



DEPARTMENT OF THE ARMY  
CHIEF OF ENGINEERS  
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WASHINGTON, D.C. 20310-2600

DAEN

OCT 29 2021

SUBJECT: Pinellas County, Florida, Treasure Island and Long Key Segments, Coastal Storm Risk Management

THE SECRETARY OF THE ARMY

1. I submit for transmission to Congress my interim report on coastal storm risk management along the Gulf Coast shorelines of Pinellas County, Florida. It is accompanied by the report of the Jacksonville District Commander. This report reviews the existing Pinellas County, Florida Beach Erosion Control project pursuant to the authority provided in Section 216 of the Flood Control Act of 1970, Public Law 91-611 (33 U.S.C. §549a). This law authorizes the Secretary of the Army, acting through the Chief of Engineers, to review the operation of projects for which construction has been completed and which were constructed in the interest of navigation, flood control, water supply, and related purposes, when found advisable due to significantly changed physical or economic conditions, and to recommend to Congress on the advisability of modifying the structures or their operation, and for improving the quality of the environment in the overall public interest. Pre-construction engineering and design (PED), if funded, would continue under this same study authority.

2. The modification of the Pinellas County, Florida Beach Erosion Control project recommended by the reporting officers will reduce coastal storm risk along the Treasure Island and Long Key segments of the project in Pinellas County, Florida and contribute to net economic benefit, as well as the other three accounts identified in the U.S. Water Resources Council's 1983 Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies. The recommended plan is the National Economic Development (NED) plan.

a. The recommended plan includes periodic beach nourishment, with dune and berm features, at the north and south ends of Treasure Island (Sunshine Beach, R-126 to R-128.5, and Sunset Beach, R-137.5 to R-142.5) and Long Key (Upham Beach, R-144 to R-146.5, and Pass-a-Grille, R-160 to R-166), with tapers of a maximum of 1,000 feet extending from the northern and southern ends. The proposed dimensions include the following:

i. A dune with a crest elevation of 10 feet North American Vertical Datum of 1988 (NAVD88) (11.1 feet Mean Low Water (MLW)), and a dune profile width increase that would extend the entire equilibrated beach profile up to 20 feet seaward; and

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ii. A construction berm of up to 70 feet seaward from the dune toe at an elevation that mimics the natural berm at 4.6 feet NAVD88 (5.7 feet MLW), but is anticipated to increase with sea-level change.

b. Initial construction will require approximately 262,000 cubic yards of sand, and each periodic nourishment event will require approximately 935,000 cubic yards of sand. Periodic nourishment of the improved beach, which would be provided when needed, would restore the beach to desired dimensions. The anticipated periodic nourishment interval based on modeled conditions is an average of six years, equaling eight periodic nourishment events in addition to initial construction over the 50-year period of federal participation. Sand would be obtained from the navigation channels and/or ebb shoals of Johns Pass, Blind Pass, and Pass-a-Grille Inlet, or from the Egmont Shoal East. The volume of sand available collectively from these sources will meet the needs of the project for initial construction. Furthermore, the inlet management plans for these inlets identify recharge rates that predict there will be sufficient volume of sand to meet most of the volume requirement for the periodic nourishment events over the life of the project. Any sand requirements over the volume available in the inlets would be obtained from Egmont Shoal East.

c. Native vegetation will be planted on areas of the existing dune disturbed by construction, as well as the newly constructed dune to stabilize the fill.

d. This plan will contribute to the creation of habitat for nesting sea turtles and shorebirds through the restoration of the eroded beach and dune system and provides incidental recreation opportunities.

3. Pinellas County, Florida is the non-federal cost sharing sponsor for all features of the project.

4. Based on October 2021 price levels, the estimated total nourishment cost is \$207,649,000, which includes the project first cost of initial construction of \$13,959,000 and a total of 8 periodic renourishments at a total cost of \$193,690,000. Periodic renourishments are planned at 6-year intervals. The non-federal sponsor is responsible for the operation, maintenance, repair, replacement, and rehabilitation (OMRR&R) of the project after construction, which has an estimated average annual cost of \$30,000. For coastal projects, examples of OMRR&R activities include long-term environmental monitoring, escarpment removal, dune vegetation maintenance and replacement, and maintenance of features required for public access. In accordance with the cost share provisions in Section 103 of the Water Resources Development Act (WRDA) of 1986, as amended (33 U.S.C. §2213), the federal and non-federal shares of the project costs are as follows:

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a. Initial construction costs for shore protection features allocated to coastal storm risk management are generally shared 65 percent federal and 35 percent non-federal, except for costs allocated to prevention of losses of undeveloped private lands, or improvements with exclusively private benefits, which are 100 percent non-federal. Based on current parking and access and the extent of undeveloped private lands, the estimated federal share of the project first cost is approximately \$8,627,000 and the estimated non-federal share is approximately \$5,332,000. The non-federal costs include the value of lands, easements, rights-of-way, relocations, and dredged or excavated material disposal areas (LERRD) estimated to be \$3,130,000.

b. Periodic nourishment costs are generally shared 50 percent federal and 50 percent non-federal, except for costs allocated to the prevention of losses of undeveloped private lands or to improvements with exclusively private benefits, which are 100 percent non-federal. Based on current parking and access, the federal share of each future periodic renourishment is estimated to be \$11,500,000 and the non-federal share is \$12,711,000.

5. Based on a 2.25 percent discount rate and a 50-year period of analysis, the average annual equivalent costs of the project are estimated to be \$4,680,000. The average annual equivalent benefits for the project prior to inclusion of recreation benefits are estimated to be \$6,584,000 with net average annual benefits of \$1,901,000, which results in a benefit to cost ratio (BCR) of approximately 1.4 to 1. With the inclusion of \$2,894,000 in incidental average annual equivalent recreation benefits, the total average annual equivalent benefits are estimated to be \$9,480,000 with net average annual benefits of \$4,800,000, which results in a BCR of approximately 2.0 to 1. All project costs are allocated to the authorized purpose of coastal storm risk management.

6. Risk and uncertainty were considered in all aspects of the study. The recommended plan would reduce average annual coastal storm damages by approximately 66 percent. However, the recommended plan would not address any potential coastal storm damages arising from back bay flooding. The residual risks have been communicated to the residents of Pinellas County.

7. In accordance with Engineer Regulation 1100-2-8126, Incorporating Sea Level Change in Civil Works Programs, the study performed a sensitivity analysis to evaluate the effects that different rates of sea-level change could have on the recommended plan. The NED plan was formulated using the high rate of sea-level change. Beach-fx was used to model the performance of the NED plan for what the above guidance defines as low, intermediate, and high rates of sea-level rise. The project performance for the three sea-level rise scenarios is relatively constant, suggesting that the NED plan is both effective and robust in all three simulated scenarios. Adaptive management, such as adjusting the timing of periodic nourishments and project volume requirements

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based on monitoring reports, will compensate for any variations in sea-level rise from what was modeled.

8. In accordance with U.S. Army Corps of Engineers (USACE) policy on the review of decision documents, all technical, engineering, and scientific work underwent an open, dynamic, and rigorous review process. This included district quality control, agency technical review, and USACE headquarters policy and legal compliance review. An exclusion for the feasibility study from independent external peer review was granted on 18 May 2019 by the South Atlantic Division Commander. A Safety Assurance Review will be conducted during the PED phase.

9. An environmental assessment was prepared in accordance with the National Environmental Policy Act. The recommended plan has been designed to avoid and minimize environmental impacts while maximizing future safety and economic benefits to the community and would not have significant adverse effects on the quality of the human environment.

10. Washington level review indicates that the plan recommended by the reporting officers is technically sound, environmentally acceptable, and economically justified. The plan complies with all essential elements of the U.S. Water Resources Council's 1983 Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies and complies with legislative policies and guidelines. Also, the views of interested parties, including federal, state, and local agencies, have been considered and all comments from public reviews have been addressed and incorporated into the final report documents where appropriate.

11. I concur with the findings, conclusions, and recommendations of the reporting officers. Accordingly, I recommend that the plan to reduce coastal storm damages for Pinellas County, Florida, Treasure Island and Long Key Segments, be authorized in accordance with the reporting officers' recommended plan at an estimated project first cost of \$207,649,000, including any modifications that are within the discretion of the Chief of Engineers and may be advisable.

