



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
OFFICE OF THE CHIEF OF ENGINEERS
WASHINGTON, D.C. 20314-1000

CECW-LRD (1105-2-10a)

MAY 16 2012

SUBJECT: Ohio River Shoreline, Paducah, Kentucky Reconstruction

THE SECRETARY OF THE ARMY

1. I submit for transmission to Congress my report on flood risk management along the left bank of the Ohio River at Paducah, Kentucky. It is accompanied by the report of the district and division engineers. This report responds to Section 5077 of the Water Resources Development Act (WRDA) 2007 which directs the Secretary to complete a feasibility report for rehabilitation (reconstruction) of the existing flood damage reduction project at Paducah, Kentucky (Paducah, Kentucky Local Flood Protection Project) authorized by Section 4 of the Flood Control Act of June 28, 1938. Further, Section 5077 authorizes the Secretary to carry out the project, if determined feasible, at a total cost of \$3,000,000. The reconstruction project, as currently proposed, exceeds the amount authorized by Section 5077. Preconstruction engineering and design activities for the Ohio River Shoreline, Paducah, Kentucky Reconstruction project will continue under the authority provided by Section 5077 of WRDA 2007.

2. The existing Paducah, Kentucky, Local Flood Protection Project is a 12.2 mile-long levee and floodwall system completed in 1949. The project consists of about 9.2 miles of earthen levee and 3 miles of floodwalls and includes 12 floodwater pumping stations, and other interior drainage facilities. There are 47 movable closure and service openings in the floodwall system that must be manually secured in advance of flooding.

3. The reporting officers recommend authorizing a flood risk management plan to significantly improve reliability and restore system performance of the more than 60 year-old project at Paducah, Kentucky, by reconstructing certain features of the project. The proposed reconstruction work will extend functionality of, and update to modern design and safety standards, deteriorated mechanical, electrical, and structural components that have exceeded their design service lives. Additionally, the proposed plan provides for construction of one new floodwater pumping plant to address changes in interior flooding. The addition of this new pump plant will increase project efficiency and bring the reconstructed project features up to current design standards. Reconstruction items will generally consist of the following:

- (a) Recondition pumps, motors and motor control systems, major pump plant components and other miscellaneous items at each of the 12 existing pumping plants;
- (b) Construct a new pumping plant at Station 111+67A;
- (c) Slip-line 37 existing deteriorated corrugated metal pipes;

CECW-LRD (1105-2-10a)

SUBJECT: Ohio River Shoreline, Paducah, Kentucky Reconstruction

- (d) Stabilize diversion channel banks;
- (e) Replace floodwall water stop joints;
- (f) Plug and / or replace existing deteriorated toe drains;
- (g) Replace existing drainage inlet structures (two new gatewell structures) at Bee Branch -at approximate stations 32+12C and 32+38C;
- (h) Construct new gate well structures at stations 111+67A (at proposed pump plant #14) and 19+11 section B;
- (i) Permanently close 8 existing floodwall closures and raise an existing closure sill;
- (j) Install scour erosion control pad at Wall/Levee transitions; and
- (k) Provide other miscellaneous items

The proposed project does not require separable mitigation. The report includes an Environmental Assessment and finding of no significant impact-on the quality of the environment. The recommended plan is the national economic development (NED) plan.

4. The estimated total first cost of the recommended plan is \$19,500,000 at the October 2011 price level. In accordance with the cost sharing provisions of the Section 103(a) of Public Law 99-662, as amended by Section 202 of WRDA 1996, the Federal share of the total cost of this project is estimated at \$12,675,000 (65 percent) and the non-Federal share is estimated at \$6,825,000 (35 percent), which includes \$436,000 for the estimated value of lands, easements, rights-of-way, relocations, and disposal areas. The city of Paducah, Kentucky is the non-Federal cost sharing sponsor for the recommended plan. The city of Paducah would be responsible for the operation, maintenance, repair, replacement, and rehabilitation (OMRR&R) of the project after construction, a cost currently estimated at \$636,000 per year.

