

CHECKLIST ENVIRONMENTAL ASSESSMENT

Project Name:	SUPPLY DIVERSION IMPROVEMENTS PROJECT
Proposed Implementation Date:	Fall 2016
Proponent:	Supply Ditch Association & Wood-Parkhurst Ditch Association
Location:	W2 Section 20, T7N - R20W
County:	Ravalli

I. TYPE AND PURPOSE OF ACTION

The Supply Ditch Association and the Wood-Parkhurst Ditch Association are proposing to make improvements to an existing irrigation diversion spanning the main channel of the Bitterroot River. This Supply Diversion Project would involve installation of a rock ramp below the diversion dam; stabilization of approximately 55 linear feet of left bank and approximately 25 linear feet of right bank below the diversion dam, as well as stabilization of approximately 100 linear feet of right bank above the diversion structure. In order to control water flow during construction activities, a series of coffer dams and water diversions would be constructed. Approximately 1,820 feet upstream of the Supply Diversion, some flow of the main stem of the Bitterroot River would be diverted to an existing side channel west of the main channel.

The purpose of the proposed project is to: 1) maintain delivery of irrigation water; 2) change the diversion dam's hydraulics to improve public safety; and 3) increase the aquatic resources and recreational benefits. The supply ditch diversion allows approximately 175 cubic feet per second flow into the canal for agricultural purposes.

Montana Code (MCA 70-16-201) provides for state ownership from the low water mark to the low water mark on navigable water bodies. Based on historical evidence the Bitterroot River is commercially navigable from the mouth of Jennings Camp Creek on the east fork (SW¼, Sec. 27, T2N - R18W) to its confluence with the Clark Fork River. Therefore, the state claims ownership of the riverbed below the low water mark between these two points. DNRC has received an application for a 60 foot wide easement across the Bitterroot River from the Supply Ditch Association and Wood-Parkhurst Association for this project involving .30 acres of State-owned property below the low water mark of the river. In addition a land use license from DNRC would be required for temporary construction activities proposed below the low water mark on lands outside of the .30 acre easement footprint.

II. PROJECT DEVELOPMENT

1. PUBLIC INVOLVEMENT, AGENCIES, GROUPS OR INDIVIDUALS CONTACTED:

Provide a brief chronology of the scoping and ongoing involvement for this project.

A primary impetus for this project proposal has come about due to public safety issues with recreational floating of the river. During many flow conditions the low head diversion dam creates a hydraulic roller or "keeper hole" that traps river users and boaters. Once in the hydraulic roller, it is nearly impossible to escape. Many rescue attempts including one involving the drowning of a young girl have occurred in the recent past.

Within the last five years there have been multiple newspaper articles documenting incidents and the existing safety hazards. As a result of the large number of incidents, the State of Montana temporarily closed a five mile section of the river to public use during high water.

An open house for the general public was held at the Bitterroot Conservation District office in Hamilton on February 22, 2016. The Montana Department of Environmental Quality, Montana Department of Natural Resources and Conservation, U.S. Army Corps of Engineers, the Bitterroot Conservation District, and the Ravalli County Floodplain Administrator were contacted for required permits and comments. An on-site field tour for the regulatory agencies was held on March 7, 2016.

Other government and agency contacts include the US Fish and Wildlife Service, the USDA-Natural Resources Conservation Service, the Confederated Salish & Kootenai Tribes, the Montana Department of Fish Wildlife and Parks, local legislators, as well as staff for U.S. Senators Steve Daines and Jon Tester. Local landowners were contacted for permission to access the site.

Funding solicited and secured for this project include:

\$ 47,500	Montana Department Fish Wildlife & Parks
\$125,000	DNRC Renewable Resource Development (RRD) Grant
\$ 10,000	Ravalli County Conservation District
\$ 50,000	Supply Ditch and Wood-Parkhurst Associations
\$300,000	US Army Corps WRDA 595

2. OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION, LIST OF PERMITS NEEDED:

Bitterroot Conservation District - 310 Permit;
 Ravalli County Planning Department - Floodplain Permit
 Montana DEQ- 318 Turbidity Authorization Permit; Storm water Discharge Permit
 US Army Corps of Engineers - 404 Permit

3. ALTERNATIVES CONSIDERED:

Five alternatives consisting of: 1) No Action, 2) Full Diversion Dam Removal; 3) Dam with a Steep Rock Ramp; 4) Dam with a Steep Rock Ramp and a Low-Gradient Boat Chute; and 5) Full Low-Gradient Rock Ramp were considered. Alternatives 1 and 2 did not address project objectives. Of the three remaining alternatives, a modified version of Alternative 4 incorporating a transition in slope grade from river left to river right has been selected as the proposed action based upon natural resource benefits, increased aquatic organism passage, increased public safety, and cost effectiveness.

