

WASHINGTON STATE



AGENCY USE ONLY

Date received:

Agency reference #: _____ Tax Parcel #(s): _____

Application (JARPA) Form^{1,2} USE BLACK OR BLUE INK TO ENTER ANSWERS IN THE WHITE SPACES BELOW.

Joint Aquatic Resources Permit

Part 1–Project Identification

1. Project Name (A name for your project that you create. Examples: Smith's Dock or Seabrook Lane Development) [help]

Mill Creek Culvert Replacement

Part 2–Applicant

The person and/or organization responsible for the project. [help]

2a. Name (Last, First, Middle)					
Kaputa, Mike					
2b. Organization (If ap	olicable)				
Chelan County Natur	al Resources Departm	nent			
2c. Mailing Address (S	2c. Mailing Address (Street or PO Box)				
316 Washington Street, Suite 401					
2d. City, State, Zip					
Wenatchee, WA 98801					
2e. Phone (office)	Ze. Phone (office) 2f. Phone (cell) 2g. Fax 2h. E-mail				
(509) 667-6584	(509) 670-6935	(509) 667-6527	Mike.kaputa@co.chelan.wa.us		

For other help, contact the Governor's Office of Regulatory Assistance at 1-800-917-0043 or help@ora.wa.gov.

¹Additional forms may be required for the following permits:

[•] If your project may qualify for Department of the Army authorization through a Regional General Permit (RGP), contact the U.S. Army Corps of Engineers for application information (206) 764-3495.

If your project might affect species listed under the Endangered Species Act, you will need to fill out a Specific Project Information Form (SPIF) or prepare a Biological Evaluation. Forms can be found at http://www.pupe.usee.ermy.mil/Missione/Civ/Werte/ParmitCiv/debeek/EndangeredSpecies.com/

http://www.nws.usace.army.mil/Missions/CivilWorks/Regulatory/PermitGuidebook/EndangeredSpecies.aspx.

[•] Not all cities and counties accept the JARPA for their local Shoreline permits. If you need a Shoreline permit, contact the appropriate city or county government to make sure they accept the JARPA.

²To access an online JARPA form with [help] screens, go to <u>http://www.epermitting.wa.gov/site/alias_resourcecenter/jarpa_jarpa_form/9984/jarpa_form.aspx</u>.

Part 3–Authorized Agent or Contact

Person authorized to represent the applicant about the project. (Note: Authorized agent(s) must sign 11b of this application.) [help]

3a. Name (Last, First, Middle)				
Kane, Mike				
3b. Organization (If ap	oplicable)			
Chelan County Natura	I Resources Department	t		
3c. Mailing Address (Street or PO Box)				
316 Washington Street, Suite 401				
3d. City, State, Zip				
Wenatchee, WA 98801				
3e. Phone (office)	3f. Phone (cell)	3g. Fax	3h. E-mail	
(509) 667-6467	(509) 885-2126	(509) 667-6527	Mike.kane@co.chelan.wa.us	

Part 4–Property Owner(s)

Contact information for people or organizations owning the property(ies) where the project will occur. Consider both **upland and aquatic** ownership because the upland owners may not own the adjacent aquatic land. [help]

Same as applicant. (Skip to Part 5.)

Repair or maintenance activities on existing rights-of-way or easements. (Skip to Part 5.)

There are multiple upland property owners. Complete the section below and fill out <u>JARPA Attachment A</u> for each additional property owner.

☐ Your project is on Department of Natural Resources (DNR)-managed aquatic lands. If you don't know, contact the DNR at (360) 902-1100 to determine aquatic land ownership. If yes, complete <u>JARPA Attachment E</u> to apply for the Aquatic Use Authorization.

4a. Name (Last, First, Mic	a. Name (Last, First, Middle)				
Reister, Mitch					
4b. Organization (If app	4b. Organization (If applicable)				
Chelan County Public	Works Department				
4c. Mailing Address (Street or PO Box)					
316 Washington Street, Suite 402					
4d. City, State, Zip					
Wenatchee, WA 98801					
4e. Phone (front desk)	4f. Phone (Direct)	4g. Fax	4h. E-mail		
(509) 667-6415	(509) 667-6571	(509) 667-6250	Mitch.reister@co.chelan.wa.us		

Part 5–Project Location(s)

Identifying information about the property or properties where the project will occur. [help]

There are multiple project locations (e.g. linear projects). Complete the section below and use <u>JARPA</u> <u>Attachment B</u> for each additional project location.							
5a. Indicate the type of a	ownership of the property.	(Check all that apply.) [help]					
 Private Federal Publicly owned (state, county, city, special districts like schools, ports, etc.) Tribal Department of Natural Resources (DNR) – managed aquatic lands (Complete, IARPA Attachment F) 							
5b. Street Address (Canr	not be a PO Box. If there is no a	ddress, provide other location informat	ion in 5p.) [help]				
Mountain Home Ranch R	oad crossing over Mill Cre	eek – see Sheet 1 of the project	plans				
5c. City, State, Zip (If the	project is not in a city or town, p	rovide the name of the nearest city or	town.) [<u>help]</u>				
Near Dryden , WA 98821							
5d. County [help]							
Chelan County			Chelan County				
5e. Provide the section, township, and range for the project location. [help]							
5e. Provide the section,	township, and range for th	e project location. [help]					
5e. Provide the section, 1/4 Section	township, and range for th Section	e project location. [help] Township	Range				
5e. Provide the section, 1/4 Section	township, and range for th Section 6	e project location. [help] Township 23 North	Range 18 East				
 5e. Provide the section, ¹/₄ Section 5f. Provide the latitude a Example: 47.03922 N 	township, and range for th Section 6 and longitude of the project lat. / -122.89142 W long. (Use	e project location. [help] Township 23 North t location. [help] decimal degrees - NAD 83)	Range 18 East				
 5e. Provide the section, 1⁄4 Section 5f. Provide the latitude a Example: 47.03922 N 47.511022 North latitude 	township, and range for th Section 6 and longitude of the project lat. / -122.89142 W long. (Use / 120.632222 West longitu	e project location. [help] Township 23 North t location. [help] decimal degrees - NAD 83) ude	Range 18 East				
 5e. Provide the section, 1/4 Section 5f. Provide the latitude a Example: 47.03922 N 47.511022 North latitude 5g. List the tax parcel nu The local county asse 	township, and range for th Section 6 and longitude of the project lat. / -122.89142 W long. (Use / 120.632222 West longitu umber(s) for the project loc essor's office can provide this infe	e project location. [help] Township 23 North Location. [help] decimal degrees - NAD 83) Location. [help] cation. [help] ormation.	Range 18 East				
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 5e. Provide the section, 1/4 Section 5f. Provide the latitude a Example: 47.03922 N 47.511022 North latitude 5g. List the tax parcel nu The local county asse The project is located with parcel number 23 North 1 easement – see contact is is see to be contact in the sec to be	township, and range for th Section 6 and longitude of the project 1 lat. / -122.89142 W long. (Use / 120.632222 West longitu umber(s) for the project loc essor's office can provide this infe hin County ROW, however 18 East Section 6 Tax lot 4 nformation for adjacent lar for all adjoining property o	project location. [help] Township 23 North 23 North tocation. [help] decimal degrees - NAD 83) de cation. [help] ormation. r, the temporary bridge will be level 30100 and we will secure a tem hdowner in section 5h below. wners. (If you need more space, use Mailing Address	Range 18 East 18 East ocated on the adjacent tax nporary construction JARPA Attachment C.) [help] Tax Parcel # (if known)				

5i. List all wetlands on or adjacent to the project location. [help]

There are no wetlands adjacent to Mill Creek within the project area. The bank slopes to the creek are well defined and adjacent areas are well drained.

