DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, NEW ORLEANS DISTRICT
7400 LEAKE AVE
NEW ORLEANS LA 70118-3651

DRAFT FINDING OF NO SIGNIFICANT IMPACT (FONSI)

SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT GRAND ISLE AND VICINITY, LOUISIANA BEACHEROSION AND HURRICANE PROTECTION PROJECT JEFFERSON PARISH, LA

SEA #573A

CONSTRUCTION OF BEACH RENOURISHMENT AND DUNE RESTORATION

Description of the Proposed Action (Proposed Project): The U.S. Army Corps of Engineers (USACE), Mississippi Valley Division (MVD), Regional Planning and Environment Division South, has prepared this Supplemental Environmental Assessment #573A (SEA #573A) titled "Grand Isle and Vicinity, Louisiana Beach Erosion and Hurricane Protection Project, Construction of Beach Renourishment and Dune Restoration" in Jefferson Parish, Louisiana for the New Orleans District (CEMVN) to evaluate changes to the beach renourishment portion of the proposed plan associated with The Grand Isle and Vicinity: Beach Erosion and Hurricane Protection Project, Jefferson Parish, LA EA #573. EA #573 has a signed finding of no significant impact (FONSI) dated May 17, 2019. However, that FONSI only approved the construction of the breakwaters with the understanding that another FONSI associated with EA #573 would be prepared to approve the beach renourishment portion. Subsequent to signing of the cited FONSI, Hurricane Barry made landfall near Intracoastal City, Louisiana on July 13, 2019. This storm event resulted in significant additional erosion of the Grand Isle shoreline in and near the areas slated for beach and dune renourishment in EA #573. It was therefore determined that the beach/dune renourishment area covered by EA #573 needed to be expanded. This proposed expansion necessitated preparation of a supplement to EA #573 to evaluate the larger beach renourishment and dune restoration area proposed. This is the primary purpose of SEA #573A.

This SEA #573A has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969 and the Council on Environmental Quality's regulations (40 CFR 1500-1508), as reflected in the USACE Engineering Regulation ER 200-2-2. This SEA #573A provides sufficient information on the potential adverse and beneficial environmental effects to allow the District Commander, U.S. Army Corps of Engineers, CEMVN, to make an informed decision on the appropriateness of an environmental impact statement (EIS) or a FONSI.

The proposed action involves conducting beach renourishment and dune restoration encompassing up to a total of approximately 76.0 acres on the gulf side of Grand Isle along its western end. The overall renourishment and restoration limits are divided into two “areas”. Area 1 would begin at the existing western jetty and extend approximately 4,970 feet eastward (roughly 0.9 mile), ending roughly 565 feet east of Alma Lane. This area’s beach renourishment and dune restoration footprint would occupy a total of approximately 51.7 acres. Area 2 would begin at the eastern boundary of Area 1 and would, at the most, extend approximately 2,550 feet eastward (roughly 0.5 mile) ending roughly 163 feet east of Shelton Lane. If all of Area 2 is implemented, its beach renourishment and dune restoration limits would occupy a total of approximately 24.3 acres. All dune areas disturbed or restored would be planted with Fouchon bitter panicum and Caminada sea oats.

Beach renourishment and dune restoration would involve placement of sand on top of eroded beach areas and on eroded portions of the existing dune that runs parallel to the shoreline near the northern limits of the beach renourishment and dune restoration area. Sand fill material would be obtained from one or two borrow sources located in the Gulf of Mexico. These sources consist of the Barataria Bay Waterway (BBWW) borrow site and the Caminada Pass Shoal (CPS) borrow site. The BBWW borrow site would encompass a maximum of approximately 644 acres. The CPS borrow site would encompass a maximum of approximately 230 acres. The sand sediment dredged from the BBWW and the CPS borrow site would be transported to the beach renourishment and dune restoration areas via a pipeline.

A maximum of approximately 1,100,000 cubic yards (cy) would be dredged for the project using a cutterhead dredge. This assumes both all of renourishment Areas 1 and 2 are completed. If only Area 1 is renourished, then about 900,000 cy would be dredged. Roughly an additional 200,000 cy would be dredged if all of Area 2 is renourished, but this volume would be reduced if only a portion of Area 2 is renourished.

Factors Considered in Determination: The U. S. Army Corps of Engineers, New Orleans District (CEMVN) has assessed the impacts of the "no action" and the proposed action (proposed project) on important resources in the project area including: barrier shorelines, headlands, and islands; aquatic resources/fisheries; wildlife; Essential Fish Habitat; threatened, endangered, and protected species; water quality; air quality; cultural resources; recreational resources; visual resources (aesthetics), and noise. No significant adverse impacts were identified for any of the relevant resources based on implementation of the proposed action. Because the proposed action (beach renourishment and dune restoration) would provide some protection to the western end of Grand Isle from erosional forces, it is the environmentally preferable alternative. All practicable means to avoid and minimize environmental harm have been adopted.

The risk of encountering HTR W is minimal. LDNR concurred with the determination that the proposed action is consistent, to the maximum extent practicable with the Louisiana

Coastal Resources Program on January 27, 2020. The proposed action is consistent with the purposes of the Coastal Barrier Resources Act of 1982 and falls within an exception to the limitation on Federal expenditures under that Act. A Water Quality Certificate (WQC 190314-01) was received from LDEQ on July 23, 2020 (WQC 190828-02). A Clean Water Act 404 (b)(]) evaluation was signed on Date, 2020. CEMVN determined that the proposed action will have no effect or is not likely to adversely affect any NMFS or USFWS ESA-listed species and/or designated critical habitat. NMFS indicated during coordination that this proposed action falls under the Gulf of Mexico Regional Biological Opinion (GRBO) and required no further consultation. USFWS concurred with CEMVN's determinations in a memo dated September 2, 2020. This office has concurred with, or resolved, all Fish and Wildlife Coordination Act Report (CAR) recommendations submitted by USFWS in the Final CAR dated Date 2020.

Environmental Commitments: The following commitments are an integral part of the proposed action:

1. If the proposed action is changed significantly or is not implemented within one year, CEMVN will reinitiate coordination with the USFWS to ensure that the proposed action would not adversely affect any federally listed threatened or endangered species, or designated critical habitat.

2. If any unrecorded cultural resources are determined to exist within the proposed project site, work would not proceed in the area containing those cultural resources until a CEMVN archeologist has been notified, and coordination with the Louisiana SHPO and federally recognized Tribes has been completed.

3. The construction contractor would be required to: (A) Prepare a Stormwater Pollution Prevention Plan (SWPPP) for review and approval by CEMVN; (B) Obtain a Stormwater General Permit from the Louisiana Department of Environmental Quality (LDEQ) and comply with all applicable conditions and requirements set forth in the issued permit; (C) Avoid any project construction impacts to the existing wetland located north of the proposed beach and dune renourishment area.

4. The construction contractor would be required to comply with USFWS and NMFS guidelines for protecting West Indian manatees, sea turtles, Gulf sturgeon, and bottlenose dolphins during construction of the proposed project. CEMVN biologists will also educate construction personnel regarding the potential presence of federally listed shorebirds and the importance of avoiding disturbance to such birds.

5. Prior to the initiation of project construction, CEMVN biologists would survey the proposed beach/dune renourishment area, along with suitable habitats located within approximately 2,000 feet of this area, for the presence of nesting wading birds, sea birds, and water birds. If active nests are discovered, the construction contractor would be restricted from conducting any work and/or access within the following "no work

distances" buffering such nests: 650 feet for terns, gulls, and black skimmers; 1,000 feet for colonial nesting wading birds; 2,000 feet for brown pelicans. These protective buffers would not be modified unless otherwise approved by USFWS. If bird nesting has not been initiated but CEMVN concludes nesting is likely within or near the beach/dune renourishment area, a detailed nesting prevention plan would be prepared by CEMVN in coordination with USFWS to deter birds from nesting in areas that would restrict project construction. Once the plan is approved, CEMVN or its bird nesting abatement contractor would implement the plan.

6. The construction contractor would be required to install warning markers along the pipeline(s) used to pump sand/sediments from the proposed borrow site(s) to the proposed beach/dune renourishment area to help avoid marine navigation conflicts. Such markers may include flags, warning lights, and warning signs. CEMVN would also coordinate with the US Coast Guard (USCG) to provide this agency with information for inclusion in the USCG's Local Notice to Mariners, warning mariners of potential obstacles and restrictions posed by elements of the proposed project's construction activities.

7. CEMVN staff would monitor the survival of the initial dune plantings until the Non-Federal Sponsor (NFS) begins operation and maintenance of the project or for a period of three years, whichever comes first. Prior to notice to the NFS, CEMVN would take appropriate action (e.g. re-planting, etc.) if the dune vegetation is inadequate or otherwise failing. The Operation, Maintenance, Repair, Replacement & Rehabilitation (OMRR&R) Manual prepared by CEMVN for the proposed project would require the NFS to monitor survival and condition of the dune plantings for the appropriate timeframe, depending on when the NFS begins, and take appropriate action (e.g. re-planting, etc.) if the dune vegetation is inadequate or otherwise failing.

8. Markers must be installed along the outer boundaries of the above-water portion of the beach/dune renourishment area and maintain these markers throughout project construction to help ensure construction personnel and activities do not disturb areas beyond these boundaries other than the staging area. This requirement is also intended to ensure that federally listed shore birds are not impacted.

9. The existing exposed rock should be covered with at least 3 feet of sand to provide sufficient substrate for replanted vegetation to grow and stabilize the dune habitat. Planted vegetation should consist of sea oats, bitter panicum, and other native sand dune species.

Public Involvement: The proposed action has been coordinated with appropriate Federal, state, and local agencies and businesses, organizations, and individuals through distribution of Draft SEA #573A for a 30-day public review and comment period from September 17, 2020 through October 17, 2020. During this public comment period, comments were received from Federal, state, and local resource and governmental agencies as well as the general public.

Agency Comments and Responses (Appendix I)

General Public Comments and Responses (Appendix I)

Decision: The proposed action would renourish and restore approximately 76 acres of beach and dune that has be severely degraded due to natural causes. The CEMVN has assessed the potential environmental impacts of the proposed action as described in the SEA #573A and the "no action" alternative and has concluded that there would be no significant impacts.

I have reviewed the SEA #573A and have considered public and agency comments and recommendations. Based on the assessment conducted in SEA #573A which is attached hereto and made a part hereof, and the implementation of the environmental design commitments listed above, I have determined that the proposed action would have no significant impact on the human environment.

Based on the above-described evaluation and coordination, the proposed action is the recommended plan for implementation. The plan is justified and complies with relevant environmental statutes. All practicable means to avoid and minimize environmental harm have been incorporated. The public interest will be served by implementation of the Recommended Plan.

