Dunn Creek Bank Stabilization Project
Draft Environmental Assessment

MONTANA FISH, WILDLIFE & PARKS
FISHERIES DIVISION

June 8, 2016

PART I: PROPOSED ACTION DESCRIPTION

A. Type of proposed action: Montana Fish, Wildlife & Parks seeks to reduce instream sediment in Dunn Creek by stabilizing a large, eroding stream bank.

B. Estimated commencement date: The proposed bank stabilization project on Dunn Creek is scheduled to occur in late summer or fall 2016.

C. Name and location of the project: This project is referred to as the Dunn Creek bank stabilization project, and the purpose of the project is to reduce instream sediment and enhance fisheries habitat complexity in Dunn Creek. This project will be constructed on Dunn Creek, located approximately 15 miles northeast of the city of Libby, Montana. Specifically, the project is located within Township 30 North, Range 29 West, Section 3, in Lincoln County (Figure 1). The project will occur entirely on land owned by Weyerhaeuser Company.

D. Project size:

Dunn Creek is a fourth order tributary to the Kootenai River. All proposed activities will occur within the floodplain of Dunn Creek and would have a footprint of less than half an acre. The eroding southern stream bank at the proposed project site is approximately 100 feet long and 40 feet high, is very steep, and will not likely stabilize without intervention. This bank is contributing an estimated 168 tons of sediment annually to Dunn Creek. Figure 2 shows is a photograph of the eroding bank.

1. Industrial – 0 acres
2. Developed/Residential – 0 acres
3. Open space/Woodlands/Recreation – 0 acres
4. Wetlands/Riparian – The proposed project would be located within the present floodplain and riparian area of Dunn Creek. The total footprint of this project would be less than half an acre within the active floodplain.
5. Floodplain – 0.5 acre
6. Irrigated Cropland – 0 acres
7. Dry Cropland – 0 acres
8. Forestry – 0 acres
9. Rangeland – 0 acres

E. Narrative summary of the proposed action:

Background

Dunn Creek is a 10-mile-long tributary to the Kootenai River with a total watershed area of 33.9 square miles. The portion of Dunn Creek, near the proposed project location, is classified as a Rosgen (1996) B-type stream channel, which flows exclusively through a combination of US Forest Service, state of Montana, and Weyerhaeuser Company lands. At the confluence with the Kootenai River, Dunn Creek has an estimated bankfull discharge and bankfull width of 125 cubic feet per second and 31 feet. Elevations within the Dunn Creek watershed range from 6,000 feet to 2,120 feet at the confluence of the Kootenai River, and the flow regime consists of a snowmelt runoff freshet generally in late May/early June and high elevation spring flows throughout the rest of the year. With this type of flow regime, Dunn Creek maintains a relatively consistent temperature, rarely exceeding 15 C.

Montana FWP has partnered with the US Forest Service and Weyerhaeuser Company to explore restoration opportunities within the Dunn Creek watershed. This effort began with a comprehensive watershed assessment to identify areas of highest priority (USFS 2013). The assessment work identified that a single eroding bank (Figure 2) at the proposed project location was contributing an estimated 168 tons of sediment annually to Dunn Creek, which was equal to the combined total of the other 41 erosion sources identified in the entire watershed.

Westslope cutthroat trout (*Oncorhynchus clarki lewisi*) inhabit upper Dunn Creek within the project area. Montana Highway 37 crosses Dunn Creek at approximately rivermile 0.5 and is located two miles downstream of the proposed project area. This highway crossing consists of a 12-foot by 300-foot corrugated metal culvert, represents an upstream fish passage barrier, and is undersized and inadequate in its capability to pass bedload and large woody debris. The stream gradient at the crossing is lower than the valley slope and creates a point of sediment aggradation immediately upstream of the stream crossing, which causes Dunn Creek to flow intermittently subsurface during most summers. The excessive sediment supply within the Dunn Creek watershed contributes to the passage at this structure and the chronic dewatering of lower Dunn Creek. The proposed project will reduce the long term sediment supply within the watershed and improve these conditions.

In the past, Dunn Creek downstream of the Highway 37 crossing has provided important spawning habitat for rainbow trout migrating from the Kootenai River. However, during recent years, the lower section of Dunn Creek typically goes dry. The eroding bank at the proposed project location is likely contributing to sediment accumulation and subsequent seasonal dewatering immediately upstream of the highway crossing.

