Draft Environmental Assessment

Gulf County Emergency Coastal Dune Construction
FEMA-4399-DR-FL
Gulf County, Florida
June 2020

FEMA

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

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3.0 ACRONYMS AND ABBREVIATIONS

APE	Area of Potential Effect
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	*Code of Federal Regulations*
EA	Environmental Assessment
EO	Executive Order
FCMP	Florida Coastal Management Program
FDEP	Florida Department of Environmental Protection
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FMSF	Florida Master Site File
FONSI	Finding of No Significant Impact
IPaC	Information for Planning and Consultation
JCP	Joint Coastal Permit
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NRHP	National Register of Historic Places
PA	Public Assistance
PBO	Programmatic Biological Opinion
PL	Public Law
RCRA	Resource Conservation and Recovery Act
SEA	Supplemental Environmental Assessment
SHPO	State Historic Preservation Office
Stafford Act	Robert T. Stafford Disaster Relief and Emergency Assistance Act
THPO	Tribal Historic Preservation Office
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service

4.0 INTRODUCTION

Hurricane Michael impacted Florida between October 7, 2018 and October 19, 2018, bringing strong winds, storm surge, and flooding. President Trump signed a disaster declaration (FEMA-4399-DR-FL) on October 11, 2018 authorizing the Department of Homeland Security's (DHS) 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 403 of the Stafford Act authorizes FEMA's Public Assistance (PA) Program to provide assistance essential to meeting immediate threats to life and property resulting from a major disaster.

Gulf County, Florida was designated as a county eligible to receive federal assistance. Gulf County (applicant) has applied through the PA Program to receive funding to restore the eroded coastal dune system and install beach berms in Gulf County. Two of the shoreline segments, St. Joe Beach and Indian Pass, are natural beaches and one,St. Joseph Peninsula, is an engineered beach previously authorized for nourishment and maintenance by the U.S. Army Corps of Engineers (USACE) and the Florida Department of Environmental Protection (FDEP).

The project is located in Gulf County, Florida along the northern Gulf of Mexico Coast, encompassing approximately 9.97 miles within three (3) separate stretches of beach. The first stretch, the St. Joseph Peninsula Reach, measures 16,255 linear feet, and is located west of County Road 30E, also known as Cape San Blas Road, from R-77 (29.7531, -85.4007) to R-105 (29.6803, -85.3663). The second stretch, the Indian Pass Reach, measures 20,300 linear feet, and is located south of County Road 30A, from R-135 (29.6843, -85.3034) to R-155 (29.6774, -85.2374). The third stretch, the St. Joe Beach (Beacon Hill) Reach, measures 16,100 linear feet, and is located west of US Highway 98, from the Bay/Gulf County Line west of R-1 (29.9247, -85.3887) to R-16 (29.8904, -85.3571). The coast of Gulf County was damaged via storm surge and erosion incurred during Hurricane Michael in October 2018.

The subrecipient will be coordinating with USACE and FDEP to obtain any necessary permits and will comply with applicable conditions.

This draft Environmental Assessment (EA) has been conducted in accordance with the National Environmental Policy Act (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.

5.0 PURPOSE AND NEED

The purpose of this project is to address erosion damage from Hurricane Michael to the existing eroded dune system along the coastline in Gulf County. The need for this project is to address concerns regarding the temporary protection of existing developed property, including public roads and residential homes, in the vicinity of the project area from immediate threat of flooding from a 5-year storm event. Prior to the erosion of the coastline, the natural and engineered beach dunes served as inland flood protection barriers and minimized the loss of human life and property. Therefore, the need to repair the erosion of the dune system will temporarily improve the capacity of the shoreline to withstand future storm events, reduce the risks to human life and improved property and further lessen erosion of the coastal dune system.

6.0 ALTERNATIVES

The alternatives considered in addressing the purpose and need stated are the No Action Alternative the Preferred Action Alternative, which is the replacement of coastal dune sand along the coast between FDEP Gulf County reference monuments R-1 and R-155, and Alternative 3, which is the construction of a permanent coastal dune system between FDEP Gulf County reference monuments R-1 and R-155.

6.1 Alternative 1 – No Action Alternative

Under the No Action Alternative, the emergency coastal dunes would not be constructed. Consequently, the area and improved property in the vicinity of the shoreline would not be protected from future storm events. Ongoing erosion would continue along the shoreline, the available habitat for listed threatened and endangered species would continue to degrade, and the recreational value created by the beaches would continue to decrease. Therefore, the No Action Alternative has the potential to negatively affect improved property, the environmental habitat, and tourism and economy in the vicinity of the coastline.

6.2 Alternative 2 – Construct the Emergency Coastal Dune System (Preferred Alternative)

Under the Proposed Action Alternative, the temporary beach berm project would proceed along portions of the approximately 9.97 mile stretch of Gulf County coastline using commercial upland sources of beach compatible sand. The proposed project will temporarily increase the level of storm protection to the existing shoreline, available habitat, and existing improved property to withstand a 5-year flooding event. The proposed project will maintain a viable beach and dune system for nesting habitat for threatened and endangered species, such as sea turtle and beach mice species, as well as protect and maintain nesting habitat for shorebird species, including the piping plover. The proposed project will also restore the recreational value of the publicly accessible shoreline along the beaches within Gulf County.

Gulf County has submitted applications to FEMA for funding under the PA program to repair damages as a result of Hurricane Michael (FEMA-4399-DR-FL). The proposed project will replace sand lost along approximately 9.97 miles of beach in Gulf County associated with three (3) different beach reaches. Gulf County is proposing to replace approximately 305,358 cubic yards (CY) of lost sand attributable to Hurricane Michael. Gulf County will obtain beach compatible sand from Honeyville Sand Pit. Honeyville Pit is an approved upland source located at (30.056030, -85.201171) in Wewahitchka, Florida and is operated by Robert and Roberts, Inc. The Applicant will also install dune plantings and sand fencing as part of their design in conjunction with ongoing input from the U.S. Fish & Wildlife Service (USFWS).

6.3 Alternative 3 – Full Reconstruction of the Coastal Dune System

Under Alternative 3, the applicant would construct a full coastal dune system, meant to last beyond the 5-year timeline of the temporary coastal dune system. This alternative will be dismissed due to the economic constraints that full reconstruction of the coastal dunes at St. Joseph's Peninsula Reach, Indian Pass Reach, and St. Joe's Beach would place on the applicant. In addition to these constraints, Indian Pass Reach and St. Joe's Beach are not engineered beaches and this permanent work would thus be considered ineligible for FEMA funding under FEMA's Public Assistance Program. Due to these reasons, Alternative 3 will not be considered or analyzed further in Section 4 of this EA.

7.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

7.1 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.

7.2 Potential Environmental Consequences

The potential environmental consequences and required measures and permits required as a result of Alternatives 1 and 2 are summarized in Table 7.2.

Table 7.2		
Resource	**Environmental Consequences**	**Environmental Protection Measures and Required Permits**
Geology and Soils	Alternative 1 – No impact. Alternative 2 – No long-term impacts. Beach compatible sand will be used during construction.	I. Under Alternative 2, for Indian Pass Reach and St. Joe's Reach, the subgrantee is responsible for coordinating with and obtaining any required permit(s) from FDEP Office of Resilience and Coastal Protection. Subgrantee must obtain a Coastal Construction Control Line (CCCL) or Joint Coastal Permit (JCP) prior to initiating work or verification that no permit was required. The subgrantee shall comply with all conditions of the required permit. All coordination pertaining to these activities should be documented and compliance maintained in their permanent files. Failure to comply with these conditions may jeopardize FEMA funding; verification of compliance will be required at project closeout. The subgrantee is also responsible for

		obtaining a permit modification on the existing JCP for St. Joseph Peninsula reflecting the updated construction plans. Any measures and conditions identified as part of the final permit will be included in the final EA..
Clean Air Act	Alternative 1 – No impact. Alternative 2 – Minor short-term impacts to air quality due to exhaust from construction equipment.	Not applicable.
Climate Change	Alternative 1 – No impact. Alternative 2 – Minor impact from construction equipment used.	Not applicable.
Clean Water Act	Alternative 1 – No impact. Alternative 2 – No impact.	Not applicable.
Floodplain Management (Executive Order 11988)	Alternative 1 – No impact. Risk to human life and improved property continues at the current level. Alternative 2 – Beneficial impact as the beach would reduce flood risk to adjacent improved property and preserve open space, one of the natural and beneficial values of the floodplain.	Not applicable.
Protection of Wetlands (EO 11990)	Alternative 1 – No impact. Alternative 2 – Short term minor impacts from construction. No long-term impacts.	EO 11990 – Protection of Wetlands I. Construction activities and equipment storage are not to be in or impact any adjacent wetlands. All materials and equipment should be staged outside of the wetland on paved or previously disturbed areas.

Coastal Zone Management (CZMA)	Alternative 1 – No impact. Alternative 2 – Minor beneficial impact due to restoration of coastal dune system.	I. Under Alternative 2, for Indian Pass Reach and St. Joe's Reach, the subgrantee is responsible for coordinating with and obtaining any required permit(s) from FDEP Office of Resilience and Coastal Protection. Subgrantee must obtain a Coastal Construction Control Line (CCCL) or Joint Coastal Permit (JCP) prior to initiating work or verification that no permit was required. The subgrantee shall comply with all conditions of the required permit. All coordination pertaining to these activities should be documented and compliance maintained in their permanent files. Failure to comply with these conditions may jeopardize FEMA funding; verification of compliance will be required at project closeout. The subgrantee is also responsible for obtaining a permit modification on the existing JCP for St. Joseph Peninsula reflecting the updated construction plans. Any measures and conditions identified as part of the final permit will be included in the final EA.
Coastal Barrier Resources Act (CBRA)	Alternative 1 – No Impact. Alternative 2 – In order for the project to be kept consistent with the purposes of CBRA, the anticipated moderate impacts to Coastal Barrier Resources would be minimized by conditions listed in USFWS response to CBRA consultation received on 4/7/2020.	Alternative 2 would require the applicant to comply with the conditions below set forth by the US Fish & Wildlife Service (USFWS). I. Conservation Measures: a. Design & Construction i. Restoration of dune habitat will allow for an acceptable width and amount of primary dune and beach habitat based on the restoration protocol and the specific beach features in the project area developed in consultation with the Service. FEMA and Gulf County have agreed to implement this measure, using a refined option 3 design, as discussed on March 27, 2020. ii. Any sand and vegetation placement projects (dunes, starter dunes, beach nourishment etc.) will be tapered 75 to 150 feet from inlet and outfall areas. FEMA and Gulf County have agreed to implement a minimum100-foot distance, using a refined option 3 design, as discussed on March 27, 2020. iii. Project construction activities will attempt to avoid key nesting seasons of protected species. FEMA and Gulf County have agreed to implement this measure to the best of their ability, as discussed on March 27, 2020. Proposed project start date is September 1, 2020, with construction expected to take nine months. iv. No wrack removal will occur in the project footprint. FEMA and Gulf County discussed this

		measure on March 27, 2020 and agreed that exceptions will apply when there are red tide outbreak or other natural events that may have negative impacts to human health. During such times, wrack will be deposited at the toe of the dune for natural fertilization of the dune vegetation, which is generally standard operating procedure for Gulf County. v. For projects that affect the inter-tidal areas on the beach, shoreline segments/zones where no sand deposition is allowed will be established for survival and recovery of invertebrate food resources in identified areas with highest concentrations of shorebirds OR at a regular interval along the beach per the restoration protocol. vi. No sand or impacts will occur in permanent and ephemeral pools, lagoons and sand spits. These provide optimal foraging and roosting areas year around for shorebirds. FEMA and Gulf County have agreed to implement this measure if such features occur in the project area, as discussed on March 27, 2020. vii. The Service discourages the use of sand fencing, but, if it is deemed necessary, Applicant will agree to follow Service-provided best management practices, including removal of sand fencing within 6 months of installation (see this publication: Miller, D., Thetford, M., Verlinde, C., Campbell, G., Smith, A. 2018. Dune Restoration and Enhancement for the Florida Panhandle, available at http://edis.ifas.ufl.edu). FEMA and Gulf County have agreed to implement this measure, as discussed on March 27, 2020, by minimizing the use of sand fencing and, if appropriate, substituting additional planting of larger clumps of vegetation as much as practicable. The Service supports the installation of additional plantings in these areas over sand fencing for the FEMA funded project. b. Maintenance & Monitoring i. Maintenance of restoration features will occur for the life of the permit and will be the responsibility of the applicant. Following significant storm damage, these areas will be restored. Not applicable because the project is not authorized for permanent funding at this time. ii. Monitoring is the responsibility of the applicant and protocols for listed species and habitat features such as vegetative survival, expansion, and dune growth will be detailed in the restoration protocol.

		Per the adaptive management protocol, if certain restoration features are not successful, modifications within the intent and scope of the original action will be made (i.e., a replanting or re-stabilization of a vegetative island). FEMA and Gulf County have agreed to implement this measure, as discussed on March 27, 2020. If shorebird monitoring is not being conducted by other entities, it will be required every two weeks year around. Planted vegetation shall also be monitored for survival for a one-year post-installation period and replanted as needed using the 80% survivability criteria. The Service and Gulf County will work together to streamline all monitoring requirements within the project area. iii. Access will be granted for Service and other federally permitted personnel to conduct monitoring, surveys, predator control, and translocations. FEMA and Gulf County have agreed to accommodate this measure, as discussed on March 27, 2020. c. Compliance & Enforcement i. Compliance and enforcement will be the responsibility of the applicant for the following rules within the habitat restoration project area: 1. Post and rope (and signage if needed for compliance) will be installed >10 feet seaward of the starter dune to prevent human disturbance. For large projects this may not be achievable so focus will be on documented high disturbance areas. FEMA and Gulf County have agreed to work with the Service to apply this measure in identified key areas and key timing, as discussed on March 27, 2020. 2. Wildlife friendly lighting (The Dark Skies Initiative) will be used at a minimum where lighting is needed, and existing ordinances will be enforced. Lighting considerations will be incorporated throughout the entire affected coastal dune habitat to encompass all nocturnal coastal wildlife. Gulf County has adopted and implements Lighting Ordinance 2001-09 and has agreed to continue to apply these measures throughout the project area covered by the Ordinance, which created regulations for the protection of sea turtles and other enumerated species, as discussed on March 27, 2020.

