

ENVIRONMENTAL ASSESSMENT

EA Number: OR-104-05-05
BLM Office: Swiftwater RA, Roseburg District
Proposed Action Title: **Elk Creek Stream Crossing Upgrade Project**
Location of Proposed Action: Section 33 and 34, T.23S, R.4W; and Section 3, T.24S, R.4W; W.M.

Conformance with Applicable Land Use Plan:

This proposed action is subject to the following land use plan:

Name of Plan: Roseburg District Record of Decision and Resources Management Plan (RMP)
Date Approved: June 2, 1995.

This plan has been reviewed to determine if the proposed action conforms with the land use plan terms and conditions as required by 43 CFR 1610.5.

Need for Proposed Action

Since the majority of the stream crossing culverts were installed in the 1970's many are reaching the end of their serviceable life. There has been an ongoing effort on the Roseburg BLM District to replace culverts rated as being in poor condition. Many of these past crossings were not designed to facilitate fish passage and effectively block access to additional habitat or do not meet the Best Management Practice (RMP, pg. 134) of designing culverts to meet 100 year flood events. In addition, since crossings are at the end of their serviceable life they pose risk to public safety and have the potential to introduce sediment into streams thereby affecting water quality should a failure occur.

Purpose of Action

Swiftwater Field Office proposes to replace four stream crossings in the Elk Creek fifth-field watershed (see map) rated as being in poor condition. This EA analyzes projects for contract award in fiscal year 2005 through 2006. The following objectives would be met by this action:

1. Reduce or eliminate stream crossings from being a direct source of sedimentation to streams.
2. Provide for unobstructed movement of aquatic fauna and open additional stream habitat to salmonids.
3. Remove a risk to public safety

Description of Proposed Action

This action consists of excavating the fill material from around the old culvert, removing the culvert, and replacing it with a round pipe or bottomless pipe on concrete footing. The new culvert would be placed in the stream channel and compacted fill material placed around the sides and top. The fill slopes of the inlets and outlets would be stabilized with rip rap (large blasted rock fragments). The road surface would be graded and the aggregate rock surfacing restored. Bare soil surfaces would be stabilized by seeding and mulching. Some sites may include bioengineering (plantings of willow or other hardwoods) to reduce erosion. Project Design Features included as a part of the proposed action is listed in (Appendix B). The new pipes would have end areas of greater than 35 ft². Disturbance would occur on 0.25 acres or less per site.

Affected Environment

The FSEIS describes the affected environment for the Cascades and Coast Range provinces on page 3&4-19 (Cascades) and 3&4-21 (Coast Range). The Roseburg District Proposed Resource Management Plan/Environmental Impact Statement (PRMP/EIS, pp. 3-3 through 3-71) provides a detailed description of BLM administered lands on the Roseburg District. A further description can also be found in the Elk Creek Watershed Analysis.

Botany – There are no known Special Status Plants (SSP) in the project areas. There are some known localized infestations of Scotch broom, Tansy ragwort, and Himalayan blackberry in all of the project areas.

Cultural - No cultural resources were found in the project area.

Hydrology - The proposed project is located within the Elk Creek fifth-field watersheds and the headwaters of Elk Creek sixth-field subwatershed. There are no waterbodies in the project area or immediately downstream of the project area listed on the Oregon Department of Environmental Quality's 2002 303(d) List of Water Quality Limited Waterbodies (ODEQ, 2003 (a) and (b)).

Fisheries - There are two fish-bearing streams (Elk Creek and one of its tributaries) within the proposed stream crossing upgrade project area. According to the Elk Creek Watershed Analysis (pg. 47) Oregon Coast Coho (*Oncorhynchus kisutch*), Oregon Coast Steelhead trout (*O. mykiss*), Coastal Cutthroat trout (*O. clarki clarki*), Pacific Lamprey (*Lampetra tridentata*), and Oregon Coast Chinook salmon (*O. tshawytscha*) are present in the watershed. The Oregon Coast Coho has been designated by the Endangered Species Act as a threatened species (Federal Register, Vol. 63, No.153, August 10, 1998, p.42587).

