

**CAMINADA HEADLAND BEACH AND DUNE
RESTORATION PROJECT – INCREMENT II (BA-143)**

**SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT FOR ISSUANCE
OF A
NON-COMPETITIVE NEGOTIATED AGREEMENT
FOR THE USE OF OUTER CONTINENTAL SHELF SAND**

LAFOURCHE & JEFFERSON PARISHES, LOUISIANA

**Prepared for United States Department of the Interior
Bureau of Ocean Energy Management
On Behalf of the Coastal Protection and Restoration Authority of Louisiana
450 Laurel Street
North Chase Tower, Suite 1200
Baton Rouge, Louisiana 70801**



Prepared and Submitted By:



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1.0 INTRODUCTION

On behalf of the Bureau of Ocean Energy Management (BOEM) and the Coastal Protection and Restoration and Authority of Louisiana (CPRA) a Supplemental Environmental Assessment (SEA) has been prepared for the Caminada Headland Beach and Dune Restoration Project (BA-143) – Increment II (hereinafter referred to as the Project) in support of modifying the Project’s existing permits and Non-Competitive Negotiated Agreement with BOEM for use of an Outer Continental Shelf (OCS) sand resource located in federally-owned waters.

The U.S. Army Corps of Engineers (USACE) requires a permit for aspects of the Project involving dredging of any state-owned water bottom areas and conveyance and placement of sediment resources. The operative federal authorities for USACE permitting are Section 10 of the Rivers and Harbors Act of 1899, which regulate dredging and filling of federally-owned waters and water bottoms, and Section 404 of the Clean Water Act, which regulates discharge of dredged sediment into federally-owned waters. BOEM and the USACE are working collaboratively to ensure effective implementation of the required National Environmental Policy Act (NEPA) process, the required Endangered Species Act (ESA) Section 7 consultations, the Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat (EFH) consultation (Section 305); the National Historic Preservation Act Section 106 process; and the Coastal Zone Management Act Section 307 consistency determination.

The original assessment, “Caminada Headland Beach and Dune Restoration Project (BA-143) – Increment II Final Supplemental Environmental Assessment (SEA)” was submitted November 18, 2013 (GEC, 2013). A Finding of No Significant Impact (FONSI) was issued by BOEM in December 2013 (BOEM, 2013). Subsequently, BOEM determined that a designated avoidance area on the OCS sand source was unnecessary, leading to a proposed modification of the borrow area design to improve dredge utilization efficiency and best management of the sand resource.

The proposed modifications to the Project were evaluated by the Louisiana Department of Natural Resources Coastal Management Division and the USACE as part of the 10/404 permitting process. A 10/404 permit modification was approved by the USACE on August 19, 2015; an amended Coastal Use Permit by the Louisiana Department of Natural Resources on April 8, 2015; and an amended Consistency Determination by the Louisiana Department of Natural Resources on April 14, 2015. .

The purpose of this Amended SEA is to determine if the proposed action has the potential for creating significant impacts to the environment and would thereby warrant a more detailed study on possible impacts, mitigation, and alternative courses of action. The SEA evaluates whether the proposed action, new circumstances not previously analyzed, or information not previously available contribute to significantly different environmental effects (43 CFR 46.120). The

effects of the proposed Project modifications are expected to be similar to effects of the original Project as evaluated in the Caminada Headland Beach and Dune Restoration Project (BA-143) – Increment II SEA (GEC, 2013); however, since the CPRA has revised the proposed action to include a larger borrow area, there is the potential for new impacts to occur during dredging.

1.1 PROJECT PURPOSE AND SCOPE

The purpose of Project is to restore the beach and dune on the eastern portion of the Caminada Headland barrier shoreline. The Caminada Headland is one of the most rapidly eroding shorelines in the Nation, with average rates of 35–55 ft/year during the past century (Martinez et al. 2009). OCS sand from South Pelto Blocks 13 and 14, at the eastern end of the Ship Shoal sand body, will be utilized for the Project, introducing new sand to the sand-starved coastal system that extends laterally beyond the Project Area.