Purpose

The purpose of the proposed project is to reduce bank erosion and limit instream sediment from the single largest eroding bank within the Dunn Creek watershed and increase habitat diversity for resident trout in Dunn Creek.

Proposed Activities

Montana FWP proposes to reduce sediment in Dunn Creek by stabilizing the toe of the currently eroding bank at this location. The work will include constructing a small floodplain bankfull bench where the stream channel is currently located and moving the stream channel approximately twenty feet to the north. The newly constructed stream channel will be morphologically stable and exist as a single thread channel in a similar location to where it existed prior to the mass wasting event. The project will install in-channel large woody debris and grade control structures to maintain the constructed energy dissipating pools. The newly designed stream channel will be constructed to promote streambank stability and enhance fisheries habitat, will be approximately 275 feet in length, and consist of a boulder garden step pool stream channel morphology with embedded woody debris to enhance stability and fisheries habitat (see Figure 3). Equipment access to the project site will be achieved by constructing a temporary 100-foot-long section of access trail off Forest Road 334. The access trail will be sited in the location to disturb the least amount of existing vegetation and will be rehabilitated when the work is complete. The project area, including the floodplain and access trail, will be hand-planted with rooted stock including cottonwood, willow, dogwood, and conifers at the completion of the project.

The dimensions for the proposed stream channel (Table 1) in this section of Dunn Creek were determined by measuring existing reference conditions in Dunn Creek upstream of the proposed project area. The reason for proposing to move the stream channel is to provide room to construct the small floodplain bankfull bench adjacent to the eroding bank. The project will require approximately 90 cubic yards of large rock (Table 2) to construct the floodplain bankfull bench and boulder garden step pool features (Figure 3). Additionally, approximately 30 trees will be used during the construction of the step pool features to dissipate stream energy and provide fisheries habitat. The project design plan view diagram is presented in Figure 4. The project will require an excavator and dump truck to complete the work. The project area is located entirely on land owned by Weyerhaeuser Company and would likely be completed during the period July to October 2016 and take no longer than about seven days.

Table 1. Stream channel dimensions for the proposed Dunn Creek bank stabilization project.	
Riffle mean bankfull width	30.9 ft
Riffle mean bankfull depth	2.03 ft
Riffle maximum depth	3.25 ft
Flood prone width	43.9 ft
Cross sectional area	62.8 sq. ft
Width-to-depth ratio	15.2
Entrenchment ratio	1.42

Table 2. Materials required for the Dunn Creek bank stabilization project.			
Materials	**Size**	**Quanitity**	**Source**
Cobble (mixed rounded and angular)	16-24-inch diameter	50 cubic yards	Off site
Boulder – angular	➢ 24-inch diameter	30 cubic yards	Off site
Boulder – rounded	➢ 24-inch diameter	30 cubic yards	On site
Large woody debris (trees)	12-24-inch diameter with root balls attached	30 trees	Off site