5. Based on a 4.0-percent discount rate and a 50-year period of economic analysis, the total equivalent average annual costs of the project, including OMRR&R, are estimated to be \$1,599,000. The equivalent average annual benefits are estimated to be \$7,349,000. Net average annual benefits are estimated as \$5,750,000. The benefit-to-cost ratio is approximately 4.6 to 1.

6. Implementation of the proposed reconstruction project would reduce expected equivalent annual flood damages in the project area by about 85 percent, from \$8,174,000 to \$1,257,000. The reporting officers estimate that the recommended plan has a 99.9 percent probability of containing a flood that has a 1-percent chance of happening in any year and a 99.6-percent probability of containing a flood that has a 0.2-percent chance of occurring in any year.

7. In accordance with implementation guidance on the in-kind contribution provisions of Section 221 of the Flood Control Act of 1970, as amended by Section 2003 of WRDA 2007, the reporting officers recommend that the non-Federal sponsor receive credit, currently estimated to be \$2,100,000, for completed reconstruction of drainage structures, including corrugated metal pipes, at the Paducah, Kentucky Local Flood Protection Project. Crediting is subject to the Secretary's determination that such work is integral to the proposed project. This credit

CECW-LRD (1105-2-10a)

SUBJECT: Ohio River Shoreline, Paducah, Kentucky Reconstruction

eligibility was approved in concept by the Assistant Secretary of the Army for Civil Works on November 14, 2008. Affording this credit would not relieve the non-Federal sponsor of the requirement to pay 5 percent of the total project costs in cash during construction of the remainder of the proposed project.

8. All technical, engineering and scientific work underwent an open, dynamic and vigorous review process to ensure technical quality. This included an independent Agency Technical Review (ATR) and a Headquarters, USACE policy and legal review. All concerns of the ATR and policy and legal reviews have been addressed and incorporated into the final report. Given the nature of reconstructing an existing project in the original project footprint, I have granted an exclusion from the requirement to conduct a Type I Independent External Peer Review.

9. I concur with the findings, conclusions, and recommendations of the reporting officers. Accordingly, I recommend that the Ohio River Shoreline, Paducah, Kentucky Reconstruction project be authorized in accordance with the reporting officer's recommended plan with such modifications as may be advisable in the discretion of the Chief of Engineers. My recommendation is subject to cost sharing, financing, and other applicable requirements of Federal and State laws and policies, including Section 103 of WRDA 1986, as amended by Section 202 of WRDA 1996. Accordingly, the non-Federal sponsor must agree with the following requirements prior to project implementation:

a. Provide a minimum of 35 percent, but not to exceed 50 percent of total first costs further specified as follows:

(1) Provide 35 percent of design costs in accordance with the terms of a design agreement entered into prior to commencement of design work for project;

(2) Provide, during construction, a contribution of funds equal to 5 percent of total project 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 all as determined by the Federal Government to be required or to be necessary for the construction, operation, and maintenance of the project;

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

b. Not use funds from other Federal programs, including any non-Federal contribution required as a matching share for that other program, to meet any of its obligations for the project

CECW-LRD (1105-2-10a)

SUBJECT: Ohio River Shoreline, Paducah, Kentucky Reconstruction

unless the Federal agency providing the Federal portion of such funds verifies in writing that such funds are authorized to be used to carry out the project;

