



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

DAEN

JUN 09 2020

SUBJECT: Rahway River Basin, New Jersey Coastal Storm Risk Management

THE SECRETARY OF THE ARMY

1. I submit for transmission to Congress my report on coastal storm risk management for the Rahway River Basin, New Jersey. It is accompanied by the report of the District Commander. This report is an interim response to a March 24, 1998 resolution of the U.S. House of Representatives Committee on Transportation and Infrastructure which requested that the Secretary "review the report of the Chief of Engineers on the Rahway River, New Jersey, published as House Document 67, 89th Congress, and other pertinent reports to determine whether any modifications of the recommendations contained therein are advisable at the present time, in the interest of water resources development, including flood control, environmental restoration and protection and other related purposes." This is also an interim response to Public Law 113-2, the Disaster Relief Appropriations Act of 2013, which provided "[f]or an additional amount for "Investigations" for necessary expenses related to the consequences of Hurricane Sandy, \$50,000,000, to remain available until expended to expedite at full Federal expense studies of flood and storm damage reduction: Provided, That using \$29,500,000 of the funds provided herein, the Secretary of the Army shall expedite and complete ongoing flood and storm damage reduction studies in areas that were impacted by Hurricane Sandy in the North Atlantic Division of the United States Army Corps of Engineers". Preconstruction Engineering and Design activities for the Rahway River Basin, New Jersey, Coastal Storm Risk Management project will continue under the project authority cited above.

2. The reporting officers recommend authorizing a plan to reduce the risk of damages from flooding in the lower Rahway River Basin. The plan is the National Economic Development plan. The principle features of the plan include:

a. Nonstructural measures for 110 structures (106 residential and 4 non-residential) in the 10% Annual Exceedance Probability (AEP) (10-year) floodplain. Nonstructural measures were designed to the 1% AEP (100-year) water surface elevation plus one foot to account for water surface perturbations associated with an intermediate rate of relative sea level change. Recommended nonstructural measures include wet flood-proofing, elevation, and buyouts.

b. A levee 2,520 feet long and a floodwall 1,968 feet long, designed to an elevation of 14.2 feet North American Vertical Datum of 1988 (NAVD88). The levee/floodwall is along the right (southern) bank of the Rahway River, approximately 1.2 miles downstream of the confluence with the South Branch of the Rahway River. The

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upstream end is located at the industrial/commercial area in Woodbridge Township, and the structure continues downstream to Joseph Medwick Park in the Borough of Carteret.

c. raising approximately 1,350 feet of Engelhard Avenue in Woodbridge to a top elevation of 14.2 feet NAVD88.

3. The New Jersey State Department of Environmental Protection is the non-federal cost-sharing sponsor for all features. Project costs for the recommended plan are based on October 2019 (Fiscal Year 2020) price levels.

a. Project First Cost. The estimated project first cost of the recommended plan is \$71,929,000. This estimate includes \$44,543,000 for construction; \$10,914,000 for lands, easements, right-of-ways, relocations, and dredged or excavated material disposal areas (LERRDs), including federal administrative costs; \$11,600,000 for planning, engineering and design; and \$4,872,000 for construction management.

b. Estimated Federal and Non-Federal Share. In accordance with the cost sharing provisions of Section 103 of the Water Resources Development Act (WRDA) of 1986, as amended (33 U.S. Code 2213), the federal share of the project first cost is estimated to be \$46,754,000 and the non-federal share is estimated to be \$25,175,000, which equates to 65 percent federal and 35 percent non-federal. The non-federal costs include the value of lands, easements, rights-of-way, relocations, and dredged or excavated material disposal areas estimated to be \$10,550,000.

c. The non-federal sponsor is responsible for the annual operation, maintenance, repair, replacement, and rehabilitation (OMRR&R) of the project after construction, estimated at \$232,000 per year.

4. Based on October 2019 price levels, a discount rate of 2.75 percent, and a 50-year period of analysis, the total equivalent average annual costs and benefits for the project are estimated to be \$2,986,000 and \$7,262,000, respectively, with resulting net benefits of \$4,276,000 and a benefit-to-cost ratio of 2.4:1.

5. In accordance with Engineering Regulation 1100-2-8126, Incorporating Sea Level Change in Civil Works Programs, the study evaluated potential impacts of sea level change in formulating and engineering the recommended plan. The risk reduction system being proposed is based on the intermediate relative sea level rise projection.

6. In accordance with the U.S. Army Corps of Engineers policy on the review of decision documents, all technical, engineering, and scientific work underwent an open, dynamic, and rigorous review process to ensure technical quality. This includes District Quality Control, Agency Technical Review, an Independent External Peer Review (IEPR) (Type 1), and a headquarters policy and legal review. Logistics Management Institute completed the Type 1 IEPR in November 2017. All comments from the above

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referenced reviews have been addressed and incorporated into the final documents. Overall the reviews resulted in improvements to the technical quality of the report.