Restoration will ensure the continuing geomorphic, hydrologic, and ecologic form and function of the landscape, providing protection to commercial, public, and private infrastructure from increased exposure to storms and wave energy associated with continued shoreline retreat and breaching. Beaches provide a unique habitat for invertebrate species and many important birds, reptiles, and other animals which nest, breed, feed, and rest on the dunes or open beach. Beaches are an important ecosystem that links the ecology of sand dunes, the surf zone, intertidal zones, and nearshore waters. Coastal dunes are an integral part of the coastal environment, providing storm protection and are the basis of important ecosystems supporting valuable communities of plants and animals. The Project will create beach and dune habitat and protect and maintain function of the vast interior wetland and estuarine habitat of the Barataria-Terrebonne National Estuary. The presence of barrier islands and headlands at the mouth of bays enhances residence time by restricting water exchange with the continental shelf; provides storm surge, wind, and wave action protection to wetlands; modifies currents and salinity within the bay system; and controls the area of the inner bay and marsh. The shape and resilience of barrier islands directly relates to the amount of sediment that reaches the coast and the physical processes that distribute it. The sand infusion at the Headland will ultimately benefit downdrift barrier islands to which the Headland serves as an erosional sand source.

The Project will also protect primary infrastructure that includes the only evacuation route for the Caminada Headland and Grand Isle (La. Hwy. 1), as well as Port Fourchon and associated petroleum storage and transport facilities, including the Fourchon Booster Station, the onshore component of the Louisiana Offshore Oil Port (LOOP) which supplies oil to the Clovelly Dome Storage Terminal. Crude oil from the LOOP can be pumped to nearly 50 percent of the nation's refining capacity through other pipelines connected to the terminal. These oil facilities are located on the inland portion of the Headland. Port Fourchon supports 75 percent of the deep-

water oil and gas production in the Gulf of Mexico as the point of departure for crew boats, equipment and supplies, rig components, and oilfield services.

The purpose of the modification is twofold: to improve the efficiency of the dredging operation by providing an expanded borrow area that can be excavated with a minimum of maneuvering and to accommodate the possible need for additional sediment to make up for tropical-storm-related erosional losses, should they occur during the Project's two-year construction window, which spans the 2015 and 2016 hurricane seasons.

Environmental impacts associated with this Project were discussed in the SEA (GEC, 2013), Section 404 (b)(1) Evaluation, and in BOEM's FONSI (Appendix A). Findings in these documents determined that no significant impacts would occur as a result of this Project.

1.2 PROJECT LOCATION

The Caminada Headland beach and dune in Lafourche and Jefferson Parishes, Louisiana will be restored using sediment from the proposed borrow site in South Pelto Blocks 13 and 14 on Ship Shoal (Figure 1-1). The Headland consists of sand dunes, beach berm, barrier marshes, and beach ridges interspersed with mangrove thickets, coastal dune shrub thickets, lagoons, and small bayous. The Project Area includes barrier shorelines, passes, and back-barrier marshes from Bayou Moreau (Lafourche Parish) eastward to Caminada Pass (Jefferson Parish), Louisiana. The borrow area is located at the eastern end of the Ship Shoal sand body, approximately 27 nautical miles southwest of the Caminada Headland (Figures 1-1, 1-2).