The Oregon Department of Fish and Wildlife (ODFW, 1994) has conducted aquatic habitat surveys in the Elk Creek Fifth-Field Watershed. Habitat data is available for Elk Creek (Reach 15, Sections 33 and 34, T. 23 S., R. 4 W). Habitat data is not available for Elk Creek (Section 3, T. 24 S., R. 4 W).

Wildlife - This project has been reviewed for Federally Threatened and Endangered (T&E) species known to occur in the Roseburg District. No currently suitable Northern spotted owl (*Strix occidentalis caurina*) or bald eagle (*Haliaeetus leucocephalus*) habitat would be altered by the project. The project area is outside of the known inland range of the marbled murrelet (*Brachyramphus marmoratus*). The nearest known spotted owl site (Harness Mountain) is approximately 0.6 miles from the project area. The Upper Elk Creek #1 and #2 culverts are within designated critical habitat (CHU-OR-24) for the spotted owl and within a forest stand designated as dispersal quality habitat (HB3) for spotted owls. None of the project area falls within 100 acre known owl activity centers (also referred to as "core areas"). There are no known bald eagle nests which could be affected by disturbance above ambient noise levels within a mile of any of the culvert upgrades. No other T&E species occur in the project area. The Columbian white-tailed deer (*Odocoileus virginianus leucurus*) has historically (ca. 1980) been reported in the vicinity of the Upper Elk Creek culverts and is suspected to occur in the vicinity of the project area. The primary habitat of the deer is pastures/grasslands, oak savannah/woodlands, and shrub riparian habitat found in or near the project area. No other Bureau Sensitive or Bureau Assessment species are known to occur within the project area.

Environmental Impacts of the No Action

The No Action Alternative provides a baseline for the comparison of the alternatives. This alternative represents the existing condition. If this alternative were selected there would be no replacement of stream crossing culverts at this time. Impacts associated with the proposed action would not occur; however, crossings would persist in the present poor condition with one to five years of useful life remaining (see Appendix A). They could potentially fail during a future storm event resulting in sediment input to the stream system. The amount of sediment would vary depending on the condition of the road and the size of the storm event. Barriers to juvenile salmonids would continue. A risk to public safety due to failure would continue unabated.

Environmental Impacts of the Proposed Action

1. Description of Potential Impacts

Botanical –Surveys for Special Status Plants (SSP) will be conducted in the summer of 2005. If SSP are found as the result of surveys, the site(s) would be managed in conformance with BLM Manual 6840 guidelines. Kincaid’s lupine (*Lupinus sulphureus* var. *kincaidii*) (Federally Threatened) has been found on District. If it is found in any of the project areas, all impacts would be avoided or formal consultation with the USFWS would be initiated to determine if appropriate mitigations could be applied to avoid a “Jeopardy” determination. The project sites are currently subject to microclimatic fluctuations associated with road prisms and vehicle traffic. It is anticipated that impacts resulting from the proposed action would cause negligible changes to these microclimatic conditions at the project sites. Another impact associated with the proposed action is the potential risk of introducing noxious weeds to the project areas. These potential impacts would be mitigated by implementation of specific Project Design Features (Appendix B).

Hydrology - Construction activities would result in an increase in turbidity during the first storm events of the season due to the introduction of sediment during culvert removal and replacement and subsequent flush. Impacts would be minimized by limiting work to low flow periods and adhering to Best Management Practices (see Fisheries section below for sediment discussion.). There would be long-term (>10 years) reduction in the risk of sedimentation resulting from road fill failures. There may be a localized long-term decrease in stream temperature and increase in bank stability in areas where willows and other riparian hardwoods are planted. Large woody debris, pH, dissolved oxygen or other chemical parameters would not be affected as a result of the proposed action.

