



**US Army Corps
of Engineers**®
Walla Walla District
BUILDING STRONG®

**LEVEE VEGETATION MAINTENANCE
MILL CREEK FLOOD CONTROL PROJECT
WALLA WALLA, WASHINGTON**

ENVIRONMENTAL ASSESSMENT

PM-EC 2012-0099

July 2015

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SECTION 1 - INTRODUCTION

1.1 Introduction

The U.S. Army Corps of Engineers, Walla Walla District (District) proposes to remove woody vegetation from the landward side of the levees along the federally owned portion of the Mill Creek Flood Control Channel in Walla Walla, Washington (Figure 1-1). This maintenance is being proposed in order to meet flood risk reduction maintenance requirements in accordance with U.S. Army Corps of Engineers Headquarters (HQUSACE) regulations and policies. HQUSACE policy on levee vegetation mandates that a corridor (vegetation-free zone) remain free of all woody vegetation. The vegetation-free zone includes the levee structure plus 15 feet from the landward and riverward levee toes (or the federal property boundary, whichever is less). The levee toe or toe line, is the line of intersection formed where the sloped surface of the levee and the surrounding grades meet, forming what resembles a crease in the ground surface.

This vegetation-free zone is to provide access to and along the levee for surveillance, inspection, maintenance, monitoring and flood-fighting. Root systems within the levee structure compromise the integrity of the levee creating safety concerns during high water events. Vegetation clearing of this type would continue as routine operation and maintenance of the levees in the future. The proposed action does not include any vegetation removal on the riverward side of the levees as currently only grasses and small shrubs exist there. This Environmental Assessment (EA) considers the potential environmental effects from the proposed action and any reasonable alternatives.

This EA was prepared in accordance with Engineer Regulation (ER) 200-2-2, *Procedures for Implementing NEPA*, and the Council on Environmental Quality (CEQ) *Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act (NEPA)*, Title 40 Code of Federal Regulations (CFR), Part 1500-1508. The objective of the EA is to evaluate potential environmental effects of the proposed levee maintenance project. If such effects are relatively minor, a Finding of No Significant Impact (FONSI) will be issued and the District will proceed with the federal action. If the environmental effects are determined to be significant, an Environmental Impact Statement (EIS) will be prepared before a decision is reached on whether to implement the proposed action. Applicable laws under which these effects will be evaluated include but are not limited to, NEPA, the Endangered Species Act, the Clean Water Act, the Clean Air Act, and the National Historic Preservation Act.

The National Environmental Policy Act is a *full disclosure* law, providing for public involvement in the NEPA process. All persons and organizations that have a potential interest in this proposed action – including the public, other federal agencies, state and local agencies, Native American tribes, and interested stakeholders – are encouraged to participate in the NEPA process.

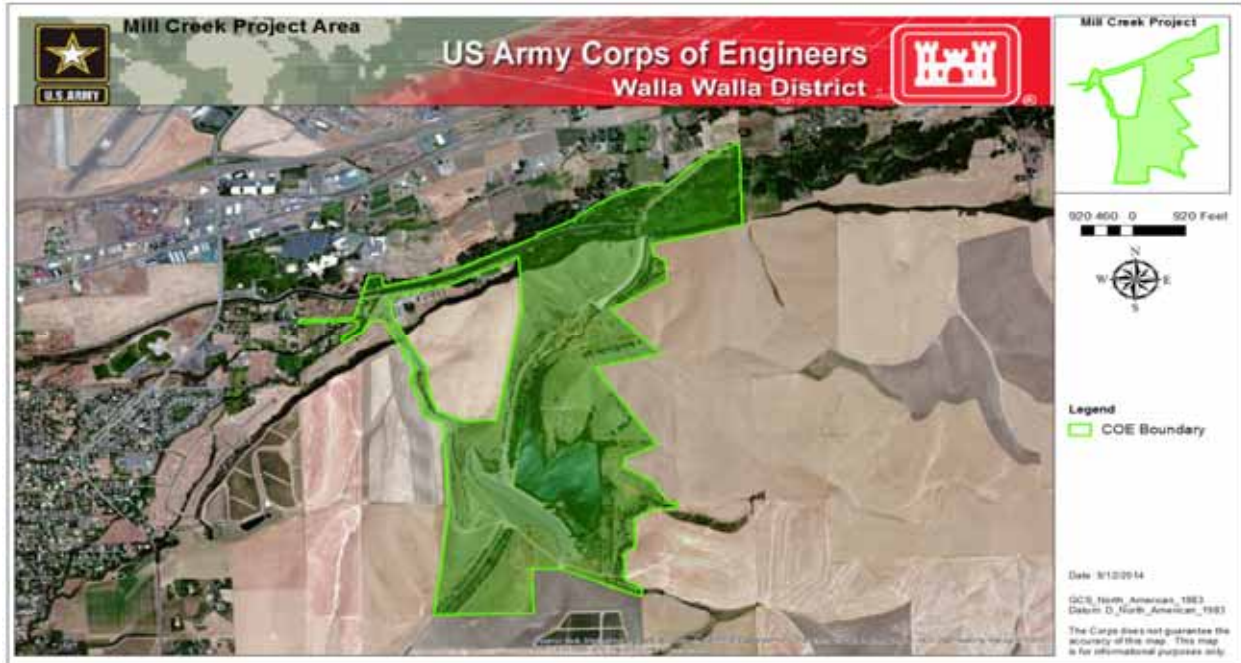


Figure 1-1. Federally-Owned Portion of the Mill Creek Flood Control Project

1.2 Background Information

1.2.1 Description of the Proposed Action Area

Mill Creek is located in southeastern Washington State and flows through the City of Walla Walla (Figure 1-1). Mill Creek is 37 miles long. It flows for 15 miles in a relatively deep and narrow canyon, through mountainous terrain and enters an alluvial fan a few miles east of Walla Walla. Elevations range from 5,500 feet in the headwaters to about 590 feet at its confluence with the Walla Walla River. Mill Creek drains a basin of 165 square miles.

The Mill Creek Flood Control Project (MCFCP) was authorized in 1938, under Public Law 75-761. The federally-owned portion of the MCFCP is located between river mile (RM) 10.4 and 11.5 on Mill Creek (Figure 1-2). The lower six miles of the MCFCP (RM 4.5 to approximately RM 10.4) are owned and managed by the Mill Creek Flood Control Zone District (MCFCZD), and levee vegetation maintenance on that portion is not part of the proposed action evaluated in this EA. The federal project (Mill Creek Project) is composed of two major units: 1) Mill Creek Channel; and 2) the off-channel reservoir, Virgil B. Bennington Lake (Bennington Lake).

The channel has been highly altered and includes two dams; the Bennington Lake Diversion Dam and the Mill Creek Division Works Dam (Figure 1-2). The original purpose of the Diversion Dam was to create a backwater during high flows, making it possible to divert part of the floodwater to Bennington Lake, reducing the flow through Walla Walla.

Just below the Diversion Dam, the channel is lined with earth-embankment levees and is stabilized by 84 full-span, concrete sills spaced 75 feet apart across the width of the channel

(Photo 1-1). Near the western edge of the federal boundary is the Mill Creek Division Works Dam; a two-foot-high dam that creates enough backwater to divert a portion of the flows into Yellowhawk and Garrison Creeks. However, only a maximum flow of about 50 cubic feet per second (cfs) is diverted, because of residential development and other encroachments downstream. During low flows, the division works are operated by District personnel at the direction of the State of Washington, Department of Ecology (Ecology), as necessary to benefit fish and fish habitat.

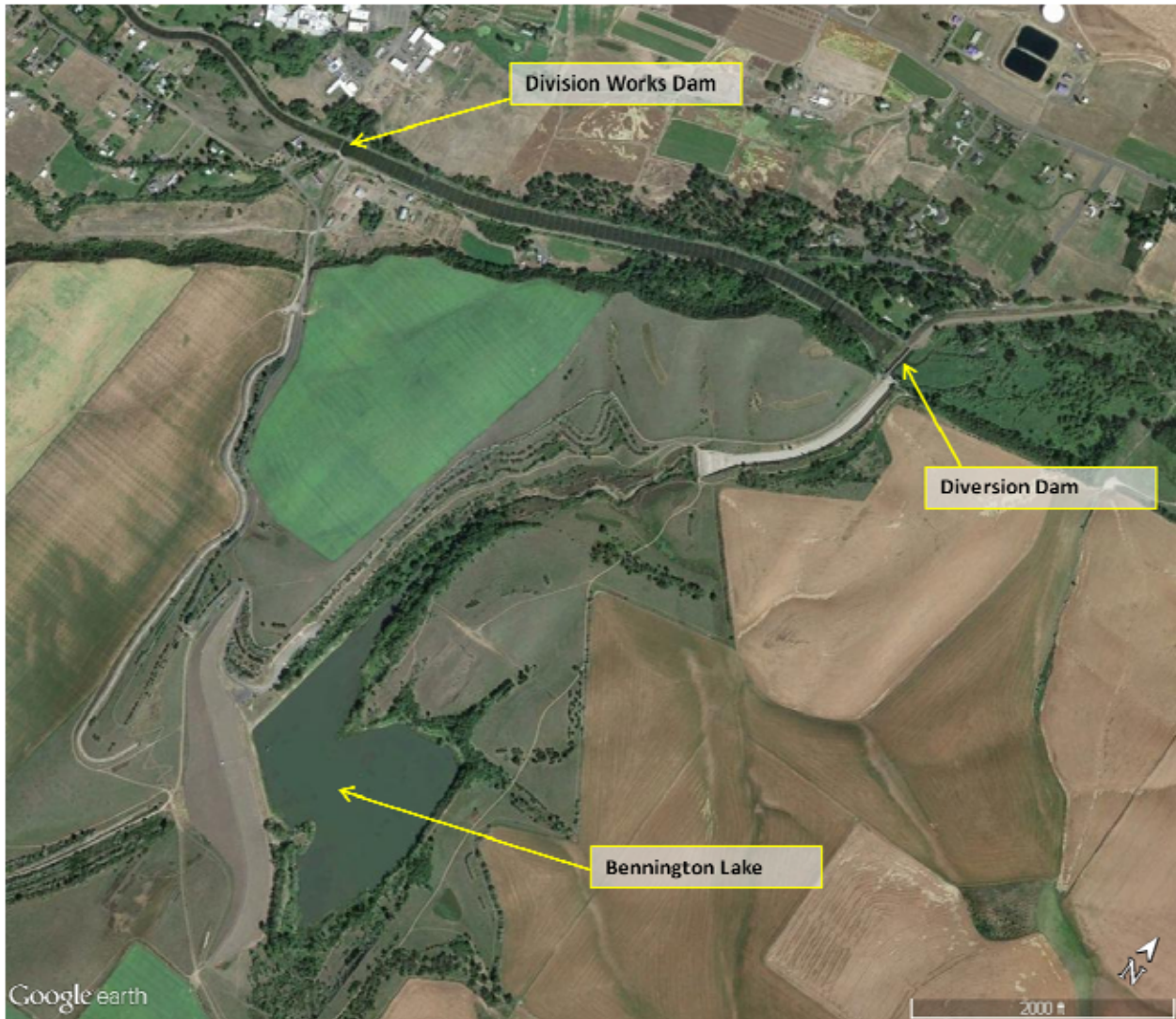


Figure 1-2: Aerial View of the Federally-Owned Portion of the Mill Creek Flood Control Project Near Walla Walla, Washington



Photo 1-1: A Portion of the Federally-Owned Mill Creek Flood Control Project, Lined with Levees and In-Water Concrete Sills (Viewing West Northwest)

The Mill Creek levees are constructed of well-compacted earthen materials. The levees have 1V:2H slopes, and crests that vary from 12 to 20 feet in width. The riverward slope is protected with riprap overlaying wire and rock revetment, and the slope protection toe extends three feet below the channel invert. Following initial construction, both the riverward and landward side slopes were seeded with native grasses, but were left clear of woody vegetation. The south bank levee crest consists of angular gravel surfacing (top course) for vehicle access. There is a paved bike path along the north bank levee crest and a pedestrian bridge near Rooks Park.

Within the channel, boulders have been placed to enhance fish habitat. In addition, occasional patches of grasses and other herbaceous vegetation exist in the channel.

The riverward slope has a well established stand of dryland grasses and small shrubs. No mature trees exist on the riverward slope or within 15 feet of the riverward toe at this time, however guidelines require this area be kept clear of all woody vegetation as well so clearing may be performed in the future.

Woody and non-woody vegetation is growing on the landward shoulder and slope, and within 15 feet of the levee landward toe. This vegetation is mature and consists of grasses, shrubs, and trees (cottonwood is dominant, but locust is common in this area too) of varying height and girth. Some of the cottonwood trees are close to 100 feet tall; however, based on the District

Forester’s analyses, many are considered hazardous because they are estimated at approximately 60 to 70 years of age and nearing the end of their lifespan.

For the purposes of this EA, the footprint for the effects analysis includes the section between Bennington Lake Diversion Dam and the western most edge of the federal boundary just downstream of the Mill Creek Division Works Dam (Figure 1-3). This reach is roughly one mile long.

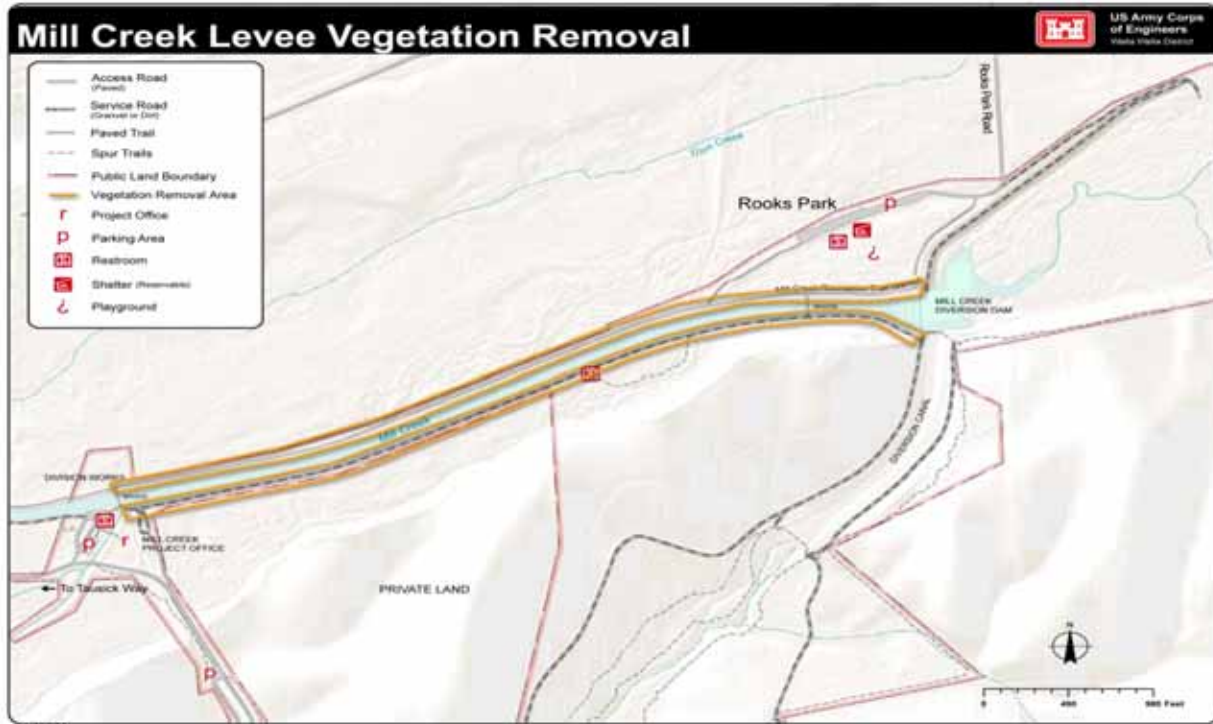


Figure 1-3: Proposed Project Footprint Area

1.3 Purpose and Need

The District proposes to remove all woody vegetation from the landward side of the levees in an approximate one mile stretch from the Bennington Lake Diversion Dam to the western most federal boundary (Figure 1-3) on the federally-owned portion of the Mill Creek Flood Control Project, in accordance with HQUSACE regulations and guidelines for managing levee vegetation. The vegetation removal zone includes the levee structure itself and 15 feet beyond the levee toe. This type of vegetation removal would continue as routine maintenance in the future. The purpose of the proposed action is to maintain flood risk reduction for the City of Walla Walla and surrounding area communities by managing vegetation on the levees. The action is needed because vegetation on the levees is overgrown to the point of obstructing visual inspections and access for maintenance, which compromises public safety during high water events.