		3. Flashlights used on beaches must be turtle friendly. FEMA and Gulf County have agreed to educate the public, as discussed on March 27, 2020. 4. Nighttime activities, other than walking, will not be permitted on the beach in the project footprint (for example, fires, driving, pets on beach). Gulf County already restricts night-time driving so enforcement of this provision will occur. FEMA and Gulf County agree to keep the dialogue open with the Service on developing guidelines specific to Gulf County regarding night-time fires, if not already restricted during sea-turtle nesting season (May 1 until September 30) by Florida Fish & Wildlife Conservation Commission, as discussed on March 27, 2020. 5. Pets will not be permitted on the beach in the project footprint (although, depending on the scope of the project, some limited areas may be used by pets if already authorized). FEMA and Gulf County agreed, as discussed on March 27, 2020, to keep dialogue open with the Service on ways to reduce pet impacts on the beach, while continuing enforcement of local leash laws under Animal Control Ordinance 2008-20. 6. Driving will not be permitted on the beach in the project footprint (although, depending on the scope of the project, some areas may be used for driving if already authorized). FEMA and Gulf County agreed, as discussed on March 27, 2020, to keep dialogue open with the Service on ways to reduce impacts from driving on the beach, while continuing enforcement of local beach-driving laws, such as no night-time driving while continuing to allow day-time driving in existing authorized areas. 7. Predators will be deterred through installation of predator-proof trash receptacles at select roadside access points. No beachside trash receptacles are allowed. FEMA and Gulf County have agreed to continue to apply this measure throughout the project area, as discussed on March 27, 2020, in areas where this is not already being implemented. 8. Educational kiosks or signage will be placed at primary access points throughout the project site to provide information about coastal species and the benefit of habitat restoration, and a receptacle for fishing line will also be placed at access areas. FEMA and Gulf County have agreed to apply this measure throughout the project area, as discussed

		on March 27, 2020, in areas where this is not already being implemented. 9. The Leave No Trace Ordinance will be enforced. Gulf County adopted and implements Leave No Trace Ordinance No. 2015-07 and have agreed to continue to apply these measures throughout the project area covered by the Ordinance, as discussed on March 27, 2020.
Fish & Wildlife Resources	Alternative 1 – No impact. Alternative 2 – Minor Impact due to loss of benthic softbottom communities in the project area. Short-term impacts would occur to species that live in, or utilize, beach habitat. After construction, these species would be expected to recover.	I. For all project areas, under Alternative 2, applicant will follow all applicable conditions for fish & wildlife under the USFWS issued BO detailed in the Threatened & Endangered Species section of this EA. II. Under Alternative 2, for Indian Pass Reach and St. Joe's Reach, the subgrantee is responsible for coordinating with and obtaining any required permit(s) from FDEP Office of Resilience and Coastal Protection. Subgrantee must obtain a Coastal Construction Control Line (CCCL) or Joint Coastal Permit (JCP) prior to initiating work or verification that no permit was required. The subgrantee shall comply with all conditions of the required permit. All coordination pertaining to these activities should be documented and compliance maintained in their permanent files. Failure to comply with these conditions may jeopardize FEMA funding; verification of compliance will be required at project closeout. The subgrantee is also responsible for obtaining a permit modification on the existing JCP for St. Joseph Peninsula reflecting the updated construction plans. Any measures and conditions identified as part of the final permit will be included in the final EA. III. Under Alternative 2, during construction, construction sites should be kept clean, with refuse that might attract bears kept separate from construction debris and stored securely in bear-resistant containers or removed daily from the construction site before dark. Predators will be deterred through the installation of predator-proof trash receptacles at select roadside access points and that no beachside trash receptacles are allowed. Providing nearby residents and construction personnel with information on how to avoid human-bear conflicts is also recommended. This information can include additional options for keeping garbage secure, which may include using bear-resistant garbage containers, modifying regular containers to be bear-resistant, or maintaining secure containers in a garage

		or sturdy shed and then placing garbage on the curb the morning of pick-up rather than the night before (http://myfwc.com/wildlifehabitats/managed/bear/living/attractants/). FWC staff is available to assist with planning for long-term construction projects to incorporate the above features for Florida black bears and additional information can be found on FWC's website http://www.myfwc.com/wildlifehabitats/managed/bear.
Vegetation	Alternative 1 – No impact from construction. Continuing erosion could lead to ongoing dune vegetation loss. Alternative 2 – Beneficial moderate impact to dune vegetation as a result of dune planting incorporated into project.	I. Under Alternative 2, applicant will follow all applicable conditions for fish & wildlife under the USFWS issued BO detailed in the Threatened & Endangered Species section of this EA . II. Under Alternative 2, for Indian Pass Reach and St. Joe's Reach, the subgrantee is responsible for coordinating with and obtaining any required permit(s) from FDEP Office of Resilience and Coastal Protection. Subgrantee must obtain a Coastal Construction Control Line (CCCL) or Joint Coastal Permit (JCP) prior to initiating work or verification that no permit was required. The subgrantee shall comply with all conditions of the required permit. All coordination pertaining to these activities should be documented and compliance maintained in their permanent files. Failure to comply with these conditions may jeopardize FEMA funding; verification of compliance will be required at project closeout. The subgrantee is also responsible for obtaining a permit modification on the existing JCP for St. Joseph Peninsula reflecting the updated construction plans. Any measures and conditions identified as part of the final permit will be included in the final EA.
Threatened and Endangered Species	Alternative 1 – No impact, loss of suitable habitat for listed species. Alternative 2 – Potential for adverse effect during construction minimized by application of measures set forth by U.S. Fish and Wildlife Service (USFWS) in	I. Under Alternative 2, for Indian Pass Reach and St. Joe's Reach, the subgrantee is responsible for coordinating with and obtaining any required permit(s) from FDEP Office of Resilience and Coastal Protection. Subgrantee must obtain a Coastal Construction Control Line (CCCL) or Joint Coastal Permit (JCP) prior to initiating work or verification that no permit was required. The subgrantee shall comply with all conditions of the required permit. All coordination pertaining to these activities should be documented and compliance maintained in their permanent files. Failure to comply with these conditions may jeopardize FEMA funding; verification of compliance will be required at project closeout. The subgrantee is also responsible for

	their Biological Opinion.	obtaining a permit modification on the existing JCP for St. Joseph Peninsula reflecting the updated construction plans. Any measures and conditions identified as part of the final permit will be included in the final EA. • Under Alternative 2, the applicant is responsible for following the following conditions for all work taking place on St. Joe Beach (Beacon Hill) Reach & Sections of Indian Pass Reach outside CBRA Unit P-30. I. Conservation Measures included in FEMA's BA that address protection of nesting sea turtles, beach mice, and non-breeding piping plover must be implemented (unless revised below) in the berm project. a. During early and late portions of the nesting season, lighting associated with the project must be minimized to reduce the possibility of disrupting and misdirecting nesting and/or hatchling sea turtles. b. From March 1 through April 30 and from November 1 through November 30, direct lighting of the beach and near shore waters must be limited to the immediate construction area and must comply with safety requirements. Lighting on offshore or onshore equipment must be minimized through reduction, shielding, lowering, and appropriate placement to avoid excessive illumination of the water surface and nesting beach, while meeting U.S. Coast Guard, EM 385-1 1, and Occupational Safety and Health Administration (OSHA) requirements. Light intensity of lighting plants must be reduced to the minimum standard required by OSHA for general construction areas, in order not to misdirect sea turtles. Shields must be affixed to the light housing and be large enough to block light from all lamps from being transmitted outside the construction area (Figure 1 in the FONSI); c. Emergency berms must be placed as far landward as possible except where dunes remain. This will maximize the aerial extent of dune growth, provide connectivity between existing dunes, and minimize interference with piping plover. d. Emergency berms must be placed in a low and wide configuration rather that a high and narrow one. The preferred configuration will allow dune vegetation to re-establish (or establish) from the lowest possible elevation so that the plant roots will stabilize and anchor the material and trap windblown sand. The dune will continue to grow as the new stems emerge from the buried ones.

		e. In optimal piping plover habitat (wash over/inlets), emergency berms must be tapered, when feasible, to minimize filling of wash over or inlet areas. When located on the landward side of a wash over or inlet area, the width of the berm must be minimized. f. Direct lighting of the beach and near shore waters must be limited to the immediate construction area and must comply with safety requirements. Light intensity of lighting plants must be reduced to the minimum standard required by OSHA for General Construction areas. Shields must be affixed to the light housing and be large enough to block light from all lamps from being transmitted outside the construction area (See Figure 1). g. Use of heavy equipment or trucks is prohibited on existing dunes or vegetated portions of the beach and dunes. Lightweight (ATV type) vehicles, with tire pressures of 10 psi or less may be operated on unvegetated portions of the beach h. All vegetation used in planting of emergency berms must be grown from northwest Florida coastal dune native plant stock. If seedlings are to be planted, they should be at least 1 inch in height and grown in a 2.5-inch (minimum size) container. Vegetation should be planted with an appropriate amount of fertilizer and moisture retention material as is appropriate for the plant size. Planting should be on 18-inch centers (minimum) throughout the created dune; however, 24-inch centers may be acceptable depending on the area to be planted. Planting of vegetation may occur between May 1 and October 31, provided the following conditions are implemented: i. Daily, early morning sea turtle nesting surveys are required during the period between May 1 and October 31. Sea turtle nest surveys must be conducted by personnel with prior experience and training in nest surveys. Surveyors must have a valid Florida Fish and Wildlife Conservation Commission permit. Nest surveys must be conducted daily between sunrise and 9:00 a.m. No planting of emergency berms is to occur until after the daily turtle survey and nest conservation and protection efforts have been completed. j. Sea turtle nesting surveys must be initiated 70 days prior to planting activities or by May 1, whichever is later. Nesting surveys must continue through the end of the project or through September 1, whichever is earlier. Hatching and emerging success monitoring requires checking nests beyond the completion date of the daily early morning nesting surveys.

		k. Any sea turtle nest established in the emergency berm planting area and not requiring relocation for conservation purposes must be left in place and undisturbed. The turtle permit holder must install an on-beach marker at the nest site and a secondary marker at a point as far landward as possible to ensure that future location of the nest will be possible should the on-beach marker be lost. A series of stakes and highly visible survey ribbon or string must be installed to establish a 10-foot-wide radius area surrounding the nest. No planting or other activity that could adversely impact the nest shall occur within this area. Nest sites must be inspected daily to assure nest markers remain in place and the nest has not been disturbed by the planting activity. l. If a nest is disturbed or uncovered during planting activity, all work must cease, and the responsible turtle permit holder must be immediately contacted. If a nest cannot be safely avoided during planting, all activity within the affected planting site must be delayed until hatching and emerging success monitoring of the nest is completed. m. All emergency berm planting activities must be conducted during daylight hours only. n. Sea turtle, beach mouse, and piping plover protection measures must be incorporated into the project plans including fence design, project work schedule, beach access and material transport, and work performance. o. The FEMA grant applicant must ensure that contractors conducting the sand fence installation work fully understand the sea turtle, beach mouse, and piping plover protection measures detailed in this incidental take statement. p. Sand Fence Configuration. Sand fence installation must follow the placement and design as indicated in the County Request for Proposals (RFP) "Fence Installation Planview," dated February 20, 2006. q. Sea Turtle Surveys Daily early morning surveys must be conducted if the project work occurs between May 1 and October 31. Nesting surveys are to be initiated 70 days prior to work activities or by May 1, whichever is later. Nesting surveys must continue through the end of the project or through September 1, whichever is earlier. Hatching and emergence success monitoring will involve checking nests beyond the completion date of the daily early morning nesting surveys.

		r. Nest Protection Sea turtle nests that are established within work areas must be marked and left in place unless other factors threaten the success of the nest. The turtle permit holder shall install a series of stakes and highly visible survey ribbon or string to establish a 10-foot-wide radius area surrounding the nest. No activity shall occur within this area nor shall any activities occur which could result in adverse impacts to the nest. Nest sites must be inspected daily to ensure nest markers remain in place and the nest has not been disturbed by the installation activity. s. If a nest is disturbed or uncovered during sand fence installation activity, all work must cease, and the responsible turtle permit holder shall be contacted immediately. If a nest(s) cannot be safely avoided during fence installation, all activity within the affected work area shall be delayed until hatching and emerging success monitoring of the nest is completed. t. Daily Work Schedule Sand fence installation work shall be conducted only during daylight hours. Between May 1 and October 31, no sand fence installation work shall begin until the daily sea turtle nesting surveys are completed. u. Equipment Staging and Storage and Beach Access Sites Beach access for vehicles and staging sites for equipment and material must be located per the RFP. Equipment and material staging/storage areas for the project work must be located outside of vegetated dune habitat and public lands. No storage of equipment or materials shall occur on the beach or dunes at any time of year. Parking areas for construction crews should be located as close as possible to the work sites, but outside of vegetated dunes to minimize impacts to existing habitat and the need to transport workers along the beachfront. Vehicle and equipment beach access sites must be minimal in number, well-marked, and in areas devoid of vegetation. All areas must be restored upon completion of the sand fence installation. Vehicular access through wash over areas must be minimized as much as possible and follow the same track. v. Vehicles driving on the beach No driving on the beach shall occur except with the use of lightweight ATV-style vehicles with tires exerting pressures on the ground of 10 psi or less. w. Refuse Control All construction personnel must be instructed to not leave food or trash on the beach or work site. Trash receptacles must be provided if they are lacking in the work area.

		x. Sand Fence Performance: Upon site inspection by the U.S. Fish and Wildlife Service, Florida Department of Environmental Protection, Bureau of Beaches and Coastal Systems, or the Florida Fish and Wildlife Conservation Commission, if it is determined that the fence adversely impacts beach mice or nesting or hatchling turtles or piping plover, the fence must be removed or repositioned as appropriate. y. Minimal use of sand fence is encouraged. Use must be limited to restoration of dune blowouts. Post and rope are preferred for controlling beach visitor access, and protecting wildlife areas (i.e., bird wintering areas). Sand fence or other dune building material (except for vegetation) must be installed outside the sea turtle nesting season between November 1 and April 30. z. Sand fence used for dune restoration, must be placed in a sea turtle compatible configuration and be made of biodegradable material: aa. Parallel fence segments no longer than 10-feet each must be spaced at least 7 ft apart on a diagonal alignment (Figure 2 in the FONSI). bb. All fence material must be repositioned as necessary to facilitate dune building and must be removed when 30 percent of the fence is covered with sand. II. Upon site inspection by the U.S. Fish and Wildlife Service and the Florida Department of Environmental Protection, Bureau of Beaches and Coastal Systems, or the Florida Fish and Wildlife Conservation Commission, Bureau of Imperiled Species Management, if it is determined that the fence adversely impacts nesting or hatchling turtles, beach mice, or piping plover the fence must be removed or repositioned so as to preclude such impact(s).Beach quality sand suitable for sea turtle nesting, successful incubation, and hatchling emergence, beach mouse burrow construction and piping plover food prey species substrate shall be used for the emergency berm construction and repair projects. III. For emergency berm construction and repair projects in Gulf County, Florida, work activities may occur during the nesting season. For higher density nesting beaches in Gulf, emergency berm construction shall not occur during the main part of the nesting season (June 1 through October 31). An exemption to this may occur if it is determined through coordination or emergency consultation with the Service.

