

WASHINGTON STATE  
DEPARTMENT OF  
E C O L O G Y

## Application for a 2015-2017 Floodplains by Design Project Grant

Submitted applications will be rated to create a ranked list in support of Ecology's FY 2015-2017 Floodplains by Design budget request.

Applications must be submitted electronically via email to Ecology by 5:00 pm, **September 8, 2014**. Send applications to:

**Adam Sant** at [Adam.Sant@ecy.wa.gov](mailto:Adam.Sant@ecy.wa.gov)

**With the Subject line: 2015-2017 Floodplains by Design Project Grant Application**

You will receive confirmation that your application has been received by close of business on September 15.

*Applicants must use this form as provided. No alterations will be accepted.*

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Project Title **MANASTASH CREEK CORRIDOR PLAN PHASE II**

Organization/Jurisdiction Name      KITTITAS COUNTY FLOOD CONTROL ZONE DISTRICT  
Contact Name                              CHRISTINA WOLLMAN  
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Legislative District(s)                  13th  
County                                         KITTITAS  
WRIA(s)                                        39, 40  
Congressional District(s)                8TH

Specific Project Location

Section **Various**      Township **17N** Range **17, 18E**      River Mile  
Latitude **-120.636**      Longitude **46.974**      GPS coordinates, if available  
Major Watershed Project is in YAKIMA RIVER

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***Full project (or phase proposed herein) should be completed in 3-4 years.  
Project Narrative and Budget are limited to 20 pages.***

***Scope of Work, Schedule, Maps and Photos can be in addition to those 20 pages.***

**1. Short Description of Project (500 words or less)**

The Manastash Creek Corridor Habitat Enhancement and Flood Hazard Reduction Plan was completed in June 2013 through a joint effort between the Kittitas County Conservation District and Kittitas County Flood Control Zone District (FCZD). The complete plan can be accessed online at <http://www.kccd.net/ManastashReach.htm>.

The plan identified and prioritized habitat and flood hazard reduction projects along a 13 mile reach of Manastash Creek, east of the City of Ellensburg in Kittitas County, Washington. The lower six miles of Manastash Creek flows across a large historic alluvial fan, while the upper seven miles is confined within a steep-walled canyon. The proposed project described herein is focused on the design and implementation of recommended actions within the lower six miles because it contains the majority of high priority flood hazard reduction and habitat improvement projects identified in the corridor plan.

Manastash Creek has been the focus of many projects related to irrigation and instream flow over the past few years. This video documents some of the history and projects that have occurred on Manastash Creek prior to 2010 and focuses on the Keech Jenson Diversion Dam, which is just upstream of the Reed Diversion, the last remaining fish barrier. <https://www.youtube.com/watch?v=ixguQmFNNmg>.

Since then, even more progress has been made towards re-opening Upper Manastash Creek to steelhead and other migrating fish, and Mid-Columbia steelhead have been documented in lower Manastash Creek. In 2011, a female steelhead was witnessed (documented via video) attempting to cross the Reed Diversion dam (the final remaining fish barrier). In 2014, the Yakima Klickitat Fisheries Program radio tracking effort documented an adult steelhead migrating up Manastash Creek to the Reed Diversion and then back out of the creek. In addition a PIT tag reader was installed at the Barnes Road diversion in 2014. Initial data indicates that 6-8 adult steelhead were detected in Manastash Creek between March and May of 2014.

The project covered by this grant will consist of three key activities recommended in the corridor plan: 1) purchase and removal of structures from three parcels which are located in severe flood hazard areas; 2) purchase of 20+ acres of habitat conservation easement along the stream and at the stream's delta confluence with the Yakima River, and 3) design and engineering to develop shovel ready plans to implement multiple high priority flood hazard and habitat enhancement actions located throughout the reach.

This project will be organized into 7 tasks:

Task 1--Administration

Task 2--Acquisition and Restoration

- Wise Property
- Young Property
- Sienia Property

Task 3--Conservation Easement Purchase

- Delta properties
- River corridor properties

Task 4--Hydraulic & Sediment Analysis

- From Sienia property to Barnes Road

Task 5--Bridge Analysis & Design

- Cove Road bridge
- Serenity Lane bridges
- KRD 13.8 bridge
- KRD South Branch Canal bridge

Task 6--Habitat Restoration

- Restoration plan for dry reach
- Westside Siphon removal and restoration
- Serenity Lane restoration

Task 7--Diversion Dams

- Reed Diversion removal and restoration
- Abandoned Diversion improvements

**2. Flood hazard / risk reduction (60 points)**

Describe your project and how it will reduce the magnitude or frequency of flood damages to people, structures or infrastructure.