_____ _____

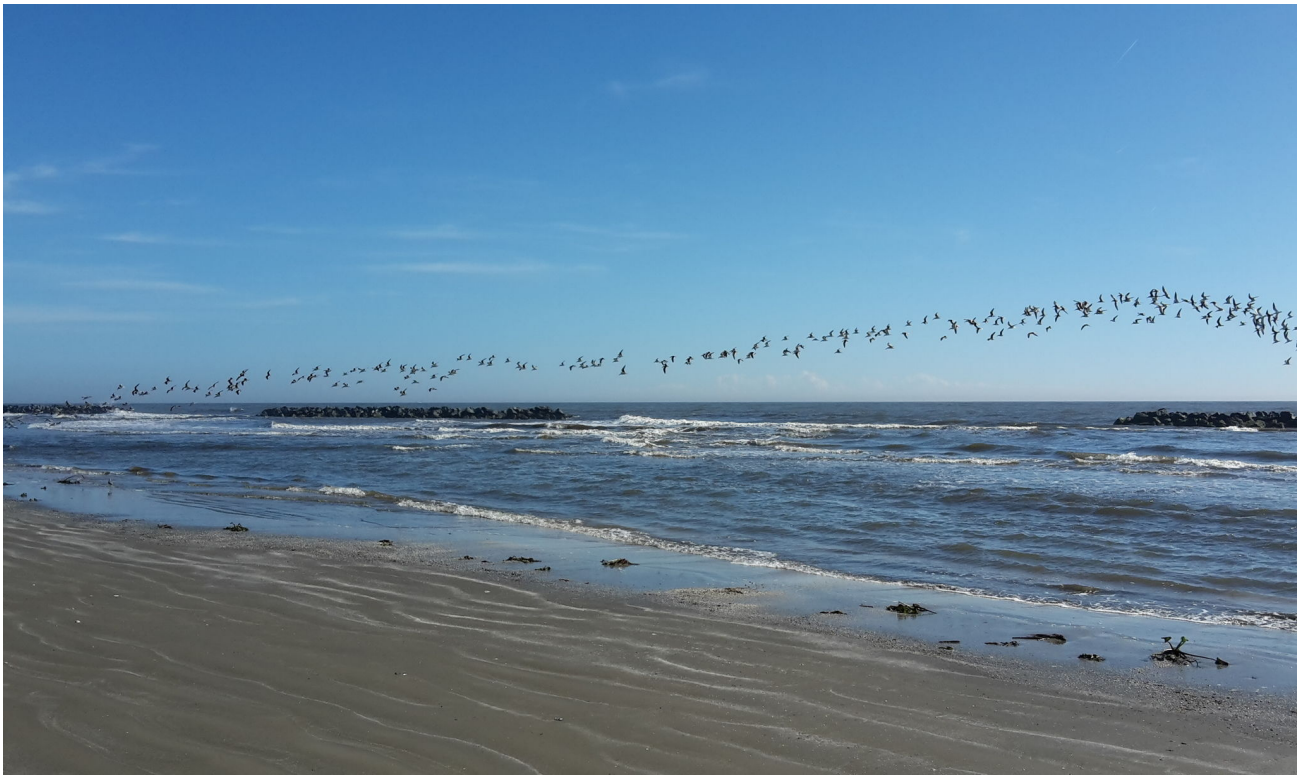
Date

Stephen F. Murphy
COL, EN
Commanding

DRAFT
SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT
GRAND ISLE AND VICINITY, LOUISIANA
BEACH EROSION AND HURRICANE PROTECTION PROJECT
JEFFERSON PARISH, LA

SEA #573A

CONSTRUCTION OF BEACH RENOURISHMENT AND DUNE RESTORATION



U.S. Army Corps of Engineers
Mississippi Valley Division
Regional Planning and Environment Division South
New Orleans District

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APPENDICES

1. INTRODUCTION

The U.S. Army Corps of Engineers (USACE), Mississippi Valley Division (MVD), Regional Planning and Environment Division South (RPEDS), has prepared this Draft Supplemental Environmental Assessment #573A (SEA #573A) titled "Grand Isle and Vicinity, Louisiana Beach Erosion and Hurricane Protection Project, Construction of Beach and Dune Renourishment" in Jefferson Parish, Louisiana for the New Orleans District (CEMVN). The purpose of this draft EA #573A is to evaluate changes to the beach renourishment and dune restoration portion of the proposed plan associated with The Grand Isle and Vicinity: Beach Erosion and Hurricane Protection Project, Jefferson Parish, LA EA #573. EA #573 has a signed finding of no significant impact (FONSI) dated May 17, 2019. However, that FONSI only approved the construction of the breakwaters with the understanding that another FONSI associated with EA #573 would be prepared to approve the beach renourishment and dune restoration portion of the project. Subsequent to signing of the first FONSI, Hurricane Barry made landfall near Intracoastal City, Louisiana on July 13, 2019. This storm event resulted in significant additional erosion of the Grand Isle shoreline in and near the areas slated for beach renourishment and dune restoration in EA #573. It was therefore determined that the beach renourishment and dune restoration areas covered by EA #573 needed to be expanded. This proposed expansion necessitated preparation of a supplemental document to EA #573 in order to evaluate the larger beach renourishment and dune restoration area proposed. This is the primary purpose of draft SEA #573A. See section 2.1 for project details.

This draft SEA #573A has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969 and the Council on Environmental Quality's regulations (40 CFR 1500-1508), as reflected in the USACE Engineering Regulation (ER) 200-2-2. This draft SEA #573A provides sufficient information on the potential adverse and beneficial environmental effects to allow the District Commander, U.S. Army Corps of Engineers, CEMVN to make an informed decision on the appropriateness of an environmental impact statement (EIS) or a FONSI.

All tables and figures are located in Appendix A and B, respectively, unless otherwise noted in the Tables list on page 2.

1.1 Project Name and Location

Project Name: Grand Isle and Vicinity, Louisiana Beach Erosion and Hurricane Protection Project in Jefferson Parish, Louisiana.

Project Location: The project is located on Grand Isle, which is a low lying inhabited barrier island located along the Gulf of Mexico in Jefferson Parish, Louisiana, approximately 50 miles south of New Orleans, Louisiana. (Figure B1, Appendix B)

1.2 Authority

Section 301(b)(6) of the Water Resources Development Act of 1996 modified the Grand Isle and Vicinity, Louisiana Beach Erosion and Hurricane Protection Project, authorized by Section 204 of the Flood Control Act of 1965, to authorize construction of breakwater features. Section 103 of the Water Resources Development Act of 1986, Public Law 99-662, as amended (33 U.S.C. 2213), specifies the cost-sharing requirements applicable to the project. Appropriations provided under the Construction heading, Title IV, Division B of the Bipartisan Budget Act (BBA) of 2018, Public Law 115-123 enacted February 9, 2018 (BBA 2018), currently estimated at $15,000,000.00, are available to undertake construction of the project, and the non-federal sponsors (NFS) acknowledge that they will not be financing their required non-federal cash contributions as allowed under the provisions of BBA 2018.

1.3 Purpose and Need for the Proposed Action

The purpose of the proposed action is to help restore portions of the Grand Isle, Louisiana coastal shoreline that have been impacted by wind and wave action, and water levels. The proposed design to help restore the beach shoreline would consist of pumping sand fill material that could help slow the erosional impacts and potentially help restore the shoreline. Sand would be placed on the shoreline for beach renourishment and dune restoration purposes.

1.4 Prior NEPA Documents

Information and data on previous and existing Grand Isle breakwaters, beach, and dune nourishment conditions associated with the proposed action were derived from EA #573, which is incorporated herein by reference. EA #573, Section 1.4, contains an extensive list of studies and reports on water resources development in the project area.

EA #573 – Environmental Assessment, Grand Isle and Vicinity, Louisiana, Beach Erosion and Hurricane Protection Project, Jefferson Parish, Construction of Breakwaters, LA was published for public review and comment from April 18, 2019 to May 4, 2019. The EA #573 FONSI was signed May 17, 2019.

1.5 Public Concerns

The Town of Grand Isle and members of the public have expressed concern about the loss of land along the shoreline of Grand Isle, Louisiana. Additional concerns have been expressed that the shoreline would continue to experience a high rate of erosion from wave activities and future storm events.

2. ALTERNATIVES INCLUDING THE PROPOSED ACTION

The design for the proposed plan was developed by the NFS, the Coastal Protection and Restoration Authority Board of Louisiana (CPRAB), working in conjunction and coordination with CEMVN. A "*Coastal Processes Analysis and Alternatives Development*

and Analysis Report" was prepared for CPRAB, which analyzed multiple alternatives. A copy of this report, which details the alternatives analysis and selection of the proposed plan for further evaluation by USACE, is available upon request. The following is an excerpt from the report that briefly addresses the alternatives, development process, and analysis.

> "As part of the coastal engineering analysis, a statistical analysis of water level, wind and waves was conducted to understand the coastal environment impacting the project shoreline. A bathymetric surface was developed to be used for various modeling analysis. Shoreline and bottom morphology change analysis was conducted to understand how the near shore morphology has changed over time. Wave modeling transformed the waves from offshore to near shore and was used to develop an understanding of the long shore transport along the project shoreline and to drive the shoreline morphology model. The long shore transport in conjunction with shoreline morphology formed the basis of a sediment budget along the shoreline. This understanding of the coastal processes was then used to assess offshore winds which indicate a varied offshore distribution with no predominant direction, however; stronger winds were observed from the south southeast. Such winds result in net wave driven sediment transport toward to northeast. Wave modeling indicates that the Caminada Pass ebb shoal modifies the wave transformation near the west end of the Island so that the near shore wave climate results in a divergent node in sediment transport despite the fact the overall net sediment transport is directed to the northeast. This divergent node results in an erosional hot spot which has led to severe erosion at that nodal point and localized accretion on the West Jetty. Shoreline change rates analysis showed that prior to the construction of the rock revetment, the erosional hot spot lied around 0.3-0.4 miles east of West Jetty where the shoreline was eroding at almost 50 ft. /yr. The coastal processes and resulting morphology of the western end of Grand Isle have eroded the beach at the dune; this erosion has impacted the dune as well. The Project revetment was successful in protecting the dune in its immediate lee, but does nothing to alleviate erosion adjacent to the structure, which continues to impact the beach and dune.
>
> "Potential long-term solution alternatives at a conceptual level were developed to maximize the stabilization of the Grand Isle shoreline and mitigate deficiencies based upon the understanding of the physical processes along the Grand Isle shoreline. It was assumed that any structure that retains sand within the Project shoreline may cause increased erosional down drift impacts, therefore these impacts were evaluated during the alternative analysis. The goals of the alternatives are to protect the dune; decrease maintenance interval (stabilize shoreline); minimize capital costs; retain recreational beach; and minimize down drift impacts."

2.1 Proposed Action

The proposed action (proposed project) involves conducting beach renourishment and dune restoration encompassing up to a total of approximately 76 acres on the gulf side of Grand Isle along its western end. Of the 76 acres, 37 acres were evaluated in EA #573 but not approved. The overall beach renourishment and dune restoration limits are divided into two "areas" (see Figure B2). Area 1 would begin at the existing western jetty and extend approximately 4,970 feet eastward (roughly 0.9 mile), ending roughly 565 feet east of Alma Lane. The width of Area 1 (as measured perpendicular to its northern boundary which is the protected side toe of the dunes) would range from roughly 400 feet to 520 feet. This area's beach renourishment and dune restoration footprint (area within the overall limits of construction) would occupy a total of approximately 51.7 acres, with about 5.9 acres consisting of dune restoration, and the remaining 45.8 acres consisting of beach renourishment. Area 2 would begin at the eastern boundary of Area 1 and would, at the most, extend approximately 2,550 feet eastward (roughly 0.5 mile), ending roughly 163 feet east of Shelton Lane. It is currently anticipated that all of Area 1 would be constructed, but the limit of construction for Area 2 is still unknown. If all of Area 2 is implemented, its beach renourishment and dune restoration limits would occupy a total of approximately 24.3 acres, with about 3.5 acres consisting of dune restoration and 20.8 acres consisting of beach renourishment.

Table 1: Approximate lengths and acreages for the proposed beach renourishment and dune restoration

Area	Length (feet)	Renourishment and Restoration Acreages		
		Beach	Dune	Total
Area 1	4,970	45.8	5.9	**51.7**
Area 2	2,550	20.8	3.5	**24.3**
Totals	**7,520**	**66.6**	**9.4**	**76.0**

Note: The length and acreages indicated for Area 2 represent maximums. The minimum length and acreages would be the data for Area 1.

Beach renourishment and dune restoration would primarily involve placement of sand on top of eroded beach areas and on eroded portions of the existing dune that runs parallel to the shoreline near the northern limits of the beach renourishment and dune restoration areas. Figure B5 provides a typical cross-section view of the proposed renourishment and restoration. For dune areas where the crest (top) of the dune has eroded significantly, placement of fill (sand) would extend over the dune's crest and would continue downward to a point along the landward sideslope (slope on north side of dune), but would not extend to the toe-of-slope. It is noted that a portion of the remnant shoreline in the southern end of Area 1 is presently lined with exposed stone rip-rap with no beach remaining. The proposed beach renourishment and dune restoration in the area with rip-rap would differ somewhat from the typical cross-section shown in Figure B5. In this area, additional sand fill would be placed on the rip-rap slope such that there would be a 3-foot-thick layer of sand over the existing rock.

Sand fill necessary for the beach renourishment and dune restoration would be obtained from one or two borrow sources. These sources consist of the Barataria Bay Waterway (BBWW) borrow site and the Caminada Pass Shoal (CPS) borrow site. The BBWW borrow site, shown in Figure B3, would encompass a maximum of approximately 644 acres. This previously used borrow site is located in the Gulf of Mexico near the east end of Grand Isle. The CPS borrow site, shown in Figure B2, would encompass a maximum of approximately 230 acres. This new borrow site would be located in the gulf near the west end of Grand Isle, just off of the Caminada Pass. Both of the potential borrow sites are capable of providing all the sand needed for the proposed beach renourishment and dune restoration work. Of the two sites, it would be more economical to dredge only the CPS site since it is much closer to the renourishment and restoration areas compared to the BBWW site.