- c. Not less than once each year, inform affected interests of the extent of flood damage reduction afforded by the flood risk management features;
- d. Agree to participate in and comply with applicable Federal floodplain management and flood insurance programs;
- e. Comply with Section 402 of WRDA 1986, as amended (33 U.S.C. 701b-12), which requires a non-Federal interest to prepare a floodplain management plan within one year after the date of signing a project cooperation agreement, and to implement such plan not later than one year after completion of construction of the flood risk management features;
- f. 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 degrees of flood risk management provided by the flood risk management features;
- g. 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 level of protection the flood risk management features afford, hinder operation and maintenance of the project, or interfere with the project's proper function;
- h. Comply with all 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. 4601-4655), and the Uniform Regulations contained in 49 CFR Part 24, in acquiring lands, easements, and rights-of-way required for construction, operation, and maintenance of the project, including those necessary for relocations, the borrowing of materials, or the disposal of dredged or excavated material; and inform all affected persons of applicable benefits, policies, and procedures in connection with said Act;
- i. For so long as the project remains authorized, operate, maintain, repair, rehabilitate, and replace the project, or functional portions of the project, including any mitigation features, 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;
- j. Give the Federal Government a right to enter, at reasonable times and in a reasonable manner, upon property that the City owns or controls for access to the project for the purpose of completing, inspecting, operating, maintaining, repairing, rehabilitating, or replacing the project;

CECW-LRD (1105-2-10a)

SUBJECT: Ohio River Shoreline, Paducah, Kentucky Reconstruction

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

l. Keep and maintain books, records, documents, or other evidence pertaining to costs and expenses incurred pursuant to the project, for a minimum of three years after completion of the accounting for which such books, records, documents, or other evidence are required, to the extent and in such detail as will properly reflect total project costs, and in accordance with the standards for financial management systems set forth in the Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments at 32 Code of Federal Regulations Section 33.20;

m. Comply with all applicable Federal and state laws and regulations, including, but not limited to: Section 601 of the Civil Rights Act of 1964, Public Law 88-352 (42 U.S.C. 2000d) and Department of Defense Directive 5500.11 issued pursuant thereto; Army Regulation 600-7, entitled "Nondiscrimination on the Basis of Handicap in Programs and Activities Assisted or Conducted by the Department of the Army"; and all applicable Federal labor standards requirements including, but not limited to, 40 U.S.C. 3141- 3148 and 40 U.S.C. 3701-3708 (revising, codifying and enacting without substantial change the provisions of the Davis-Bacon Act (formerly 40 U.S.C. 276a *et seq.*), the Contract Work Hours and Safety Standards Act (formerly 40 U.S.C. 327 *et seq.*), and the Copeland Anti-Kickback Act (formerly 40 U.S.C. 276c *et seq.*);

n. 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 CERCLA, Public Law 96-510, as amended (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 required for construction, operation, and maintenance of the project. However, for lands that the Federal Government determines to be subject to the navigation servitude, only the Federal Government shall perform such investigations unless the Federal Government provides the City with prior specific written direction, in which case the City shall perform such investigations in accordance with such written direction;

o. Assume, as between the Federal Government and the City, 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 that the Federal Government determines to be required for construction, operation, and maintenance of the project;

p. Agree, as between the Federal Government and the City, that the City shall be considered the operator of the project for the purpose of CERCLA liability, and to the maximum extent

CECW-LRD (1105-2-10a)

SUBJECT: Ohio River Shoreline, Paducah, Kentucky Reconstruction

practicable, operate, maintain, repair, rehabilitate, and replace the project in a manner that will not cause liability to arise under CERCLA; and

q. Comply with Section 221 of Public Law 91-611, Flood Control Act of 1970, as amended (42 U.S.C. 1962d-5b), and Section 1030) of WRDA 1986, Public Law 99-662, as amended (33 U.S.C. 2213(j), which provides that the Secretary of the Army shall not commence the construction of any water resources project or separable element thereof, until the City has entered into a written agreement to furnish its required cooperation for the project or separable element.

r. Provide the non-Federal share of that portion of the costs of mitigation and data recovery activities associated with historic preservation, that are in excess of one percent of the total amount authorized to be appropriated for the project.

10. 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 or the perspective of higher 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.



MERDITH W. B. TEMPLE
Major General, U.S. Army
Acting Commander