**Task 1--Administration**

These tasks will be administered by staff of the Kittitas County Flood Control Zone District, Public Works, and Conservation District. Some tasks are expected to take significant staff time, for example Task 4 which involves public outreach. Consultants will be used for specialized tasks, such as restoration plan development and hydraulic and sediment analysis.

**Task 2--Acquisition and Restoration**

Wise Property Acquisition: The Wise property is approximately 1.88 acres. There is a house, garage and numerous small outbuildings.

The property is located in a bowl-like incised area and the structure has been protected by small berms since it was constructed in 1948. The current landowners bought the property in 1990 and have not experienced flooding prior to 2011. The stream bed began rising a few years ago and has risen approximately 2.5 feet. The stream bed is now close to the same elevation as the first floor of the house, which is built upon a slab. In March 2011 there was a minor flood on the creek and the house sustained damage in the back room. In May 2011, Manastash Creek had an estimated 100-year flood and there was almost 2.5 feet of water in the entire house. The house was gutted and has not been repaired. The owners did not want to take the chance of repairing the house without mitigating. The house now floods during normal spring run-off when the creek is running high. See [Figure 1: Wise property during normal spring run-off](#).

Different mitigation options have been discussed with the landowner, including elevation and moving the structure. Moving the structure was determined to be too difficult. Elevation is possible, but it will not solve the problem of the rising creek bed and water coming up to the house during normal spring run-off without costly and habitat-harming modifications to keep the water in the creek. The landowners have determined acquisition to be the best option.

**Sienia Property Acquisition:** The Sienia property is located at river mile 6.15 within the floodway of Manastash Creek. The double-wide mobile home was placed on the site in 1975. This home is threatened by an eroding creek bank that is moving dangerously close to the house and garage. During the 1996 floods on Manastash Creek this property also suffered severe erosion but a significant amount of fill was allowed to be brought into the site after the flood to replace what was lost and the creek was moved back into its pre-flood location. During the May 2011 flood the bank eroded again and moved up to 50' closer to the home than during the 1996 floods. Over half of the yard between the house and the creek was lost. After this flood, the landowners were not allowed to bring in fill but were allowed to adjust the location of the creek thalweg to move it away from the eroding bank, and an armored bank was constructed out of material from the creek bed. This work was done with the knowledge that it was temporary until the next flood. A video of the flooding from May 2011 is available online. This video was taken as the water was receding. <https://vimeo.com/86035192>. See Figure 2: Sienia property during May 2011 flood (red roofs).

The landowners have owned the property since 1975. The parcel is 9.65 acres, most of it upland and unbuildable. They are not able to maintain the grounds anymore and hope to sell the home before the next flood. The house spent a year on the market unsuccessfully because of the obvious risk to the property.

An engineering analysis evaluating the potential of lateral migration was performed by the county's hydraulic engineer. The results of the analysis are included with this application. The analysis concluded that the best long term solution to reduce the flood risk to the property was to purchase the property and remove the structures .See Figure 3: Sienia property after house installation. Kittitas County Assessor, 1976.

**Young Property Acquisition:** This project will serve to reduce flood risks and hazards in multiple ways.

- Acquisition of the property on the northwest side of the bridge will remove a residence that is highly susceptible to flooding and allow the creek to flood without restriction. See Figure 4: Young property during May 2011 flood. White roofs in center of photo.

The home is located at river mile 4.05, just upstream of the Cove Road Bridge. The home flooded during the 1996 and May 2011 floods and there was significant damage to the land. A flood investigation was conducted for this property after the May 2011 flood. The investigation can be found here: <http://www.co.kittitas.wa.us/public-works/flood/documents/20111221-WSE-Manastash-report.pdf>.

The investigation was due to a claim for damages that was submitted to the county. The claim was that the county bridge, and the county's lack of maintenance at the bridge, caused water to back up and damage the home and property. Instead, it was found that in this area the topography flattens out and this is where Manastash Creek begins to slow down, spread out and drop sediment. By looking at old photos and LiDAR it is apparent that this house was constructed in a side channel. At the time the investigation was completed, the landowners were interested in elevation of their home. Since then, the landowners have decided for various reasons to sell the property instead. A video of the flooding of this house is available from KOMO TV at <http://www.komonews.com/news/local/122199839.html>. See Figure 5: Young property during May 2011 flood.