The existing seabed elevation at the CPS borrow site ranges from approximately -6 feet to -12 feet NAVD88, while that of the BBWW borrow site ranges from approximately -8 feet to -13 feet NAVD88. The depth of dredging to obtain the sand would extend no lower (deeper) than elevation -20 feet NAVD88 when dredging either of the two sites.

A maximum of approximately 1,100,000 cubic yards (cy) would be dredged for the project using a cutterhead dredge. This assumes all of Areas 1 and 2 are completed. If only Area 1 is renourished and restored, then about 900,000 cy would be dredged. Roughly, an additional 200,000 cy would be dredged if all of Area 2 is renourished and restored, but this volume would be reduced if only a portion of Area 2 is renourished and restored. Besides the cutterhead dredge, other vessels used during the dredging process would include tug boats, survey boats, skiffs, and barges.

The dredging quantities indicated above would be the same if only the BBWW site is used, if only the CPS site is used, or both of these borrow sites are used. At this time, there are no means of estimating how much material would be dredged at each of the borrow sites if both sites are used.

It is noted that the area of the CPS borrow site actually dredged, if any, could be less than 230 acres and the area of the BBWW site actually dredged could be less than 644 acres. The most efficient manner of dredging will be explored during further project design efforts and the results of the hydraulic models will be used to ensure any dredging of the CPS borrow site would not result in adverse sediment transport impacts. These efforts, in conjunction with the final determination of how much of Area 2 will be renourished, could reduce the dredging footprints as well as the maximum depth of dredging within the final dredging footprints. Regardless, this SEA assumes the full 230 acres of the CPS site and the entire 644 acres of the BBWW site would be dredged to an elevation of -20 feet NAVD88 to be conservative.

The project delivery team expressed concern that using the CPS borrow site as the sole source of sand could potentially adversely affect the existing natural near-shore transport of sediments from the Caminada Pass area eastward along the gulf coast of Grand Isle. This sediment transport process currently helps add sand to the Grand Isle shoreline,

primarily east of the proposed beach renourishment and dune restoration areas. Due to this concern, hydraulic models were run to examine how extensive dredging of the CPS site may affect the aforementioned sediment transport. In short, the reduction in sediment transport is minimal with any of the borrow configurations in the CPS. The sediment transport changes range from a 2 percent reduction to a 10 percent reduction depending on the configuration of the borrow pit. Sediment removed from the CPS would be completed in a manner as to not exceed the results of the model (i.e. 10 percent reduction). The results of these models can be found in Appendix H

The sand sediment dredged from the CPS borrow site would be transported to the beach renourishment and dune restoration areas via pipeline. The location and route of this pipeline would be adjusted as the project progresses, and could be situated anywhere within the pipeline corridor envelope illustrated in Figure B4 and B6. The initial portion of the pipeline, roughly 2,000 linear feet, would likely be floating. The remaining pipeline, roughly 4,000 linear feet, would be submerged to run along the gulf floor once the pipeline reaches shallow waters.

The sediment dredged from the BBWW borrow site would also be transported to the beach renourishment and dune restoration areas via pipeline. The route of the pipeline would be adjusted as necessary during dredging, and could be located anywhere within the pipeline corridor envelope shown in Figure B3 and B6. The first approximately 4,000 linear feet of pipeline would likely be floating, while the remaining 35,000 linear feet would be submerged to run along the gulf floor. If the seas were determined to be too rough for the pipeline offshore, it would be likely that the contractor would run the pipeline down the existing shoreline.

Warning markers would be installed along the pipeline(s) to help avoid navigation conflicts. Such markers may include flags, warning lights, warning signs, and marker buoys. USACE would also coordinate with the U.S. Coast Guard (USCG) to provide this agency with information for inclusion in the USCG's Local Notice to Mariners, warning mariners of potential obstacles and restrictions posed by elements of the proposed project's construction activities.

Once the pipeline(s) has carried sediment to the beach renourishment and dune restoration areas, track hoes and marsh buggies would be used to distribute and spread the sand material as necessary to achieve the desired finish grades in portions of the renourishment and restoration footprint not inundated for long periods. Temporary silt fence, or in some cases temporary orange enviro-fence, would be installed along the northern boundary of the beach renourishment and dune restoration areas prior to adding and spreading sand on the dune to help minimize turbid stormwater runoff and to help ensure construction equipment does not disturb areas situated outside the project's limits of construction. The staging area for beach nourishment and dune restoration work would be located directly north of Area 1 in an existing sand lot that has access from Highway 1. This staging area would occupy approximately 2.1 acres and is shown in Figure B7.

Upon completion of all sand placement and grading work in the beach renourishment and dune restoration areas, all dune areas disturbed or renourished would be planted with Fouchon bitter panicum (*Panicum amarum* var. Amarum) and Caminada sea oats (*Uniola paniculata*). The plantings would extend from the disturbed limits on the dune's landward slope, then over the dune crest and down its seaward slope to a distance of roughly 10 feet beyond the dune's toe-of-slope. The bitter panicum would be planted at a density of approximately 6,000 plants per acre using 4-inch container stock and/or bitter panicum plants harvested from dune areas that would be disturbed by the proposed work. This species would be planted in all of the planting area except the dune crown. The dune crown would be planted with sea oats at a density of approximately 400 plants per acre using 1-gallon stock. Using a water truck, the plants would be watered twice a week for 28 consecutive days following plant installation, unless rainfall allows reduction of the watering rate. USACE staff would monitor the planted areas at the end of this period. The construction contractor would be required to re-plant any bare areas greater than approximately 100 square feet and to repair and possibly re-plant any areas of significant erosion. Monitoring of the replanted dune would be conducted for a minimum of 3 years.

Wooden sand fencing would also be installed to help windblown, drifting sand accumulate along the fencing, control erosion, and help stabilize the dune. Sand fencing segments would be installed along the dune's seaward toe-of-slope in a line parallel to the dune's centerline. Another row of sand fencing segments would be installed approximately 10 feet seaward from the aforementioned row, and would also run parallel to the dune's centerline. These fencing segments would be 100 feet long with gaps of about 80 feet between each segment. The segments would be situated to span the gaps between the landward rows of sand fencing segments, with the segment ends extending 10 feet beyond the ends of the gaps. No sand fencing would be installed within approximately 5 feet of any existing pedestrian or vehicular dune crossovers.

There is an existing ADA-accessible dune crossover boardwalk located near the southern boundary of the proposed project construction staging area. This boardwalk extends into the limits of Area 1. The boardwalk would be protected throughout the duration of the proposed project. Following project completion, the NFSs, CPRAB and the Town of Grand Isle, would be required to make any necessary repairs to the boardwalk and re-open it for public use. Future maintenance and restoration of the renourished beach/dune areas would also be the responsibility of the NFSs.

It is currently anticipated that project construction would likely begin in mid to late January of 2021. It is estimated that the proposed project would be completed in approximately 220 days (a little over 7 months). This duration assumes all of both Areas 1 and 2 of the proposed beach renourishment and dune restoration would be constructed. If none of Area 2 ends up being part of the project, it is estimated the construction duration would be reduced to approximately 120 days (about 4 months). All of these durations could be extended by adverse wind and wave conditions occurring during construction activities.

As stated in the Introduction section, EA #573 proposed construction of breakwaters and a portion of the beach renourishment and dune restoration. However, the signed FONSI

only approved the construction of the breakwaters. Table 2 below provides a comparison of the main project elements proposed in EA #573 to the main project elements proposed in draft SEA #573A.

Table 2: Primary project elements proposed in EA #573 compared to those proposed in SEA #573A

Proposed Project Element	As Proposed in EA #573	As Currently Proposed in SEA #573A
Beach renourishment and dune restoration areas	• 1 area of renourishment and restoration. • Total 37 acres (5 acres dune + 32 acres beach).	• 2 adjacent areas of renourishment and restoration. • Total acreage ranges from 51.7 to 76.0 acres (5.9 to 9.4 acres dune + to 45.8 to 66.6 acres beach).
Construction staging area	• 1 previously disturbed staging area occupying 2.1 acres immediately north of renourishment and restoration area.	• No change. Same as EA #573.
Borrow sites	• One or both of 2 borrow sites would be used; Barataria Bay Waterway site and Caminada Pass Shoal borrow site. • Maximum borrow site area ranges from 230 acres to 880 acres. • Total volume to be dredged = 1,000,000 cy • Dredging extends to maximum depth of elevation -20.0 feet NAVD88.	• All same as EA #573 except for the total volume to be dredged ranges from 900,000 cy to 1,100,000 cy.
New breakwaters & navigation lights	• 5 to 10 segmented stone breakwaters proposed. • Each breakwater 200 feet long by 50 feet wide. • Up to 4 navigation warning light structures proposed near the new breakwaters.	• Breakwaters have already been approved in EA #573 and have been constructed.

2.3 No-Action Alternative (Future without Project (FWOP))

NEPA requires that, in analyzing alternatives to a proposed action, a federal agency must consider an alternative of "No Action." The No Action alternative evaluates the impacts associated with not implementing the proposed action and represents the Future without Project (FWOP) condition against which alternatives considered in detail are compared. The FWOP provides a baseline essential for impact assessment and alternative analysis.

3 AFFECTED ENVIRONMENT

3.1 Description of the Project Area

The project area is located on Grand Isle, Louisiana, which is located in the Gulf of Mexico, in the lower edge of the Barataria Basin of the Mississippi River Deltaic Plain, about 50 miles south of New Orleans and 45 miles northwest of the mouth of the Mississippi River (Figure B1). Grand Isle is part of the Bayou Lafourche Barrier Shoreline System (Ritchie et al. 1995), which separates Barataria Bay from the Gulf of Mexico, and is the only inhabited barrier island in Louisiana. Grand Isle extends approximately 7.5 miles along the gulf shore generally in a northeast to southwest direction, and is approximately 0.75 mile wide at its center. A full description of the project area, including climate and climate change, and geology can be found in section 3.1 of EA #573.

3.2 Relevant Resources

Table A1 provides summary information of the institutional, technical, and public importance of these resources. The resources described in this section are those recognized as significant by laws, executive orders (EOs), regulations, and other standards of federal, state, or regional agencies and organizations; technical or scientific agencies, groups, or individuals; and the general public.

Table 3 below contains a list of the relevant resources located in the project area and describes those resources that would be impacted, directly or indirectly, beneficially or adversely, by construction.

Table 3: Relevant Resources In and Near the Project Area

Relevant Resource	Impacted	Not Impacted
Barrier Islands	X	
Aquatics and Fisheries	X	
Soils and Water Bottoms	X	
Essential Fish Habitat	X	
Wildlife	X	
Threatened and Endangered Species	X	
Cultural		X
Recreational		X
Visual (Aesthetics)		X
HTRW[1]		X
Air Quality	X	
Water Quality	X	
Noise	X	

[1]Hazardous, Toxic, and Radioactive Waste. Although the area has been determined to have a low probability of containing HTRW, it is assessed in this document to comply with USACE policy.

The existing conditions for most of the relevant resources within the project area are the same as discussed in Section 3.2 of EA #573, which is incorporated by reference.

Therefore, the following subsections offer a summary of each resource and then provides the applicable section of EA #573 for further details.

3.2.1 Barrier Shorelines, Headlands and Islands

Existing Conditions

Grand Isle is one of several barrier islands that serve as natural storm protective barriers and are generally vulnerable to hurricane and other storm damage. Several species of shore birds, wading birds, and song birds can be found foraging and roosting on the beaches and adjacent dunes. Tourism and recreation are a major part of the economy of Grand Isle, and the beaches provide much of the activities that support those endeavors. The proposed restoration action is located on the western gulf-side of the island.