Alternatives considered must: (1) maintain required flood risk reduction for Walla Walla and surrounding communities, (2) comply with HQUSACE regulations and guidance, (3) be technically feasible, and (4) be environmentally acceptable.

1.4 HQUSACE Levee Vegetation Guidance and Policy

Levee vegetation management is considered routine maintenance, and must be in compliance with HQUSACE policies. The District is required to follow all applicable Engineering Regulations, policies, etc., established for the management of levee vegetation. Levee vegetation must be maintained in accordance with Engineering Technical Letter (ETL) 1110-2-583, *Engineering and Design: Guidelines for Landscape Planting and Vegetation Management at Levees, Floodwalls, Embankment Dams, and Appurtenant Structures*, dated 30 April 2014 and expiring 30 April 2019 (www.publications.usace.army.mil). This document is the governing standard applying to vegetation on all flood risk reduction projects for which the Corps of Engineers has design, operation, maintenance, inspection, or certification responsibility. According to this current HQUSACE policy on vegetation, the levee prism (structure) and 15 feet from the levee toe (or property boundary, whichever is less) must remain free of shrubs, brush, and trees. The minimum vegetation-free zone is a three-dimensional corridor surrounding the levee. This vegetation-free zone applies to all vegetation except grass. Grass species are permitted for the purpose of erosion control. All roots within 15 feet from the levee toe must be completely removed. Voids created by vegetation removal must be free of organic debris, and compacted according to original soil and compaction specifications.

The primary purpose of the vegetation-free zone is to provide a reliable corridor of access to, and along, the levee. This corridor must be free of obstructions to assure adequate access by personnel and equipment for surveillance, inspection, maintenance, monitoring, and flood fighting. In addition, levee vegetation maintenance assures safety, structural integrity and functionality. The vegetation-free zone also serves a secondary purpose by providing distance between root systems and levees. This helps to moderate reliability risks associated with potential piping and seepage due to root penetration and structural damage (a hole in the ground surrounded by an area of disturbed earth) resulting from a tree overturning.

In the case of flood fighting, this access corridor must also provide the unobstructed space needed for the construction of temporary flood control structures. Access is typically by four-wheel drive vehicle, but for some purposes, such as maintenance and flood fighting, access is required for larger equipment, such as tractors, bulldozers, dump trucks, and helicopters. Accessibility is essential to the reliability of flood damage reduction systems. The minimum height of the corridor must be eight feet, measured vertically from any point on the ground. The minimum width of the corridor will be the width of the levee plus 15 feet on each side, measured from the outside edge of the outermost critical structure. No vegetation other than approved grasses may be planted in the vegetation-free zone.

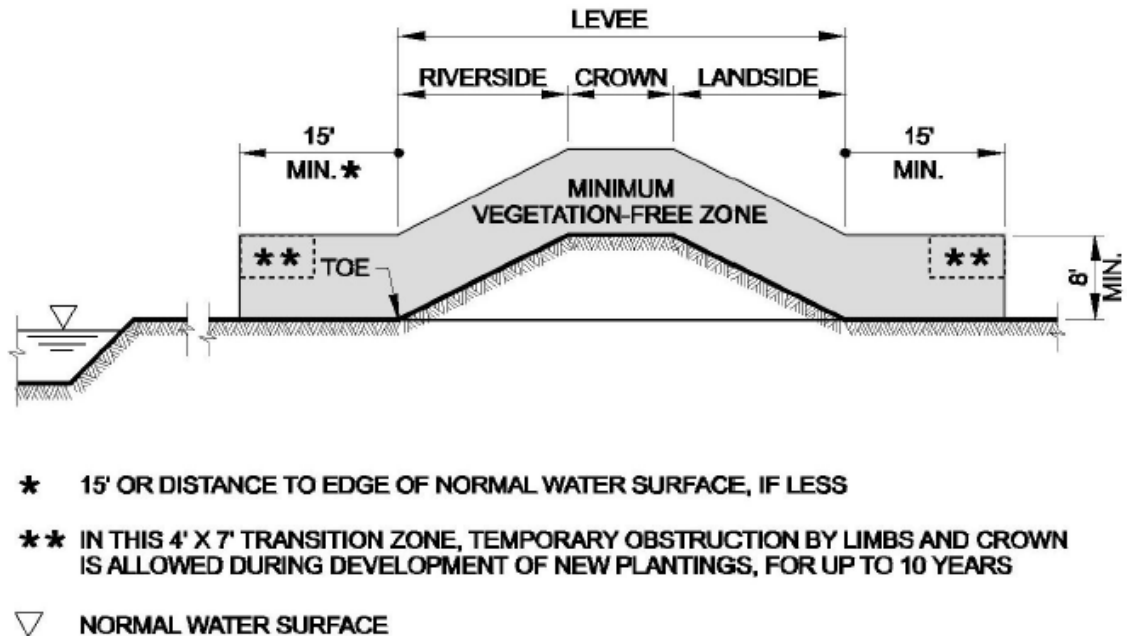


Figure 1-4: Minimum Vegetation-Free Zone Required for a Basic Levee Structure

The purpose of the guidelines (ETL 1110-2-583) is “to provide guidelines to assure that landscape planting and vegetation management provide aesthetic and environmental benefits without compromising the reliability of levees, floodwalls, embankment dams and appurtenant structures”. However, to further enhance environmental values or to meet state or federal laws and/or regulations, District offices of the Corps of Engineers may request a variance from HQUSACE from the standard vegetation guidelines set forth in the ETL. A draft Policy Guidance Letter (PGL), “*Process for Requesting a Variance from Vegetation Standards for Levees and Floodwalls*” was published in the Federal Register on 17 February 2012 (<https://federalregister.gov/a/2012-3701>) with comments requested on or before 17 April 2012. In order for a variance to be approved by HQUSACE, it must be shown to be necessary, and **the only feasible means** to (1) preserve, protect, and enhance natural resources, and/or (2) protect the rights of Native Americans, pursuant to treaty and statute. Although not yet final, HQUSACE evaluates variance requests in accordance with the draft guidance, until final guidance is issued.

1.5 Mill Creek Project Habitat Improvements

Planting efforts throughout the history of the Mill Creek Project have improved habitat, and are in support of the Mill Creek Master Plan (Corps, 1993). Volunteers and staff plant several acres of selected vegetation within the project boundaries on an annual basis. As part of the proposed action, the District would plant approximately 20 to 30 cottonwood trees over 8 feet tall in the Bennington Lake Diversion Dam forebay. In addition, District staff have identified four areas within the Mill Creek Project for future planting work: 1) the Bennington Lake Diversion Dam forebay; 2) Bennington Lake; 3) Russell Creek; and 4) Lower Snake River Fish and

Wildlife Compensation Plan (LSRFWCP) lands. Specific locations within the four areas have been mapped as potential sites, based on slope, aspect, presence of existing vegetation, and District staff input. All areas identified would provide quality habitat that appears natural in design. The Mill Creek Project has identified planting strategies over the next five years.

The following, is a list of recent planting activities carried out by District staff and volunteers in the last three years:

Table 1-2: Recent Planting Activities at the Mill Creek Project

Location	Tree Species	Approximate Acreage	Units
Diversion Dam Forebay	Cottonwoods	5	300
Rook's Park	Sycamores, Oaks, Maples	5	20
LSRFWCP Comp Land	Ponderosa Pines	2	300
LSRFWCP Comp Land	Various Pines	2	200
East Intake Canal	Hawthorne, Cottonwoods, Cherry	1.5	100
Project Office	Various Landscaping Plantings	2	500

SECTION 2 - ALTERNATIVES

2.1 Introduction/Screening

The National Environmental Policy Act (NEPA) and 33 CFR Part 230 *Procedures for Implementing NEPA* require a reasonable range of alternatives be considered during the planning process. Alternatives considered under NEPA must include, at least, the proposed action and the “No Action” Alternative, which provides a baseline from which to compare other alternatives. The alternatives identified below were evaluated to determine if they satisfy the purpose and need of the proposed action (Section 1.3):

- (1) The No Action Alternative
- (2) The Proposed Action (Levee Vegetation Removal Phases I and II)
- (3) Levee Vegetation Removal on the Levee Structure Only (Variance)
- (4) Setback Levees.

However, in order for any alternative to be acceptable for further evaluation it must meet certain objectives, or screening criteria. Screening criteria help eliminate those alternatives that could not reasonably or practically meet the project purpose and need. In this case, alternatives must: (1) maintain required flood risk reduction for Walla Walla and surrounding communities, (2) comply with HQUSACE levee vegetation regulations and guidance, (3) be technically feasible, and (4) be environmentally acceptable (see Table 2-1 on page 16 for the screening process).

2.2 Alternatives

2.2.1 Alternative 1 - No Action (Current Practice)

Under Alternative 1, the No Action Alternative, no vegetation would be removed from the levees except what is already removed under routine maintenance activities. This includes occasional mowing and the annual use of goats to keep grasses down on the riverward side of the north and south levees.

The No Action Alternative does not meet the project purpose and need; however, it is carried forward to Section 3 for comparative purposes as required by NEPA.

2.2.2 Alternative 2 – Levee Vegetation Removal Phases I and II (Proposed Action)

Under Alternative 2, the proposed action, the District would remove all existing woody vegetation from the landward slope of the levee structure and 15 feet beyond the toe along a one-mile stretch of the federally-owned portion of the Mill Creek Flood Control Channel from the Bennington Lake Diversion Dam to the western most federal boundary (Figure 2-1; see Appendix A for a detailed set of Google Earth Images). The vegetation removal zone on the landward side of the levees includes the levee structure itself and 15 feet beyond the levee toe.

It is important to note that significant portions of the landward side levee slopes are currently sloped more gradually than the original design specified. The toe line adjacent to overly gradual slopes intersects the surrounding grades farther away from the levee crown than the originally designed cross section requires. Therefore, the location of the toe line for the originally designed levee slope (1V:2H) was calculated and surveyed in March 2015 to correctly determine the limits of the vegetation-free zone and minimize the area from which vegetation would be removed. Elevation variations in the surrounding grades cause the horizontal distance from the levee crown to the toe line to vary, as such, the outer bound of the vegetation-free zone varies with it.



Figure 2-1: Vegetation Removal Area

Implementation of this alternative would be conducted in two phases. Phase I, scheduled for the fall of 2015 involves cutting the trees and vegetation to ground level. During Phase I, approximately 308 trees would be cut down (211 from the north levee, and 97 from the south levee) in addition to the understory (grasses, shrubs and plants under the trees). It is probable that the debris would be removed and transported to an approved off-site location; however, some or all of the debris could be stored on-site for potential future habitat improvement projects. Two potential disposal sites have been identified in Figure 2-2. Phase II, scheduled for the fall of 2016, involves excavating the remaining stumps and root balls from the ground (clearing and grubbing). Phase I in 2015 and Phase II in 2016 would be complete no later than January 30th of the following year.

2.2.2.1 Vegetation Removal

During tree cutting activities, all or portions of the trail on the side of Mill Creek where work is being performed would be closed to the public. Trees would be cut down with chainsaws.

Other heavy equipment on site would be a wood chipper, dump trucks and possibly an excavator or crane. Trees and shrubs may be processed (chipped) on site or hauled to another location before being processed. Trees would not be allowed to fall into the creek. Any damage to the levee trail surface would be repaired once all of the trees have been cut down and removed.

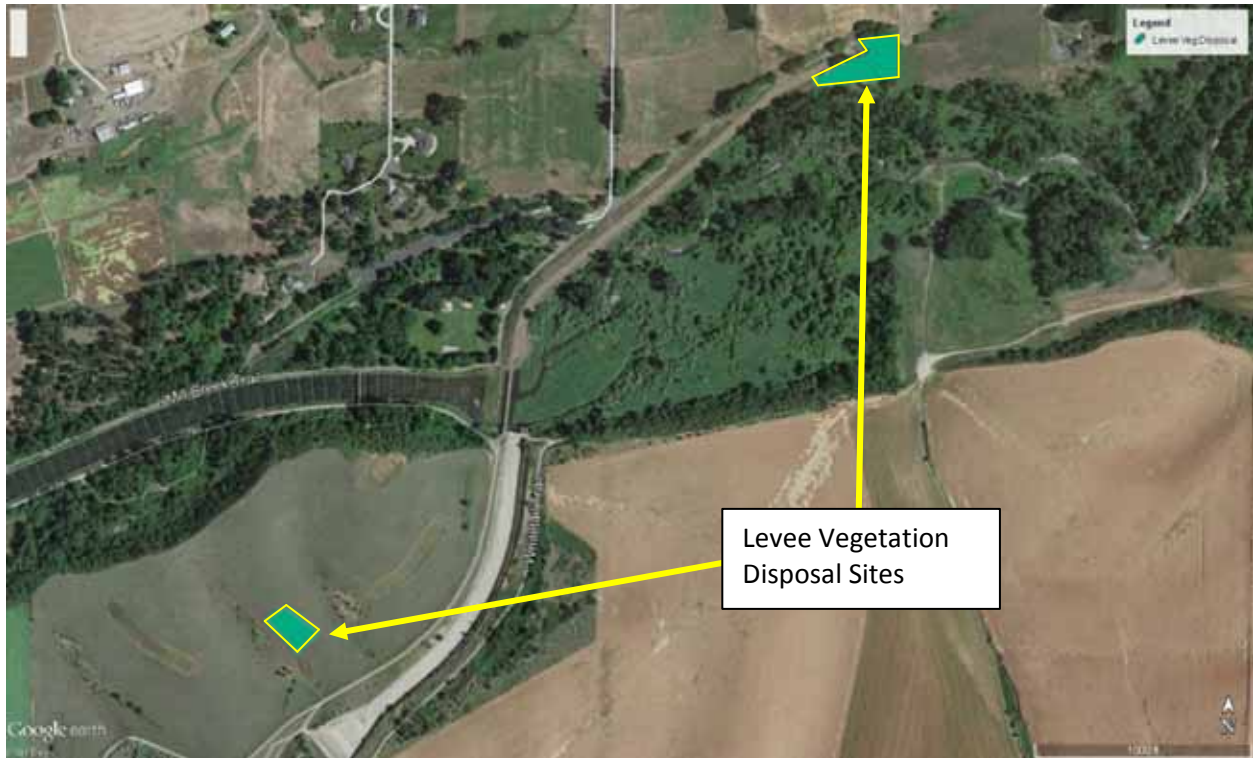


Figure 2-2: Proposed Disposal Sites for Tree and Vegetation Debris and Wood Chips

During Phase II of the project, all stumps, roots and root balls would be removed using an excavator, a bull dozer equipped with a ripper, or similar equipment. Any fill material used to fill the voids created by the stump/root ball removal would be free of organic debris and compacted according to original soil and compaction specifications. Some material may be brought in from an approved commercial source to rebuild sections to the original design dimensions. All disturbed soils would be re-compacted using the bull dozer.