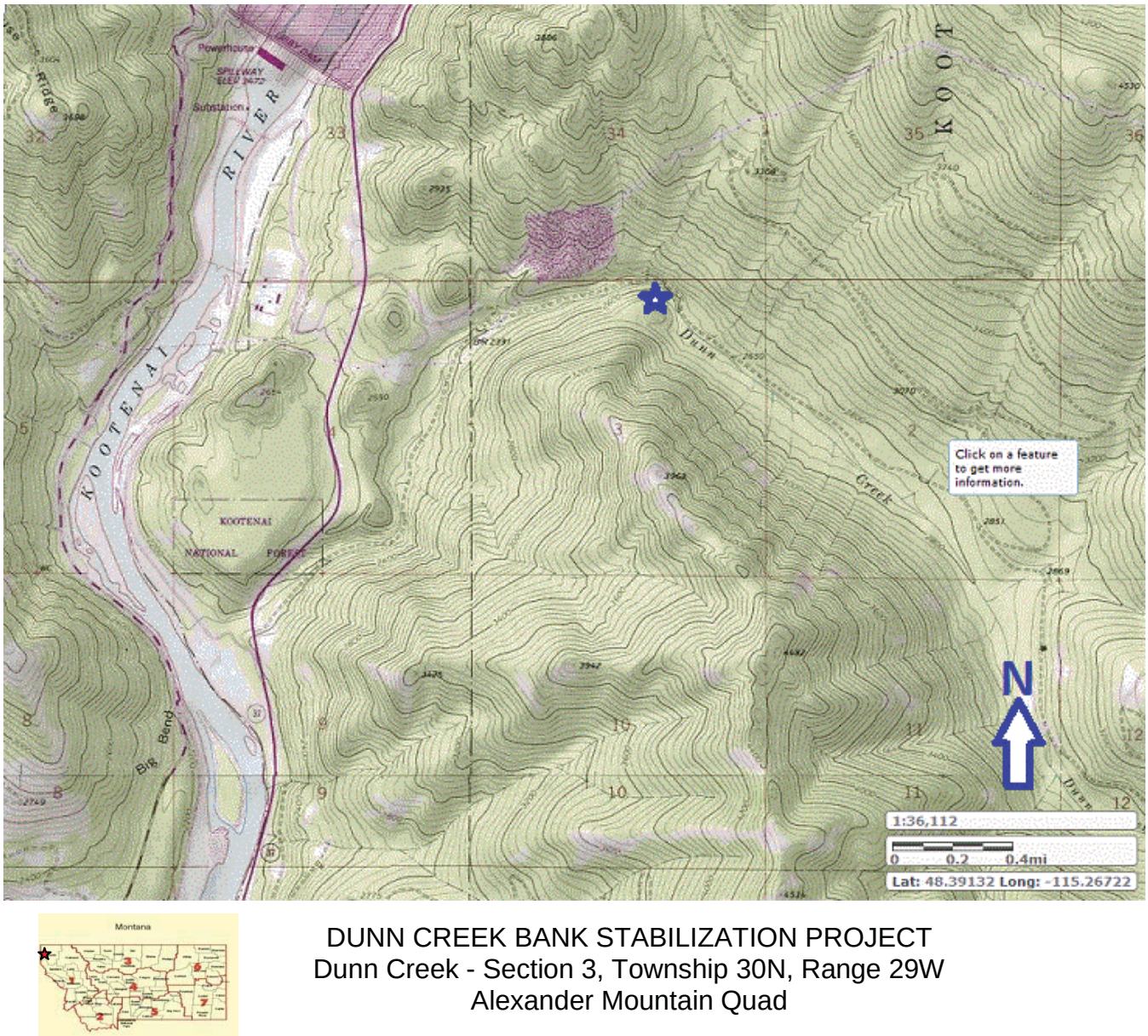

Figure 1. Location of the proposed Dunn Creek bank stabilization project.

Figure 2. Photograph of the existing condition of the eroding bank at the proposed project site on Dunn Creek.

Figure 3. Photograph of a previously completed restoration project showing a typical boulder garden step pool complex. The proposed alternative will install similar structures in Dunn Creek.

PART II. ENVIRONMENTAL REVIEW

A. PHYSICAL ENVIRONMENT

1. LAND RESOURCES **Will the proposed action result in:**	**Impact Unknown**	**None**	**Minor**	**Potentially Significant**	**Can Impact Be Mitigated**	**Comment Index**
a. Soil instability or changes in geologic substructure?		X				
b. Disruption, displacement, erosion, compaction, moisture loss, or over-covering of soil, which would reduce productivity or fertility?			X			1b.
c. Destruction, covering, or modification of any unique geologic or physical features?		X				
d. Changes in siltation, deposition, or erosion patterns that may modify the channel of a river or stream or the bed or shore of a lake?			X			1b.
e. Exposure of people or property to earthquakes, landslides, ground failure, or other natural hazard?		X				

Comment 1b. Soils along the stream margin would be disturbed by project construction, but would recover quickly following proposed revegetation efforts. However, the soil disturbance during the construction phase of this project is expected to be relatively short term and minor. Overall, the project is expected to reduce long-term chronic bank erosion and increase channel stability and delivery of fine and coarse sediments within and downstream of the project area through the construction of bank stabilizing structures and riparian revegetation efforts. The eroding terrace at this location contributes an estimated 168 tons of sediment annually to Dunn Creek, and after the completion of this project, that sediment source would be eliminated.