Grand Isle is not a designated Coastal Barrier Resources System unit under the Coastal Barriers Resources Act (CBRA), as amended. 16 U.S.C. §3501, et seq. However, areas beyond the 30 foot bathymetric contour off Grand Isle's shoreline may be part of that system. Portions of the Caminada Pass borrow site are within part of a designated Coastal Barrier Resources System unit (Unit S03). Because the purpose of the proposed action is to stabilize, to protect and to manage Grand Isle's shoreline and its fish and wildlife habitats, Federal expenditures for the proposed project are allowed under Section 6 of the CBRA. 16 U.S.C. §3505(a)(6)(A) and (G).

See section 3.2.1 of EA #573 for a detailed explanation of this resource.

3.2.2 Aquatic Resources/Fisheries

Existing Conditions

Open-water habitat includes the gulf to the south and marshes, open water including bays to the north, as well as a large shallow breach in the headland that allows gulf waters to mingle directly with the Barataria Bay. See section 3.2.2 of EA #573 for a detailed explanation of this resource.

3.2.3 Wildlife

Existing Conditions

Coastal marshes and their associated water bodies, adjacent beaches, and sandbars contain diverse animal life. The abundance of individual species varies regionally and is influenced by prevailing environmental conditions (e.g., salinity regimes, water depth, tidal fluctuations, and vegetational communities). Natural and human-induced changes produce drastic changes in coastal marshes and the species composition of animal communities using them (Chabreck 1988). The productivity of biological resources in coastal Louisiana is at risk because of gulf shoreline changes (O'Connell 2005). Most estuarine species depend on gulf shores and barrier islands for nesting, food, or shelter and will be directly affected by habitat loss. Others have complex indirect relationships with the shoreline ecosystem.

See section 3.2.3 of EA #573 for a detailed explanation of this resource.

3.2.4 Essential Fish Habitat

Existing Conditions

The Gulf of Mexico Fisheries Management Council (GMFMC), in cooperation with the National Marine Fisheries Service (NMFS), has delineated essential fish habitat (EFH) for federally managed species identified in gulf fisheries management practices (FMPs). EFH is defined as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity" (GMFMC 2016). Federally managed species likely to occur in the proposed project area are managed under the following FMPs for the Gulf of Mexico: shrimp, red drum, reef fish, coastal migratory pelagic fishes and other marine biota, and highly migratory species. Table A4 identifies those federally managed species, their life stages and EFH, which may occur in the project area. Table A4 lists those highly migratory species in the study area that have the potential to be impacted by the proposed actions of the project.

3.2.5 Threatened, Endangered and Other Protected Species

Existing Conditions

Within the State of Louisiana, there are 41 threatened and endangered (T&E) or at risk species (some with critical habitat) under the jurisdiction of the U.S. Fish and Wildlife Service (USFWS) and/or the NMFS. Of those 41 species, 10 occur in Jefferson Parish (Table A2).

The USFWS and NMFS share jurisdictional responsibility for sea turtles and the Gulf sturgeon. Other species that were listed on the endangered species list, but which have since been de-listed because population levels have improved, are the bald eagle and the brown pelican. Currently, American alligators and shovelnose sturgeon are listed as threatened under the Similarity of Appearance clause in the Endangered Species Act (ESA) of 1973, as amended, but are not subject to ESA Section 7 consultation.

T&E species are known or believed to occur within the project area, including: piping plover (*Charadrius melodus)*, rufa red knot (*Calidris canutus rufa)*, Gulf sturgeon (Acipenser oxyrhynchus desotoi), West Indian manatee (*Trichechus manatus)*, and Kemp's Ridley (*Lepidochelys kempii)*, Leatherback (*Dermochelys coriacea)*, Hawksbill (*Eretmochelys imbricate)*, Green (*Chelonia mydas*) and Loggerhead (*Caretta caretta*) sea turtles. T&E species that may occur in coastal waters of the study area are the sperm whale (*Physeter catodon*), the humpback whale (*Megaptera novaeangliae*), the sei whale (*Balaenoptera borealis*), and black right whale (*Eubalaena glacialis*).

Grand Isle is designated critical habitat for wintering piping plover. Critical habitat identifies specific areas that are essential to the conservation of a listed species, and that may require special management considerations or protection. The primary constituent elements for the piping plover wintering habitat are those habitat components that are

essential for the primary biological needs of foraging, sheltering, and roosting, and only those areas containing these primary constituent elements within the designated boundaries are considered critical habitat. The primary constituent elements are found in coastal areas that support intertidal beaches and flats (between annual low tide and annual high tide) and associated dune systems and flats above annual high tide.

While sea turtle nesting is uncommon on Grand Isle due to the severe degradation of the shoreline, in the summer of 2015 two nests were found that did not successfully hatch. This indicates that were the habitat conditions for sea turtle nesting to improve, they might return regularly.

The area is known to support various protected species under the Migratory Bird Treaty Act of 1918 (MBTA) and the Marine Mammal Protection Act of 1972 (MMPA). The shallow waters and/or beaches in the project area serve as foraging habitat for a number of seabirds, wading birds, and other bird species. The waters adjacent to the project area are known to support bottlenose dolphins, which are commonly seen on a daily basis from the shores of the island.

See section 3.2.5 of EA #573 for a detailed explanation of this resource.

3.2.6 Water and Sediment Quality

Existing Conditions

Very little water quality monitoring data is available for open water areas in the general vicinity of the proposed project. Water quality in marine water areas near the proposed project area can be highly variable. Turbidity is particularly variable due to the numerous natural factors that can affect suspended sediments in the water column of gulf waters. Dissolved oxygen concentrations are also quite variable but the limited monitoring data indicate impaired concentrations are not particularly frequent in the general project area. Potential organic and inorganic items that can degrade water quality include things such as fecal bacteria, nitrogen, phosphorous, certain pesticides, metals like arsenic, selenium, and methylmercury, and petroleum compounds or derivatives. Overall water quality in the gulf is highly variable, and in coastal settings is highly influenced by human activities. The primary cause of degraded water quality tends to be excess nutrients. These nutrients can result in eutrophication, which can result in diminished water clarity, increased *chlorophyll a* concentrations, and related secondary effects such nuisance/toxic algal blooms and loss of submerged aquatic vegetation.

See section 3.2.7 of EA #573 for a detailed explanation of this resource.

3.2.7 Air Quality

Existing Conditions

National air quality standards have been set by the Environmental Protection Agency (EPA) for six common pollutants (also referred to as criteria pollutants). Table A3 lists these pollutants, which include ozone, particulate matter, carbon monoxide, nitrogen

dioxide, sulfur dioxide, and lead. States are required by the law and regulations to report to the EPA annual emissions estimates for point sources (major industrial facilities) emitting greater than, or equal to, 100 tons per year of volatile organic compounds, nitrogen dioxide, sulfur dioxide, particulate matter less than 10 microns in size; 1,000 tons per year of carbon monoxide; or 5 tons per year of lead. Since ozone is not an emission, but the result of a photochemical reaction, States are required to report emissions of volatile organic compounds (VOC), which are compounds that lead to the formation of ozone. Jefferson Parish is currently in attainment of all National Ambient Air Quality Standards (NAAQS), and operating under attainment status. This classification is the result of area-wide air quality modeling studies. See Table A3 for NAAQS.

3.2.8 Cultural Resources

Existing Conditions

The Grand Isle area has been inhabited since prehistoric times. Historically, the area was home to hunters, trappers, fishermen, and farmers, as well as a stronghold for privateers and pirates who raided merchant ships in the Gulf of Mexico. The earliest land grants on the barrier islands were granted in the Spanish colonial period. By the early 1800s, Grand Isle supported a number of sugar and cotton plantations, and in the late 1880s, the region became a resort destination. Today, Grand Isle hosts a number of individual summer camps, as well as plant facilities and helicopter pads related to the oil industry.

Several cultural resources surveys have been conducted on Grand Isle. These investigations have resulted in the identification of 78 archaeological sites and 221 magnetic and acoustic anomalies in the surrounding waters. The most pertinent of these investigations is the 1978 Phase I cultural resources survey conducted by Coastal Environments, Inc. on behalf of USACE. This survey included the entire Barataria, Segnette, and Rigaud Waterways, and identified 77 sites, all of which are outside the current area of potential effect (APE).

Grand Isle has been intensively developed along Highway 1. An archaeological investigation in 1986 (SHPO report 22-1155) recorded the Barataria Plantation (16JE144), a plantation operation established early on the island that was the first plantation converted to a resort hotel on the Louisiana gulf coast. Site 16JE144 has been determined eligible for the National Register of Historic Places, but would not be impacted by the proposed beach nourishment project. CEMVN coordinated a “no effect to historic properties” finding for the BBWW and Caminada Pass borrow areas with the Louisiana State Historic Preservation Office (SHPO) and federally-recognized Indian Tribes on May 14, 2019. The Louisiana SHPO concurred with the CEMVN finding of “no effect to historic properties” for the BBWW borrow area, but recommended that the Caminada Pass borrow area be surveyed for historic properties in their response dated May 15, 2019.

As a result of the SHPO recommendation for survey of the Caminada Pass borrow area, a survey was conducted by Coastal Environments, Inc. and the draft report, titled “Cultural Resources Remote-Sensing Survey of a Portion of the Caminada Pass Area, Jefferson Parish, Louisiana,” was submitted to CEMVN in July 2020. The findings of the survey

indicated that three anomalies of interest were identified as potential cultural resources within the Caminada Pass borrow area. The lack of expression of these anomalies indicates that they are likely buried. It is not possible to determine from the remote sensing data alone if these anomalies are related to cultural resources that meet National Register of Historic Places criteria. As a result of these findings, a 50-meter buffer would be placed around the three anomalies and they would be avoided during any removal of borrow.

3.2.9 Recreational Resources

Existing Conditions

Grand Isle is a tourist destination and has many annual events and recreational amenities. The International Grand Isle Tarpon Rodeo attracts thousands of visitors each year. The Grand Isle Migratory Bird Celebration (Grand Isle Bird Festival) is an annual three-day event that promotes bird watching and the awareness of the island's ecologically valuable bird habitat. Specific examples of significant study area recreational amenities include:

- The Grand Isle State Park.
- The Ninety West Town Park.
- The Lafitte Woods Nature Preserve.
- Elmer's Island Louisiana State Wildlife Refuge.
- The Grand Isle beachfront area.

The proposed project area is located on the southwest side of the Grand Isle beachfront area. This area provides limited access for public recreation with no designated public parking near the project location. The proposed project area's recreational access is limited to foot traffic from private camps in the surrounding area and those accessing the beach via golf carts. Grand Isle Town Ordinance 78-3 allows for the access of the Grand Isle beach by golf carts upon the purchase and registration of a beach access pass. Golf carts can access the proposed project area at the designated Jean Laffite Lane/Highway 1 intersection access point that leads to a dune crossover pathway. Those using golf carts for beach access primarily originate from the proposed project area's surrounding private camps. Both foot traffic and golf carts have impacted the existing proposed project area's dune structure via recreational access pathways over the dune structure.

Aerial photography of the proposed project areas shows fourteen dune crossover pathways from adjacent private camps, one emergency vehicle dune crossover pathway and one designated golf cart crossover pathway. This photography highlights vegetation damage and reduced dune height along these dune crossover pathways. The aerial photography also highlights unauthorized golf cart access along the private camp dune crossover pathways, although Grand Isle Town Ordinance 78-3 restricts golf cart dune crossing to designated crossing areas.

3.2.10 Visual Resources (Aesthetics)

Existing Conditions

Environmental assessments and impact statements for USACE planning studies are supposed to focus on significant environmental considerations as recognized by technical, institutional and public sources. The visual resources assessment procedure (VRAP) for USACE provides a method to evaluate visual resources affected by USACE water resources projects. The following VRAP criteria identify significant visual resources in the study area:

- Important urban landscapes including visual corridors, monuments, sculptures, landscape plantings, and greenspace.
- Area is easily accessible by a major population center.
- Project is highly visible and/or requires major changes in the existing landscape.
- Areas with low scenic quality and limited visibility.
- Historic or archeological sites designated as such by the National Register or State Register of Historic places.
- Parkways, highways, or scenic overlooks and vistas designated as such by a federal, state, or municipal government agency.
- Visual resources that are institutionally recognized by federal, state or local policies.
- Tourism is important in the area's economy.
- Area contains parks, forest preserves, or municipal parks.
- Wild, scenic, or recreational water bodies designated by government agencies.
- Publically or privately operated recreation areas.