		IV. All disaster related debris including derelict coastal armoring shall be removed from the beach prior to any emergency berm construction. V. The placement and design of the emergency berm shall emulate the natural dune system to the maximum extent practicable, including the emergency berm configuration and shape. VI. The FEMA grant applicant shall install and maintain predator proof trash receptacles at all public beach access points to minimize the potential for attracting predators of sea turtles, beach mice, and piping plover. VII. Educational signs shall be placed where appropriate at beach access points with information on sea turtles, beach mice and non-breeding piping plover conservation. VIII. The FEMA grant applicant shall ensure that contractors performing the emergency berm construction and repair work fully understand and correctly implement the sea turtle, beach mice, and non-breeding piping plover protection measures detailed in this incidental take statement. IX. Surveys for early and late nesting sea turtles shall be conducted if the FEMA berm construction will be conducted during the sea turtle nesting season, but outside the peak nesting and hatching periods, the eggs shall be relocated if nests are constructed in the area of berm construction to minimize sea turtle nest burial, crushing of eggs, or nest excavation. X. No nighttime activities shall occur if FEMA berm construction will be conducted during the sea turtle nesting season to reduce the likelihood of impacting sea turtle nesting and hatching activities. XI. Beach compaction shall be monitored, and tilling shall be conducted as required to reduce the likelihood of impacting sea turtle nesting and hatching activities. XII. Monitoring shall be conducted to determine if escarpments are present and if present shall be leveled as required to reduce the likelihood of impacting sea turtle nesting and hatching activities. XIII. Construction equipment and materials shall be stored in a manner that will minimize impacts to nesting and hatching sea turtles (during the sea turtle nesting season and including the early and late portions of the sea turtle nesting season), beach mice and piping plovers to the maximum extent practicable. XIV. Existing vegetated habitat at each of the beach access points shall be protected to the maximum extent practicable and shall be delineated by fence or other

		suitable material to ensure vehicles and equipment transport stay within the beach access corridor. New beach access locations created for the project work shall be approved by the Service. XV. Expanded or newly created beach accesses shall be restored to dune habitat within 3 months following project completion. The habitat restoration shall consist of restoring the beach and dune topography and planting with appropriate native dune vegetation (i.e., native to coastal dunes in the respective county and grown from plant stock from that region of Florida). All dune restoration and planting shall be designed and conducted to minimize impacts to sea turtles, beach mice and piping plover. XVI. Protect optimal piping plover feeding and roosting habitat. XVII. All vegetation planting on the newly constructed berms shall be designed and conducted to minimize impacts to sea turtles, beach mice and non-breeding piping plovers. XVIII. A report describing the actions taken to implement the terms and conditions of this incidental take statement shall be submitted to the Service within 60 days of completion of the proposed work for each year when the activity has occurred. XIX. For berm material obtained from an upland source, the sand specifications are as follows: The fill material shall be beach compatible and meet the specifications required by Florida Administrative Codes 62B-41.007 (j) and 62B-33.002 (8). In addition, the fill shall meet the following requirements. The fill material to be placed at the work area shall be clean sand from a permitted upland source, free of construction debris, asphalt, gravel, rocks, clay balls, branches, leaves and other organics, components prone to cause cementation, oil, pollutants and any other non-beach compatible materials. The sand shall be similar to the existing beach sediments in color and texture. The grain size of the fill material shall conform to the following, by weight (all sieve sizes refer to U.S. Std. sieves): a. not more than 2.5% finer than the No. 200 sieve b. not more than 10% finer than the No. 140 sieve c. not more than 50% finer than the No. 80 sieve d. not more than 15% coarser than the No. 10 sieve, and e. not more than 5% coarser than the No. 4 sieve XX. At minimum, using the Munsell Color Scale, all sand placed shall have a Value of at least 6.0 or higher

		and a Chroma of between 1.0 and 2.0 (inclusive) when graded on the 7.5YR or 10YR Hues under air dry sample conditions. Material with higher Value grades and higher Chroma grades (within the Chroma range specified), are preferred. If sand from multiple sources is used, the materials should be mixed at the beach access sites before it is transferred to the beach so that sand will be consistent throughout the placement areas. On site mixing should not be done to achieve beach quality material, rather mixing would be done to make the fill aesthetically consistent due to the fact that the multiple sources are beach quality material. XXI. Sand Inspection: The contents of each sand delivery truck will be inspected upon arrival to the beach access site. Sand quality is to be visually compared to FDEP approve benchmark samples before the sand is dumped. Sand is more closely inspected as the material is dumped. During visual inspection of the material upon arrival at the beach access site, if the quality of the material is uncertain, a physical sample will be taken with the option of quantitative analysis (sieving, color, etc.). If in doubt the material will be loaded back into the truck and returned to the borrow source. XXII. Post Placement Sampling: After material is placed on the beach and graded to template, sand sample will be collected along the constructed dune at a rate of one sample per 1,000 cubic yards of placed material. The location of the sampling sites will be recorded with GPS. These samples will be quantitatively assessed for grain size analysis using the No. 230, 200, 170, 140, 80, 60, 45, 35, 25, 18, 14, 10, 7, 5, 4 and%" sieves. Samples will also be assessed for color and carbonate content. The results from the quantitative analysis will be submitted to DEP within 90 days after completing construction. XXIII. Compliance and Remediation: Continuous inspection of material upon arrival to the beach access site will minimize the likelihood of non-compliant material being placed. If initial post placement sampling indicates non-compliant material may have been placed, more extensive sampling and quantitative assessment will be conducted for the area in question to determine the extent of non-compliance, if any. In the event it is concluded that material has been placed that does not meet the specifications required by Florida Administrative Codes 62B-4 l .007 G) and 62B-33.002 (8) the applicant will consult with the Service and FDEP to determine the most appropriate

		solution, including removal and/or replacement of the material if necessary; subject to constraints imposed by marine turtle nesting activity. XXIV. For emergency berm construction and repair projects in Gulf County, Florida, emergency berm construction and repair activities may occur during the nesting season except on publicly owned conservation lands such as state parks and areas where such work is prohibited under local land use codes. The Service shall be contacted for coordination, on a project by project basis, if berm work is needed in higher density nesting beaches in Gulf and Franklin counties, and on Manasota Key located in Sarasota County during the above exclusionary period. The Service will determine whether work (a) may proceed in accordance with the Terms and Conditions; (b) proceed in accordance with the Terms and Conditions and other requirements as developed by the Service; or (c) require that an individual emergency consultation be performed. XXV. Prior to any sand placement, all disaster related debris including derelict coastal armoring shall be removed from the beach to the maximum extent practicable. Debris removal activities shall be conducted during daylight hours and during the dates May 1 to October 31 for Gulf County and shall not commence until completion of the sea turtle survey each day. XXVI. The emergency berm shall have a slope of l.5:1 followed by a gradual slope of 4:1 for approximately 20 feet seaward. XXVII. The FEMA grant applicant shall ensure that the contractors conducting the work provide predator proof trash receptacles for the construction workers. All contractors and their employees shall be briefed on the importance of not littering and keeping the project area trash and debris free. Predator proof trash receptacles shall be installed and maintained at all access points, eating areas, and rest-room areas. XXVIII. Educational signs shall be placed where appropriate at beach access points explaining the importance of species such as sea turtles, beach mice, and piping plovers that are dependent on coastal habitats and ways to minimize human impacts. The Service can provide design ideas (Share the Shore Signs). These signs shall also include existing ordinances such as Animal Control Ordinances, informing beach users about the County/Municipality's ordinance that will minimize the harassment of sea turtles, beach mice and piping

		plovers. These signs shall be maintained for the life of the project, or five (5) years, whichever is lesser. XXIX. The FEMA grant applicant shall arrange a meeting between representatives of the contractor, the Service, the FWC, and the permitted sea turtle surveyor at least 10 days prior to the commencement of work on this project. At least 5 days advance notice shall be provided prior to conducting this meeting. This will provide an opportunity for explanation and/or clarification of the species protection measures as well as additional guidelines when construction occurs such as storing equipment, minimizing driving, and follow up meetings during construction. Protection of Sea Turtles for Emergency Berm Construction and Repair Projects in Gulf County, Florida. I. Daily early morning surveys for sea turtle nests will be required if any portion of the berm construction occurs as follows: For Gulf County, nesting surveys shall be initiated 70 days prior to berm construction activities or by May 1 whichever is later. Nesting surveys shall continue through the end of the project or through October 31 whichever is earlier. If nests are constructed in areas where they may be affected by construction activities, eggs shall be relocated per the requirements listed below. a. Nesting surveys and egg relocations will only be conducted by personnel with prior experience and training in nesting survey and egg relocation procedures. All nesting surveys, nest relocations screening or caging activities etc. shall be conducted only by persons with prior experience and training in these activities and who is duly authorized to conduct such activities through a valid permit issued by FWC, pursuant to FAC 68E-l. Nesting surveys shall be conducted daily between sunrise and 9 a.m. (this is for all time zones). The contractor shall not initiate work until daily notice has been received from the sea turtle permit holder that the morning survey has been completed. Surveys shall be performed in such a manner so as to ensure that construction activity does not occur in any location prior to completion of the necessary sea turtle protection measures. b. Only those nests that may be affected by construction activities will be relocated. 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, or subject to artificial lighting. Nest relocations in association with construction activities shall cease when construction activities no longer threaten nests. c. Nests deposited within areas where construction activities have ceased or will not occur for 65 days shall be marked and left in situ unless other factors threaten the success of the nest. The turtle permit holder shall install an on-beach marker at the nest site and/or a secondary marker at a point landward as possible to assure that future location of the nest will be possible should the on-beach marker be lost. A series of stakes and highly visible survey ribbon or string shall be installed to establish a 10-foot radius around the nest. No activity will occur within this area nor will any activities occur which 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 restoration activity. II. Immediately after completion of the project and prior to the following date, April 15 for Gulf County, and for 3 subsequent years, sand compaction shall be monitored in the area of restoration in accordance with a protocol agreed to by the Service, the FWC, and the Applicant or local sponsor. At a minimum, the protocol provided under 7a, 7b, 7c, 7d, and 7e below shall be followed. If tilling is required, the area shall be tilled to a depth of36 inches. All tilling activity shall be completed prior to those date listed above. Each pass of the tilling equipment shall be overlapped to allow more thorough and even tilling. If the project is completed during the nesting season, tilling will not be performed in areas where nests have been left in place or relocated. (NOTE: The requirement for compaction monitoring can be eliminated if the decision is made to till regardless of postconstruction compaction levels. Additionally, out-year compaction monitoring and remediation are not required if placed material no longer remains on the dry beach.) A report on the results of the compaction monitoring shall be submitted to the Panama City Ecological Service Office, located at 1601 Balboa Avenue, Panama City, FL 32405, prior to any tilling actions being taken.

