



DEPARTMENT OF THE ARMY  
U.S. ARMY CORPS OF ENGINEERS  
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WASHINGTON, DC 20314-1000

CECW-NWD

MEMORANDUM FOR THE ASSISTANT SECRETARY OF THE ARMY (CIVIL WORKS)

SUBJECT: Manhattan, Kansas Federal Levee System Post Authorization Change Report

1. Purpose: To provide for your review and concurrence on the Manhattan, Kansas Federal Levee System Post Authorization Change Report. The report presents a revised cost estimate and updated analysis of the authorized project to support the authorization of a new project cost. The report documents the need to increase the authorized project cost from \$24,848,000 (FY16) to \$45,315,000 (FY24), \$46,276,000 fully funded.

2. Authorized Project. The Water Infrastructure Improvements for the Nation Act (WIIN) of 2016 authorizes construction of this project. The project consists of modifications to the existing Manhattan Local Protection Project to improve flood risk management benefits for the City of Manhattan, KS. Project features include 20,000 linear feet of levee raise; sand drains; 5 gatewell structures strengthened, 1 new gatewell, 1 replaced gatewell; 28 relief wells; 8,140 linear feet of under seepage berms and 500 linear feet of new levee tie-back.

3. Post-Authorization Change: The Validation Report addresses refinements and changes determined during project design to be necessary for implementation and achievement of the objectives of the authorized study. The project is being constructed in multiple contracts and construction has been initiated for several utilities, relief wells, and temporary ring levees. The remaining features are currently under design. The increases in cost are primarily due to the following factors:

a. Changes to railroad closure structure. The feasibility study concluded that the existing railroad crossing would remain as a sandbag closure. Current design analysis and USACE design guidance, combined with requests from the railroad for a wider opening required changing the structure to a stoplog closure.

b. Additional utilities have been identified during design requiring relocation.

4. Project Justification. The primary flood risk management objectives of the Manhattan, KS, project are to reduce life safety and economic risks to the community.

a. Continued implementation of the authorized project will lead to improved risk management and safety above the current existing condition.

b. Although some features of the project have changed since originally formulated, based on current analysis the project, when fully implemented, will provide a similar level of benefits and scope of protection relative to that described in the 2015 Feasibility Report.

c. The recommended plan is the National Economic Development Plan and would reduce the flood risk to the City of Manhattan, KS. The updated project plan would reduce expected annual damages (EAD) by approximately \$5.4 million or 49% with a residual EAD of approximately \$5.7 million. Annual exceedance probabilities for the existing project would be reduced from approximately a 1.3% flood event to a 0.6% flood event. Based on a 2.75% discount rate for Fiscal Year 2024 and a 50-year period of analysis, the total equivalent average annual costs of the project are estimated to be \$1,827,700 including OMRR&R. The plan has primary outputs based on flood risk management. With equivalent average annual benefits estimated at \$5,446,200 and the net average annual benefits of approximately \$3,618,000 the benefit-to-cost ratio is 2.98 to 1.

5. Environmental Compliance. Although there have been design changes to some features, the project remains consistent with the Environmental Assessment and Finding of no Significant Impact signed in 2015.

6. Conclusion: I have reviewed and concur with the conclusions and recommendations in the Validation Report. Based upon this review, I find the recommended plan is technically and environmentally sound, justified based on the monetary and non-monetary benefits it provides, and is socially acceptable. The proposed project complies with applicable USACE Civil Works policy, procedures and technical regulations. Also, the views of interested parties, including federal, state, and local agencies have been considered.

7. Recommendation: I recommend the enclosed validation report be transmitted to Congress as a basis for increasing the authorized project of the Manhattan, KS, Local Protection Project to \$45,315,000 (FY24 price levels).

EDWARD E. BELK, JR. P.E.  
Director of Civil Works