2. WATER Will the proposed action result in:	Impact Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Discharge into surface water or any alteration of surface water quality, including but not limited to temperature, dissolved oxygen, or turbidity?			X		Yes	2a.
b. Changes in drainage patterns or the rate amount of surface runoff?			X			
c. Alteration of the course or magnitude of floodwater or other flows?			X			2c.
d. Changes in the amount of surface water in any water body or creation of a new water body?		X				
e. Exposure of people or property to water-related hazards such as flooding?		X				
f. Changes in the quality of groundwater?		X				
g. Changes in the quantity of groundwater?		X				
h. Increase in risk of contamination of surface or groundwater?		X				
i. Effects on any existing water right or reservation?		X				.
j. Effects on other water users as a result of any alteration in surface or groundwater quality?		X				
k. Effects on other users as a result of any alteration in surface or groundwater quantity?		X				
l. Will the project affect a designated floodplain?		X				2c.
m. Will the project result in any discharge that will affect federal or state water quality regulations? (Also see 2a.)		X				2a.

Comment 2a. Construction activities for this project may slightly increase instream turbidity. However, these impacts are expected to be short term and minor, and will be minimized by implementing the following best management practices. This project will require a 318 Authorization from the Montana DEQ for instream turbidity produced during construction activities. The in-channel construction activities will be performed during July/August during low flow period to reduce turbidity. Construction in the dry conditions will be maximized to practical extents, stream crossings will be kept to a minimum, straw bales and silt fencing will be used to restrict sediment access to the stream channel, and a temporary diversion channel will be constructed to divert water away from construction areas. Construction activities will protect and preserve as much of the existing vegetation as possible, and restoration efforts to restore a healthy, functioning riparian

community will minimize future sediment delivery to this section of Dunn Creek. The project is expected to have a long-term benefit on sediment and turbidity inputs to Dunn Creek through the elimination of the large sediment source associated with the eroding bank at this site.

Comment 2b: The eroding bank at the proposed project location is likely contributing to sediment accumulation and subsequent seasonal dewatering immediately upstream of the highway crossing. The reduction of instream sediment that is expected as a result of the proposed project is likely to improve these conditions.

Comment 2c. The proposed project will install approximately 80 cubic yards of large rock in the existing floodplain of Dunn Creek. The effects of the placement of the large rock and fill material within the active floodplain would be minimized by limiting the height of the rock structure to approximately bankfull height at the point of diversion, which will not constrict floodwaters. The overall floodplain area within this section of Dunn Creek will not be restricted due to the establishment of the small floodplain bankfull bench adjacent to the currently eroding hillside. This floodplain bench will create a floodplain area for Dunn Creek for flows that exceed bankfull discharge. Therefore, the proposed project would have minimal effect on the course or magnitude of floodwaters.

3. AIR **Will the proposed action result in:**	**Impact Unknown**	**None**	**Minor**	**Potentially Significant**	**Can Impact Be Mitigated**	**Comment Index**
a. Emission of air pollutants or deterioration of ambient air quality? (Also see 13c.)		X				
b. Creation of objectionable odors?		X				
c. Alteration of air movement, moisture, or temperature patterns, or any change in climate, either locally or regionally?		X				
d. Adverse effects on vegetation, including crops, due to increased emissions of pollutants?		X				
e. Will the project result in any discharge, which will conflict with federal or state air quality regulations?		X				

4. VEGETATION Will the proposed action result in:	Impact Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Changes in the diversity, productivity, or abundance of plant species (including trees, shrubs, grass, crops, and aquatic plants)?			X			4a.
b. Alteration of a plant community?			X			4a.
c. Adverse effects on any unique, rare, threatened, or endangered species?		X				4b.
d. Reduction in acreage or productivity of any agricultural land?		X				
e. Establishment or spread of noxious weeds?		X				4a.
f. Will the project affect wetlands or prime and unique farmland?		X				

Comment 4a: The proposed project is designed to increase stream channel and bank stability and reduce lateral and vertical stream channel migration, and as a result riparian vegetation is expected to recover. In addition, substantial effort will be devoted to actively restore riparian vegetation within the project area to facilitate the rapid recovery of the riparian areas. The project area including the temporary access trail will be hand-planted using rooted stock native species, and all disturbed bare ground will be seeded with a native seed mix. Reestablishment of a healthy riparian community will minimize the potential for invasion of noxious weeds within the project area. All equipment used during the construction of the proposed project will be required to be washed prior to use on-site in order to minimize the introduction of non-native plants. The overall negative impact on the vegetative community at this site during construction would be minor and not expected to have long-term impacts. In the long term, the project would be expected to restore function and health to the riparian community.

