



RECORD OF DECISION

Charleston Peninsula Coastal Storm Risk Management Study Charleston, South Carolina

The Final Integrated Feasibility Report and Environmental Impact Statement (FR/EIS) dated April 2022, for the Charleston Peninsula Coastal Storm Risk Management Study addresses coastal storm risk management opportunities and feasibility in Charleston, South Carolina. The final recommendation is contained in the report of the Chief of Engineers, dated 10 June 2022. Based on these reports, the reviews by other Federal, State, and local agencies, Tribes, input of the public, and the review by my staff, I find the plan recommended by the Chief of Engineers to be technically feasible, economically justified, in accordance with environmental statutes, and in the public interest.

The Final FR/EIS, incorporated herein by reference, evaluated various alternatives that would reduce risk to human health, safety, and emergency access, reduce economic damages, and increase resilience to coastal storm surge inundation on the Charleston Peninsula over the 50-year period of analysis of 2032 – 2082 in the study area. The recommended plan is the National Economic Development (NED) Plan and includes:

- *A storm surge wall approximately 8.7 miles in length along the perimeter of the peninsula (7.2 miles of T-wall on land and 1.5 miles of steel combination wall in marsh) with a top elevation of 12 feet North American Vertical Datum of 1988 (NAVD88).*
- *The storm surge wall would include multiple pedestrian, vehicle, railroad, and storm (tidal flow) gates.*
- *Approximately five temporary and five permanent small to medium hydraulic pump stations.*
- *Approximately 9,300 feet of oyster reef-based living shoreline sills.*
- *Floodproofing or elevating for approximately 100 structures, with a minimum first floor elevation of 12 feet NAVD88, in residential areas where construction of the storm surge wall would be impracticable.*
- *After avoidance and minimization, the recommended plan would have some remaining adverse environmental impacts which will be fully mitigated. The storm surge wall in the marsh would permanently impact approximately 35 acres of saltmarsh wetlands.*
- *Implementation of the environmental compensatory mitigation and associated monitoring and adaptive management plan. Monitoring will continue until the mitigation is determined to be successful based on the identified criteria as described within the Charleston Peninsula Coastal Storm Risk Management Draft Mitigation Plan included in Appendix F. Monitoring is not to exceed 10 years.*

In addition to a “no action” alternative, one alternative was carried into the final array and evaluated. The final alternatives are the No Action Alternative and Alternative 2. Chapter 3 of the FR/EIS describes the formulation of measures and alternatives, and the screening of alternatives. Chapter 7 describes the evaluation and comparison of the final array of alternatives. Alternative 2 was chosen as the recommended plan, as described in detail in Chapter 8. Alternative 2 was identified as the environmentally preferable alternative.

For all alternatives, the potential effects were evaluated, as appropriate. For details concerning the nature and scope of impact for any category of effects, see the FR/EIS. A summary assessment of the potential effects of the recommended plan is provided in Table 1 (generally following the order of presentation in the final FR/EIS):

Table 1: Summary of Potential Effects of Recommend Plan

	Significant adverse effect	Less than significant effects due to mitigation**	Less than significant effects	Resource unaffected by action
Land Use	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Geology and Soils	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Coastal Hydrodynamics, Hydrology, and Hydraulics	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Water Quality	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Floodplains	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Aquatic Resources (incl. EFH) and Wetlands	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Special Status Species (including ESA)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Benthic Resources	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Terrestrial Wildlife and Upland Vegetation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Cultural and Historic Resources	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Recreation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Visual and Aesthetics	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Air quality	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Noise	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Hazardous Materials and Wastes	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Transportation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Utilities	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Safety	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Environmental Justice	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Climate Change	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Cumulative Impacts	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Significant adverse effects on aquatic resources and wetlands, cultural and historic resources, and visual and aesthetics are expected, prior to mitigation. The adverse effects on these (and other) resources, prior to mitigation, are identified in the FR/EIS in (among other places) Chapter 6 - Environmental Consequences and Table 7-5. For aquatic resources and wetlands, these effects and proposed mitigation are discussed in more detail in Sections 6.6 and 6.8 of the FR/EIS, and in the draft Mitigation Plan found in Appendix F – Environmental. For visual and aesthetics, and cultural and historic resources, see Sections 6.11 and 6.13 of the FR/EIS, and Appendices A and D. Where adverse effects cannot be avoided or minimized, remaining adverse effects will be mitigated to compensate for non-negligible impacts to the extent incrementally justified and in accordance with law (see below).