Specific examples of significant visual resources in the study area are:

- The Grand Isle State Park.
- The Ninety West Town Park.
- The Lafitte Woods Nature Preserve.
- Elmer's Island Louisiana State Wildlife Refuge.
- The National Registered Structures':
- Kirby-Adam House, 142B Community Ln.
- Poche House, 102 Community Ln.
- Robin House, 176 Coulon Riguard Rd.
- United States Coast Guard Station No. 79, 170 Ludwig Ln.
- The Grand Isle beachfront area.

A viewshed analysis from typical key observation points (KOPs) is required to determine the proposed project area's existing visual conditions. KOPs are places from which a proposed project is likely to be seen by people; that is, the places within the publically accessible viewshed where people are most likely to be located. The proposed project area is located on the southwest side of the Grand Isle beachfront area; this area provides limited public access due to the lack of designated public parking areas near the proposed

project location. Therefore, KOPs are undetermined due to the lack of visual access into and to the proposed project area.

3.2.11 Noise

Existing Conditions

The Noise Control Act of 1972 both regulates and promotes an environment for all Americans free from noise that jeopardizes their health or welfare. The Occupational Safety and Health Standards (29 CFR, part 1910) set standards regarding protection against the effects of noise exposure. Noise levels exceeding sound pressure levels are technically significant because noise can negatively affect the physiological or psychological well-being of an individual (Kryter, 1994). These effects can range from annoyance to adverse physiological responses, including permanent or temporary loss of hearing, and other types of disturbance to humans and animals, including disruption of colonial nesting birds. Noise is publicly significant because of the public's concern for the potential annoyance and adverse effects of noise on humans and wildlife.

Noise is generally described as unwanted sound, which can be based either on objective effects (hearing loss, damage to structures, etc.) or subjective judgments (such as community annoyance). Sound is usually represented on a logarithmic scale with a unit called the decibel (dB). Sound on the decibel scale is referred to as sound level. The low threshold of human hearing is approximately 0 dB, and the threshold of discomfort or pain is around 120 dB.

Noise levels are computed over a 24-hour period and adjusted for nighttime annoyances to produce the day-night average sound level (DNL). DNL is the community noise metric recommended by EPA and has been adopted by most Federal agencies (USEPA 1974). A DNL of 65 weighted decibels (dBA) is the level most commonly used for noise planning purposes and represents a compromise between community impact and the need for activities like construction. Areas exposed to a DNL above 65 dBA are generally not considered suitable for residential use. A DNL of 55 dBA was identified by EPA as a level below which there is no adverse impact (USEPA 1974).

There are many different sources of noise throughout the project area, including: operation of commercial and recreational boats, water vessels, air boats, and other recreational vehicles; automobiles, trucks, and all-terrain vehicles; aircraft; operation of machinery and motors; and human industry-related noise (such as oil and gas facilities).

4 ENVIRONMENTAL CONSEQUENCES

4.1 Barrier Shorelines, Headlands and Islands

Future Conditions with No Action

Direct Impacts

The existing beach/shoreline has been severely degraded due to coastal erosion processes. Conditions on Grand Isle would continue to degrade as erosional forces would continue to wear away at the shoreline in the form of wind and wave action and seasonal storms. Recent modeling indicated it would be roughly 1.5 years before the shoreline eroded to the dune vegetation line without any new protection measures, including beach renourishment (Mott MacDonald, 2017). There would be none of the direct adverse or beneficial impacts associated with the proposed action.

Indirect Impacts
Further erosion of the shoreline, including beaches and adjacent dunes, would not be in the public interest as this would threaten people, buildings, infrastructure, and other existing development. There would be none of the indirect adverse or beneficial impacts associated with the proposed action. If USACE were not to implement the proposed project, it is possible that the Town of Grand Isle would take future actions to preserve the area by implementing shoreline/beach protection, renourishment and restoration activities as funds become available. It is not possible to evaluate the extent and exact nature of such impacts, nor when they might occur.

Future Conditions with the Proposed Action

Direct Impacts
The existing beach/shoreline has been severely degraded due to coastal erosion processes. With beach renourishment, there would be no loss of tidal habitat or beach habitat; however the proposed action would initially destroy slow-moving and sessile benthic organisms where beach renourishment construction occurs due to direct contact (e.g., burial) and localized turbidity. Other adverse impacts associated with the construction phase of the project, in addition to physical disturbance, include increased levels of turbidity and suspended sediments at the borrow site(s) and in shallow waters along the shoreline where renourishment would occur. Following construction, these levels would be expected to return to normal.

Indirect Impacts
Beneficial impacts include additional protection of property in the Grand Isle area, which would be buffered from some of the impacts caused by future storm surge events. Additionally, restoration of the beach area from the deposition of sand along the shoreline would provide increased habitat area for crabs, birds, and foraging small mammals.

4.2 Aquatic Resources/Fisheries

Future Conditions with No Action

Direct Impacts
Under the No Action alternative, the beach renourishment and dune restoration activities would not take place. Conditions on Grand Isle would continue to degrade as erosional forces would continue to wear away at the shoreline in the form of wind and wave action and seasonal storms.

Indirect Impacts
With continued erosion, marsh habitats on Grand Isle could become more and more saline and eventually convert to open water. Marsh provides feeding and nursery habitat for fisheries and the loss of such habitat could result in negative impacts to fisheries. If USACE were not to implement the proposed project, it is possible that the Town of Grand Isle would take future actions to preserve the area by implementing shoreline/beach protection and renourishment activities as funds become available. It is not possible to evaluate the extent and exact nature of such impacts, nor when they might occur.

Future Conditions with the Proposed Action

Direct Impacts
Of the 76 acres of beach renourishment and dune restoration, approximately 29.8 acres of water bottoms and periodically inundated beach areas would be impacted by the placement of fill material. It is anticipated that these impacts would be permanent as the NFS is expected to maintain the area upon completion of construction. In addition, somewhere between a minimum of approximately 230 acres and a maximum of 874 acres of water bottom would be impacted by the proposed dredging activities. If only the Caminada borrow site is used, the affected area would be 230 acres. If all of both the Caminada borrow site and the BBWW borrow site are used, the affected areas would total roughly 874 acres.

Noise from construction-related activities could cause a temporary dispersal of mobile fish and shellfish, including away from the site. Potential impacts include entrainment, vessel equipment strikes, and underwater noise. Decreases in light penetration in the water column due to increased turbidity could result in behavioral responses from fishes due to the effects of disturbance and the potential for limited visual acuity (Wenger et al., 2017).

The proposed action would initially destroy slow-moving and sessile benthic organisms beneath beach renourishment due to direct contact and localized turbidity. Temporary displacement of existing fish populations in the project area would be expected during beach renourishment activities. Other adverse impacts associated with the construction phase of the project, in addition to physical disturbance, include increased levels of turbidity and suspended sediments that would return to ambient conditions shortly after completion of the work.

The dredging element of the proposed action would have similar impacts to those described above. It is likely that benthic organisms would re-populate the dredged borrow site(s) within a few years following completion of the dredging work. Fish would again use the waters within and near those borrow areas dredged within a few days of cessation of dredging activities.

Indirect Impacts
Increased sand deposition along the shoreline would provide increased habitat for a variety of shorebirds, invertebrates such as ghost and fiddler crabs, and small mammals.

4.3 Essential Fish Habitat

Future Conditions with No Action

Direct and Indirect Impacts
Although open water is EFH to several managed species, increasing amounts of open water habitat due to shoreline erosion is generally considered a problem to be addressed. Additionally, continued inundation on the shoreline of Grand Isle increases the susceptibility of the island to the adverse effects of storm surge.

Under the No Action alternative, the proposed action would not be constructed. Forces of erosion would continue to wear away Grand Isle's western gulf shoreline, eventually converting portions to open water and thereby increasing EFH. The project area could potentially be rehabilitated and maintained in the future by the Town of Grand Isle as funds are available. In that event, impacts could be similar to the proposed action.

Future Conditions with the Proposed Action

Direct and Indirect Impacts
The project would directly convert approximately 29.8 acres of shallow, sand water bottoms and periodically inundated beach areas to beach habitat. In addition to the proposed beach renourishment and dune restoration impacts, dredging activities could directly adversely impact between approximately 230 acres and 874 acres of sandy water bottoms as material for the proposed beach renourishment and dune restoration is pulled from the Caminada and/or BBWW borrow areas. Should only the Caminada borrow site be used, the impacts caused by dredging activities would be approximately 230 acres of sand water bottoms. If both the Caminada and BBWW sites are used in their entireties, the impacts from dredging would total a loss of approximately 874 acres of sand water bottoms. After dredging, the borrow areas would likely transition to similar water bottom habitats as existing conditions, because the same processes (e.g., tides and currents) that control sediment structure and bedform would be operating in the same physical environment (e.g., tidal passes, beach front, and sediment supply). Species using the following EFH would be minimally adversely affected by the loss and/or temporary unavailability of habitat: estuarine sandy bottoms, nearshore, sand, shoals, nearshore sandy bottoms, nearshore sand/shell bottom, See Table A-4 for those species. However, similar habitat is widely available nearby and these impacts would likely be temporary. Therefore, managed species are not anticipated to suffer any significant or long-term adverse effects. Species listed in Table A4 that use water column EFH in the project area also would be slightly adversely affected with the increased turbidity. Again, these impacts are expected to be minimal and temporary in light of the availability of similar habitat in the vicinity of the project area, and the high energy tidal pass and nearshore area is often very turbid naturally.

Immobile organisms, such as benthic worms, bivalve mollusks, and snails may provide food for managed species. It is likely that these are important food items for shrimps and crabs (i.e., brown shrimp, white shrimp, and Gulf stone crab). Various juvenile, post larval, and neonatal life stages of many managed species (e.g., Atlantic sharpnose shark, gray

snapper, and red drum) prey on these species. To a lesser degree, adult managed finfish species may also prey on these benthic fauna (e.g., red drum). Some of these benthic faunal species would be covered by the fill material and lost when the shallow, sandy water bottoms and periodically inundated beach areas are converted to beach habitat. However, there is an abundance of these species available for predation within and adjacent to the project area. These species would likely recolonize similar habitats when construction is complete.

4.4 Wildlife

Future Conditions with No Action

Direct Impacts
Under the No Action alternative, conditions on Grand Isle would continue to degrade as erosional forces would continue to wear away at the shoreline in the form of wind and wave action, and seasonal storms, thereby decreasing wildlife habitat.

Indirect Impacts
As terrestrial and wetland areas become open water, wildlife species that used those areas for feeding and shelter would be forced to relocate to neighboring areas to survive.

Future Conditions with the Proposed Action

Direct Impacts
Most estuarine species such as shorebirds and water birds depend on gulf shores and barrier islands for nesting, food, or shelter and will be directly affected by habitat loss. Others have complex, indirect relationships with the shoreline ecosystem. Forecasting the degree of impact on all animals that are indirectly affected by shoreline change cannot be done with any degree of certainty.

With the construction of the proposed action, some of the wildlife present would likely temporarily relocate due to construction activities. Some sessile or slow moving species may be destroyed during construction activities.

Indirect Impacts
The construction of the proposed action would provide additional roosting, foraging and nesting habitat for wildlife that use the area. It may take some time after construction is complete for some wildlife to return to the area. Others would likely return immediately.

4.5 Threatened, Endangered and Other Protected Species

Future Conditions with No-Action

Direct Impacts
There would be no direct impacts to listed or protected species, as no construction activities would take place in the project area.

Indirect Impacts
There would be no indirect impacts to the following species: West Indian manatee; Gulf sturgeon; green, loggerhead, hawksbill, Kemp's Ridley, and leatherback sea turtles; bottlenose dolphins. Indirect impact to the piping plover and rufa red knot, and protected shorebirds would be the continued loss of foraging and wintering habitat as land loss in the area would continue at the current rate.

Future Conditions with the Proposed Action

Direct Impacts
CEMVN has assessed the environmental impacts of the proposed action on species found in the project area that are protected under the ESA, MBTA, and the MMPA. CEMVN has determined that, with the use of guidelines from USFWS (Appendix E), the proposed action would have no permanent adverse impacts on ESA listed or MBTA protected birds. The proposed action could temporarily disturb roosting and foraging birds and other wildlife in the vicinity of the project area during construction due to equipment noise and human activity. Construction of the beach renourishment and dune restoration has the potential to cause adverse temporary impacts to all threatened and endangered sea turtle species, threatened Gulf sturgeon, and MMPA protected bottlenose dolphins due to dredging activities, as it is expected that species would avoid the area as construction is taking place. However, it is expected that these species would return upon completion of the proposed project. To minimize the potential for construction activities to cause adverse impacts to manatees, Gulf sturgeon, sea turtles, bottlenose dolphins, the protection measures found in Appendix C would be implemented.

