Peshastin Creek – Blewett Rock and Gravel Side Channel Reconnection Design

Chelan County Natural Resources Department

13th Round Funding Cycle

June 29, 2012

Anticipated Request from Tributary Committee:	**$0**
Anticipated Request from SRFB:	**$199,900.00**
Anticipated Total Request:	**$199,900.00**
Anticipated Other Contributions/Match :	$0
Anticipated TOTAL Project Budget:	$199,900.00

SRFB/TRIB Final Proposal Checklist

Project Title: Peshastin Creek-Blewett Rock and Gravel Side Channel Reconnection Design

Proposal Contents	**Page of Application**
A) Title Page: includes sponsor, project title, and funding request	1
B) Summary of project changes since pre-proposal	3
C) Checklist – yes, this checklist or a similar one specific to your proposal	2
D) Scope of Work (1) Project Overview (2) Salmon Recovery Context (3) Citations (please don't include entire reports as attachments; rather summarize and reference) (4) Project Design (5) Project Development (6) Tasks and Schedule (7) Constraints and Uncertainties (8) Cost Estimate	4-15
E) Maps Project Location Existing Conditions Alternative 2 Alternative 3	16-19
F) Project Photos	20-23
G) Landowner Acknowledgement Form(s)	24-26

SUMMARY OF PROJECT CHANGES SINCE THE PRE-PROPOSAL

1. Reduction of project alternatives.
    - Based on comments from the RTT, the Full Channel Reconnection alternative has been dropped from future consideration due to expected high project construction costs ($5.5 – $6.5 Million).
    - Based on comments from the RTT, the Downstream Only Reconnection has been dropped from future consideration due to the expected low biological benefit vs. construction cost ($250,000 - $300,000).
    - The removal of these alternatives has reduced the cost of the alternatives analysis.
2. A Phase I Environmental Assessment has been added.
    - Based on comments from the RTT, a Phase I Environmental Assessment of the site has been added. This assessment will include a database search, interviews, a site visit, and a memorandum report that meets WSDOT standards for reporting.

RESPONSES TO RTT COMMENTS

1. Reduce the scope of the final proposal to two alternatives (i.e., alternatives 2 and 3).

   Response: Alternatives have been reduced as described above.

2. Significantly reduce the cost of the proposal
   Response: The CCNRD believes that the proposed project costs are commensurate with the level of analysis and design required to complete the tasks described within this proposal.

Responses to SRFB Comments

1. Clarify the level of design that has been completed to date that generated the four conceptual alternatives.

Response: A review of the reach assessment and LIDAR and field visits were completed to develop conceptual alternatives. Some topo survey data was collected to verify LIDAR.

2. What benefits would a back water channel have over a flow through channel but one that is shorter in length than the entire reach between the existing undersized culverts? This was mentioned as an option on site but concerns were expressed about lack of flushing flows to maintain the channel.

Response: The back water channel alternative is no longer being considered based on RTT comments during the field visit.

3. What criteria will be used to prioritize project alternatives?

Response: Biological benefit versus cost and landowner concerns will be evaluated to select a preferred alternative. The Wenatchee Habitat Subcommittee will review the alternatives.

1. Project Overview

    A. Describe the primary goal and objectives of this project. When answering this question please refer to chapter 4 of the *Stream Habitat Restoration Guidelines* online at wdfw.wa.gov/publications/pub.php?id=00043 for a definition of restoration goals and objectives.

The primary goal at the BRG site is to reconnect stream channel process to the disconnected stream channel and floodplain (Interfluve 2010). This action will provide off-channel rearing and refuge habitat for listed salmonids on Peshastin Creek. This will be accomplished through the hydraulic reconnection of the floodplain and historical channel habitat to Peshastin Creek that was disconnected with the construction of SR 97 in 1956. Alternatives to reconnect partial-flow, including flushing flows and recharge of habitats are being considered. This reconnection will lead to increased refuge and rearing habitat, increased floodplain connectivity, and the restoration of natural channel processes associated with side channel habitats in the project reach. Any of these alternatives will directly benefit spring Chinook and summer steelhead.

    B. Describe the location of the project in the watershed, including the name of the water body(ies), upper and lower extent of the project (if only a portion of the watershed is targeted), and whether the project occurs in the near-shore, estuary, main stem, tributary, off channel, or other location.

The BRG channel reconnection project occupies 34.5 acres of historical floodplain, and is located in Township 23 North, Range 17 East, Sections 24 and 13. On Peshastin Creek, the site is located between river miles 8.4 and 9.2 within Reach 5b/6 as identified in the TRA (Interfluve 2010). The project extent runs between mileposts 177.1 and 177.8 on SR 97 (See Existing Conditions Figure).

    C. Provide an overview of current project site conditions and the nature, source, and extent of the salmon recovery problem(s) or gap in knowledge that the project will address. Include current and historic factors important to understanding the need for this project. Be specific – avoid general statements. When possible, list your sources of information by citing specific studies, reports, and other documents.

    For fish passage design/feasibility studies, concisely describe the passage problem (outfall, velocity, slope, etc.), the current barrier (age, material, shape, and condition), whether it is a complete or partial barrier, and the amount and quality of habitat to be opened if the barrier is corrected.

    Projects that include acquisition should refer to the supplemental

questions later in this worksheet for further guidance on information to include in their problem statement.