5j. List all waterbodies (other than wetlands) on or adjacent to the project location. [help]

Mill Creek is a perennial tributary that flows into Peshastin Creek near RM 5

5k. Is any part of the project area within a 100-year floodplain? [help]

Yes No Don't know

51. Briefly describe the vegetation and habitat conditions on the property. [help]

The majority of the project area lies within the existing road right-of-way (ROW) for Mountain Home Ranch Road. The existing County road is approximately 20 feet wide (15 feet wide pavement plus gravel shoulder). The existing fill slope is approximately 45' wide in plan view. The County ROW is approximately 60 feet wide at this location and it includes the existing paved road and adjacent fill slopes. Existing site conditions, including an aerial photograph, limits of ROW, existing contours, and limits of Mill Creek are depicted on Sheets 1 and 3 of the project plans. Project plan sheets are included as Attachment A of this JARPA.

Mill Creek is a perennial stream that flows southeast under Mountain Home Ranch road through an existing 48' long and 5' x 4' (width x height) concrete box culvert (Photo 1 Attachment B). The culvert is located approximately 0.1 mile upstream of the confluence of Mill Creek and Peshastin Creek. The elevation within the project area is approximately1360'. The width of Mill Creek varies within the project area and it varies with water levels, however, during the November, 27, 2006 survey, the wetted width ranged from 9-13' wide. The wetted width at ordinary high water (OHW) is less than 15' wide within the project area. OHW was determined using a HECRAS model and it is based upon the 1.5 year discharge. The results of the modeled limits were confirmed using field indicators by USFWS staff. The limits of OHW are depicted on Sheets 3, 5, 6, and 7 of the plans. Photos 1 and 2 depict typical spring flows in Mill Creek. Photos 3 and 4 depict fall conditions, or typical low flows, in Mill Creek.

Northwest and southeast of Mountain Home Ranch Road, there is a native riparian vegetation corridor that extends approximately 40' north and south of the centerline of Mill creek. There are no trees >8"dbh present within 50 feet north or south of Mountain Home Ranch Road. Dominant shrub species within the riparian area adjacent to the road include red osier dogwood (*Cornus sericea*), serviceberry (*Amalanchier alnifolia*), blue elderberry (*Sambucus nigra*), ocean spray (*Physocarpus capitatus*) and willows (*Salix spp.*). Photo 2 depicts the shrubby riparian area adjacent to Mill Creek on the downstream side of Mountain Home Ranch road. There are also small (<8" dbh) alder (*Alnus sp.*) and cottonwood (*Populus balsamifera*) present within the shrub layer. There are a few larger Ponderosa pine trees nearby, however, they are located outside of the project area (>50' from the existing culvert). The 1994 Rat Creek fire extended into the Mill Creek watershed and burned up to the stream edge in some areas, however, adjacent riparian vegetation has recovered as depicted in Photo 4. Shrub layers currently provide 25-80% cover over the stream channel within the project area.

5m. Describe how the property is currently used. [help]

Mountain Home Ranch road is a County road that provides residential access from Hwy 97 to six private parcels. The County road is approximately 20 feet wide located within the County ROW which is approximately 60 feet wide at this location. Mountain Home Ranch road is also used to access Forest Service Road 7300 which provides recreation access to USFS land and private timberlands. Beyond the road ROW, the project area is undeveloped with vegetation and habitat conditions described in section 51 and adjacent land uses described in section 5n.

5n. Describe how the adjacent properties are currently used. [help]

The Smith residence is located approximately 200 feet northwest of the culvert crossing just outside of the Mill Creek riparian area on the river left bank. The surrounding land use consists of rural residential lands with single family residences located on large lots that also accommodate timber harvest, horse pasture, and forest land uses. There is an irrigation water diversion located on the river left bank of Mill Creek approximately 770 feet upstream of the mouth.

50. Describe the structures (above and below ground) on the property, including their purpose(s) and current condition. [help]

Mountain Home Ranch Road is a paved road approximately 20' wide within a 60' wide County road ROW. Mill Creek flows under the road through a 48' long and 5'x 4'(width x height) concrete box culvert. The box culvert has a 2' drop at the downstream end which creates a complete barrier to fish passage. There are no other structures within the project area.

5p. Provide driving directions from the closest highway to the project location, and attach a map. [help]

From the intersection of Hwy 2 and Hwy 97, go south on Hwy 97 for approximately 3.8 miles until the intersection with Mountain Home Ranch Road. Turn right on Mountain Home Ranch Road and the Mill Creek Crossing is approximately 450' from the intersection with the highway. See Sheet 1 for a location map.

Part 6–Project Description

6a. Briefly summarize the overall project. You can provide more detail in 6b. [help]

The proposed project is to remove the existing 48' long and 5'x4' diameter concrete box culvert that conveys Mill Creek under Mountain Home Ranch road and replace it with a fish passable bridge (Sheets 3-6). This road is designated as a Rural Local Access Class 2 road which requires a 24' paved width. Thus, the replacement bridge needs to be 28' wide so that there is 2' on each side for shy distance and guard rail beyond the 24' paved width. The new concrete bridge deck will have a 48' span over Mill Creek and it will be 30' wide to accommodate traffic. The bridge deck span has been designed to pass the 100 year event flow. During a 100 year event, the bottom of the bridge deck will be over 7' above the water level elevation at centerline. The bridge abutments will consist of pre-cast concrete blocks that are approximately 3' wide by 3' deep and 32' long. Once the culvert has been removed, the exposed banks will stabilized by lining the 2:1 slopes with a 2' deep layer of rip-rap. Native stream bed material will be placed on top of the rip-rap within the active stream channel (Sheets 5 and 6). Sheet 2 includes two tables that specify the size distribution for the rock rip rap and stream bed materials.

Sheet 3 depicts the location of the temporary bridge, temporary access, traffic control, and staging areas. In order to provide temporary access to the private parcels located south of the Mill Creek crossing, a temporary bridge will be constructed over Mill Creek. The temporary bridge will be located immediately to the northwest of the existing crossing. The bridge deck will span Mill Creek and rest upon temporary abutments placed near the top of bank. The temporary bridge deck (likely a railroad car or portable bridge provided by the contractor) will be 60' long and approximately 14-18' wide. Staging areas will be located entirely within the road ROW, however, they may extend slightly beyond the existing edge of pavement in upland areas dominated by pasture grasses. Trees >8" dbh will not be removed for creation of staging areas.