		III. Compaction sampling stations shall be located at 500-foot intervals along the project area. One station shall be at the seaward edge of the dune/bulkhead line (when material is placed in this area), and one station shall be midway between the dune line and the high-water line (normal wrack line). IV. At each station, the cone penetrometer shall be pushed to a depth of 6, 12, and 18 inches three times (three replicates). Material. may be removed from the hole if necessary, to ensure accurate readings of successive levels of sediment. The penetrometer may need to be reset between pushes, especially if sediment layering exists. Layers of highly compact material may lie over less compact layers. Replicates shall be located as close to each other as possible, without interacting with the previous hole and/or disturbed sediments. The three replicate compaction values for each depth shall be averaged to produce final values for each depth at each station. Reports will include all 18 values for each transect line, and the final 6 averaged compaction values. V. If the average value for any depth exceeds 500 pounds per square inch (psi) for any two or more adjacent stations, then that area shall be tilled immediately prior to the following dates listed above. VI. If values exceeding 500 psi are distributed throughout the project area but in no case do those values exist at two adjacent stations at the same depth, then consultation with the Service will be required to determine if tilling is required. If a few values exceeding 500 psi are present randomly within the project area, tilling will not be required. VII. Tilling shall occur landward of the wrack line and avoid all vegetated areas three square feet or greater with a 3 square foot buffer around the vegetated areas. VIII. Visual surveys for escarpments along the project area shall be made immediately after completion of the project and prior to the following date, April 15 for Gulf County, and for 3 subsequent years. Escarpments that interfere with sea turtle nesting or that exceed 18 inches in height for a distance of 100 feet shall be leveled and the beach profile shall be reconfigured to minimize scarp formation. IX. If the project is completed during the sea turtle nesting and hatching season, escarpments may be required to be leveled immediately, while protecting nests that have been relocated or left in place. Surveys for escarpments shall be conducted weekly. Results of the surveys shall be submitted within one month to the

		Service's appropriate Field Office prior to any action being taken during the nesting season. The Service shall be contacted immediately if subsequent reformation of escarpments that interfere with sea turtle nesting or that exceed 18 inches in height for a distance of 100 feet occurs during the nesting and hatching season to determine the appropriate action to be taken. If it is determined that escarpment leveling is required during the nesting or hatching season, the Service will provide a brief written authorization that describes methods to be used to reduce the likelihood of impacting existing nests. An annual summary of escarpment surveys and actions taken shall be submitted to the Panama City Ecological Service Office, located at 1601 Balboa Avenue, Panama City, FL 32405. (NOTE: Out-year escarpment monitoring and remediation are not required if placed material no longer remains on the beach). X. Staging areas for construction equipment shall be located off the beach to the maximum extent practicable during the following time period, May 1 to October 31 for Gulf County. Nighttime storage of construction equipment not in use shall be off the beach to minimize disturbance to sea turtle nesting and hatching activities. In addition, all construction pipes that are placed on the beach shall be located as far landward as possible without compromising the integrity of the existing or reconstructed dune system. Temporary storage of pipes shall be off the beach to the maximum extent possible. Temporary storage of pipes on the beach shall be in such a manner so as to impact the least amount of nesting habitat and shall not compromise the integrity of the dune systems. Pipes placed parallel to the dune shall be five to ten feet away from the toe of the dune (placement of pipes perpendicular to the shoreline is recommended as the method of storage). Protection of Beach Mice I. Existing beach access points shall be used for vehicle and equipment beach access to the maximum extent practicable. Existing access may be expanded to accommodate project work equipment and vehicles. These accesses shall be delineated by fence or other suitable material to ensure vehicles and equipment transport stay within the access corridor. The accesses shall be fully restored to pre-project work configuration following project completion. Equipment and material staging/storage areas for the

		project shall be located outside of vegetated dune habitat and public lands. No storage of equipment or materials shall occur on the beach or dunes at any time of year. Parking areas for construction crews shall be located as close as possible to the work sites, but outside of vegetated dunes to minimize impacts to existing habitat and the need to transport workers along the beachfront. The number of beach access sites for vehicles and equipment shall be minimal, clearly marked. All access and staging areas shall be restored upon completion of emergency berm construction and repair. II. The creation of new or expansion of existing beach accesses within beach mouse habitat for vehicles and equipment is authorized no more than every 4 miles. The accesses shall be delineated by fence or other suitable material to ensure vehicles and equipment transport stay within the access corridor. These accesses shall be fully restored following project completion. Protection of Piping Plovers I. The FEMA or their grant applicant shall consult individually for the following emergency berm construction and repair projects located in designated piping plover critical habitat units. II. Florida State Parks and other non-federal public lands except to protect "existing structures" such as offices or restroom facilities. Berm placement to protect coastal roads, parking lots, boardwalks, picnic tables, gazebos, light poles, and benches require separate consultations and are not covered under "existing structures". Federal lands are exempt from FEMA berm funds. III. The FEMA or their grant applicant shall conduct either the following Condition III(a) OR Conditions III(b)-(j):" a. FEMA or their grant applicant shall contribute at least $3,100 for each mile or $0.60 ~ linear foot of berm constructed. The Service will take the lead and work with FEMA or the grant applicant to develop a mechanism for receiving and allocating these monies. The funds will be used towards the management and monitoring of piping plovers and their habitat on public or private lands which have a demonstrated use or potential use by piping plovers. Management may include but not be limited to posting and roping important use areas, enforcement of pet ordinances, and protection of closed off areas. Monitoring may

		assist in summarizing the status of plovers and their habitat Trends in areas used by piping plovers may also be assessed in portions of Florida depending on data collected as funding allows." An oversight committee will be formed, and they will determine funding allocation. Funds (federal, state or private) from outside sources may contribute to this "Shorebird Conservation Funding Program." These funds are to be used to minimize potential impacts to areas that may be used by piping plover that may be displaced permanently or temporarily by the project. OR b. Prior to construction, survey and map onto aerial photography, throughout the project area, optimal non-breeding piping plover habitat (low lying areas, wash over passes, inlets, ephemeral ponds, lagoons, and mud and sand flats). c. Avoid berm placement in optimal piping plover habitat whether existing or newly created by storm events. If these areas cannot be avoided, the FEMA grant applicant shall arrange a meeting between representatives of the contractor, the Service, and the FWC, at least 10 days prior to the commencement of work on this project to discuss avoidance and minimization of impacts to the habitat. d. Avoid berm placement within 300 feet of inlets (dune lakes, bay inlets, island inlets, etc) and any open body of water except GOM or Atlantic Ocean. If this requirement is not feasible, the FEMA grant applicant shall arrange a meeting between representatives of the contractor and the Service at least 10 days prior to the commencement of work on this project to discuss avoidance and minimization of impacts to the habitat. e. If piping plovers are reported in the project area, poles or pier pilings occurring within 300 feet of optimal piping plover habitat shall be reported to the Service. The FEMA grant applicant shall coordinate a meeting with the Service to discuss retrofitting these poles to reduce avian predation. f. Conduct surveys for non-breeding piping plover in the project area daily starting two weeks prior to project initiation for the duration of the berm construction period between July 15 and May 15 (10 months of the year), if optimal non-breeding piping plover habitat is documented in the project area. Submit daily piping plover survey results to the Service (Table 1 of the FONSI) with maps documenting the locations of piping plovers (with

		GPS coordinates or latitude and longitude coordinates) if seen during this survey period. g. Conduct bi-monthly surveys for piping plovers in the project areas from July 15 through May 15 of each year (10 months of the year) beginning two weeks post construction and continuing for the duration of the berm. Maintain information in a database (e.g. Access or Excel). Report negative and positive survey data and the amount and type of recreational use documented. Record piping plover locations with a Global Positioning System (GPS), habitat type used (intertidal area, mid-beach, etc), and observed behavior (foraging, roosting, etc). Incorporate all information collected into the database. Guidelines for conducting surveys are included in Appendix F. Submit yearly piping plover survey results (datasheets and database) to the Service (Table 1 of the FONSI) with maps documenting the locations of piping plovers (with GPS coordinates or latitude and longitude coordinates) when seen. Conduct at least one of the bi-monthly shorebird surveys April through October on a weekend to document the amount of recreational pressure potentially occurring along the shoreline. h. The FEMA or their grant applicant shall meet with the Service and FWC to discuss areas within the project area where natural organic material (wrack) can remain along the shoreline year-round. Wrack provides important foraging and roosting habitat by piping plovers on winter and migration grounds as well as an abundance of other shorebirds. Protection of wrack will help to offset the impacts of shorebird habitat directly or indirectly impacted by berm placement and ensuing human disturbance. i. When piping plovers or optimal habitat are documented in the project area, "Disturbance Free Zones" shall be posted and roped off at least 300 feet away from the berm construction areas where potential bird resting, and feeding are occurring. These areas shall remain roped off for the duration of the project. j. Excluding the Florida Panhandle Counties (Escambia to Jefferson County), surveys for and removal of exotic vegetation shall be conducted annually on the berm and within ten (10) feet on either side of the berm for the duration of the project or five (5) years, whichever is lesser to minimize the chances of an exotic seed source contained in the berm material becomes established on the beach. Surveys should

		focus on the removal of all exotics, including the following which are known to impact coastal areas in Florida: Australian pine (Casuarina equisetifolia), melaleuca (Melaleuca quinquenervia), Brazilian pepper (Schinus terebinthifolius), beach naupaka (Scaevola taccada), latherleaf (Colubrina asiatica), carrotwood (Cupaniopsis anacardioides), lantana (Lantana camara), sisal (Agave sisalana), beach vitex (Vitex rotundifolia) and bowstring hemp (Sansevieria hyacinthoides). Stabilization of Berms with Vegetation I. Berms constructed within Perdido Key beach mouse habitat shall be stabilized by planting of native dune vegetation per the requirements provided below. The need to stabilize berms with vegetation in Choctawhatchee, St. Andrew, Anastasia Island, and Southeastern beach mouse habitat shall be coordinated with the Panama City Ecological Field Office, located at 1601 Balboa Avenue, Panama City, FL 32405. II. Planting of vegetation on the berms may occur year-round with the following conditions implemented. III. Daily early morning sea turtle nesting surveys shall be conducted during the period from May 1 through October 31. If the planting is conducted in Brevard, Indian River, Martin, Palm Beach, St. Lucie and Broward Counties, daily early morning sea turtle nesting surveys are required and shall include March 1 to April 30 and November 1 to November 30. Nest surveys shall only be conducted by personnel with prior experience and training in nest surveys. Surveyors shall have a valid FWC permit Nest surveys shall be conducted daily between sunrise and 9 am. (all times). No dune planting activity shall occur until after the daily turtle survey and nest conservation and protection efforts have been completed. IV. Nesting surveys shall be initiated 65 days prior to dune planting activities or by May 1, whichever is later and by March 1, if the planting occurs in Brevard, Indian River, Martin, Palm Beach, St Lucie or Broward counties. Nesting surveys shall continue through the end of the project or through September 1, whichever is earlier. Hatching and emerging success monitoring will involve checking nests beyond the completion date of the daily early morning nesting surveys. V. Any nests deposited in the dune planting area not requiring relocation for conservation purposes shall be

		left in situ. 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 an area of 3-foot radius surrounding the nest. No planting or other activity shall occur within this area or will any activities occur which 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. VI. If a nest is disturbed or uncovered during planting activity, the Applicant or their contractors shall cease all work and immediately contact the responsible turtle permit holder. If a nest(s) cannot be safely avoided during planting, all activity within the affected project site shall be delayed until hatching and emerging success monitoring of the nest is completed. VII. All berm planting activities shall be conducted by hand and only during daylight hours. VIII. 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). Seedlings shall be at least 1 inch by 1 inch with a 2.5-inch pot. Planting shall be on 18-inch centers throughout the created dune; however, 24-inch centers may be acceptable depending on the area to be planted. Vegetation shall be planted with an appropriate amount of fertilizer and anti-desiccant material, as appropriate, for the plant size. IX. No use of heavy equipment (trucks) shall occur on the dunes or seaward for planting purposes. A lightweight (ATV type) vehicle, with tire pressures of 10 psi or less may be operated on the beach. X. All irrigation equipment shall be installed as authorized under a FDEP permit. Reporting I. A report describing the projects conducted during the year and actions taken to implement the reasonable and prudent measures and terms and conditions of this incidental take statement shall be submitted to the Panama City Ecological Service Office, located at 1601 Balboa Avenue, Panama City, FL 32405, by March 1 of the following year of completing the proposed work for each year when the activity has occurred. This report will include the project location

		(include DEP R-Monuments), project description, dates of actual construction activities, sand source and beach compatibility analysis, names and qualifications of personnel involved in sea turtle nest surveys and relocation activities, descriptions and locations of self-release beach sites, sea turtle nest survey and relocation results and the information outlined in Table 2 of the FONSI, acreage of new or widened access areas affected in beach mouse habitat, vegetation completed for new or widened access areas, success rate of vegetation of vegetation, names and qualifications of personnel involved in piping plover surveys, results of the daily piping plover surveys shall be submitted, with maps documenting the locations of piping plover (with GPS points or latitude and longitude coordinates), if observed during the survey period, post construction maps. II. In the event a sea turtle nest is excavated during construction activities, the permitted person responsible for egg relocation for the project shall be notified so the eggs can be moved to a suitable relocation site. III. Upon locating a sea turtle adult, hatchling, or egg, beach mouse, or piping plover, that may have been harmed, destroyed, killed or injured as a direct or indirect result of the project, notification shall be immediately made to the FWC at 1-888-404-3922 and the Panama City Ecological Service Office at 850-769-0552. Care shall be taken in handling injured turtles or eggs, beach mice or piping plovers to ensure effective treatment or disposition and in handling dead specimens to preserve biological materials in the best possible state for later analysis. St. Joseph Peninsula Beach & Sections of Indian Pass Reach within CRBA Unit P-30 Conditions: • Under Alternative 2, the applicant is responsible for following the following conditions for all work taking place on St. Josephs Peninsula Reach. Piping Plovers and Red Knots I. Impacts to piping plover and red knot feeding and roosting habitat shall be reduced from human disturbance. II. The permittee shall assure that Gulf County Animal Control Ordinance 98-11 is adequately enforced to minimize disturbance to piping plovers and red knots. III. To preserve shorebird feeding and roosting habitat, mechanical or manual removal of wrack in the Project