Fisheries - It’s likely that there would be some immediate sedimentation downstream of the projects due to the disturbance at the sites; however, the project design features to control sediment (see Appendix B) would minimize these effects. An additional influx of sediment may occur following the first rain events, but this sedimentation is not expected to disrupt the feeding or reproduction of fish communities. Some riparian vegetation at the project sites would be removed and/or disturbed during construction, but the impacts would be limited to a small area (less than a quarter acre) at each stream crossing. In-stream sedimentation is expected to be less than two cu ft for the project and within natural background levels. These effects are expected to have a negligible impact on stream shade, streambank stability, or water quality.

Implementing the proposed actions is expected to improve fish passage through the stream crossings considerably over the existing condition. Culverts and open-bottom structures would provide connectivity for those fish species which have little to no jumping abilities such as sculpin, dace, and lamprey (brook and Pacific species). Allowing fish the opportunity to access their historic habitats would help to ensure maximum habitat usage for the various life history stages. Salmonid species that are currently threatened or proposed would have increased opportunities for reproduction and survival with improved access to smaller tributary streams.

Crossings would be designed to minimize headward channel degradation upstream of the crossings. The streams would reach equilibrium following high water events and head cutting would cease as the channels eventually establish a more uniform grade. This would improve conditions for upstream and downstream migration of fish and other aquatic organisms. If necessary, check structures or constructed step-down channels would be incorporated into the stream channel to prevent significant headward erosion. These structures would be installed in order to maintain desirable habitat conditions upstream, such as productive alluvial flats and spawning areas.

Wildlife - Northern spotted owls do not typically exhibit a negative response (e.g. flushing from nest/perch, aborted feeding attempts, nest abandonment) to a noise/visual disturbance if that disturbance is sufficiently far away. Chainsaws and/or heavy equipment would be a source of noise/visual disturbance within the project area. For heavy equipment and chainsaws, the distance at which spotted owls do not typically exhibit a disturbance response is 65 yards (USDI, 2004). Since there are no spotted owl sites known within 65 yards of the project area, there are no anticipated disturbance effects to spotted owls from the proposed action. Primary constituent elements of spotted owl critical habitat (features contributing to nesting, foraging, roosting, or dispersal habitat) would not be removed or modified under the proposed action. Since the project entails upgrading existing culverts along existing roads involving the removal of a few small, sub-merchantable (< 6 inches dbh) hardwoods and/or conifers, there would be no measurable effect to existing spotted owl dispersal habitat or to white-tailed deer habitat.

2. Cumulative Impacts Analysis

Hydrology - This action may result in an unquantifiable but small and temporary increase in turbidity and sediment below each project site. There would be no increase in turbidity or sedimentation present at the watershed or subwatershed level.

Fisheries - Survival and reproduction opportunities would be improved over the long-term for fish species, and combined with other management strategies, populations of sensitive species could increase. Fish species would have the increased ability to withstand natural events (such as floods and drought) that can lead to population declines because of their ability to migrate into more desirable habitats. An additional 4.0 miles of habitat would be made available to anadromous fish species. Due to differing species habitat criteria, coho would make use of 2.4 miles while steelhead would use all 4.0 miles.

Wildlife - No cumulative effects are anticipated.

3. Critical Elements of the Human Environment

“Critical Elements of the Human Environment” is a list of elements specified in BLM Handbook H-1790-1 that must be considered in all EA’s. These are elements of the human environment subject to requirements specified in statute, regulation, or executive order. These elements have been analyzed for potential effects and are as follows:

<u>Critical Elements</u>	<u>Potentially Affected</u>	
	<u>No</u>	<u>Yes</u>
Air Quality	X	
ACEC	X	
Cultural Resources	X	
Environmental Justice	X	
Farmlands, Prime/Unique	X	
Floodplains	X	
Invasive and Nonnative Species		X
Nat. Amer. Religious Concerns	X	
T & E Species		X
Waste, Hazardous/Solid	X	
Water Quality, Drinking / Ground	X	
Wetlands/Riparian Zones	X	
Wild and Scenic Rivers	X	
Wilderness	X	

Invasive and Nonnative Species -

Project Design Criteria measures #4 and #10 (Appendix D) to control or prevent the spread of noxious weeds would be implemented. Application of these measures would control or prevent the spread of noxious weeds into the project areas.