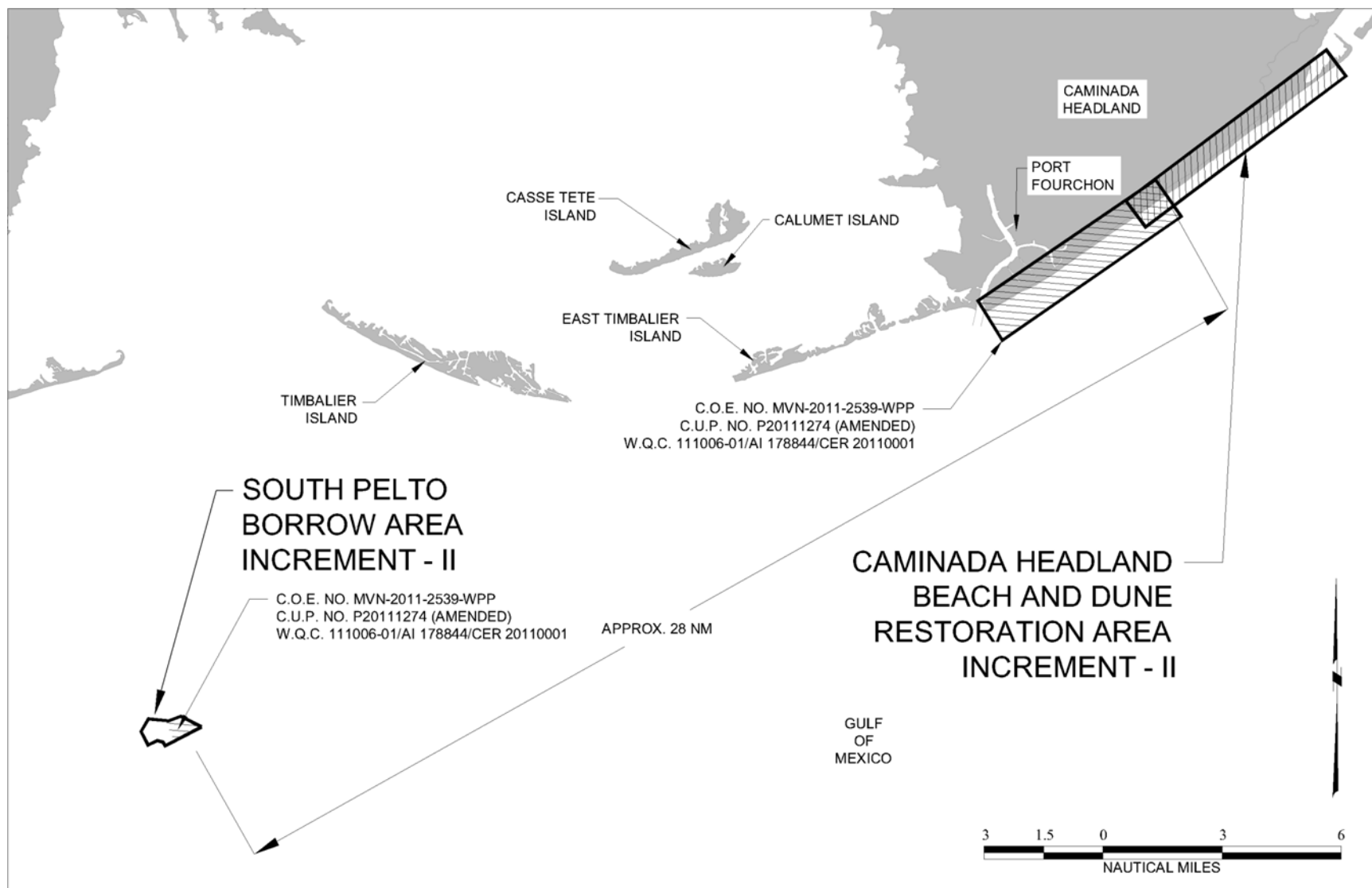


Figure 1-1. Project Overview Map

2.0 ALTERNATIVES ANALYSIS

2.1 PROPOSED ACTIONS

The sand for the beach and dune will be mined from a designated borrow area on the east end of Ship Shoal, the South Pelto Lease Blocks 13 and 14, located on the OCS approximately 27 NM from the Caminada Headland. Ship Shoal has been studied extensively to define the stratigraphy of the shoal and identify any potential cultural resources and infrastructure that may be present. The Ship Shoal sand body encompasses approximately 85,000 acres (Michael Miner, BOEM, pers. comm., 2012). The Project borrow area equates to approximately 0.6 percent of the total Ship Shoal sand body surface area. Lease Blocks 13 and 14 were selected because of their proximity to the Project Restoration Area.