The primary habitat-limiting factors within Peshastin Creek are related to increased channel confinement and decreased stream sinuosity, impaired riparian condition, reduced flood plain connectivity and gravel recruitment (Andonaegui 2001; UCSRB 2007; UCRTT 2008, InterFluve 2010). In summary, past human activities that have most notably impacted river processes include highway construction, mining and placement of mine tailing piles, logging of riparian forest, continued development, and flood protection (small levees, bridges, riprap, and roads).

Andonaegui (2001) indicated that the Peshastin Creek channel, from the mouth to Tronsen Creek at RM 14.9, has been reduced in length by 0.8 miles due to the construction of SR 97 in the 1956 (Primary State Highway 2 at the time of construction). The highway construction resulted in the disconnection of 194 acres of the total acres of floodplain (565 acres) along Peshastin Creek (Andonaegui 2001).

Immediately below the confluence with Ingalls Creek, Peshastin Creek was relocated to remain on the west side of the road which created the existing 3,880 feet of straight channel while disconnecting 4,320 feet of the historical Peshastin Creek channel RM 8.4 and RM 9.2). The current channel is steep, with a step-pool morphology, and cobble and boulder bed material. The SR 97 prism to the east and the high glacial terrace to the west confine the creek allowing no access to the historical floodplain. When the creek was relocated from the former meander to the existing straight channel, the channel length was reduced by 440 feet and the slope of the channel was changed from 2.3% to 2.0%. The reduction in length at this site accounts for 10% of the total reduction in channel length attributed to construction of SR 97.

The disconnected floodplain associated with the BRG site encompasses approximately 34.5 acres. The site remains partially vegetated however the earthwork associated with the Blewett Rock and Gravel and Washington State Department of Transportation (WSDOT) sand and gravel yards has resulted in extensive floodplain re-grading and vegetation clearing occurred with highway construction. Three private roads now cross the historical channel accessing properties to the east. These roads are identified as access roads 1 through 3 and are numbered sequentially from upstream to downstream (See Existing Conditions Figure).

A portion of the historical channel planform remains on the landscape and cobble bed material remains along the abandoned channel. As seen in the profile comparisons, the thalweg elevations of the historical and existing channels match closely (See Existing and Historical Alignments and Profiles Figures). However, the construction of access roads and the placement of fill has severely encroached on capacity of the historical channel. Sinuosity of the abandoned channel is 1.13 compared to 1.0 in the main channel.

The habitat within the historical channel is characterized by palustrine emergent and scrub-

shrub wetlands supported by tributary flows from the hillslope to the east. The wetland and stream habitat occupy approximately 5.5 acres. Several beaver dams and access roads create impoundments within the historical channel resulting in 1 to 3-foot deep pool habitats in the spring and winter. The riparian buffer width has been reduced by adjacent land uses along the majority of the channel, however the narrow shrub and tree-dominated riparian strip provides good shade and cover to the channel.

D. Provide a detailed description of the proposed project and how it will address the problem described in question 1C. (Proposals that include an assessment or inventory should describe its design and methodology.)

The project design consists of installing either culverts or bridges within the SR 97 road prism to hydraulically reconnect the historical channel and floodplain to Peshastin Creek. This grant application is for funding to select a preferred alternative, complete preliminary and final designs, and to complete project permitting. Preliminary design will include the analysis of two alternatives currently developed by the CCNRD as listed below in section 3.A. Concept plans for each alternative are presented in the attached figures. The CCNRD will work with the Wenatchee HSC to assess and select a preferred alternative. Permitting and final designs would then be completed for the preferred alternative.

The two alternatives that will be evaluated propose upstream and downstream connections under SR 97 to the historical channel to provide seasonal flow-through habitat. These partial-flow reconnection alternatives could consist of a new culvert installed in SR 97 at the upstream end of the historic channel, and the replacement of the existing undersized 24-inch culvert at the downstream end of the channel. Both alternatives involve establishing an upstream connection to the remnant channel that is activated only at high flow events, specifically during sustained snowmelt during late spring and early summer. The upstream inlet would be set to divert spring (May – June) flows through portions of the historic channel to provide several weeks of flows through the channel during typical years. Upstream inlet connectivity would be designed to disconnect flows prior to spring Chinook spawning in July, thus maintaining maximum flows on the mainstem for spawning. This connectivity will provide access to the side channel during high flows for juvenile salmonids, while avoiding reducing flows in Peshastin Creek during low-flow events.

The existing access road crossings within the historical channel also create 100% fish passage barriers. Culverts or bridges will be also installed at each crossing to allow predicted flows through as well as fish passage.

Both partial-reconnection alternatives that will be considered would provide immediate high flow refuge habitat for juvenile salmonids to 2,800 to 4,900 linear feet of side channel. Outside of the high-flow season, surface flows from the hillside are expected to allow fish access to between 2,800 to 3,500 linear feet of rearing habitat during spring and winter months. Fish access to this side channel habitat during spring and winter flows would be from the backwater through the downstream culvert connection. This type of reconnection will enable the side channel to function as many of the side-channel habitats on Peshastin Creek currently do through allowing flushing flows annually, while functioning as a backwater during low-flow periods.

E. Clearly list and describe all products that will be produced (i.e., project

deliverables). If the project will produce a design, please specify the level of design that will be developed (conceptual, preliminary, or final); design deliverables must comply with those described in Appendix D-1, D-2, and D-3.

