

Environmental Assessment

Rehabilitation of Flood Control Works Lightning Creek

Clark Fork, Idaho



July 2008



**US Army Corps
of Engineers®**
Seattle District

**Rehabilitation of Flood Control Works
Lightning Creek
Draft Environmental Assessment**

July 2008

Responsible Agency: The responsible agency for rehabilitation of flood control works is the U.S. Army Corps of Engineers, Seattle District.

Abstract: This Draft Environmental Assessment (EA) evaluates the environmental effects of the repair of a levee on Lightning Creek in Clark Fork, Idaho. The levee protects commercial structures, residential property, and adjacent infrastructure. On 7 November 7 2006, a flood with a peak flow of 16,300 cubic feet per second (cfs) damaged the levee slope protection and toe. The damage extends a total of approximately 1200 feet.

The purpose of the flood control project is to repair the damaged portions of the Lightning Creek levees to restore and maintain adequate and reliable flood control for the residences, businesses, and public infrastructure that have historically been protected by the Lightning Creek levee systems. In the absence of repairs, the risk of levee failure during in the next substantial flood event would be unacceptably high.

The proposed project will re-grade the levee in the 1,200 foot damaged section assuming a typical cross section of: top twelve feet, slope twenty eight and 1/2 feet, and toe nine feet long by four feet thick. The boundaries of the original construction will be maintained. The slope will be armored with classV riprap.

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1.0 INTRODUCTION

Sections 1500.1(c) and 1508.9(a)(1) of the National Environmental Policy Act of 1969 (as amended) require federal agencies to “provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact” on actions authorized, funded, or carried out by the federal government to insure such actions adequately address “environmental consequences, and take actions that protect, restore, and enhance the environment”. This assessment evaluates environmental consequences for the implementation of work on the Lightning Creek flood hazard reduction facilities proposed by the U.S. Army Corps of Engineers (USACE) in response to the described flood event.

2.0 BACKGROUND

During the timeframe of 6 through 8 November 2006, the Lightning Creek basin experienced what appears to be the basin’s flood of record. USGS records estimated the peak flow on November 7 to be 16,300 cubic feet per second (cfs). Portions of the Lightning Creek basin upstream of the damaged levee experienced widespread damage. A cursory statistical analysis indicates this flood event could have a recurrence interval of between 100 and 1000-years. A snotel site located in the basin measured 14.2 inches of rain along with a loss of 2.9-inches of snow-water-equivalent. From the 6 to 8 November 2006, the Bear Creek snotel indicates that 17.1-inches of water were available to contribute to runoff in the basin. Based on observations, the levee apparently did not overtop in what appears to be a very extreme event.

The flood damaged 1,200 linear feet of the levee slope protection and toe. The damage was not visible until low water during the summer and the City consequently requested assistance for the rehab in July, 2007. A special exemption was obtained from HQUSACE to allow this project rehab to proceed even though the request came well outside of the assistance request window of 30 days identified in ER 500-1-1.

3.0 PURPOSE and NEED

The purpose of the flood control project is to repair the damaged portions of the Lightning Creek levees to restore and maintain adequate and reliable flood control for the residences, businesses, and public infrastructure that have historically been protected by the Lightning Creek levee systems.

4.0 AUTHORITY

The proposed Lightning Creek Levee Rehabilitation is authorized by Public Law (PL) 84-99 (33 USC 701n). Corps rehabilitation and restoration work under this authority is limited to flood control works damaged or destroyed by flood. The rehabilitated structure would be designed to provide the same degree of protection as the original structure. The Corps has determined that if the existing levee is not properly repaired by the next flood season, the levee will represent a potential for unacceptable hazard to human life, a significant loss of property, or significant economic hardship.

5.0 PROJECT LOCATIONS AND DESCRIPTIONS

5.1 Levee at Clark Fork

The levee is located in the City of Clark Fork, Bonner County, Idaho, Sections 34, 35, Township 56, North Range 2, and Sections 2, 3 Township 55 North, Range 2, East of Boise Meridian (Figure 1). The levee extends along the left bank of Lightning Creek, from US Highway 200 to high ground approximately $\frac{3}{4}$ mile upstream (RM ~1 to 1.5). The action area includes Lightning Creek, for approximately 1 mile upstream and downstream from the project area, and the access and staging areas.

Since construction of the levee, the City of Clark Fork has maintained the levee with periodic vegetation cutting, gate maintenance, and pre and post flood inspections.

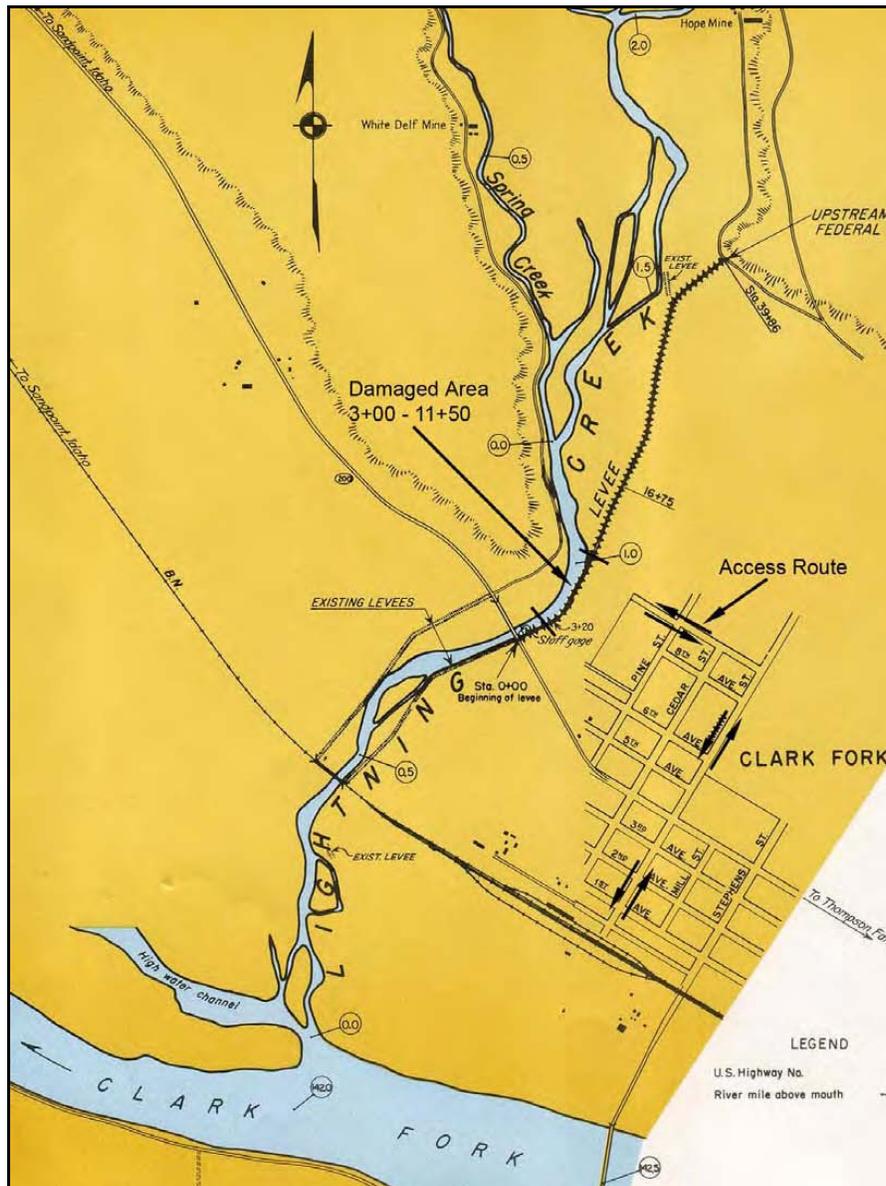


Figure 1: Location of damaged levee at Lightning Creek

6.0 ALTERNATIVES

Multiple alternatives were considered including the No-Action alternative, the Non-Structural alternative, the Rock Groins alternative, Levee Setback alternative, and the Reinforce Existing Structure alternative.

