

## **DRAFT**

### **FINDING OF NO SIGNIFICANT IMPACT IDAHO LEVEE REHABILITATIONS AT THE FOLLOWING LOCATIONS:**

#### **HORSESHOE BEND CHAPMAN SWEETWATER**

The Walla Walla District Corps of Engineers (Corps) proposes to rehabilitate three non-federal levee systems located in the State of Idaho. The levees include Horseshoe Bend on the Payette River, located near the City of Horseshoe Bend in Boise County; Chapman, located on the Payette River between the City of Fruitland and City of Payette in Boise County; and Sweetwater on Lapwai Creek, located near the City of Sweetwater in Nez Perce County.

The levees sustained extensive damage during flood events that occurred in 2010 and 2011. The purpose for the rehabilitations is to restore the levees to their “as was” condition. The levees protect nearby homes, agricultural land and municipal facilities from flood damages. The Corps proposes to work with local and regional partners (sponsors) in the State of Idaho to complete rehabilitation of the levee systems. The Environmental Assessment (EA) addresses potential effects associated with the proposed rehabilitation actions and any reasonable alternatives.

The Corps of Engineers has authority and responsibility under Public Law 84-99 to supplement local efforts in the repair of both Federal (Corps-constructed, locally operated and maintained) and non-Federal (constructed by non-Federal interests or by the Work Projects Administration (WPA)) flood control projects damaged by floods. The Corps inspected the three levee projects under the rehabilitation program and found them eligible for rehabilitations assistance.

#### **Horseshoe Bend Levee**

Horseshoe Bend levee is located on River Mile 57 of the Payette River. Horseshoe Bend levee is approximately 7,250 feet long and is located on the right bank of the Payette River adjacent to the City of Horseshoe Bend. In 2010, spring runoff caused substantial damage along the affected segment of levee. Generalized revetment disturbance and deterioration was exacerbated by a 2011 flood event along the full length of the affected segment. The levee protects the Horseshoe Bend Middle School, a municipal water pump station, a restaurant and approximately 12 residences (approximately 51 acres). The Corps proposes to rehabilitate the river-side cross section on the right bank, extending approximately 1300 feet.

For Horseshoe Bend, the EA considered five alternatives: (1) No Action; (2) Dredging an Island That Has Created Narrowing of the Channel; (3) Replace the Bottom Half of the Rip Rap Revetment with a Sheet Pile Retaining Wall; (4) Replace Rip Rap Revetment with a Gabion Basket Revetment; and (5) Restore the Riverbank and Levee Cross Section and Reconstruct the Revetment Along its Full Length to “As Was” Condition.

The Corps identified Alternative 5 as its proposed action/preferred alternative. Under this alternative, the Corps proposes to rehabilitate the river-side cross section on the right bank, extending approximately 1300 feet. This alternative would restore the capacity of the levee to protect the community directly behind the levee. The proposed rehabilitation would involve restoring eroded and slumped areas of the levee to the original slope using fill in the form of gravel and rock. Sand and gravel fill would be acquired from commercial sources and be used to restore the riverbank and levee cross section; riprap would be used to reconstruct the revetment. Benefits of the proposed work are based on the probability of failure of the damaged levee during the next high water event and on the estimated damages which would result from flooding by high river flows

There are existing roads providing access to the levee including on the top of the levee itself. Although no new roads would be constructed for this project, minor improvements to the primary access road would be required to make the existing road passable for heavy trucks. Stumps and smaller trees and shrubs would need to be removed to repair the levee. An excavator would dig a toe trench and place large riprap (toe rock) into the trench. Dump trucks would haul random fill and riprap to the damage sites. Random fill material would be used to restore the original contour of the levee and then riprap would be used to cover the river-side surface of the levee. The material would not be dumped, but placed and keyed by an excavator. The damaged revetment toe would be excavated. On-site rip-rap would be reused to re-construct the revetment toe. Excavated sand and gravel would be re-used to restore the river bank and levee cross section. Riprap would be used to construct the required placed-stone revetment.