T & E Species -

Terrestrial Species - No disturbance effects to T&E listed species or modification of suitable habitat or critical habitat would occur as a result of this project.

Aquatic Species - The Oregon Coast Coho has been proposed for listing under the Endangered Species Act as a threatened species. The entire Umpqua Basin is within the Oregon Coast Evolutionarily Significant Unit (ESU) for coho salmon. The replacement of existing culverts at four sites would allow fish to access historic habitats above impassable culverts. Removal of stream crossings, that present barriers to juvenile salmonids and non-salmonids, would allow passage to smaller tributaries that are important to their survival for overwintering, and refuge from high temperatures in mainstem tributaries during the summer months. The survival and reproduction of local populations could possibly decline if individuals remain limited to mainstem habitats. If failing culverts are not removed, sediment delivery would likely degrade spawning and rearing habitat, and possible direct death or injury of fish species could occur if large pulses of sediment are released due to culvert failure.

Description of Mitigation Measures and Residual Impacts

No residual impacts are expected with the implementation of the proposed action and associated Project Design Features; therefore no mitigating measures are necessary to lessen impacts below certain thresholds.

Agencies, Persons, and Permittees Consulted

US Fish and Wildlife Service

The Roseburg District’s consultation for T&E wildlife species is covered under the *Formal Consultation and Written Concurrence on FY 2003-2008 Management Activities (Ref. # I-15-03-F-160)* (Feb. 21, 2003) which concluded that the project would “. . . not likely to jeopardize the continued existence of the spotted owl, murrelet and bald eagle, and are not likely to adversely modify spotted owl or murrelet critical habitat . . .”.

National Oceanic and Atmospheric Administration (NOAA - fisheries)

The Roseburg District’s consultation for T&E fish species is covered under the *Programmatic Biological and Conference Opinion* (Oct. 18, 2002). The Biological Opinion (BO) concluded that the project “. . . is not likely to jeopardize the continued existence of . . . OC coho salmon, or OC steelhead”. .” In addition, the proposed activities were analyzed for, and determined to not adversely affect Essential Fisheries Habitat (EFH).

State Historic Preservation Office

National Historic Preservation Act (Section 106) responsibilities under the 1997 National Programmatic Agreement and the 1998 Oregon Protocol have been completed. No consultation with the State Historical Preservation Office (SHPO) was required.

Preparers

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Literature Cited

- Oregon Department of Environmental Quality, 2003a. Consolidated assessment and listing methodology for Oregon's 2002 303(d) list of water quality limited waterbodies and integrated 305(b) report, Portland Oregon
[<http://www.deq.state.or.us/wq/303dlist/Final2002AssessmentAndListingMethodolgy.pdf>].
- Oregon Department of Environmental Quality, 2003b. Oregon's final 2002 303(d) list, Portland Oregon
[<http://www.deq.state.or.us/wq/303dlist/303dpage.htm>].
- U.S. Department of the Interior, Fish and Wildlife Service. May 13, 2004. Reinitiation of consultation regarding modification of disturbance disturbances for 1-15-96-F-004, 1-15-97-F-047, 1-15-98-F-085, 1-15-99-I-206, 1-15-00-I-270, 1-15-01-F-047, 1-15-03-I-160, and Reinitiation of Consultation Regarding Modification of Commercial Thinning/Density Management Harvest for 1-15-03-F-160 (Ref: 1-15-04-F-0301).

CRITICAL ELEMENTS OF THE HUMAN ENVIRONMENT

The following elements of the human environment are subject to requirements specified in statute, regulation, or executive order (BLM NEPA Handbook, Appendix 5). These resources or values are either not present or would not be affected by the proposed actions or alternatives, unless otherwise described in this EA. This negative declaration is documented below by individuals who assisted in the preparation of this analysis.