For the purposes of licensing and easement granting, DNRC will evaluate and compare the environmental effects of (No Action) and the proposed action (Action) alternatives. This analysis also incorporates by reference information contained in the Joint Application For Proposed Work In Montana's Streams, Wetlands, Floodplains and Other Water Bodies and associated Figures 1 & 2 (Maps/Photos), Technical Specifications, Construction Drawings – June 2016, and Navigable Rivers Documents completed by Morrison & Maierle.

III. IMPACTS ON THE PHYSICAL ENVIRONMENT

- *RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.*
- *Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.*
- *Enter "NONE" if no impacts are identified or the resource is not present.*

4. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:

Consider the presence of fragile, compactable or unstable soils. Identify unusual geologic features. Specify any special reclamation considerations. Identify any cumulative impacts to soils.

Existing Condition: Soils within the floodplain are mixtures of stratified alluvial sands, silts and gravels mainly from granitic materials that are erosive if disturbed. The river channel sediments move and shift with changing flow dynamics and geomorphology of the Bitterroot River. No unique geology was identified in the project area.

No Action: The concrete crest of the existing dam is damaged from years of erosion, ice and debris. The dam will continue to degrade and erosion of the downstream scour hole and scoured bank edges will increase impacts to soils if not repaired and stabilized.

Action: Potential soil related environmental impacts identified with the Supply Diversion dam modification are streambed and ground disturbance, addition of fill within the floodplain and temporary removal of vegetation during construction. The DNRC easement and Land Use License are limited to the channel bottom lands below the low water mark. For this analysis we also considered proposed operations on the adjacent channel banks that may impact the channel bottom. There would be a short term disturbance of the channel during installation and removal of the cofferdam diversions within the main river channel. The main dam would be repaired while the site is dewatered. The rock dam ramps and channel banks adjacent to the dam would be stabilized with approximately 570 cubic yards of large diameter rip-rap and 100 cubic yards of anchored rip-rap, rock armor that should reduce sediments. All operations are planned to minimize soil disturbance, conserve and re-deposit topsoils, install erosion control measures, and promote prompt revegetation of disturbed soils. There would be short term direct impacts to previously impacted ground and moderate in-direct or cumulative effects that would result in improved conditions from the proposed actions.

5. WATER QUALITY, QUANTITY AND DISTRIBUTION:

Identify important surface or groundwater resources. Consider the potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality. Identify cumulative effects to water resources.

Existing Conditions: The Supply Diversion is a low-head (3 ft.) concrete wall diversion dam that diverts a portion of the Bitterroot flow for irrigation. The Supply Diversion is located in the SWNE of section 20, T 7N, R20W and was originally built in 1872. The Bitterroot River has a meandering braided channel that has migrated historically with the main thalweg flow in a western channel that has recently shifted more easterly toward the channel where the supply diversion dam is located. The change in flow has led to additional channel scour and debris damage at the dam where river hydraulics now pose a safety risk to recreation floaters. Existing conditions are further referenced in detail within a report by the US Army Corps of Engineers including a Biological Assessment for Bull Trout (1/12/2016) and water quality impacts for this project.

No Action: The concrete crest of the existing dam is damaged from years of erosion, ice and debris. The dam will continue to degrade and cause further erosion of the downstream scour hole and scoured bank edges that will increase sedimentation and channel scour damage to DNRC ownership and alter river geomorphology if not repaired and stabilized.

Action: The proposed construction and repair actions include:

- Construction/fill of rock ramp along the Supply Diversion Dam
- Rock abutments on the left and right banks at the dam
- Backfill of the existing right bank scour hole

- Installation of a log grate for debris control
- Repair of the dam crest

To complete dry-site repairs and modification of the dam with rock ramps requires cofferdams at the site of the existing supply diversion dam, an additional cofferdam #2 diversion about 1820 feet upstream, and a cofferdam #3 in the irrigation ditch.

