

DEPARTMENT OF THE ARMY

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

NOV G 1 2019

SUBJECT: St. Louis Riverfront – Meramec River Basin Ecosystem Restoration Feasibility Study, Missouri

THE SECRETARY OF THE ARMY

- 1. I submit for transmission to Congress my interim report on ecosystem restoration in the Meramec River Basin, Missouri. It is accompanied by the reports of the District and Division engineers. These reports were completed in partial response to Section 1202(b) of the Water Resource Development Act (WRDA) of 2018, which directed the Secretary of the Army to carry out studies to determine the feasibility of a project for ecosystem restoration and flood risk management in Madison, St. Clair and Monroe Counties, Illinois; St. Louis City; and St. Louis, Jefferson, Franklin, Gasconade, Maries, Phelps, Crawford, Dent, Washington, Iron, St. Francois, St. Genevieve, Osage, Reynolds and Texas Counties, Missouri. These studies are considered a continuation of the House Committee on Transportation and Infrastructure Resolution dated 21 June 2000, Docket 2642, which directed the Secretary of the Army to review the report of the Chief of Engineers on the Mississippi River and its Tributaries, between Coon Rapids Dam and the mouth of the Ohio River published as House Document 669, 76th Congress, 3rd Session, and other pertinent reports to determine if improvements along the Mississippi River and its tributaries in St. Louis City, St. Louis County, and Jefferson County, Missouri, and Madison County, St. Clair County, and Monroe County, Illinois, are advisable at the present time in the interest of public access, navigation, harbor safety, off-channel fleeting, intermodal facilities, water quality, environmental restoration and protection, and related purposes. Preconstruction engineering and design activities, if funded, would commence under the authorities cited above.
- 2. The reporting officers recommend authorization of the National Ecosystem Restoration (NER) plan to restore a total of approximately 1,600 acres of aquatic and riparian habitat in the Meramec River Basin. With freshwater mussels among the world's most endangered animals, the Meramec River Basin is a nationally significant aquatic resource, supporting one of the most diverse freshwater mussel communities in the United States. An estimated 250 million tons of mine waste from Industrial Era heavy metal mining has overburdened the Big River and its floodplain with sediments, including lead, zinc and cadmium. This flux of sediment altered and continues to alter the natural sediment balance of the river. In addition, these sediments continue to move downstream, extirpating aquatic animals including threatened and endangered freshwater mussels. The past, ongoing, and expected future movement of this sediment contributes to unstable banks downstream. This instability, in turn, causes a negative feedback loop of additional sediment entering the system. This imbalance, in conjunction with a fragmented riparian corridor, makes the Meramec River Basin a prime location to implement a nationally worthwhile and sustainable ecosystem restoration project.

DAEN

SUBJECT: St. Louis Riverfront – Meramec River Basin Ecosystem Restoration Feasibility Study, Missouri

- 3. Implementation of the NER plan would increase the habitat value of the area by approximately 1,565 average annual habitat units. The plan consists of measures in and along the Big River that would reduce excess mining derived sediment; reestablish depleted riparian areas; and restore the channel to mimic a more natural and stable river. Measures include installation of bedload sediment collectors, creation of sediment basins, in-stream excavation of sediment, construction of grade control structures, tree plantings, and implementation of bank stabilization features through stone work, root wad revetment, and bank shaping. The plan would improve the habitat to potentially assist in the long term survival of several threatened and endangered freshwater mussel species.
- 4. The NER plan includes post-construction monitoring and adaptive management for a period of 10 years to ensure project performance. Because the plan would not have any significant adverse effects, no mitigation measures or compensation measures would be required beyond best management practices and avoidance.
- 5. Based on October 2019 price levels, the estimated project first cost is \$92,499,000, which includes monitoring costs of \$814,000 and adaptive management costs of \$5,352,000. In accordance with the cost sharing provisions in Section 103(c) of the WRDA 1986, as amended (33 U.S.C. 2213), the federal share of the project first cost is estimated to be \$60,124,000 and non-federal share of the project first cost is estimated to be \$32,375,000, which equates to a 65% federal and 35% non-federal cost share. The non-federal costs include the value of lands, easements, right of way, relocations, and disposal areas estimated to be \$8,753,000.
- 6. Based on a 2.75% interest rate and a 50-year period of analysis the average annual operation, maintenance, repair, rehabilitation, and replacement (OMRRR) costs are an estimated \$488,000.
- 7. The NER plan was developed in coordination and consultation with federal and state agencies, local governments, non-government organizations, and tribes. Risk and uncertainty were managed by coordinating with the U.S. Environmental Protection Agency and U.S. Fish and Wildlife Service, conducting a sensitivity analysis on future without project assumptions, focusing feasibility level design on high risk design items, and completing a cost and schedule risk analysis on the recommended plan.
- 8. In accordance with Corps guidance 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 reviews, Agency Technical Reviews, and Corps Headquarters policy and legal reviews. All comments have been addressed and incorporated into the final documents.
- 9. Washington-level review indicates the plan recommended by the reporting officers is environmentally justified, technically sound, cost effective, and socially acceptable. The plan complies with all essential elements of the U.S. Water Resources Council's 1983 Economic and Environmental Principal and Guidelines for Water and Land Related Resources Implementation

DAEN

SUBJECT: St. Louis Riverfront – Meramec River Basin Ecosystem Restoration Feasibility Study, Missouri

Studies. The views of interested parties including federal and state agencies, tribes, and local governments have been considered.

- 10. I concur with the findings, conclusions, and recommendations of the reporting officers. Accordingly, I recommend that the plan to restore the ecosystem for the Meramec River Basin, Missouri, be authorized in accordance with the reporting officers' recommended plan. 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 (33 U.S.C. 2213). As the non-federal sponsor, the Missouri Department of Natural Resources (MoDNR) would provide the non-federal cost share and all lands, easements, rights-of-way, relocations and disposals. The non-federal sponsor would be responsible for all OMRRR. This recommendation is subject to the non-federal sponsor agreeing to comply with all applicable federal laws and policies, including but not limited to the following:
- a. Provide, during the periods of design and construction, funds necessary to make its total contribution for ecosystem restoration equal to 35 percent of the total project cost;
- b. 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 CFR Part 24;
- c. 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 that might reduce the outputs produced by the ecosystem restoration features, hinder operation and maintenance of the project, or interfere with the project's proper function;
- d. Not use the project or lands, easements, and rights-of-way required for such features as a wetland bank or mitigation credit for any other project;
- e. 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;
- f. Hold and save the United States free from all damages arising from the construction, operation, maintenance, repair, rehabilitation, and replacement of the project and any

DAEN

SUBJECT: St. Louis Riverfront – Meramec River Basin Ecosystem Restoration Feasibility Study, Missouri

betterments, except for damages due to the fault or negligence of the United States or its contractors;

- g. 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 CERCLA, Public law 96-510, as amended (42 USC 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;
- h. 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 the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), Public Law 96-510 (42 USC 9601-9675) 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; and
- i. 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, rehabilitate, and replace the project in a manner that will not cause liability to arise under CERCLA.
- 11. My report is an interim response to the study authority. By submitting my report as an interim response to the authorization, I am preserving the opportunity to study ecosystem restoration and other purposes in the future in the authorized area.
- 12. 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 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, interested federal agencies, and other parties will be advised of any significant modifications and will be afforded an opportunity to comment further.

A Motor County C

TODD T. SEMONITE Lieutenant General, USA Chief of Engineers

4