7. Washington level review indicates that the project recommended by the reporting officers is technically sound, environmentally and socially acceptable, and economically justified. The plan complies with all essential elements of the 1983 U.S. Water Resources Council's Economic and Environmental Principles and Guidelines for Water and Land Related Resources Implementation Studies and complies with other administrative and legislative policies and guidelines. The views of interested parties, including federal, state, and local agencies have been fully considered.

8. I concur with the findings, conclusions, and recommendations of the reporting officers. Accordingly, I recommend that the plan for flood risk reduction for the Rahway River Basin be authorized at an estimated project first cost of \$71,929,000 with such modifications as in the discretion of the Chief of Engineers may be advisable. My recommendation is subject to cost sharing, financing, and other applicable requirements of federal and state laws and policies. The cost of the plan recommended in this report would be shared in accordance with Section 103 of WRDA 1986, as amended (33 U.S.C. 2213). This recommendation is subject to the non-federal sponsor agreeing to comply with all applicable federal laws and policies, including that they will:

a. Provide 35 percent of the total nonstructural flood damage reduction costs and a minimum of 35 percent, but not to exceed 50 percent, of the total structural flood damage reduction costs and, as further specified below:

(1) Provide, during design, 35 percent of design costs allocated to nonstructural flood damage reduction and 35 percent of design costs allocated to structural flood damage reduction in accordance with the terms of a design agreement entered into prior to commencement of design work for the project;

(2) Pay, during construction, a contribution of funds equal to five percent of total structural flood damage reduction costs;

(3) Provide all lands, easements, and rights-of-way, including those required for relocations, the borrowing of material, and the disposal of dredged or excavated material; perform or ensure the performance of all relocations; and construct all improvements required on lands, easements, and rights-of-way to enable the disposal of dredged or excavated material as determined by the federal government to be required or to be necessary for the construction, operation, and maintenance of the project, all in compliance with applicable provisions of the Uniform Relocation and Assistance and Real Property Acquisition Policies Act of 1970, as amended (42 U.S.C. 4601-4655) and the regulations contained in 49 C.F.R. Part 24;

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(4) Pay, during construction, any additional funds necessary to make its total contribution equal to 35 percent of total nonstructural flood damage reduction costs and at least 35 percent of total structural flood damage reduction costs;

a. Prevent obstructions or encroachments on the project (including prescribing and enforcing regulations to prevent such obstructions or encroachments) such as any new developments on project lands, easements, and rights-of-way or the addition of facilities, which might reduce the outputs produced by the project, hinder operation and maintenance of the project, or interfere with the project's proper function;

b. Inform affected interests, at least yearly, of the extent of protection afforded by the flood risk management features; participate in and comply with applicable federal floodplain management and flood insurance programs; comply with Section 402 of the Water Resources Development Act of 1986, as amended (33 U.S.C. 701b-12); 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 protection levels provided by the flood risk management features;

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

d. Hold and save the United States free from all damages arising from the initial construction, periodic nourishment, operation, maintenance, repair, replacement, and rehabilitation of the project, except for damages due to the fault or negligence of the United States or its contractors;

e. Perform, or ensure performance of, any investigations for hazardous substances that are determined necessary to identify the existence and extent of any hazardous substances regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. §§ 9601-9675, that may exist in, on, or under lands, easements, or rights-of-way that the Federal Government determines to be necessary for the initial construction, periodic nourishment, operation and maintenance of the project;

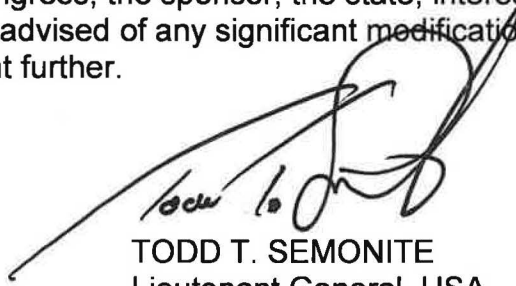
f. Assume, as between the Federal Government and the non-federal sponsor, complete financial responsibility for all necessary cleanup and response costs of any hazardous substances regulated under CERCLA that are located in, on, or under lands, easements, or rights-of-way required for the initial construction, periodic nourishment, or operation and maintenance of the project; and

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g. Agree, as between the Federal Government and the non-federal sponsor, that the non-federal sponsor shall be considered the operator of the project for the purpose of CERCLA liability, and, to the maximum extent practicable, operate, maintain, repair, replace, and rehabilitate the project in a manner that will not cause liability to arise under CERCLA.

9. The recommendation contained herein reflects the information available at this time and current departmental policies governing formulation of individual projects. It does not reflect program and budgeting priorities inherent in the formulation of a national civil works construction program nor the perspective of highest review levels within the Executive Branch. Consequently, the recommendation may be modified before it is transmitted to the Congress as a proposal for authorization and implementation funding. However, prior to transmittal to Congress, the sponsor, the state, interested federal agencies, and other parties will be advised of any significant modifications and will be afforded an opportunity to comment further.



TODD T. SEMONITE
Lieutenant General, USA
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