The proposed Horseshoe Bend levee rehabilitation would not have significant environmental effects. Water quality effects would be minimal. There may be a slight increase in turbidity during excavation, grading, and revetment construction along the toe as this would involve in-water work. However, only the bucket of the excavator would enter the water. The City of Horseshoe Bend has applied for a State of Idaho Stream Alteration Permit. All in-water work would comply with permit requirements and Best Management Practices would be implemented to reduce effects to the waterway. The total project work area including staging would encompass under five acres. A National Pollution Discharge Elimination System (NPDES) Section 402 Construction General Permit for storm water would be required and obtained from the U.S. Environmental Protection Agency. A site-specific Storm Water Pollution Prevention Plan to prevent construction-related discharges to the Payette River would be developed.

The proposed action would not have an adverse effect on several fish species listed as threatened under the Endangered Species Act or their critical habitat. There are no listed species found near the proposed rehabilitation areas.

The proposed action would have positive effects on socioeconomics. The levee protects the Horseshoe Bend Middle School, a municipal water pump station, a restaurant and residences. The rehabilitation would protect both these private and municipal facilities from damages during future flood events.

Impacts of the levee rehabilitation on the terrestrial, aquatic and cultural resources would be minimal. Construction activities during levee rehabilitation would have a minor effect on the aquatic environment. There would be some disturbance to fish during construction but they would likely move away from the noise without being harmed. There would be minimal disturbance to the

streambed during placement of riprap at the toe of the levee. Operation of equipment during construction could have a minor effect on terrestrial species, especially small mammals and birds. These animals avoid such activities and find suitable habitat close by. Once the levee is restored small mammals (such as mink) would find an ample supply of cover among the pieces of large riprap. This proposed action would not result in adverse effects to the overall integrity of the site. Although this would involve disturbance to the historic property, the reconstruction would restore the levee to its original condition; the work is considered replacement in-kind.

The Corps selected Alternative 5 because it would provide flood protection to the community with minimal environmental effects with no added modifications to the levee.

### **Chapman Levee**

Chapman levee is located on Payette River Mile 3.5. The levee is a stabilized bank consisting of coarse crushed rock product. Damage to this levee is on the land-side of the levee along an irrigation ditch. This levee protects nearby sewage ponds and water pumping plant and improved agricultural land. Damages include extensive slumping on the land side of the levee along three segments; one is approximately 339 feet in length, the other is approximately 189 feet in length and the last is 61 feet. These damages were caused by seepage flow and saturation of the levee during sustained high flows in the 2010 flood season. Long segments of the slope slumped down into the irrigation ditch, leaving hundreds of feet of levee fill with a near vertical scarp along the edge of the roadway. The river-side of the levee is fully intact. The repair for this project would be limited to areas where slumping intrudes into the roadway cross section.

For Chapman levee, the EA considered to two alternatives: (1) No Action; and (2) Restore to “As Was” Condition by Repairing Sloughed Areas.

The Corps identified Alternative 2 as its proposed action/alternative. Under this alternative, the Corps proposes to restore the capacity of the levee to protect the infrastructure directly behind the levee. The total planned repair length is approximately 589 feet along the land-side of the levee on the left bank of the river. Repairs would restore the levee to pre-flood conditions to a roadway width of 18 feet wide. A contractor would remove slumped sand and gravel along the land side of the levee, excavating to firm soils suitable to support the fill materials. Approximately 1000 cubic yards of this material (sand and gravel) would be excavated and taken to a commercial landfill. It would be replaced with approximately 1,900 cubic yards of crushed rock buttress fill. This approach allows for steeper side slopes to prevent intrusion into the drainage ditch, while providing a free-draining buttress fill to support the edge of the access road. The well graded crushed rock product would also be resistant to erosion. The specified crushed rock material would be delivered to the work site by dump trucks, and installed and compacted using tracked excavators, to a specified cross section

The proposed Chapman levee rehabilitation would not have significant environmental effects. There would be no effects on the water quality, fish species, or the aquatic environment since there would be no in-water work.

The proposed action would have positive effects on socioeconomics. The levee protects a nearby irrigation ditch, municipal sewage facilities and improved agricultural land.

There could be a minor amount of impact to the terrestrial environment from the proposed project. The repair work is on the land-side of the levee which contains an irrigation ditch. This ditch could contain amphibians and small mammals, which could be removed or buried and disturbed by the repairs.