		Area is limited to just one mile within the Project Area. That one mile of removal cannot include areas referenced in Condition II, under All Coastal Species, or the one-mile section of shoreline starting at Stump Hole and ending one mile north. Beach cleaning, raking, nor tilling (for sea turtles) shall not occur in the "shorebird zones" referenced in Condition II, under All Coastal Species, nor one mile from Stump Hole running north along the shoreline nor within the SJSP portion of the Project Areas. For all other areas tilled, the vehicles must drive landward of the primary wrack (organic material) line. Wrack provides foraging, roosting and cover (sand traps-form raised mini-dunes) for shorebirds and reduces erosion of the shoreline. The litter in the wrack line may be manually removed. Exceptions apply when health of humans may be affected such as with red tide events. Protection of wrack will minimize impacts to shorebird habitat occurring directly or indirectly by the proposed project and ensuing human disturbance and assist with shoreline stabilization efforts. IV. Gulf County must assess the shorebird monitoring data results from the previous last 3 years but up to 5 years should there be years with no sightings. Based on the survey results, Gulf County must plot the location data for piping plovers and red knots. Choosing the top 5 highest use sites whether for foraging or roosting, the County must post and rope "shorebird zones" at minimum with a 250-foot-wide zone centered around the areas used most heavily by piping plovers and red knots. The "shorebird zones" shall be from the toe of the dunes to two-thirds of the shoreline width while leaving enough space to allow for pedestrian and vehicular movement. The posts and ropes shall be maintained year-around and moved as concentrated use areas change based on annual assessments conducted in June of each year. These posted areas are not to be confused with posted and roped nesting birds' areas. [Livezey et al. (2016) summarized minimum approach distances by taxonomic order and 226 feet was recommended to reduce disturbances to shorebirds within the Order Charadriiformes Order. Red knots and piping plover are both in the Order Charadriiformes.] V. Permanently, notices of the Gulf County Animal Control Ordinance 98-11 shall be posted, where appropriate, at each beach access point, informing beach users about the Gulf County leash ordinance. Gulf County is to investigate posting a notice of the

		ordinance on the lighted billboard at the Firehouse located on Cape San Blas Road (30E) given its regular use for providing public notices (MRD email, May 2017). Warnings and citations should be issued when appropriate to minimize harassment of piping plovers and red knots. The number of warning and citations issued shall be kept and reported to the Service within the annual shorebird survey report. VI. Florida Fish and Wildlife Conservation Commission (FWC) conduct bi-monthly shorebird surveys within St. Joseph Peninsula State Park. The number of dogs seen within the State Park is also recorded during these surveys. SJSP staff, within the bounds of their duties, are to use this database to structure an effective means of reducing the number of violations recorded along the shorelines with SJSP boundaries, namely the Project Area within DEP jurisdiction. Annually Park staff are to report, the number of dogs recorded, and the number of warnings and/or citations issued, to the Service's Panama City Field Office. VII. Term and Conditions "Protection of Species" number 12 on page 103 of the Services' 2007 Biological Opinion for the St. Joseph Peninsula Erosion Control Project (SAJ-200604471 (IP-DEB) required Gulf County BOCC to record and maintain in Access or Excel database that reports all survey data required for collection. In addition, the BO specifically states that "the amount and type of recreational pressures" shall be recorded. Gulf County BOCC shall provide the Service with the database beginning with the data collected from 2007, or most recent available data, through 2020, or the end of the project, and continue to maintain the database. The data collected shall be provided to the Service with a summary of monthly disturbance types and totals. Any color-banded bird information collected shall also be reported. VIII. The Corps' applicant shall conduct or fund surveys within the Project Area for piping plovers and red knots. These surveys shall occur bi-monthly (2 times per month) from July 15 through May 31 of each year, beginning in 2020 where possible if project is still under construction. Surveys should occur yearly for the life of the Corps authorizing permit, which shall not exceed 15 years. Information [including numbers of dogs, people, vehicles, etc.] shall be maintained in user friendly format (excel or GIS shapefile format) unless advised by the Service to use

		a different public format. The surveyor shall follow the FWC Monitoring Protocol for Non-breeding Shorebirds and Seabirds (Appendix XX) using the attached datasheets for each survey Appendix XX. Please check annually with FWC for any updated forms. Piping Plover and red knot identification, especially when in non-breeding plumage, can be difficult. Qualified personnel with shorebird/habitat survey experience must conduct the required survey work. Piping plover and red knot monitors must be capable of detecting and recording locations of roosting and foraging birds, and documenting observations in legible, complete field datasheets. Aptitude for monitoring includes keen powers of observation, familiarity with avian biology and behavior, experience observing birds or other wildlife for sustained periods, tolerance for adverse weather, experience in data collection and management, and patience. a. Any bands/flags seen on piping plovers and red knots shall also be carefully documented and should also be reported according to the information found at the following websites within 1 0 days to allow for rechecks should identification be incomplete. Information regarding piping plover band/flag observations can be found at: http://www.fishwild.vt.edu/pipingplover/Protocols final_draft.pdf http://www.waterbirds.umn.edu/Piping_Plovers/piping2.htm http://www.fws.gov/northeast/pipingplover/pdf/BahamasBandReporting2010.pdf Information regarding red knot band/flag observations can be found at: http://www.bandedbirds,org/Reporting.html http://www.flshorebirdalliance.org/resources-pages/bands.html http://www.pwrc.usgs.gov/bbl/ Sea Turtles I. Conservation Measures included in the Corps' PBA that address protection of nesting sea turtles shall be implemented in the Corps federally authorized project or regulated activity. II. Beach quality sand suitable for sea turtle nesting, successful incubation, and hatchling emergence shall be used for sand placement. III. 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 St. Joseph Peninsula State Park, St. Joseph peninsula, and Cape San Blas in Gulf County, sand placement shall not occur from June 1 through September 30. In Gulf (except St. Joseph Peninsula State Park, St. Joseph peninsula, and Cape San Blas) County, Florida, sand placement may occur during the sea turtle nesting season. IV. All derelict material or other debris shall be removed from the beach prior to any sand placement. V. The beach profile template for the sand placement project shall be designed to mimic, the native beach berm elevation and beach slopes landward and seaward of the equilibrated berm crest. VI. 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. VII. 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. VIII. 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. This will include specific shoreline lengths and timing of the actual project that is going to proceed at the preconstruction meeting. IX. If the beach nourishment project will be conducted during the sea turtle nesting season, surveys for nesting sea turtles must be conducted. Surveys for early and late nesting sea turtles shall be conducted where appropriate. If nests are constructed in the area of sand placement, the eggs shall be relocated to minimize sea turtle nest burial, crushing of eggs, or nest excavation. X. 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. XI. A pre and post construction survey(s) of all artificial lighting visible from the project beach shall be completed by the Applicant or Corps. XII. 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.

		XIII. Sand compaction shall be monitored, and tilling shall be conducted if needed to reduce the likelihood of impacting sea turtle nesting and hatching activities. XIV. Escarpment formation shall be monitored and leveling shall be conducted if needed to reduce the likelihood of impacting nesting and hatchling sea turtles. XV. Construction equipment and materials shall be stored in a manner that will minimize impacts to nesting and hatchling sea turtles and beach mice. XVI. Lighting associated with the project construction shall be minimized to reduce the possibility of disrupting and disorienting nesting and hatchling sea turtles and nocturnal activities of beach mice. XVII. During the sea turtle nesting season, the Corps or Applicants contractors shall not extend the beach fill more than 500 feet (or other agreed upon length) between dusk and the time of completion the following day's nesting survey to reduce the impact to emerging sea turtles and burial of new nests. XVIII. All vegetation planting shall be designed and conducted to minimize impacts to sea turtles and beach mice. XIX. Beach mouse habitat shall be avoided to the maximum extent possible when selecting sites for access corridors, storage and staging of equipment. XX. Equipment and construction materials shall not be stored near the seaward dune toe in areas of occupied beach mouse habitat. This area is highly utilized by beach mice. XXI. 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. XXII. Expanded or newly created beach access points shall be restored following construction. XXIII. A report describing the actions taken shall be submitted to the Service following completion of the proposed work for each year when the activity has occurred. XXIV. The Service and the FWC shall be notified if a sea turtle adult, hatchling, or egg, or beach mouse is harmed or destroyed as a direct or indirect result of the project. XXV. Conservation Measures included in the Corps' PBA that address protection of nesting sea turtles and beach mice listed on pages 9 and 10 of the SPBO shall be implemented in the federally authorized project or regulated activity.

		XXVI. 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). A Quality Control Plan shall be implemented pursuant to FAC Rule 62B-41.008(1)(k)4.b. XXVII. 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. a. Sand placement projects in Gulf County may occur during the sea turtle nesting season except on publicly owned conservation lands such as state parks and areas where such work is prohibited by the managing agency or under applicable local land use codes. Nesting Season Monitoring and Relocation 1 May – 31 August. b. If sand placement is to occur during the main part of the nesting season (June 1 through September 30) on St. Joseph Peninsula, Gulf County, then prior to the start of sea turtle nesting season (May 1) the Applicant must have arranged for an adequate number of FWC Marine Turtle volunteers, permitted by FWC to relocated nests, to be available and on call to relocate any sea turtle nests lain within the non-completed sand placement project area. c. The Corps must conduct early coordination on each project with the Service's representative to avoid as much of the early and late part of the nesting season as possible. Construction shall be completed in a phased approach where all equipment can be removed from the beach to lessen nest relocation as well as provide more nesting habitat for nesting females. XXVIII. All derelict concrete, metal, and coastal armoring geotextile material and other debris shall be removed from the beach prior to any sand placement to the maximum extent possible. If debris removal activities take place during the peak sea turtle nesting season (Table 3 of the FONSI), the work shall be conducted during daylight hours only and shall not

		commence until completion of the sea turtle nesting survey each day. XXIX. The beach profile template for the sand placement project shall be designed to mimic, the native beach berm elevation and beach slopes landward and seaward of the equilibrated berm crest. Prior to drafting the plans and specifications for a beach nourishment project, the Corps and their Applicant must meet with the Service, FWC, and FDEP to discuss the beach profile surveys, dune formation (specifically on high density green turtle nesting beaches), and the sea turtle monitoring reports from previous placement events. The meeting will be used to discuss modifications to the beach profile based on the post-construction monitoring data. Beach profile may vary depending on location, shoreline dynamics, nature of the fill material, and other factors. If a native beach berm elevation is not possible, due to the beach width, impacts to nearshore hardbottom, or other considerations, as discussed during the meeting, the alternative template shall include features to minimize impacts to sea turtle nesting success and the potential for ponding and escarpment formation for that beach. For all high-density green turtle nesting beaches (http://ocean.floridamarine.org/SeaTurtleNesting/), the formation of a dune, either through direct creation or natural accretion, will be included in the project design. Dunes and other construction features must be within the scope of the Congressionally authorized project, if it is a civil works project, and constructible without impacting other resources. If a recommended dune is not possible, the Corps will contact the Service to see if consultation needs to be reinitiated or discuss features incorporated with the profile that will enhance the existing dune. Dune features included in the profile design (or project) shall have a slope of 1.5:1 followed by a gradual slope of 4:1 for approximately 20 feet seaward on a high erosion beach or a 4:1 slope on a low erosion beach. The Corps must explore options to include a dune system in the project design for existing authorized projects and new non-Federal projects. If another slope is proposed for use, the Corps shall consult the Service. The seaward toe of the dune should be at least 20 feet from the waterline. XXX. A meeting between representatives of the Corps, the Service, the FWC, the permitted sea turtle surveyor, other species surveyors, and 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 and beach mouse protection measures as well as additional guidelines when construction occurs during the sea turtle nesting season, such as storing equipment, minimizing driving, free-roaming cat observation, and reporting within the work area, as well as follow up meetings during construction. The Corps shall also provide the Service with specific shoreline lengths and timing of the actual project that is going to proceed at the preconstruction meeting using the form on the following web link: http://www.fws.gov/northflorida/SeaTurtles/Docs/Corp%20of%20Engineers%20Sea%20Turtle%20Permit%20Information.pdf). Only the following information should be filled out: Corps Permit Number, Service's Log Number, Project Location, Construction Activity, Duration of Protect, and Actual Take (linear feet of beach). This form shall be emailed to the Service at seaturtle@fws.gov. This form is in addition to the annual report listed below. a. Staging locations, storing equipment including fuel stations b. Coordination with the Marine Turtle Permit Holder on nesting surveys, relocation of nest staff, and any nighttime work c. Pipeline placement (between 5 to 10 feet from dune) d. Minimizing driving e. Egg relocation- permit holder and location (must be approved by FWC) f. Free-roaming cat observation (for projects in or near beach mouse habitat) g. Follow up lighting surveys – dates and inspector h. Follow up coordination during construction and post construction i. Coordination on construction lighting including dredge lighting and travel within and adjacent to the work area j. Direction of the project including progression of sand placement along the beach k. Late season nests present in project area (if any) l. Plans for compaction monitoring or tilling m. Plans for escarpment surveys n. Plans to stop public driving on segment 2 (R-89.6 to R-105.5) for 3 years or until the placed sand is no

		longer located within the project area or the Gulf County Beach Driving Habitat Conservation Plan is completed. XXXI. Daily early morning surveys for sea turtle nests shall be required and continue throughout the season as outlined in Table 4 of the FONSI, 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. XXXII. 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 Corps or 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. a. For sand placement projects in Gulf County that occur during the period of sea turtle nest laying (see Table 3 of the FONSI), daily early morning (before 9 a.m.) surveys and egg relocation shall be conducted. If nests are laid in areas where they may be affected by construction activities, eggs shall be relocated per the requirements listed in XXXII(b) through XXXII(d) (see nest relocation exceptions for Franklin, Gulf, Sarasota, and Charlotte Counties in XXXII (d) below). b. 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 (561) 575-5407 for information on the permit holder in the project area. Nesting surveys shall be conducted daily between sunrise and 9 a.m. (this is for all time zones). c. 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 subject to artificial lighting. Nest relocations in association with construction activities shall cease when construction activities no longer threaten nests. d. Nests deposited within areas where construction activities have ceased or will not occur for 65 days or nests laid in the nourished berm prior to tilling 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. XXXIII. 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 in (a)i through (a)iii. a. For Franklin, Gulf, Bay, Walton, Okaloosa, Santa Rosa, and Escambia Counties, nesting surveys shall be initiated 70 days prior to sand placement activities (incubation periods are longer in these counties) or by nesting season monitoring (see Table 2 of the FONSI) whichever is later. Nesting surveys shall continue through the end of nesting season monitoring (see Table 3 of the FONSI) with relocation only through the end of fill placement. Hatching and emerging success monitoring will involve checking nests beyond the completion date of the daily early morning nesting surveys. If nests are laid in areas where they may be affected by construction activities, eggs shall