** The decision to perform an EIS rendered it unnecessary to determine whether mitigation for each category of effects resulted in a mitigated FONSI. For the level of mitigation, see the text below Table 1.

All practicable means to avoid or minimize adverse environmental effects were analyzed and incorporated into the recommended plan. Best management practices (BMPs) as detailed in the FR/EIS will be implemented to minimize impacts. For wetlands and aquatic resources, avoidance included, without limitation, moving a considerable portion of the storm surge wall from the marsh to the land which resulted in a considerable reduction of over 70 acres of potential aquatic resource and wetland impacts; minimization for aquatic resources and wetlands included, without limitation, locating the wall as close as technically feasible to the upland to minimize potential loss of wetlands behind the wall. For cultural and historic resources, USACE executed a Programmatic Agreement (PA) with, among others, the South Carolina State Historic Preservation Officer, National Park Service, City of Charleston, and Advisory Council on Historic Preservation, which is designed to identify appropriate avoidance, minimization or mitigation actions (see Appendix D). The PA has an effective date of 4 April 2022 and documents USACE's commitment to (among other things) prioritize the avoidance and minimization of adverse effects to National Historic Landmarks and consider the avoidance and minimization of adverse effects to all historic properties in the design of the storm surge wall, gate placement, and other project features during the preconstruction engineering and design (PED) phase of the project. For visual and aesthetic resources, USACE executed a Memorandum of Understanding (MOU) with the City of Charleston under which the parties have committed to determine appropriate aesthetic mitigation, including avoidance and minimization, during the PED phase of the project. Additional minimization of effects on aquatic and benthic resources, cultural and historic resources, and visual and aesthetic resources occurred in conjunction with the economic cost-benefit analysis (e.g., the elimination of the wave attenuation structure, or breakwater) and the reduction of port impacts (e.g., moving the storm surge wall waterward of effected port facilities). Generally, USACE has included, without limitation, BMPs for the following: avoiding and minimizing adverse effects to aquatic resources and wetlands and mitigating for remaining non-negligible impacts; avoiding and minimizing adverse effects to cultural and historic resources and mitigating remaining effects as provided for in the PA and in accordance with law and policy; avoiding and minimizing adverse effects to visual and aesthetic resources and mitigating remaining effects as provided for in the MOU and in accordance with law and policy; minimizing temporary noise, water quality, and upland vegetation effects during construction; utilizing a worksite trestle for keeping heavy equipment off the marsh during construction of the combination wall; and avoiding and minimizing potential vessel strikes on aquatic species during construction.

The recommended plan will result in unavoidable adverse impacts to approximately 35 acres of wetland, aquatic resources, and benthic resources. To mitigate for these unavoidable adverse impacts, USACE will offset impacts through compensatory mitigation in the form of purchasing salt marsh credits from an approved mitigation bank consistent with Federal and State law and regulations, and USACE policy.

In addition, the recommended plan will result in unavoidable adverse impacts to cultural and historic, as well as visual and aesthetic resources. To mitigate for these adverse impacts which cannot be avoided or minimized, USACE will adhere to the stipulations regarding compensatory mitigation in the PA for cultural and historic resources, and to the provisions of the MOU for visual and aesthetic resources. A copy of the PA can be found in Appendix D – National Historic Preservation Act Compliance of the FR/EIS; a copy of the MOU can be found in Appendix A – Visual/Aesthetic Resources Assessment of the FR/EIS. Specific details of historic and cultural, as well as visual and aesthetic, resources mitigation remain to be identified pursuant to the PA and MOU because they inherently relate to detailed designs to be developed during the PED phase.

Public review of the draft FR/EIS was completed on 25 October 2021. All comments submitted during the public comment period were responded to in Appendix I of the Final

FR/EIS. State and Agency review was completed on 5 May 2022. No substantial comments were received.