There would be short term direct effects of increased sediment during installation and removal of the proposed cofferdams and installation of fill and rock rip-rap that would be expected to quickly subside. The project would implement all requirements of the Ravalli County CD 310 Permit, MT DEQ 318 short term turbidity permit, U.S. Army Corp of Engineers 404 requirements and all relevant permits for operations in the floodplain prior to the project approval and construction. The proposed dam repairs and stabilization of the eroding segments of the river bed and banks would have beneficial long term indirect and cumulative effects to water quality based on the implementation of BMP's, conservation/mitigation measures, permit requirements and findings of associated environmental assessments (MTFWP, U.S. Army Corp of Engineers, Morris & Maierle). The benefits outweigh the continued degradation of the dam structure and erosion associated impacts with no action. Based on construction at low flows there would be minor effects on navigable status through this site.

The following Best Management Practices and Conservation Measures to be implemented are listed in a report "Supply Diversion Project Bitterroot River, Biological Assessment for Bull Trout by U.S. Army Corp of Engineers 7/12/2016" and are copied in italics here as reference.

- *Construction is proposed to start October 15, 2016 and end on April 1, 2017 during low flow conditions (late fall/winter). This timing will minimize turbidity and sedimentation impacts. However, it will be outside the bull trout work window for this stretch of river.*
- *A Storm Water Pollution Prevention Plan will be in place during construction to control erosion and runoff.*
- *Work areas will be isolated from the main river with the use of cofferdams. Isolation of the work area will minimize the effects to water quality. Water that is present within the cofferdam perimeter will have to be pumped out as necessary for work activities. This water will be pumped back into the river immediately downstream of the cofferdams after having been through a temporary sediment basin located within the dewatered area or within the dewatered canal. This will allow for sediment to settle out of the water before the water is released back into the river. This system will be set up for the duration of the project so that potential water quality impacts downstream of the project could be minimized.*
- *A minimum flow of water will be retained within the main channel throughout construction so that riffles remain wet. Maintaining a low flow through the dewatered areas of the channel will maintain moisture levels for benthic organisms to survive.*
- *Disturbed areas will be revegetated with a native seed mix that is appropriate for the area and will provide sufficient competition against invasive species establishment. Topsoil and vegetation from excavated temporary water diversion paths will be salvaged and replaced following project completion.*
- *The rock wall abutments along each bank of the dam will be planted with live stakes and brush layering to mimic a natural shoreline. The upper banks of the abutments above high water will be covered in an erosion control blank and topsoil mixed with bitterroot valley seeds to control erosion and runoff.*
- *The installed log grate will prevent large woody debris from leaving the natural river channel.*

- *Equipment will be cleaned and free of weeds, seeds and excess grease before use in the waterway.*
- *Construction equipment will utilize existing roads and easements whenever practicable.*
- *Hazardous materials will not be stored and construction equipment will not be refueled within 50 feet of the waterways located within the project area. All fluids will be properly stored to prevent spills from entering the river. Additionally, spill kits will be available onsite to respond to a spill if one does occur, and construction crews will be properly trained in their use.*
- *A mitigation feature will be implemented but the location and type of mitigation at this time is unknown at this time. Possible mitigation includes a fish screen or reestablishment of riparian habitat. The hydrology at the headgate location near the dam is not favorable for a screen.*

6. AIR QUALITY:

What pollutants or particulate would be produced? Identify air quality regulations or zones (e.g. Class I air shed) the project would influence. Identify cumulative effects to air quality.

Some temporary emission releases are expected during construction activities; however air quality is not expected to be impacted to any measurable degree. During construction the contractor will be required to implement environmental quality controls to mitigate effects on air quality. The contractor shall comply with any applicable Federal, State, and local regulations concerning the prevention and control of air pollution. Measures will be taken to prevent the start or spreading of fire due to constructions activities. The contractor will use reasonable methods and devices that control, prevent, and minimize emissions or discharges of air contaminates. Equipment that shows excessive emissions will not be operated until corrective repairs or adjustments are made.

7. VEGETATION COVER, QUANTITY AND QUALITY:

What changes would the action cause to vegetative communities? Consider rare plants or cover types that would be affected. Identify cumulative effects to vegetation.