Through experiences learned on the BA-45 project during its construction, additional analysis of the geotechnical data collected for the Project within and surrounding the borrow area was performed. It was determined that compatible sediments potentially exist an additional one (1) foot below the previously permitted cut limits. A one (1) foot limit of disturbance was also permitted to maximize the excavation potential of compatible sediments from the borrow area.

The first amendment to the Project permit did not require modifications to the proposed borrow area, only to the proposed Headland fill template as a direct result of erosional impacts from Hurricane Isaac. This second amendment to the permit resulted in a net increase of 85 acres of potential impacts to unvegetated waterbottoms (390 acres total) above that originally permitted for the borrow area and an additional 2.7 million cubic yards of sediment would be made available.

The expanded borrow area available volume is estimated to be 8.8 mcy of sand subsequent to the borrow area excavation for construction of the Caminada BA-45 project (Figure 2-2). The expanded borrow area has a maximum cut elevation of -46 ft NAVD88 with a 1-foot limit of disturbance to an elevation of -47 ft NAVD88.

The revised Project details from the initially amended permit following Hurricane Isaac to the current version are shown in Table 1-1.

Table 2-1. Project Details for the Amended Permits

	Amended Permit #1	Amended Permit #2
Area Created/Restored	482 acres	
South Peltó Borrow Area	305 acres	390 acres
South Peltó Borrow Area Fill Volume	Up to 6.1 mcy	Up to 8.8 mcy
Project Length	38,500 lf	
Proposed Fill (Beach and Dune)	6,097,028 cy	
Proposed Excavation South Peltó	6,100,000 cy	

Because sand is a limited resource in coastal Louisiana, the contractor for the Project is required to exhaust the suitable sediment within the Caminada BA-45 borrow area prior to excavating any of the Caminada BA-143 borrow area.

The Caminada BA-143 Borrow Area expanded design plan and typical cross sections are shown in Figures 2-1 and 2-2, respectively.