This project will be designed in steps consistent with the preliminary and final design steps as outlined in Appendix D of the Salmon Recovery Grants Manual 18 (January 2012 version). This will include the completion the following elements:

- Selection of a Preferred Alternative
- Completion of the Preliminary Designs
  - Topographic and boundary survey by a professional licensed surveyor.
  - Geotechnical examination of the SR 97 road prism.
  - Analysis of site hydraulics.
  - Completion of plan view and cross-section drawings with sufficient detail for permitting.
  - Calculation of construction quantities and cost.
- Completion of the Preliminary Design Report
- Project Permitting
  - Completion of a Phase I Environmental Assessment
  - Completion of a wetlands delineation and report.
  - Completion of a cultural resources survey and report.
  - Completion of an impacts analysis to wetlands and waters of the U.S.
  - Completion of a Biological Assessment.
  - Completion and submittal of a JARPA.
- Design Review by Stakeholders, Permit Agencies, and SRFB.
- Completion of Final Design and Technical Specifications
  - Incorporation of review comments and final permits into the final design set.
  - Completion of draft and final technical specifications.
  - Completion of the final construction quantities and cost.
  - Completion of contract bid documents to meet CCNRD requirements.

F. If the project will occur in phases or is part of a larger recovery strategy, describe the goal of the overall strategy, explain individual sequencing steps and which steps are included in this application.

This application represents the design phase for the project. This phase will include all steps and analysis as described in E. above. The CCNRD will then work with the SRFB and other grant entities to acquire funding for construction. The Yakama Nation completed a Reach Assessment on the Lower Peshastin Creek in 2010 in which the project area was identified. CCNRD began conversations with landowners and began a cursory look at project alternatives for this site in 2011.

CCNRD is committed to a larger recovery strategy in Peshastin Creek to improve passage, flows and habitat conditions for spring Chinook, steelhead and Bull trout. In 2005 CCNRD constructed a fishway to improve Chinook passage at the Peshastin Irrigation Diversion and has been working thru Watershed Planning to address low flow issues below the diversion (piping projects, pump-back feasibility study, water storage study). In addition, CCNRD is partnering with the Wenatchee River Ranger District and the Wild Fish Conservancy on SRFB proposals to inventory forest roads to identify aquatic issues and complete a tributary assessment of the Upper Peshastin. CCNRD is also partnering with the US Fish and Wildlife Service on removing passage barriers on Mill Creek, the major tributary to Lower Peshastin

Creek.

G. Has any part of this project previously been reviewed or funded by the SRFB? If yes, please provide the project name and SRFB project number (or year of application if a project number is not available). If the project was withdrawn from funding consideration or was not awarded SRFB funding, please describe how the current proposal differs from the original.

No.

H. If your proposal includes an assessment or inventory (NOTE: project may extend across a wide area and cover multiple properties):

   i. Describe any previous or ongoing assessment or inventory work in your project's geographic area.

   ii. Describe how the assessment or inventory addresses the stages and elements in *Guidance on Watershed Assessment for Salmon* (Joint Natural Resources Cabinet, May 2001, www.digitalarchives.wa.gov/governorlocke/gsro/watershed/watershed.pdf).

I. If your proposal includes developing a design:

   i. Will the project design be developed by a licensed professional engineer? If your project will not be designed by a professional engineer, please describe the qualifications and experience of your project design team.

Yes. The CCNRD will contract with a design engineer familiar with the proposed reconnection methods.

   ii. For final design projects, if you do not intend to apply for permits as part of this project's scope of work, please explain why and when permit applications will be submitted.

Permit applications are part of the proposed project.

iii. For design projects intending to provide no match, verify you meet ALL of the following eligibility criteria. [Answer: n/a, Yes, or No]

1. The project addresses a particular problem at a specific location. (The project cannot include a general reach or watershed assessment to both identify and design a project.) Yes

2. Funding request is $200,000 or less.Yes

3. The project will be completed within 18 months of the SRFB funding meeting. (**Design-only projects will not be eligible for a time extension.**)Yes

4. The project will develop a preliminary design or final project design. See Appendix D-2 and D-3 for design definitions and required deliverables.Yes

J. If your proposal includes a fish passage or screening design:

i. Provide the Priority Index (PI) or Screening Priority Index (SPI) number and describe how it was generated (physical survey, reduced sample full survey, expanded threshold determination, or Washington Department of Fish and Wildlife generated [list source, such as a study or inventory]). Refer to the Department of Fish and Wildlife's *Fish Passage Barrier and Screening Assessment and Prioritization Manual* at wdfw.wa.gov/hab/engineer/fishbarr.htm for guidance.

ii. For fish passage design projects, identify other fish passage barriers downstream or upstream of this project.

