



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

DAEN

SUBJECT: Papillion Creek and Tributaries Lakes, Nebraska

THE SECRETARY OF THE ARMY

1. I submit for transmission to Congress my report on flood risk management and recreation for the South Papillion Creek, Little Papillion Creek, Thomas Creek, Big Papillion Creek, Cole Creek, Papillion Creek, Saddle Creek, and West Papillion Creek. It is accompanied by the report of the Omaha District Commander. The Papillion Creek and Tributaries Lakes, Nebraska project was originally authorized by Section 203 of the Flood Control Act of 1968 (Public Law 90-483), in accordance with the recommendations of the Chief of Engineers in House Document No. 349. This report was completed in response to direction in the Energy and Water Development Appropriation Act, 1982 (Public Law 97-88), House Report No. 97-177, for reevaluation of the findings of the original report. The authorized project consisted of a system of 21 dams and reservoirs, located on tributaries upstream from Metropolitan Omaha. In addition to flood control, the other purposes of the authorized project are recreation, fish and wildlife enhancement, and water quality. Preconstruction engineering and design, if funded, will be conducted under the study authority cited above.

2. The reporting officers recommend a project that will make significant contributions to National Economic Development (NED). The NED plan includes:

- a. a dam with a 74-acre conservation pool and sediment detention at South Papillion Creek Dam Site 19 near Gretna, Nebraska;
- b. a dry dam at Thomas Creek Dam Site 10 in rural Douglas County, Nebraska;
- c. new levee/floodwall along Little Papillion Creek in Omaha, Nebraska consisting of 3.67 miles of structure on the right bank, 2.98 miles of structure on the left bank, and eight road and bridge closure structures;
- d. nonstructural features including 71 basement fills, 59 elevations of residential structures and 256 dry floodproofings of commercial/industrial/municipal structures along Big Papillion Creek, Cole Creek, Papillion Creek, Saddle Creek, South Papillion Creek, and West Papillion Creek.
- e. recreational features consisting of a 2.5-mile trail, parking lots, restrooms, picnic shelter, boat access, and related features at the Dam Site 19 reservoir; and

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<sup>1</sup> This report contains the proposed recommendation of the Chief of Engineers. The recommendation is subject to change to reflect Washington-level review and comments from federal and state agencies.

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3. The recommend plan necessitates the removal of 23.5 acres of riparian forest habitat for dam construction, reservoir inundation and levee/floodwall construction and would require replacement. The recommended plan includes 31.8 acres of tree plantings within the boundaries of the normal operating pool and maximum operating pool of South Papillion Creek Dam Site 19 and three acres at Thomas Creek Dam Site 10. Approximately 0.35 acres of palustrine emergent wetlands would be directly filled from embankment construction of South Papillion Creek Dam Site 19. Approximately 1.4 acres of palustrine emergent wetlands will be restored through the excavation of shallow areas connected to the edge of the normal pool area of South Papillion Creek Dam Site 19. Impacts from converting a stream to a lacustrine system would also require mitigation; this would be accomplished by planting a 100-foot wide buffer of native prairie and wetland plants along each side of the Little Papillion Creek for 1,000 feet and planting a 100-foot wide buffer along both sides of South Papillion Creek for 1,200 feet. This would result in 10.1 mitigation acres for stream impacts. Mitigation requirements were determined through analysis utilizing the Nebraska Stream Condition Assessment Procedure and the Brown Thrasher Habitat Evaluation Procedure and costs are included in the total project cost.

4. The Papio-Missouri River Natural Resources District is the non-federal cost sharing sponsor for all features of the project. Project costs are based on October 2020 price levels. The estimated project first cost of construction is \$134,127,000. This includes \$25,965,000 for Dam Site 19 (\$22,032,000 for flood risk management features and \$3,933,000 for recreation features); \$20,472,000 for Dam Site 10; \$45,799,000 for levee/floodwall construction on Little Papillion Creek; and the \$41,890,000 for the nonstructural plan for Big Papillion Creek, Cole Creek, Papillion Creek, Saddle Creek, South Papillion Creek, and West Papillion Creek. These costs include the value of lands, easements, rights-of-way, relocations, and disposal areas (LERRDs). Total LERRD is estimated to be \$29,338,000. Cost sharing is applied in accordance with the provision of Section 103(c)(5) of the Water Resources Development Act (WRDA) of 1986, as amended (33 U.S.C. §2213(c)(5)), as follows:

a. The cost of construction of structural and nonstructural flood risk measures is shared 65 percent federal and 35 percent non-federal. The cost of construction of recreation features is shared 50 percent federal and 50 percent non-federal. The estimated federal and non-federal shares of the project first cost are \$86,592,000 and \$47,534,000 respectively. The non-federal sponsor will receive credit for the costs of LERRD toward the non-federal share.

