Field Office at least 10 business days prior to the commencement of work:

    i. Project location (include FDEP Range Monuments and latitude and longitude coordinates);
    ii. Project description (include linear feet of beach, actual fill template, access points, and borrow areas);
    iii. Date of commencement and anticipated duration of construction; and
    iv. Names and qualifications of personnel involved in piping plover surveys.
c. Prior to construction, the Applicant shall delineate preferred piping plover habitat (intertidal portions of ocean beaches, ephemeral pools, wash over areas, wrack lines) adjacent to or outside of the project footprint that might be impacted by construction activities. Obvious identifiers shall be used (for example, pink flagging on metal poles) to clearly mark the beginning and end points to prevent accidental impacts to use areas.
d. Piping plover habitat delineated adjacent to or outside of the project footprint shall be avoided to the maximum extent practicable when staging equipment, establishing travel corridors.
e. Driving on the beach for construction shall be limited to the minimum necessary within the designated travel corridor, which will be established just above or just below the primary “wrack” line.
f. Predator-proof trash receptacles shall be installed and maintained during construction at all beach access points used for the project construction to minimize the potential for attracting predators of piping plovers. Workers shall be briefed on the importance of not littering and keeping the project area trash and debris free. See Appendix B of the P_3BO for examples of suitable receptacles.
g. Educational signs shall be installed at public access points within the project area with emphasis on the importance of the beach habitat and wrack for piping plovers. When the project area has a pet or dog regulation, the provisions of the regulation shall be included on the educational signs.
h. For one full piping plover migration and winter season (beginning July 15 to May 15) prior to construction, and 2 years following each dredging and sand placement event, bimonthly (twice-monthly) surveys for piping plovers shall be conducted in

the beach fill and in any other intertidal or shoreline areas within or affected by the project. If a full season is not available, at least 5 consecutive months with three surveys per month spaced at least 9 days apart are required. During emergency projects, the surveys will begin as soon as possible prior to, and up to implementing the project. Piping plover identification, especially when in non-breeding plumage, can be difficult. If preconstruction monitoring is not practicable, it will be so indicated in the notification to the Service (see P^3BO Term and Condition #2) and the Service will decide whether to require a separate individual consultation. See introductory paragraph to Reasonable and Prudent Measures earlier in P^3BO.

i. The person(s) conducting the survey must demonstrate the qualifications and ability to identify shorebird species and be able to provide the information listed below.
j. The following will be collected, mapped, and reported:
    i. Date, location, time of day, weather, and tide cycle when survey was conducted;
    ii. Latitude and longitude of observed piping plover locations (decimal degrees preferred);
    iii. Any color bands observed on piping plovers;
    iv. Behavior of piping plovers (e.g., foraging, roosting, preening, bathing, flying, aggression, walking);
    v. Landscape features(s) where piping plovers are located (e.g., inlet spit, tidal creeks, shoals, lagoon shoreline);
    vi. Habitat features(s) used by piping plovers when observed (e.g., intertidal, fresh wrack, old wrack, dune, mid-beach, vegetation);
    vii. Substrata used by piping plovers (e.g., sand, mud/sand, mud, algal mat);
    viii. The amount and type of recreational use (e.g., people, dogs on or off leash, vehicles, kite-boarders); and
    ix. All other shorebirds/waterbirds seen within the survey area.

    All information shall be provided in an Excel spreadsheet. Monitoring results shall be submitted (datasheets, maps, database) on standard electronic media (e.g., CD, DVD) to the appropriate Field Office by July 31 of each year in which monitoring is completed. If an appropriate web-based reporting system becomes available, it would be used in lieu of hard copy/media.

    NOTE: As a condition to a permit from the FDEP, the bird monitor may also be required to report shorebird data to the Florida Fish and Wildlife Conservation Commission, https://public.myfwc.com/crossdoi/shorebirds/SigninExploreData.aspx.

5. National Marine Fisheries Service (NMFS) provided the following EFH conservation recommendation for Blowing Rocks dune in response to a USACE Public Notice from a previous beach nourishment project, see letter dated December 19, 2017 (Appendix J):
    a. Requirement of clear marking of the annual highest tide line in the field and verification by an independent contractor that no material is placed waterward of that line.

6. Under Alternative 2 and 3, State Historic Preservation Office (SHPO)/ National Historic Preservation Act (NHPA) Conditions are applicable:
   a. If human remains or intact archaeological deposits are uncovered, work in the vicinity of the discovery will stop immediately and all reasonable measures to avoid or minimize harm to the finds will be taken. The applicant will assure that archaeological discoveries are secured in place, that access to the sensitive area is restricted, and that all reasonable measures are taken to avoid further disturbance of the discoveries. The applicant's contractor will provide immediate notice of such discoveries to the applicant. The applicant will contact the Florida Division of Historical Resources, St. Johns County Cultural Resource Coordinator (904-209-0623), and FEMA within 24 hours of the discovery. Work in the vicinity of the discovery may not resume until FEMA has completed consultation with the State Historic Preservation Office, County, tribes, and other consulting parties as necessary. If unmarked human remains are encountered during permitted activities, all work will stop immediately, and the proper authorities will be notified in accordance with Florida Statutes, Section 872.05.
   b. Construction vehicles and equipment will be stored onsite during the project or at existing access points within the applicant's right-of-way.
   c. Prior to conducting repairs, applicant must identify the source and location of fill material and provide this information to FDEM and FEMA. If the borrow pit is privately owned, or is located on previously undisturbed land, or if the fill is obtained by the horizontal expansion of a pre-existing borrow pit, FEMA consultation with the State Historic Preservation Officer will be required. Failure to comply with this condition may jeopardize FEMA funding; verification of compliance will be required at project closeout.
   d. Any changes to the approved scope of work will require submission to, evaluation, and approval by the State of Florida, County, and FEMA prior to initiation of any work, for compliance with Section 106 of the NHPA.

7. Under Alternative 2 and 3, all handling of hazardous materials and waste generated during construction activities would be handled with in accordance with applicable RCRA and state regulations. Potential for spills from construction equipment will be minimized and handled in accordance with applicable regulations.

7.0 PUBLIC INVOLVEMENT

FEMA issued a disaster-wide initial public notice for Hurricane Dorian on October 31, 2019, to notify the public of projects under the Public Assistance program that may be occurring within floodplains.

The public will be notified of the availability of this EA for review and comment by posting of the public notice on FEMA's website, the Town of Jupiter Island's website, and the project location (Appendix B), and a hard copy of the EA will be made available at the public library as well as both websites. The public comment period ends after 30 days from date of posting.

8.0 AGENCY COORDINATION

The following agencies were contacted during the preparation of this EA:

- U.S. Army Corps of Engineers, Jacksonville District
- U.S. Fish and Wildlife Service, South Florida Ecological Service Office
- Alabama-Quassarte Tribal Town
- Miccosukee Tribe
- Muscogee (Creek) Nation
- Poarch Band of Creek Indians
- Seminole Tribe of Florida
- Seminole Nation of Oklahoma

9.0 LIST OF PREPARERS

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10.0 REFERENCES

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Appendices are available for review upon request to FEMA-R4EHP@fema.dhs.gov.