Comment 4b: Spalding's catchfly (*Silen spaldingii*) is a regionally endemic species that is restricted to remnants of the prairie grasslands of eastern Washington, northern Idaho, and western Montana, and is currently listed as a threatened species. Range-wide, a significant amount of the habitat has been lost to agriculture. Spalding's catchfly is restricted to Idaho fescue (*Festuca idahoensis*) habitat types throughout its range. Spalding's catchfly is not known or expected to occur at the project site.

Spalding's catchfly has a high degree of fidelity for remnants of the prairie grasslands consisting of Idaho fescue habitat types. These types of habitat do not exist in the project area. The project area is located within the active stream channel and flood plain of Dunn Creek, with coniferous and deciduous trees and brush within the riparian area. Therefore, given the absence of Spalding's catchfly and the lack of suitable habitat, this project will not affect Spalding's catchfly.

5. FISH/WILDLIFE Will the proposed action result in:	Impact Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Deterioration of critical fish or wildlife habitat?		X				5a.
b. Changes in the diversity or abundance of game animals or bird species?			X			5b.
c. Changes in the diversity or abundance of nongame species?			X			5b.
d. Introduction of new species into an area?		X				
e. Creation of a barrier to the migration or movement of animals?		X				
f. Adverse effects on any unique, rare, threatened, or endangered species?			X			5f.
g. Increase in conditions that stress wildlife populations or limit abundance (including harassment, legal or illegal harvest, or other human activity)?		X				
h. Will the project be performed in any area in which T&E species are present, and will the project affect any T&E species or their habitat?		X				5f.
i. Will the project introduce or export any species not presently or historically occurring in the receiving location?		X				

Comment 5a: On May 26, 2016, Montana FWP conducted a search of designated critical habitat for federally listed fish and wildlife within the proposed project site (ecos.fws.gov/ipac) and found that the project site did not coincide with the critical habitat for any listed plant, fish, or wildlife species.

Comment 5b:

Fish: This project is designed to reduce instream sediment in Dunn Creek by reducing bank erosion at the proposed project site. In addition, the proposed project will also increase habitat diversity within this short section of Dunn Creek through the installation of the large rocks and woody debris. The collective actions of this project, including the reduction of the sediment and increased in habitat complexity, will improve spawning, incubation, and rearing habitat for resident salmonids residing in Dunn Creek, which will benefit all fish species in Dunn Creek.

Amphibians: Some amphibians, including spotted frogs (*Rana pretiosa*), western toads (*Bufo boreas*), long-toed salamanders (*Ambystoma macrodactylum*), and Pacific chorus frogs (*Pseudacris regilla*), may currently reside within or around the construction area, and the activity may have a

minor impact on these individuals. However, the impact to the amphibian populations within the local area should be short term and minor.

Comment 5f:

The yellow-billed cuckoo (*Coccyzus americanus*) has never been observed in Lincoln County, Montana, according to the Montana Natural Heritage Program, and confirmed or indirect evidence of breeding of this species has never been documented in the state of Montana (Montana Natural Heritage Program). The proposed restoration project would therefore not affect the yellow-billed cuckoo due to species absence within the project area.

Bull trout (*Salvelinus confluentus*) do not occupy Dunn Creek due to an upstream passage barrier located very near the confluence of Dunn Creek with the Kootenai River. Multiple fish population surveys conducted by both Montana FWP and the USFS in Dunn Creek upstream of the passage barrier have not found bull trout. Therefore, the proposed project will not affect bull trout due to species absence within the project area.

Kootenai River white sturgeon (*Acipenser transmontanus*) do not currently exist in the Kootenai River upstream of Kootenai Falls located at river mile 193.1. Dunn Creek is located 26.7 miles upstream from Kootenai Falls. Therefore, the proposed project will not affect Kootenai River white sturgeon due to species absence within the project area.

