REVIEW PLAN

MISSISSIPPI COASTAL IMPROVEMENTS PROGRAM

COASTWIDE BEACH AND DUNE RESTORATION

P2 # 506105

HARRISON COUNTY, MISSISSIPPI

U.S. Army Corps of Engineers

Mobile District

South Atlantic Division

30 September 2022

US Army Corps
of Engineers
Mobile District

Review Plan for Coast-wide Beach and Dune Ecosystem Restoration, Harrison County, Mississippi Project Implementation Documents

Refer to ER 1165-3-217, *Civil Works Review Policy*, May 2021, regarding the requirements for executing this plan.

1. **Date:** 30 September 2022

2. **Review plan revision, if applicable:** N/A

3. **Project name:** Coast-wide Beach and Dune Ecosystem Restoration, Harrison County, Mississippi Project

4. **Project location:** Harrison County, Mississippi

5. **Project P2 number:** 506105

6. **Review Management Organization (RMO):** South Atlantic Division

7. **Review plan POCs:**
   a. **District:** Engineering Technical Lead, 251-690-2484
   b. **SAD:** Implementation Quality Manager, 404-562-5210

8. **Expected in-kind contributions/services to be provided by the non-Federal sponsor:** The Non-Federal Sponsor's work-in kind contribution will include providing A-E services for surveying, developing profile templates, and preparing construction plans and specifications. The Non-Federal Sponsor will also provide support to USACE on performing shoreline change analysis, developing sediment budgets/background erosion rates, performing dune resiliency analysis, delineating borrow areas, and developing beach overfill estimates. The expected value of those services is $360,000.

9. **Target construction contract award date(s):** October 2024

10. **Estimated construction contract value(s) (range):** $30M - $40M

11. **Project description:** This project element consists of beach and dune improvements to approximately 29 miles of the existing mainland coast. These improvements would include construction of 60-foot wide vegetated dune fields approximately 50 feet seaward of any existing seawalls. These beach and dune areas are critical to nesting and resting shorebirds such as the State listed least tern and the threatened piping plover. In addition to the ecological benefits, the dunes would provide incidental coastal storm risk management benefits particularly during more frequent lower intensity coastal storm events. In accordance with the provisions of Water Resources Development Act (WRDA) 1986, as amended, cost sharing would be 65-percent Federal and 35-percent

non-Federal. Furthermore, post-implementation monitoring, and adaptive management (MAM) of this ecosystem restoration element will be carried out in accordance 19 October 2017 Implementation Guidance for Section 1161 of the Water Resources Development Act of 2016. As detailed in the Mississippi Coastal Improvement's Comprehensive plan, MAM is projected to be conducted for no more than five years.

12. **Documents to be reviewed:** Construction plans and specifications, Design Documentation Report (DDR), and Environmental Assessment Documentation

13. **Required reviews:**
    a. District Quality Control Review
    b. Agency Technical Review (ATR)
    c. Biddability, Constructability, Operability, Environmental, and Sustainability Review (BCOES)

14. **Site visits by review teams:** Not Required

15. **Justification to waive ATR, if applicable:** N/A

16. **ATR team disciplines and qualifications:**

Team Member Discipline	Expertise Required
Team Lead	A senior professional, external to SAD, with extensive experience in preparing Civil Works implementation documents and conducting ATR, and with the necessary skills and experience to lead a virtual team through the ATR process. May be combined with another review role.
Hydrology and Hydraulic (Coastal) Engineer	A licensed professional engineer with expertise in coastal engineering including hydraulic and hydrologic modeling techniques for sediment transport and morphologic change, and expertise in the design of beach nourishment projects.
Geotechnical Engineer	A licensed professional engineer with expertise in geotechnical investigations, including soil classification, beach nourishment compatibility analysis, and borrow area design.
Environmental Scientist (Coastal)	Shall have experience in the influence of beach nourishment on coastal ecosystems and other coastal features, and the National Environmental Protection Act (NEPA) process. Should also be experienced in the National Historic Preservation Act (NHPA) Section 106 process and tribal coordination.

17. **Considerations regarding the need for a Safety Assurance Review (SAR):**

    a. **Could project failure result in flooding-related loss of human life?** No

b. **If so, what is the population at risk?** N/A

c. **Will the design of water impoundment or training features deviate from USACE guidance or be based on uncommon analytical methods?** This project will utilize methods and techniques routinely used by the USACE on other similar projects. It is not anticipated that the design will include innovative techniques or materials that are untested and unproven for this particular scope of work.

d. **If modifying an existing project, could the probability of project failure be temporarily increased during construction?** N/A

18. **Determination regarding the need for a SAR:** Based on the information presented above, the District Chief of Engineering, as the Engineer-In-Responsible-Charge, does not recommend a SAR.

19. **Numerical models to be utilized:**

Model Name	Model Description	Approval Status
ArcGis and Desktop	Geospatial data mapping tool.	HH&C Scientific & Engineering Technology (SET) allowed for use
Sediment Budget Analysis System (SBAS)	Tool used in developing sediment budgets	SET allowed for use
GenCade	A 1-D model used to calculate shoreline change, wave-induced long-shore sand transport, and morphology change	SET allowed for use
CSHORE/SBEACH	A 1-D nearshore model for predicting hydrodynamics and profile change. CSHORE is based on the phase-averaged set of governing equations and predicts the cross-shore distribution of wave height, setup, velocities, transport and morphology change.	SET allowed for use

Microcomputer Aided Cost Engineering System (MCACES), MII	Microcomputer Aided Cost Engineering System (MCACES) is the cost estimating software program tools used by cost engineering to develop and prepare Civil Works cost estimates.	Civil Works Cost Engineering and Agency Technical Review MCX mandatory
Cost Engineering Dredge Estimating Program (CEDEP)	CEDEP is the required software program that will be used for dredging estimates using floating plants. CEDEP contains a narrative documenting reasons for decisions and selections made by the cost engineer. Software distribution is restricted because it is considered proprietary to the Government.	Civil Works Cost Engineering and Agency Technical Review MCX mandatory

20. Schedule and cost of reviews:

Submittal	Reviews	Cost
65% Submittal	DQC, ATR	$ 55,000
Final	DQC, ATR (completion), BCOES	$ 55,000