2. Salmon Recovery Context

A. Describe the fish resources present at the site and targeted by this project.

Peshastin Creek is a Category 2 watershed and contains Major spawning area for steelhead and minor spawning area for spring Chinook, and is a bull trout core area (UCRTT 2008). The attached memo provides a detailed description of fish use in Peshastin Creek. In summary, spring chinook, steelhead/rainbow, and bull trout used the Peshastin Creek watershed in greater numbers than occur there today. Steelhead were likely the more populous anadromous species spawning in this system, however coho may also have been more abundant than spring chinook before coho were extirpated from the region (Andonaegui 2001Spring Chinook redds have been observed within the project reach 5b/6 up to the confluence of Ingalls Creeks (RM 9.4), while rearing spring Chinook have been observed from the mouth up to RM

14.8. Steelhead/rainbow trout use Peshastin Creek for spawning, rearing, and as a migration corridor. Peshastin Creek had 12.2% of all steelhead redds located in the Wenatchee sub-basin in 2010 (Hillman, et al. 2011). Steelhead spawning occurs upstream and downstream of the project site and use the reach for migration and rearing. Historically, bull trout occurred in the watershed where habitat existed and access was not blocked by natural barriers. Peshastin Creek once hosted a notable late summer run of bull trout, but low numbers of bull trout have been observed in the Peshastin Creek mainstem in recent years. Spawning does occur in Ingalls and Etienne Creeks just above the project site. Summer chinook do not use the Peshastin Creek drainage, being mainstem Wenatchee spawners, except for possibly very limited rearing at the mouth

Species	Life History Present (egg, juvenile, adult)	Current Population Trend (decline, stable, rising)	ESA Coverage (Y/N)	Life History Target (egg, juvenile, adult)
Chinook salmon	Egg, juvenile, adult	Declining	Y	Juvenile
Steelhead	juvenile, adult	Declining	Y	Juvenile
Bull Trout	Juvenile, adult.	Declining	Y	N-

B. Describe how this project fits within your regional recovery plan or local lead entity strategy to restore or protect salmonid habitat in the watershed (i.e., Does the assessment fill a data gap identified as a priority in the lead entity's strategy or regional recovery plan? Does the project address a priority action, occur in a priority area, or target priority fish species?).

The restoration of Peshastin Creek habitat is identified as one of the top priorities in the Upper Columbia Spring Chinook Salmon and Steelhead Recovery Plan (UCSRB 2007). In 2010 the Lower Peshastin Creek Tributary and Reach Assessment (Interfluve 2010) identified the priority actions within Peshastin Creek from River Mile 9.2 to the confluence with the Wenatchee River at RM 18. The restoration priorities listed in the TRA are consistent with the Subbasin Plan (NPPC 2004), the watershed plan (WRIA 45 Planning Unit 2006), the Biological Strategy (UCRTT 2008), and the Priority Reaches Actions Plan (UCRTT 2009).

This project will result in the reconnection of the side channel habitats and floodplains on Peshastin Creek. Within Peshastin Creek, the reconnection of side channel habitat below the Ingalls Creek confluence is a Biological Strategy Tier 1 action and top priority for addressing limiting habitat factors and the recovery and long-term viability of salmonids (UCRTT 2008, UCSRB 2007). This project will directly benefit ESA-listed spring Chinook salmon and steelhead, and bull trout.

C. Explain why it is important to do this project now instead of at a later

date. Consider its sequence relative to other needs in the watershed and the current level and imminence of risk to habitat in your discussion.

As captured in question 1.F., this project is part of watershed based strategy to restore habitat, passage, and normative flows. It is important to move forward with all aspects at this time as some of the efforts, like road decommissioning in the headwaters and flow augmentation in the lower reaches take considerable time to develop. Failure to implement this habitat project will only postpone access to limited rearing/overwintering habitat for juveniles and fail to capitalize upon the collaboration that the CCNRD has built with the landowners – WSDOT and several private landowners. Critical to the success of the project is the continued collaboration with these stakeholders. The consequences for not implementing this particular project would be to maintain existing conditions and degraded habitats, which will continue to limit productivity of listed salmonids within Peshastin Creek.

3. Project Development

A. Describe other approaches and design alternatives that were considered to achieve the project's objectives and why the proposed alternative was selected.

The Peshastin Creek Tributary and Reach Assessment (Interfluve 2010) identified the BRG channel reconnection project between river miles 8.4 and 9.2 within Reach 5b/6. In the TRA the project site is identified as Project RM 8.8 R and is associated with Subreach Units IZ-1, DIZ-1, DOZ-3, and DOZ-1.

The CCNRD met with WSDOT in 2009 to discuss side channel and floodplain reconnection opportunities associated with SR 97. In August 2010 the Yakama Nation completed a prioritization of all of the project sites identified in the TRA. In this prioritization, projects that provided process-based restoration and addressed limiting biological factors for target salmonid species and life-history stages ranked highest. Within Peshastin Creek, the reconnection of floodplain and lengthening of the mainstem is a Biological Strategy Tier 1 action and top priority for addressing limiting habitat factors and the recovery and long-term viability of salmonids in Peshastin Creek (UCRTT 2008, UCSRB 2007). The top-tier projects as ranked in the Yakama Nation prioritization were all projects that provided side channel reconnection, which included the RM 8.8R BRG project site.

The CCNRD, following guidance from the RTT and using the prioritization work, drafted a list of 5 reconnection concepts at BRG site with the primary goal of reconnecting stream channel process to the disconnected stream channel and floodplain (Interfluve 2010).

The CCNRD first examined the feasibility of entirely moving SR 97 from the Peshastin Creek channel migration zone within the study area. This analysis concluded that moving the highway up on either slope (east or west) would also create horizontal curves that don't meet ASHTO highway safety guidelines for sight distance for the posted speed limit. It was also assumed that the highway was originally located in the valley, with fill in the floodplain, because that's where the more stable slopes are. It is highly unlikely that WSDOT would support any project that moved the highway to an unstable slope area and created horizontal curves that don't meet their safety standards.