Canada lynx (*Lynx canadensis)* are found in forested and swamp areas throughout Canada and the northern U. S. They are usually solitary animals and nocturnal hunters. The snowshoe hare is its most important prey animal. The home range of the Canada lynx varies according to the type and availability of prey. Mating season is generally from January to March, and the gestation period ranges from 68 to 72 days. Litters are reared in hollow trees, rock clefts, or similar sites. Canada lynx use of the project area is likely very low. This project lies in close proximity to well traveled roadways and at relatively low elevation. The proposed July/August construction season coincides with the least use of low elevation habitats by lynx, and the short duration and lack of long-term impacts to habitat or prey resources of lynx further reduce any potential for effect should they be present but undocumented. This project will not affect the Canada lynx or their designated critical habitat because the project area does not offer suitable lynx habitat for any season of the year.

The Dunn Creek drainage falls within the Cabinet/Yaak Grizzly Bear (*Ursus arctos horribilis)* Recovery Area, although sightings of individual grizzlies or their tracks within the Dunn Creek drainage are considered rare. Normally, during July and August, grizzly bears are attracted to upper elevation shrubfields in search of huckleberries and mountain ash, which are ripening in those areas at that time of year. This upslope progression of plant phenology during late summer/early fall tends to attract bears to higher elevation basins away from stream corridors and lower elevation riparian zones. Additionally, the short duration, relatively small geographic size of the project area, and lack of long-term impacts to habitat or prey resources of grizzly bears further reduce any potential for effect, in the unlikely event that grizzly bears may be present but undocumented. Therefore, this project will not affect grizzly bears due to the close proximity of the project area to well traveled roads, relatively low elevation of the project area, and the proposed summer construction period.

B. HUMAN ENVIRONMENT

6. NOISE/ELECTRICAL EFFECTS **Will the proposed action result in:**	**Impact Unknown**	**None**	**Minor**	**Potentially Significant**	**Can Impact Be Mitigated**	**Comment Index**
a. Increases in existing noise levels?		X				
b. Exposure of people to severe or nuisance noise levels?		X				
c. Creation of electrostatic or electromagnetic effects that could be detrimental to human health or property?		X				
d. Interference with radio or television reception and operation?		X				

7. LAND USE **Will the proposed action result in:**	**Impact Unknown**	**None**	**Minor**	**Potentially Significant**	**Can Impact Be Mitigated**	**Comment Index**
a. Alteration of or interference with the productivity or profitability of the existing land use of an area?		X				
b. Conflict with a designated natural area or area of unusual scientific or educational importance?		X				
c. Conflict with any existing land use, the presence of which would constrain or potentially prohibit the proposed action?		X				
d. Adverse effects on or relocation of residences?		X				

8. RISK/HEALTH HAZARDS **Will the proposed action result in:**	**Impact Unknown**	**None**	**Minor**	**Potentially Significant**	**Can Impact Be Mitigated**	**Comment Index**
a. Risk of an explosion or release of hazardous substances (including, but not limited to oil, pesticides, chemicals, or radiation) in the event of an accident or other forms of disruption?			X			8.a.
b. Affect an existing emergency response or emergency evacuation plan or create a need for a new plan?		X				
c. Creation of any human health hazard or potential hazard?		X				
d. Will any chemical toxicants be used?		X				

Comment 8a: The proposed project will require the use of an excavator. Associated oil, fuel, and hydraulic fluid spills will be minimized using the following safeguards. Equipment fueling will occur only off-site, and all equipment will be inspected for leaks prior to transportation to the project site. Equipment will be secured nightly outside the active floodplain. The equipment operator will be required to have a spill containment kit at the work site. Potential impacts associated with hazardous substance spills will be minimized first by the best management practices identified above, and further reduced by ensuring spills are identified early and containment/cleanup conducted promptly. Therefore, the potential impacts from any spills are expected to be minor and short term.