Existing vegetation within the project area is primarily a complex of native river bottom riparian species including cottonwood and coniferous trees, riparian shrubs, as well as forbs and grasses.

No Action: No changes to existing vegetative conditions would occur

Action: A minimal amount of disturbance to natural vegetation is proposed under the action alternative, primarily to allow for the movement of heavy equipment. River bottom habitats are favorable to rapid revegetation. The following Best Management Practices and Conservation Measures would be implemented under the action alternative:

- Disturbed areas will be revegetated with a native seed mix that is appropriate for the area and will provide sufficient competition against invasive species establishment. Topsoil and vegetation from excavated temporary water diversion paths will be salvaged and replaced following project completion.
- The rock wall abutments along each bank of the dam will be planted with live stakes and brush layering to mimic a natural shoreline. The upper banks of the abutments above high water will be covered in an erosion control blank and topsoil mixed with bitterroot valley seeds to control erosion and runoff.

Based on implementation of BMP's and mitigations there would be low direct, in-direct or cumulative impacts to vegetation with the proposed actions to DNRC ownership.

Noxious Weeds: Existing Conditions: Current noxious weed infestations are a combination of spotted knapweed, common tansy and houndstongue. Infestations occur along portions of the project area but are outside the low water mark that is DNRC ownership.

No Action: Noxious weeds will continue to occur on the banks of the Bitterroot River at the diversion site and levels of infestation will vary depending on level of control measures. No change would be expected to effects on DNRC ownership of the river bed.

Action: Operations would involve ground-disturbing activities that have the potential to introduce or spread noxious weeds above the low water mark. For the action alternative, the contractor will be responsible for developing and implementing a weed management plan to promote revegetation and control the spread of noxious weeds and require that all equipment will be cleaned and free of weeds, seeds and excess grease before use in the waterway. Based on implementation of BMP's and mitigations there would be low direct, in-direct or cumulative impacts of noxious weeds with the proposed actions to DNRC ownership.

8. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:

Consider substantial habitat values and use of the area by wildlife, birds or fish. Identify cumulative effects to fish and wildlife.

Existing Conditions: Terrestrial

Limited habitats for terrestrial wildlife exist in the project area. Surrounding uplands and riparian habitats likely support a variety of wildlife species.

No-Action: No disturbance to terrestrial wildlife would occur. No changes to existing habitats would be anticipated. Collectively, no effects to terrestrial wildlife would be anticipated.

Action Alternative: Some short-duration disturbance to terrestrial wildlife could occur. No appreciable changes to existing habitats would be anticipated. Collectively, negligible effects to terrestrial wildlife would be anticipated.

Existing Conditions: Fisheries

The Bitterroot River supports a diverse fishery. Species present include bull-trout, westslope cutthroat trout (WCT), mountain whitefish, northern pike minnow, longnose dace, longnose sucker, slimy sculpin, brown trout, rainbow trout, brook trout, northern pike and other minor species (MFISH 2016). Both westslope cutthroat trout and bull trout are considered sensitive species by DNRC. Bull trout is a federally threatened species and potential for impacts to this species are discussed in detail in Section 9 below. Westslope cutthroat trout are considered rare in abundance within the Bitterroot River within the project area.

No-Action: No immediate changes to the dam or existing fisheries would occur, but there is an increased risk of debris damage to the dam and scour of the river bed and banks that increases sedimentation and degrades water quality that can impact fish habitat.

Action Alternative: The proposed activities are listed above and would occur during low flows, from October 15, 2016 thru April 1, 2017. Periods of short-duration disturbance to sediment and fisheries would occur from the installation and removal of the cofferdams as noted in the Water Quality section of this report. Mitigations to control erosion and sediment would be incorporated into A Storm Water Pollution Prevention Plan and would be in place during construction.

(Mitigation)• Work areas will be isolated from the main river with the use of cofferdams. Isolation of the work area will minimize the effects to water quality. Water that is present

within the cofferdam perimeter will have to be pumped out as necessary for work activities. This water will be pumped back into the river immediately downstream of the cofferdams after having been through a temporary sediment basin located within the dewatered area or within the dewatered canal. This will allow for sediment to settle out of the water before the water is released back into the river. This system will be set up for the duration of the project so that potential water quality impacts downstream of the project could be minimized.