The proposed rehabilitation would have minimal impacts to cultural resources. There is one historic property located within the Chapman levee repair area. Although an historic property, this levee has been determined not eligible to the National Register based on past modification and reconstruction.

The Corps selected Alternative 2 because it would provide flood protection to municipal facilities and agricultural lands with minimal environmental effects.

### **Sweetwater Levee**

Sweetwater Levee is located on Lapwai Creek, a small tributary of the Clearwater River in northern Idaho on River Mile 6.1. The project extends approximately 3,000 linear feet along the right bank of Lapwai Creek. High flows in April 2011 caused extensive water infiltration into the levee. This extensive infiltration with finer levee materials caused piping into the levee's core. Piping occurs when water persistently penetrates a levee. The finer levee core materials have piped through the coarser downstream shell resulting in flooding to adjacent properties. The next flood event would likely lead to progressive piping and breach if the levee is not repaired. Proposed repairs would include rehabilitation of the levee's core. The project setting is urban, protecting 12 residences and 8 shops (private garages, storage and outbuildings) in the community of Sweetwater.

For Sweetwater Levee, the EA considered four alternatives: (1) No Action; (2) Relocate Affected Homes Above the 100-year Floodplain; (3) Dredge the West Bank of Lapwai Creek; and (4) Restore to "As Was" Condition by Restoring the Levee Core.

The Corps identified Alternative 4 as its proposed action/ preferred alternative. Restoring to the as-was condition involves reconstructing an impervious core in the levee to stop seepage through the levee. Rehabilitation work would be performed on top of the levee in an area 40 feet wide by 500 feet long. The objective is to dig a trench down the center of the levee and replace the material with fine-grained soil which would block the flow of water through the levee during high flows. Geotextile fabric would be used to line the trench to separate the levee material from the fine material to be placed

An excavator would travel to the area where water is presumed to have flowed through the levee and a trench would be dug down the centerline of the levee to a depth of 10 to 12 feet below the surface of the levee. Removed material would be loaded onto dump trucks for temporary stockpile or disposal at a county-owned site. Once the trench is dug, geotextile fabric would be used to line the trench to separate the levee material from the fine material to be placed. Fine fill material would be hauled to the site in dump trucks. An excavator would place the fill in the trench and compact it. Previously removed fill material would be used to fill the remainder of the levee and finish the levee top to the original contour.

A small amount of vegetation from the middle section of the top of the levee was previously removed by the levee Sponsor.

The proposed rehabilitation would be land-based; there would be no change to water quality in Lapwai Creek under the proposed action. Construction activities could have a minor effect on the aquatic environment. A silt fence would be placed between the work area and the creek to capture fine sediment from making its way into the floodway. The only potential for effects to the aquatic environment would be from accidental spills of petroleum products. Spill prevention measures would be strictly adhered to.

The proposed action would have positive effects on socioeconomics. The levee protects numerous nearby residences located in the 10-year flood plain.

There may be minor impacts to the terrestrial environmental and cultural resources. There could be a minor impact on the terrestrial environment through disturbance from the construction equipment. Animals would likely avoid the construction area. While the levee is a historic property, the repair of the levee is not anticipated to make any character defining alterations to the property. Although this would involve disturbance to the historic property, the reconstruction would restore the levee to its original condition; the work is considered replacement in-kind. This alternative would not result in adverse effects to the overall integrity of the site.

There are threatened and endangered species near the proposed project area. Snake River steelhead, a threatened species, are found in Lapwai Creek near the Sweetwater levee. Repair of the levee would not directly affect steelhead since there would be no in-water work. Potential indirect effects could occur if there was an accidental spill of petroleum products from construction equipment. Spill prevention measures would be implemented and strictly enforced to prevent fuel and lubricant spills. **This section will be completed when concurrence is received from the National Marine Fisheries Service (NMFS).**

The Corps selected Alternative 4 because it would provide flood protection to the community with minimal environmental effects with no added modifications to the levee.

The technical, environmental, and social aspects of the levee rehabilitations were evaluated in the project EA. Coordination with Federal and state agencies, Indian tribes, and interested public was accomplished during one public comment period. Based on the information provided by the public and in the EA, I find that approving the Sponsor's request to rehabilitate the levees would not result in significant environmental impacts and that an environmental impact statement is not required.

Date: \_\_\_\_\_

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District Commander