The removal of the alternative that proposed moving SR 97 left four alternatives for consideration. These are listed below in order of providing the greatest benefit to stream process and biological benefit for listed species:

- Full Channel Reconnection: Full channel reconnection into the historical channel through the installation of two large bridges in SR 97.
- Partial Flow Reconnection – Upper Connection at RM 9.08: Installation of two culverts in SR 97 at upstream and downstream points to allow high flows into the historical channel.
- Partial Flow Reconnection – Lower Connection at RM 8.66: Installation of two culverts in SR 97, one at a mid-way point (RM 8.66) and one at the downstream end to allow high flows into the historical channel.
- Downstream Only Connection: Replacement of the existing culvert located within SR97 at RM 8.36 at the downstream end of the historical channel with a large culvert to provide seasonal backwater habitat.

Estimate of Construction Costs
Construction cost estimates were drafted for the four conceptual alternatives in order to provide a sense of likely cost for the range of proposed conceptual alternatives. Cost estimates vary based on the type and number of structures proposed within the SR 97 road prism and at the access road crossings, and the extent of earthwork necessary within the historical channel.

Alternative 1. Full Channel Reconnection: $5.5 – $6.5 Million
Alternative 2. Partial Flow - Upper Reconnection: $540,000 – 620,000
Alternative 3. Partial Flow – Lower Reconnection: $440,000 - $500,000
Alternative 4. Downstream Only Reconnection: $250,000 - $300,000

Rejected Alternative: **Full Channel Reconnection**
Based on comments from the RTT, the Full Channel Reconnection alternative has been dropped from future consideration due to inadequate biolocal benefit to justify expected high project construction costs ($5.5 – $6.5 Million).
Rejected Alternative: **Downstream Only Connection**
Based on comments from the RTT, the Downstream Only Reconnection has been dropped from future consideration due to the expected low biological benefit vs. construction cost ($250,000 - $300,000).

The CCNRD will continue to evaluate the two remaining alternatives with respect to achieving the greatest reconnection of disconnected habitats and stream processes while balancing landowner needs and project costs.

B. Explain how the project's cost estimates were determined. Please include a detailed project cost estimate and attach in PRISM. Clearly label the attachment in PRISM "Cost Estimate."

Costs include all costs to conduct the preliminary and final design as outlined in Appendix D of the Salmon Recovery Grants Manual 18 (January 2012 version). Stakeholder coordination will be conducted by staff within the CCNRD. Personnel estimates involve using the hourly rates for each staff person and the percentage of their time that is anticipated for that person per project. The preliminary and final design will be subcontracted by the CCNRD. Estimates for subcontracted work are based on actual costs as proposed by a subcontractor.

Cost Estimate

Item	Cost/unit	SRFB Request	Trib. Fund Request	Donated/Other Source
Alternatives Analysis	$7,500			
Geotechnical Exploration	$21,000			
Topographic Survey	$21,000			
Preliminary Designs	$28,300			
Preliminary Design Report	$10,200			
Hydraulics Analysis	$5,300			
Project Permitting (JARPA)	$9,800			
Phase 1 Environ Assess	$8,000			
Cultural Survey and Report	$10,300			
Wetland Survey and Report	$11,900			
Impact Analysis	$3,500			
ESA Consultation	$3,600			
Agency Coordination	$2,700			
Design Review	$2,700			
Final Plans and Specs	$29,100			
CCNRD Project Management, landowner coordination, admin, design review	$25,000			
Total		$199,900		

C. Include a Partner Contribution Form (Appendix J), when required, from each partner outlining the partner's role and contribution to the project. Refer to Section 3 of this manual for information on when a Partner Contribution Form is required.

N/A

D. List all landowner names. If the proposed project occurs on land not owned by the grant applicant, include a signed Landowner Acknowledgement Form (Appendix K) when applicable, from each landowner acknowledging that his or her property is proposed for SRFB funding consideration. Refer to Section 3 of this manual for information on when a Landowner Acknowledgement Form is required.

Washington State Department of Transportation
Sovereign Rock (Anne LaCroix)
Dan Dittrich
Dorothy Brender

E. Describe your experience managing this type of project.

Chelan County Natural Resource Department – Project Lead Sponsor. CCNRD will be responsible for managing the design process. The CCNRD has managed dozens of SRFB-funded restoration projects. Mike Kane and Alan Schmidt from the CCNRD will be the primary contacts during project development and design.

4. Tasks and Schedule. List and describe the major tasks and schedule you will use to complete the project. Non-capital projects should be completed within two years of funding approval.

Item/Milestone	Outcome	Target Date (Month/Year)
Alternatives Analysis	Selection of a Preferred Alternative	April 2013
SRFB Application for Construction	Submit grant applications for construction funding	May 2013
Geotechnical Exploration	Assessment of SR 97 subsurface conditions	June 2013
Topographic Survey	Complete basemap of topographic conditions	June 2013
Preliminary Designs	Complete preliminary designs	August 2013
Project Permitting	Submit permit applications	September 2013
Design Review	Input from stakeholders	January 2014
Final Plans and Specs	Complete final plans and specs	April 2014
CCNRD advertises construction	Selection of a construction contractor	May 2014
Project Construction	Project is constructed	Summer/Fall 2014

5. Constraints and Uncertainties. Each project should include an adaptive management approach that provides for contingency planning. State any constraints, uncertainties, possible problems, delays, or unanticipated expenses that may hinder completion of the project. Explain how you will address these issues as they arise and their likely impact on the project.