The in-stream work would occur outside the typical spring spawning period for westslope cutthroat trout and allows all fish species to seek refuge from the construction sites, yet the diversion #2 would dewater one channel for up to 1,800 feet during the fall-winter months and may trap some small fish and invertebrates.

(Mitigation)• A minimum flow of water will be retained within the main channel throughout construction so that riffles remain wet. Maintaining a low flow through the dewatered areas of the channel will maintain moisture levels for benthic organisms to survive.

Direct impacts to fisheries are expected to moderate with potential loss of small fish and invertebrates limited to the area dewatered, and indirect and cumulative effects would not be considered significant.

9. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:

Consider any federally listed threatened or endangered species or habitat identified in the project area. Determine effects to wetlands. Consider Sensitive Species or Species of special concern. Identify cumulative effects to these species and their habitat.

Existing Conditions: Limited habitats for terrestrial wildlife exist in the project area. The project area is less than 0.25 mile from the Tucker South bald eagle nest and approximately 1.5 miles from the Tucker bald eagle territory; both of these territories have been fairly productive in the past. The Tucker South territory has 2 known nest sites that have been previously used. The older nest site has been inactive since roughly 2009 and is roughly 800 feet from the proposed temporary coffer dam upstream from the permanent diversion. The current nest used by this pair of bald eagles is located roughly 1,200 feet west of the diversion dam. Riparian vegetation provides some level of screening between the proposed project area and the nest. In addition to these nesting habitats, perching and foraging habitats exist in the project area. Outside of the nesting season, the project area provides winter foraging opportunities for bald eagles. Surrounding uplands and riparian habitats likely support a variety of wildlife species, including common species as well as less common species such as great blue herons, yellow-billed cuckoos, Lewis's woodpeckers, and pileated woodpeckers. Proximity to Highway 93, agricultural fields, operational gravel pit, and numerous other forms of human disturbance likely limits some wildlife use of the vicinity.

No-Action: No disturbance to terrestrial wildlife would occur. No changes to existing habitats would be anticipated. Collectively, no effects to terrestrial wildlife would be anticipated.

Action Alternative: Some short-duration disturbance to terrestrial wildlife could occur. No appreciable changes to existing habitats would be anticipated. Foraging and nesting bald eagles could be disturbed by the proposed construction depending on timing of activities. Efforts to complete proposed activities prior to the commencement of the bald eagle nesting period (February 1) would reduce potential for effects to nesting bald eagles in the vicinity. No appreciable changes in bald eagle prey species would be anticipated. Collectively, negligible effects to terrestrial threatened, endangered, or sensitive wildlife species would be anticipated.

Bull Trout Existing Conditions: Bull trout is a federally threatened species with critical habitat in the vicinity of the project area. The entire main stem of the Bitterroot River, including the project area is identified by Montana Fish, Wildlife, and Parks (MFWP) and USFWS as nodal habitat (MBTRT 2000). Nodal habitat includes those areas which provide or have the potential to provide a migratory corridor for bull trout. When Bull trout were ESA listed in 1998, the USFWS stated that bull trout were no longer present in the main stem of the Bitterroot River (Federal Register 1998, MMEID). Bull trout presence in the Bitterroot River basin is mainly restricted to non-migratory residents in headwater streams (Clancy 1993; MBTSG 1995). No bull trout have been captured in the stream reach that includes the project area during fish population surveys yet bull trout are estimated at 1/ mile of river reach. The current structure is not a barrier to fish migration.

Bull Trout- No Action: No immediate changes to the crossing or existing fisheries would occur, but there is an increased risk of sediments and channel scour damage to the river system, and fish habitat in the area of the supply diversion.

Bull Trout Action: Potential direct and indirect impacts to bull trout at the project site: direct mortality of individual fish, disturbance or temporary displacement of fish in the 1,800 feet of channel diversion and project area, abrupt changes of supporting aquatic and/or riparian habitat in the project area (critical habitat features), and project actions that cause substantial, long-term reductions in water quality due to excessive sedimentation and/or the introduction of toxic substances. Mitigation measures include timing restrictions, detailed erosion control measures; implementing BMP's to minimize the extent and duration of disturbance and sedimentation, plus safety requirements for clean equipment to avoid toxic introductions of greases or chemicals. The following mitigations and effects are referenced in the analysis "*Supply Diversion Project Bitterroot River, Biological Assessment for Bull Trout by U.S. Army Corp of Engineers (USACE 7/12/2016)*".