Pursuant to Section 7 of the Endangered Species Act of 1973, as amended, USACE determined that the recommended plan may affect but is not likely to adversely affect the following federally listed species or their designated critical habitat: green sea turtle (North Atlantic and South Atlantic populations), Kemp's ridley sea turtle, leatherback sea turtle, loggerhead sea turtle, shortnose sturgeon, and Atlantic sturgeon. The National Marine Fisheries Service (NMFS) concurred with USACE's determination on 2 June 2022.

Pursuant to Section 7 of the Endangered Species Act of 1973, as amended, USACE determined that the recommended plan may affect but is not likely to adversely affect the following federally listed species or their designated critical habitat: American wood stork, Eastern black rail, and West Indian Manatee. The U.S. Fish and Wildlife Service (FWS) concurred with the USACE's determination on 12 August 2021. Subsequently, USACE requested concurrence on the oyster reef-based living shoreline and the wall realignment along the South Carolina Port Authority (SCPA) properties in an email dated 11 January 2022, with a may affect but not likely to adversely affect determination. In a response email dated 12 January 2022, FWS concurred with this determination stating that their 12 August 2021 concurrence letter serves to provide Section 7 concurrence for the oyster reef-based living shoreline and the wall realignment along the SCPA properties.

Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended, USACE determined that historic properties will be adversely affected by the recommended plan. The USACE, South Carolina State Historic Preservation Officer, National Park Service, City of Charleston, and Advisory Council on Historic Preservation entered into a Programmatic Agreement (PA), dated 4 April 2022. Project construction of the recommended plan will adversely affect the Charleston Historic District National Historic Landmark by introducing visual elements and altering physical features that diminish the integrity of the setting and feeling of the District. Further cultural resources surveys are required in accordance with the agreement to identify other historic properties that may be adversely affected by implementation of the recommended plan. All terms and conditions resulting from the PA shall be implemented to minimize adverse impacts to historic properties.

Pursuant to the Clean Water Act of 1972, as amended, all discharges of dredged or fill material associated with the recommended plan have been found to be compliant with the section 404(b)(1) Guidelines (40 C.F.R. Part 230). The Clean Water Act Section 404(b)(1) Guidelines evaluation is found in Appendix F of the FR/EIS.

Pursuant to the Clean Water Act of 1972, as amended, a water quality certification required by Section 401 of the Clean Water Act will be obtained from the South Carolina Department of Health and Environmental Control (SCDHEC) prior to construction. In a letter dated 26 January 2022, the SCDHEC stated that the recommended plan appears to meet the requirements of the water quality certification, pending confirmation based on information to be developed during the PED phase. All conditions of the water quality certification will be implemented to minimize adverse impacts to water quality.

On 11 January 2022, the SCDHEC conditionally concurred with USACE's determination of consistency with the South Carolina Coastal Management Program pursuant to the Coastal Zone Management Act of 1972. All conditions of the concurrence will be implemented to minimize adverse impacts to the coastal zone.

Pursuant to the Magnuson-Stevens Fishery Conservation and Management Act of 1976, as amended, the project would potentially adversely affect Essential Fish Habitat (EFH). An EFH Assessment has been prepared, and consultation with NMFS was requested by USACE on 24 September 2021. On 19 April 2022, EFH consultation was designated by NMFS as complete on the One Federal Decision dashboard. NMFS followed this with a 16 May 2022 letter concurring that USACE had complied with the applicable provisions of the Magnuson-Stevens Act regarding EFH.

All applicable environmental laws have been considered and coordination with appropriate agencies and officials has been completed.

Technical, environmental, economic, and cost effectiveness criteria used in the formulation of alternative plans were those specified in the U.S. Water Resources Council's 1983 Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies. All applicable laws, executive orders, regulations, and local government plans were considered in evaluation of alternatives. Based on the review of these evaluations, I find that benefits of the recommended plan outweigh the costs and any adverse effects. This Record of Decision completes the National Environmental Policy Act process.

October 24, 2022

Date



MICHAEL L. CONNOR
Assistant Secretary of the Army (Civil Works)