The existing stream bed has over a 3% slope, however, the culvert only has a 2.75% slope resulting in a 2' outfall drop at the downstream end making it a fish passage barrier. Once the culvert is removed, the stream bed will be re-graded to match existing contours and eliminate the plunge pool at the downstream end (see profile sheet 4). After the culvert is removed, the stream bed will be re-graded to pre-culvert conditions. The restored channel characteristics will consist of natural channel design methods using both up and downstream reference conditions. This stream type (A4) consists of short (<.8') steps and pools (<2.0' depth) with larger (small boulder) substrates comprising the steps and smaller gravels in the pools and glide transitions. Bankfull widths in each facet type will range from approximately 8 feet in steps to 11 feet in pools and is consistent with

upstream reference conditions. Particle size distributions are based proportionately on measured pebble counts in this reach. The stream simulation design methods used to re-construct the channel bed is a design-build process with construction guided by USFWS design team staff. Photos 5 and 6 depict conditions in a similar project where USFWS guided design-construction on Chumstick Creek in 2011.					
6b. Describe the purpose of	f the project and why you wa	ant or need to perform it. [help	2]		
The purpose of this project is to remove a fish passage barrier culvert and replace it with a fish passable bridge structure. The existing stream bed has over a 3% slope, however, the culvert only has a 1.5% slope resulting in a 2' outfall drop at the downstream end making it a fish passage barrier. Upgrading this road crossing to a bridge will provide steelhead and possibly juvenile spring Chinook and bull trout access to 2.2 miles of perennial stream with an average gradient of 6-8%. Thus, this project will directly benefit fish species listed for protection under the Endangered Species Act.					
6c. Indicate the project cate	egory. (Check all that apply) [help	ו			
Commercial Residential Institutional Transportation Recreational Environmental Enhancement					
6d. Indicate the major elements of your project. (Check all that apply) [help]					
 Aquaculture Bank Stabilization Boat House Boat Launch Boat Lift Bridge Bulkhead Buoy Channel Modification 	 Culvert Dam / Weir Dike / Levee / Jetty Ditch Dock / Pier Dredging Fence Ferry Terminal Fishway 	 Float Floating Home Geotechnical Survey Land Clearing Marina / Moorage Mining Outfall Structure Piling/Dolphin Raft 	 Retaining Wall (upland) Road Scientific Measurement Device Stairs Stormwater facility Swimming Pool Utility Line 		

- **6e.** Describe how you plan to construct each project element checked in 6d. Include specific construction methods and equipment to be used. [help]
 - Identify where each element will occur in relation to the nearest waterbody.
 - Indicate which activities are within the 100-year floodplain.

Project work will be completed with a tracked excavator (~40,000 lb class). Dump trucks, power and hand held tools will be used to deliver material and construct the features. Principal components of the work include mobilization/demobilization, water control and diversion, clearing and grubbing, site grading, earthwork, placement or pre-cast concrete abutments and bridge superstructure, geomembrane and geotextile installation, riprap arrangement, reseeding, and installation of water measuring devices. Associated equipment may include, but is not limited to, a track hoe, pumping equipment, and hand tools.

Fish salvage will be done by USFWS personnel in accordance with BMP's as outlined in WA State Scientific Collection Permit #12-178 and NOAA Permit #1119 (currently under renewal). A block net will be installed at the upstream end and fish will be pushed downstream using a very low-voltage setting on the electrofisher. A block net will then be installed at the downstream end and the area between the two block nets will be defished until zero individuals remain. Personnel will also be on-hand to net any individuals that may have been missed when the old culvert is being removed.

The following section describes the construction methods and work access. The project includes five separate

construction elements:

- 1. Installation of temporary cofferdam system, de-fishing, and installation of de-watering system. Two cofferdams will be installed upstream of the temporary access bridge and one will be installed at the downstream end of the project area to isolate the work area. After placement of the cofferdams, all fish will be removed from the project area. Cofferdams will consist of gravel bags filled with clean rounded 3" minus material. Plastic sheeting (10 ml thickness) will be placed through the cofferdam to block stream flows through the structure. The top height of the cofferdams will extend over 2 feet above the elevation of stream flows. See the cofferdam detail on Sheet 3. During construction work, clean water will be pumped from Mill Creek above the upstream cofferdam and released downstream of the work area. During non-work hours, the pump will be turned off and the first upstream cofferdam will overflow towards the second cofferdam which contains a pipe in the bottom of the cofferdam structure. Clean stream water will gravity flow through the pipe and be released downstream of the project area. Any groundwater seepage that enters the work area will be dewatered using a pump near the downstream limits of the project area. This water will be pumped through a pipe into a silt sock to remove any fine sediment material prior to release to upland areas east of the project area for infiltration. Fish salvage block nets will remain in place above the upper and below the lower cofferdams to keep fish out of the isolated work area.
- 2. Installation of the temporary bridge crossing to the northwest of the existing road. The northern approach to the temporary bridge deck will consist of crushed surface materials that follow the natural ground contours. The southern approach to the bridge deck will require temporary road embankment fill underneath crushed surface fill materials. Temporary fill materials will be placed on top of geotextile fabric to minimize ground disturbance and facilitate removal of temporary fill materials. The bridge deck will span Mill Creek and rest upon temporary abutments placed near the top of bank. The temporary bridge deck (likely a railroad car or portable bridge provided by the contractor) will be 60' long and approximately 14-18' wide.
- 3. Removal of the existing culvert.

Once the work area has been isolated and traffic has been placed on the detour route, the existing paved road and associated fill material will be removed. All fill will be disposed off-site in an approved upland disposal area. The culvert will be removed and disposed off-site.

4. Placement of the new bridge.

After the detour road has been constructed with traffic routed around the construction site and the diversion and care of stream system is in place, then excavation of the existing structure will begin. Placement of the pre-cast abutments and construction of the new stream channel will be provided from banks on both sides within the dewatered zone. Delivery of the pre-cast bridge deck will be scheduled so that it can be directly transferred from the delivery truck onto the abutments. The bridge approaches will require road widening for the construction of guardrail. Slope stability will be provided with rip rap as depicted in the site plans. Construction of the bridge approaches and anchored guardrail complete the major earthwork activity associated with bridge construction.

5. Site restoration including removal of the temporary bridge.

Once the bridge has been place, the road will be re-surfaced and new striping will be painted. Any traffic signs that were removed for construction will be replaced and the temporary detour will be removed. Once traffic has been re-routed to Mountain Home Ranch Road, the temporary bridge will be removed. All exposed soils will be stabilized using erosion control fabric, seeding with native grass seed mix, and native shrubs will be installed. See more information about the re-vegetation plan in Section 8c. All construction equipment will be removed from the site and utilities will be re-connected.