- Approximately 200 feet of berm can be removed, which will open the floodplain and reduce flooding risk to the property on the opposite stream bank.

The berm was constructed during the May 2011 flood, when a group of local farmers hired excavators to remove sediment from the creek to relieve flooding. All sediment was placed on the banks of the creek. After a long negotiation process, the county was able to go onto the property and remove the majority of the material. During removal, they also created a floodplain bench and left some of the material as a berm set back from the creek. Approximately 530 cubic yards remain. After the house is removed, the remaining material can be removed which will both open the floodplain and reduce risk of berm failure and increased sediment deposition downstream.

### **Task 3--Conservation Easement Purchase**

The project will purchase conservation easements along Manastash Creek and on the delta along the Yakima River. This project proposes to focus on approximately 20 acres, which are considered a higher priority due to their proximity to Manastash Creek, current natural condition, and the potential to improve and protect juvenile salmonid rearing and refuge habitat. The easement would restrict activities such as development, timber harvest, clearing, and road building and preserve the property into perpetuity. The purchase of conservation easements reduces flood hazards by removing the potential for development and constriction of the floodplain. It keeps the floodplain in a functioning state in a location which could be developed in the future.

### **Task 4--Hydraulic & Sediment Analysis**

Hydraulic and sediment investigation will be performed in order to perform design of bridge alternatives, Reed Diversion Dam removal, and restoration plans for the dry reach of Manastash Creek. The study area begins at the Sienia property, where the creek crosses under Manastash Road to the north side of the road and nears the apex of the alluvial fan, to Barnes Road, where the creek enters the incised area.

### **Task 5--Bridge Analysis & Design**

Cove Road Bridge: The Cove Road crossing is always a problem area during floods on Manastash Creek. Many people believe the bridge needs to be higher and wider, but that change may lead to unintended consequences by allowing more water to flow into the main stem of the creek and also by restricting the movement of water over the road due to the elevated road bed. The deposition of sediment also needs to be evaluated as a replacement bridge may not alleviate the problem, and will only cause the sediment to deposit somewhere downstream. A study of the area needs to be completed before deciding on an alternative. Once the alternative is chosen, it will be designed and permitted. The project will be "shovel ready" and funding will be sought after for construction.

This portion of the project will involve public outreach. Because this project has the potential to impact a large number of people, the public will be able to give input and help make the decision of which alternative to go with. We expect to hold three or four public meetings, a kick-off meeting, study results and alternatives, management and an additional meeting if necessary.

Serenity Lane bridges, KR 13.8 bridge, and KR 13.8 South Branch Canal bridge: These bridges are all restrictions which back up during floods and increase the velocity of water and damage downstream of the bridges. The bridges need to be evaluated and designed for replacement.

In the Serenity Lane area there are three private bridges within a short stretch of the river. In addition to the Serenity Lane Bridge, the study will also look at the impacts of the other private bridge crossing in the immediate vicinity of Serenity Lane and determine if consolidation of driveways is an option. One well maintained, properly constructed bridge, instead of numerous small bridges, reduces the risk of bridge failure reduces the chances of bridges creating flood hazards or landowners requiring rescue during a flood event.

### **Task 6--Habitat Restoration**

Restoration plan for dry reach, Westside Siphon, and Serenity Lane: As more water rights are placed into the Trust Water Rights Program through water conservation projects (such as diversion consolidation and ditch piping) or water rights acquisition from willing sellers, more water will flow within Manastash Creek during the summer. Historically, due to over allocation of water rights, a portion of the creek goes dry each year. This year is the first in decades that flow has remained in most of the creek through the summer months, due to the conservation projects and acquisition already completed. The banks along the dry section of the creek are devoid of vegetation and suffer from erosion. Establishing vegetation along the creek banks will protect property owners from the severe erosion that occurs during flood events. Achieving the goal of perennial flow will make that vegetation establishment possible.