		be relocated per the requirements listed in XXXII(b) through XXXII(d) (see nest relocation exceptions for Franklin and Gulf Counties in XXXIII(b) below). b. For St. Joseph Peninsula State Park, St. Joseph peninsula, and Cape San Blas in Gulf County, St. George Island in Franklin County, and Manasota Key in Sarasota and Charlotte Counties, sand placement activities shall occur only during the Beach Placement Window indicated in Table 2 of the FONSI (except on Venice Beach), outside the period of peak sea turtle egg laying and egg hatching for this area. If nests are laid in the early part of the nesting season monitoring during the beach placement window in areas where they may be affected by construction activities, eggs shall be relocated per the requirements listed in II(b) through II(d). XXXIV. Daily nesting surveys shall be conducted for two nesting seasons in accordance with the FWC's Statewide Nesting Beach Survey Protocol by the Applicant following construction if placed material still remains on the beach (Table 2 of the FONSI) from the SPBO. Post construction year-one surveys shall record the number of nests, nesting success, reproductive success, and lost nests due to erosion and/or inundation. Post construction year-two surveys shall only need to record nest numbers and nesting success. 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. XXXV. 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. XXXVI. Upon locating a dead or injured sea turtle adult, hatchling, egg, or beach mouse that may have been harmed or destroyed as a direct or indirect result of the project, the Corps, Applicant shall be responsible for notifying FWC Wildlife Alert at 1-888-404-FWCC (3922) and the Panama City Field Office immediately. XXXVII. A pre-construction and two post-construction 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, in the year following construction. The pre-construction lighting survey shall be conducted prior to the start of the project and the report submitted

		immediately to the Service's representative send electronically to seaturtle@fws.gov. After the first report is submitted, 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. The first post-construction survey shall be conducted between May 1 and May 15 and a brief summary provided to the Service. 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 1 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. XXXVIII. Sand compaction shall be monitored in the area of sand placement immediately after completion of the project and prior to April 15 for 3 subsequent years. If tilling is needed, the area shall be tilled to a depth of 24 inches. Each pass of the tilling equipment shall be overlapped to allow more thorough and even tilling. All tilling activity shall be completed at least once prior to the nesting season. An electronic copy of the results of the compaction monitoring shall be submitted to the Panama City Field Office prior to any tilling actions being taken or if a request not to till is made based on compaction results. The requirement for compaction monitoring can be eliminated if the decision is made to till regardless of post construction compaction levels. Additionally, out-year compaction monitoring and remediation are not required if placed material no longer remains on the dry beach. (NOTE: If tilling occurs during shorebird nesting season (February 15-August 31), shorebirds surveys prior to tilling are required per the Migratory Bird Treaty Act (http://myfwc.com/docs/Conservation/FBCI_BNB_SeaTurtleMonitors.pdf) a. Compaction sampling stations shall be located at 500-foot intervals along the sand placement template. One station shall be at the seaward edge of the dune/bulkhead line (when material is placed in this area), and one station shall be midway between the dune line and the high-water line (normal wrack line).

		b. At each station, the cone penetrometer shall be pushed to a depth of 6, 12, and 18 inches three times (three replicates). Material may be removed from the hole if necessary, to ensure accurate readings of successive levels of sediment. The penetrometer may need to be reset between pushes, especially if sediment layering exists. Layers of highly compact material may lie over less compact layers. Replicates shall be located as close to each other as possible, without interacting with the previous hole or disturbed sediments. The three replicate compaction values for each depth shall be averaged to produce final values for each depth at each station. Reports will include all 18 values for each transect line, and the final six averaged compaction values. c. If the average value for any depth exceeds 500 pounds per square inch (psi) for any two or more adjacent stations, then that area shall be tilled immediately prior to April 15. d. If values exceeding 500 psi are distributed throughout the project area but in no case do those values exist at two adjacent stations at the same depth, then consultation with the Service will be required to determine if tilling is required. If a few values exceeding 500 psi are present randomly within the project area, tilling will not be required. e. Tilling shall occur landward of the wrack line and avoid all vegetated areas 3 square feet or greater with a 3 square foot buffer around the vegetated areas. Tilling shall NOT occur within any areas posted for shorebirds and shall NOT occur within the SJSP Project Area. XXXIX. Visual surveys for escarpments along the project area shall be made immediately after completion of the sand placement and within 30 days prior to the start dates for Nesting Season Monitoring, 1 May – 31 August, for 3 subsequent years if sand in the project area still remains on the dry beach. Escarpments that interfere with sea turtle nesting or that exceed 18 inches in height for a distance of 100 feet shall be leveled and the beach profile shall be reconfigured to minimize scarp formation by the dates listed above. Any escarpment removal shall be reported by location. If the project is completed during the early part of the sea turtle nesting and hatching season (March 1 through April 30), escarpments may be required to be leveled immediately, while protecting nests that have been relocated or left in place. The Service shall be contacted immediately if

		subsequent reformation of escarpments that interfere with sea turtle nesting or that exceed 18 inches in height for a distance of 100 feet occurs during the nesting and hatching season to determine the appropriate actions to be taken. If it is determined that escarpment leveling is required during the nesting or hatching season, the Service or FWC will provide a brief written authorization within 30 days that describes methods to be used to reduce the likelihood of impacting existing nests and actions taken shall be sent electronically to seaturtle@fws.gov. A summary is required even when no action has been taken to Panama City Field Office. XL. If available, staging areas for construction equipment shall be located off the beach during early (March 1 through April 30) and late (November 1 through November 30) nesting season for Brevard through Broward counties and peak nesting season (May 1 through October 31) for the remaining counties. Nighttime storage of construction equipment not in use shall be off the beach to minimize disturbance to sea turtle nesting and hatching activities. In addition, all construction pipes placed on the beach shall be located as far landward as possible without compromising the integrity of the dune system. Pipes placed parallel to the dune shall be 5 to 10 feet away from the toe of the dune if the width of the beach allows. Temporary storage of pipes shall be off the beach to the maximum extent possible. If the pipes are stored on the beach, they shall be placed in a manner that will minimize the impact to nesting habitat and shall not compromise the integrity of the dune systems. Note: if on beach staging of pipes cannot be placed parallel to the dunes between 5 to 10 feet away from the toe of the dune during nesting and hatchling season, the Corps must reinitiate consultation with the Service as this represents adverse effects not addressed in the SPBO. XLI. Direct lighting of the beach and nearshore waters shall be limited to the immediate construction area during early (March 1 through April 30) and late (November 1 through November 30) nesting season for Brevard through Broward counties and peak nesting season (May 1 through October 31) for the remaining counties, and shall comply with safety requirements. 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 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. XLII. During the period during early (March 1 through April 30) and late (November 1 through November 30) nesting season for Brevard through Broward counties and peak nesting season (May 1 through October 31) for the remaining counties, the Corps or the Applicant shall not extend the beach fill more than 500 feet (or other agreed upon length) along the shoreline between dusk and dawn of the following day until the daily nesting survey has been completed and the beach cleared for fill advancement. An exception to this may occur if there is a permitted sea turtle surveyor present on-site to ensure no nesting and hatching sea turtles are present within the extended work area. If the 500 feet is not feasible for the project, an agreed upon distance will be decided on during the preconstruction meeting. Once the beach has been cleared and the necessary nest relocations have been completed, the Corps will be allowed to proceed with the placement of fill during daylight hours until dusk at which time the 500-foot length (or other agreed upon length) limitation shall apply. If any nesting turtles are sighted on the beach within the immediate construction area, activities shall cease immediately until the turtle has returned to the water and the sea turtle permit holder responsible for nest monitoring has relocated the nest. All Coastal Species I. Conservation Measures summarized below shall be implemented in the federally authorized project or regulated activity. a. All nourishment material will be sand that is similar to that already existing within the project area in both coloration and grain size distribution and will meet specifications in Florida Administrative Code Rule 62B-41.007(2)(j). b. The project will be designed with a phased approach. The entire proposed project area will be broken down into sections based on access points. There are only two vehicle access points: 1) Dunes Drive (at R-83.5) to access the beach fill from DEP Monument R-74.8 to R-85.5; and 2) at Stumphole (R-

		105) to access the each fill from DEP Monument R-105.5 to R-89.5. Additional access points were investigated without success. Once the nourishment project has been completed on a phased approach section, all equipment will be removed from the beach prior to the start of work in the next section. Once the equipment is removed from a completed section and work has started on the next section, the completed section(s) will have no further work. The sections will have individual work plans developed for sand placement. Gulf Co. BOCC will have early coordination with the Service to avoid sections with the highest nesting density (average of 2009-2015) and if possible, nourishment of this area will occur outside of sea turtle nesting and hatchling season. [note to file that this conservation measure has been slightly modified from the Applicants EA at the request of the Applicant.] c. If construction occurs within the period from February through September, shorebird surveys will be conducted in the Project Area. Surveys will be conducted by trained, dedicated individuals using accepted, appropriate ecological survey procedures. d. Within the Project Area, the Applicant will establish a 300-foot-wide buffer zone around any location where shorebirds have been engaged in courtship or nesting behavior, or around areas where piping plovers occur or winter migrants congregate in significant numbers. Any and all construction activities, including movement of vehicles, should be prohibited in the buffer zone. e. If it is necessary to extend construction pipes past an over-wintering area for piping plovers, then whenever possible those pipes will be placed landward of the site before birds are active in that area. f. DEP commits to providing an exclusion zone designated from July 15 until June 15 (11 months of the year) within St. Joseph Peninsula State Park (SJSP) boundaries from R-monument-40 to R-64 (approximately 4.6 miles). This area will be marked with applicable signage from the seaward toe of the dune and 2/3 of the beach/berm in the waterline direction. Sufficient space will be left to allow for pedestrian, staff, and emergency personnel between the water's edge and the posted zone. Commitment was made on October 29, 2019, via email from Joseph Morrow, Consultant employed by MRD and representing DEP.

		g. DEP and FWC have concurred that tilling is NOT to occur, post-project, within the SJSP section of the project area (Morrow 2019) so as to preserve/quicken the recovery of vegetation, invertebrate base, and reduce the likelihood of disturbing nesting birds' activities that occur within SJSP. II. 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 all coastal species. The Corps or their Applicant shall provide predator-proof trash receptacles for the construction workers. The Corps or their Applicant shall brief workers on the importance of not littering and keeping the project area trash and debris free. Reporting I. Piping Plovers and Red Knots a. BOCC and SJSP personnel or their consultant shall EACH provide an annual report summarizing the number of citations issued or warnings given with regard to off-leashed dogs shall be provided to the Service by June 30 each year up to the expiration date of the Corps permit but not to exceed 15 years. The report will summarize violations (warnings or citations) cited from July 15 through June 1 of each year. b. BOCC or their consultant is to provide an annual GIS shapefile or Excel file shall be provided to the Service by June 30 each year up to the expiration date of the Corps permit (but not to exceed 15 years) that incorporates all data collected. The report will summarize all GPS'd sightings of all Red Knots and Piping Plovers documented by the qualified contracted surveyor from July 15 through June 1 of each year beginning from July 15, 2017. SJSP staff are exempt from this provision because FWC maintains a database with information available upon request. c. An annual report that provides copies of all the bi-monthly survey datasheets and the survey results within the BOCC portion of the Project Area. [SJSP is exempt from this because FWC maintains a database with information available upon request]. All color-banded Piping Plovers and Red Knots seen with corresponding GPS locations shall be recorded in an Excel database and provided to the Service by June 30 each year up to the expiration date of the Corps permit (but not to exceed 15 years). A report will summarize color-bands recorded from July 15 through June 1 of

		each year. The report will record the total amount of disturbance types recorded on a monthly basis as noted on the FWC datasheets. d. Upon locating a dead or injured piping plover or red knot that may have been harmed or destroyed as a direct or indirect result of the proposed project, the BOCC or their contractor shall be responsible for notifying the Service's Panama City Ecological Services Field Office, Florida, (850-769-0552). Care shall be taken in handling an injured piping plover or red knot to ensure effective treatment or disposition and in handling dead specimens to preserve biological materials in the best possible state for later analysis. II. Sea Turtles a. A report with the following shall be submitted to the Service's Panama City Field Office and electronically (seaturtle@fws.gov) by December 31 after completion of construction. i. A summary of the following information 1. Project location (include Florida DEP R-monuments and latitude and longitude coordinates) 2. Project description (include linear feet of beach, actual fill template, access points, and borrow areas) 3. Dates of actual construction activities 4. Names and qualifications of personnel involved in sea turtle nesting surveys and relocation activities (separate the nests surveys for nourished and non-nourished areas) 5. Descriptions and locations of self-release beach sites 6. Sand compaction, escarpment formation, and lighting survey results by project shall be reported as listed in the Terms and Conditions by December 31 to the FWC and Panama City Field Office b. A summary of the information listed in Table 5 of the FONSI for post-construction. • Under Alternative 2, the applicant is responsible for following this condition provided by the Florida Fish & Wildlife Conservation Commission for work in all project areas. I. FWC staff recommends that public education materials stress the use of red lights or turtle-friendly flashlights only when necessary for safety, such as when entering or exiting the beach. This may reduce the chances of disrupting sea turtle nesting behaviors. For additional questions regarding sea turtle lighting, please contact Rachael Stephenson with the Marine