- Migratory Fish Passage- The new rock ramps are not expected to negatively impact long term bull trout fish passage based on design. During construction the 1800 feet of one diverted channel would not allow for fish passage in that segment, but the main river thalweg would provide connectivity.
- Ground Water-The proposed project is not expected to alter ground water resources.
- Food base for Bull Trout- The proposed operations will have minimal effect on food base on the main river and plenty of forage remains on adjacent reaches of the river
- Based on project design and implementation of appropriate conservation/ coordination measures and permit requirements, the proposed construction activities may affect but is not likely to adversely affect bull trout or bull trout critical habitat (refer to (USACE 7/12/2016)and FONSI). Potential direct and indirect effects related to project activities would not be considered significant, and thus, any cumulative effects to bull trout resulting from activities in the area combined with those related to project activities would not be considered significant.

10. HISTORICAL AND ARCHAEOLOGICAL SITES:

Identify and determine effects to historical, archaeological or paleontological resources.

None. The supply ditch diversion dam that crosses the Bitterroot River is historic, but it is privately owned. As such, the DNRC has no authority to dictate to the private owners how they will manage their property. Issuance of an easement will have No Effect to state-owned heritage properties as defined in the State Antiquities Act.

11. AESTHETICS:

Determine if the project is located on a prominent topographic feature, or may be visible from populated or scenic areas. What level of noise, light or visual change would be produced? Identify cumulative effects to aesthetics.

None. The project work is mainly focused on the river bed below the water line. The existing diversion dam will not be replaced. Any coffer dams or additional water diversions will be temporary and removed at the completion of the project.

12. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY:

Determine the amount of limited resources the project would require. Identify other activities nearby that the project would affect. Identify cumulative effects to environmental resources.

None.

13. OTHER ENVIRONMENTAL DOCUMENTS PERTINENT TO THE AREA:

List other studies, plans or projects on this tract. Determine cumulative impacts likely to occur as a result of current private, state or federal actions in the analysis area, and from future proposed state actions in the analysis area that are under MEPA review (scoped) or permitting review by any state agency.

None.

IV. IMPACTS ON THE HUMAN POPULATION

- *RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.*
- *Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.*
- *Enter "NONE" if no impacts are identified or the resource is not present.*

14. HUMAN HEALTH AND SAFETY:

Identify any health and safety risks posed by the project.

No Action: The current supply ditch diversion dam poses a safety hazard to people floating the river. A person has drowned at this site and there have been several near misses in the recent past. The Montana Department of Fish, Wildlife and Parks has taken the unusual step to enact temporary closures of floating use on this segment of river due to dangerous conditions.

Action: One of the primary purposes of the proposed project is to mitigate the existing safety hazard to people floating the river. Project design involves placement of large rock fill adjacent to the downstream face of the dam to eliminate the hydraulic roller that currently exists. In addition proposed work would improve warning signage as well as the portage route around the diversion.

15. INDUSTRIAL, COMMERCIAL AND AGRICULTURE ACTIVITIES AND PRODUCTION:

Identify how the project would add to or alter these activities.

None. The proposed project would maintain the delivery of irrigation water to area users.

16. QUANTITY AND DISTRIBUTION OF EMPLOYMENT:

Estimate the number of jobs the project would create, move or eliminate. Identify cumulative effects to the employment market.

No Action: No change

Action: The proposed project budget listed in Section 1 exceeds \$500,000. Construction would be expected to occur between October 15, 2016 and April 1, 2017 and would be anticipated to provide a direct short term opportunity for maintaining employment of up to 10 people while construction activities occur, as well as maintaining indirect employment opportunities to provide goods and services in support the project.

17. LOCAL AND STATE TAX BASE AND TAX REVENUES:

Estimate tax revenue the project would create or eliminate. Identify cumulative effects to taxes and revenue.

Minor, if any, change in tax base and tax revenues would be anticipated with selection of either alternative.

18. DEMAND FOR GOVERNMENT SERVICES:

Estimate increases in traffic and changes to traffic patterns. What changes would be needed to fire protection, police, schools, etc.? Identify cumulative effects of this and other projects on government services

No Action: None.