6.1 No-Action Alternative

Under this alternative, USACE will not provide assistance to Clark Fork to repair the levee and no project features will be implemented. In the absence of repairs, the risk of levee failure during in the next substantial flood event would be unacceptably high. If erosion threatens to breach the levee system during the flood season, an emergency flood fight will become necessary in order to meet the protection requirements specified in PL 84-99, which requires USACE to restore the same level of flood protection that existed prior to the flood event. The No-Action alternative was rejected due to the high risk of partial or total failure of the levee with the occurrence of a flood event at or greater than the 2-year recurrence interval (2,500 cfs). The results of a failure would include damages of a significant number of structures, including portions of the state highway infrastructure.

6.2 Reinforcing the Existing Structure Alternative

This is the preferred alternative and will re-grade the levee in the 1,200 foot damaged section assuming a typical cross section of: top 12-feet wide, slope 28.5-feet wide, and toe 9-feet long by 4-feet thick. The toe would be installed by excavating into the creek bed and backfilling with riprap. The proposed project footprint would be within the pre-flood levee footprint. The slope (1V:2H) will be armored with class V riprap (see Appendix C). The levee surface will provide adequate access for construction equipment. To access the levee toe, equipment will work from the streambed during a portion of the construction. Some surface hardening of the outlet road, i.e. addition of road bed aggregate/material, will likely be necessary to provide construction access.

Due to a heavier than usual snowpack and channel morphology, it is likely that water will still be present in the high-flow side channel in which the levee is located during the construction period. In this event, and because the excavation for toe placement must be conducted in the dry, the side channel will be dewatered by placement of several sandbags at the upstream end of the channel. The night before sandbags are placed, Corps fisheries biologists will conduct a night bull trout survey with flashlights and, if fish are present in the water column, will conduct a fish rescue that includes seining or electrofishing, if permits can be obtained. Fish captured during seining or electrofishing will be released downstream of the diversion within 30 minutes after capture.

6.3 Alternatives Not Carried Forward for Detailed Analysis

Several other designs were considered for the repair of the levee. Those are described as follows:

6.1.1 Non-Structural Alternative

The non-structural alternative would buy out the existing landowners and structures to allow flooding to occur without damaging structures or jeopardizing public safety. This alternative was

discarded because costs were deemed too high and the implementation process too time consuming.

6.1.2 Rock Groin Alternative

The Rock Groin alternative would construct a series of rock groins within the 1,200' eroded section, as well as upstream and downstream of the site. This alternative was rejected due to the high construction costs, increased disturbance to the near shore environments (the groins may need to be extended several hundred feet above the site), and unpredictable impacts to local flow conditions (a hydraulic model would be necessary).

6.1.3 Set-Back Levee Alternative

The Set-Back Levee alternative would require purchasing the immediate floodplain property and relocating the levee away from the creek. This alternative was discarded because costs were deemed too high, real estate purchases uncertain, and implementation too slow.

7.0 AFFECTED ENVIRONMENT

The project area is within the Purcell–Cabinet–North Bitterroot Mountains ecoregion, which is a subregion of the North Central Rockies Forest ecoregion (US EPA 1996). This subregion extends roughly from the northeast edge of Lake Pend Orielle to the Canadian border. This section describes the various resource categories or topics that will be addressed in the EA.

7.1 Topography, Hydrology, and Soils

The basin drained by Lightning Creek ranges in elevation from 2,200 feet to 6,980 feet. Mean basin slope is 44.9 degrees. Lightning Creek drains an area of approximately 115 square miles of the Cabinet-Yakk range (USGS 2008 [Streamstats]) and enters the Clark Fork River at an elevation of approximately 2,200 ft. Discharge extremes during the period of record range from no flow between 14 September and 12 October 2001, to 16,400 cfs on 6 November 2006. The stream at the project location is relatively low gradient in comparison to the steep mountains at the headwaters, and the streambed is wide and braided. During the summer, flow is primarily restricted to a single low-flow channel. The main tributary to Lightning Creek is the East Fork of Lightning Creek, which enters the stream approximately 1.5 miles upstream of the project area. Mean annual precipitation basin-wide is approximately 57 inches (USGS 2008). Average annual rainfall at Clark Fork is 28.9 inches (CTI 2008).

Lightning Creek is the Clark Fork River's largest tributary in Idaho, entering the river from the north, just above the river delta. Lightning Creek's smallest tributary, Morris Creek, is located on the eastern side of the creek, just south of Savage Creek. The next largest tributary of Lightning Creek is Cascade Creek, located on the eastern side of the creek near its mouth. Just opposite of Cascade Creek is Spring Creek, a Rosgen B type stream with a trough-like channel. Porcupine Creek is located directly north of Cascade Creek, on the western side of Lightning Creek (IDEQ 2007).

Soils in the project area are predominately Colburn sandy loam and Bonner silt loam (NRCS 2008). Colburn sandy loam is formed in mixed alluvium, while Bonner silt loam is formed from volcanic ash and loess over outwash derived from granite and/or schist and/or gneiss. They range in character from somewhat poorly drained to well drained and tend to be 80 or more inches deep.

Table 1. Soils Types in the Lightning Creek Levee Area

SOIL TYPE	LOCATION	DRAINAGE	DEPTH, CHARACTERISTICS
Colburn Sandy Loam	Alluvial fans, stream terraces	Somewhat poorly drained	Silty clay loam to 60 inches deep
Bonner Loam	Silt Overflow terraces	Well drained	Silt loam on surface, then layers of gravelly silt loam and gravelly loam underlain by 30-60 inches of very gravelly loamy sand.

7.2 Vegetation

This ecoregion is characterized by forests composed of ponderosa pine (*Pinus ponderosa*), western hemlock (*Tsuga heterophylla*), western red cedar (*Thula plicata*), white spruce (*Picea glauca*), lodgepole pine (*Pinus contorta*), and Douglas fir (*Pseudotsuga menzeisii*). While much of this region has been disturbed by logging, mining, and other development, native vegetation is still found in the project area. Forest vegetation at and near the vicinity of the project site includes ponderosa pine, western hemlock and lodgepole pine. Vegetation along the levee is dominated primarily by grasses as well as non-native undergrowth species such as spotted knapweed (*Centaurea biebersteinii*) (see photos in Appendix A). The site is largely devoid of woody vegetation. Exposed soils are dominated by cobbles, gravel and armor rock.

7.3 Fish and Wildlife

Approximately 165 animal species inhabit the forests of northern Idaho during some or all of the seasons of the year (USFS/BLM 2000). Most of these periodically occur or utilize riparian or wetland habitats. Large mammals include coyote (*Canis latrans*), gray wolf (*C.lupus*), bobcat (*Lynx rufus*), lynx (*L. canadensis*), grizzly bear (*Ursus arctos horribilis*), elk (*Cervus elaphus*), and white-tailed deer (*Odocoileus virginianus*). Smaller species may include fur-bearers such as beaver (*Castor canadensis*) and mink (*Mustela vison*), bats including Townsend’s big-eared bat (*Corynorhinus townsendii*), and raptors including great horned owls (*Bubo virginianus*) and red-tailed hawks (*Buteo jamaicensis*).

7.4 Threatened and Endangered Species

Twenty-two listed species may occur in Idaho (USFWS 2008). Of these, four are plants that are found in steep river valleys, marshes, or bunchgrass grasslands, which are habitat types that do not occur in the project area. Table 2 summarizes the potential protected species that may be present in the project area. The following sections briefly summarize life history information on the listed species that may be relevant to this project and synthesize current knowledge on the presence and utilization of the project and action areas by these species. Life history and habitat requirements for listed species are documented in greater detail in the Biological Assessment for the Rehabilitation of Flood Control Works, Lightning Creek (USACE 2008).

Table 2. Protected Species Potentially Occurring in the Project Vicinity

Species	Listing Status	Critical Habitat in Project Area
<i>Fish/Wildlife</i>		
Columbia River Bull Trout (<i>Salvelinus confluentus</i>)	Threatened	Yes
Grizzly Bear (<i>Ursus arctos horribilis</i>)	Threatened	Proposed
Canada Lynx (<i>Lynx canadensis</i>)	Threatened	No
Bald Eagle (<i>Haliaeetus leucocephalus</i>)*	-	-
Gray Wolf (<i>Canus Lupis</i>)	Threatened	No

*Although bald eagles are no longer listed on the ESA, they are fully protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act.

The grizzly bear, Canada lynx, and gray wolf may occur in Bonner County, but would not be expected to occur in developed areas such as the project area. Therefore, this section focuses on potential effects to bald eagles and bull trout.