		Turtle Program at 850-922-4330 or email Rachael.Stephenson@MyFWC.com.
Migratory Bird Treaty Act	Alternative 1 – No impact. Alternative 2 – Moderate short-term impact minimized by measures set forth by USFWS in their BO.	I. Applicant will follow all applicable conditions for shorebirds listed under the Threatened & Endangered Species section of this document as well as the following conditions. a. Appropriate native salt-resistant dune vegetation should be established on the berms. b. The FEMA grant Applicant should implement predator control programs that target free ranging domestic and feral cats. c. The FEMA grant Applicant should install dune walkovers at public beach access points to protect the constructed berms. d. The FEMA grant Applicant should work with property owners and managers within the project area to install and maintain predator proof trash receptacles at beach accesses points. e. FEMA should consider measures to limit coastal development that would exacerbate coastal erosion and then require storm protection in the future. f. The FEMA grant Applicant should consider purchasing land for shorebird conservation which could include locations where natural shoreline processes can occur unimpeded. These might include not only undeveloped areas, but the potential "buy-out" of developments in areas that are sparsely developed and have high potential habitat value (e.g., proximity to feeding areas, prone to over wash, etc.). g. In order to comply with the MBTA and potential for this project to impact nesting shorebirds, the FEMA grant Applicant should follow FWC's standard guidelines to protect against impacts to nesting shorebirds during implementation of this project during the periods from February 15-August 31. II. Under Alternative 2, for Indian Pass Reach and St. Joe's Reach, the subgrantee is responsible for coordinating with and obtaining any required permit(s) from FDEP Office of Resilience and Coastal Protection. Subgrantee must obtain a Coastal Construction Control Line (CCCL) or Joint Coastal Permit (JCP) prior to initiating work or verification that no permit was required. The subgrantee shall comply with all conditions of the required permit. All coordination pertaining to these activities should be documented and compliance maintained in their permanent files. Failure to comply with these conditions may jeopardize FEMA funding;

		verification of compliance will be required at project closeout. The subgrantee is also responsible for obtaining a permit modification on the existing JCP for St. Joseph Peninsula reflecting the updated construction plans. Any measures and conditions identified as part of the final permit will be included in the final EA.
Magnusson-Stevens Fisheries Conservation Act (MSA)	Alternative 1 – No impact. Alternative 2 – No impact.	Not applicable.
Bald and Golden Eagle Protection Act	Alternative 1 – No impact. Alternative 2 – No impact.	Not applicable.
Cultural Resources	Alternative 1 – No impact. Alternative 2 – No impact. Concurrence from SHPO received on 1/27/2020.	Alternative 2 would require the applicant to comply with the conditions below set forth by the Florida State Historic Preservation Office (SHPO). I. The applicant should submit site and engineering plans, when completed, for review and comment prior to the commencement of ground-disturbing activities, at which time our office may recommend that the project area be subjected to archaeological monitoring or a cultural resource assessment survey. II. If prehistoric or historic artifacts, such as pottery or ceramics, projectile points, dugout canoes, metal implements, historic building materials, or any other physical remains that could be associated with Native American, early European, or American settlement are encountered at any time within the project site area, the permitted project shall cease all activities involving subsurface disturbance in the vicinity of the discovery. The applicant shall contact the Florida Department of State, Division of Historical Resources, Compliance Review Section at (850)-245-6333. Project activities shall not resume without verbal and/or written authorization. In the event that unmarked human remains are encountered during permitted activities, all work shall stop immediately, and the proper authorities notified in accordance with Section 872.05, Florida Statutes. III. Any changes to the approved scope of work will require submission to, and evaluation and approval by, the State and FEMA, prior to initiation of any work, for compliance with Section 106.

Land Use & Planning	Alternative 1 – No impact. Alternative 2 – No impact.	Not applicable.
Noise	Alternative 1 – No impact. Alternative 2 – Minor short-term impacts.	Not applicable.
Transportation	Alternative 1 – No impact. Alternative 2 – Minor short-term impacts.	Not applicable.
Environmental Justice (Executive Order 12898) / Socioeconomic	Alternative 1 – Impacts could result from future storm damage along the shoreline. Alternative 2 – Beneficial/negligible impact due to storm damage reduction to population along the shoreline, regardless of socio-economic status.	Not applicable.
Hazardous Materials / **Waste and Solid Waste**	Alternative 1 – No impact. Alternative 2 – Minor short-term impact due to potential for spills during construction. No long-term impact expected.	I. Under Alternative 2, 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.
Drinking Water	Alternative 1 – No impact. Alternative 2 – No impact.	Not applicable.

7.3 Geology and Soils

According to the Florida Geological Survey (FGS), the landform in which the project area is located is considered Gulf Coastal Lowlands and the Florida Stratigraphic Geology of the project area is Holocene Sediments. The Holocene sediments in Florida occur near the present coastline at elevations generally less than 5 feet (1.5 meters). The sediments include quartz sands, carbonate sands and muds, and organics.

According to Natural Resources Conservation Service (NRCS) soil data, soils underlying the project area consist of Newhan-Corolla complex, 2 to 30 percent slopes, Beaches, and Corolla fine sand, 1 to 5 percent slopes. These soil types are up to 80 inches deep. The depth to the water table is between 0 and 72 inches in the beaches series, between 18 and 36 inches in the Corolla series, and over 80 inches in the Newhan series. 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.

7.3.1 Alternative 1 – No Action Alternative

Alternative 1, the no-action alternative, will not involve any construction activities and regrading, thus there will be no impact to existing geology and soil conditions.

7.3.2 Alternative 2 – Construct the Emergency Coastal Dune System

Alternative 2, construction of the emergency coastal dune system, will have no long-term impacts on the geology and soils as beach compatible sand, meeting the engineering and aesthetic requirements put forth by the FDEP and USFWS, will be used during construction.

7.4 Clean Air Act

The Clean Air Act requires the 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. Gulf County currently is classified as being in attainment for all criteria pollutants stipulated under NAAQS.

7.4.1 Alternative 1 – No Action Alternative

Alternative 1, the no-action alternative, will have no effect on air quality as no work will be done.

7.4.2 Alternative 2 – Construct the Emergency Coastal Dune System

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

7.5 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.

7.5.1 Alternative 1 – No Action Alternative

Alternative 1, the no-action alternative, would result in the emergency coastal dune system not being built and no construction activities taking place, and thus would not cause the emission of GHG.

7.5.2 Alternative 2 – Construct the Emergency Coastal Dune System

Alternative 2, construction of the emergency coastal dune system, 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, below regulatory standards.

7.6 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).

7.6.1 Alternative 1 – No Action Alternative

Under the no-action alternative, no work would take place and there would be no potential impacts to waters of the United States.

7.6.2 Alternative 2 – Construct the Emergency Coastal Dune System

Alternative 2, constructing the emergency coastal dune system, will consist of work that takes place above the annual high tide line, and thus there will be no impact to waters of the United States.

7.7 Floodplain Management (Executive Order 11988)

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 BFEs are provided. The VE zones as well as the 100- and 500-year floodplains are mapped on FEMA Flood Insurance Rate Maps.

7.7.1 Alternative 1 – No Action Alternative

Under the no action alternative, no construction would occur and there would be no effect to the floodplain. Improved property adjacent to the project area would remain at risk from future flooding events.

7.7.2 Alternative 2 – Construct the Emergency Coastal Dune System

Under alternative 2, construction of the emergency coastal dune system 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. The project will maintain a viable beach

environment for nesting habitat for threatened and endangered nesting sea turtles, as well as protect and maintain foraging habitat for shorebird species including the threatened piping plover and red knot. The coastal dunes are functionally dependent upon their location within the floodplain and 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 D), has been completed for this alternative.

7.8 Protection of Wetlands (Executive Order 11990)

Executive Order (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 that could potentially be affected by the proposed project was gathered from USFWS National Wetlands Inventory Web Map Services. According to the maps in Appendix C, the project area at St. Joe Beach stretching from R-1 to R-16 has areas designated as marine and riverine wetlands. The project area at Indian Pass Reach stretching from R-135 to R-155 has areas designated as marine, palustrine, and estuarine wetlands. The project area at St. Joseph Peninsula Reach, stretching from R-77 to R-105 has areas designated as marine and palustrine wetlands.

7.8.1 Alternative 1 – No Action Alternative

The criteria for this determination are if the project is outside of the wetland and has no effect on wetlands. Alternative 1, the no-action alternative, will have no construction activities therefore no work will occur in or and near wetlands and thus there will be no impact.

7.8.2 Alternative 2 – Construct the Emergency Coastal Dune System

The criteria for the determination are if the project could have a possible adverse effect associated with constructing in or near wetlands. According to the information above, there are several locations within the project area that are classified as wetlands. In between R-1 and R-16, at 29.896686, -85.361691, there is a Riverine wetland running NE to SW across the project area. (See Wetland Map 3.) In between there R-135 and R-155: at 29.684752, -85.286321, there is an Estuarine wetland running NE to SW across the project area (See Wetland Map 7); at 29.67772, -85.240449, there is an Estuarine wetland running E to W across the project area (See Wetland Map 8). In between R-77 and R-105: at 29.724275 -85.389182, 29.72213, -85.388453, and 29.721741, -85.38868 there is a series of Palustrine wetlands running N to S through what could potentially be the project area (See Wetland Map 12); at 29.713591 -85.385275, there is a Palustrine wetland running N to S through the project area (See Wetland Map 13); at 29.686044, -85.370205 and 29.685128, -85.36939 there is a series of Palustrine wetlands running N to S through the project area (See Wetland Map 14).

The proximity to the designated wetlands could cause temporary impacts to wetland adjacent areas from sand displacement during construction, but have a beneficial impact long term due to the construction of the emergency coastal dunes helping to restore the beach to a more natural topography. The proposed project will construct the emergency coastal dunes within the current coastal dune footprint while keeping a buffer around the designated wetlands, and thus should have a negligible impact on existing designated wetlands.

7.9 Coastal Zone Management

The Coastal Zone Management Act 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.

7.9.1 Alternative 1 – No Action Alternative

Under the no action alternative, no work would occur and there would be no impact to the coastal zone.

7.9.2 Alternative 2 – Construct the Emergency Coastal Dune System

Under the preferred alternative, activity and construction would occur in the coastal zone. The project would construct a series of emergency coastal dunes using beach compatible sand and be designed to mimic the natural coastal dune system. Gulf County has obtained a Consolidated Joint Coastal Permit and Sovereign Submerged Lands Authorization from FDEP's Beaches, Inlets, and Ports Program on December 21, 2016 (Permit #0342057-001-JC) which lists construction conditions and monitoring requirements and will continue to work on modifying the aforementioned JCP and obtaining a JCP for Indian Pass Reach and St. Joe's Reach. FEMA received a review of the project from the Florida State Clearinghouse on 6/16/2020, constituting a consistency review for all three sections of beach included in this project.

7.10 Coastal Barrier Resources 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.

Portions of the project would take place in CBRA Unit P30. This unit is the Cape San Blas Unit and was designated on 11/16/1990. A portion of the project from R-135 to R-155 is within CBRS Unit FL-92. This unit is the Indian Peninsula Unit and was designated on 11/16/1990.

7.10.1 Alternative 1 – No Action Alternative

Under the no action alternative, no work would occur and there would be no impact to the coastal barrier or improvement zones.

7.10.2 Alternative 2 – Construct the Emergency Coastal Dune System

Alternative 2, the construction of the emergency coastal dune system, would involve work in multiple CBRA system units. FEMA consulted with USFWS and received a response that the proposed action meets the following exceptions detailed in the CBRA consult in Appendix B: 16 U.S.C. 3505(a)(6)(A), as long as the applicant follows the conservation measures laid out in the CBRA section of Table 4.1.

7.11 Fish & Wildlife Resources

The natural sandy beaches on which the emergency coastal dunes are to be constructed serve as foraging and nesting habitat for numerous species, not just threatened and endangered ones. These include various species of shorebirds (discussed further in Section 7.14), wading birds, sea birds, crabs, mammals, and sea turtles (discussed further in Section 7.13).

7.11.1 Alternative 1 – No Action Alternative

Under the no action alternative, no work would occur and there would be no impacts to beach wildlife populations.

7.11.2 Alternative 2 – Construct the Emergency Coastal Dunes

Alternative 2, construction of the emergency coastal dunes, would have short-term impacts to species living along the shoreline and coastal dune system. The sand placement activities will 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. According to the Florida Fish & Wildlife Conservation Commission, there have been over numerous incidents of human-bear conflict in Gulf County near the projects areas, and the increased construction activity could inadvertatendly provide new food sources for these bears. These short-term impacts would be mitigated by following the conditions provided in Table 7.2 under the Fish & Wildlife Resources conditions. The areas, and wildlife species, are expected to recover over time and the long-term impacts will be minor.

7.12 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 and beach mice.

7.12.1 Alternative 1 – No Action Alternative

Under the no-action alternative, the coastal emergency dunes would not be constructed and there would be no impact to coastal dune vegetation.

7.12.2 Alternative 2 – Construct the Emergency Coastal Dunes

Alternative 2, construction of the emergency coastal dunes, would have a moderate beneficial effect on dune vegetation. The applicant will be required to follow the conditions of the USFWS Biological Opinion, listed in the Threatened & Endangered species section of Table 7.2, issued on 5/7/2020 in order to mitigate the moderate short-term impacts to turtles, shorebirds, and beach mice caused by this project to a level deemed acceptable to the USFWS. Coastal dune plantings will also serve to protect the integrity of the emergency coastal dunes, which will increase their resiliency to erosion and in turn protect improved property.

7.13 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 January 6, 2020.

The endangered species likely to occur in the project area are the St. Andrew beach mouse (Peromyscus polionotus peninsularis), Kemp's ridley sea turtle (Lepidochelys kempii), and leatherback sea turtle (Dermochelys coriacea). The threatened species likely to occur in the project area are the piping plover (Charadrius melodus), red knot (Calidris canutus rufa), green sea turtle (Chelonia mydas), and loggerhead sea turtle (Caretta caretta). The project area overlaps with critical habitat for the loggerhead sea turtle, piping plover, and the St. Andrew beach mouse. The shoreline and coastal dune system associated with the project area is suitable habitat for the St. Andrew beach mouse, suitable nesting habitat for the listed sea turtles, as well as foraging habitat for the piping plover and red knot.