Action: One purpose of the project is to reduce an existing public safety hazard to river floaters. There would be an expected decrease in the demand for government services (a need for FWP to monitor and enact river closures, a need for emergency services responses to accidents) should this alternative be selected.

19. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS:

List State, County, City, USFS, BLM, Tribal, and other zoning or management plans, and identify how they would affect this project.

None.

20. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES:

Identify any wilderness or recreational areas nearby or access routes through this tract. Determine the effects of the project on recreational potential within the tract. Identify cumulative effects to recreational and wilderness activities.

No Action: None

Action: One purpose of the project is to eliminate the hydraulic roller created by the current diversion. This will result in safer recreation on the river. In addition, construction would occur outside the primary boating and fishing season. Therefore, impacts to recreation would be considered beneficial

21. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING:

Estimate population changes and additional housing the project would require. Identify cumulative effects to population and housing.

None.

22. SOCIAL STRUCTURES AND MORES:

Identify potential disruption of native or traditional lifestyles or communities.

None.

23. CULTURAL UNIQUENESS AND DIVERSITY:

How would the action affect any unique quality of the area?

None. The proposed project involves repair of an existing structure

24. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:

Estimate the return to the trust. Include appropriate economic analysis. Identify potential future uses for the analysis area other than existing management. Identify cumulative economic and social effects likely to occur as a result of the proposed action.

No Action: None

Action: Granting of the proposed easement and Land Use License would return approximately \$500-\$600 to the Public Land- Navigable Rivers trust and approximately \$100 to the state general fund (application fees).

EA Checklist Prepared By:	Name: Thayer Jacques	Date: 5/31/2016
	Title: Hamilton Unit Forester	

V. FINDING

25. ALTERNATIVE SELECTED:

I select the action alternative, granting an easement involving .30 acres of State-owned property below the low water mark of the Bitterroot River. In addition I approve the granting of a land use license to cover proposed temporary coffer dams/water diversions below the low water mark of the river that lie outside the footprint of the easement.

26. SIGNIFICANCE OF POTENTIAL IMPACTS:

The action alternative will not result in significant environmental impacts.

- Improving the hydraulics of the diversion will reduce potential hazards to recreationists.
- The supply ditch diversion would not be removed. As such, delivery of irrigation water will be maintained for agricultural purposes.

27. NEED FOR FURTHER ENVIRONMENTAL ANALYSIS:

EIS
 More Detailed EA
 No Further Analysis

EA Checklist Approved By:	Name: Robert H Storer	
	Title: Trust Lands Program Manager – SW Land Office	
Signature:		Date: 8/12/16

