



DEPARTMENT OF THE ARMY  
CHIEF OF ENGINEERS  
2600 ARMY PENTAGON  
WASHINGTON, DC 20310-2600

DAEN

AUG 20 2021

SUBJECT: Portland Metro Levee System, Portland, Oregon

THE SECRETARY OF THE ARMY

1. I submit for transmission to Congress my report on the feasibility of improvements for the purpose of flood risk management to portions of the existing federally constructed Portland Metro Levee System (PMLS). The project is located in Multnomah County, Oregon and includes portions of the cities of Portland, Gresham, Fairview, and Troutdale. Located along the south bank of the Columbia River, from its confluence with the Sandy River to just upstream of its confluence with the Willamette River. It is accompanied by the report of the Portland District Commander. The authority for this study is Section 216 of the Flood Control Act of 1970, as amended, which authorizes review of completed U.S. Army Corps of Engineers (USACE) flood risk management projects when significant changes in physical or economic conditions have occurred, and the submission of a report to Congress on the advisability of modifying the project in the overall public interest. Initial USACE involvement in construction of the levee system began with the Flood Control Act of 22 June 1936. After the 1948 flood event, additional construction was authorized in the Flood Control Act of 17 May 1950. Title IV, Division B of the Bipartisan Budget Act of 2018, Public Law 115-123, enacted 9 February 2018 authorizes the government to conduct the study at full federal expense. Preconstruction engineering and design (PED) activities, if funded, would be continued under the study authority cited above.

2. The PMLS consists of four integrated and contiguous levee systems: Peninsula Drainage District No. 1 (PEN 1), Peninsula Drainage District No. 2 (PEN 2), Multnomah County Drainage District No. 1 (MCDD), and Sandy Drainage Improvement Company (SDIC). The PMLS encompasses approximately 12,750 acres. These four districts are responsible for managing the 27 miles of federally authorized levees, 45 miles of ditches and sloughs, and 12 pump stations.

3. The reporting officers recommend authorization of the National Economic Development (NED) Plan that reduces flood risks to the Portland, Oregon metropolitan area. Based on Fiscal Year (FY) 2021 price levels, a 2.5 percent discount rate and a 50-year period of analysis, the estimated cost of the NED Plan is \$110,498,000, with average annual benefits of \$15,371,000; an average annual cost of \$4,126,000; net benefits of \$11,245,000, and a benefit-to-cost ratio of 3.7. The principal features of the plan include:

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- a. A levee raise and other improvements to the levees in PEN 1 and PEN 2 to address both fragility and overtopping risks. The levee raises in PEN 2 along the Columbia River and Columbia Slough are embankment raises, with small stretches of new floodwall.
- b. A new floodwall along the Columbia River segment of PEN 1, including under the I-5 bridge.
- c. A new levee parallel to the existing railroad embankment on the western edge of PEN 1.
- d. Scour protection for the existing floodwall in PEN 1.
- e. Increased levee heights at locations with low spots in MCDD and SDIC.
- f. Improvements to pump stations including capacity increases at three locations, improved debris control at one location, and elevating/replacing the Sandy pump station.
- g. Compensatory mitigation for impacts to approximately 0.4 acres of freshwater wetlands.

4. The non-federal sponsor is the Columbia Corridor Drainage Districts Joint Contracting Authority (CCDD JCA). The CCDD JCA is the contracting authority formed under Oregon Revised Statute Chapter 190 by four drainage districts: PEN 1, PEN 2, MCDD 1, and SDIC. The Total Project First Cost is estimated to be \$110,498,000 (FY 2021 price level). In accordance with the cost sharing provision of Section 103 of the Water Resources Development Act (WRDA) of 1986, as amended (33 U.S.C. 2213), the non-federal sponsor must contribute a minimum of 35 percent of construction costs, with a minimum 5 percent cash contribution. The remaining portion of the non-federal share can be provided in lands, easements, rights-of-way, relocations and dredged or excavated material disposal areas; in-kind contributions; cash; or a combination. The federal share of the project first cost is estimated to be \$71,824,000 and the non-federal share is estimated to be \$38,674,000. The non-federal costs include the value of lands, easements, rights-of-way, relocations and dredged or excavated material disposal areas estimated to be \$32,422,000. CCDD JCA would be responsible for annual operation, maintenance, repair, replacement and rehabilitation (OMRR&R) project costs of approximately \$31,000 per year in additional costs above their current responsibilities for the existing system. This would include additional inspections and maintenance on the expanded levee system and toe drains as well as annual testing of closure structures.