6f. What are the anticipated start and end dates for project construction? (Month/Year) [help]

If the project will be constructed in phases or stages, use <u>JARPA Attachment D</u> to list the start and end dates of each phase or stage.

End	date:	October	31,	2013	
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All In-water work will be completed September 1, 2013 – September 30, 2013

Construction will commence in July with temporary re-location of the utilities within the existing road bed. Staging for bridge construction and delivery of materials to the site will occur in August. In-water work will start in early September and be completed by the end of the month. Site restoration, including re-vegetation, will occur in October.

6g. Fair market value of the project, including materials, labor, machine rentals, etc. [help]

Construction cost is estimated at \$317,000

6h. Will any portion of the project receive federal funding? [help]

• If yes, list each agency providing funds.

Yes No Don't know

Project design and partial construction funding has been provided by US Fish and Wildlife Service. The remainder of construction funds are provided by the State Salmon Recovery Funding Board of the Washington State Department of Recreation and Conservation, however, those funds are largely federal dollars allocated to the State from the Federal Pacific Coastal Salmon Recovery Fund.

Part 7–Wetlands: Impacts and Mitigation

Check here if there are wetlands or wetland buffers on or adjacent to the project area. (If there are none, skip to Part 8.) [help]

7a. Describe how the project has been designed to avoid and minimize adverse impacts to wetlands. [help]			
⊠ Not applicable			
There are no wetlands adjacent to Mill Creek within the project area.			
7b. Will the project impact wetlands? [help]			
🗌 Yes 🛛 No 📄 Don't know			
7c. Will the project impact wetland buffers? [help]			
🗌 Yes 🛛 No 📄 Don't know			
7d. Has a wetland delineation report been prepared? [help]			
If Yes, submit the report, including data sheets, with the JARPA package.			
🗌 Yes 🛛 No			
7e. Have the wetlands been rated using the Western Washington or Eastern Washington Wetland Rating System? [help]			
If Yes, submit the wetland rating forms and figures with the JARPA package.			
Yes No Don't know			
7f. Have you prepared a mitigation plan to compensate for any adverse impacts to wetlands? [help]			
If Yes, submit the plan with the JARPA package and answer 7g.			
If No, or Not applicable, explain below why a mitigation plan should not be required.			
🗌 Yes 🗌 No 🛛 🖾 Not applicable			
7g. Summarize what the mitigation plan is meant to accomplish, and describe how a watershed approach was used to design the plan. [help]			

7h.	Use the table below to list the type and rating of each wetland impacted, the extent and duration of the
	impact, and the type and amount of mitigation proposed. Or if you are submitting a mitigation plan with a
	similar table, you can state (below) where we can find this information in the plan. [help]

·······, , , ·		,			La construction (Construction)	
Activity (fill, drain, excavate, flood, etc.)	Wetland Name ¹	Wetland type and rating category ²	Impact area (sq. ft. or Acres)	Duration of impact ³	Proposed mitigation type⁴	Wetland mitigation area (sq. ft. or acres)
N/A						
 ¹ If no official name for the wetland exists, create a unique name (such as "Wetland 1"). The name should be consistent with other project documents, such as a wetland delineation report. ² Ecology wetland category based on current Western Washington or Eastern Washington Wetland Rating System. Provide the wetland rating forms with the JARPA package. ³ Indicate the days, months or years the wetland will be measurably impacted by the activity. Enter "permanent" if applicable. ⁴ Creation (C), Re-establishment/Rehabilitation (R), Enhancement (E), Preservation (P), Mitigation Bank/In-lieu fee (B) 						
Page number(s) for similar information in the mitigation plan, if available:						
7i. For all filling activities identified in 7h, describe the source and nature of the fill material, the amount in cubic yards that will be used, and how and where it will be placed into the wetland. [help]						
7j. For all excavating activities identified in 7h, describe the excavation method, type and amount of material in cubic yards you will remove, and where the material will be disposed. [help]						

Part 8–Waterbodies (other than wetlands): Impacts and Mitigation

In Part 8, "waterbodies" refers to non-wetland waterbodies. (See Part 7 for information related to wetlands.) [help]

Check here if there are waterbodies on or adjacent to the project area. (If there are none, skip to Part 9.)

8a. Describe how the project is designed to avoid and minimize adverse impacts to the aquatic environment. [help]

Not applicable

All project elements have been designed to avoid and minimize adverse impacts to Mill Creek and the adjacent riparian areas. In addition, the majority of the project is being constructed within the existing road prism. Construction activities will be accomplished during low flow periods to reduce the potential impacts to juvenile fish. On-site sediment mitigation measures will include silt fencing where necessary, isolating and/or diverting the stream around the work site and using pre-cast concrete bridge components.

Riparian vegetation removal will be limited to the minimum amount necessary for construction. No trees > 8" DBH will be removed from the riparian area. All vegetation removed within 50' of Mill Creek consists of shrub species as described in Section 5I above. The clearing limits (6950 square feet or 0.16 acre) for the culvert removal, temporary access, and bridge installation are depicted on Sheet 3 of the plans. Clearing limits within the riparian area will be clearly fenced or staked in the field to minimize contractor impacts to the work area. There may be additional vegetation disturbance within the ROW for staging on the southeast side of the road, however, staging areas are located outside of the riparian area.

The following alternative designs were considered for this project prior to selecting the proposed design:

- Design options such as installing baffles and/or removing the bottom of the culvert and installing a
 stream simulation design were explored as alternatives to the bridge. However, backwatering is not
 considered feasible due to the steep gradient of Mill Creek and nearby infrastructure. Any design that
 increases the risk of a debris jam or scouring of the structure foundation would not be supported by
 Chelan County Public Works Department.
- Whether or not to provide temporary access was also explored, however, Mountain Home Ranch Road

serves as a one-way access to single family residences. This road also provides access to National Forest Lands for recreation and fire prevention. Therefore, at a minimum, one way traffic will have to be maintained.

- Previous bridge designs were shorter and narrower (35' long x 26' wide). However, Chelan County
 public works requested a minimum bridge width of 28' to accommodate traffic. A slightly longer bridge
 minimizes impacts to the stream because it allows for installation of shorter abutments (shallower
 installation depth).
- CCNRD also evaluated the feasibility of constructing the bridge with one way traffic to avoid construction of a temporary bridge. However, the existing road width (20') is not wide enough to remove part of the structure for construction and allow sufficient space for detour traffic. Chelan County Public Works requires a minimum travel width of 10' for the temporary detour. In addition to the 10' wide travel lane, there is a minimum of 1' wide safety space between the travel zone and adjacent traffic barriers. If minimum width traffic barriers (1' wide) are placed on both sides of the detour road, then the minimum detour road width is 14' wide.