Restoration of habitat at the irrigation structures and Serenity Lane will also protect the stream banks from erosion. Serenity Lane and the abandoned diversion are within the reach that goes dry each year and

### **Task 7--Diversion Dams**

1. Reed Diversion removal and restoration
2. Abandoned Diversion improvements

#### **3. Floodplain ecosystem protection or restoration element (60 points)**

Describe the ecological benefit of the project, its significance, and the ability of the solution to address the overall need in the project area or watershed.

### **Task 1--Administration**

### **Task 2--Acquisition and Restoration**

#### Wise Property Acquisition:

The Wise property is just upstream of the confluence with the Yakima River and has year-round flow. It has been left in a mostly natural state, except for the berms and structures. Restoration of the property will create habitat and restore the floodplain in an area with documented salmon activity. Three Coho redds were found just downstream of this property during a November 2012 survey. The owners have also reported nesting wood ducks, deer and a large bird population living within the riparian area of the creek. See [Figure 5: Wise property ecology block berm. Manastash Creek in background.](#)

A conceptual restoration plan has been developed based on information from qualified professionals familiar with the property. A simple restoration plan is desired for this property and

in-stream work will be limited or avoided. Restoration will consist of vegetating the area where the structures are currently located and the areas where berms are removed. The larger trees growing in the berms will be preserved to the greatest extent possible.

There is approximately 300 feet of berm that will be removed. Approximately 80 feet of the berm is along the shoreline of the creek and may require additional environmental permitting for removal. Portions of this berm may not need to be removed to successfully reconnect the floodplain, but that will be determined by a qualified professional prior to beginning any ground disturbing activities. This berm is vegetated with small trees and shrubs. The shoreline berm has approximately 50 cubic yards of material, primarily cobbles and soil. [See Figure 6: End of berm along shoreline, during run-off. This berm may not require complete removal.](#)

The remaining 220 feet of berm is located away from the creek and will be easier to remove. This berm has little to no vegetation. 110 feet of this berm was newly constructed in 2011 and is composed of double stacked ecology blocks and quarry spalls. The remaining berm appears to be composed of quarry spalls and gravel. There is approximately 200 cubic yards of material within these sections of berms and approximately 39 ecology blocks.

Restoration of the property will also include placement of woody debris within the floodplain but not within the creek. The creek has a healthy amount of naturally occurring large woody debris.

#### Sienia Property Acquisition:

The Sienia property is upstream of the major irrigation diversions and instream flow is present year round. Resident fish and potentially some Mid-Columbia steelhead (federally listed as a Threatened Species) are present in this reach. The remaining fish barrier, the Reed Diversion at river mile 5 (approximately 1.5 miles downstream from this project), is planned for design and removal. Once this last barrier dam is removed, this reach of Manastash Creek will be accessible year-round to coho salmon, juvenile chinook salmon, Mid-Columbia steelhead and resident fish. Restoration of the Sienia property will create habitat and restore the floodplain in a reach that will soon be fully accessible to anadromous fish.

This property includes both sides of Manastash Creek for approximately 400 feet, and is the far west side of a 6-acre wetland complex with side channels. The side channels are not all open but have great potential to create side channel habitat for both salmon and other resident fish. This will take only a moderate amount of restoration work in a creek that is generally constrained within one channel. All three landowners in this area are in support of re-opening the side channels to take the pressure off the main creek channel. [See Figure 7: Wetland and side channel complex highlighted in red.](#)

The property just east of this parcel is in a similar danger situation with a mobile home placed in the floodway. We have discussed with the landowners the desire of the FCZD to purchase the property if and when they are ready to sell. At this time they have no desire to move from the property.

#### Young Property Acquisition:

This parcel is located along a reach of Manastash Creek with inadequate vegetation. This reach of the creek goes dry in the summer due to over allocation of stream flow for irrigation water withdrawal. There are many landowners along the dry reach of Manastash Creek and all suffer from a highly erodible bank due to a lack of vegetation. Eroded material from upstream of the subject property deposits at the Cove Road bridge, causing a reduction in stream capacity at the bridge. [See Figure 8: Section of Manastash Creek that is dry. \(Google image\)](#)

Instream flow in Manastash Creek is a focus of the decade long Manastash Creek Restoration Project. Through delivery and on-farm conservation projects (pipelines and sprinkler installations), and acquisition of water rights from willing sellers, more than 4,000 acre feet have been dedicated to instream flow in perpetuity. Irrigation diversions have been reduced and supplemental water is being spilled into Manastash Creek. In the summer 2014, there was instream flow in much of the historically dry reach 45-60 days longer than normal. While this is a significant accomplishment, there remains more work to do to ensure perennial flow. As additional surface water rights are put into the Trust Water Rights program, and more water is allowed to flow down the creek, floodplain vegetation and instream habitat will improve. This parcel will serve as a highly visible testing ground for streambank restoration methods within the historically dry reach of Manastash Creek, beginning before water flows reliably year-round and progressing until water conservation, acquisition and supplementation fully restores year-round instream flow throughout this reach.

