

**DEPARTMENT OF DEFENSE
UNITED STATES ARMY**

**DRAFT FINDING OF NO PRACTICABLE
ALTERNATIVE FOR IMPROVEMENTS OF FORT
LEAVENWORTH LEVEES
FORT LEAVENWORTH, KS**

1.0 Introduction

The Department of the Army (Army) proposes to improve infrastructure associated with the levee system at Fort Leavenworth, Kansas. The levee system is located within the 100-year floodplain and wetlands. Thus, any alternative repair action will have to be conducted in the floodplain and wetlands, in order to meet the repair need. Pursuant to Executive Order (EO) 11988, *Floodplain Management*, and EO 11990, *Protection of Wetlands*, the Army must evaluate whether there is a practicable alternative to locating the proposed action in a floodplain or wetlands, respectively. The practicability of a given alternative is evaluated by determining whether it is available and capable of being done after considering pertinent factors, such as community welfare, environmental impact, statutory authority, legality, cost, technology, and engineering within the context of the project purpose. If the only practicable alternative requires siting in a floodplain and/or wetlands, the Army must design or modify its action to minimize harm to or within the floodplain and/or wetlands. Thereafter, the Army must prepare and circulate a notice containing an explanation of why the action is proposed to be in the floodplain and wetlands. This Finding of No Practicable Alternative incorporates the analysis and conclusions of the Fort Leavenworth Levee Repairs Environmental Assessment (including Appendix F, EO 11988 Evaluation).

2.0 Notice of Floodplain and Wetlands Involvement

EO 11988 requires Federal agencies to determine whether a proposed action would occur within a floodplain. "Floodplain" is defined in the EO as "the lowland and relatively flat areas adjoining inland and coastal waters including flood prone areas of offshore islands, including at a minimum, that area subject to a one percent or greater chance of flooding in any given year." The 100-year floodplain represents those areas that could be inundated in the event of high flood water levels expected to occur once every 100 years from the combination of heavy rainfall, high tides, and storm surges. Based on existing Federal Emergency Management Agency Flood Insurance Rate Maps and an engineering-level analysis, it was concluded that the proposed action is within the 100-year floodplain.

EO 11990 requires Federal agencies to determine whether a proposed action would occur within wetlands. "Wetlands" are defined in the EO as "those areas that are inundated by surface or ground water with a frequency sufficient to support and under normal circumstances does or would support a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction." Wetlands are present inside the project area.

3.0 Description of the Proposed Action, Floodplain and Wetlands Impacts, and Minimization

Fort Leavenworth is proposing to improve the levee system at Sherman Airfield. This is alternative 2 from the EA. This alternative will repair levee damage and restore elevations. Most of the levee system has received significant erosion damage and would be restored to their respective elevations.

This alternative will install a diversion culvert from Quarry Creek onto the protected side of levee, connecting it to pump station 1 as well as replacing the box culvert flood control structure. The levee would be setback 100 feet from station 149+00 to station 151+00. A three-foot overflow weir would be installed from station 121+00 to station 148+50 to control the location of overflow from the Missouri River. This alternative will also construct a one-mile long levee on the west side, north of the airfield hangers, tying the local levee system to the high ground by raising the existing road to levee height. Three failed pump stations would be replaced with gravity outlets and improved drainage with culverts and ditches to move water to the three new pump stations. Borrow for repairs would be taken from stockpiles around the Installation to reduce risk of disturbing possible cultural sites and from an identified area Northeast of the airfield with 155 acres approved, that was cleared prior to nesting season.

The levee system is located within the 100-year floodplain and wetlands. Thus, any alternative repair action will have to be conducted in the floodplain and wetlands, in order to meet the repair need. The preferred alternative would result in the permanent loss of 1.2 acre of wetlands; however, the project would restore roughly 6 acres of historic wetlands to the project area.

Construction activities associated with the preferred alternative will follow best management practices and the requirements of the Stormwater Pollution Prevention Plan. In addition, the proposed action would generally use the existing infrastructure configuration and footprint to improve the levee system to reduce flood concerns. Authorization under Section 404 of the Clean Water Act would require a Nationwide Permit. The proposed action will adhere to all Section 404 permit requirements.

Assessment of Direct Impact to 100-Year Floodplain and Wetlands

Under the proposed action at Fort Leavenworth, the levee system would occur within the 100-year floodplain and wetlands. The Army has evaluated the proposed action pursuant to EO 11988 and EO 11990 and determined that there are no practicable alternatives outside of the floodplain and wetlands that will meet the project purpose. The purpose of the project is to improve the levee system to address the recent damage caused by flooding in 2019. The proposed action will ensure that the infrastructure associated the levee system will appropriately minimize the potential for flooding and stormwater impacts to structures existing in the floodplain.

The proposed action would maintain the floodplains in the project area to essentially pre-project conditions once construction activities are completed. The project would impact 75 linear feet (lf) of stream for the placement of an outlet pipe and headwall for the replacement of pump station 1. There would also be 770 square feet (sq ft) of wetland impacts with the placement of 92 cu/yds of rip rap near the intake of the new pump station. The levee setback near the Quarry Creek crossing would impact 1.2 acres of wetland with 9,658 cubic yards (cu/yds) of earthen fill but it would also provide connectivity to about 1 acre that was previously the levee which would now be riverward of the new setback levee and more prone to flooding. In addition, 130 feet of stream would be reverted back to native substrate by the removal of the Quarry Creek box culvert. The culvert and its replacement cannot be removed and replaced without some incidental fall back of fill, which would impact the 100 lf where the culvert is being removed and the 100 lf downstream where the new culvert is being installed. The replacement of pump station 2 would impact 1,440 sq ft of wetlands with the installation of rip rap. The Southeast portion of the levee rehab would be flooded more frequently with the completion of the project, which would result in the addition of wetlands in the area bringing the size to approximately 5 acres.

Minimization of Impact from the Proposed Action

The proposed action would minimize the impacts to the floodplain and wetlands, both during construction and permanently. Construction activities within the floodplain and wetlands will be minimized to only that which is necessary to construct the permanent project. Additionally, construction will follow Best Management Practices and adhere to all Section 404 permit requirements and the requirements of the Stormwater Pollution Prevention Plan.

4.0 Finding

Following an evaluation of the impacts associated with the proposed action and the impacts of alternatives to implement the proposed action, I find that there is no practicable alternative to the proposed action located outside of the floodplain and wetlands. Furthermore, pursuant to EO 11988 and EO 11990, and as described above, the Army will take all practicable measures to minimize impacts associated with the proposed action to and within the floodplain and wetlands environment.

Date

Mr. Paul D. Cramer
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