The following best management practices will be implemented on site to avoid and minimize adverse impacts to the aquatic environment:

- a. Riparian vegetation impacts have been minimized as much as possible by limiting the construction work area and by installing work limits fencing on site
- b. A supply of sediment control materials will be on site.
- c. An oil absorbing floating boom will be available whenever surface water is present.
- d. Project operations will cease in the event high flow conditions.
- e. Spill prevention and cleanup kits will be on site when heavy equipment is within 25-feet of Mill or Peshastin Creek.
- f. All work and sediment laden water will contained within a WDFW approved cofferdam system. Water pumped out of the cofferdam area shall be routed to upland area with sufficient filtering so as to remove fine sediments or other contaminants prior to being allowed to re-enter Mill or Peshastin Creek.
- g. Cofferdams shall consist of woven polyethylene gravel bags with a polyfilm sheet wrapped around them to minimize conveyance of water from the work site into the active flow of Mill or Peshastin Creek.
- h. The construction contract will include a bid item for Erosion and Water Pollution Control which will include labor and materials for an Erosion and Spill Control Lead.
- i. Cofferdams will be used to isolate the work area.
- j. The excavator used will be required to use vegetable oil in the hydraulic system.
- k. De-watering and fish salvage will follow the protocols outlined in the programmatic consultation with NOAA Fisheries. USFWS is the lead for ESA consultation for this project.

8b. Will your project impact a waterbody or the area around a waterbody? [help]

🛛 Yes 🗌 No

There will be temporary earthwork in Mill Creek to remove the existing culvert and replace it with a bridge.

- **8c.** Have you prepared a mitigation plan to compensate for the project's adverse impacts to non-wetland waterbodies? [help]
 - If Yes, submit the plan with the JARPA package and answer 8d.
 - If No, or Not applicable, explain below why a mitigation plan should not be required.
 - ☐ Yes ☐ No ⊠ Not applicable

Temporary project impacts are self-mitigating because the fish passage barrier culvert will be removed and replaced with a bridge that provides fish passage to ~ 2.2 miles of perennial stream habitat.

All impacts to Mill Creek will be temporary and all vegetation removed will be re-planted with native species at a density of 4' on center. Approximately 3000 sq. feet of riparian area will be re-planted with the following native trees and shrubs:

Species	Number
Red osier dogwood (Cornus sericea)	14
Willow (mix of Salix lasiandra and S. sitchensis)	28
Pacific ninebark (Physocarpus capitatus)	14
Spirea (Spirea douglassii)	14
Snowberry (Symphoricarpus albus)	20
Service berry (Amalanchier alnifolia)	24
Ponderosa pine (<i>Pinus ponderosa</i>)	12
Wood's rose (Rosa woodsii)	20
Ocean spray (Holodiscus discolor)	20
Oregon grape (Berberis aquifolium)	22
Total	188

In addition to the native shrubs proposed for installation listed in the table above, all areas with disturbed vegetation will be seeded with herbaceous species to stabilize soils and minimize erosion. The following seed mix will be applied at a rate of 7 lbs/acre to approximately 0.25 acres of road fill slope and staging areas:

<u>Species</u>	<u>% of mix by seed weight</u>
Idaho fescue (Festuca idahoensis)	0.3
Blue wildrye (<i>Elymus glaucus</i>)	0.3
Red fescue (<i>Festuca rubra</i>)	0.15
Yarrow (Achillea millefolium)	0.05
Wooly sunflower (Eriophyllum lanatum)	0.05
blue flax (<i>Linum perrenne</i>)	0.075
large leaf lupine (Lupinus polyphyllus)	0.075
Total	1

A more detailed planting plan will be prepared with the final design plans. This planting plan will provide plant installation details and it will depict the planting zones for the native trees and shrubs. In addition, it will specify the number of pounds of seed per species, however, it will be consistent with the two tables specified above.

8d. Summarize what the mitigation plan is meant to accomplish. Describe how a watershed approach was used to design the plan.

• If you already completed 7g you do not need to restate your answer here. [help]

N/A

8e. Summarize impact(s) to each waterbody in the table below. [help]

Activity (clear, dredge, fill, pile drive, etc.)	Waterbody name ¹	Impact location ²	Duration of impact ³	Amount of material (cubic yards) to be placed in or removed from waterbody	Area (sq. ft. or linear ft.) of waterbody directly affected	
Removal	Mill Creek	See		69 cy	0.003 acres	
Fill	Mill Creek	Sheets 4,		7 су	0.008 acres	
¹ If no official name for the waterbody exists, create a unique name (such as "Stream 1") The name should be consistent with other documents provided. ² Indicate whether the impact will occur in or adjacent to the waterbody. If adjacent, provide the distance between the impact and the waterbody and indicate whether the impact will occur within the 100-year flood plain. ³ Indicate the days, months or years the waterbody will be measurably impacted by the work. Enter "permanent" if applicable. 8f. For all activities identified in 8e, describe the source and nature of the fill material, amount (in cubic yards)						
you will use, and	how and where i	t will be placed	i into the water	DODY. [help]		

The excavation below OHW will primarily consist of culvert and associated fill removal and re-grading the stream bed to match adjacent contours. This is further described in Section 6a and 6e above and depicted on Sheets 4 and 7.

Fill below OHW will consist of materials placed to stabilize the bed and banks of the stream following culvert removal. Stream bed fill is also necessary in order to restore stream bed grades to match slopes above and below the culvert and restore fish passage. Fill materials will consist of rip rap and stream bed gravels which is further described in Section 6a and 6e above and depicted on Sheets 4 and 7.

The temporary bridge will not require any fill or removal below the OHW of Mill Creek.

8g. For all excavating or dredging activities identified in 8e, describe the method for excavating or dredging, type and amount of material you will remove, and where the material will be disposed. [help]

Excavation will be completed using a 40,000 pound class excavator. Access for removing material from the existing road prism will be from the existing road bed and the banks of Mill Creek on both sides. Equipment will operate within areas designated by the cut-fill limits on the drawings. All excavated material will be hauled off site and disposed in an approved upland location. For more information about excavation, see Sections 6a, 6e, 8e, and 8f of the JARPA text and the project plans.

Part 9–Additional Information

Any additional information you can provide helps the reviewer(s) understand your project. Complete as much of this section as you can. It is ok if you cannot answer a question.