The project site is on a major state highway, so contingencies will be included in the design report to accommodate traffic needs. The site is wide enough at proposed culvert locations to accommodate 2

way traffic under controlled conditions. This would facilitate the construction without resorting to the more expensive jack and bore techniques.

Citations

Andonaegui, C. 2001. Salmon, Steelhead, and Bull Trout Habitat Limiting Factors for the Wenatchee Subbasin (Water Resource Inventory Area 45) and Portions of WRIA 40 within Chelan County (Squilchuck, Stemilt and Colockum drainages). Washington State Conservation Commission. Olympia, WA.

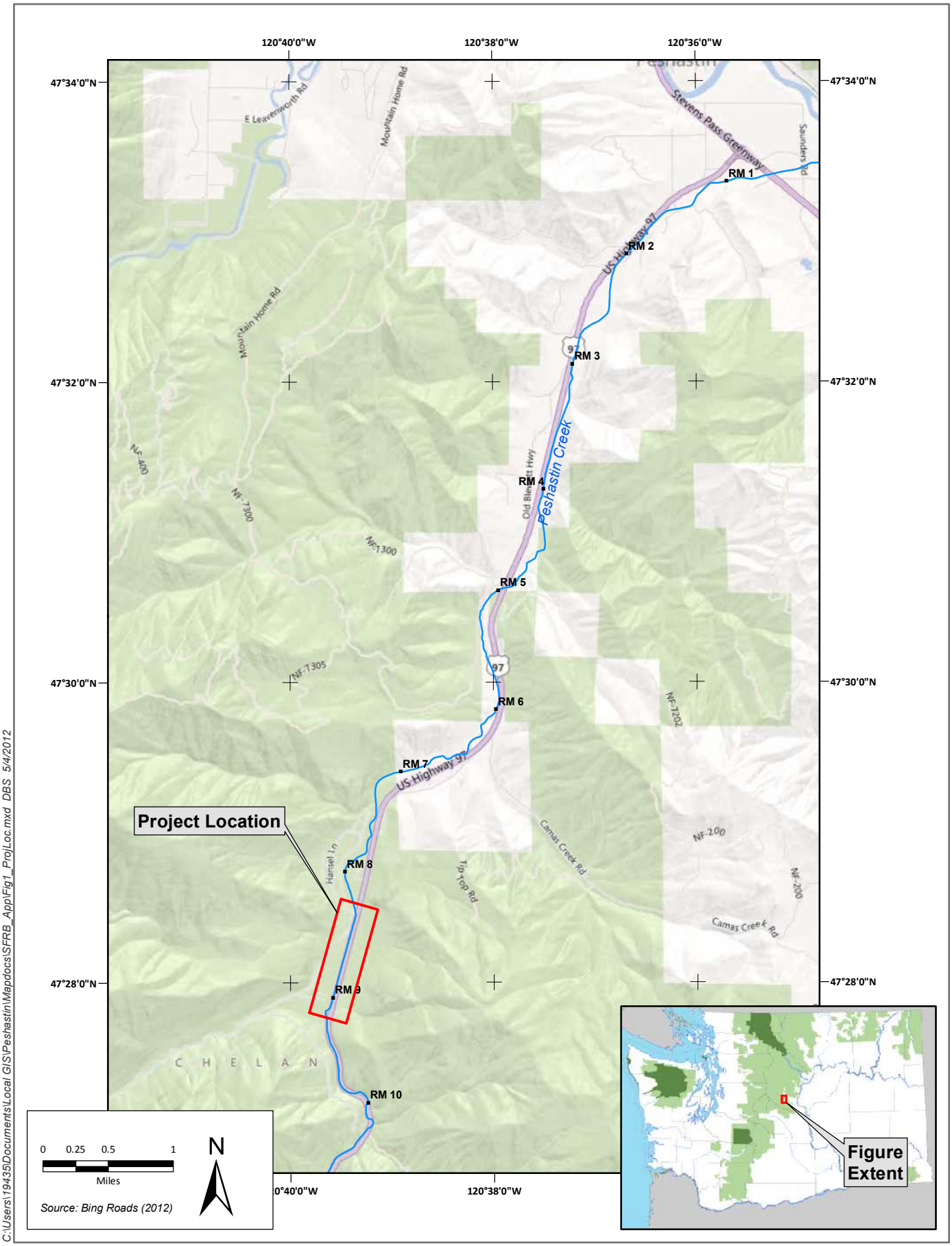
Interfluve. 2010a. Lower Peshastin Creek Tributary and Reach Assessment. Wenatchee Subbasin, Chelan County, WA. Prepared for Yakama Nation Fisheries, Toppenish, WA. June.

Interfluve. 2010b. Peshastin Project Ranking. Wenatchee Subbasin, Chelan County, WA. Prepared for Yakama Nation Fisheries, Toppenish, WA. August.