114°10'30"W 114°10'0"W 114°9'30"W 114°9'0"W 114°8'30"W 114°8'0"W 114°7'30"W 114°7'0"W 114°6'30"W 114°6'0"W 114°5'30"W

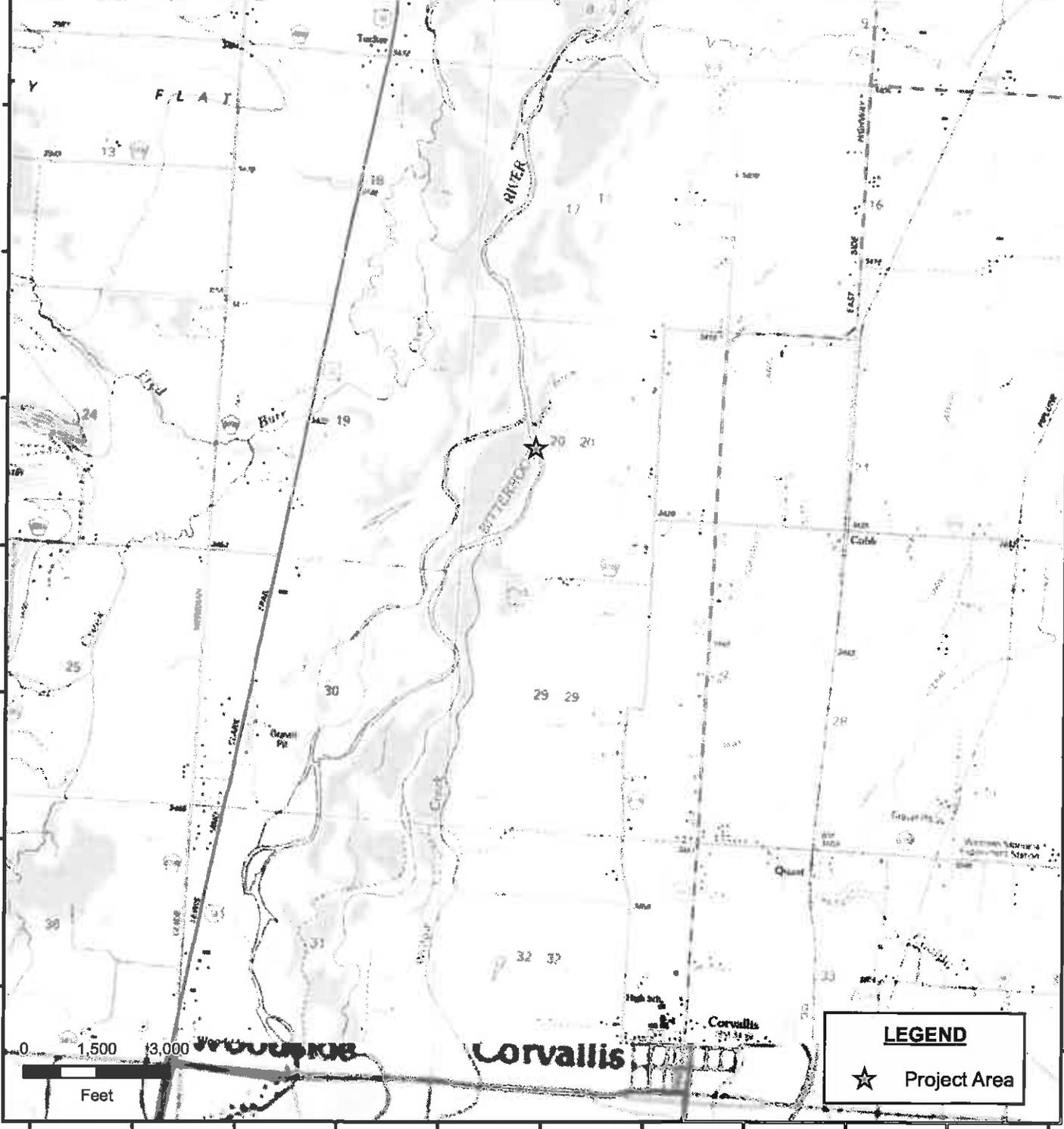
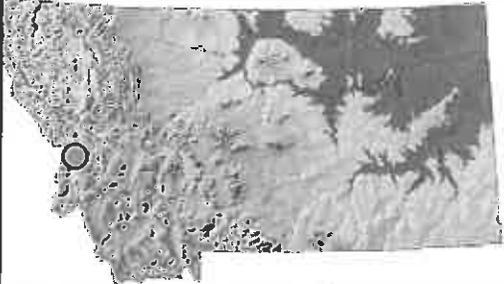
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46°21'0"N
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46°20'0"N
46°19'30"N
46°19'0"N

Supply Ditch Diversion Dam Improvements Project

Section 20, Township 7 North,
Range 20 West, Ravalli County

(Latitude 46°20' 56.65" N, Longitude 114°07' 44.36" W)



LEGEND

★ Project Area

114°10'0"W 114°9'30"W 114°9'0"W 114°8'30"W 114°8'0"W 114°7'30"W 114°7'0"W 114°6'30"W 114°6'0"W 114°5'30"W 114°5'0"W

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DATE: 05/09/14

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SUPPLY DITCH DIVERSION DAM
CORVALLIS IMPROVEMENTS PROJECT MONTANA

PROJECT NO.
0210.037.010

TOPOGRAPHIC MAP OF PROJECT AREA

FIGURE NO.
1

114°8'0"W

114°7'30"W



46°21'0"N

46°21'0"N



LEGEND

☆ Project Area

114°8'0"W

114°7'30"W



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**SUPPLY DITCH DIVERSION DAM
IMPROVEMENTS PROJECT**
CORVALLIS MONTANA

PROJECT NO.
0210.037.010

AERIAL MAP OF PROJECT AREA

FIGURE NO.
2