Successful restoration methods demonstrated can be used by other landowners within the reach who wish to restore their own property. A reach-scale restoration plan will be developed for landowners to use as a guide as more water is left in the creek during the summer and vegetation becomes more readily established, and for future grant applications.

If the landowners on the south side of the creek agree, we will also perform restoration of their shoreline as well.

### **Task 3--Conservation Easement Purchase**

The project will purchase conservation easements along Manastash Creek and on the delta along the Yakima River. The purchase of these easements was designated as high priority by the Manastash Creek Plan. This project proposes to focus on 19 acres of land on the delta, which are considered a higher priority due to their proximity to Manastash Creek, current natural condition, and the potential to improve and protect juvenile salmonid rearing and refuge habitat. The easement would restrict activities such as development, timber harvest, clearing, and road building and preserve the property into perpetuity. There is also land upstream from the delta that is proposed for easement purchase due to its natural condition and high ecological value.

### **Task 4--Hydraulic & Sediment Analysis**

The hydraulic and sediment analysis will provide information that is necessary in order to analyze and design new bridge crossings, restore habitat and assess the improvements and channel restoration required at the two irrigation diversions, especially the Reed Diversion which is still intact.

### **Task 5--Bridge Analysis & Design**

The four bridges proposed to be studied and designed are undersized and causing degradation to instream features and constricting the creek and floodplain.

One of the bridges is along the KRD Lateral 13.8, which recently was upgraded from a ditch to a pressurized pipe with Yakima Basin Integrated Plan funding. The pipe crosses under Manastash Creek and no longer is a concern to habitat, but the undersized bridge remains. The other KRD bridge is at the South Branch Canal. The canal crosses the creek through a wide siphon but the bridge causes constriction.

The Serenity Lane Bridge is also a constriction to the creek. In addition to the Serenity Lane Bridge, the study will also look at the impacts of the numerous private bridge crossing in the immediate vicinity of Serenity Lane to determine if consolidation of driveways is an option. Some of the landowners have expressed interest in consolidation but nothing formal has been done to move forward. The design and revegetation planning in the area will bring the neighboring landowners together and facilitate this discussion.

### **Task 6--Habitat Restoration**

#### Westside Canal Instream Improvements:

The recently completed Manastash Reach Assessment identified habitat improvements in this reach, stream mile 1.6 to 1.9, as a high priority. This reach of the channel has historically been straightened creating few pools or fish habitat. There is little shade vegetation in this reach, with only a single row of cottonwoods on the left bank and a few intermittent trees and shrubs on the right bank along with a significant amount of old concrete debris along the right bank. In the past, the Westside Irrigating Company's siphon has been an on and off fish passage barrier as repeated flood events have exposed the siphon and the West Side has installed rock to protect the siphon multiple times. The ongoing work to secure safe passage at multiple irrigation diversions (funded through Bonneville Power Administration, Ecology, and the Salmon Recovery Funding Board grants) has highlighted the importance of fish passage in this watershed. The option selected at the West Side site to ensure long term fish passage is to convert the siphon to a flume. This is a voluntary action on the part of West Side in order to ensure that their facility does not create fish passage issues and to protect their facility from potential further damage. This project will provide restoration upstream and downstream of the proposed flume which will complement the work being done by the Westside Irrigating Company and improve the functionality of the project.

### **Task 7--Diversion Dams**

Reed Diversion Design, Removal and Restoration: The Reed Diversion is the last fish barrier on Manastash Creek, blocking fish passage to more than 20 miles of high quality upstream habitat for Mid-Columbia Steelhead. In 2014, the water rights associated with the diversion were consolidated to the location of an existing diversion with a fish screen facility. The Reed diversion is no longer needed or functioning. Due to a severe channel incision downstream, the dam stands approximately 10 feet high and completely blocks fish passage. Because of the deep incision, grade control structures may be required to establish acceptable bed levels. Habitat enhancements associated with this project will include: bank revegetation, restoration of floodplain connectivity within incised reach, removal of existing sediment spoil pile berm along the left (north) side of the stream upstream of the dam, and installation of secure LWD and/or boulder vanes at key locations along the creek margins to provide habitat and bank stabilization.