9a. If you have already worked with any government agencies on this project, list them below. [help]					
Agency Name	Contact Name	Phone	Most Recent Date of Contact		
USFWS	Robes Parrish	(509) 548-2983	March 11, 2013		
US Army Corps of Engineers	Jess Jordan	(509) 994-8653	March 18, 2013		
WDFW	Gina McCoy and Connie Iten	(509) 996-8248 and (509) 826-3123	March 13, 2013		
NOAA	Sean Gross	(509) 962-8911 x 225	March 12, 2013		
USFWS	Anan Raymond	(503) 625-4377	March 1, 2013		
 9b. Are any of the wetlands or waterbodies identified in Part 7 or Part 8 of this JARPA on the Washington Department of Ecology's 303(d) List? [help] If Yes, list the parameter(s) below. If you don't know, use Washington Department of Ecology's Water Quality Assessment tools at: http://www.ecy.wa.gov/programs/wg/303d/. 					
🛛 Yes 🗌 No					
Mill Creek is a tributary to Peshastin Creek which is a tributary to the Wenatchee River. The entire Wenatchee basin is TMDL listed for dissolved oxygen and pH and Peshastin Creek is also a segment of the Wenatchee basin list for temperature.					
 9c. What U.S. Geological Survey Hydrological Unit Code (HUC) is the project in? [help] Go to http://cfpub.epa.gov/surf/locate/index.cfm to help identify the HUC. 					
Lower Wenatchee River					
9d. What Water Resource Inventory Area Number (WRIA #) is the project in? [help]					

Go to http://www.ecy.wa.gov/services/gis/maps/wria/wria.htm to find the WRIA #.
Mill Creek is a tributary to Peshastin Creek which is a tributary to the Wenatchee River WRIA 45.
 9e. Will the in-water construction work comply with the State of Washington water quality standards for turbidity? [help] 6 to http://www.ecv.wa.gov/programs/wg/swgs/criteria.html for the standards
• Go to <u>mtp://www.ecy.wa.gov/programs/wd/swds/citteria.ittmi</u> for the standards.
Yes No Not applicable
9f. If the project is within the jurisdiction of the Shoreline Management Act, what is the local shoreline environment designation? [help]
 If you don't know, contact the local planning department. For more information, go to: http://www.ecv.wa.gov/programs/sea/sma/laws_rules/173-26/211_designations.html
RuraiOrban Naturai Aquatic Conservancy Other Respectie Creak is within the invitediation of SMA however, Mill Creak is not within the invitediation of SMA
Peshasun Creek is within the jurisdiction of SMA, nowever, Mill Creek is not within the jurisdiction of SMA
 9g. What is the Washington Department of Natural Resources Water Type? [help] Go to http://www.dnr.wa.gov/BusinessPermits/Topics/ForestPracticesApplications/Pages/fp_watertyping.aspx for the Forest Practices Water Typing System.
Shoreline Kish Non-Fish Perennial Non-Fish Seasonal
 9h. Will this project be designed to meet the Washington Department of Ecology's most current stormwater manual? [help] If No, provide the name of the manual your project is designed to meet.
🖂 Yes 🗌 No
Name of manual: Stormwater Management in Eastern Washington 2004
 9i. Does the project site have known contaminated sediment? [help] If Yes, please describe below.
☐ Yes ⊠ No
9j. If you know what the property was used for in the past, describe below. [help]
Land use prior to the construction of Mountain Home Ranch Road is unknown.
 9k. Has a cultural resource (archaeological) survey been performed on the project area? [help] If Yes, attach it to your JARPA package.
Yes No USFWS is conducting the cultural resources review and Section 106 consultation. Attachment C includes the Area of Potential Impact (APE) map as well as the request for cultural resource compliance form that USFWS staff Robes Parrish has sent to USFWS staff Virginia Parks to initiate the review process. USFWS Regional Archaeologist, Anon Raymond (contact info in Section 9a above) will complete the cultural resources review and document project compliance with Section 106. This will include a field survey as soon as the snow melts later in March. The cultural resources report and letters to the Tribe and SHPO can be provided upon request.

9I. Name each species listed under the federal Endangered Species Act that occurs in the vicinity of the project area or might be affected by the proposed work. [help]

Fish use in nearby Peshastin Creek

Peshastin Creek contains Upper Columbia Spring Chinook Salmon (*Oncorhynchus tshawytscha*), Upper Columbia Steelhead (*Oncorhynchus mykiss*), and Columbia River Bull Trout (*Salvelinus confluentus*). Steelhead spawning in the Peshastin watershed occurs in the spring, typically March through May. Spring Chinook migrate into Peshastin creek during the summer. By early September, most spring Chinook are spawning which starts near RM 5 and continues upstream. Bull trout and steelhead start in-migrating with the fall rains and cooler temperatures in October.

Fish use in Mill Creek

Rainbow trout have been documented in Mill Creek, however, Mill Creek is also suitable habitat for steelhead juveniles and adults. Mill Creek may also be used by spring Chinook juveniles, especially at the lower end near the confluence with Peshastin Creek. Flows in Mill Creek are typically less than 1 cfs in September so spring Chinook adults are not likely to use Mill Creek for spawning habitat.

9m. Name each species or habitat on the Washington Department of Fish and Wildlife's Priority Habitats and Species List that might be affected by the proposed work. [help]

The GIS layer for WDFW Priority Habitats and Species for Chelan County was reviewed and there are no priority habitats or species within the project area except the ESA listed fish species noted in Section 9I above.

A 1994 USFS survey of the Mill Creek watershed indicates that *Cypripedium fasciculatum* (clustered lady's slipper orchid) and *Delphinium viridescens* (Wenatchee larkspur) are known to occur in the Mill Creek watershed. The clustered lady's slipper, which is listed as state threatened and USFWS species of concern, is typically found above 1200' in mid- to late seral evergreen forested areas. The larkspar, which is listed as state sensitive and USFWS species of concern, is typically found in wet meadows at higher elevations (1800-4200'). Neither species is known to be located within the project area.

Part 10–SEPA Compliance and Permits

Use the resources and checklist below to identify the permits you are applying for.

- Online Project Questionnaire at http://apps.ecy.wa.gov/opas/.
- Governor's Office of Regulatory Assistance at (800) 917-0043 or help@ora.wa.gov.
- For a list of addresses to send your JARPA to, click on <u>agency addresses for completed JARPA</u>.

10a. Compliance with the State Environmental Policy Act (SEPA). (Check all that apply.) [help]
 For more information about SEPA, go to <u>www.ecy.wa.gov/programs/sea/sepa/e-review.html</u>.
A copy of the SEPA determination or letter of exemption is included with this application.
A SEPA determination is pending with (lead agency). The expected decision date is
I am applying for a Fish Habitat Enhancement Exemption. (Check the box below in 10b.) [help]
 This project is exempt (choose type of exemption below). Categorical Exemption. Under what section of the SEPA administrative code (WAC) is it exempt?
Other:
SEPA is pre-empted by federal law.