Indirect Impacts
The proposed action would result in beneficial indirect impacts, as it is anticipated that the beach renourishment and dune restoration would create habitat for the piping plover, rufa red knot, and other protected shorebirds. The beach renourishment would also help replenish the piping plover critical habitat that has diminished due to shoreline erosion.
The proposed beach renourishment is anticipated to help produce more suitable conditions that will be conducive to regular sea turtle nesting as the current degraded shoreline does not.

Determinations
USACE has determined that the proposed action would have the effects discussed below on threatened and endangered species. The USACE provided an ESA memo to USFWS on Aug 17, 2020 containing USACE's ESA determinations. USFS reviewed the proposed activities described in SEA #573A and concurred with the determinations on Sept 2, 2020. Concurrence with the USACE's determinations means no further consultation for the proposed action will be necessary for manatees, red knots, and piping plovers or their critical habitat, unless: 1) the scope or location of the proposed project changes in a manner that the potential effects to listed species or designated critical habitat exceed those discussed in the draft EA; 2) new information reveals that the action may adversely affect listed species or designated critical habitat; or 3) a new species is listed or critical habitat designated. On February 28, 2020, NMFS indicated in an email that this proposed action falls under the Gulf of Mexico Regional Biological Opinion (GRBO) and requires no

further consultation for Gulf sturgeon and sea turtles. The email and the GRBO can be found in Appendix E.

Rufa Red Knot, Piping Plover and Piping Plover Critical Habitat

A site visit was conducted on March 14, 2019, for EA #573 by biologists with USACE and USFWS. The site visit confirmed that the beach was so degraded that habitat did not exist for piping plovers, red knots or any other shore birds and therefore the species are not expected to be in the area. Likewise, the area did not contain the primary constituent elements that would make it critical habitat for wintering piping plovers. For this reason, USACE made the determination that the proposed project would have no effect on the piping plover or on its critical habitat and would have no effect on the red knot. The proposed action would not impact any protected shore birds.

The results of EA #573 created an extension of beach habitat suitable for red knots and piping plovers. A second site visit for SEA #573A was conducted on December 9, 2019, by biologists from USACE and USFWS to observe the results of the previous project, and if there were protected species in the area of SEA #573A. The proposed beach renourishment would be in open water and only minimally impact the marginally suitable habitat created by EA #573. No red knots or piping plovers were observed during our second site visit. Continued degradation of the beach indicates that the project area still did not contain the primary constituent elements that would create critical habitat for piping plovers wintering in the area. For this reason, USACE has made the determination that the proposed project for beach nourishment would not likely adversely affect piping plover, its critical habitat, or the red knot. The proposed action would also not likely adversely affect any protected shore birds. Most of the nourishment will occur in open water, and only a minimal amount will impact marginally suitable existing beach habitat.

West Indian Manatee

While manatees have been known to enter the coastal waters of Louisiana, they are unlikely to be present due to the absence of foraging opportunities in the project area. The presence of construction-related activity, machinery, and noise would be expected to cause any manatees present to temporarily avoid the project area during the construction period. To minimize the potential for construction activities to cause adverse impacts to manatees, the manatee protection measures found in Appendix C will be implemented. The USACE has determined that the proposed project may affect, but would not likely adversely affect, the West Indian manatee.

Sea Turtles and Gulf Sturgeon

Construction of the beach and dune renourishment is anticipated to take place in mid to late January of 2021. Nesting for sea turtles in the Gulf of Mexico occurs from May through September, and they are likely not going to be in the area during construction due to lower water temperatures causing them to become stunned when temperatures dip below 55 degrees Fahrenheit. There is potential for sea turtles and Gulf sturgeon to be in the area

at some point during construction if the duration of construction is extended beyond late winter and early spring. The presence of construction-related activity, machinery, and noise would be expected to cause these species to temporarily avoid the project area during the construction period. Dredging for borrow material would occur via hydraulic cutterhead dredge. Entrainment of sea turtles is not expected since hydraulic dredges are slow moving and their use is not known to impact these species. Loggerhead critical habitat would not be impacted as the proposed borrow sites are located much closer to shore. Sea turtle and Gulf sturgeon protection measures found in Appendix C would be implemented to minimize potential impacts to the species. The USACE has determined that the construction of the sand and dune nourishment may affect, but would not likely adversely affect, the listed sea turtles and Gulf sturgeon. On February 28, 2020, NMFS indicated in an email that this proposed action falls under the GRBO and required no further consultation, using the following rationale:

> •Equipment and activities authorized under GRBO include pipeline and other hydraulic dredges (e.g. cutterhead).
>
> •Hydraulic dredging is determined not likely to adversely affect.
>
> •Areas where GRBO is applicable include Gulf of Mexico waters from Mexico/Texas border to the Gulf side of Key West, Florida.
>
> •USACE-permitted (civil works and regulatory) dredging of channels and turning basins beyond previous congressionally authorized depths and dimensions is authorized if the action is described in the GRBO project descriptions (see pages 11-20 of the 2003 GRBO) and only when the project is located outside of designated gulf sturgeon critical habitat (GSCH).
>
> •USACE-permitted dredging of all U.S. Gulf of Mexico borrow sites and virgin (previously unused) borrow sites, within State waters only, for beach nourishment, restoration, and protection projects, outside of designated GSCH.
>
> •Non-hopper type dredging in Gulf of Mexico waters up to 1 mile into rivers should be conducted whenever possible as an alternative to hopper dredging, particularly in the following circumstances to prevent taking of listed species (especially sea turtles): between April 1 and November 30.

The GRBO contains many requirements associated with hopper dredging projects. However, this proposed project would utilize a hydraulic cutterhead dredge which are not known to impact sea turtles or sturgeon. Some conditions in the GRBO that may apply to the proposed dredging project are:

- Standard operating procedure shall be that dredging pumps shall be disengaged by the operator when the dragheads are not firmly on the bottom, to prevent impingement or entrainment of sea turtles within the water column. This precaution is especially important during the cleanup phase of dredging operations when the

draghead frequently comes off the bottom and can suck in turtles resting in the shallow depressions between the high spots the draghead is trimming off.

- Each COE District shall provide NMFS' Southeast Regional Office with an annual report detailing incidents, with photographs when available, of stranded sea turtles and Gulf sturgeon that bear indications of draghead impingement or entrainment or any dredge-type interaction.

- All dredging in sand mining areas will be designed to ensure that dredging will not occur within a minimum of 400 feet from any significant hard ground areas or bottom structures that serve as attractants to sea turtles for foraging or shelter. NMFS considers (for the purposes of this opinion only) a significant hardground in a project area to be one that, over a horizontal distance of 150 feet, has an average elevation above the sand of 1.5 feet or greater, and has algae growing on it. The COE Districts shall ensure that sand mining sites within their Districts are adequately mapped to enable the dredge to stay at least 400 feet from these areas. If the COE is uncertain as to what constitutes significance, it shall consult with NMFS SERO's Habitat Conservation Division (727-824-5317) and NMFS' Protected Resources Division (727-824-5312) for clarification and guidance. Walls of federally-maintained navigation channels, and jetties and other such man-made structures, are not considered hardgrounds for the purpose of this opinion.

Whales

Whales are unlikely to be present in the project area due to the shallow water depths. CEMVN has determined that the proposed action would have no effect on sei, humpback, black right and sperm whales.

4.6 Water and Sediment Quality

Future Conditions with No-Action

Direct Impacts
Under the No Action alternative, USACE would not engage in dredging either of the two proposed borrow sites for purposes of beach renourishment and dune restoration at the proposed project site and would not conduct the proposed renourishment and dune restoration work. Hence, existing water quality in the gulf would not be directly affected by project construction activities.

Water quality in the general vicinity of the proposed project's elements would remain highly variable under the FWOP scenario, being affected by factors such as currents, waves, storms, sediment transport, erosion, pollution levels, and water temperature.

Indirect Impacts
Any future beach renourishment and dune restoration efforts performed by the NFS, if they occur, could temporarily degrade water quality in the immediate vicinity of renourishment and dune restoration activities, and any borrow sites used to obtain sand for such activities.

As addressed herein, sediment quality refers to the chemical properties of gulf sediments that would be excavated (dredged) as part of the proposed project. The chemical properties of these sediments would not be an issue under the No Action alternative, as there would be no direct impact to the sediment. These properties would change over time and would be affected by natural sediment deposition and transport, water quality, various physical and biological processes, and anthropogenic factors.

Future Conditions with the Proposed Action

Direct and Indirect Impacts
Water quality within and near the borrow site(s) would be temporarily degraded during the proposed dredging activities. Turbidity would increase significantly above ambient conditions, which could also serve to temporarily lower dissolved oxygen concentrations. Elevated turbidity levels could cause temporary adverse effects to fish and other aquatic life by reducing food supplies and affecting gill function. The dredging work could potentially release undesirable nutrients like nitrogen and phosphorous, as well as organic and inorganic contaminants (ex. pesticides, methylmercury, selenium, hydrocarbons, etc.) into the water column if such nutrients and contaminants are present in the dredged sediments. However, it is not anticipated that any soluble or mobilized concentrations of such substances, if present, would be significant due to the effects of dilution in the open waters of the gulf. The elevated turbidity levels generated by dredging would rapidly decrease to ambient levels once dredging activities have ceased.

Water quality within and near the proposed beach renourishment and dune restoration areas would also be temporarily degraded during construction. This degradation would be similar to that described for the borrow sites. Increased turbidity would occur during construction and could include the mobilization of similar contaminants, including fecal bacteria, assuming such contaminants are present. The duration of elevated turbidity should be less than that generated by dredging due to the largely coarse sediments (sands) that would be deposited in the beach renourishment and dune restoration areas. The elevated turbidity levels would quickly decline to pre-project ambient concentrations after completion of construction.

To help avoid and minimize the proposed project's impacts to water quality, a stormwater pollution prevention plan would be prepared. There are no anticipated indirect impacts to water quality.

4.7 Air Quality

Future Conditions with No-Action

Direct and Indirect Impacts
Under the No Action alternative, there would be no potential for direct or indirect effects to air quality because construction of the proposed action would not occur, and the status of attainment of air quality for Jefferson Parish is not anticipated to change from current conditions.

Future Conditions with the Proposed Action

Direct Impacts
Probable direct impacts to air quality would include temporary diesel and gasoline emissions from the operation of construction equipment and temporary creation of fugitive dust due to placement of sand during construction activity. These effects would be localized within the project area and would cease after construction. Jefferson Parish is currently in attainment of all National Ambient Air Quality Standards (NAAQS), and operating under attainment status; therefore, a general conformity determination is not necessary.

Indirect Impacts
The indirect effects to air quality of implementing the proposed action would be related to the emissions from transportation of personnel and equipment to and from the job site on a daily basis until the completion of construction.

4.8 Cultural Resources

Future Conditions with No Action

Direct and Indirect Impacts
With the No Action alternative, the proposed action would not be constructed by CEMVN, and there would be no direct, indirect, or cumulative impacts to cultural resources. However, the gulf-side shoreline of Grand Isle would continually be eroded by sea level transgression and secondary effects of oil and gas pipeline construction.

Future Conditions with the Proposed Action

Direct and Indirect Impacts
Implementation of the proposed action would not result in any direct or indirect impacts to cultural resources. There are no cultural resources identified in the 76-acre area of beach renourishment and dune restoration, The three anomalies of interest identified in the Caminada Pass borrow area would be avoided and a 50-meter buffer would be placed around the anomalies to ensure protection of the resource during the removal of sand from the borrow area.

CEMVN provided a copy of the draft report and findings to the SHPO and Tribes on August 17, 2020, with a determination of “no adverse effect to historic properties” with the condition that a 50-meter buffer be placed around the three identified anomalies to avoid the anomalies. Consultation with the SHPO and Tribes is on-going and no additional cultural resources work has been recommended.