During Phase I and Phase II, large dump trucks would be used to transport debris. Due to the limited area available to the large equipment on the levees, two locations have been identified as “turn-around sites” for these vehicles. The north levee turn-around site would be located just north of the Mill Creek Division Works Dam (Figure 2-3) and the south levee turn-around site would be located approximately 3/10th of a mile south of the Diversion Dam (Figure 2-4).

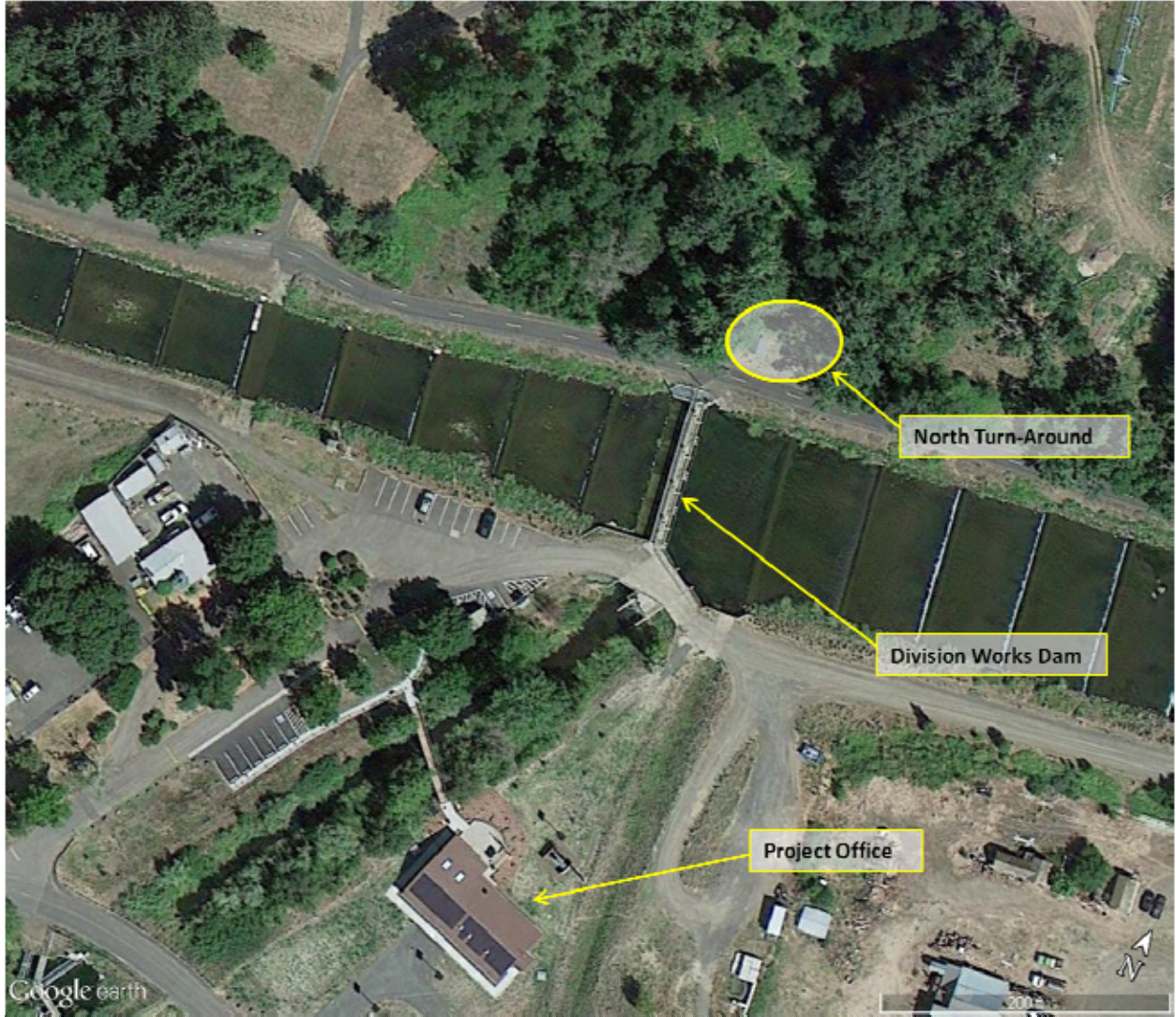


Figure 2-3: North Levee Turn-Around Site



Figure 2-4: South Levee Turn-Around Site

Some stumps and root balls may be temporarily stored on-site for future off-site beneficial use such as stream restoration efforts carried out by the Tribes, other agencies or environmental restoration groups.

Heavy equipment would be staged in designated areas away from Mill Creek. The horse trailer parking area on the south side of the creek near the Mill Creek Project office would be used as well as the Rooks Park parking lot on the north side of the creek (Figure 2-5 and Figure 2-6).



Figure 2-5: Horse Trailer Parking Area To be Used as a Contractor Staging Area

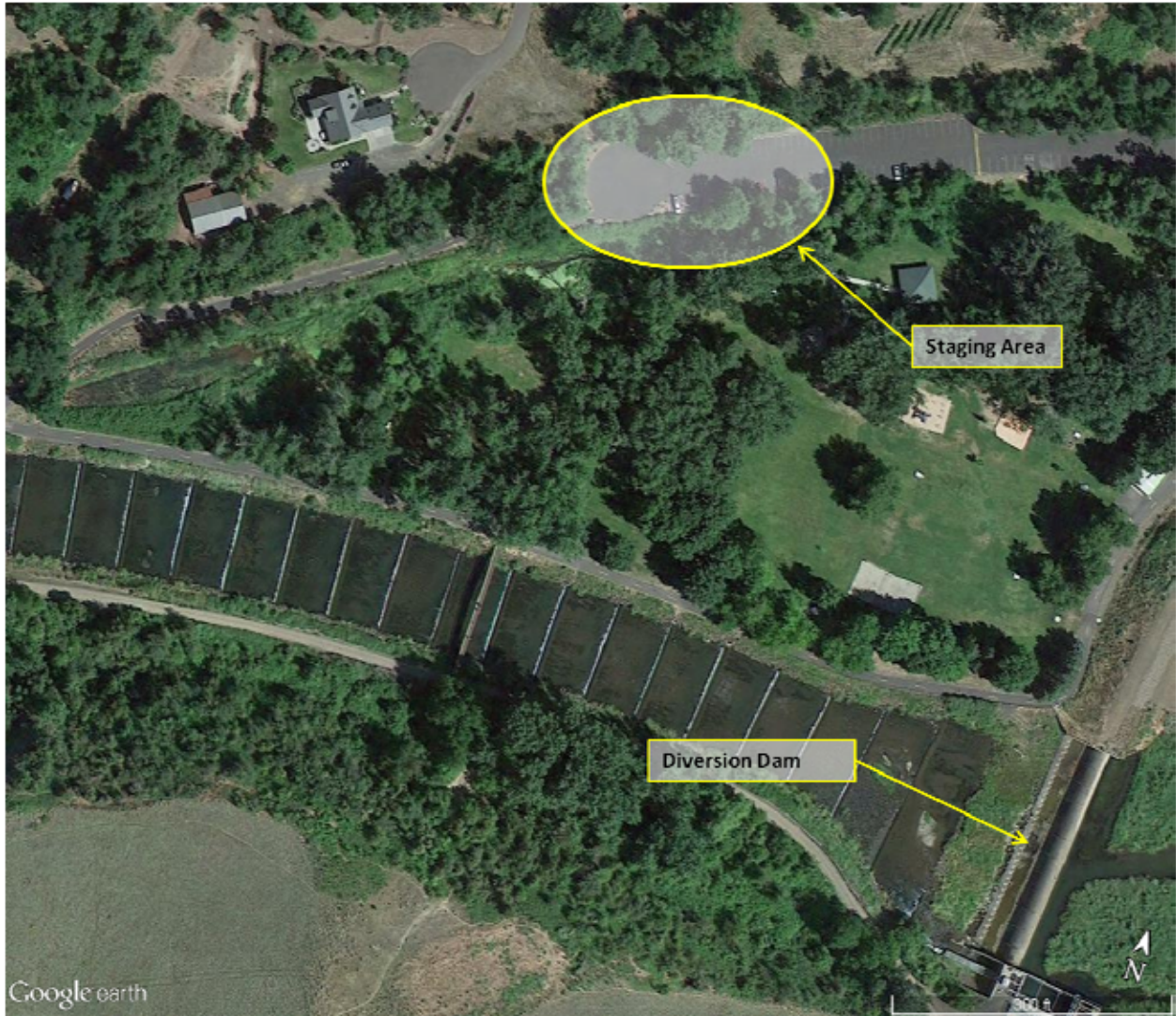


Figure 2-6: Rooks Park Parking Lot To be Used as a Contractor Staging Area

2.2.2.2 Levee Vegetation Maintenance in the Future

When levee vegetation removal and repairs are complete, approved perennial grasses would be seeded along the levee structure and within the 15 foot vegetation-free zone. In accordance with HQUSACE’s ETL 1110-2-583, *Engineering and Design: Guidelines for Landscape Planting and Vegetation Management at Levees, Floodwalls, Embankment Dams, and Appurtenant Structures*, the only acceptable levee vegetation is perennial grass. As ground cover in a system designed to reduce flood damage, the primary purpose of grasses is to prevent erosion. The grasses have adapted to the soils and climate of eastern Washington and will grow successfully with little maintenance. Grasses generally germinate and establish readily from seed, grow rapidly, and form a good ground cover with a fibrous root mass. These characteristics make perennial grasses highly valuable for erosion control. Selected species would tolerate mowing and grazing each year.

Grasses typically do not compromise levees and only become an issue when they grow large enough to hinder visual inspection of the levees. Stable grass or sod cover provides a certain level of protection from local runoff. If necessary, grasses on the levees may be mowed prior to high flows and routine inspections.

The following list designates the types of grasses that are considered acceptable vegetation on Corps flood control levees:

- Indian Ricegrass (*Achnatherum hymenoides*)
- Blue Grama (*Bouteloua gracilis*)
- Idaho Fescue (*Festuca idahoensis*)
- Sheep Fescue (*Festuca ovina*)
- Bluebunch Wheatgrass (*Pseudoroegneria spicata*)
- Streambank Wheatgrass (*Elymus lanceolatus*)

In the future, it would be necessary to perform annual vegetation maintenance (removal) and levee inspections along the Mill Creek Flood Control Project levees. Maintenance would include vegetation removal from the entire levee prism or structure, plus the additional 15-foot vegetation-free zone measured from the landward and riverward toe. No woody vegetation would be permitted. Annual vegetation maintenance would be scheduled to coincide with the levee inspections to reduce the need for repeated maintenance activities. The channel and levees would first be visually inspected for excess vegetation. Excess vegetation would then be cut and removed using hand tools or power tools such as a mower, a hedge trimmer and/or weed eater.

The District may also control excess vegetation using herbicides. A licensed applicator would apply herbicides approved for use near water by both the Environmental Protection Agency (EPA) and Washington Department of Ecology (Ecology). Herbicide application would normally be done in May or June (sometimes as late as September), and only on an “as-needed” basis. All chemical applications would be handled in accordance with the District’s Integrated Pest Management Plan (Corps, 2013)

<http://www.nww.usace.army.mil/Missions/Projects/PestManagement.aspx>.

Using goats to graze down excess vegetation is another way the District has in the past and would in the future, limit vegetation growth on the levees. In summer 2013, a large herd of goats was put on the north levee for several days to graze on grasses and blackberry bushes. This experiment proved highly successful and the herd was brought in to graze on the south levee (Photo 2-1) in late spring 2014. This method would continue to be used for future vegetation maintenance.



Photo 2-1: Vegetation Control Using Goats

2.2.2.3 Alternative 3 – Levee Vegetation Removal on the Levee Structure Only (Variance)

Under Alternative 3, the District would need to apply for and receive approval for a variance from HQUSACE regulations and guidance for levee vegetation maintenance. If approved, all woody vegetation from the landward side of the levees along the one mile stretch of the federally-owned portion of the Mill Creek Channel from the Bennington Lake Diversion Dam to the western most federal boundary would be removed. This alternative would not include the 15 foot area adjacent to the levee toe. Rather, vegetation removal would occur only on the levee structure itself. This would be a “variance” from the standard vegetation guidelines set forth in ETL 1110-2-583. Vegetation variances for either federal or non-federal flood damage reduction systems may be permitted, however there are two criteria requirements that must be met, pursuant to HQUSACE guidance: The variance must be shown to be necessary, and **the only feasible means** to (1) preserve, protect, and enhance natural resources, and/or (2) protect the rights of Native Americans, pursuant to treaty and statute.

This alternative was removed from further evaluation due to the fact that the vegetation variance criteria as set forth above is not satisfied, as there are other feasible means (i.e., other vegetation plantings) that could offset removal of levee vegetation. For example, see reference to the Mill Creek Project’s habitat improvement planting strategy as described in Section 1.5.

2.2.3 Alternative 4 – Setback Levee

The Setback Levee concept would move the levee landward to allow the Mill Creek channel more conveyance through the project reach and not require vegetation maintenance on existing levees. This alternative would require the acquisition of privately-owned land, as current federal land is extremely limited, and would also require hydraulic and geotechnical modeling studies to show the technical feasibility of the setback levees and eventual channel modification.

This alternative was removed from further evaluation as not technically feasible. District managed federal land near the Mill Creek channel is extremely limited. Setback levees would require acquisition of additional land from adjacent private landowners, which would require authorization from Congress, and construction of new levees (as compared to maintaining existing levees) would be cost prohibitive.

2.3 Alternatives Carried Forward

Table 2-1 lists the four alternatives in the far left column, the four mandatory screening criteria across the top row and whether each alternative meets or does not meet these criteria.

Alternative 1 (No Action) and Alternative 2 (Proposed Action) are carried forward for detailed evaluation in Section 3.