7.4.1 Bald Eagle

Although the bald eagle is no longer listed under the Endangered Species Act, it is still a fully protected species under the Bald and Golden Eagle Protection Act, which prohibits the taking or possession of either of these species. As a migrant species, eagles are also protected under the Migratory Bird Treaty Act.

The characteristic features of bald eagle breeding habitat are nest sites, perch trees, and available prey. Bald eagles primarily nest in uneven-aged, multi-storied stands with old-growth components. Factors such as tree height, diameter, tree species, position on the surrounding topography, distance from water, and distance from disturbance also influence nest selection. Snags, trees with exposed lateral branches, or trees with dead tops are often present in nesting territories and are critical to eagle perching, movement to and from the nest, and as points of defense of their territory.

No bald eagle nests were identified in the action area. Trees suitable for roosting and perching are found in the vicinity of the repair site, but there was no evidence that trees are used by bald eagles for these purposes in the action area. Because the project area is in close vicinity to Lake Pend Oreille and the Clark Fork River, it is possible that foraging bald eagles may transit or roost in the project area.

7.4.2 Columbia River Bull Trout

The Columbia River bull trout distinct population segment (DPS) was listed as threatened under the Endangered Species Act of 1973, as amended, on 10 June 1998. Bull trout populations have declined throughout much of the species' range; some local populations are extinct, and many other stocks are isolated and may be at risk (Rieman and McIntyre 1993). Combinations of factors including habitat degradation, expansion of exotic species, and exploitation have contributed to the decline and fragmentation of indigenous bull trout populations.

Bull trout are known to exhibit four types of life history strategies. The three freshwater forms include adfluvial, which migrate between lakes and streams; fluvial, which migrate within river

systems; and resident, which are non-migratory. The fourth and least common strategy, anadromy, occurs when the fish spawn in fresh water after rearing for some portion of their life in the ocean.

Bull trout in Lightning Creek are genetically part of the upper Columbia River division of the Columbia River DPS. In addition, based on the Draft Recovery Plan for the Columbia River DPS (USFWS 2002), bull trout in Lightning Creek fall under the Clark Fork River Recovery Unit, the Lower Clark Fork Recovery Subunit, and the Lake Pend Oreille Core Area. Bull trout migrate through the project area in Lightning Creek and spawn and rear in numerous tributaries to Lightning Creek, including East Fork Lightning Creek, Savage Creek, Char Creek, Wellington Creek, Rattle Creek, Porcupine Creek, and Morris Creek. Of greatest concern to the recovery of this species within the Clark Fork River Recovery Unit are the presence of dams and the fragmented nature of bull trout populations (USFWS 2002a). The nearest spawning and rearing bull trout habitat from the project site is in East Fork Lightning Creek, about 6 miles upstream (USFWS 2006).

Lightning Creek supports populations composed of adfluvial and resident forms. Both adult and sub-adult bull trout are likely to be present during part of the proposed construction period.

7.4.3 Bull Trout Critical Habitat

Critical habitat units (CHU) needed for the conservation of bull trout have been designated (USFWS 2004). The project area is within the Clark Fork River CHU, which contains a total of approximately 1,136 stream/shoreline miles of designated critical habitat. This critical habitat provides a migratory corridor between spawning/rearing and feeding/overwintering habitat and meets the physical and biological features identified for bull trout (primary constituent elements). Lightning Creek, including the project area, serves as an important migratory corridor necessary for maintaining migratory life-history forms. Bull trout migrate through the project as adults on their way to spawning areas further upstream in the watershed in the spring or early summer. Adult bull trout would outmigrate back to the Clark Fork in the fall. Out-migration of fluvial and adfluvial subadult bull trout occurs in the spring and fall.

As part of the critical habitat designation, the USFWS identified principal constituent elements (PCEs) essential to the conservation of bull trout. Those PCEs are as follows:

1) Water temperatures that support bull trout use

Existing Conditions: Lightning Creek is not listed on the Idaho State Department of Ecology's (DOE) impaired water quality list.

2) Complex stream channels

Existing Conditions: The project area consists of a braided channel with very limited instream woody debris or overhanging vegetation.

3) Substrate of sufficient size and abundance.

Existing Conditions: A full range of substrate is present in the project area including large cobble, gravel, sand, and fine sediment.

4) Natural hydrograph

Existing Conditions: No control structures are present in the Lightning Creek watershed. Extensive logging in the upper watershed likely contribute to higher peak flows and lower base flows than under pristine conditions. Overall, the magnitude and pattern of flows are likely similar to historic conditions.

5) Springs, seeps and sources of groundwater connectivity

Existing Conditions: No springs or seeps are known to occur in the project area.

6) Unimpeded migratory corridors

Existing Conditions: Migratory corridors are relatively unimpeded except for periods in the late summer when low flows may prevent fish access due to no or very shallow creek depths.

7) Abundant food base

Existing Conditions: Very little is known about terrestrial organisms of riparian origin, aquatic macroinvertebrates, and forage fish in the project area. However, since the repairs will occur in a rip rapped area that supports mostly weedy forbs, it is unlikely that significant nutrient input occurs here.

8) Permanent water of sufficient quantity and quality

Existing Conditions: Permanent water or water of sufficient quantity exists at the project area, but is primarily found on the opposite side of the active channel.

7.4.3 Gray Wolf

The gray wolf is listed as an endangered species in Montana and can utilize a broad spectrum of habitats provided there is an abundance of prey (generally ungulates), and that suitable denning and rendezvous sites exist away from human disturbance. The availability of prey may be the primary factor in determining habitat suitability (Stevens and Lofts 1988). Den sites are most commonly burrows in sandy soils, but can be located in a variety of settings from downed logs and hollow trees to rock caves. Rendezvous sites tend to be near a source of open water in small meadows with limited visibility.

The project is located in the city limits of Clark Fork and likely would be avoided by the gray wolf due to the constant human disturbances created by the activity in the surrounding city. No known occurrences of gray wolves in the project area have been identified. The closest wolf pack to the project area is approximately 20 miles away according to the Montana Gray Wolf Conservation and Management 2008 Annual Report dated 2/15/2008.

7.6 Cultural Resources

The Corps determined the proposed rehabilitation to the Lightning Creek levee presented the kind of undertaking that could affect historic properties if they existed within the project's area of potential effects (APE). Accordingly, in compliance with Section 106 of the National Historic Preservation Act of 1966, as amended, Corps archaeologists Lawr Salo and David Grant carried out archival research, consultation with the affected tribes and Idaho State Historic Preservation Officer, and fieldwork to identify historic properties in the APE.

Owing to the dynamic nature of Lightning Creek in the project area vicinity, no archaeological evidence of earlier occupations dating from the retreat of the glaciers 11,500 year ago onward was expected or observed. Based on consultation with the Confederated Salish and Kootenai Tribes of the Flathead Reservation, the Coeur d'Alene Tribe, and the Kootenai Tribe of Idaho, the Corps identified no evidence of traditional cultural use or traditional cultural properties.

For historic period structures, a house and barn built by Fritz Vogel in the second decade of the 20th century are located within a mile of the project area at the north end of the town of Clark Fork. These structures' eligibility for listing in the National Register of Historic Places (NHPA) is undetermined. The Lightning Creek Bridge on SR200 just downstream of the proposed project APE was determined eligible for listing in the NHPA in 1994. No historic properties eligible for listing in the NHPA are present in the APE.

7.7 Water Quality

Both the mainstem Lower Clark Fork River and Lightning Creek are designated Special Resource Waters by the state of Idaho. Special protections of beneficial uses in these waters are given in recognition of their outstanding or unique characteristics. Primarily, this designation prohibits additional point source pollution permits to protect current beneficial uses (IDEQ, 2007). Periodic nutrient, pH and other water column data were collected in the water column at the USGS gaging station located at the project area. All nutrient parameters measured were found to be within Idaho state water quality standards. Temperature data available from the USGS gaging station in addition to data collected by the Idaho Department of Environmental Quality (IDEQ) and the U.S. Forest Service indicate temperature exceedances throughout the Lightning Creek drainage (IDEQ 2007).

7.8 Air Quality and Noise

Air quality in the planning area is governed by the 1970 Clean Air Act (CAA) and its amendments and the 1999 Regional Haze Rule regulations. The State of Idaho has been given authority by EPA to oversee air quality in the state and to enforce regulations. The EPA has established National Ambient Air Quality Standards (NAAQS) for six criteria air pollutants. These include two categories of particulate matter; fine particulates with an aerodynamic diameter of 10 micrometers or less (PM₁₀), and fine particulates with an aerodynamic diameter of 2.5 micrometers or less (PM_{2.5}).