b. The additional annual cost of operation, maintenance, repair, replacement, and rehabilitation (OMRR&R) for the recommended plan is estimated to be \$496,000. The levee and floodwall OMRR&R includes periodic culvert inspections, culvert repair, rock placement for levee tops and toe stabilization, cleaning pipes for inspection, weed spraying, and mowing. The dam OMRR&R includes periodic inspections, monthly

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inspection and data collection on piezometers, maintenance, and mowing. The non-federal sponsor will be responsible for 100 percent of the cost of project OMRR&R.

5. Based on a 2.50 percent discount rate and a 50-year period of analysis, the equivalent average annual benefits and costs are estimated at \$8,214,000 and \$5,423,000, respectively. The project is estimated to provide annual net benefits of \$2,791,000 and a benefit-to-cost ratio of 1.5 to 1. All project costs are allocated to the authorized purposes of flood risk management and recreation.

6. The study report fully describes flood risk to structures and life safety. The recommended plan is designed to reduce the risk of flood damages to key infrastructure and residential/commercial structures resulting from a flood event with an annual exceedance probability of one percent. The recommended plan would greatly reduce, but not eliminate future damages and residual risk would remain. The recommend plan will reduce expected annual flood damages in the study area by 51 percent overall, and by 69-78 percent across the South Papillion, Little Papillion, Thomas, and Saddle Creek portions of the watershed. 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. The recommended plan is not intended to, nor will it, reduce the risk to loss of life during major flood events. The only certain method to prevent loss of life is by residents and visitors following existing local evacuation plans and leaving the study area prior to significant events.

7. The recommended plan was developed in coordination and consultation with federal, state, and local agencies and numerous tribes. Risk and uncertainty were addressed during the study by completing a cost and schedule risk analysis that integrates the uncertainty from the engineering, costs, economics, and other aspects of the project. Risk includes project scope, schedule, and cost changes associated with acquisition strategy; levee and floodwall quantities; the timing of the real estate acquisitions and unforeseen risks with tenant relocations; and funding limitations impacting the construction schedule.

8. In accordance with 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. The comprehensive review process included District Quality Control Review, Agency Technical Review, Type I Independent External Peer Review, and headquarters policy and legal compliance review to confirm the planning analyses, alternative design and safety, and the quality of decisions. Washington-level review indicates that the plan recommended by the reporting officers complies with all essential elements of the U.S. Water Resources Council's Economic and Environmental Principles and Guidelines for Water and Land Related Resources Implementation Studies, as well as other administrative and legislative policies and guidelines. The views of interested parties, including federal, state, and local agencies, and tribes were considered and all comments from public reviews have been addressed and incorporated into the final report documents where appropriate.

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9. I concur in the findings, conclusions, and recommendations of the reporting officers. Accordingly, I recommend that the plan for flood risk management and recreation for Papillion Creek and Tributaries Lakes, Nebraska, be authorized in accordance with the reporting officers' recommended plan at an estimated cost of \$134,127,000 with such modifications 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 and policies, including Section 103 of P.L. 99-662, WRDA 1986, as amended (33 U.S.C. §2213). These requirements include, but are not limited to, the following items of local cooperation from the non-federal sponsor:

a. Provide 35 percent of construction costs allocated to nonstructural flood risk management; a minimum of 35 percent, up to a maximum of 50 percent, of construction costs allocated to structural flood risk management; and 50 percent of construction costs allocated to recreation, 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. Pay, during construction, a contribution of funds equal to 5 percent of construction costs allocated to structural flood risk management;

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

iv. Provide, during construction, any additional contribution necessary to make its total contribution equal to at least 35 percent of construction costs for structural flood risk management, 35 percent of construction costs for nonstructural flood risk management and 50 percent of construction costs for recreation;

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. Keep the recreation features, access roads, parking areas, and other associated public use facilities, open and available to all on equal terms;

d. 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

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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;

e. 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;

f. 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;

g. 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;

h. 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;

i. 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;

j. 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

k. 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

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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 are transmitted to Congress for authorization and implementation funding. However, prior to transmittal to Congress, non-federal sponsor, the State of Nebraska, 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.

SCOTT A. SPELLMON  
Lieutenant General, USA  
Chief of Engineers