Table 2-1: Screening Process

Alternatives ↓	Maintains required flood risk reduction for WW and area?	Complies with HQUSACE Levee Vegetation Regulations and Guidance?	Technically Feasible?	Environmentally Acceptable?
1: No Action	No	No	Yes	No
2: Proposed Action: Levee Vegetation Removal (Phases I and II)	Yes	Yes	Yes	Yes
3: Levee Vegetation Removal on the Levee Structure Only (Variance)	No	No	Yes	Yes
4: Setback Levee	Yes	Yes	No	Yes

SECTION 3 - AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 Introduction

Alternatives that satisfy the project's purpose and need have been developed. This section discusses the existing environmental conditions of the project study area, as well as effects anticipated to occur for the proposed action over a wide range of environmental and social elements. In addition, the No Action Alternative is evaluated, which provides a comparison to the proposed action. For the purposes of this EA, the project study area is the Mill Creek channel and adjacent levees from the Bennington Lake Diversion Dam to the western most federal boundary, just downstream of the Mill Creek Division Dam. Two separate material disposal areas are also included in the study area. Descriptions of the biological, physical, cultural, and socioeconomic resources serve as a basis for evaluation and comparison of the anticipated effects of the alternatives.

3.2 Aesthetics/Visual Resources

3.2.1 Affected Environment

Aesthetic or visual resources are the natural and cultural features of the landscape that can be seen and that contribute to the public's appreciative enjoyment of the environment. The aesthetic quality of an area is a subjective factor to quantify. It is a measure of one's perception of how pleasing an area is. Many people visit the Mill Creek Project because of its aesthetic value and visitors enjoy high visual resources through a variety of landforms, wildlife, fisheries, recreation and vegetation. Some even enjoy the man-made built environment of the concrete channels and dams and earth-embankment levees.

3.2.2 Environmental Consequences

3.2.2.1 Alternative 1: No Action

Under the No Action Alternative, visual resources would either evolve from the existing condition in a natural process or by routine operation and maintenance activities performed by Mill Creek staff members. However, these maintenance activities would have minor or no effects to aesthetics by implementing Best Management Practices (BMP's). BMP's would be used to eliminate or significantly reduce potential adverse effects such as vegetation overgrowth, soil disturbance, turbidity, etc.

If the levees failed due to lack of vegetation maintenance in the proposed action area, aesthetics would be negatively affected. Some of the adverse effects: Vegetation and trees could be uprooted and displaced, and possibly carried downstream by high water. Oftentimes, large vegetation lodges under the bridges, clogging them up and in turn creating more flooding. Turbid water would fill the channel and possibly over top the levees creating a flooded environment in Rooks Park and in other areas. Following the recession of flood waters, mud and silt would be left behind requiring extensive clean-up efforts.

3.2.2.2 Alternative 2: Levee Vegetation Removal Phases I and II (Proposed Action)

Implementation of Alternative 2 means that all of the existing woody vegetation along the levees (as previously described) would be removed. While it is true that the landward slope of the levees and the 15-foot vegetation-free zone would look different than it does now, the affected area only amounts to one percent of the federally owned lands at Mill Creek Project. Because elevation variations in the surrounding grades cause the horizontal distance from the levee crown to the toe line to vary, the outer bound of the vegetation-free zone varies too. Therefore, an undulating or soft, wavy border would be created along the line of vegetation removal lessening the negative aesthetic impact. In addition, there are trees and vegetation outside of the vegetation-free zone that would remain. The aesthetics of the overall project area (Bennington Lake trails, portions of Rooks Park and the forebay above the Diversion Dam) would not be impacted. Upon completion of the vegetation removal, native perennial grasses would be planted on the levees and consistently maintained in the future. In addition, the District has a planting strategy in place and many trees already have been and many would be planted on the Mill Creek Project grounds. Implementation of the proposed action would not result in significant effects to aesthetics and visual resources.

3.3 Aquatic Resources

3.3.1 Affected Environment

Fish species presently in the project area of Mill Creek include rainbow trout/steelhead, bull trout, Chinook salmon, mountain whitefish, bridgelip sucker, redbelly dace, and brook lamprey. Amphibians typically found in the area are Pacific tree frogs, leopard frogs, and bullfrogs. Common aquatic insects in the creek are mayflies, caddisflies, dragonflies, and stoneflies.

3.3.2 Environmental Consequences

3.3.2.1 Alternative 1: No Action

Under the No Action Alternative, nothing would change to the aquatic resources environment unless the levees were breached or overtopped during high flows. If the levees did fail due to lack of vegetation management in the proposed action area, aquatic resources could be negatively affected. Fish could be carried out of the channel and get stranded when flows recede.

3.3.2.2 Alternative 2: Levee Vegetation Removal Phases I and II (Proposed Action)

Under Alternative 2, there would be no direct impact on aquatic resources. No in-water work would occur. Indirectly however, removal of riparian trees would cause a slight decrease in the amount of shade on the creek. The percentage of shade would decrease from 2.5% coverage to 0% coverage. This minimal change is not likely to cause a measureable increase in stream temperature and is not likely to negatively affect aquatic resources.

There would also be an indirect effect on some fish which depend on terrestrial insects as part of their diet. Aquatic insects would also be affected by the reduction of leaves falling into the river and becoming substrate for bacteria to colonize which is in turn used by the insect larvae as food.

No in-water work would be conducted so the effects from the proposed action on aquatic resources would be indirect and very minor. Mill Creek's east/west orientation along with its wide and shallow cross section does not provide for any substantial shade from the riparian vegetation. Habitat conditions for aquatic resources are marginal and would continue to be marginal in the future. Implementation of the proposed action would not result in significant effects to aquatic resources.

3.4 Terrestrial Resources/Wildlife

3.4.1 Affected Environment

Various forms of wildlife are generally abundant close to riparian corridors. Many species of mammals, birds, amphibians, and reptiles inhabit riparian corridors during different parts of the year. Mammals common to the area include white-tailed deer, coyote, raccoon, mink, muskrat, beaver, river otter, striped skunk, bats, and a variety of small rodents. Occasionally, bobcat, black bear, and even cougar and moose have been seen in the area. Common birds include wild turkey, belted kingfisher, California quail, ring-necked pheasant, swallows, sparrows, woodpeckers, various other songbirds, ducks, hawks, osprey, and many different owls. On occasion, bald eagles can be seen as well, mostly during winter. The area immediately adjacent to the creek provides limited wildlife habitat quality. Although some wildlife can be found around the project area, the large number of people recreating in the area keeps wildlife numbers down.

3.4.2 Environmental Consequences

3.4.2.1 1 Alternative 1: No Action

There would be no direct positive or negative effects on terrestrial resources/wildlife under the No Action Alternative. If the levees did fail due to lack of vegetation maintenance, overland flooding could displace some wildlife temporarily. There would be no measureable impact to any species population. However, trees (wildlife habitat) would age and die and begin to decay, eventually falling. They would then likely be removed from the area if they dislocate the levee surface. The existing trees have a diverse age class so replacement trees are already present.

3.4.2.2 Alternative 2: Levee Vegetation Removal Phases I and II (Proposed Action)

Alternative 2 would produce moderately negative effects on terrestrial wildlife resources through a reduction of riparian habitat. Some of the now varied-age trees closest to the creek would be removed and replaced with grass. Better wildlife habitat exists upstream from the levees and would not be affected.

A few bird species would be specifically affected. Belted kingfishers perch within the branches close to the creek where they hunt for minnows and other small fish. Osprey also use the tree branches for hunting perches. In addition there are two or more great blue heron nests close to the vegetation-free zone. These nests may not be removed with the trees, but they would become more open to the elements and may become unsuitable for use in future years.

Only six acres of terrestrial wildlife habitat would be affected by the proposed action. This is less than one percent of the Mill Creek Project lands and a much smaller fraction of the amount of riparian habitat available upstream. The first year after the trees are cut, some birds would have to seek alternate nesting locations. In the second year the local population would have adjusted to the available habitat and there would likely be no noticeable change to bird populations at the watershed scale. There would be no significant effect to any terrestrial species population.

3.5 Threatened and Endangered Species

3.5.1 Affected Environment

3.5.1.1 Listed species under the ESA for Walla Walla County, Washington:

There are five ESA-listed species and one candidate species in Walla Walla County, Washington. Following are these species and a brief description.

Threatened: Canada lynx (*Lynx canadensis*)
Steelhead (*Oncorhynchus mykiss*)
Bull trout (*Salvelinus confluentus*)
Ute Ladies'-tresses (*Spiranthes diluvialis*)
Yellow-billed cuckoo (*Coccyzus americanus*)

Candidate: Washington Ground Squirrel (*Urocitellus washingtoni*)

Two of these species, mid-Columbia steelhead and Columbia Basin bull trout, are found in Mill Creek in the proposed project impact area. Canada lynx, Ute Ladies'-tresses, and Washington ground squirrel are not found near the proposed project. Yellow-billed cuckoo is not known to occur in the area and may be extirpated as a breeder from Washington.

- **Canada lynx**

Canada lynx were listed as threatened under the ESA in March 2000. Critical Habitat was designated in November 2006. The designation was revised in March 2009 and revised again in September 2014. In Washington, areas above 4,000 feet elevation in the north Cascades are included in the designation. The area around the proposed project is not included in the designation. The elevation is approximately 1,240 feet. Canada lynx are not known to occur near the proposed project area.

- **Steelhead**

Mid-Columbia River steelhead were listed as threatened under the ESA in August 1999. Critical Habitat was originally designated in March 2000, was later vacated, and has since been re-designated. Mill Creek is designated as Critical Habitat for mid-Columbia River steelhead. Steelhead are an anadromous salmonid, and adults return to their natal streams from December through April to spawn. After spending one or two years rearing in the area, juveniles begin their outmigration to the ocean in April and May, when flows are usually higher than average. Periodic low flows, flood control measures, irrigation diversions, and habitat destruction can limit both adult and juvenile steelhead.

Steelhead utilize the project area for migration and rearing habitat. A survey for the USFWS in 2009 (Gallion and Anglin 2009) estimated there were fewer than 600 salmonids in Mill Creek between the Diversion Dam and the Mill Creek Division Works Dam over the summer. No spawning is known to occur in this section of Mill Creek. There could be limited spawning in Yellowhawk Creek. However, the substrate in Yellowhawk Creek is mostly fine silt due to the highly controlled hydrology of the creek (no high flows to flush out the silt).

- **Bull trout**

The USFWS listed Columbia Basin bull trout as threatened on July 10, 1998. Critical Habitat was designated for bull trout in 2010, and Mill Creek was included in the designation. Bull trout are a wide-ranging species that formerly inhabited most of the cold lakes, rivers, and streams throughout the western United States and British Columbia. They are piscivorous, and require an abundant supply of forage fish for vigorous populations. Resident bull trout spend their entire life-cycle in the same (or nearby) streams where they were hatched. They display a high degree of sensitivity at all life stages to environmental disturbance. Bull trout growth, survival, and long-term population persistence depends on the availability of quality habitat.

The U.S. Forest Service has conducted radio-tracking studies on bull trout in Mill Creek, which have shown that adults move to the upper reaches of the watershed between mid-May and mid-August. Spawning takes place between mid-August and mid-October. There are five monitoring sites set up on Mill Creek that utilize Passive Integrated Transponder (PIT) tags to track tagged fish as they move through the system. In a 2009 survey by Gallion and Anglin occurring in June, July and August, two sub-adult bull trout were captured in sampled sections between the Diversion Dam and the Division Works Dam in July. They were not able to estimate bull trout abundance from this limited data.

- **Ute Ladies'-tresses**

Ute ladies'-tresses, an orchid known to inhabit wetland and riparian areas, was listed under the ESA in January 1992. It has been found at about 1,500 feet elevation, at a site in Okanogan County, in the northeastern part of Washington State. In other parts of its range, it is found up

to about 7,000 feet. It is usually found in moist areas of open shrub or grassland. The proposed project location is at about 1,240 feet elevation in the southeastern part of the state.

Habitat that supports Ute ladies'-tresses is not present in the area likely to be impacted by the proposed project, nor has it been identified or documented at the site.

- **Yellow-billed Cuckoo**

Yellow-billed cuckoo, in the western portion of North America, were listed as threatened on October 3, 2014. Critical habitat has been proposed, though Washington is not included in the proposal. This bird prefers open woodlands with clearings and a dense shrub layer. They are often found in woodlands near streams, rivers, or lakes, but yellow-billed cuckoos occur most frequently and consistently in cottonwood forests with thick understory (Talyor 2000). In winter, yellow-billed cuckoos can be found in tropical habitats with similar structure, such as scrub forest and mangroves. Individuals may be on breeding grounds between May and August.

There are no known occurrences of yellow-billed cuckoo in the proposed action area. Removal of the trees would occur after the migratory bird nesting season (April 1 to August 15) and none of these birds should be present when the work is being conducted. Critical Habitat is not proposed in Washington State. However, the riparian forest habitat along the Mill Creek levees could be suitable for yellow-billed cuckoos.

- **Washington Ground Squirrel**

The Washington ground squirrel is listed as a candidate species. It spends much of its time underground. Adults emerge from hibernation between January and early March, depending on elevation and microhabitat conditions, with males emerging before females. Their active time is spent in reproduction and fattening for their six-month or longer dormancy. Washington ground squirrels occur in dry grassland or in patches of grass and other herbaceous plants within low open sagebrush. They prefer deep, loose soil, which they need for digging burrows. The greater part of its current range is uncultivated steppe in Walla Walla, Franklin, Adams, Lincoln, and Grant Counties.

No suitable ground squirrel habitat exists in the proposed project area. The disposal areas are also not suitable habitat for ground squirrels.

3.5.2 Environmental Consequences

3.5.2.1 Alternative 1: No Action

Under the No Action Alternative, nothing would change with respect to ESA-listed species. Only minor reductions in riparian canopy would occur when trees or branches are removed for public safety. Trees would be removed from the area if they fall into the creek, over the trail, or

onto private property. There would be no significant effects from this alternative. If flooding were to occur due to a breach in the levee or overtopping, some steelhead or bull trout could be carried out of the channel and get stranded when flows recede. It is not possible to estimate how many fish this might affect.

3.5.2.2 Alternative 2: Levee Vegetation Removal Phases I and II (Proposed Action)

Alternative 2 would not directly impact ESA-listed fish species since there is no in-water work and the work would be separated from the creek. However, removal of riparian vegetation would decrease the amount of leaves and insects that fall into the creek, reducing the fish food supply, which could indirectly affect fish. Removal of the vegetation could also have a minor (probably unmeasurable) effect on stream temperature due to the decreased amount of shade and lost canopy cover.

While the risk of a fuel or oil spill is low, one could occur. A spill near the water-side levee slope would be difficult to contain due to the presence of riprap. It would be a contract requirement to have an emergency spill kit available on-site within five minutes of a spill.

Both phases of the action would occur outside of the migratory bird nesting season. This would minimize impacts to migratory birds. Yellow-billed cuckoo are not known to nest in Washington State, but waiting until after the nesting season to remove riparian trees would avoid any potential negative effects to this and other birds.

The District has made the following determinations. The proposed action:

- would have no effect on Canada lynx.
- may affect and is likely to adversely affect mid-Columbia River steelhead and may also affect their designated critical habitat. The District has requested formal consultation with NMFS.
- may affect and is likely to adversely affect Columbia Basin bull trout and may also affect their designated critical habitat. The District has requested formal consultation with USFWS.
- would have no effect on Ute ladies'-tresses.
- may affect, but is not likely to adversely affect yellow-billed cuckoo.
- would have no effect on Washington ground squirrels.

No direct effects to ESA-listed fish species would occur. Any indirect effects which may occur would be minor and likely unmeasurable. Implementation of the proposed action would not result in significant effects to ESA-listed species.