The Montana/Idaho Airshed Group (MIAG) has delineated the area as being in the Northern Rocky Mountain Inter-Montane Air Basins. In the past, PM₁₀ concentrations in Bonner County have exceeded the PM₁₀ NAAQS levels for these basins, and the area was designated as a non-attainment area. Air quality in this area improved in recent years, and the area has been documented to be in compliance with the PM₁₀ NAAQS, though it currently remains designated

as a non-attainment area. Air quality in the project area is now generally in the “good” category of the Air Quality Index. Smoke has been identified as the primary source of air quality impacts in the planning area (IDEQ 2003).

Noise sources may be agricultural machinery, trucks, automobiles, aircraft and other internal combustion engines, as well as practices at nearby quarries.

7.9 Utilities and Public Services

The levees provide protection for residences, commercial properties, State Highway 200 and surface roadways, and associated public infrastructure. A small USGS flow gauge is located near the project area as well as a small cable structure that allows for access over the stream. The eastern support structure of the cable system may be in the project footprint, but would be replaced upon completion of the project. The Lightning Creek Bridge on Highway 200 is located directly downstream of the project site.

Lightning Creek is uphill from the town of Clark Fork. A levee failure at the damaged site would result in flooding of essentially the entire town of Clark Fork. The floodplain is relatively flat with about a 3 foot variation in elevation; without the levee, estimates indicate that a flood event with a 2-year recurrence interval could inundate the town to an average depth of 3 feet.

7.10 Land Use

The project area is zoned as rural residential, and the greater Clark Fork area is incorporated (Bonner County 2008). According to the Bonners County Tax assessors office there are 90 mobile homes, 175 residential homes, 33 commercial, 14 public, and 441 outbuilding structures in the town of Clark Fork.

7.11 Recreation

This section of levee is not considered to be a formal recreational area; however, local hikers and recreational fishermen may use the levee. Short term direct impacts during construction are anticipated, but long-term access will not be affected by the project.

7.12 Hazardous, Toxic, and Radioactive Waste

A reconnaissance level survey of the project area revealed no potential sources for hazardous, toxic, and radioactive waste.

8.0 ENVIRONMENTAL EFFECTS

This section addresses the combined environmental effects of repair of the Lightning Creek levee.

8.1 Topography, Hydrology, and Soils

8.1.1 No-Action Alternative

Continued erosion on the banks of Lightning Creek and a higher risk of damage from flooding of the river would persist under the no-action alternative. Minor topographic changes would occur as the contours of the levee changed as a result of erosion. Soil deposition into Lightning Creek would likely continue as a result of continued erosion. Soil composition would not change. Flow and discharge characteristics would not be affected.

8.1.2 Preferred Alternative

Restoration of the levees and the toes will minimize the erosion of the banks on the river. Levee contours and degree of encroachment into the streambed will mirror pre-flood conditions. Overall project effects to hydrology, soils and topography are insignificant.

Construction activities associated with the proposed project will result in approximately 7,800 tons (1,950 cubic yards) of class V riprap being added to the levee at the project site. This material will be placed on the riverward slope along an approximately 1,200 foot section of the levee. Soils may be compacted in areas where heavy machinery operates. For the most part, these areas are significantly disturbed and already have compacted soils from previous levee construction.

8.2 Vegetation

8.2.1 No-Action Alternative

The levee at the project site is composed of dry, rocky soils that support only weedy grass and herb species. This is unlikely to change under the no-action alternative, although minor loss of this vegetation may occur as a result of continued erosion.

8.2.2 Preferred Alternative

The sparse existing vegetation in the project area would be removed in the course of construction. The project area will be hydroseeded with a native seed mix approved for use in the area. Assuming that some of the seeds germinate and grow into native plants, this would be a net improvement over existing conditions.

8.3 Fish and Wildlife

8.3.2 No-Action Alternative

The no-action alternative may result in an increase in sediment from erosion of the banks, potentially resulting in minor sedimentation of spawning areas downstream of the project site.

8.3.2 Preferred Alternative

Short-term disturbance to fish and wildlife may occur during construction as a result of noise and human presence. Although the streambed may function as a wildlife corridor, most wildlife movement through the area would occur at night, when construction activities were not occurring. Construction activities and the repaired levee would not affect fish passage since most

fish passage would occur in the low-flow channel, located across the streambed from the project site. Dewatering of the side channel for construction would have minor impacts on aquatic life occurring in the channel due to stress from fish removal efforts or potential mortality in the event that they evade capture and remain in the work area. Given the small area of construction, the construction timing, and the short-duration of construction, construction of the preferred alternative will result in no significant effects on fish or wildlife.

Heavy equipment will work from the streambed in front of the work area for a portion of the project. This will result in disturbance and compaction of the streambed substrate. Effects are likely minimal as the next high flow event will reconfigure the morphology of this braided reach to the extent that changes to channel substrate from construction are no longer evident. Permanent hardening of the bank by armoring with riprap is detrimental to fish habitat quality. However, this area does not function as a spawning area and holds little value as rearing or holding habitat for juvenile fish. Therefore, effects are considered to be insignificant.

8.4 Threatened and Endangered Species

8.4.1 No-Action Alternative

The no-action alternative may result in an increase in sediment from erosion of the banks, affecting water quality and possibly resulting in greater deposition of fines into fish habitat downstream of the project area. There are no aspects of the no-action alternative that would affect listed terrestrial species.

8.4.2 Preferred Alternative

Effects to listed species have been documented in a Biological Assessment prepared to support consultation with USFWS under Section 7 of the Endangered Species Act (ESA). No effects would occur to the grizzly bear, lynx, or gray wolf because, although they may be found in the vicinity of the project area, they are unlikely to occur in a developed area with human presence such as the project site. Table 3 lists the determinations regarding effects to listed species made in the Biological Assessment.

Table 3. Effects Determinations for Listed and Protected Species in the Project Area

Species	Effect Determination
Bull Trout	Likely to adversely affect
Bull Trout Critical Habitat	Not likely to adversely affect
Bald Eagle	Not likely to disturb
Grizzly Bear	No effect
Canada lynx	No effect

In-water construction work will occur during the approved fish window of 15 July to 1 September. This window corresponds to the portion of the year when spawning or out-migrating bull trout are least likely to be present in Lightning Creek. Since out-migration could begin in late August, construction will be targeted to start at the beginning of the fish window. In addition, the work will be isolated from flow.

Potential effects on bull trout from the proposed project include the following:

Sedimentation/Turbidity

The majority of the work will occur above ordinary high water and in-stream work will involve excavation and placement of clean riprap. Project activities may cause localized, small, short term, temporary increases in turbidity, reductions in dissolved oxygen, and associated decreases in water quality, but these impacts will be localized since the work area will be isolated from flow during in-water work. Consequently, the magnitude and duration of the turbidity will be minor, resulting in minimal and temporary degradation of water quality. The life history stages requiring the lowest suspended sediment concentration—spawning, incubation, and fry rearing—do not occur in the project area.

Loss of streamside vegetation

Lightning Creek is wide in this area and there is very little overhanging mature vegetation that would provide shading, material for woody debris recruitment, or cover for bull trout. No woody streamside vegetation is expected to be lost due to this project.

Temporary disruption of bull trout movement in the bank area is possible, though adequate migratory habitat exists adjacent to the work site. Limited potential for the presence of adult bull trout is expected during construction.

Fish Habitat Effects

No reduction in large cobble, gravel, sand, or fine sediment will occur as a result of the levee repair. Construction activities associated with the proposed project will result in large rock being placed within the original footprint of the levee. Substrate beyond the toe of the level will not be affected.

Electrofishing and Transplanting

If present in the side channel adjacent to the work area during the night before dewatering of the side channel occurred, bull trout would be subject to electrofishing, during which they would be stunned by non-lethal electrical current and transported to a suitable release site in Lightning Creek within 30 minutes. Although all electrofishing and transplanting would be carried out by qualified fisheries biologists, potential effects on bull trout include disorientation, increased susceptibility to predation, and physiological distress associated with shocking recovery. Juvenile or sub-adult bull trout are unlikely to occur in the project reach during de-watering, but, if they are, fish removal activities would likely not be very effective at capturing these life history stages. In this event, these fish would likely die once the side channel is dewatered and construction activities begin. Bull trout are likely to be adversely affected by this aspect of the proposed action.