5. The study report fully describes flood risk to structures and life safety. The recommended plan was formulated to reduce the risk of flood damages to key infrastructure and residential/commercial structures within the system resulting from a

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flood event with an annual exceedance probability of 0.12 percent. The recommended plan would greatly reduce, but not eliminate future damages and residual risk would remain. The recommended plan reduces expected annual damages to the system by approximately 49 percent relative to the without project conditions. The residual risk, along with the potential consequences, has been communicated to the non-federal sponsor and will become a requirement of any communication and evacuation plan.

6. An environmental assessment was prepared in accordance with the National Environmental Policy Act (NEPA). 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. USACE initiated consultation under the Endangered Species Act on 15 June 2020 and received a letter of concurrence from the U.S. Fish and Wildlife Service on 18 November 2020 and a Biological Opinion (BiOp) from the National Marine Fisheries Service on 16 December 2020. The BiOp included an Incidental Take Statement with Reasonable and Prudent Measures (RPMs) and Terms and Conditions (T&Cs) for USACE to implement to minimize impacts from incidental take as a result of the proposed action. All RPMs and T&Cs resulting from this consultation will be implemented. There is the potential for mitigation of 0.4 acres of wetlands within a segment of the SDIC levee which can likely be avoided with design refinements during PED. Given the minimal size of potential wetland loss, the most cost-effective mitigation solution will be purchase of credits from a wetland mitigation bank. The current estimated cost for replacement of 0.4 acre from a mitigation bank is \$100,800. This cost is included in the total project cost for the recommended plan. The recommended plan would reduce risk to life safety and flood risk damages behind the PMLS. The USACE Portland District and the Oregon State Historic Preservation Officer executed a Memorandum of Agreement (MOA) to resolve adverse effects to historic properties. The recommended plan would implement the MOA and associated avoidance and minimization measures.

7. In accordance with USACE guidance on review of decision documents, all technical, engineering and scientific work underwent an open, dynamic and rigorous review process to ensure technical quality. This included district quality control, agency technical review, and headquarters policy and legal compliance review. All comments from the above referenced reviews have been addressed and incorporated into the final documents. An exclusion from Independent External Peer Review was granted on 5 August 2019. A Safety Assurance Review will be conducted during PED.

8. Washington-level review indicates that the project recommended by the reporting officers is technically sound, cost effective, 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 Principal and Guidelines for Water and Land Related Resources Implementation Studies. The recommended plan complies with other Administration and legislative policies and guidelines. The views of interested parties including federal, state, and local agencies have been considered.

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9. I concur with the findings, conclusions, and recommendations of the reporting officers and advise that the recommended plan be authorized with such modifications thereof as in the discretion of the Chief of Engineers may be advisable. My recommendation is subject to cost sharing and other applicable requirements of federal laws, regulations, and policies. Federal implementation of the project for structural flood risk management is subject to the non-federal sponsor agreeing to perform, in accordance with applicable federal laws, regulations, and policies, the required items of local cooperation for the project, including but not limited to the following:

a. Provide a minimum of 35 percent, up to a maximum of 50 percent, of construction costs, as further specified below:

(1) 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;

(2) Pay, during construction, a contribution of funds equal to 5 percent of construction costs;

(3) Provide all real property interests, including placement area improvements, and perform all relocations determined by the Government to be required for the project;

(4) Provide, during construction, any additional contribution necessary to make its total contribution equal to at least 35 percent of construction costs;

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 flood 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 flood risk management features; 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 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 Government;

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e. 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;

f. 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;

g. 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;

h. 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;

i. 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

j. 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 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.

10. The recommendation contained herein reflects the information available at this time and current departmental policies governing the formulation of individual projects. It does not reflect program and budgeting priorities inherent in the formulation of the national civil works construction program or the perspective of higher levels within the Executive Branch. Consequently, the recommendations may be modified before they

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are transmitted to Congress for authorization and/or implementation funding. However, prior to transmittal to Congress, the sponsor, the State of Oregon, interested federal agencies, and other parties will be advised of any significant modifications in the recommendations and will be afforded an opportunity to comment further.

A handwritten signature in black ink, appearing to read "Scott A. Spellmon". The signature is fluid and cursive, with a long horizontal line extending to the right.

SCOTT A. SPELLMON  
Lieutenant General, USA  
Chief of Engineers