10b. Indicate the permits you are applying for. (Check all that apply.) [help]

LOCAL GOVERNMENT

Local Government Shoreline permits:				
Substantial Development Conditional Use Variance				
Shoreline Exemption Type (explain): Mill Creek is not covered under Shorelines jurisdiction				
Other city/county permits:				
Floodplain Development Permit Critical Areas Ordinance – the project will likely meet the fish				
habitat restoration exemption 16 of Chapter 11 of the County code				
STATE GOVERNMENT				
Washington Department of Fish and Wildlife:				
Hydraulic Project Approval (HPA) Kish Habitat Enhancement Exemption – <u>Attach Exemption Form</u>				
Effective July 10, 2012, you must submit a check for \$150 to Washington Department of Fish and Wildlife, unless your project qualifies for an exemption or alternative payment method below. <u>Do not send cash.</u>				
Check the appropriate boxes:				
\$150 check enclosed. (Check #) Attach check made payable to Washington Department of Fish and Wildlife.				
Charge to billing account under agreement with WDFW. (Agreement <u>#)</u>				
 My project is exempt from the application fee. (Check appropriate exemption) HPA processing is conducted by applicant-funded WDFW staff. (Agreement <u>#</u>) Mineral prospecting and mining. Project occurs on farm and agricultural land. (Attach a copy of current land use classification recorded with the county auditor, or other proof of current land use.) Project is a modification of an existing HPA originally applied for, prior to July 10, 2012. (HPA <u>#</u>) 				
Washington Department of Natural Resources:				
Aquatic Use Authorization Complete <u>JARPA Attachment E</u> and submit a check for \$25 payable to the Washington Department of Natural Resources. <u>Do not send cash.</u>				
Washington Department of Ecology:				
Section 401 Water Quality Certification				
FEDERAL GOVERNMENT				
United States Department of the Army permits (U.S. Army Corps of Engineers):				
Section 404 (discharges into waters of the U.S.)				
United States Coast Guard permits:				
General Bridge Act Permit Private Aids to Navigation (for non-bridge projects)				

Part 11–Authorizing Signatures

Signatures are required before submitting the JARPA package. The JARPA package includes the JARPA form, project plans, photos, etc. [help]

11a. Applicant Signature (required) [help]

I certify that to the best of my knowledge and belief, the information provided in this application is true, complete, and accurate. I also certify that I have the authority to carry out the proposed activities, and I agree to start work only after I have received all necessary permits.

By initialing here, I state that I have the authority to grant access to the property. I also give my consent to the permitting agencies entering the property where the project is located to inspect the project site or any work related to the project. ______ (initial)

Applicant Printed Name

Applicant Signature

Date

11b. Authorized Agent Signature [help]

I certify that to the best of my knowledge and belief, the information provided in this application is true, complete, and accurate. I also certify that I have the authority to carry out the proposed activities and I agree to start work only after all necessary permits have been issued.

Authorized Agent Printed Name

Authorized Agent Signature

Date

11c. Property Owner Signature (if not applicant). [help] Not required if project is on existing rights-of-way or easements.

I consent to the permitting agencies entering the property where the project is located to inspect the project site or any work. These inspections shall occur at reasonable times and, if practical, with prior notice to the landowner.

Property Owner Printed Name

Property Owner Signature

Date

18 U.S.C §1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly falsifies, conceals, or covers up by any trick, scheme, or device a material fact or makes any false, fictitious, or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious, or fraudulent statement or entry, shall be fined not more than \$10,000 or imprisoned not more than 5 years or both.

If you require this document in another format, contact the Governor's Office of Regulatory Assistance (ORA) at (800) 917-0043. People with hearing loss can call 711 for Washington Relay Service. People with a speech disability can call (877) 833-6341. ORA publication number: ENV-019-09 rev. 06-12 Attachment A: Project Plans Sheets 1-7

Attachment B: Site Photos



Photo 1: Mill Creek box culvert existing high flow conditions downstream end, June 2011

Photo 2: Riparian conditions adjacent to Mill Creek downstream of Mountain Home Ranch Road, June 2011





Photos 3 and 4: Instream conditions in Mill Creek upstream of the Mountain Home Ranch Road crossing. Photos taken fall 2010 depict typical low flow conditions, instream wood, and riparian habitat.





volume and between the photos degranicipated creek curves of the photos

Photos 5 and 6: Example of a recently constructed stream bed using stream simulation design methods. This designbuild method was guided by USFWS staff in Chumstick Creek in 2011. Flow volume and stream bed slope are similar between this site and Mill Creek. These photos depict typical conditions anticipated for the stream bed at the Mill Creek culvert replacement project. Attachment C: Cultural Resources Area of Potential Impact Map and Request for Cultural Resources Compliance

Mill Creek Culvert Replacement Project

Temp road abutment excavatio (18' wide x 4' deep)

Temp road deck (n ground disturbanc

Temp road fill area

y box reconnection

eotech excavation uger or backhoe wide x <8' deep)

KEY

APE

50

0

100

emp road fill area

Utility box reconnections

Geotech excavation (auger or backhoe; 2' wide x <8' deep)

New bridge de (30' wide x 50' cavation 3 L

Greet

200 Feet Ŵ

R. Parrish February 21, 2013



Date of Request:	Proposed Start Date:					
	3/20/13					
2/27/13	8/15/13					

REQUEST FOR CULTURAL RESOURCE COMPLIANCE

U.S. Fish and Wildlife Service, Region 1 and Region 8

Project Name:	Mill Crook Culvert Peolecoment						FWS Program: (ES, Refuges, Fisheries, Fire) Fisheries						
						Funding Source: (Partners,	National Fish Passage Program						
State:	WA		EcoRegion:		Up	Upper Columbia River		FWS Unit:	MC	MCRFRO			
							1	Org Code:	133	30			
Project	Coun	County T		Township		Range	Section	FWS Contact:	Rob	ert Parris	h		
Location.	ation:		22N 195			18F	6	Tel#,	509	509 548 2983			
	Chelan		2014			ICE	Ũ	Address	750	7501 Icicle Road			
					Leavenworth, WA 98826			98826					
USGS Quad:	Leavenwo	orth		Date of Requ				Date of Request:	Proposed Project Start Date:				
Total project acres	s/ linear ft/r	n:	APE Acres / linear ft/m (if different)				2/25/12		3/20/	/13 (g	jeotech)		
0.8 ad	cres		~200 linear feet of road reconstructed				icted	2/25/13	8/15/13 (construction)				
Have you consulte	ed with Tribe	e(s)?	Have you consulted with other interested parties?			Is there anot	her federal agency		No	lf y nar	es, provide ne:		
Yes	No	х	Yes		No	x	involved with this project?			Yes	NRCS (in-kind design assistance)		
MAPS Attached			Check below for Sect			Note: Contact FWS the Lead If yes, which for Section 1	t the CRT before making d Agency agency is taking lead 06 compliance?	x	FWS		Other Agency		
Copy of portion of USGS Quad with project area marked clearly (required)		X X Project (sket specific grou			Project (sketc specific groun	ch) map showing Area of Potential Effect with locations of altering activities (required)							
Photocopy of aerial photo showing location (if available)		x x			x	Any other project plans, photographs, or drawings that may help CRT in making determination (if available)							
Directions to Project:From the junction of Highway 2 and Highway 97, travel south 3.8 miles. Turn west (right) on to Mountain Home Ranch Road (National Forest Road 7300). Road crosses Mill Creek in approximately 1/10 mile.													
Description of Undertaking: Describe proposed project and means to facilitate (e.g., provide funds to revegetate 1 mile of riparian habitat, restore 250 acres of seasonal wetlands, and construct a 5-acre permanent pond). How is the project designed (e.g., install 2 miles of fence and create approximately 25' of 3' high check dam)?													
	This project will replace the failing box culvert with a bridge to allow fish passage and access to spawning for adult steelhead, coho and potentially bull trout. In addition, the lower portion of this stream may provide rearing habitat for spring Chinook and other salmonid juveniles. This would open up 2.2 miles of currently blocked small stream habitat for spawning and rearing.												
The replacement structure will be a 30 ft. wide by 48 ft. long pre-stressed concrete bridge with poured concrete footings. A temporary bridge would be installed just upstream using a 60ft clear-span railroad car for construction traffic. Some utilities currently in the roadbed and the road shoulder would have to be excavated and relocated onto the bridge deck. Restoration of fish passage will require reconstruction of the stream channel by both adding some fill downstream and excavation upstream to restore a passable gradient. Staging of materials will all occur on the existing roadway.					emporary bridge adbed and the nstruction of the aterials will all								