Abandoned Diversion Improvements: The Abandoned Diversion was a barrier to fish passage until the May 2011 flood, when a private party with an excavator breached the dam to allow flood flows to pass. The dam is not a barrier to fish passage currently, but the breached structure remains in the creek and is inhibiting the restoration of the shoreline. The creek is deeply incised in this reach and habitat enhancements that restore floodplain connectivity and stabilize banks would be well suited for this site.

#### **4. Is your project in a Puget Sound Partnership Priority Floodplain? (5 points)**

Answer question 4 here: Yes

No X

**5. Other benefits (40 points)**

Describe how your project maintains or improves agricultural viability, water quality, public open space/recreation access, economic development, or other important local benefits or values, and does not conflict with other objectives of this program. Projects receive points based on the importance of the result produced, the ability of the solution to address the overall stakeholder need and the long-term improvement.

- a. Agricultural viability (evidence of agricultural benefits include reductions in flooding (acres), protection from development (acres), improvement of drainage infrastructure (acres), or other capital or non-capital benefits to agricultural productivity).
- b. Water quality improvement [e.g., through stormwater infrastructure upgrades, treatment of a TMDL or 303(d) issue, reduction in sediment, restoration of wetlands or riparian areas, implementation of related best management practices, etc.].
- c. Public access and recreation (e.g., through land acquisition, the development of trails or other recreational infrastructure, etc.)
- d. Other floodplain values or services of local importance.

**Answer question 5 here:**

- **Currently there is not easily accessible public access to Manastash Creek until river mile 14. Acquiring the Wise and Young property will give the public better access to the creek. The Sienia property is accessed through an easement. When the neighboring property is purchased, the two parcels together will create a large open area with potential to become a popular fishing and recreating area.**
- **The agricultural community has been a huge supporter of the work completed in Manastash Creek over the past decade. Without the support, instream flows would not be increasing and fish barriers would still be in place. Flooding on Manastash Creek is very erosive and the ag community recognizes the benefits to them in the restoration of Manastash Creek.**
- **Manastash Creek requires a TMDL:**

Listing ID	Name	Parameter	Medium	Category	Waterbody ID	Lower Address	Upper Address
<a href="#">47390</a>	MANASTASH CREEK	Dissolved Oxygen	Water	5	1205793469945	8.782	10.114
<a href="#">46279</a>	MANASTASH CREEK	Bacteria	Water	2	1205793469945	8.782	10.114
<a href="#">50702</a>	MANASTASH CREEK	pH	Water	2	1205793469945	8.782	10.114
<a href="#">47389</a>	MANASTASH CREEK	Dissolved Oxygen	Water	5	1205793469945	0.046	2.363
<a href="#">46295</a>	MANASTASH CREEK	Bacteria	Water	5	1205793469945	0.046	2.363

<a href="#">50701</a>	MANASTASH CREEK	pH	Water	5	1205793469945	0.046	2.363
<a href="#">5784</a>	MANASTASH CREEK	Instream Flow	Habitat	4C	1205793469945	0.046	2.363

**6. Cost-effectiveness (20 points)**

- a. Project will be judged on whether the budget is appropriate to the project scope, and designed for project success.
- b. Describe how the project will be continued or maintained after the grant has been completed.
- c. If project cannot be fully funded, explain how the project could be scaled downward.

**Answer question 6 here: This project has numerous aspects that will be maintained in different manners. The property that is acquired, both fee simple and conservation easement, will have long-term stewardship plans that will address maintenance and future use. Restoration plans will be prepared for the properties with structures, and the restoration activities will be monitored to ensure survival and success.**

**By grouping these projects together, costs are being saved. For example, the hydraulic study required to evaluate options for the Cove Road Bridge is also required for the design of the Reed Diversion removal. Performing these projects together leads to significant cost savings for project design and study.**

**7. Long-term cost avoidance: (30 points)**

- a. Describe how your project minimizes or eliminates future costs for maintenance, operation, or emergency response. **(15 points)**