Other federally threatened and endangered species with the potential to occur in or near the area include the Red-cockaded woodpecker (Picoides borealis), Reticulated Flatwoods Salamander (Ambystoma bishop), Chapman Rhododendron (Rhododenron chapmanii), Harper's Beauty (Haperocallis flava), Wood stork (Mycteria Americana), Eastern indigo snake (Drymarchon corais couperi), Florida Skullcap (Scutellaria floridana), Godfrey's Butterwort (Pinguicula ionantha), Telephus Spurge (Euphorbia telphioides), and White Birds-in-a-nest (Macbridea alba). However, the project is likely to have no effect as the project area does not provide suitable habitat for these species.

7.13.1 Alternative 1 – No Action Alternative

Alternative 1, the no-action alternative, would result in no construction activities taking place, and therefore there would be no potential for effects caused by the action. Nesting and foraging habitat for the seabirds and beach mice, and nesting habitat for the sea turtles, would continue to decline due to coastal erosion.

7.13.2 Alternative 2 – Construct the Emergency Coastal Dune System

Under the preferred alternative, environmental impacts to species along the shoreline are anticipated due to construction of the emergency 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. As such, the BO requires the following: installation of beach compatible sand; monitoring and

surveying for turtle nests as well as potentially relocating them; storing equipment off of the beach at nighttime during nesting season; sand compaction; and monitoring escarpments.

The project will 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 the construction activities. These adverse impacts can be mitigated by careful placement of berms to avoid existing bird habitat; roping off areas with birds; and monitoring and surveying.

In addition to turtles and shorebirds, the project will also have moderate short-term adverse impacts to beach mice due to the disruption in nesting habitat caused by the construction activities. These adverse impacts can be mitigated by limiting the creation of new beach accesses; and not storing equipment and construction materials in beach mouse habitat.

Because of FEMA's determination that the project will likely adversely affect listed species, FEMA is in the process of completing formal consultation with USFWS which will result in the issuance of a Biological Opinion.

The applicant will be required to follow the reasonable and prudent measures, as well as the terms and conditions of the USFWS Biological Opinion issued on 5/7/2020 in order to mitigate the moderate short-term impacts to turtles, shorebirds, and beach mice caused by this project to a level deemed acceptable to the USFWS.

7.14 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. Approximately forty-three (43) migratory bird species were identified as being potentially within the project areas by accessing the USFWS IPaC database on January 13, 2020. The listed migratory bird species have a varying range for probability of presence within the project vicinity throughout the year, and approximately half of the 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.

7.14.1 Alternative 1 – No Action Alternative

Alternative 1, the no-action alternative, will have no effect on migratory birds as no construction activities will take place.

7.14.2 Alternative 2 - Construct the Emergency Coastal Dune System

The criteria for this determination is if the project is located within a flyway zone and has potential to take migratory birds. The proposed scope of work will have a moderate impact on migratory birds as the 43 species have a varying range for probability to be present in the project area throughout the year, with several of the species having a designated breeding season that could occurs within the

project timeline. Construction activities could have a moderate short-term impact on foraging and nesting habitat for the listed species. Due to the moderate short-term impact, the proposed action will be required to follow the conditions listed in Section 6.2 of this EA, taken from the USFWS Biological Opinion for FEMA issued on 5/7/2020, as well as FDEP CCCL permit or FDEP JCP, as applicable. In the long term, the construction of the emergency dunes will have a beneficial effect to migratory birds due to the increase in foraging and nesting habitat.

7.15 Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act 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.

According to Florida Fish and Wildlife Conservation Commission mapping data, the nearest habitat for coral and hard bottom is 50 miles SW of the project area and there are no seagrass habitats in the project vicinity.

7.15.1 Alternative 1 – No Action Alternative

Alternative 1, the no-action alternative, will not have any construction activities located in or near EFH and thus will have no impact on fisheries or breeding habitat.

7.15.2 Alternative 2 - Construct the Emergency Coastal Dune System

Alternative 2, construction of the emergency coastal dunes, will have no adverse effect to essential fish habitat as there is no coral, hard bottom, seagrass, or breeding areas in the project area.

7.16 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 mapping data, there are eagles' nests in Gulf County, but none in the area of potential impact.

7.16.1 Alternative 1 – No Action Alternative

Alternative 1, the no-action alternative will not involve any construction activity, so there will be no chance to take or disturb Bald or Golden Eagles.

7.16.2 Alternative 2 – Construct the Emergency Coastal Dune System

Alternative 2, construction of the emergency coastal dune system, is not within the vicinity of any mapped eagle nests, so the project will not result in a take of the species and thus will have no effect.

7.17 Cultural Resources

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. When historic properties are present, federal agencies must assess the effect of the undertaking and consider ways to minimize or mitigate potential adverse effects. No important non-NRHP cultural resources were identified under NEPA; therefore, impacts under NEPA and effects under Section 106 are discussed only for historic properties.

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.

FEMA evaluated potential resources in the APE utilizing the Florida Master Site File (FMSF) and previous surveys in the project area. There is one archeological site in the vicinity of the project area, Site 8GU1, which contained human remains.

7.17.1 Alternative 1 – No Action Alternative

Under the no action alternative, no undertaking by FEMA and no construction would occur, therefore there would be no potential for effects and no further responsibility under Section 106.

7.17.2 Alternative 2 – Construct the Emergency Coastal Dune System

Under the preferred alternative, the emergency coastal dune system would be constructed using a permitted upland sand source. The project is not anticipated to have an impact on any known sites along the coast.

FEMA consulted with the Florida SHPO and received a response back, see documentation in Appendix A, that there is an archeological site in the vicinity of the project area, but that the proposed action is unlikely to affect historic properties listed, or eligible for listing, in the National Register of Historic Places as long as the following conditions were complied with.

1) The applicant should submit site and engineering plans, when completed, for review and comment prior to the commencement of ground-disturbing activities, at which time our office may recommend

that the project area be subjected to archaeological monitoring or a cultural resource assessment survey.

2) If prehistoric or historic artifacts, such as pottery or ceramics, projectile points, dugout canoes, metal implements, historic building materials, or any other physical remains that could be associated with Native American, early European, or American settlement are encountered at any time within the project site area, the permitted project shall cease all activities involving subsurface disturbance in the vicinity of the discovery. The applicant shall contact the Florida Department of State, Division of Historical Resources, Compliance Review Section at (850)-245-6333. Project activities shall not resume without verbal and/or written authorization. In the event that unmarked human remains are encountered during permitted activities, all work shall stop immediately, and the proper authorities notified in accordance with Section 872.05, *Florida Statutes*.

3) Any changes to the approved scope of work will require submission to, and evaluation and approval by, the State and FEMA, prior to initiation of any work, for compliance with Section 106.

7.18 Land Use and Planning

According to Gulf County land use data the project areas consists of undeveloped coastal beach adjacent to a mixture of state-owned recreational park land as well as developed residential and mixed commercial/residential land.

7.18.1 Alternative 1 – No Action Alternative

Alternative 1, the no-action alternative, will not result in an alteration of the current land use as no construction will take place, thus it will have no impact on land use.

7.18.2 Alternative 2 – Construct the Emergency Coastal Dune System

Alternative 2 will have no effect on land use and planning because the area is already a coastal dune system, so the use will not change with the proposed action.

7.19 Noise Control Act

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.

7.19.1 Alternative 1 – No Action Alternative

Alternative 1, the no-action alternative, will not result in construction activities taking place and thus will have no effect on noise levels in the area.

7.19.2 Alternative 2 – Construct the Emergency Coastal Dune System

Alternative 2 involves the construction of an emergency coastal dune system and thus will have minor short-term impacts on noise levels resulting from the use of construction equipment in the project area.

7.20 Transportation

The scope of work provided by the applicant doesn't include the construction of any transportation features, as the work will be done using the existing roads.

7.20.1 Alternative 1 – No Action Alternative

Alternative 1, the no-action alternative, would not involve any construction activities and thus would have no impact on existing infrastructure.

7.20.2 Alternative 2 – Construct the Emergency Coastal Dune System

Alternative 2, because it involves the construction of an emergency coastal dune system, would have minor short-term impacts from construction equipment entering/leaving the project areas transporting sand and construction equipment to the project locations.

7.21 Environmental Justice (EO 12898) / Socioeconomic

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."

In 2010, the population of Gulf County was 15,863 (U.S. Census Bureau, 2010). Minorities (African American, Native American, Asian, Native Hawaiian/Pacific Islanders, or a mix of these races) are 20.2 percent of the population; and persons below the poverty level are 20.3 percent of the population (U.S. Census Bureau, 2020).

7.21.1 Alternative 1 – No Action Alternative

Alternative 1, the no-action alternative, would involve no construction activities and thus would have no impact on minority or low-income populations.

7.21.2 Alternative 2 – Construct the Emergency Coastal Dune System

Under the preferred alternative, no disproportionate impacts, adverse impacts to minority or low-income populations are anticipated. The beach will be restored to its engineered beach 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 public.

7.22 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. The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (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 no Superfund sites located in or near the project areas. Additionally, since the majority of the project area is coastal dune system, there is a low likelihood of contamination.

7.22.1 Alternative 1 – No Action Alternative

Alternative 1, the no-action alternative, will not involve any construction and thus will have no potential to disturb hazardous materials or create any potential hazard to human health.

7.22.2 Alternative 2 – Construct the Coastal Emergency Dune System

Alternative 2, construction of the coastal emergency dune system, would have a minor short-term impact on the dunes due to construction activities. 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. The potential for any construction activities related to this project to impact hazardous waste sites designated under CERCLA as there are no designated superfund sites in Gulf County.

7.23 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 Gulf County.

7.23.1 Alternative 1 – No Action Alternative

Alternative 1, the no-action alternative, will involve no construction activities and thus will have no impact on contaminated areas.

7.23.2 Alternative 2 – Construct the Emergency Coastal Dune System

Alternative 2, construction of the emergency coastal dune system, would have no impact on drinking water as there are no sole source aquifers in Gulf County.

8.0 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.

The shoreline of the project area, which is severely eroded, is heavily developed with improved property and residential areas that are vulnerable to a potential 5-year flood. 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 presidential emergency declarations. The proposed project is expected to temporarily 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 and beach mice nesting and foraging habitat. It is not expected that that project will increase development along the shoreline but will help protect and maintain existing infrastructure.

The St. Joseph Peninsula Reach Beach, which makes up a portion of the overall project, is an engineered and maintained shoreline, and thus future re-nourishments due to storm or background erosion are expected. The USACE completed an EA for the St. Joseph Peninsula Reach and issued an EA Statement of Findings (SOF) in 2016. The EA SOF identified no significant adverse effects in their cumulative impacts from ongoing beach re-nourishment efforts from R-74.8 to R-105.5, which encompasses the areas of proposed coastal dune construction activity from R-77 to R-105 that are part of the action described in this EA. The re-nourishment efforts identified in the USACE's EA were expected to occur as an ongoing maintenance requirement upon constructing the engineered and maintained beach and were anticipated to occur at 8-10-year intervals, outside of the timeframe of this project and the time that the emergency coastal dunes are expected to last.

A planned sand placement and vegetation planting project, to be funded by the National Fish & Wildlife Foundation (NFWF), will occur on a section of St. Joseph Peninsula that is outside of the project limits being considered in this EA and is not anticipated to have an impact on the work being done as part of this project. In addition to these known actions, it is expected that there will be the need for future work to take place on the three reaches of St. Joseph Peninsula, an engineered beach. Indian Pass Reach and St. Joe Reach, both natural beaches, are expected to have emergency berms constructed.

It is anticipated that the proposed action will have short-term impacts to commercial and recreational usage of the shoreline due to construction activities. However, it is expected that 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, not to bring about a change in the current land use. Construction of the emergency coastal dune system on the engineered and natural beaches will allow for their continued commercial, recreational, and residential use.

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.

9.0 PUBLIC INVOLVEMENT

FEMA issued a disaster-wide initial public notice for Hurricane Michael on October 30, 2018 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 the EA for review and comment by posting of the public notice. The EA will be posted on FEMA's website, the applicant's website, and a hardcopy will be made available at the public library. The public comment period will end 30 days after posting.

10.0 AGENCY COORDINATION

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

- Florida Clearinghouse
- U.S. Army Corps of Engineers, Panama City District
- U.S. Fish and Wildlife Service, Panama City

11.0 LIST OF PREPARERS

Name	Organization	Title
Larissa A. Hyatt	FEMA	Supervisory Environmental Protection Specialist
Ben Pollack	FEMA	Environmental Specialist

12.0 REFERENCES

- "Permit Program under CWA Section 404." *EPA*, Environmental Protection Agency, 14 May 2019, www.epa.gov/cwa-404/permit-program-under-cwa-section-404.
- *Text to Accompany the Geologic Map of Florida*. Florida Geological Society, *Text to Accompany the Geologic Map of Florida*.
- "Clean Air Act Requirements and History." *EPA*, Environmental Protection Agency, 10 Jan. 2017, www.epa.gov/clean-air-act-overview/clean-air-act-requirements-and-history.
- "Green Book | US EPA." *EPA*, Environmental Protection Agency, 31 Jan. 2020, www3.epa.gov/airquality/greenbook/ancl.html.
- "Section F: Coastal Zone Management." *Section F: Coastal Zone Management | FEMA.gov*, www.fema.gov/section-f-coastal-zone-management.
- "Coral and Hard Bottom Habitats in Florida." *Geodata.myfwc.com*, geodata.myfwc.com/datasets/1ab76f29338b441ab0d0f9e28aecdcdc_7.
- "Florida Fish and Wildlife Conservation Commission." *Geodata.myfwc.com*, geodata.myfwc.com/datasets/seagrasshabitat-inflorida/data.
- "Summary of the Noise Control Act." *EPA*, Environmental Protection Agency, 6 Nov. 2019, www.epa.gov/laws-regulations/summary-noise-control-act.

13.0 APPENDICES

Available upon request by emailing FEMA-R4EHP@fema.dhs.gov