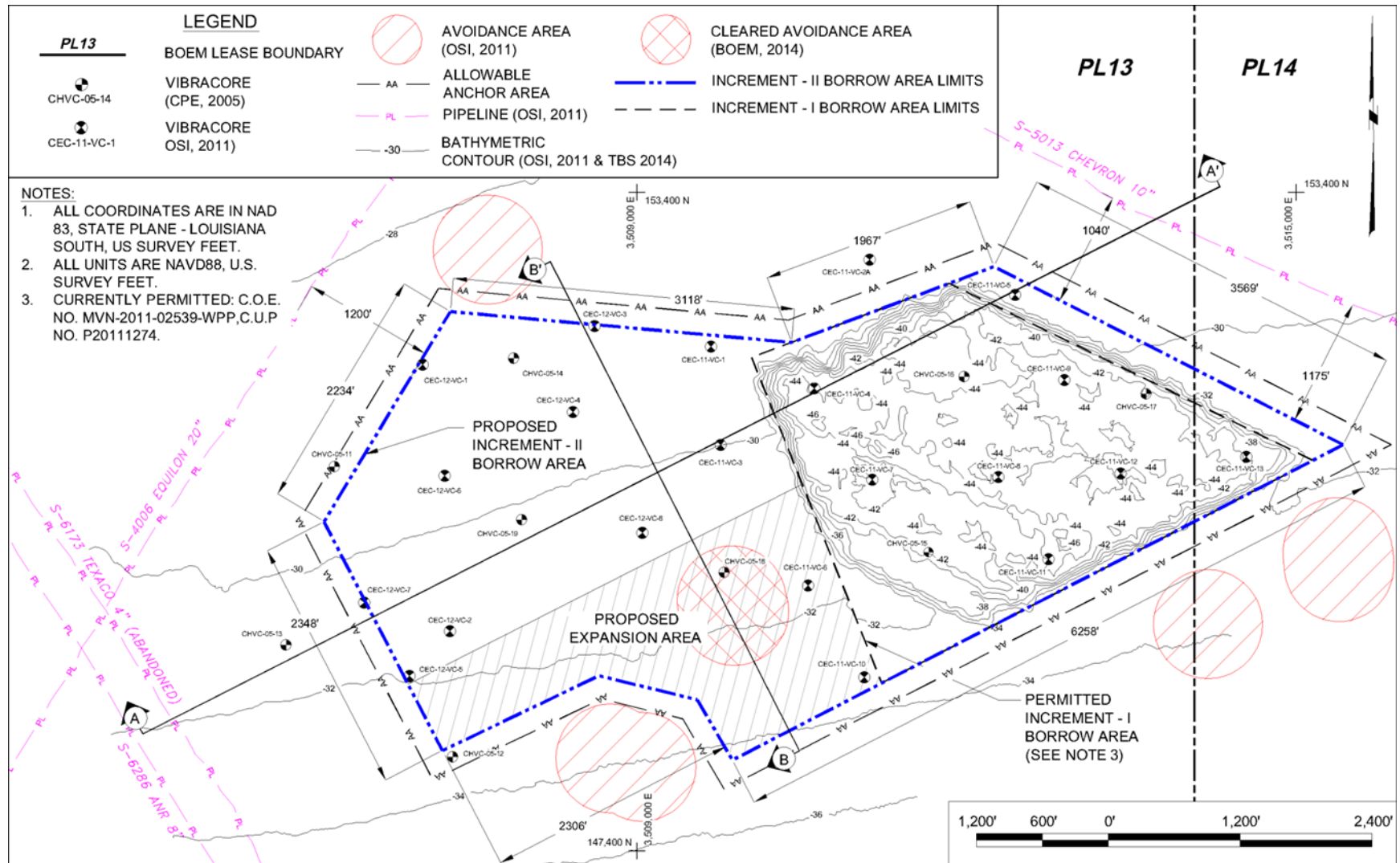


Figure 2-1. South Pelto Borrow Area Design Plan View - Expansion

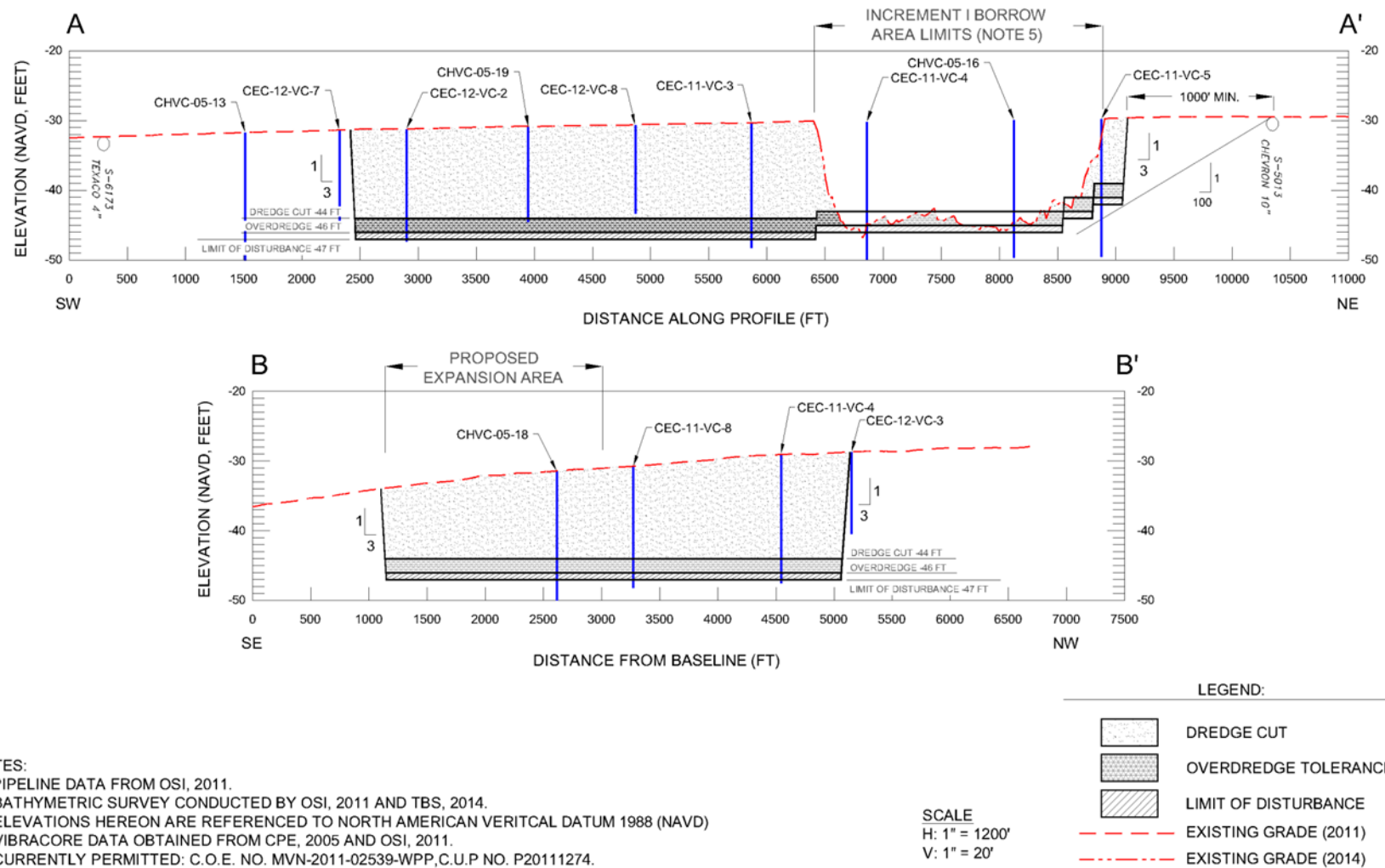


Figure 2-2. South Pelto Blocks 13 and 14 Borrow Area Cross Sections - Expansion

2.2 NO-ACTION ALTERNATIVE

Evaluation of the No-Action Alternative is a requirement of NEPA regulations (40 CFR Part 1500 *et seq.*). The No-Action Alternative assumes the Project will not be constructed and no dredging of OCS sand from the Project borrow area would occur. The high erosion rate at the Caminada Headland would continue: facilitating increasing breaching of the shoreline and exposure of backbarrier wetlands to increased salinity and scour from increased tidal velocities and the erosive effects of storm surges; compromising the estuarine gradient; and continuing loss of beach, dune, and backbarrier marsh habitat. Continuing erosion of the Headland may affect wave conditions and sediment transport at the shoreline; increasing shoreline retreat rate; loss of the existing vegetative communities, including mangroves; and affecting beach/shoreline-related benthic infaunal communities, habitat of fish, invertebrates and wildlife species, including critical habitat for piping plover and red knot. As the shoreline continues to recede coastal infrastructure, including Port Fourchon, roads, pipelines, *etc.* would be increasingly susceptible to storm damage.

3.0 AFFECTED ENVIRONMENT