**Answer 7.a. here: This project minimizes cost for numerous landowners and public agencies through many different methods. Cost savings are both immediate and to be realized in the future.**

**The homeowners whose homes will be acquired and removed will realize immediate and future cost savings. There will be no need to continue maintaining protection of their homes, because the homes will be removed. There will be no future flood losses or emergency response as there will be no one living on the property.**

**The sediment and hydraulic analysis at the Cove Road bridge will reduce future maintenance costs to the Public Works Department. In order to maintain capacity at the bridge, sediment removal must take place on a regular basis. The analysis will determine if building a larger bridge and/or having a more robust sediment management plan will be most cost effective.**

- b. Describe how your project accounts for expected future changes to hydrology, sediment regimes, or water supply resulting from other floodplain management

efforts, land use changes, extreme weather events, or other causes. **(15 points)**  
**Answer 7.b. here: Climate change could affect the project by increasing the severity and frequency of floods, or through drought. We are interested in collaborating with NOAA, the UW Climate Impacts Group, and other partners to evaluate and quantify climate change impacts that could affect project design and implementation.**

**8. Demonstration of need and support (30 points)**

- a. Describe how your project is consistent with the intent of existing floodplain management or habitat recovery plans or is specifically identified through existing plans or work programs. (Elements of the project may have been developed through more than one planning process. Please identify the planning process used for each major element if they are not from a common plan.) **(15 points)**

**Answer question 8.a. here: These projects were identified through a public planning process during development of the Manastash Creek Corridor Habitat Enhancement and Flood Hazard Reduction Plan. During the planning process, a landowner committee and technical advisory committee were established. Both committee provided input throughout the planning process in order to develop a plan which has both the support of landowners and permitting agencies.**

- b. Describe which flood control authorities, Tribal Nations, local governments, lead entities, key stakeholders or decision-makers representing floodplain interests located within the river reach or affected by the project have provided letters of support explicitly endorsing the project and its outcomes for their interests. **(15 points)**

**Answer question 8.b. here: Letter of support are not due until the 22nd, but I have received positive notification that supports letters will be provided by WDFW, USFWS, BOR, Yakima Basin Fish and Wildlife Recovery Board, Yakama Nation, Dept of Ecology, Trout Unlimited, NOAA, and WSDOT. Landowner acknowledgement forms have been provided for all landowners involved in purchase of property or conservation easements.**

**9. Readiness to proceed and complete the proposed phase of the project (25 points)**

Describe how your project is ready to proceed with the scope of work, and your capacity to complete the project successfully and maintain it over time, including your project schedule and deliverables. Describe your experience with similar projects. If your project is acquisition only, describe how you will complete floodplain restoration subsequent to the acquisition.

**Answer question 9 here: This project is ready to be completed because many of the activities have been thoroughly discussed and vetted with participants, including landowners and resource agencies. Many of the projects have gone through multiple grant application processes and have been refined over time. Projects will be managed by the Kittitas County Flood Control Zone District and Conservation District, two agencies very experienced in project management and with an excellent working relationship. Both agencies have been preparing for these projects in the event funding is secured.**

**The property acquired through purchase or easement will be maintained by**

the Public Works Department. This department has the manpower and equipment necessary to perform maintenance of the properties. The easement properties will remain in their natural condition and should require only minimal maintenance to keep them in good condition. Public access will not be provided in these easements which will reduce the chances of excessive trash or property damage.

The Public Works Department will also perform much of the restoration activities on the properties being acquired, such as removal of berms. A Washington Conservation Crew is available for our use for more sensitive restoration needs, such as planting and handwork.

The irrigation structures will be maintained by the Conservation District. The existing structures have been maintained, repaired and upgraded by the District and they will continue this care into the future.

**10. Pilot project and leverage opportunities (25 points)**

- a. If applicable, describe how your project could serve as a pilot effort or result in changes or results with broader impacts to the state. **(10 points)**

**Answer question 10.a. here: This project will demonstrate implementation of a corridor plan for a small stream in a rural area with limited funding available. This project can be used to show other small jurisdictions that developing and implementing a plan such as the Manastash Creek Corridor Plan is possible.**

- b. If applicable, describe how your project leverages existing investments, such as SRFB, FCZDs, Dike Districts, TMDLs, WWRP, ESRP, NEP, and other funding sources. Evidence of this will be based on the amount and diversity of the leveraged funding sources. **(10 points)**