4.9 Recreational Resources

Future Conditions with No-Action

Direct and Indirect Impacts
Historically, there has been limited public recreational access to the proposed project area due to the lack of public parking areas. Therefore, the proposed project area's future recreational use is undetermined as there are no known plans for providing public parking areas for recreational access. Additionally, past trends indicate that existing private recreational access will negatively directly impact the proposed project areas' dune structure as described in existing conditions. There are no indirect impacts.

Future Conditions with the Proposed Action

Direct and Indirect Impacts
Beach renourishment projects usually produce tangible recreation benefits by increasing the dry beach area, thereby increasing the beach's potential recreational carrying capacity. Coastal dunes also have a positive impact on beach recreational use. Dunes enhance beach recreational experience by providing shelter from the wind and screening structures and facilities from the beach view. However, the proposed project lacks tangible recreation benefits due to limited public access. Therefore, the limited public access would result in negligible direct or indirect project construction impacts to recreation.

4.10 Visual Resources (Aesthetics)

Future Conditions with No-Action

Direct and Indirect Impacts
Historically, there has been limited public access to the project area. Therefore, the proposed project areas' future for visual resources is undetermined due to lack of visual access into the project area. There are no direct or indirect impacts with the future conditions with no action due to the lack of public visual access into the project area.

Future Conditions with the Proposed Action

Direct and Indirect Impacts
Beach renourishment projects usually increase the dry beach area, thereby increasing the public visual access into and around the project area. Coastal dunes also enhance the visual experience by screening structures and facilities from view. However, visual access into and to the proposed project area is limited due to lack of public access. Therefore, proposed project construction will result in negligible direct or indirect visual impacts due to limited public access.

4.11 Noise

Future Conditions with No Action

Direct and Indirect Impacts
There would be no direct or indirect impacts as a result of not implementing the proposed action. Future noise levels would continue to be dictated by normal daily activities and development on Grand Isle.

Future Conditions with the Proposed Action

Direct Impacts
Noise levels would temporarily increase in the area due to the operation of equipment and vehicles used during construction of the proposed action and would be present only during daylight hours. While noise impacts may cause a temporary inconvenience to residents and facilities in the immediate area, noise levels associated with construction activities would be temporary and monitored to ensure acceptable standards are maintained. No harmful dB levels would occur to people living in nearby residences or businesses for the entire duration of the project.

Noise levels associated with construction activities have the potential to temporarily impact wildlife that may be present in the area, but would not be significantly different from noise associated with other human activities that occur on a daily basis. After completion of the proposed action, noise levels would be expected to return to pre-action levels.

Indirect Impacts
Future maintenance activities could result in a slight increase in noise levels from equipment and associated activities, but any increase in noise levels associated with maintenance activities are anticipated to be lower and of shorter duration.

5 CUMULATIVE IMPACTS ANALYSIS

The Council on Environmental Quality's regulations (40 CFR 1500-1508) implementing the procedural provisions of the NEPA of 1969, as amended (42 U.S.C. 4321 et seq.), define cumulative effects as "the impact on the environment which results from the incremental impact of the action when added to other past, present, or reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. (40 CFR 1508.7) Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time."

The Town of Grand Isle has been developing at a steady rate for many years and it is possible that the Town of Grand Isle would continue to develop as long as the beaches and other recreational activities continue to exist and increase. Cumulative impacts to environmental resources would continue to accumulate incrementally over time, consistent with development, recreational use, and natural events that occur on Grand Isle.

Without the implementation of the proposed action, land loss and other natural events, development, and recreational use would continue to impact environmental resources. Barrier shoreline and habitat loss would continue due to natural conditions such as tropical storm surge, erosion, and saltwater intrusion. Aquatic resources and EFH would continue to be impacted by natural events, such as tropical storm events, subsidence, and erosion. The continued loss of shoreline and beach area resulting from natural events would continue to impact cultural, recreational, and aesthetic/visual values on Grand Isle.

Implementation of the proposed action would contribute cumulatively to environmental resources in the project area when added to other past, present, and reasonably foreseeable projects. Implementation of the proposed action may result in temporary adverse impacts to wildlife, T&E and other protected species, aquatic and fisheries resources, EFH, water quality, air quality recreational opportunities, and visual values within the project area when added to other projects being constructed at the same time. These adverse impacts would be minimal and temporary. Overall, the cumulative impacts of the proposed action are expected to be beneficial, especially when considering the previously constructed breakwater project completed in 2019. Long-term benefits to barrier shorelines, T&E and other protected species, T&E critical habitat, wildlife, visual values, and recreational opportunities are expected.

The cumulative effects to air quality would be the combined emissions from the direct and indirect sources from constructing the proposed action when added to other emissions sources within the region. Because of the relatively short duration of construction, the cumulative impacts of the proposed action on air quality would be minimal and temporary, and Jefferson Parish would remain in attainment of all NAAQS.

Without implementation of the proposed action, the BBWW and CPS borrow sites could continue to be used to acquire sand material for other projects on Grand Isle and within the region. With implementation of the proposed action, the substrate of the borrow site(s) used would be permanently altered. It is reasonable to assume that over time, sediment transported by wave action, storm events, as well as other natural forces, would continue to alter the substrate of the borrow sites by continuously moving a mix of sediments in and out of the borrow sites.

6 HAZARDOUS, TOXIC AND RADIOACTIVE WASTE (HTRW)

The USACE is obligated under Engineer Regulation (ER) 1165-2-132 to assume responsibility for the reasonable identification and evaluation of all hazardous, toxic, and radioactive waste (HTRW) contamination within the vicinity of proposed actions.

ER 1165-2-132 provides that in the Planning, Engineering and Design Phase that, for proposed project in which the potential for HTRW problems has not been considered, an HTRW initial assessment, as appropriate for a reconnaissance study, should be conducted as a first priority. USACE HTRW policy is to avoid the use of project funds for HTRW removal and remediation activities. If the initial assessment indicates the potential for HTRW, testing, as warranted, and analysis similar to a feasibility study should be conducted prior to proceeding with the project design. The NFS will be responsible for planning and accomplishing any HTRW response measures, and will not receive credit for the costs incurred.

Two American Society for Testing and Materials E 1527-13 Phase I Environmental Site Assessments (HTRW 19-02 dated March 28, 2019 and HTRW 20-03 dated June 11, 2020) have been completed for the work area (Appendix F). Based on the environmental records review and site visits conducted as part of HTRW 19-02 and HTRW 20-03 there is a low

probability of encountering HTRW during implementation of the project. A copy of the Phase I Environmental Site Assessments will be maintained on file at CEMVN. The probability of encountering HTRW for the proposed action is minimal based on the initial site assessments. If a recognized environmental condition is identified in relation to the work area, CEMVN would take the necessary measures, in accordance with ER 1165-2-132, to avoid the recognized environmental condition so that the probability of encountering or disturbing HTRW would continue to be low.

7 COMPLIANCE WITH ENVIRONMENTAL LAWS AND REGULATIONS

Coordination and Public Involvement

There are many federal and state laws pertaining to the enhancement, management and protection of the environment. Federal projects must comply with applicable environmental laws, regulations, policies, rules and guidance. Compliance with these laws will be accomplished upon 30-day public and agency review of this draft SEA #573A and associated Finding of No Significant Impact. This SEA is being published for public review and comment from September 17, 2020 through October 17, 2020.

This draft SEA has been coordinated with appropriate Congressional, Federal, State, and local interests, as well as environmental groups and other interested parties. The following agencies, as well as other interested parties, have received copies of the draft EA:

U.S. Department of the Interior, Fish and Wildlife Service
U.S. Department of the Interior, National Park Service
U.S. Environmental Protection Agency, Region VI
U.S. Department of Commerce, National Oceanic and Atmospheric Administration, NMFS
U.S. Natural Resources Conservation Service
Louisiana Advisory Council on Historic Preservation
Governor's Executive Assistant for Coastal Activities
Louisiana Department of Wildlife and Fisheries
Louisiana Department of Natural Resources, Coastal Management Division
Louisiana Department of Natural Resources, Coastal Restoration Division
Louisiana Department of Environmental Quality
Louisiana State Historic Preservation Officer
Coastal Protection and Restoration Authority Board

Draft recommendations under the Fish and Wildlife Coordination Act (FWCA) for the SEA were provided by the USFWS on May 4, 2020, as part of the Draft Coordination Act Report (CAR). The USFWS project-specific recommendations for the proposed action covered in this draft SEA are listed below:

1. The perimeter of the outer work limits should be staked, marked, and maintained throughout construction for the beach and dune nourishment project feature. All workers should remain within the proposed outer work limits for the duration of

construction and no activities should occur beyond those work limits to minimize disturbance to federally listed shorebirds that may occur near the project area.

USACE Response: Concur

2. Contract personnel should be educated regarding the potential presence of federally listed shorebirds and the importance of avoiding disturbance to birds (e.g., avoid purposely flushing birds) present near the project area.

   USACE Response: Concur

3. West Indian manatees occasionally enter Louisiana coastal waters and streams during the summer months (i.e., June through September). During in-water work in areas that potentially support manatees all personnel associated with the project should be instructed about the potential presence of manatees, manatee speed zones, and the need to avoid collisions with and injury to manatees. All personnel should be advised that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the MMPA of 1972 and the ESA of 1973. Additionally, personnel should be instructed not to attempt to feed or otherwise interact with the animal, although passively taking pictures or video would be acceptable. For more detail on avoiding contact with manatee, refer to Appendices A of the draft CAR and contact this office. Should a proposed action directly or indirectly affect the West Indian manatee, further consultation with this office will be necessary.

   USACE Response: Concur

4. The Service recommends that the USACE continue to run hydraulic models to examine how dredging of the CPS may affect the near-shore transport of sediments. If it is determined that dredging of the CPS may adversely impact sediment transport, it is recommended that USACE only use the BBWW as the primary borrow site for the project.

   USACE Response: Acknowledged. Models were run and results were a minimal reduction in sediment transport. Results can be found in Appendix H. At this time, both borrow pits are being proposed for the proposed action.

5. The Service recommends a comprehensive examination of the borrow site should be performed to ensure erosion potential is limited.

   USACE Response: Acknowledged. Models were run and results were a minimal reduction in sediment transport. Results can be found in Appendix H. At this time, both borrow pits are being proposed for the proposed action.

6. The existing exposed rock should be covered with at least 3 feet of sand to provide sufficient substrate for replanted vegetation to grow and stabilize the dune habitat.

Planted vegetation should consist of sea oats, bitter panicum, and other native sand dune species. Those plant species are more likely to survive the harsh dune environment, and would capture wind-blown sand to aid in dune stabilization.

USACE Response: Concur

7. Once the beach nourishment is complete and beach access can resume, restoration of the existing boardwalk crossover located within the proposed project area should also be included in the project design. Restoring the existing walkway would encourage the public not to walk on or across the dune, which could reduce the loss of vegetation by preventing damage to the plants and their root systems.

   USACE Response: Acknowledged. Any repairs to the boardwalk would be the responsibility of the NFS and the Town of Grand Isle.

8. Monitoring of the replanted dune should be conducted for a minimum of 3 years to ensure that dune restoration over the rock will not adversely affect the success of revegetation and the stabilizing effect of that vegetation.

   USACE Response: Concur. USACE will conduct said monitoring until which time the NFS begins operations and maintenance of the project, at which time the NFS would be responsible for said monitoring.

9. The Service recommends that the USACE contact the Service for additional consultation if: 1) the scope or location of the proposed project is changed significantly, 2) new information reveals that the action may affect listed species or designated critical habitat; 3) the action is modified in a manner that causes effects to listed species or designated critical habitat; or 4) a new species is listed or critical habitat designated. Additional consultation as a result of any of the above conditions, or for project feature changes not covered in this consultation, should occur before changes are made and/or finalized.

   USACE Response: Concur

Clean Air Act of 1972

The Clean Air Act sets goals and standards for the quality and purity of air. It requires the EPA to set NAAQS for pollutants considered harmful to public health and the environment. The project Area is in Jefferson Parish, which is currently in attainment of NAAQS. A general conformity determination is not required.