3.6 Vegetation

3.6.1 Affected Environment

Common tree species along the levee include black cottonwood (*Populus trichocarpa*) and black locust (*Robinia pseudoacacia*). Black cottonwood is a short-lived, fast-growing, native species. It is typically found in riparian areas and wet bottomlands along rivers and major streams. Occasionally, it can be found in terrestrial habitats with deep, moist soils. Black cottonwood trees often achieve diameters of up to 7 or 8 feet and heights of up to 120 feet or more relatively quickly. The typical lifespan in the Inland Northwest is less than 125 years. It becomes increasingly susceptible to decay, breakage, and insect infestation and destruction as it ages.

Black locust is native to the southeastern US, but has been naturalized to many areas of North America. It is considered an invasive species in some locations. Black locust is a fast-growing species capable of subsisting on a wide variety of soils. It often is severely damaged by many insects and diseases, resulting in a lifespan of generally less than 100 years. It is moderate in height (40 to 60+ feet) and diameter (12 to 30 inches), although trees on the best sites may grow to 100+ feet tall and 48+ inches in diameter.

In the proposed action area, the Mill Creek channel is lined with levees that currently contain abundant vegetation (Photo 3-1). Trees and woody shrubs are growing on the landward shoulder and slope, and within 15 feet of the levee landward toe. This vegetation is mature, and consists of grasses, shrubs and trees (cottonwood, locust and sumac) of varying height and girth. The tallest trees are 100 feet high. Non-woody vegetation includes perennial grasses, wild rose, and some blackberry. On the riverward side of the levee, vegetation consists primarily of grass and small shrubs. No mature trees exist on the riverward side or within 15 feet of the riverward toe of the levee.



Photo 3-1: Vegetation Growing on the North Levee Structure at Rooks Park (Viewing West)

3.6.2 Environmental Consequences

3.6.2.1 Alternative 1: No Action

Under the No Action Alternative, the current vegetation environment would change as growth occurred naturally over time. In addition, minor maintenance performed by the Mill Creek staff members such as mowing or grazing by goats would be used to control small scale vegetation such as grasses and small shrubs. There could be damage to vegetation in the event of a flood as described above in the Aesthetics Section (3.2.2.1).

3.6.2.2 Alternative 2: Levee Vegetation Removal Phases I and II (Proposed Action)

Under Alternative 2, all existing woody vegetation on the landward side of the levee structure and 15 feet beyond the toe of the levee would be removed. The vegetation to be removed includes all large trees and understory. The proposed action would remove about six acres of woody riparian vegetation from the landward side of the levees along the Mill Creek channel. This is less than one percent of the area within the Mill Creek Project and a much smaller fraction of the amount of woody riparian vegetation available upstream.

Upon completion of this action, the resulting condition of the affected area would be maintained in native grasses. There would still be a certain amount of trees immediately outside of the vegetation-free zone, where vegetation would be allowed to flourish. Native trees and understory would grow naturally with limited anthropogenic interruption. The District would implement a planting plan which would offset this loss of trees and shrubs by planting vegetation in other areas of the federally-owned portion of the Mill Creek Project. The effects from removal of this six acres of vegetation would be minor to the overall vegetation resources along the Mill Creek Channel, therefore implementation of the proposed action would not result in significant negative effects to vegetation.

3.7 Cultural Resources

3.7.1 Affected Environment

The Mill Creek drainage lies within the ceded lands of the Confederated Tribes of the Umatilla Indian Reservation (CTUIR). Sites found within the Mill Creek drainage include villages, subsistence grounds, and regional trails associated with Mill Creek. The Fort Walla Walla Timber Reserve (U.S. Army, circa 1858 to 1910) formerly encompassed portions of the federally-owned Mill Creek Project area.

There have been a number of previous archaeological surveys in and around the Mill Creek Flood Control Project. The majority of these surveys were conducted by the District in support of actions covered under Section 106 of the National Historic Preservation Act (NHPA), or by the CTUIR, who have completed a number of surveys for activities occurring on the adjacent Walla Walla Community College Grounds. For the most part, these surveys have failed to identify new archaeological sites. Based on the past surveys the immediate project area has been identified as having a low probability for containing cultural resources (Falkner et al. 2011). In fact, no archaeological resources have been recorded on, or along the levees. In anticipation of this project the District conducted additional testing along the levees and only identified remnants of a buried cistern and some piping that will not be affected by any of the proposed alternatives. No other archaeological resources were recorded.

The Mill Creek Flood Control Project has exceeded 50 years of age, and has been recorded as a cultural resource (McCroskey, 2009). Elements of the cultural resource include the diversion dam, the division dam, the earth-filled dam, the return channel, and the levees where the levee maintenance would occur.

3.7.2 Environmental Consequences

3.7.2.1 Alternative 1: No Action/No Change

Implementation of Alternative 1 would result in no changes to any processes affecting cultural resources, and would result in no significant impacts.

3.7.2.2 Alternative 2: Levee Vegetation Removal Phases I and II (Proposed Action)

Archaeological surveys have failed to identify any resources in the project area. Impacts to the historic Mill Creek Project levees would only restore them to their “as-constructed design”, using similar material. The effects to the levees would even be beneficial as the removal of vegetation would alleviate the on-going effects of the damage being caused by vegetation, and restore previously damaged portions of the levees to their original design. Implementation of Alternative 2 would result in no significant negative effects to cultural resources.

3.8 Recreation

3.8.1 Affected Environment

The Mill Creek Project contains 612 acres available to the public for outdoor recreation. Warm temperatures and low precipitation during the summer attract many visitors to the area. Some recreational activities enjoyed in the project area include non-motorized boating and fishing in Bennington Lake, walking, jogging, hunting, hiking and biking. Rooks Park, directly adjacent to the Mill Creek forebay, is a popular local summertime getaway. The park has a large lawn, a pond, playground, sand volleyball court, picnic tables, barbecue grills, trails, a restroom, drinking fountains, and a public parking lot. Approximately 62,000 people visit Rooks Park each year. Many people use the Mill Creek Trail, the paved trail atop the north levee adjacent to the creek, for walking, jogging and biking. Access to the forebay is via non-maintained paths that lead over the north dike. The service access road on top of the dike provides some recreational use for hiking, biking, bird watching, and nature observance.

3.8.2 Environmental Consequences

3.8.2.1 Alternative 1: No Action

With no action, recreation in the proposed action area would continue as it currently exists. However, should a breach in the levee occur, recreation infrastructure could be damaged to the point where activities must cease. The recreational trails on the levees and Rooks Park would be closed to the public due to safety concerns. Depending on the situation, Bennington Lake could also be closed to the public if high flows are being diverted into the lake to prevent high flows down the channel.

3.8.2.2 Alternative 2: Levee Vegetation Removal Phases I and II (Proposed Action)

With implementation of the proposed action, all or portions of the levee’s walking trails would be closed to the public during construction activities on that particular levee. Increased truck traffic near the turn-around sites and trucks transporting material from the levees to the off-site disposal areas may temporarily inconvenience the general public access to recreational areas along these haul routes. Therefore, the negative effects to recreational opportunities associated with construction of the proposed action are considered temporary and insignificant.

Recreationalists using the path on the north levee in the late afternoon/evening may notice a difference in the amount of shade after implementation of the proposed action as the large trees currently shade the entire levee path. And although the District does acknowledge the somewhat negative perception this may create, it is not classified as a significant effect because it does not change the availability of recreational use of the path in the future.

3.9 Noise

3.9.1 Affected Environment

Sources of noise in the proposed action area come mostly from traffic along Isaacs Avenue, Tausick Way, and Reservoir Road. Airplane take offs and landings at the Walla Walla Regional Airport (primarily small engine planes and light aircraft) also contribute to noise pollution. Other noise sources include outdoor machinery and equipment and industrial/agricultural type activities occurring at Walla Walla Community College, surrounding businesses and nearby farm fields.

3.9.2 Environmental Consequences

3.9.2.1 Alternative 1: No Action

Under the No Action Alternative, local noise would continue as before, with automotive and industrial/agricultural as the primary sources.

3.9.2.2 Alternative 2: Levee Vegetation Removal Phases I and II (Proposed Action)

During both phases of the proposed action, noise levels would increase while construction equipment is operating. Local businesses, the surrounding neighbors and the recreating public may be slightly affected by noise related to construction equipment and/or trucks traveling back and forth between the levees, the turn-around sites and the off-site disposal areas. However, these effects would be temporary and localized, and would occur only during daylight working hours. As a result, noise effects are considered temporary and insignificant.

3.10 Climate Change

3.10.1 Affected Environment

Indications are that average global atmospheric temperatures are trending upward over the previous several decades, and are correlated to increased atmospheric carbon dioxide levels (IPCC 2001). Internal combustion engines emit carbon dioxide (CO₂) as one byproduct of efficient burning of fuel (gasoline or diesel). International efforts are being directed at reducing carbon release into the atmosphere.

In the Pacific Northwest, changes in snowpack, streamflows and forest cover are already occurring. Future climate change will likely continue to influence these changes. Average

annual temperature in the region is projected to increase by 3-10 F by the end of the century. Winter precipitation in the form of rain not snow is projected to increase while summer precipitation is projected to decrease (EPA, 2015). Along with rising air temperatures, there would be a corresponding rise in stream temperature. This would likely reduce the quality and suitability of steelhead and bull trout habitat in Mill Creek.

3.10.2 Environmental Consequences

3.10.2.1 Alternative 1: No Action

There would not be any effects to climate change as a result of implementing the No Action Alternative. Gradual climate change would continue, in correlation with increasing CO₂ emissions worldwide.

However, climate change does have the capability to cause minor effects to the Mill Creek Project. With the potential existing for a change in weather patterns (more rain and less snow in the winter) increased levee vegetation maintenance would be required, instead of no action. There is a higher risk of levee failure and resultant flooding if no levee vegetation maintenance occurs and the region receives more rain in the future as climate change models are predicting.

3.10.2.2 Alternative 2: Levee Vegetation Removal Phases I and II (Proposed Action)

There would be extremely negligible effects on climate change as a result of implementing the proposed action. Diesel fuel and gasoline consumption by heavy machinery and trucks required for the proposed action is a part of world-wide cumulative contributions to change in climate by way of increases in greenhouse gas emission. Given the minuscule contribution of CO₂ emissions resulting from the proposed action to overall global emissions, effects are considered to be insignificant.

Climate change could affect the Mill Creek Project due to the fact that climate change models in the Pacific Northwest are predicting warmer, wetter winters and dryer summers. This predication may result in more frequent high-water events thereby increasing the need for levee vegetation maintenance. Levee vegetation maintenance would continue as routine operation and maintenance to ensure that levee inspections can occur and that levee strength and integrity remain uncompromised.

3.11 Socioeconomics

3.11.1 Affected Environment

Walla Walla County was formed in 1854 and is one of the oldest communities in the state. The county covers 1,271 square miles of land, ranking 26th in size among Washington's 39 counties.

During 2014, there was an estimated 59,844 people living in Walla Walla County. This is an increase of 26% since 1981. The average per capita income in Walla Walla County is \$23,809. There are 21,677 homes in the area, with median home price of \$195,200. Around 88% of the populations graduated from high school, while 26% have higher education (www.census.gov).

The Walla Walla area has been known historically for its agricultural economy, with wheat being the number one crop. A variety of other crops, including barley, corn, potatoes, asparagus, peas, soft fruit, onions, concord and wine grapes, vegetables, alfalfa hay and seed generating a significant part of the annual harvest. In the past few years Walla Walla has become one of the main attractions for wine and arts tourism as the area gets national and world recognition for its quality wine. Other economic sectors include health care, higher education, and government services.

Many recreational opportunities are found within Walla Walla and the adjacent counties. The city of Walla Walla provides public recreation facilities, which includes 15 city parks, an 18-hole municipal golf course, an aviary, and recreation trails. Other recreational opportunities include Walla Walla County's Fort Walla Walla Park, National Park Service's Whitman Mission Historic Site, 9 miles west of Walla Walla, and the National Forest, located approximately 25 miles southeast of Walla Walla.

Two miles east of town, Mill Creek Project provides approximately 600 acres of federally funded project lands and waters open for public use, without entrance fees. The close proximity to the City of Walla Walla for a wild land experience makes Mill Creek unique with distinctive opportunities for horseback riding, lake recreation, fishing, hunting, hiking, biking and nature study, not offered at nearby parks.

3.11.2 Environmental Consequences

3.11.2.1 Alternative 1: No Action

Under the No Action Alternative, there would be negligible or no adverse effects to socioeconomics in Walla Walla County or the surrounding counties from routine operation and maintenance activities conducted at the Mill Creek Project. However, if levee failure and flooding did occur as a result of not maintaining the levees (Figure 3-1), there would be adverse socioeconomic impacts in the area. Possible immediate impacts would include loss of human life, damage to property, destruction of crops, loss of livestock, and non-functioning of infrastructure facilities. As communication links and infrastructure such as power plants, roads and bridges are damaged and disrupted, economic activities would come to a standstill, resulting in dislocation and the dysfunction of normal life for a period much beyond the duration of the flooding. Similarly, direct effects on agriculture or industry could inhibit regular activity and lead to loss of livelihoods. The spillover effects of the loss of livelihoods would be felt in business and commercial activities even in adjacent non-flooded areas.

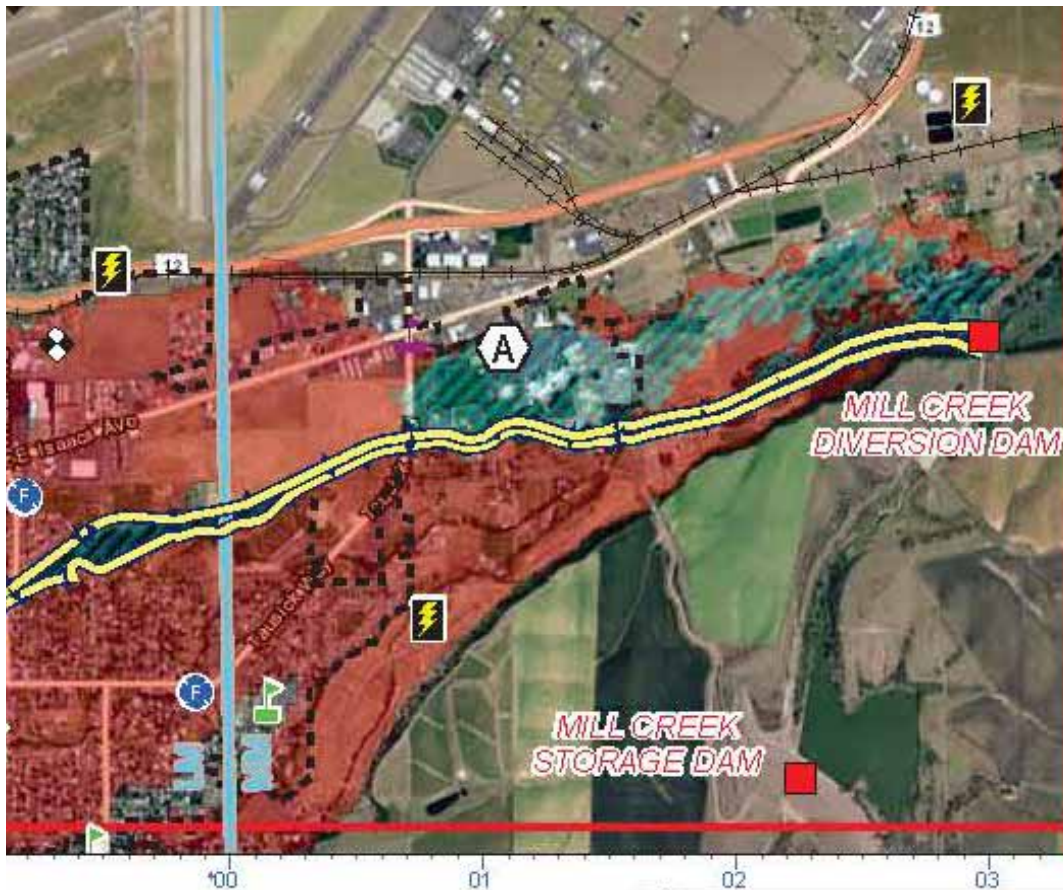


Figure 3-1: Levee Failure Inundation Map

3.11.2.2 Alternative 2: Levee Vegetation Removal Phases I and II (Proposed Action)

During construction activities, both in 2015 and 2016, there would be minor economic benefits to local businesses in Walla Walla and/or the surrounding area as a result of contractors working in the vicinity. There would also be long-term and positive socioeconomic benefits to the Walla Walla area with implementation of Alternative 2 due to the fact that maintaining the levees in accordance with HQUSACE policy and guidance on vegetation management reduces the probability of a flood event in the area. With Mill Creek contained in the flood control channel, economic activities would continue on a day-to-day basis thereby benefitting the livelihood of the business community in Walla Walla.