Section 3.0 of the SEA described the environmental resources of the proposed borrow area that would be affected by the Project. Based on the SEA, BOEM issued a FONSI. Current baseline conditions are generally believed to be similar to conditions described in the SEA (GEC, 2013).

Construction of the BA-45 project has been completed. Monitoring of the Project during and just after construction indicated there were no adverse effects to the environmental resources within the borrow area utilized for the Caminada BA-45 Project. The proposed expansion of the borrow area is contiguous to the previously utilized borrow. No additional affects are anticipated from utilization of the expansion area.

4.0 ENVIRONMENTAL CONSEQUENCES

The SEA (GEC, 2013) analyzed the direct, indirect, and cumulative socioeconomic and environmental impacts of the proposed activities on resources in the project area. The effects of the proposed expansion of the borrow area is expected to be similar to the effects of the original Project; however, since the CPRA has revised the proposed action to include a larger borrow area, there is the potential for additional impacts to occur during dredging.

4.1 IMPACT-PRODUCING FACTORS

The impacts resulting from the proposed modification would be minor, short-term, and localized. They could include temporary benthic and water column impacts in the areas adjacent to dredging operations at the borrow area. The potential impacts include increased turbidity and disruption of infaunal communities. All reasonable efforts would be made to avoid, minimize, and restore affected natural resources to the extent practicable.