**Answer question 10.b. here: This project will leverage funding from the Salmon Recovery Funding Board. Currently the county has received \$130,680 towards the purchase of the Wise property and appraisal, title review, negotiations, and other pre-purchase expenses of the conservation easements on the delta. Another SRFB grant has been applied for this year for the remaining funds to purchase the conservation easements and the Wise property. The outcome of this grant will be known later this year, but we currently rank at the top of the list for funding and expect to be awarded a grant.**

**An additional \$200,000 has been received from USFWS for the design and removal of the Reed Diversion.**

- c. If applicable, describe how your project addresses inequity or social justice issue by benefitting underserved communities. **(5 points)**

**Answer question 10.c. here:**

**11. Budget** (add more tasks as needed).

Task	Amount Requested from Ecology*	Other Funding for Project** (20% of Total Cost Minimum)	Total Cost
Task 1--Administration	60,000		60,000
Task 2--Acquisition and Restoration	800,000	130,680 (SRFB)	930,680
Task 3--Conservation Easement Purchase	100,000	235,000 (SRFB)	335,000
Task 4--Hydraulic & Sediment Analysis	100,000		100,000
Task 5--Bridge Analysis & Design	150,000		150,000
Task 6--Habitat Restoration	100,000		100,000
Task 7--Diversion Dam Removal & Restoration	150,000	200,000 (USFWS)	350,000
<b>Total</b>	<b>1,460,000</b>	<b>565,680</b>	<b>2,025,680</b>

\*Amount requested from Ecology under this grant program

\*\*Other sources of funding dedicated to this project. Insert narrative below that details what the source of funding is and whether or not it has been received or applied for but not yet received. Match must be at least 20% of Total Project cost.

**Narrative and/or Table of other funding sources for project, here:** This grant will include matches from:

- **SRFB: Guaranteed funding of \$130,680 awarded in 2013. An award in 2014 is expected to provide an additional \$235,000.**
- **USFWS: Guaranteed funding of \$200,000 has been awarded to the Conservation District.**

If it's not possible to fully fund this proposal, please describe a *phased* approach that would still significantly advance the effort:

- 12. SCOPE OF WORK:** Please attach a Scope of Work and schedule. If your proposal is a phase of a larger multi-year project, please place this proposal in the context of the overall project and provide preliminary cost projects to complete the project.
- 13. Maps:** Please attach at least two (2) maps to your application. The first map should be a vicinity map and the second should be a map of your project.
- 14. Planting Maintenance/Survival:** If your project includes plantings, please provide a description

of how you will ensure plant survival and maintenance.

**A restoration plan will be prepared. The Mid-Columbia Fisheries Enhancement Group will be utilized for planting and plant maintenance.**

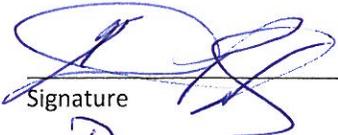
15. **Photos:** Photos are not required, but if you think they enhance our understanding of your application, please include them. We are particularly interested in "before" photos that can be matched with "after" photos.
16. **Executive order 05-05, Archaeological and Cultural Resources** (online at [http://www.governor.wa.gov/office/execorders/eoarchive/eo\\_05-05.pdf](http://www.governor.wa.gov/office/execorders/eoarchive/eo_05-05.pdf)) directs state agencies to review all capital construction projects for potential impacts to cultural resources to make sure that reasonable action is taken to avoid adverse impacts to these resources. If this grant program is funded by the 2015 Legislature, successful grant applicants will be required to submit additional information to Ecology to comply with this Executive Order.

**Additional factors in ranking and award:** This is a very new funding source. To ensure that projects meet the objectives of the program, these additional factors will be considered in creating the proposed funding list:

- **Balance of project types:** Balance funding ready-to-proceed construction projects with funding pre-construction activities. This balance in project types is vital to ensuring success over time.
- **Geography:** There is strong interest in ensuring that projects in all areas of the state receive funding.
- **Advancing multi-benefit floodplain management:** It is important that the project list advance the principles and practical application of multi-benefit floodplain management.

**Certification**

I certify to the best of my knowledge that the information provided above is true and correct and that I am legally authorized to sign and submit this information on behalf of the organization applying for this grant.

  
Signature

09/09/14  
Date

  
Printed name and Title

  
Name of Organization Applying for Grant