There could be some minor negative effects on socioeconomics as a result of the proposed action due to the fact that there may be fewer “out-of-town” visitors to the levee trails (walkers and joggers, birders, hikers and bikers).

3.12 Environmental Justice

3.12.1 Affected Environment

As outlined in Executive Order 12898, federal agencies must evaluate environmental justice issues related to any project proposed for implementation. This evaluation includes identification of minority and low-income populations, identification of any negative project impacts that would disproportionately affect these low-income or minority groups, and proposed mitigation to offset the projected negative impacts. In Walla Walla County the racial composition is predominantly white. Native Americans, Pacific Islanders, and Hispanics also account for a percentage of the areas demographics.

3.12.2 Environmental Consequences

3.12.2.1 Alternative 1: No Action

If no action were performed by the District, it is possible that vegetation on the levee could cause damage and thus result in a break during a high-water event. Depending on the location of a break, flooding could occur anywhere in Walla Walla and/or the surrounding communities. However, there is no evidence that minority and low-income populations would be disproportionately affected should this occur.

3.12.2.2 Alternative 2: Levee Vegetation Removal Phases I and II (Proposed Action)

The Proposed Action would not have a disproportionate or adverse effect on low-income or minority populations since the proposed action area is open to everyone and does not require fees for use of the facilities. Ultimately, the vegetation removal would benefit all residents of Walla Walla and the surrounding communities by maintaining flood risk reduction, enabling access for annual levee inspections and repairs, if needed, and thus ensuring levee strength and integrity.

3.13 Cumulative Effects

The National Environmental Policy Act (NEPA) and the Council on Environmental Quality (CEQ) regulations implementing the Act require federal agencies to consider the cumulative effects of their actions. Cumulative effects are defined as effects “on the environment which result from incremental impact of an action when added to other past, present and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor, but collectively significant actions taking place over a period of time” (40 CFR § 1508.7).

The primary goal of a cumulative effects analysis is to determine the magnitude and significance of the environmental consequences of the proposed action in the context of the cumulative effects of other past, present, and reasonably foreseeable future actions.

3.13.1 Resources Considered

The District used the technical analysis conducted in this EA to identify and focus on cumulative effects that are “truly meaningful” in terms of local and regional importance. While the EA addresses the effects of alternatives on the range of resources representative of the human and natural environment, not all of those resources need to be included in the cumulative effects analysis – just those that are relevant to the decision to be made on the proposed action. The District has identified the following resources that are notable for their importance to the area and potential for cumulative effects. Those resources are:

- Aesthetics;
- Vegetation;
- Terrestrial Resources/Wildlife;
- Threatened and Endangered Fish

Resources are discussed in terms of their cumulative effect boundary (spatial and temporal), the historic condition and impacts to the resources, present condition and impacts to the resources, reasonably foreseeable future actions that may affect the resources, and the effects to the resource by the various vegetation maintenance alternatives when added to other past, present, and future actions.

This section evaluates the cumulative effects of actions that could potentially affect the same environmental resources as those discussed earlier in this EA. The scope of this analysis extends beyond the Mill Creek Project to other areas that sustain the resources of concern. A resource may be differentially impacted in both time and space. The implication of those impacts depends on the characteristics of the resource, the magnitude and scale of the project’s impacts, and the environmental setting (EPA 1999).

3.13.2 Geographic and Temporal Scope of Cumulative Effects Analysis

Guidance for setting appropriate boundaries for a cumulative effect analysis is available from CEQ (1997) and EPA (1999). Generally, the scope of cumulative effects analysis should be broader than the scope of analysis used in assessing direct or indirect effects. “Geographic boundaries and time periods used in cumulative impact analysis should be based on all resources of concern and all of the actions that may contribute, along with the project effects, to cumulative impacts” (EPA 1999). The analysis should delineate appropriate geographic areas including natural ecological boundaries, whenever possible, and should evaluate the time period of the project’s effects.

The resources assessed have experienced various impacts since the mid-1900s. Actions such as construction and operations of dams and associated levee systems, flood control projects, agricultural development, road building, logging, development of cities, and fish harvest have all contributed to the current state of the resources in the area. These actions have negatively and positively affected the resources.

Discussed below are the past, present, and reasonably foreseeable future actions that were considered for the cumulative effects analysis, the effects of the actions on the resources assessed, and a summary of the cumulative effects of the alternatives. Table 3-1 summarizes the geographic and temporal boundaries used in this cumulative effects analysis.

Table 3-1: Geographic and Temporal Boundaries of Cumulative Effects Area

Resource	Geographic Boundary	Temporal Boundary
Aesthetics	Mill Creek Watershed	75 years
Vegetation		
Terrestrial Resources/Wildlife		
Threatened and Endangered Fish		

The geographic boundary for the cumulative effects analysis for Aesthetics, Vegetation, Terrestrial Resources/Wildlife, and Threatened and Endangered Fish includes actions taking place in the Mill Creek Watershed. The timeframe of 75 years was identified based on an approximate construction start of the Mill Creek Project of 1940. A timeframe of five years into the future has been considered. Only actions that are reasonably foreseeable are included. To be reasonably foreseeable, there must be a strong indication that an action/event will occur or be conducted.

3.13.3 Past, Present, and Reasonably Foreseeable Future Actions and Implications for Resources

The following sections present summaries of past, present, and reasonably foreseeable future actions considered in this cumulative effects analysis, and the effects of those actions on the resources considered.

3.13.3.1 Past Actions

Since 1918, the City of Walla Walla and the US Forest Service have managed the upper Mill Creek watershed solely for the protection of water quality as the City of Walla Walla receives 90 percent of its municipal water supply from the watershed. Access to this area is well controlled and therefore, remains pristine. Mill Creek flow is reduced by about 37 cfs due to these water withdrawals. When Mill Creek flows are very low during summer or when water quality is poor, the supply is supplemented by wells. Structures and trails associated with the watershed water supply were constructed many years prior to the 75 year temporal boundary established for this analysis.

Within the watershed boundary in the City of Walla Walla, the original MCFCP was completed in 1942. Major structural components include:

- The Mill Creek project office, associated structures, and south levee.

- The division works near the project office. The First Division Works (intake gates, and fish ladder) is located at Mill Creek RM 10.5. The Second Division Works (intake gates) is at the downstream end of the Yellowhawk/Garrison canal.
- About one mile of stabilized Mill Creek channel, consisting of levees, riprap, and 84 concrete sills from the First Division Works (including four weirs and a portion of a fifth downstream of the First Division Works) upstream to Bennington Lake Diversion Dam.
- The Bennington Lake Diversion Dam at RM 11.5 (intake canal headworks with radial gates, spillway, low-flow outlet, earth dike, fish drum screens, fish ladder, and forebay) diverts floodwaters from Mill Creek into Bennington Lake, the off-stream storage reservoir.
- An intake canal from Bennington Lake Diversion Dam to Bennington Lake.
- Bennington Lake, Mill Creek Dam, and outlet works.
- The Mill Creek return canal (Bennington Lake back to Mill Creek), and the Russell Creek outlet channel.
- Rooks Park and related recreational facilities.

A concrete-lined auxiliary outlet channel from Bennington Lake Diversion Dam to Russell Creek was later added to the MCFCP, along with additional drainage facilities at the toe of Bennington Lake Diversion Dam. In 1951, the District began capping existing wire bound channel stabilizers (sills) with concrete. Fish ladders were built in 1982 at the Division Works Dam and Bennington Lake Diversion Dam, and boulders were added as fish habitat elements in 1986 (Corps, 1991). Many other improvement projects have been implemented at the Mill Creek Project within the last 30 plus years. A “non-exhaustive” list of the District’s past actions include: updated play structures at Rooks Park, construction of a new Mill Creek Project office building, construction of three “low-flow” prototype weirs in the channel, dredging the forebay, riprap repair, and restroom replacement at Bennington Lake.

3.13.3.2 Effects of Past Actions on Resources

Aesthetics

The upper Mill Creek watershed is generally thought to have high aesthetic quality due to its remoteness and lack of public access. Residents of Walla Walla know that upper Mill Creek is the source for most of their drinking water. Closure of the upper watershed has had a positive effect on aesthetics.

The aesthetic value of the MCFCP is more difficult to qualify. During or after flood flows pass through the MCFCP concrete channel, many people can envision those same flows flooding downtown Walla Walla or their neighborhood, so the aesthetic value could be high. In contrast many people may see the man-made channel as having no resemblance of a natural stream and would value the aesthetic quality as low.

Vegetation

Construction of the MCFCP reduced the amount of riparian trees along the creek. Residential development in and around Walla Walla since the project was constructed also cleared some land of vegetation and fragmented some habitat that blocks of vegetation provided.

Terrestrial Resources/Wildlife

Waterways are typically used as travel corridors for wildlife. Construction of the entire MCFCP effectively eliminated this travel corridor on lower Mill Creek. Continued development over the years within the City of Walla Walla has reduced the amount of terrestrial wildlife habitat available in the lower part of the Mill Creek watershed.

Vegetation management on the levees has not been performed in many years. The lack of maintenance in the past has led to establishment of a relatively diverse age stand of woody riparian vegetation, which provides habitat to birds and other wildlife. Along with smaller brush and trees, some mature cottonwood and locust trees can be found on the levees or within 15 of the levee toe.

Threatened and Endangered Fish

The construction of the MCFCP affected the creek, the floodplain, and the resources associated with it. That construction inadvertently created partial fish passage barriers, straightened the creek and cut off the creek from its floodplain. The flood control project continued downstream through the City of Walla Walla, creating approximately six miles of altered creek channel. The Mill Creek Flood Control Zone District manages and maintains the downstream five miles of the channel including vegetation removal.

In addition to the city's diversion, there is also a diversion point that channels flow into Titus Creek, upstream from the Mill Creek Project (upstream from 5-mile Road). These flow withdrawals reduce the amount of water available for aquatic resources, including ESA-listed steelhead and bull trout, downstream of the point of diversion.

Spring Chinook were extinct from the Mill Creek watershed since 1925 due to the Nine Mile Dam on the Walla Walla River which was built in 1905. Loss of Chinook from the watershed reduced the amount of juvenile salmon available to bull trout as food as well as reducing the amount of ocean-derived nutrients to the watershed which once benefitted all of the fish species in the creek. Chinook were reintroduced to Mill Creek in 2000. Small numbers of salmon (less than 100) have returned to Mill Creek annually.

3.13.3.3 Present Actions

Present actions include operation and routine maintenance of the flood control project. In 2015, work would likely include the additional following actions:

- Vegetation plantings
- Construction of a new maintenance building
- Mill Creek Master Plan

Several short sections of the county-owned segment of the flood control channel have recently been modified to improve fish passage conditions. These efforts have been led by the Tri-State Steelheaders. Additional work to improve fish passage throughout this lower portion of the channel is also likely to occur as funding becomes available.

3.13.3.4 Effects of Present Actions on Resources

Aesthetics

Present actions within the MCFCP and in Mill Creek have generally positive effects on aesthetics of the area. New buildings on the Corps-managed land improve the appearance of the federally owned portion of the project. Development of an updated master plan provides public involvement in a process to develop fresh ideas for how the federally owned land should be managed.

Vegetation

Continued human development within the watershed may have some negative effects on the amount of vegetation, but planting of new trees offsets some of these impacts. The District often uses volunteers to plant trees on federally-managed land.

Terrestrial Resources/Wildlife

The high amount of human development and lack of quality wildlife habitat along Mill Creek through the city of Walla Walla continues to negatively affect terrestrial resources. However, at the watershed scale, the Mill Creek corridor provides high value habitat for many wildlife species. Present actions maintain the poor quality of terrestrial wildlife habitat in the lower watershed and the high quality of the habitat in the upper watershed.

Threatened and Endangered Fish

Steelhead and to a lesser extent bull trout benefit from the fish passage modifications to the MCFCP. Resting areas and lower jump heights allow these fish to expend less energy to reach the upper watershed where they spawn and rear.

Flow diversions for the City of Walla Walla and at Titus Creek would continue to reduce the flow through the Mill Creek Flood Control Project area.

3.13.3.5 Reasonably Foreseeable Future Actions

Future actions in the immediate area of the proposed levee vegetation removal work include continuing operation and maintenance of the Mill Creek Flood Control Project and the following proposed actions:

- Jones Ditch culvert relining and outfall structure and reservoir road crossing
- Diversion Dam interior silt removal
- Replace expansion joints in return canal (if the lake is used to bypass flows and this route is used to put water back to Mill Creek).
- ADA compliant paved trail in Rooks Park
- Install five more picnic shelters
- Continue planting vegetation on federally-managed land utilizing volunteer assistance

Fish passage improvements led by the Tri-State Steelheaders would continue as funding allows. The goal is to create a channel where steelhead and bull trout (and Chinook salmon) can pass at a wide range of flows while maintaining the designed flood capacity.

Commercial and residential development within and surrounding the city of Walla Walla would likely continue into the future.

3.13.3.6 Effects of Reasonably Foreseeable Future Actions on Resources

Aesthetics

Future effects to aesthetics within the Mill Creek watershed are very difficult to predict. Many people would accept that development is going to continue to occur in and around Walla Walla and might be neutral on the aesthetic quality of the area. Installation of additional picnic shelters and construction of an Americans with Disabilities Act (ADA) trail in Rooks Park on the federally-managed portion of the MCFCP would likely be seen as improving the aesthetic quality of the immediate area. However, this is not likely to offset the quality lost by removing the trees along the levee.

Vegetation

Areas of vegetation would be removed as land is developed. This is mitigated to some extent by landscaping including planting trees as part of the development. On federally-managed land, trees and shrubs would be planted as funding and availability of volunteer efforts allow. Vegetation would not be affected by other future actions identified in the near future.