Area of Potential Effects (APE):	Describe where disturbance of the ground will occur. What are the dimensions of the area to be disturbed? How deep will you excavate? How far apart are fenceposts? What method are you using to plant vegetation? Where will fill be obtained? Where will soil be dumped? What tools or equipment will be used? Are you replacing or repairing a structure? Will you be moving dirt in a relatively undisturbed area? Will the project reach below or beyond the limits of prior land disturbance? Differentiate between areas slated for earth movement vs. areas to be inundated only. Is the area to be inundated different from the area inundated today, in the recent past, or under natural conditions? Provide acres and/or linear ft/m for all elements of the project.									
	This RCRC requests cultural resource concurrence for two project phases: 1) geotechnical investigation to occur in March, 2013 (concurrence permitting), and 2) bridge construction in August, 2013.									
	Geotechnical Investigation: This work would be undertaken with a truck-mounted drill rig provided by NRCS. It would involve drilling up to six- 5 inch by 8 ft. deep holes on both the up- and downstream side of the existing road prism. This information would provide the engineer about the suitability of material beneath the existing culvert for bridge stability bearing capacity, and also inform a slope stability analysis. If the drill auger encounters significant rock, then excavation with a backhoe would occur. Two trenches (one each on the up- and downstream side of the road fill prism) would be dug, also to a depth of 8 ft., but up to 2 ft. wide, in this case. All excavation would occur on previously imported fill and/or disturbed ground and be replaced after the soil analysis. The geotech excavation locations are shown on the APE map.									
	Bridge Construction: The excavation footprint for the new bridge will be limited to the existing road prism, which is believed to be comprised of largely imported fill and was built in the 1950s. Excavation limits and extents are shown in the attached APE map and engineering drawings (which include a planview, profile, and two cross-section sheets). The new footings will be excavated to approximately 7.3 ft. below the existing road surface. From this depth, 2 ft. of crushed rock fill will support the footings, a 3 ft. poured-concrete footer will sit on top, and a 2.25 ft. bridge deck will get back to finished/original grade. Within this 48 ft. span, the old concrete box culvert will be removed and the new channel reconstructed beneath (requiring excavation of approximately 5.3 ft. below the existing culvert and within 2:1 slopes up to footer depths; see section Details sheet). Some minor fill will also occur at the outlet of the existing culvert to restore a passable stream gradient (see Profile sheet). The new stream channel will match the width upstream (appx. 8 ft. bankfull/OHW width).									
	Some excavation is also necessary to countersink ecology block footings for the temporary bridge crossing (see APE sheet). Three blocks on each side would require trenches dug 3 ft. wide by 4 ft. deep by 18 ft. long. Minor fill in front of these would allow traffic a safe and flat approach. The temporary bridge deck will be 60 ft. long and will span the creek. Topping the alder trees beneath the deck may be necessary but simply laying it on top of willow and dogwood should not otherwise disturb the riparian area between the footings. These locations are shown on both the APE map and planview drawings. Additional ground disturbance will be limited to reconnecting utilities at current junction boxes (shown as stars on APE map), both of which are also on previously excavated ground. Temporary stream diversions will be placed just upstream of the temp bridge and constructed of sandbags and plastic. Due to the low flows expected during construction (<1 cfs), this would only backwater <20 ft. within the existing channel prism and pumps would carry the water through the excavated site and returned below the work zone. All excess excavated fill material will be hauled offsite and fill will be imported from local gravel pits. Staging of materials and equipment will occur on the existing road prism or adjacent cleared ground next to a private horse corral. Total APE is expected to be 0.8 acres, including the existing roadway where it would be used for access (see APE map).									
Environmental and Cultural Setting:	Briefly describe the environmental setting of the APE. A) What was the natural habitat prior to modifications, reclamation, agriculture, settlement? B) What is land-use history? When was it first settled, modified? How deep has it been cultivated, grazed, etc.? C) What is land use and habitat today? What natural agents (e.g., sedimentation, vegetation, inundation) or cultural agents (e.g., cultivation) might affect the ability to discover cultural resources? D) Do you (or does anybody else) know of cultural resources in or near the project area?									
	We are unaware of any known cultural resources in the immediate vicinity of the project. However, included with this RCRC is a report from a recent survey done for a restoration project approximately 3.5 miles downstream. This provides local information and regional context, though no sites of interest are noted proximate to Mill Creek and no cultural resources were found during field surveys at this downstream location. The roadbed is obviously a disturbed site and if cultural resources had once been present they are likely to have been previously impacted. Both the temporary and replacement bridges will sit on an alluvial fan. It is unlikely that this fan has been particularly active within the last several thousand years but inter-annual flood events have clearly impacted the channel and adjacent floodplain. A residence is located to the north of the bridge and much of the temporary road impacts will occur on their front lawn. There is also an active livestock pasture to the northwest which has been in-use for many years. We believe that the roadway itself is one of the remaining sections of the historic Old Blewett Pass Highway. This likely sits on top of historic Wenatchi Indian trails which once traversed the area over Blewett and Swauk Passes between the Kittias Valley and the Wenatchee Valley. This general area has also been used for prospect mining though no known evidence of this exists in lower Mill Creek. This website provides some additional regional context: http://oldblewett.blogspot.com/2008/08/historic-blewett-pass-highway.html									
Please return this	RCRC and map showing APE digitally, if possible, to virginia parks@fws.gov. Questions, call 503-625-4377									

Return Form and maps to: <u>Virginia_parks@fws.gov</u> If unable to send digitally, mail or fax to USFWS Region 1 Cultural Resources Team, 20555 SW Gerda Lane, Sherwood, OR 97140 Questions: 503-625-4377 or fax 503-625-4887



Photo 1. Current Mill Creek outlet (box culvert with 1.6 ft. plunge).



Photo 2. Upland site conditions at culvert.

Return Form and maps to: <u>Virginia_parks@fws.gov</u> If unable to send digitally, mail or fax to USFWS Region 1 Cultural Resources Team, 20555 SW Gerda Lane, Sherwood, OR 97140 Questions: 503-625-4377 or fax 503-625-4887