4.2 PHYSICAL RESOURCES

The SEA (GEC, 2013) analyzed direct and indirect effects of the Project and the No-Action Alternative on physical resources: Oceanographic and Coastal Processes; Geology; Air Quality; Water Quality; and Noise; for the Headland, borrow area, and conveyance corridors; and is incorporated by reference. The proposed modifications are expected to have similar effects and benefits on physical resources.

Overall, the Project would restore the geomorphic form of the beach and dune, enabling the barrier shoreline to absorb wave energy during storms and fair-weather conditions and provide some storm surge protection, reducing storm damage to upland areas landward of the beach and dune; inhibiting breaching; and decreasing land loss rates.

4.3 BIO-PHYSICAL ENVIRONMENT

The SEA (GEC, 2013) analyzed direct and indirect effects of the Project and the No-Action Alternative on bio-physical resources: Vegetation; Aquatic Resources and Communities (Benthic Resources, Plankton Resources, Fishes and Macroinvertebrates, Invasive Fish and Macroinvertebrate Species); Wildlife Resources; Amphibians, Reptiles, Terrestrial Mammals, and Invasive Wildlife Species; Marine Mammals; and Avian Communities and Resources for the Headland, borrow area, and conveyance corridors; and is incorporated by reference. The proposed modifications are expected to have similar effects and future benefits on bio-physical resources.

4.4 CRITICAL BIOLOGICAL RESOURCES

The SEA (GEC, 2013) analyzed direct and indirect effects of the Project and the No-Action Alternative on critical biological resources [EFH and Threatened and Endangered Species (Gulf Sturgeon, Sea Turtles, Piping Plover, Red Knot, West Indian Manatee, and Whales)] for the Headland, borrow area, and conveyance corridors; and is incorporated by reference. The proposed modifications are expected to have similar effects on these critical biological resources.

Public notice comments received from NMFS and FWS regarding EFH and Threatened and Endangered Species document concurrence with the SEA.

4.5 CULTURAL RESOURCES

The SEA (GEC, 2013) analyzed direct and indirect effects of the Project and the No-Action Alternative on cultural resources for the Headland, borrow area, and conveyance corridors. The proposed project modifications are within areas previously surveyed for the presence of cultural resources. Both the terrestrial and marine cultural resource surveys and subsequent work by BOEM determined that the proposed actions would not negatively affect any known scientific, cultural, or historic resources in the APE. Two potential cultural resource targets were located in proximity to the proposed conveyance corridor and SHPO specified that they should be avoided.

4.6 SOCIOECONOMICS AND HUMAN RESOURCES

The SEA (GEC, 2013) analyzed direct and indirect effects of the project on Socioeconomic and Human Resources [Population and Housing; Employment and Income; Environmental Justice; Commercial Fisheries; Infrastructure (Onshore Infrastructure, Offshore Infrastructure); Waterborne Commerce; Oil, Gas, and Minerals; Aesthetic Resources; Recreational Resources; and Navigation and Public Safety]. This information is incorporated by reference. The proposed Project modification is anticipated to have similar effects on Socioeconomic and Human Resources.

4.7 HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE (HTRW) IMPACTS

The SEA (GEC, 2103) analyzed direct and indirect effects of the Project and the No-Action Alternative on Hazardous, Toxic, and Radioactive Waste (HTRW). This information is incorporated by reference. HTRW effects are anticipated to be similar to those described in the EA.

Accidental spills and releases of waste/fuel, although remote, are possible. The contractor will prevent oil, fuel, or other hazardous substances from entering the air or water. This will be accomplished by design and procedural controls. All wastes and refuse generated by Project construction would be removed and properly disposed. The contractor will implement a spill contingency plan for hazardous, toxic, or petroleum material for the borrow area. Compliance with U.S. EPA Vessel General Permits would be ensured, as applicable. The use of Ship Shoal would not adversely affect HTRW within the Project Area.