Terrestrial Resources/Wildlife

The future actions discussed in this analysis would have little if any measureable effect on terrestrial resources within the Mill Creek watershed.

Threatened and Endangered Fish

The operation and maintenance activities mentioned would not impact ESA-listed fish species.

Fish passage improvements to the MCFCP would benefit steelhead and bull trout directly by creating better passage conditions, but also indirectly by allowing more Chinook salmon and the nutrients they carry to reach the upper watershed.

3.13.4 Summary of Cumulative Effects of Past, Present, and Reasonably Foreseeable Future Actions on Resources

The proposed action would have some minor temporary, negative effects from construction activities, as previously described.

Aesthetics of the overall watershed would likely remain unchanged. In the immediate area where the trees are removed the aesthetic value would be reduced but many people would likely continue using the trails for recreation.

The total amount of trees and shrubs within the Mill Creek watershed would be reduced by the proposed action. The proposed action would remove six acres of trees and shrubs from the 41,600 acre drainage.

There would be minor negative effects to wildlife such as birds, small mammals and deer by implementation of the proposed action when combined with cumulative effects from other actions. The proposed action would cause a localized decrease in woody riparian habitat, but it is not expected to have any detrimental measureable impact on bird or other wildlife populations within the Mill Creek watershed.

Steelhead and bull trout have been and continue to be negatively affected within the Mill Creek watershed. The removal of the landward side levee vegetation would not directly impact these fish so the action would not add to the cumulative effects on this resource.

SECTION 4 - COMPLIANCE WITH APPLICABLE ENVIRONMENTAL LAWS AND REGULATIONS

Section 4 identifies the legal, policy, and regulatory requirements that could affect each proposed alternative. The implications for each requirement are discussed with respect to the proposed project. Summaries of compliance and coordination activities for each of the laws, policies, or regulation are also provided.

4.1 National Environmental Policy Act

As required by NEPA and subsequent implementing regulations promulgated by the Council on Environmental Quality, this EA was prepared in order to determine whether the proposed action constitutes a "...major Federal action significantly affecting the quality of the human environment..." and whether an EIS is required. This EA documents the evaluation and consideration of potential environmental effects associated with the proposed action.

The District prepared this EA and will circulate it to other state and federal agencies and the public for review and comment. The District identified no impacts significantly affecting the quality of the human environment prior to distribution of the EA. If no such impacts are identified during the public review process, compliance with NEPA would be achieved upon the signing of a Finding of no Significant Impact (FONSI). However, if such impacts are identified during the public review, an EIS would be required. Completion of an EIS and the signing of a Record of Decision would then achieve compliance with NEPA.

4.2 Endangered Species Act

The Endangered Species Act (ESA) established a national program for the conservation of threatened and endangered fish, wildlife and plants and the habitat upon which they depend. Section 7(a)(2) of the ESA requires Federal agencies to consult with the USFWS and NMFS, as appropriate, to ensure that their actions are not likely to jeopardize the continued existence of endangered or threatened species or adversely modify or destroy their critical habitats. Section 7(c) of the ESA and the Federal regulations on endangered species coordination (50 CFR §402.12) require that Federal agencies prepare biological assessments of the potential effects of major actions on listed species and critical habitat.

In compliance with Section 7 of the Endangered Species Act, the District initiated formal consultation with NMFS on the potential effects to ESA-listed anadromous fish species and with USFWS on potential effects to bull trout with the District's submission of a Biological Assessment (BA) on April 27, 2015. The District determined the proposed action "may affect and is likely to adversely affect" mid-Columbia River steelhead and Columbia basin bull trout and may also affect their designated critical habitat. The proposed action "may affect but is not likely to adversely affect" the yellow-billed cuckoo. The District also determined that the proposed action would have "no effect" on Canada lynx, Washington ground squirrel, or Ute ladies'-tresses.

At the time of this writing (July 2015), no official response has been received from either agency regarding their determinations. The results of ESA consultation will be described in the final Finding of No Significant Impact should it be determined that an Environmental Impact Statement is not required for the proposed action under NEPA.

4.3 National Historic Preservation Act

The NHPA of 1966 as amended directs federal agencies to assume responsibility for all cultural resources under their jurisdiction. Section 106 of NHPA requires agencies to consider the potential effect of their actions on properties that are listed, or are eligible for listing, on the National Register of Historic Places. The NHPA implementing regulations, 36 Code of Federal Regulations (CFR) Part 800, requires that the federal agency consult with the State Historic Preservation Office (SHPO), Tribes and interested parties to ensure that all historic properties are adequately identified, evaluated and considered in planning for proposed undertakings.

In accordance with Section 106 of the NHPA, the District is consulting with the Washington (SHPO), the Confederated Tribes of the Umatilla Indian Reservation (CTUIR), the Nez Perce Tribe, and the Fort Walla Walla Museum regarding effects to cultural resources (also known as historic properties). Following the Section 106 procedures (36 CFR Part 800), the District initiated consultation by providing a letter and project details to the consulting parties. Along with the letter and project information, the District also provided the consulting parties with a map depicting the proposed area of potential effect for the project. This letter was mailed on April 6, 2015. The only response the District received was from the Washington SHPO, who concurred with the proposed area of potential effect in a letter dated April 14, 2015. The District also completed its determination of effect, finding that the project would result in *no adverse effect* to historic properties. This determination of effect was sent to the same four consulting parties on June 9, 2015. The Washington SHPO concurred with the project in a letter dated June 15, 2015, and the Fort Walla Walla Museum also concurred in a letter dated June 18, 2015. No responses were received from either the CTUIR or the Nez Perce Tribe.

4.4 Native American Graves Protection and Repatriation Act

The Native American Graves Protection and Repatriation Act addresses the discovery, identification, treatment, and repatriation of Native American and Native Hawaiian human remains and cultural items (i.e., associated funerary objects, unassociated funerary objects, sacred objects, and objects of cultural patrimony).

Although not expected, in the event of an inadvertent discovery during construction, work would immediately halt, and the appropriate parties would be contacted. The entire channel within the project area was disturbed during construction, and the discovery of human remains with this proposed action is extremely unlikely.

4.5 Clean Water Act

The Federal Water Pollution Control Act (33 U.S.C. §1251 et seq., as amended) is more commonly referred to as the Clean Water Act. 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 act was established to restore and maintain the chemical, physical, and biological integrity of the Nation's waters and sets goals to eliminate discharges of pollutants into navigable water, protect fish and wildlife, and prohibit the discharge of toxic pollutants in quantities that could adversely affect the environment. The act has been amended numerous times and given a number of titles and codifications.

Section 402 of the Clean Water Act, the National Pollutant Discharge Elimination System (NPDES) program, pertains to discharge of pollutants. No pollutants would be discharged into waters of the U.S. by activities proposed in this EA.

Section 402 of the Clean Water Act also regulates ground disturbance that could potentially cause stormwater run-off into waters of the U.S. A Notice of Intent for a Construction General Permit must be filed on the Environmental Protection Agency's website seven days prior to the start of construction due to the fact that more than an acre of ground would be disturbed and there is potential for stormwater run-off into Mill Creek.

4.6 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 U.S.C. §§ 703-712, as amended) prohibits the taking of and commerce in migratory birds (live or dead), any parts of migratory birds, their feathers, or nests. Take is defined in the MBTA to include by any means or in any manner, any attempt at hunting, pursuing, wounding, killing, possessing or transporting any migratory bird, nest, egg, or part thereof.

A wide variety of species listed under the MBTA occur on District managed lands within the proposed action area. The project area may attract a number of migratory nesting birds. The proposed Phase I work would be conducted after the seasonal migratory bird nesting season. No nest trees or nestlings would be disturbed by the proposed project. There would be no take of migratory birds and this action would not conflict with the purposes of the MBTA. No further coordination is necessary.

4.7 Watershed Protection and Floodplain Management Act

The purpose of the Watershed Protection and Flood Prevention Act is to protect watersheds from erosion, floodwater, and sediment damages. The Act provides assistance programs to local organizations for the protection of watersheds, including flood control. The proposed project is in compliance with the Act.

The actions proposed in this project would not affect upstream watersheds or the designed levels of flood protection provided by Mill Creek.

4.8 Executive Order 11988, Floodplain Management

This Executive Order outlines the responsibilities of federal agencies in the role of floodplain management. Each agency must evaluate the potential effects of actions on floodplains and avoid undertaking actions that directly or indirectly induce development in the floodplain or adversely affect natural floodplain values. Alternatives considered for this project would maintain designed levels of flood damage reduction, and would not further alter the floodplain.

4.9 Executive Order 11990, Protection of Wetlands

This order directs federal agencies to provide leadership in minimizing the destruction, loss, or degradation of wetlands. Section 2 of this order states that, in furtherance of the NEPA, agencies shall avoid undertaking or assisting in new construction located in wetlands unless there is no practicable alternative. No wetlands will be impacted by the proposed project.

SECTION 5 - COORDINATION, CONSULTATION, AND PUBLIC INVOLVEMENT

5.1 Agency Consultation

5.1.1 Endangered Species Act

The District is consulting with the USFWS and NMFS for potential effects to ESA-listed species. The District is working with the USFWS and NMFS to complete ESA consultation in a timely manner to meet a fall 2015 proposed action start for Phase 1.

5.2 Public Involvement

Because local interest in the proposed action is high, the District has been and continues to keep the interested public informed of the upcoming levee vegetation maintenance. On March 17th, a reporter from the local newspaper, the Walla Walla Union Bulletin (UB), interviewed several members of the product delivery team and an article was printed in the UB on Sunday, April 5th, 2015.

On March 19th, several District staff members attended a monthly Blue Mountain Audubon Society (BMAS) meeting at Whitman College. The purpose for attending was to provide preliminary information regarding the proposed levee vegetation maintenance, inform the group of the upcoming public review period and answer questions from the group.

The District created a Mill Creek Levee Maintenance video and published it on the District's internet web site on April 3rd. This video explained in detail the need for levee vegetation maintenance and how vegetation on the levees affects levee structure and integrity and hampers necessary inspections.

At the April 16th quarterly Mill Creek work group meeting (a collaborative regional team that guides project development and prioritization for Mill Creek activities), Mill Creek Project staff members and the District's levee vegetation maintenance Project Manager conveyed information to the work group regarding the proposed action of levee vegetation removal.

Walla Walla District Commander Timothy Vail and additional District staff met with members of the BMAS on Tuesday, May 19th. Key discussion points included public safety and the difficulty of inspecting levees due to vegetation overgrowth. BMAS voiced concerns that the proposed vegetation removal is excessive and will destroy avian habitat. They also inquired about a variance and why maintenance has not been conducted for the last 35 years. The primary purpose of this meeting was to provide a status update on the developing Mill Creek levee maintenance plan and encourage attendance at the upcoming public meeting being hosted by the District.

A public meeting is planned for Wednesday, August 12, 2015 at the Airport Terminal Building Conference Room at 45 Terminal Loop Road in Walla Walla, Washington. At this meeting, the

District will give a presentation on the need for levee vegetation maintenance, answer questions from attendees, and offer tours of the proposed action area.

Finally, this EA was made available to potentially interested members of the public and local, state, and federal agencies for a 30-day review and comment period from July 15 to August 15, 2015. Upon conclusion of the review period, the District will consider comments received and move forward in the NEPA process with a Finding of No Significant Impact (FONSI) if applicable, or on to the preparation of an Environmental Impact Statement if deemed necessary.

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APPENDIX A

GOOGLE EARTH IMAGES

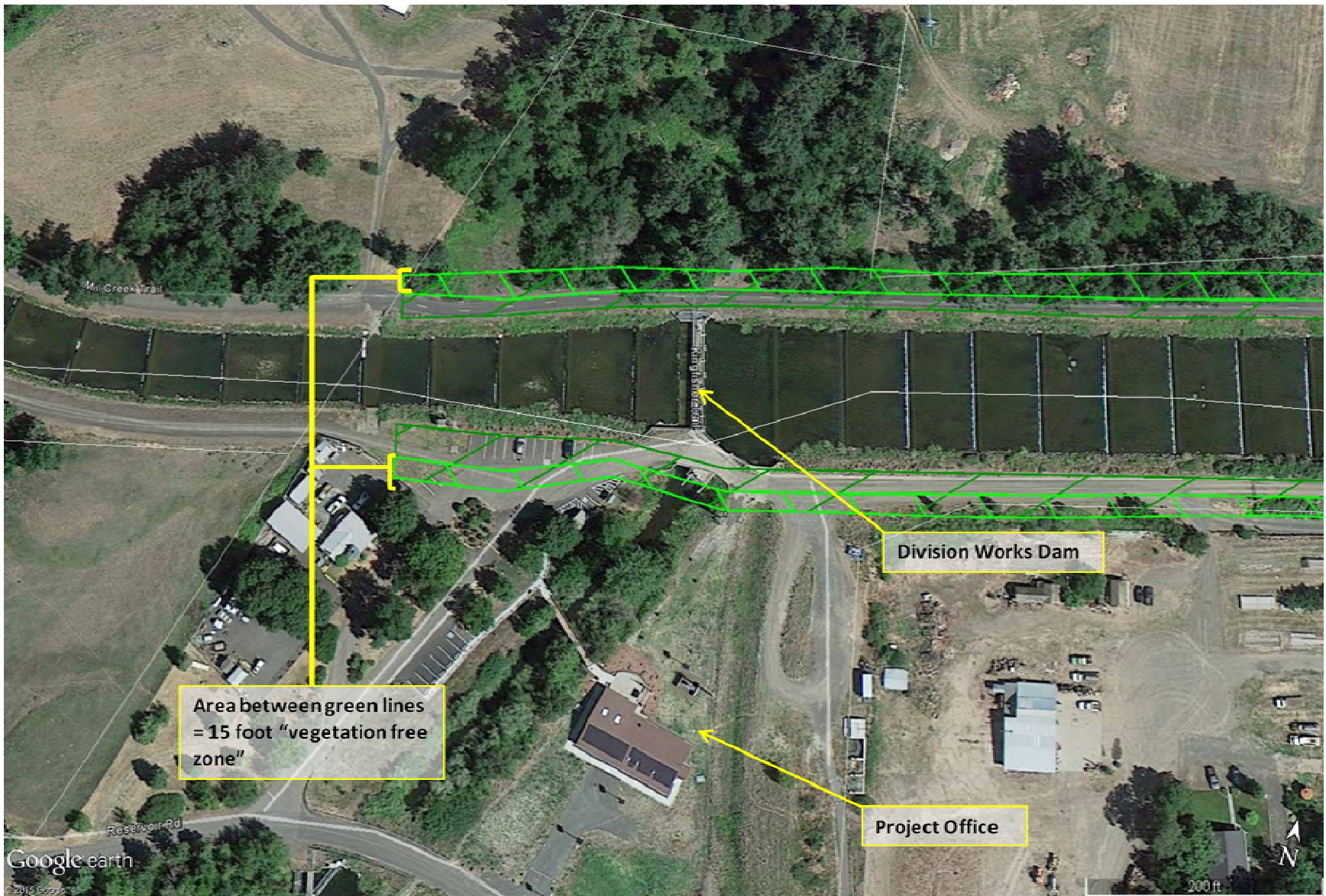


Plate 1: The proposed vegetation free zone designated by the bright green boxes at the western-most federal boundary.