8.6 Cultural Resources

8.6.1 No-Action Alternative

The No-Action Alternative could lead to eventual levee failure and potential washout of the left abutment of the NRHP-eligible SR200 bridge immediately downstream of the proposed project area. This alternative may also result in increased flood risk to the two potentially NRHP-eligible Vogel farm house and barn at the north end of town.

8.6.2 Preferred Alternative

The Corps determined this alternative would result in “No Historic Properties Affected” and may have a beneficial effect by helping prevent washout of the left abutment of the historic SR200 bridge and possible flood risk reduction for the potentially eligible Vogel farm house and barn. The Idaho State Historic Preservation Officer concurred with this determination in a letter dated 9 May 2008.

8.7 Water Quality

8.7.1 No-Action Alternative

Under this alternative, the damaged sections of levee may fail during the upcoming flood season resulting in an increase in erosion, turbidity and sedimentation.

8.7.2 Preferred Alternative

It is anticipated that all work will be conducted while the work area is isolated from flow. If in-water work occurs, turbidity during project construction will be monitored; if in-water work is necessary and state water quality standards for turbidity are exceeded, project work will be halted until the standards are met. No contaminants are known or suspected to be present in the construction materials. Equipment will not enter the water and will remain on dry ground at all times. Best management practices for construction activities will be employed as follows:

- Turbidity will be monitored visually and work will be halted if signs of high turbidity or of fish in distress are observed;
- Biodegradable hydraulic fluids will be used in the machinery at the site;
- Refueling will occur in the staging area on the backside of the levee, located landward of the upstream erosion stretch;
- At least one fuel spill kit with absorbent pads will be onsite at all times; and,
- Drive trains of equipment will not operate in the water.

8.8 Air Quality and Noise

8.8.1 No-Action Alternative

No effects on air quality or noise would result from the no-action alternative.

8.8.2 Preferred Alternative

The construction area is located in a non-attainment area. Effects on air quality could occur from release of combustion emissions from construction equipment and from fugitive dust generated during construction. Exhaust emissions and PM 10 would be the primary air pollutants emitted during construction activities. These emissions are not anticipated to exceed EPA’s *de minimus* threshold levels (100 tons/year for carbon monoxide and 50 tons/year for ozone) or affect the implementation of Idaho’s Clean Air Act implementation plan. Due to the minimal amount of construction equipment in use (1 excavator, 1 bulldozer, 1 backhoe, and 240 individual dump

truck trips) and the relatively short duration of construction, air quality impacts from the operation of construction machinery are likely *de minimus* under current EPA regulations. Also, most of the construction involves placement of clean riprap, which is unlikely to generate significant amounts of fugitive dust. Potential air quality impacts would be further reduced by requiring the construction contractor to water all disturbed areas in the late morning and again at the end of the workday during clearing, grading, and other site preparation activities. The contractor would also be required to minimize engine idling time on all vehicles and equipment. No significant effect to local air quality is expected as a result of the project.

There will be minor and temporary effects to noise levels onsite during construction. Construction would generate noise levels between 70 and 90 decibels (dB) at a distance of 50 feet (table 4). These effects will be due to operation of construction machinery and will occur primarily during normal working hours and for a limited duration (approximately 1 month).

Table 4. Construction Equipment Noise

Noise	
Type of Equipment	Maximum sound level at 50 feet (dB)
Excavator	88
Bulldozers	88
Heavy Trucks	88
Backhoe	85

8.9 Utilities and Public Services

8.9.1 No-Action Alternative

Under this alternative, the local communities are not adequately protected from floods more frequent than the 2-year recurrence interval event. Therefore, a higher risk exists for flood damage to residences, commercial properties, roads, and other infrastructure. A levee break could flood up to 90 mobile homes, 175 residential homes, 33 commercial, 14 public, and 441 outbuilding structures, utilities, and roads in the town of Clark Fork. The minimum damage prediction for residential structures is at least \$810,000. This figure does not include estimates for effects on utilities such as water and sewer systems that may be damaged in a flood.

8.9.2 Preferred Alternative

Implementation of this alternative will protect residences, commercial properties, roads, and other infrastructure from the potential damages resulting from a 100-year flood event. During construction activities, vehicles and equipment associated with the project may disrupt local traffic primarily due to the ingress and egress of dump trucks from Highway 200. The project is expected to generate up to 240 dump truck trips over the course of the project period, approximately 4 weeks, for an average of 12 dump truck trips per day.

8.10 Land Use

8.10.1 No-Action Alternative

There will be no effects on land use practices or patterns as a result of the no-action alternative.

8.10.2 Preferred Alternative

Implementing the preferred alternative will not affect land use practices or patterns in the project area or its vicinity.

8.11 Recreation

8.11.1 No-Action Alternative

No effects would result from the no-action alternative.

8.11.2 Preferred Alternative

Recreational access would be restricted in the project area during the construction period of approximately 4 weeks. The site is infrequently accessed for recreation and passers-through will be able to go around the construction site. The site will have open access after construction. Therefore, there will be no significant effect on recreation.

8.12 Hazardous, Toxic, and Radioactive Waste

8.12.1 No-Action Alternative

No effects would result from the no-action alternative.

8.12.2 Preferred Alternative

No known hazardous, toxic, or radioactive wastes were located at the project areas. Standard BMPs to prevent releases of fuels or lubricants during construction will be utilized. Therefore, no effect is expected from the preferred alternative.

8.13 Unavoidable Adverse Effects

Unavoidable adverse effects associated with this project include the following:

- Temporary and localized increase in noise
- Temporary and localized disruption of local traffic by construction vehicles,
- Minor adverse effects to bull trout and other fish, and
- Temporary increase in combustion emissions and fugitive dust, although within the *de minimus* standards set by EPA.

8.14 Mitigation

The proposed project will result in repairing the levee to the pre-flood event condition. As a result the Corps is stating that the damaged levee is being returned to the existing condition which does not require any mitigation. Temporary impacts to fish movement, turbidity, and noise will be temporary and minor. Best management practices for construction activities will be employed as listed in section 8.7.2.

8.15 Cumulative Effects

Cumulative effects include effects resulting from past, present, and reasonably foreseeable future actions occurring in the project areas.

This section of Lightning Creek has been subject of a variety of construction activities in the past that have aimed to repair levees or increase the conveyance of the Lightning Creek channel. Most recently in May 2008, the Corps removed accumulated woody debris from the channel for a distance of approximately 3 miles upstream of the US 200 bridge. This work entailed some equipment working in wetted areas of the channel. Other recent activities included excavation of gravel from the immediate vicinity of a railroad bridge located several thousand feet downstream of the highway bridge. Given the dynamic nature of the braided Lightning Creek channel, the effects of both activities was temporary. High flows in mid-May 2008 deposited large quantities of new woody debris in the lower Lightning Creek reach and re-worked the gravel bars to essentially restore pre-construction conditions.

The Lightning Creek Bridge, found directly downstream from the project site described in this EA, is under review for possible replacement. Effects from that project could include temporary increases in noise, emissions, and traffic. However, it is unlikely that that project will go to construction during the same time period as the project described in this EA, therefore cumulative effects will be offset.

9.0 COORDINATION

The following agencies and entities have been involved with the environmental coordination of this project:

- US Fish and Wildlife Service
- US Bureau of Land Management
- Idaho Department of Environmental Quality
- Kalispel Tribe
- City of Clark Fork

Coordination with the above listed agencies and tribes consisted of in-person conversations, phone conversations, and e-mail exchanges. Topics discussed during this coordination include hydrological features, effects to listed species, and other environmental concerns.

The USACE circulated a Notice of Preparation to notify interested parties of our plans to prepare, pursuant to NEPA, an EA for the proposed levee repair project. The public comment period occurred between 10 and 25 June 2008. We received no comments on the Notice of Preparation.