9. COMMUNITY IMPACT **Will the proposed action result in:**	**Impact Unknown**	**None**	**Minor**	**Potentially Significant**	**Can Impact Be Mitigated**	**Comment Index**
a. Alteration of the location, distribution, density, or growth rate of the human population of an area?		X				
b. Alteration of the social structure of a community?		X				
c. Alteration of the level or distribution of employment or community or personal income?		X				
d. Changes in industrial or commercial activity?		X				
e. Increased traffic hazards or effects on existing transportation facilities or patterns of movement of people and goods?		X				

10. PUBLIC SERVICES/TAXES/UTILITIES Will the proposed action result in:	Impact Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Will the proposed action have an effect upon or result in a need for new or altered governmental services in any of the following areas: fire or police protection, schools, parks/recreational facilities, roads or other public maintenance, water supply, sewer or septic systems, solid waste disposal, health, or other governmental services? If any, specify:		X				
b. Will the proposed action have an effect upon the local or state tax base and revenues?		X				
c. Will the proposed action result in a need for new facilities or substantial alterations of any of the following utilities: electric power, natural gas, other fuel supply or distribution systems, or communications?		X				
d. Will the proposed action result in increased used of any energy source?		X				
e. Define projected revenue sources?		X				10e.
f. Define projected maintenance costs?		X				10e.

Comment 10e: This project could cost up to $40,000 and would be cost-shared by Montana FWP, with funding from Bonneville Power Administration through the Libby Mitigation Project, the US Forest Service, and Weyerhaeuser Company. Costs will be split approximately equally between the project collaborators. Future maintenance costs are unknown, but are expected to total less than 10% of the total project cost over a 10-year period.

11. AESTHETICS/RECREATION Will the proposed action result in:	Impact Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Alteration of any scenic vista or creation of an aesthetically offensive site or effect that is open to public view?		X				
b. Alteration of the aesthetic character of a community or neighborhood?		X				
c. Alteration of the quality or quantity of recreational/tourism opportunities and settings?		X				
d. Will any designated or proposed wild or scenic rivers, trails, or wilderness areas be impacted? (Also see 11a, 11c.)		X				

12. CULTURAL/HISTORICAL RESOURCES Will the proposed action result in:	Impact Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Destruction or alteration of any site, structure, or object of prehistoric, historic, or paleontological importance?		X				
b. Physical change that would affect unique cultural values?		X				
c. Effects on existing religious or sacred uses of a site or area?		X				
d. Will the project affect historic or cultural resources?		X				

13. SUMMARY EVALUATION OF SIGNIFICANCE Will the proposed action, considered as a whole:	Impact Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Have impacts that are individually limited, but cumulatively considerable? (A project or program may result in impacts on two or more separate resources that create a significant effect when considered together or in total.)		X				13a.
b. Involve potential risks or adverse effects that are uncertain, but extremely hazardous if they were to occur?		X				
c. Potentially conflict with the substantive requirements of any local, state, or federal law, regulation, standard, or formal plan?		X				
d. Establish a precedent or likelihood that future actions with significant environmental impacts will be proposed?		X				
e. Generate substantial debate or controversy about the nature of the impacts that would be created?		X				
f. Is the project expected to have organized opposition or generate substantial public controversy? (Also see 13e.)	X					13f.
g. List any federal or state permits required.						13g.

Comments 13a: This project is not expected to have any cumulative impacts to either the natural or human environments.

Comments 13f: The proposed project is not expected to have organized opposition.

Comment 13g: The following permits would be required:

1. Montana Department of Enviroment and Water Quality, 318 Turbidity Exemption Permit
2. Montana Fish, Wildlife & Parks SPA 124 Permit
3. US Army Corps of Engineers Section 404 Permit

PART III. ALTERNATIVES

Alternative 1 – No Action

The no-action alternative would be the status quo conditions on Dunn Creek. No action would likely result in the continued erosion of the existing hill slope that serves as a chronic source of sediment to Dunn Creek. This source of sediment reduces the quality of spawning and rearing habitat for resident salmonids in Dunn Creek and likely contributes to the dewatering conditions that exist in the lower sections of Dunn Creek.

Alternative 2 – Implementation of the bank stabilization project (Proposed Action)

Montana FWP proposes to reduce sediment in Dunn Creek by stabilizing the toe of the currently eroding bank in Dunn Creek. The work will include constructing a small floodplain bankfull bench where the stream channel is currently located and moving the stream channel approximately twenty feet to the north. The project would also install in-channel large woody debris and grade control structures to maintain the constructed energy dissipating pools. The project area would be revegetated using native seed and hand-planting rooted stock shrubs and trees.

PART IV. EA CONCLUSION SECTION

1. **Based on the significance criteria evaluated in this EA, is an EIS required?**

   MFWP concludes that an EIS is not required for the implementation of this project. MFWP further concludes from the information presented in this document that the proposed activities will have either no impact or a minor positive impact on the physical and human environment.