12. My recommendation is subject to cost sharing and other applicable requirements of federal laws, regulations, and policies. Federal implementation of the project for coastal storm risk management includes, but is not limited to, the following required items of local cooperation to be undertaken by the non-federal sponsor in accordance with applicable federal laws, regulations, and policies:

a. Provide 35 percent of construction costs for initial construction of the project and 50 percent of construction costs for periodic nourishment allocated by the Federal Government to coastal storm risk management; 100 percent of construction costs for initial construction and periodic nourishment allocated by the Federal Government to

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beach improvements with exclusively private benefits; 100 percent of construction costs for initial construction and periodic nourishment allocated by the Federal Government to improvements and other work located within the Coastal Barrier Resources System that the Federal Government has determined are ineligible for federal financial participation; and 100 percent of construction costs for initial construction and periodic nourishment allocated by the Federal Government to the prevention of losses of undeveloped private lands, as further specified below:

i. Provide, during design, 35 percent of design costs in accordance with the terms of a design agreement entered into prior to commencement of design work for the project;

ii. . Provide all real property interests, including placement area improvements, and perform all relocations determined by the Federal Government to be required for the project; and

iii. . Provide, during construction, any additional contribution necessary to make its total contribution equal to at least 35 percent of construction costs for initial construction and 50 percent of construction costs for periodic nourishment;

b. Prevent obstructions or encroachments on the project (including prescribing and enforcing regulations to prevent such obstructions or encroachments) that might reduce the level of coastal storm risk reduction the project affords, hinder operation and maintenance of the project, or interfere with the project's proper function;

c. Inform affected interests, at least yearly, of the extent of risk reduction afforded by the project; participate in and comply with applicable federal floodplain management and flood insurance programs; prepare a floodplain management plan for the project to be implemented not later than one year after completion of construction of the project; and publicize floodplain information in the area concerned and provide this information to zoning and other regulatory agencies for their use in adopting regulations, or taking other actions, to prevent unwise future development and to ensure compatibility with the project;

d. Operate, maintain, repair, rehabilitate, and replace the project or functional portion thereof at no cost to the Federal Government, in a manner compatible with the project's authorized purposes and in accordance with applicable federal laws and regulations and any specific directions prescribed by the Federal Government;

e. At least annually and after storm events, at no cost to the Federal Government, perform surveillance of the project to determine losses of material and provide results of such surveillance to the Federal Government;

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f. For shores, other than federal shores, protected using federal funds, ensure the continued public use of such shores compatible with the authorized purpose of the project;

g. Provide and maintain necessary access roads, parking areas, and other associated public use facilities, open and available to all on equal terms;

h. Give the federal Government a right to enter, at reasonable times and in a reasonable manner, upon property that the non-federal sponsor owns or controls for access to the project to inspect the project, and, if necessary, to undertake work necessary to the proper functioning of the project for its authorized purpose;

i. Hold and save the Federal Government free from all damages arising from design, construction, operation, maintenance, repair, rehabilitation, and replacement of the project, except for damages due to the fault or negligence of the Federal Government or its contractors;

j. Perform, or ensure performance of, any investigations for hazardous, toxic, and radioactive wastes (HTRW) that are determined necessary to identify the existence and extent of any HTRW regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. 9601-9675, and any other applicable law, that may exist in, on, or under real property interests that the Federal Government determines to be necessary for construction, operation and maintenance of the project;

k. Agree, as between the Federal Government and the non-federal sponsor, to be solely responsible for the performance and costs of cleanup and response of any HTRW regulated under applicable law that are located in, on, or under real property interests required for construction, operation, and maintenance of the project, including the costs of any studies and investigations necessary to determine an appropriate response to the contamination, without reimbursement or credit by the Federal Government;

l. Agree, as between the Federal Government and the non-federal sponsor, that the non-federal sponsor shall be considered the owner and operator of the project for the purpose of CERCLA liability or other applicable law, and to the maximum extent practicable shall carry out its responsibilities in a manner that will not cause HTRW liability to arise under applicable law; and

m. Comply with the applicable provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, Public Law 91-646, as amended, (42 U.S.C. §4630 and §4655) and the Uniform Regulations contained in 49 C.F.R. Part 24, in acquiring real property interests necessary for construction, operation, and

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maintenance of the project including those necessary for relocations, and placement area improvements; and inform all affected persons of applicable benefits, policies, and procedures in connection with said Act.

13. The recommendations contained herein reflect the information available at this time and current departmental policies governing formulation of individual projects. These recommendations do not reflect program and budgeting priorities inherent in the formulation of the national civil works construction program or the perspective of higher review levels within the Executive Branch. Consequently, the recommendations may be modified before they are transmitted to the Congress as proposals for authorization and implementation funding. However, prior to transmittal to the Congress, the non-federal sponsor, the State of Florida, interested federal agencies, and other parties will be advised of any modifications and will be afforded an opportunity to comment further.



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