10.0 ENVIRONMENTAL COMPLIANCE

Table 5. Environmental Compliance

LAWS AND REGULATIONS RELATING TO THE PROPOSED ALTERNATIVES	ISSUES ADDRESSED	CONSISTENCY OF PREFERRED ALTERNATIVE
Bald and Golden Eagle Protection Act	Prohibits the taking, possession or commerce of bald and golden eagles, except under certain circumstances.	Satisfied- Not likely to disturb
Clean Air Act, 42 U.S.C 7401 et seq.	Requires states to develop State implementation plans (SIP) for eliminating or reducing the severity and number of violations of National Ambient Air Quality Standards (NAAQS) while achieving expeditious attainment of the NAAQS. The Act also requires Federal actions to conform to the appropriate SIP.	Consistent with State of Idaho's air quality standards.
Endangered Species Act, 16 U.S.C. 1531 et seq.;	Requires federal agencies to protect listed species and consult with US Fish & Wildlife or NOAA Fisheries regarding the proposed action.	ESA consultation is in progress.
Federal Water Pollution Control Act (§ 401 & 404)	Requires federal agencies to protect waters of the United States. §404 Disallows the placement of dredged or fill material into waters (and excavation) unless it can be demonstrated that it is the least environmentally damaging practicable alternative. §401 requires federal agencies to comply with state water quality standards.	Exempt per section 404(f)(1)(B) of the Clean Water Act. Emergency reconstruction of recently damaged parts, of currently serviceable structures such as levees (33CFR 323.4)
Federal Water Project Recreation Act	requires that full consideration be given to the opportunities that the project affords for outdoor recreation and fish and wildlife enhancement.	Satisfied- No effect
Magnuson-Stevens Fishery Conservation and Management Act	Requires Federal agencies to consult with NMFS on activities that may adversely affect Essential Fish Habitat (EFH).	Satisfied- no EFH in project area.
National Environmental Policy Act (NEPA), 42 U.S.C. 4321 et seq.	Requires all federal agencies to consider the environmental effects of their actions and to seek to minimize negative impacts.	Consistent per EA document and pending FONSI.
Native American Graves Protection and Repatriation Act (NAGPRA) (25 U.S.C. 3001)	Addresses processes and requirements for federal agencies regarding the discovery, identification, treatment, and repatriation of Native American and Native Hawaiian human remains and cultural items.	No significant concerns identified.
National Historic Preservation, Act 16 U.S.C. 461;	Requires federal agencies to identify and protect cultural and historic resources.	Concurrence from SHPO received. No significant concerns identified.

LAWS AND REGULATIONS RELATING TO THE PROPOSED ALTERNATIVES	ISSUES ADDRESSED	CONSISTENCY OF PREFERRED ALTERNATIVE
Rivers and Harbors Act, Section 10	Requires federal agencies to protect and preserve the navigability of navigable waters	Not applicable – Lightning Creek is not navigable.
Wild and Scenic Rivers Act 16 USC 1271-1278	Requires federal agencies to protect the free-flowing condition and other values of designated rivers and consult with the federal agency charged with administering the act.	Lightning Creek is not designated for Wild & Scenic River status.
Executive Order 11988: Floodplain Management Guidelines	Requires federal agencies to evaluate the potential effects of actions on floodplains and to avoid undertaking actions that directly or indirectly induce growth in the floodplain or adversely effect natural floodplain values.	Consistent – Emergency actions under PL 84-99 are generally exempt.
Executive Order 11990: Protection of Wetlands	Encourages federal agencies to take actions to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands when undertaking federal activities and programs.	Consistent. No wetlands occur at the project location.
Executive Order 12898: Environmental Justice	Requires federal agencies to consider and address environmental justice by identifying and assessing whether agency actions may have disproportionately high and adverse human health or environmental effects on minority or low-income populations.	Consistent. The proposed action would enhance public health and safety and have only temporary and minimal adverse effects on the environment.

10.1 Bald and Golden Eagle Protection Act

The BGEPA (16 U.S.C. 668-668d) prohibits the taking, possession or commerce of bald and golden eagles, except under certain circumstances. Amendments in 1972 added to penalties for violations of the act or related regulations.

No take of either bald or golden eagles is likely through any of the actions discussed in this EA; since there are no known nests near the work locations.

10.2 Clean Air Act

The Clean Air Act (CAA) (42 U.S.C. 7401 et seq.), amended in 1977 and 1990, was established “to protect and enhance the quality of the nation’s air resources so as to promote public health and welfare and the productive capacity of its population.” The CAA authorizes the EPA to establish the National Ambient Air Quality Standards to protect public health and the environment. The CAA establishes emission standards for stationary sources, volatile organic compound emissions, hazardous air pollutants, and vehicles and other mobile sources. The CAA also requires the states to develop implementation plans applicable to particular industrial sources.

This EA analyzes effects on air quality from the two alternatives; effects would be minimal, and the proposed project is exempted from the conformity requirements of the CAA because of the de minimus levels of emissions.

10.3 Endangered Species Act

The ESA (16 U.S.C. 1531-1544) establishes a national program for the conservation of threatened and endangered species of fish, wildlife, and plants and the habitat upon which they depend. Section 7(a) of the ESA requires that Federal agencies consult with the USFWS and NOAA Fisheries, as appropriate, to ensure that their actions are not likely to jeopardize the continued existence of endangered or threatened species or to adversely modify or destroy their critical habitats.

Due to the urgent nature of completing this rehabilitation project prior to the oncoming flood season, the Corps may proceed with construction prior to completion of the consultation with the Services pursuant to the “emergency circumstances” provisions of the ESA consultation regulation, and complete ESA consultation after the fact rather than delaying the urgent work in order to complete ESA consultation before construction begins. The applicable regulation is set out at 50 CFR Section 402.05 (a) and (b) and provides as follows:

- (a) Where emergency circumstances mandate the need to consult in an expedited manner, consultation may be conducted informally through alternative procedures that the Director determines to be consistent with the requirements of section 7(a)-(d) of the Act. This provision applies to situations involving acts of God, disasters, casualties, national defense or security emergencies, etc.
- (b) Formal consultation shall be initiated as soon as practicable after the emergency is under control. The Federal agency shall submit information on the nature of the emergency actions(s), the justification for expedited consultation, and the impacts to endangered or threatened species and their habitats. The Service will evaluate such information and issue a biological opinion including the information and recommendations given during emergency consultation.

Though consultation is not complete, the Corps has reached an agency determination, based on the best factual and technical information available at the time of decision, and following preliminary coordination with the Services, that the impacts are *likely to adversely affect* ESA-threatened bull trout and is not likely to adversely affect bull trout critical habitat. The Corps believes that this work *is not likely to jeopardize* the continued existence of bull trout, by reducing appreciably the likelihood of either the survival or recovery of the listed species; nor does the work constitute an adverse modification of critical habitat.

The Corps will also commit to fully funding and performing all Reasonable and Prudent Alternatives necessary to avoid the likelihood of jeopardy to listed species or destruction or adverse modification of designated critical habitat, as well as Reasonable and Prudent Measures (RPMs) necessary and appropriate to minimize the impact of Incidental Take, that are described if a Biological Opinion is received from the Services. The Environmental Assessment will be reevaluated at the time that consultation is complete. If necessary, this EA will be supplemented with necessary and applicable corresponding modifications to the scope and/or nature of the

project, the procedures and practices used to implement the project, and/or the type and extent of compensatory mitigation associated with the project.

10.4 Federal Water Pollution Control Act

The Federal Water Pollution Control Act (33 U.S.C. 1251 et seq.) is more commonly referred to as the Clean Water Act (CWA). This act is the primary legislative vehicle for Federal water pollution control programs and the basic structure for regulating discharges of pollutants into waters of the United States. The CWA was established to “restore and maintain the chemical, physical, and biological integrity of the nation’s waters.” The CWA sets goals to eliminate discharges of pollutants into navigable waters, protect fish and wildlife, and prohibit the discharge of toxic pollutants in quantities that could adversely affect the environment.

This EA evaluates possible impacts to water quality, primarily with respect to suspended solids, turbidity and temperature. There are no other water quality effects anticipated. The project is exempt per Section 404(f)(1)(B) of the Clean Water Act, which allows for emergency reconstruction of recently damaged parts of currently serviceable structures such as dikes, dams, levees, groins, riprap, breakwaters, causeways, bridge abutments or approaches, and transportation structures. The proposed work will not result in changes to the character, scope, or size of the original fill design and occurs within a reasonable period of time after damage occurred. During the April 2008 site visit, the Corps concluded that no jurisdictional wetlands are present along the riverward toe, face, or top of the respective levees, and no wetlands will thus be impacted as a result of this project. Because no work subject to Section 404 regulation is being conducted, a Section 401 certification is not required.