(UCRTT) Upper Columbia Regional Technical Team. 2008. A Biological Strategy to Protect and Restore Salmonid Habitat in the Upper Columbia Region. April 30, 2008. Available online at http://www.ucsrb.com/resources.asp.

(UCRTT) Upper Columbia Regional Technical Team. 2009. Draft priorities for reaches and actions for implementing habitat actions. February 11, 2009.

(UCSRB) Upper Columbia Salmon Recovery Board. 2007. Upper Columbia Spring Chinook Salmon and Steelhead Recovery Plan. August 2007. Available online at http://www.ucsrb.com/plan.asp or http://www.ucsrb.com/UCSRP%20Final%209-13-2007.pdf



C:\Users\19435\Documents\Local GIS\Peshastin\Mapdocs\SFRB_App\Fig1_ProjLoc.mxd DBS 5/4/2012

ICF INTERNATIONAL

Figure 1
Project Location
Blewett Rock and Gravel - Channel Reconnection

ICF INTERNATIONAL

300 0 300 600 900
SCALE OF FEET

N

Peshastin Creek River Mile 8.8R
Blewett Rock and Gravel – Channel Reconnection Project
Existing Conditions

INGALLS CREEK

INSTALL CULVERT

0+00

MP 177.1

RM 9.0

4+00

SR 97

REPLACE EXISTING CROSSING WITH
CULVERT OR BRIDGE

PESHASTIN CREEK

INGALLS CREEK RD

6+00

8+00

ACCESS ROAD #1

10+00

12+00

14+00

16+00

18+00

20+00

22+00

24+00

26+00

28+00

RM 8.5

MP 177.8

30+00

32+00

34+00

36+00

38+00

40+00

42+00

ACCESS ROAD #2

ACCESS ROAD #3

UNNAMED TRIBUTARY

REPLACE EXISTING CROSSING WITH
CULVERT OR BRIDGE

12' MAXIMUM CHANNEL WIDTH
4220' ACCESSED (~1.08 AC)