Clean Water Act of 1972 – Section 401 and Section 404

The Clean Water Act (CWA) sets and maintains goals and standards for water quality and purity. Section 401 requires a Water Quality Certification from the Louisiana Department of Environmental Quality (LDEQ) that a proposed project does not violate established effluent limitations and water quality standards. A State Water Quality Certification (WQC 190314-01) was received on July 23, 2020, in which LDEQ concluded that “the discharge

of fill will not violate water quality standards as provided for in LAC 33:IX. Chapter 11." (Appendix E)

As required by Section 404(b)(1) of the CWA, an evaluation to assess the short- and long-term impacts associated with the discharge of dredged and fill materials into waters of the United States resulting from this project has been completed. The 404(b)(1) evaluation is out for concurrent review with this SEA and is attached in Appendix D.

Coastal Zone Management Act of 1972

The Coastal Zone Management Act requires that "each federal agency conducting or supporting activities directly affecting the coastal zone shall conduct or support those activities in a manner which is, to the maximum extent practicable, consistent with approved state management programs." In accordance with Section 307, two modified Consistency Determinations were prepared for the proposed project and were coordinated with the Louisiana Department of Natural Resources (LADNR). In letters dated January 27, 2020, and June 16, 2020 LADNR concurred with CEMVN's Coastal Zone Consistency Determination. (Appendix E)

Endangered Species Act of 1973

The ESA is designed to protect and recover T&E species of fish, wildlife and plants. In their draft coordination letter dated April 1, 2019, the USFWS identified several T&E species that are known to occur or believed to occur within the vicinity of the project area. Endangered species that may occur in coastal waters of the study area are West Indian manatee (*Trichechus manatus*), Kemp's ridley sea turtle (*Lepidochelys kempii*), leatherback sea turtle (*Dermochelys coriacea*), Hawksbill sea turtle *(Eretmochelys imbricate),* sperm whale (*Physeter catodon*), humpback whale (*Megaptera novaeangliae*), sei whale (*Balaenoptera borealis*), and black right whale (*Eubalaena glacialis*). Threatened species that may occur in coastal waters of the project vicinity are green sea turtle (*Chelonia mydas*) and Atlantic loggerhead sea turtle (*Caretta caretta*). The threatened piping plover and rufa red knot are known to occur or believed to occur within the vicinity of the project area. No plants were identified as being threatened or endangered in the project area. CEMVN initiated coordination with the USFWS on March 9, 2019 for EA #573. A second site visit for SEA #573A was completed in December 2019 by USACE and USFWS biologists to view results from construction associated with EA #573 and assess conditions for SEA #573A. On February 28, 2020, NMFS indicated during coordination that this proposed action falls under the GRBO and required no further consultation.

Because whales are unlikely to be present in the project area due to the shallow water depths, CEMVN determined that the proposed action would have no effect on sei, humpback, black right and sperm whales. CEVMN determined construction of the beach renourishment and dune restoration features would not likely adversely affect piping plover and its critical habitat, rufa red knot, Gulf sturgeon, West Indian manatee, and the five species of sea turtles. USFWS concurred with this finding in a memo dated Sept 2, 2020.

Fish and Wildlife Coordination Act of 1934
The FWCA provides authority for the USFWS involvement in evaluating impacts to fish and wildlife from proposed water resource development projects. It requires that fish and wildlife resources receive equal consideration to other project features. It requires Federal agencies that construct, license or permit water resource development projects to first consult with the USFWS, NMFS and State resource agencies regarding the impacts on fish and wildlife resources and measures to mitigate these impacts. Section 2(b) requires the USFWS to produce a CAR that details existing fish and wildlife resources in a project area, potential impacts due to a proposed project and recommendations for a project. The USFWS reviewed the proposed activities described in draft SEA #573A and a Draft Coordination Act Report was received May 4, 2020. (Appendix E)

Coastal Barrier Resources Act of 1982
The Coastal Barrier Resources Act of 1982 (CBRA) was passed to address problems caused by coastal barrier development. CBRA restricts most Federal expenditures and financial assistance in units within the Coastal Barrier Resources System (CBRS) that tend to encourage 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 proposed project partially overlaps with CBRS Unit S03. However, it is a beach renourishment/dune restoration project intended to prevent erosion of and stabilize the shoreline of Grand Isle. The project's purpose is not development and its goals are consistent with the purposes of the CBRA. Therefore no CBRA consultation is needed.

Magnuson-Stevens Fisheries Conservation and Management Act
The Magnuson-Stevens Fishery Conservation and Management Act, as amended, Public Law 104-208, addresses the authorized responsibilities for the protection of EFH by NMFS in association with regional fishery management councils. The NMFS has a "findings" with the CEMVN on the fulfillment of coordination requirements under provisions of the Magnuson-Stevens Fishery Conservation and Management Act. In those findings, the CEMVN and NMFS have agreed to complete EFH coordination requirements for Federal civil works projects through the review and comment on NEPA documents prepared for those projects. This draft SEA #573A was provided to the NMFS for review and comment during the public comment period from Sept 15, 2020 through Oct 15, 2020.

Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act
The bald eagle was removed from the List of Endangered and Threatened Species in August 2007, but continues to be protected under the Bald and Golden Eagle Protection Act and the MBTA of 1918, as amended. During nesting season, construction must take place outside of USFWS/Louisiana Department of Wildlife and Fisheries (LDWF) buffer zones. A USACE Biologist and USFWS Biologist will survey for nesting birds. This will be done prior to the start of construction.

National Historic Preservation Act of 1966
Section 106 of the National Historic Preservation Act of 1966, as amended, requires Federal agencies to take into account the effects of their undertakings on historic properties and afford the SHPO and federally-recognized Indian Tribes a reasonable opportunity to comment on such undertakings. The procedures in 36 CFR Part 800 define how Federal agencies meet these statutory responsibilities. The Section 106 process seeks to accommodate historic preservation concerns with the needs of Federal undertakings through consultation among the agency official and other parties with an interest in the effects of the undertaking on historic properties, including the SHPO or Tribal Historic Preservation Officer (THPO) and any Tribe that attaches religious or cultural significance to historic properties that may be affected by an undertaking. The goal of consultation is to identify historic properties potentially affected by the undertaking, assess its effects and seek ways to avoid, minimize or mitigate any adverse effects on historic properties. Consultation pursuant to Section 106 is on-going and a determination of no adverse effect to historic properties was coordinated with the SHPO and federally-recognized Indian Tribes in a letter dated August 17, 2020. In a letter dated Aug 19, 2020, the SHPO concurred with the determination of no adverse effect with the condition of a 50-meter buffer around the three anomalies of interest identified in the Caminada Pass borrow area. (Appendix E)

Tribal Consultation
NEPA, Section 106 of the National Historic Preservation Act, EO 13175 (Consultation and Coordination with Indian Tribal Governments), the American Indian Religious Freedom Act, and related statutes and policies have a consultation component. In accordance with CEMVN's responsibilities under NEPA, Section 106, and EO 13175, CEMVN will offer the following federally-recognized Indian Tribes the opportunity to review and comment on the potential of the proposed action to significantly affect protected tribal resources, tribal rights, or Indian lands: Alabama-Coushatta Tribe of Texas, Caddo Nation of Oklahoma, Chitimacha Tribe of Louisiana, Choctaw Nation of Oklahoma, Coushatta Tribe of Louisiana, Jena Band of Choctaw Indians, Mississippi Band of Choctaw Indians, Seminole Nation of Oklahoma, Seminole Tribe of Florida, Tunica-Biloxi Tribe of Louisiana, and the Muscogee Creek Nation of Oklahoma. On August 17, 2020, letters were mailed to the tribal leaders requesting input regarding the proposed action, and consultation is on-going. Any comments received during the public review period will be placed in the appendices prior to signing of the FONSI.

8 CONCLUSION

The proposed action involves the construction of dredging and pumping of sand fill material for beach renourishment and dune restoration. The sand fill material would be obtained from the Barataria Bay Waterway and/or the CPS borrow sites located in the Gulf of Mexico and pumped to the beach renourishment and dune restoration sites via a hydraulic dredge. The beach renourishment and dune restoration portions of the project would permanently impact up to approximately 76 acres, of which 29.8 acres would be to water bottoms and periodically inundated beach areas. At the minimum, approximately 230 acres, and at the maximum 874 acres of water bottom would be impacted by the proposed project's dredging activities. If only the Caminada borrow site is used, the

affected area would be 230 acres. If all of both the Caminada borrow site and the BBWW borrow site are used, the affected areas would total roughly 874 acres. The dune renourishment portion of the proposed activity would require planting of bitter panicum (*Panicum amarum*) and sea oats (*Uniola paniculata*) species.

The proposed action would result in the direct benefit of habitat creation and reverse coastal erosion that is currently causing habitat loss. Beach renourishment and dune restoration would provide the potential for the creation of new bird nesting habitat and wintering habitat that has been lost through site degradation. The proposed action would have indirect benefits for wildlife by producing foraging habitat, and potentially an increase in nesting habitat as the site's vegetation matures. The proposed action is anticipated to result in the restoration of piping plover critical habitat currently being degraded.

This office has assessed the environmental impacts of the proposed action and has determined that the proposed action would have no significant adverse impact on the human and natural environment.

9 PREPARED BY

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10 REFERENCES

Bryant, J.C. & Chabreck, R.H. Estuaries (1998) 21: 416. https://doi.org/10.2307/1352840

DOI MMS. 2003. *Issuance of Non-Competitive Leases for the Use of Sand Resources from Ship Shoal, Outer Continental Shelf, Offshore Central Louisiana for Coastal and Barrier Island Nourishment.* November.

Federal Geographic Data Committee (FGDC). 2013. Classification of Wetlands and Deepwater Habitats of the United States. FGDC-STD-004-2013. Second Edition. Wetland Subcomittee, FGDC and US Fish and Wildlife Service, Washington, DC.

Frazier, D.E. 1967. Recent Deltai Deposits of the Mississippi River: their Development and Chronology. Gulf Coast Association Geological Society. Vol. 17, pp. 287-315.

Hain, J.H.W., M.A.M. Hyman, R.D. Kenney, and H.E. Winn. 1985. The role of cetaceans in the shelf-edge region of the northeastern United States. Marine Fisheries Review 47:13-17.

Louisiana Department of Environmental Quality (LDEQ). 2019. Louisiana Environmental Assessment Utility (LEAU) database (LEAU Web Portal). Retrieved from https://waterdata.deq.louisiana.gov/Projects/WQ1958001.

McBride, R. A., Penland, S., Hiland, M. W., Williams, S. J., Westphal, K. A., Jaffe, B. E., and Sallenger, A. H., Jr., 1992, Analysis of barrier shoreline change in Louisiana from 1853 to 1989, in Williams, S. J., Penland, S., and Sallenger, A. H., Jr., eds., Louisiana Barrier Island Erosion Study, Atlas of Shoreline Changes in Louisiana from 1853 to 1989: U.S. Geological Survey, Miscellaneous Investigations Series I2150-A, p. 36–97.

Mossa J. & Nakashima, L.D., 1989, Variations in natural and artificial beach systems on the Bayou Lafourche headland, Louisiana Coastal Zone '89, *American Society of Civil Engineers,* p. 3723-3737

Mott MacDonald. 2017. Grand Isle Levee Dune and Beach Stabilization and Beach Nourishment Project: Coastal Processes Analysis and Alternatives Development and Analysis Report. Coastal Protection. Mott MacDonald (prepared for CPRA), New Orleans, LA.

Nakashima, L.D., 1988, Short-term beach changes along the Louisiana coast, Transaction, *Gulf Coast Association of Geological Societies,* 38:323-329.

Ritchie, J. C., Humes, K. S., & Weltz, M. A. (1995). Laser altimeter measurements at Walnut Gulch watershed, Arizona. Journal of Soil and Water Conservation, 50, 440–442

Swim Drink Fish Canada. 2019. The Swim Guide. Retrieved from https://www.theswimguide.org.

USACE. 2014. Amended & Updated OMRR&R Manual - Operation, Maintenance, Repair, Replacement, and Rehabilitation Manual, Grand Island and Vicinity, LA: Beach Erosion and Hurricane Protection. USACE, New Orleans, LA.

US Environmental Protection Agency (EPA). 2019. Sediment Benchmarks for Aquatic Life. Retrieved from https://archive.epa.gov/emergency/bpspill/web/html/sediment-benchmarks.html#gen2.

US Geological Survey (USGS). 2019. USGS National Water Information System: Web Interface. Retrieved from https://maps.waterdata.usgs.gov/.