10.5 Federal Water Project Recreation Act

In the planning of any Federal navigation, flood control, reclamation, or water resources project, the Federal Water Project Recreation Act, as amended (16 U.S.C. 460(l)(12) et seq.) requires that full consideration be given to the opportunities that the project affords for outdoor recreation and fish and wildlife enhancement. The Act requires planning with respect to development of recreation potential. Projects must be constructed, maintained, and operated in such a manner if recreational opportunities are consistent with the purpose of the project.

This EA assesses impacts of alternative actions on recreation, but the proposed actions are not intended to provide recreational benefits. The EA also addresses effects on fish and wildlife, and the preferred alternative is not likely to adversely affect threatened and endangered fish species, nor should it negatively impact other fish species.

10.6 Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (MSA), (16 U.S.C. 1801 et. seq.) requires Federal agencies to consult with NMFS on activities that may adversely affect Essential Fish Habitat (EFH). The objective of an EFH assessment is to determine whether or not the proposed action(s) “may adversely affect” designated EFH for relevant commercial, federally-managed fisheries species within the proposed action area. The assessment also describes conservation measures proposed to avoid, minimize, or otherwise offset potential adverse effects to designated EFH resulting from the proposed action.

Designated EFH does not occur anywhere in northern Idaho. The closest EFH is located downstream of Chief Joseph Dam on the mainstem Columbia River in central Washington. Accordingly, the project will not affect EFH.

10.7 National Environmental Policy Act

The NEPA (42 U.S.C. 4321 et seq.) provides a commitment that Federal agencies will consider the environmental effects of their actions. It also requires that an EIS be included in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment. The EIS must provide detailed information regarding the proposed action and alternatives, the environmental impacts of the alternatives, appropriate mitigation measures, and any adverse environmental impacts that cannot be avoided if the proposal is implemented. Agencies are required to demonstrate that these factors have been considered by decision makers prior to undertaking actions. Major Federal actions determined not to have a significant effect on the quality of the human environment are evaluated through an EA. This EA has been undertaken to satisfy the requirements of NEPA.

10.8 Native American Graves Protection and Repatriation Act

The Native American Graves Protection and Repatriation Act (NAGPRA) (25 U.S.C. 3001) addresses processes and requirements for federal agencies regarding the discovery, identification, treatment, and repatriation of Native American and Native Hawaiian human remains and cultural items (associated funerary objects, unassociated funerary objects, sacred objects, and objects of cultural patrimony). Consistent with procedures set forth in applicable Federal laws, regulations, and policies, the Corps will proactively work to preserve and protect natural and cultural resources, and establish NAGPRA protocols and procedures.

No evidence of Native American graves, human remains or associated cultural items are known or anticipated in the project area.

10.9 National Historic Preservation Act

Section 106 of the NHPA (16 U.S.C. 470) requires that Federal agencies evaluate the effects of Federal undertakings on historical, archeological, and cultural resources and afford the Advisory Council on Historic Preservation opportunities to comment on the proposed undertaking. The lead agency must examine whether feasible alternatives exist that would avoid eligible cultural resources. If an effect cannot reasonably be avoided, measures must be taken to minimize or mitigate potential adverse effects.

In accordance with Section 106 of the NHPA, the Corps has prepared a Section 106 compliance report and submitted it to the MtSHPO, and affected tribes for their review. . The Montana SHPO concurred with the Corps findings of “No Historic Properties Affected” in a letter dated 19 June 2008. No cultural resources have been identified in the project area, and no archaeological monitoring is recommended at any of the repair sites.

If, during construction activities, the Corps’ contractor observes items that might have historical or archeological value, such observations shall be reported immediately to the construction supervisor so that the appropriate authorities may be notified and a determination can be made as to their significance and what, if any, special disposition of the finds should be made. The

contractor shall cease all activities that may result in the destruction of these resources and shall prevent his employees from trespassing on, removing, or otherwise damaging such resources.

10.10 Rivers and Harbors Act

The Rivers and Harbors Act of 1899 regulates structures or work in or affecting navigable waters of the United States including discharges of dredged or fill material into waters of the United States. Structures include without limitation, any pier, boat dock, weir, revetment, artificial islands, piling, aid to navigation or any other obstacle or obstruction.

This action is not in a navigable waterway, and thus does not fall under Sec. 10, concerning construction in navigable waters.

10.11 Wild and Scenic Rivers Act

The Wild and Scenic Rivers Act (16 U.S.C. 1278 et seq.) designates qualifying free-flowing river segments as wild, scenic, or recreational. The Act establishes requirements applicable to water resource projects affecting wild, scenic, or recreational rivers within the National Wild and Scenic Rivers system, as well as rivers designated on the National Rivers Inventory.

Neither Lightning Creek nor the Clark Fork have been designated as a wild and scenic river.

10.10 Executive Order 11990, Protection of Wetlands

Executive Order 11990 encourages Federal agencies to take actions to minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands when undertaking Federal activities and programs.

No wetlands would be destroyed, lost, or degraded by the proposed action.

10.11 Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations

Executive Order 12898, dated February 11, 1994, requires Federal agencies to consider and address environmental justice by identifying and assessing whether agency actions may have disproportionately high and adverse human health or environmental effects on minority or low-income populations. Disproportionately high and adverse effects are those effects that are predominantly borne by minority and/or low-income populations and are appreciably more severe or greater in magnitude than the effects on non-minority or non-low income populations.

Based on the census data and preliminary survey of adjacent property uses during the April 2008 site visit, it does not appear that the proposed project is located in an area occupied by minority or at risk populations at levels disproportionate to those at the state level. Adverse conditions produced by the proposed project are generally related to slightly notable degradations in noise, air and discharges of water that would not be adverse to human health. No permanent structures are proposed that have the potential to produce long-term noise, air or water quality impacts to humans. The proposed project does not require a siting study to ensure proper location of the levee within the community. This EA has satisfied its requirement to consider environmental justice effects of the alternatives evaluated.

10.12 Executive Order 13007, Native American Sacred Sites, May 24, 1996

Executive Order 13007 directs Federal agencies to accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners. Agencies are to avoid adversely affecting the physical integrity of such sacred sites and to maintain the confidentiality of sacred sites when appropriate. The act encourages government-to-government consultation with tribes concerning sacred sites. Some sacred sites may qualify as historic properties under the NHPA.

No sacred sites in the project area have been previously reported; however, the Corps sent letters to the Kootenai Tribe and Confederated Salish/Kootenai Tribe on 19 February 2008 soliciting any knowledge or concerns or religious significance for the APEs.

11.0 CONCLUSION

Based on the above analysis, the rehabilitation project on the Lightning Creek levee will not significantly affect the quality of the human environment, and therefore does not require preparation of an environmental impact statement.

12.0 REFERENCES

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12.0 APPENDICES

Appendix A: Requests for Corps Assistance

City of Clark Fork

P.O. Box 10
Clark Fork, Idaho 83811
Phone 208-266-1315
Fax 208-266-1278

July 31, 2007

Seattle District Corps of Engineers
4735 East Marginal Way, South
Seattle, WA 98124

To Whom It May Concern:

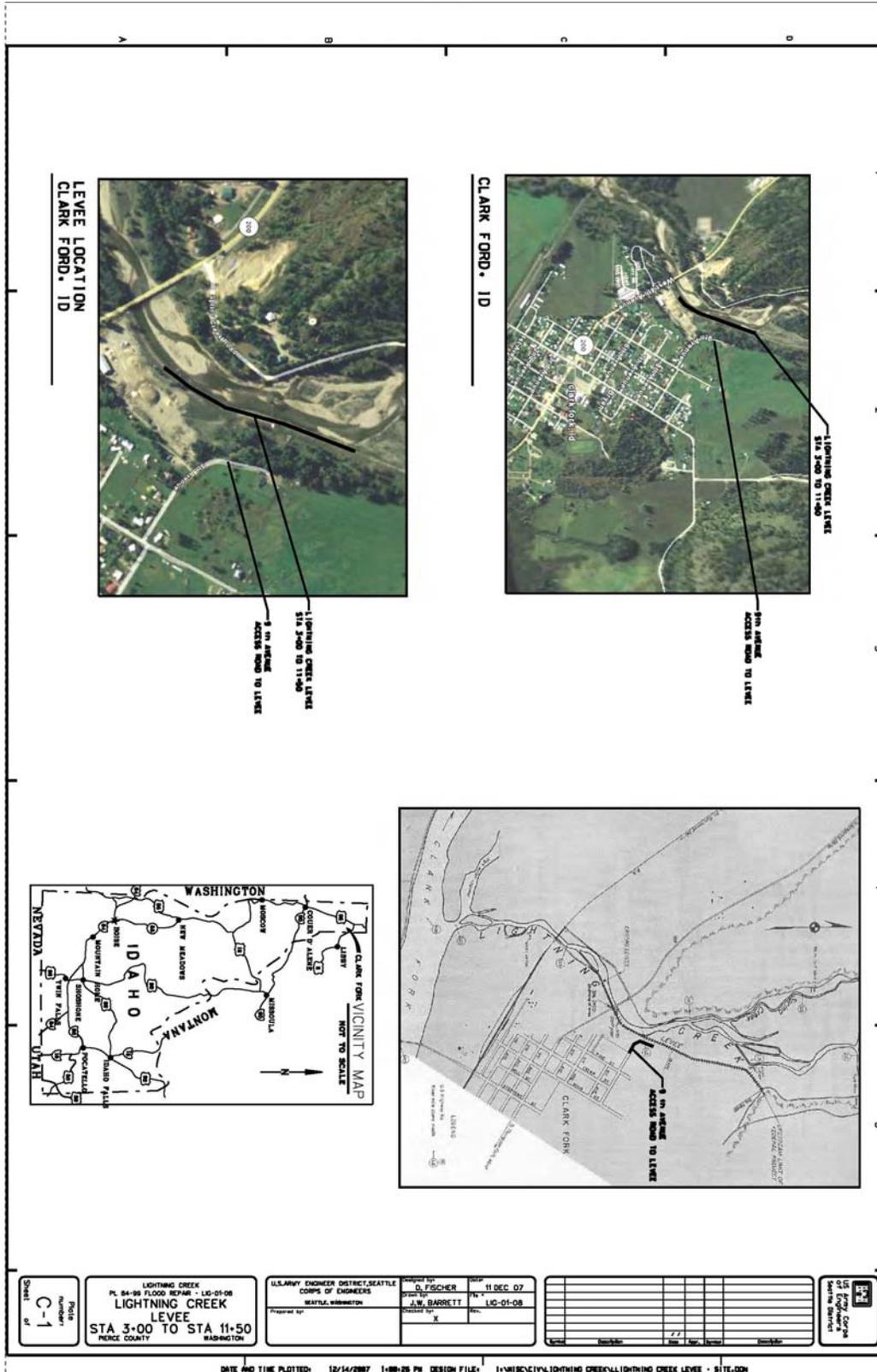
It was noted during the Corps of Engineers annual inspection in July 2007 of the Lightning Creek Levee, that a lot of scouring along the toe of the Levee had occurred. This possibly was caused during the last heavy water event in November 2006. Rip-Rap has been scoured out of the Levee for a length of approximately 500 feet. The stream bed along the Levee is currently dry, as the stream has moved to the opposite side. Also, the bed load in the center of the stream is extremely high. The Mayor and City Council of Clark Fork are requesting your assistance in repair of the Levee before another high water event.

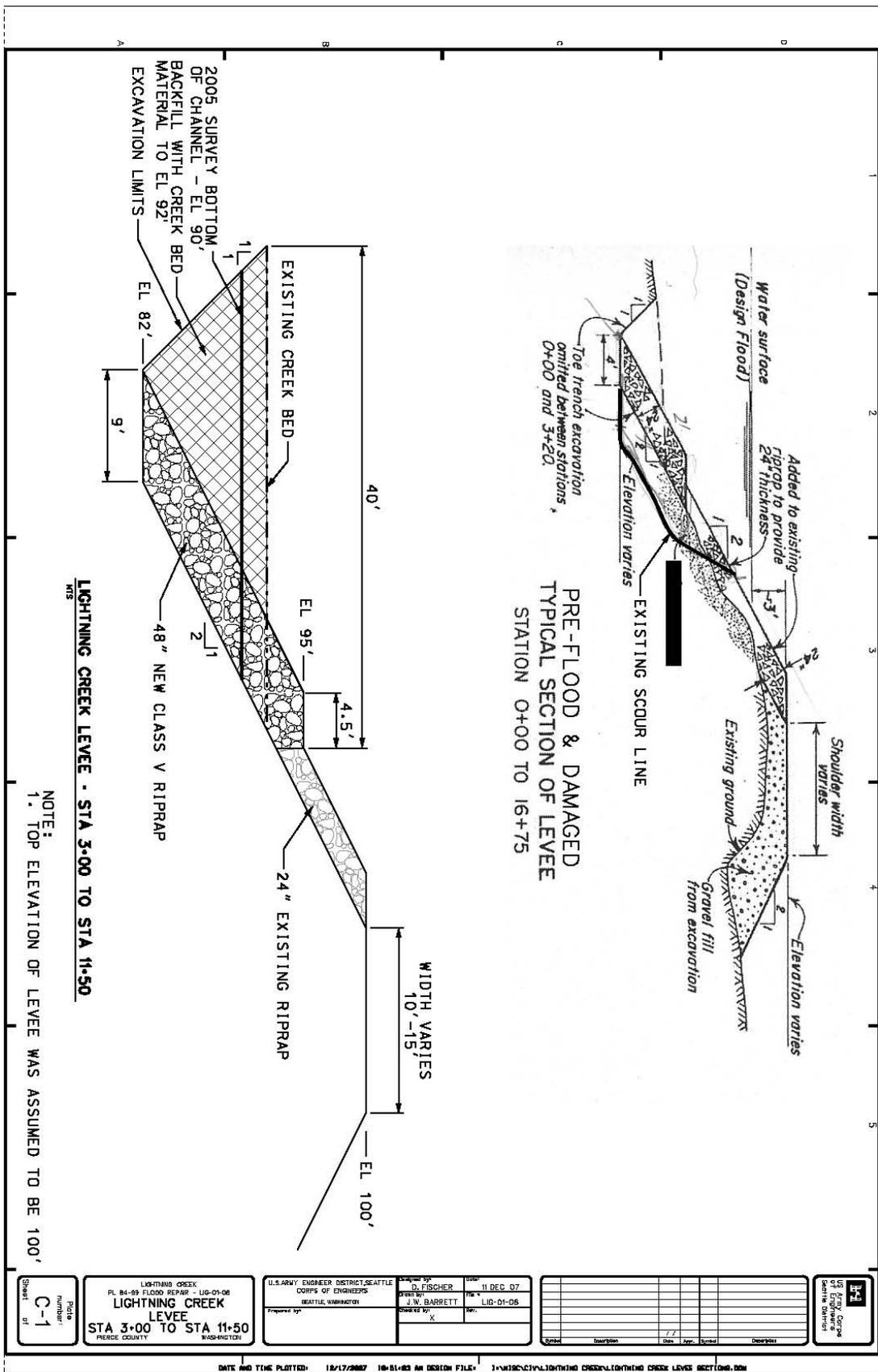
Sincerely,



Thomas A. Shields
Mayor, City of Clark Fork

Appendix B: Project Drawings





PRE-FLOOD & DAMAGED
TYPICAL SECTION OF LEVEE
STATION 0+00 TO 16+75

LIGHTNING CREEK LEVEE - STA 3+00 TO STA 11+50

NOTE:
1. TOP ELEVATION OF LEVEE WAS ASSUMED TO BE 100'

U.S. ARMY ENGINEER DISTRICT SEATTLE CORPS OF ENGINEERS SEATTLE WASHINGTON Project by:	DESIGNED BY P. FISCHER	DATE 11 DEC 07	
	DRAWN BY J. K. BARRETT	NO. / LIG-01-08	
LIGHTNING CREEK PL 84-89 FLOOD REPAIR - LIG-01-08 LIGHTNING CREEK LEVEE STA 3+00 TO STA 11+50 PERCE COUNTY WASHINGTON		U.S. Army Corps of Engineers Seattle District 11200	

Appendix C: Lightning Creek Levee Rehabilitation Representative Photographs at Proposed Repair Locations



Figure 2. Looking at toe erosion from across creek.



Figure 3 Looking upstream from waterline where rock toe is still in place