GRADE CHANNEL THROUGHOUT
TO ACCOMMODATE FLOWS

REPLACE EXISTING CROSSING WITH
CULVERT OR BRIDGE

UNNAMED TRIBUTARY

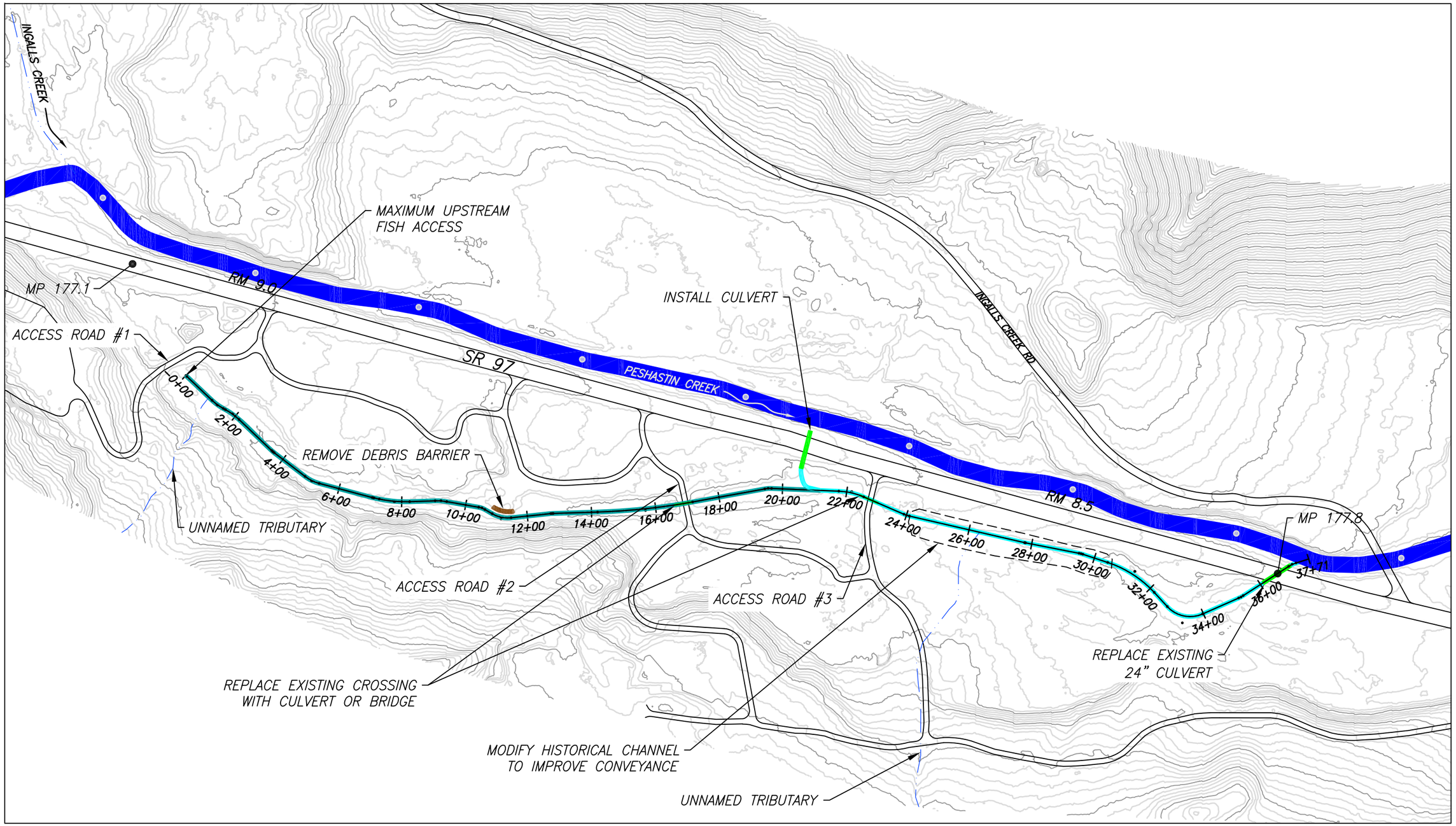
REPLACE EXISTING
24" CULVERT

ICF INTERNATIONAL

300 0 300 600 900
SCALE OF FEET

N

Peshastin Creek River Mile 8.8R
Blewett Rock and Gravel – Channel Reconnection Project
Alternative 2 – High Flow Reconnection at RM 9.08



ICF INTERNATIONAL

300 0 300 600 900

SCALE OF FEET

N

Peshastin Creek River Mile 8.8R
Blewett Rock and Gravel – Channel Reconnection Project
Alternative 3 – High Flow Reconnection at RM 8.66

Photo 1. Historical channel upstream of access road 3.

Photo 2. Historical channel upstream of the downstream SR 97 culvert.

Photo 3. Peshastin Creek near the Alternative 3 inlet.

Photo 4. SR 97 facing south near the Alternative 3 upstream inlet.

Photo 5. Peshastin Creek at the existing downstream outlet culvert.

Photo 6. Historical channel immediately upstream of the existing downstream culvert outlet.

Photo 7. Existing habitat during early spring flows in the historical channel.

Photo 8. Existing habitat in the historical channel

Landowner Willingness Form

Landowner Information:

Name of Landowner: Anne Lacroix

Landowner Contact Information:

☐ Mr. ☐ Mrs. Title

First Name: Anne Last Name: Lacroix

Contact Mailing Address: 10215 County Shop Road
Leavenworth, WA 98826

Contact E-Mail Address:

Property Address or Location:

Parcel #231724440050

I certify that Anne Lacroix (landowner or organization) is the legal owner of property described in this grant application to the Salmon Recovery Funding Board. I am aware the project is being proposed on said property. My signature authorizes the applicant listed below to seek funding for project implementation, however, does not represent authorization of project implementation.

Landowner Signature

4/18/12
Date

Project Applicant Information

Project Name:

Project Applicant Contact Information:

☐ Mr. ☐ Mrs. Title

First Name: Mike Last Name: Kane

Contact Mailing Address: 316 Washington St., Suite 401, Wenatchee, WA 98801

Contact E-Mail Address: mike.kane@co.chelan.wa.us

Lead Entity Organization: Chelan County Natural Resource Department

SRFB Landowner Willingness Form

Landowner Information:

Name of Landowner: Washington State Department of Transportation

Landowner Contact Information:

☒ Mr. ☐ Ms. Title

First Name: William Last Name: Ford

Contact Mailing Address:

North Central Region

P.O. Box 98

Wenatchee, WA 98807-0098

Contact E-Mail Address:

Property Address or Location:

Project is located in WSDOT ROW along HWY 97 at Mile Post 178.0 on Peshastin Creek.

I certify that WSDOT is the legal owner of property described in this grant
(landowner or organization)
application to the Salmon Recovery Funding Board (SRFB). I am aware the project is being proposed on said property. My signature authorizes the applicant listed below to seek funding for project implementation, however, does not represent authorization of project implementation.

William Ford 5/3/2012

Landowner Signature **Date**

Project Applicant Information

Project Name: BRG Off Channel Re-Connection

Project Applicant Contact Information:

× Mr. ☐ Ms. Title: Habitat Program Manager

First Name: Mike Last Name: Kane

Contact Mailing Address: mike.kane@co.chelan.wa.us

Chelan County Natural Resources Department

316 Washington St. Suite 401

Wenatchee, WA 98801

Contact E-Mail Address: Alan.Schmidt@CO.CHELAN.WA.US

Lead Entity Organization: Chelan County

Landowner Willingness Form

Landowner Information:

Name of Landowner: Dan Dittrich

Landowner Contact Information:

☐ Mr. ☐ Mrs. Title

First Name: Dan Last Name: Dittrich

Contact Mailing Address: 6326 Campbell Rd
Peshastin, WA 98847

Contact E-Mail Address:

Property Address or Location:

Parcel #231724440020

I certify that Dan Dittrich is the legal owner of property described in this grant
(landowner or organization)
application to the Salmon Recovery Funding Board. I am aware the project is being proposed on said property. My signature authorizes the applicant listed below to seek funding for project implementation, however, does not represent authorization of project implementation.

Dan Dittrich

Landowner Signature

5-3-12

Date

Project Applicant Information

Project Name: Peshastin Creek Off Channel Reconnection

Project Applicant Contact Information:

☐ Mr. ☐ Mrs. Title

First Name: Mike Last Name: Kane

Contact Mailing Address: 316 Washington St., Suite 401, Wenatchee, WA 98801

Contact E-Mail Address: mike.kane@co.chelan.wa.us

Lead Entity Organization: Chelan County Natural Resource Department