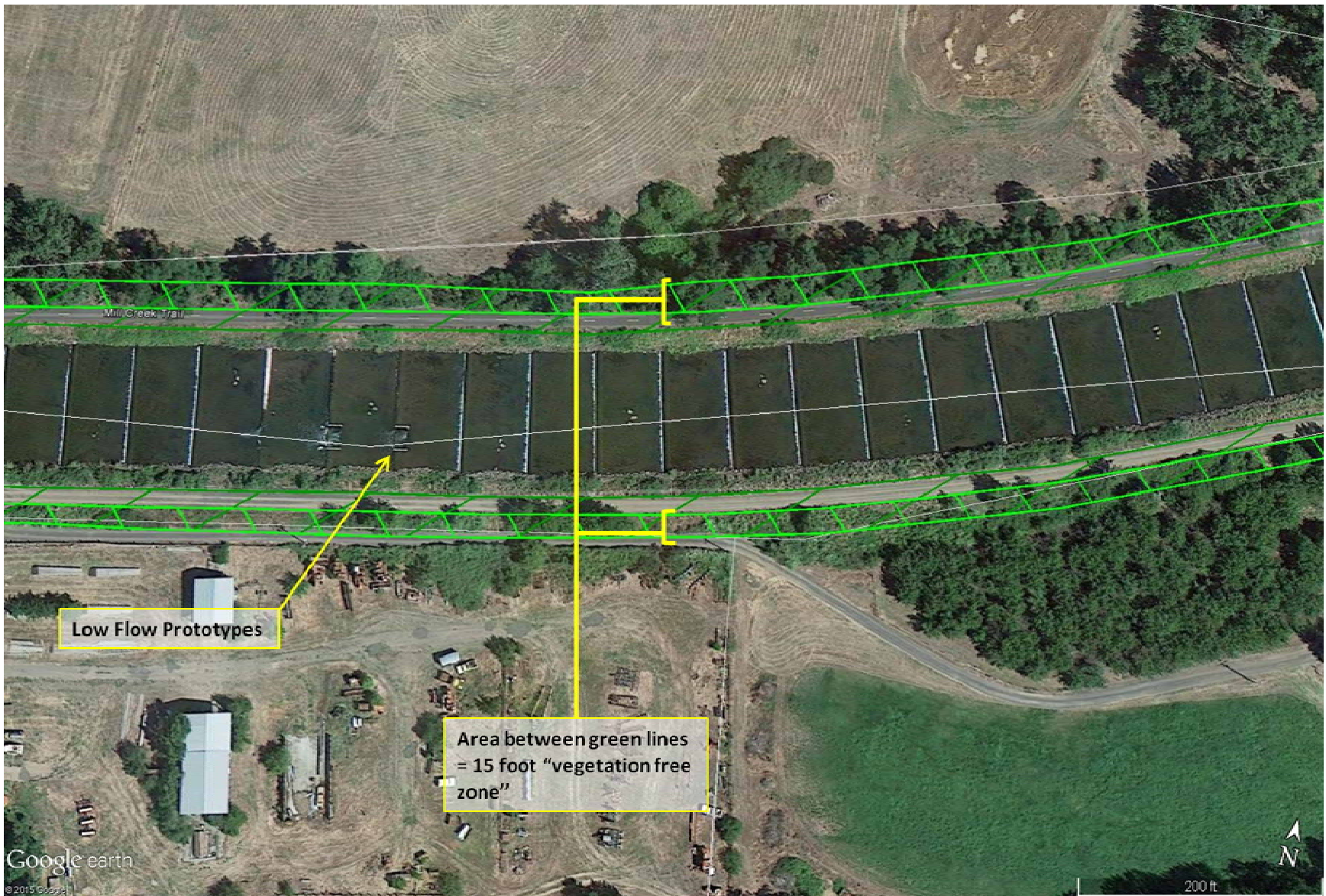


Plate 2: The proposed vegetation free zone designated by the green boxes.

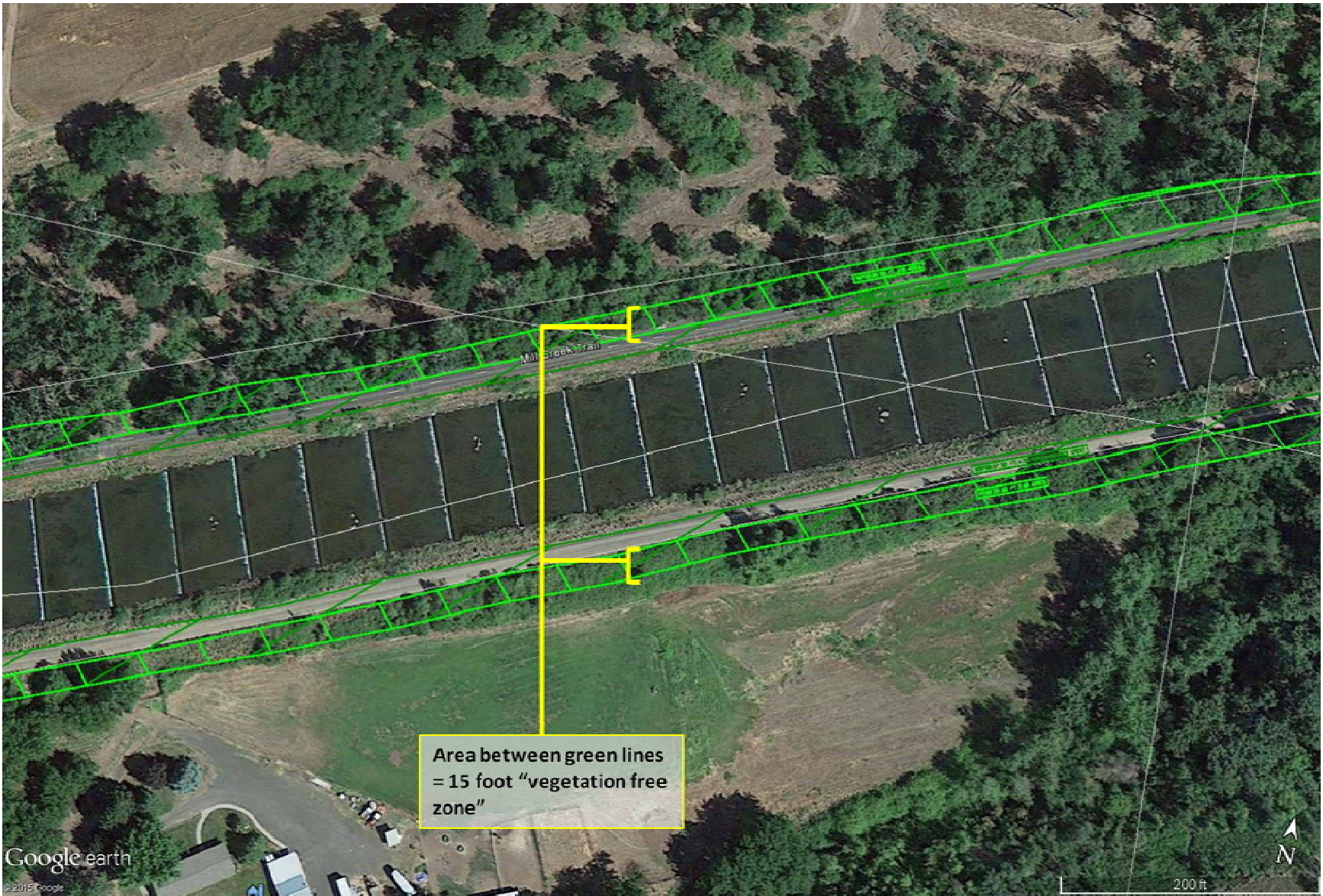


Plate 3: The proposed vegetation free zone designated by the green boxes.

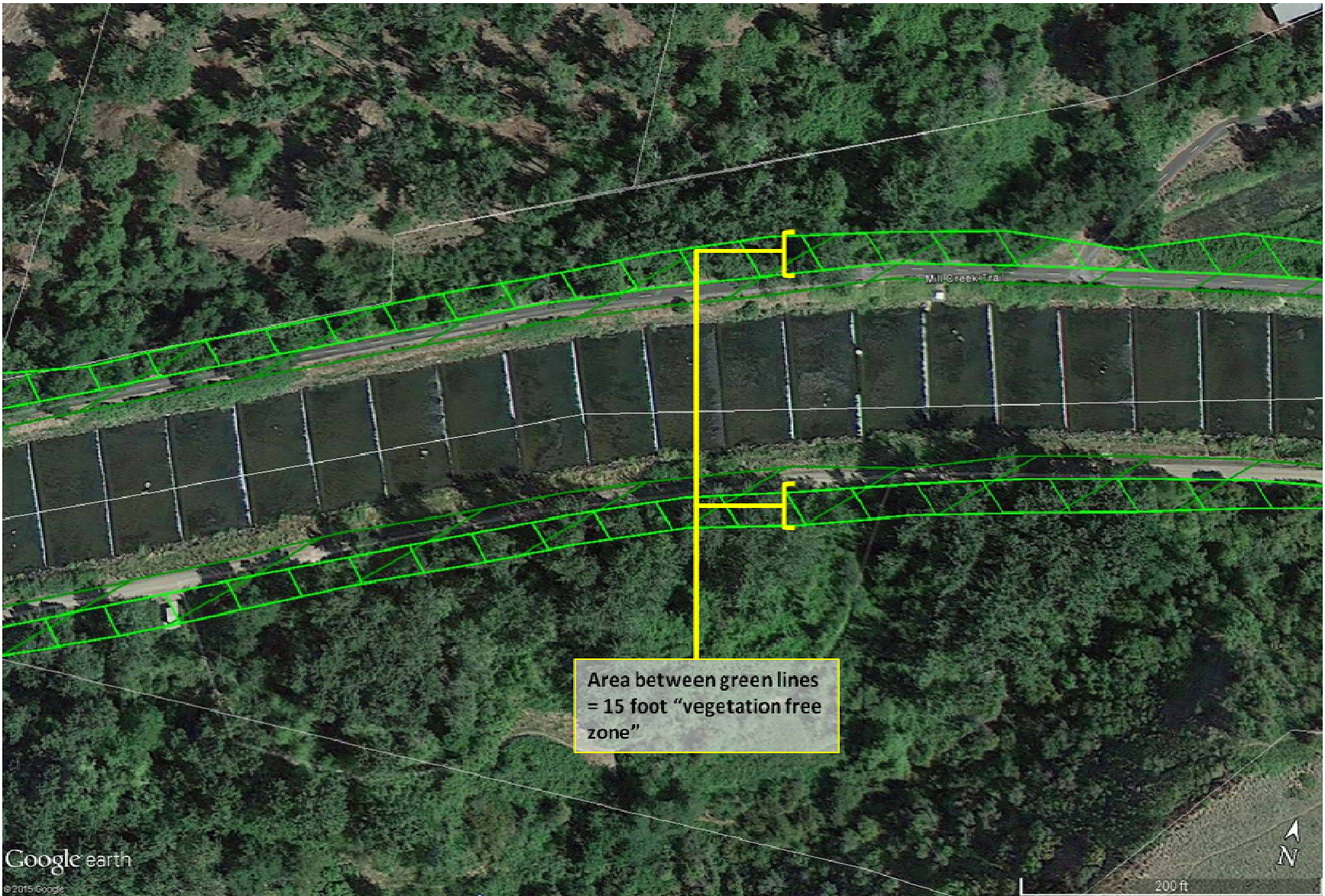


Plate 4: The proposed vegetation free zone designated by the green boxes.

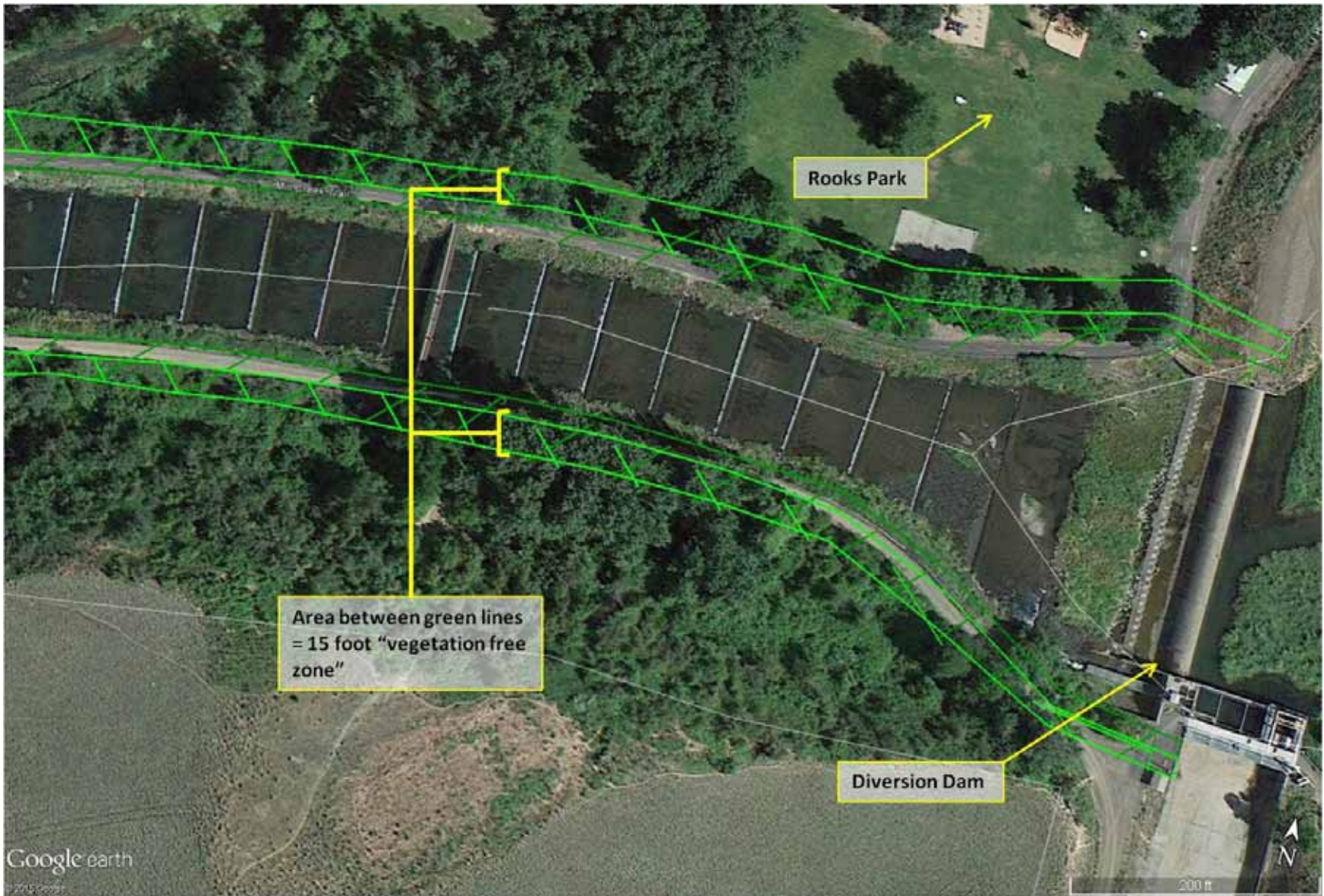


Plate 5: The proposed vegetation free zone designated by the green boxes at the eastern-most end of the federal boundary.