4.8 CUMULATIVE IMPACTS

Cumulative impacts are those impacts on the environment that result from the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions. The SEA (GEC, 2013) analyzes the cumulative effects of the proposed actions as well as any connected, cumulative, and similar existing and potential actions occurring in the area surrounding the Project. The potential adverse direct environmental and socioeconomic impacts associated with the proposed action are insignificant and outweighed by the benefits. In general, the proposed Project modification would have no significant adverse cumulative effects.

Based on the above discussion of the minor impacts which would result from the implementation of the proposed Project modifications and due to the lack of long term adverse impacts, reasonable assurance has been provided that no significant cumulative impacts would occur as a result of the proposed borrow area expansion.

5.0 CONSULTATION AND COORDINATION

5.1 USACE ENVIRONMENTAL IMPACT STATEMENT, SECTION 10/SECTION 404 PERMIT, AND COASTAL USE PERMIT

The SEA (GEC, 2013) describes the consultation and coordination efforts undertaken prior to its November 18, 2013 submission. The actions completed subsequent to its publication include the following:

- December 18, 2013 receipt of Bureau of Ocean Energy Management Finding of No Significant Impact (FONSI) for “Use of Outer Continental Shelf Sand from Ship Shoal, South Pelto Blocks 13 and 14 for the Caminada Headland Beach and Dune Restoration, Increment 2, Jefferson and Lafourche Parishes, Louisiana.”
- February 04, 2015 submission of revised permit drawings for Caminada Headland Beach and Dune Restoration - Increment II (BA-143), Permit No. MVN-2012-02134-WPP.
- April 8, 2015 receipt of amended Coastal Use Permit P20121150 from the Louisiana Office of Coastal Management, Department of Natural Resources.
- April 14, 2015 receipt of Consistency Determination C20120338 mod 01 from the Louisiana Office of Coastal Management.
- June 25, 2015 transmission of permit modification to commenting agencies by the USACE/MVN/Regulatory Branch.
- July 08, 2015 the US Fish and Wildlife Service informed USACE that reinitiation of formal consultation was not required.
- July 17, 2015 the State Historic Preservation Officer reiterated that no historic properties would be affected by this Project.

- August 19, 2015 receipt of both the Permit Evaluation and Decision Document and permit modification approval from USACE/MVN.

6.0 PERMITS AND COMMITMENTS

CPRA anticipates no changes from the commitments presented in the SEA (GEC, 2013) to compliance with all permit and consultation document conditions and general and special provisions. As described herein, the proposed permit modifications are designed to best manage the sediment resources in the borrow area and provide reserves in the event significant storm losses are experienced during the course of Project construction.

7.0 CONCLUSION

The proposed action would have no significant environmental impacts on the existing environment. No additional mitigation actions should be required beyond those noted within the USACE permit and BOEM OCS Lease. Best Management Practices would be employed during the proposed actions to minimize any identified adverse impacts. The implementation of the proposed action would not have a significant adverse impact on the quality of the environment and an environmental impact statement is not required.

8.0 LIST OF PREPARERS

Changes from the original November 18, 2013 submission.

Name	Organization	Role in Preparation
Michael Miner, Ph.D.	BOEM	Document Review
Kenneth Ashworth, Ph.D.	BOEM	Document Review
Brad Miller	CPRA	Project Management
Clayton Breland, Ph.D., CPG	CPRA	Document Review
Elizabeth Davoli, R.P.A.	CPRA	Document Review
Jon Staiger, Ph.D.	Coastal Engineering Consultants, Inc.	Document Preparation
Michael Poff, PE	Coastal Engineering Consultants, Inc.	Document Preparation
Michael Stephen, Ph.D., PG	Coastal Engineering Consultants, Inc.	Document Preparation
Greg Grandy, ASLA	Coastal Engineering Consultants, Inc.	Document Preparation

9.0 REFERENCES

The original section is incorporated by reference.

Appendix A

Modified Permits and Associated Letters, and Coordination.¹

¹ Including all documents listed in Section 5.1, above.