Element	Responsible Position	Initials	Date	Remarks
Air Quality	Fuels Management Specialist			Possible localized dust at project site
Areas of Critical Environmental Concern	Environmental Specialist			Project is not within or near an ACEC.
Cultural Resources	Archeologist			Not affected
Environmental Justice	Environmental Specialist			No disproportionate use by Native Americans, minorities or low-income populations.
Farm Lands (prime or unique)	Soil Scientist			“No discernable effects are anticipated” (PRMP pg. 1-7)
Flood Plains	Hydrologist			The crossings will be designed to pass a 100 year flow event.
Invasive Nonnative Species	Botanist			Mitigation measures would control or prevent the spread of noxious weeds
Native American Religious Concerns	Environmental Specialist			No concerns were noted.
T&E Terrestrial Species	Wildlife Biologist			Not affected
T&E Plant Species	Botanist			PDF’s would mitigate effects
T&E Aquatic Species	Fisheries Biologist			PDF’s would mitigate effects
Hazardous/Solid Wastes	Area Hazardous Materials Coordinator			Applicable Haz Mat policies would be in effect.
Water Quality Drinking/Ground Water	Hydrologist			There are no domestic water rights within one mile downstream of the project.
Wetlands/Riparian Zones	Hydrologist			No adverse effects
Wild and Scenic Rivers	Recreation Planner			Project is not within or does not affect scenic river corridor
Wilderness	Recreation Planner			Project is not within a wilderness study area.

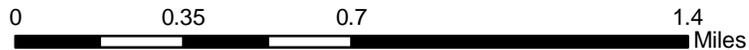
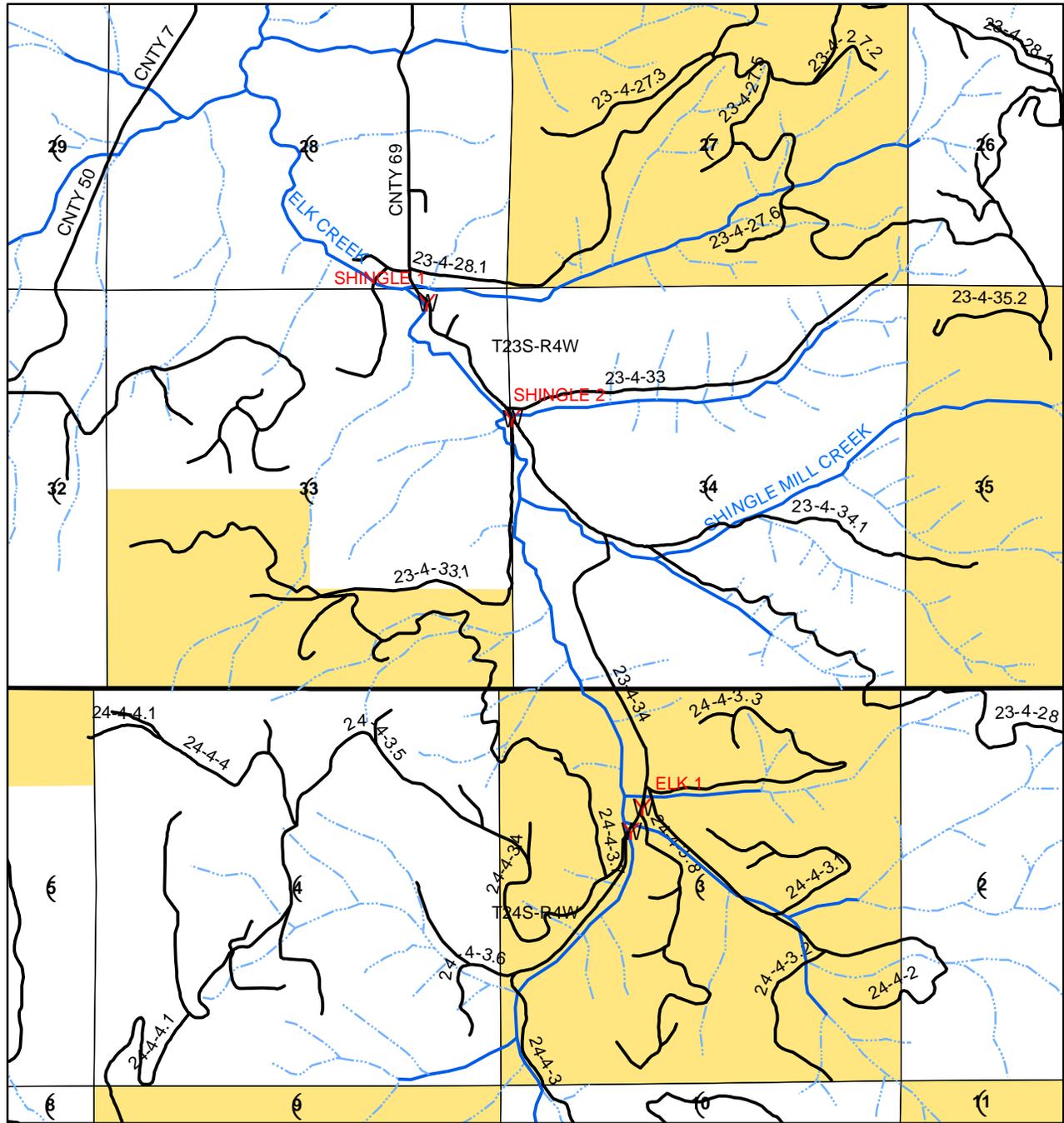
The following items are not considered a Critical Element but have been cited by regulation or executive order as an item warranting consideration in NEPA documents:

Healthy Lands Initiative - This project would not violate the Healthy Lands Initiative. This project would be in compliance with the RMP which has been determined to be consistent with the standards and guidelines for healthy lands (43 CFR 4180.1) at the land use plan scale and associated time lines.

Adverse Energy - Executive Order 13212 provides that all decisions made by the Bureau of Land Management will take into consideration adverse impacts on the President's National Energy Policy. This project would not have a direct or indirect adverse impact on energy development, production, supply, and/or distribution and therefore would not adversely affect the President's National Energy Policy.

Indian Trust Resources - Secretarial Order No. 3175 (November 8, 1993) requires that any significant impact to Indian Trust resources be identified and addressed in NEPA documents. There are no known Indian Trust resources on the Roseburg District; therefore this project is expected to have no impacts to these resources.

Elk Creek Stream Crossing Upgrade Project



Legend

-  Proposed Culverts
-  Roads
-  Intermittent Streams
-  Perennial Streams
-  BLM Lands



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APPENDIX A

Culvert Replacement Summary

PROJECT	ROAD NUMBER	LOCATION			FEATURE CROSSED	CONDITION OF CULVERT	FISH	
		T	R	S				BARRIER TO
Shingle #1	23-4-28.0	23	4	33	Unnamed trib to Elk Creek	Poor	PASSAGE Y	Adult & Juvenile
Shingle #2	23-4-28.0	23	4	34	“	Poor	Y	Adult
Upper Elk Creek #1	23-4-34.0	24	4	3	“	Poor	Y	“
Upper Elk Creek #2	23-4-34.0	24	4	3	Elk Creek	Poor	Y	“

Culvert Condition

- Good - 10 years or more of serviceable life
- Fair - 5 to 10 years of serviceable life
- Poor - 1 to 5 years of serviceable life
- Critical - possible failure any time

APPENDIX B

Project Design Features

The following Project Design Criteria are included as part of the proposed project. These criteria are the result of the application Best Management Practices outlined in Appendix D of the RMP (pg. 129) specific to this project, as well as Terms and Conditions outlined in past consultations with regulatory agencies:

1. Potential impacts to stream ecology would be accomplished by limiting in-stream work (i.e. culvert replacement and fill removal) to periods of low stream flow (between July 1 and September 15). In-stream work could be temporarily suspended if significant storm events occur during this period. Backfill material over temporary culverts would be as soil free as practicable. Streams would be diverted around work areas to minimize sedimentation effects down stream.
2. Prior to initial move-in, construction equipment would be steam cleaned or pressure washed to remove soil and vegetative material from the equipment to avoid the spread of noxious weeds (RMP, pg. 74; BLM Manual 9015 - Integrated Weed Management).
3. During construction, techniques designed to minimize sediment delivery and turbidity (such as stream diversions using high volume pumps and sediment control ponds) would be used. Silt dams and filters (such as straw bales) would be used to filter sediment from the water downstream of the project site.
4. Embankment for culvert backfill would be obtained from on-site excavation accumulated during culvert removal or from nearby developed borrow sources. Embankments would be constructed using controlled compaction. Embankment would be placed as close as practicable to its angle of repose, but in no case steeper than 1 ¹/₂ to 1.
5. Graded rip rap would be placed on the embankment at the inlet and outlet of each culvert to a level equal to full-bank flow elevation and would be placed to a thickness to prevent embankment erosion and keyed below the streambed a minimum of three feet. The rip rap would be sized to prevent movement during high flow events. Rip rap would be placed in a way to minimize impacts to the active stream channel and maintain normal waterway capacity and configuration. Rip rap would be obtained from either commercial sources or developed rock quarries and pits and consist of clean non-erodible angular rock. A concrete and/or rip rap headwall would be placed at the inlet of each culvert. The head wall would extend a minimum of two feet above the top and a minimum of three feet below the bottom of the culvert or to existing bedrock.
6. If significant headward degradation is likely to occur upstream of the replaced or removed stream crossing, check-structures would be placed within the channel to prevent barriers from forming as the channel reaches equilibrium.
7. An erosion control plan would developed by the contractor describing erosion control measures (e.g., sediment fences or other measures sufficient to prevent offsite movement of soil, use of an impervious cover over stockpiled embankments if unusual adverse weather

conditions occur, and sediment traps or catch basins to settle out solids prior to ditch water from entering waterways) that would be taken to prevent sediment from entering the stream. Such plans would be reviewed by the Contracting Officer's Representative.

8. All disturbed surfaces would be seeded and/or planted with native species or a sterile hybrid mix depending on availability after the project completion to stabilize exposed soils and prevent erosion and sedimentation. Additionally, all disturbed surfaces would be mulched with native grass hay or weed-free straw.

9. Special Attention plant and animal sites would be protected according to established Management Recommendations. If, during implementation of the proposed action, any Special Status (threatened or endangered, proposed threatened or endangered, candidate, State listed, Bureau sensitive or Bureau assessment) Species are found, evaluation for the appropriate type of mitigation needed for each species would be performed. Stipulations would be placed in the contract to halt operations if any of these Special Status Species are found, and time would be allowed to determine adequate protective measures before operations could resume.

10. Stipulations would be placed in the contract to halt operations and evaluate the appropriate type of mitigation needed to provide adequate protection; if any objects of cultural value (e.g. historical or prehistorical ruins, graves, fossils or artifacts) are found during the implementation of the proposed action.

11. Hazardous materials (particularly petroleum products) would be stored in durable containers and located so that any accidental spill would be contained. All work site trash and materials would be removed. All equipment planned for instream work would be inspected beforehand for leaks. Accidental spills or discovery of the dumping of any hazardous materials would be reported to the Contracting Officer and the procedures outlined in the "Roseburg District Hazardous Materials (HAZMAT) Emergency Response Contingency Plan" would be followed.

12. Following completion of contracted work performance, the individual sites would be evaluated for the need for bioengineering to reduce erosion and sedimentation and maintain or restore riparian reserve diversity. This work would consist of the planting of willow and hardwood cuttings within the project areas.