2. **Public involvement:**

   Notification of this draft environmental assessment (EA) is being distributed to all individuals and groups listed in the cover letter. The EA will be placed on the MFWP web site. Individuals that wish to provide comments to this document or obtain additional information can contact Jim Dunnigan at (406) 293-4161, Ext. 200.

3. **Duration of comment period:**

   There will be a 30-day public comment period for this environmental assessment. Comments will be accepted through July 9, 2016. Submit comments to: Montana Fish, Wildlife & Parks, Attention: Jim Dunnigan, 385 Fish Hatchery Road, Libby, MT 59923, or e-mail to jdunnigan@mt.gov.

4. **Person responsible for preparing the EA:**

   Jim Dunnigan, Fisheries Biologist
   Montana Fish, Wildlife & Parks
   385 Fish Hatchery Road
   Libby, MT 59923
   (406) 293-4161, Ext. 200

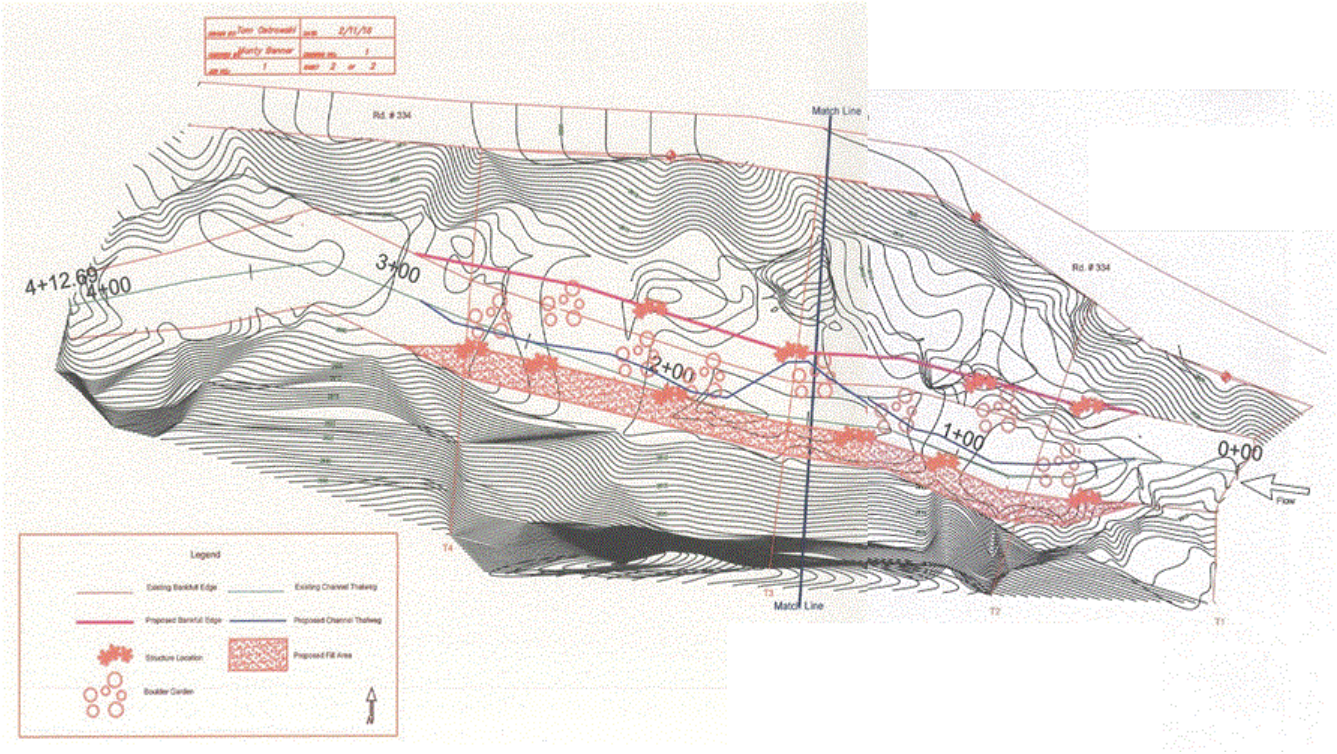

Figure 4. Planview diagram of the proposed Dunn Creek bank stabilization project.