KRD SOUTH BRANCH WATER CONSERVATION PLAN IMPLEMENTATION

WaterSMART Water and Energy Efficiency Grants

Funding Opportunity Announcement

No. BOR-DO-20-F001

Prepared by

KITTITAS RECLAMATION DISTRICT

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October 1, 2019

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TECHNICAL PROPOSAL

EXECUTIVE SUMMARY

Date:	October 1, 2019
Applicant:	Kittitas Reclamation District
City/County/State:	Ellensburg, Kittitas, Washington
Reclamation Area:	Yakima Project

The Kittitas Reclamation District ("KRD") presents this application for funding by the U.S. Bureau of Reclamation's ("Reclamation") WaterSMART: Water and Energy Efficiency Grants Funding Opportunity Announcement No. BOR-DO-20-F001. KRD seeks $975,000 in federal funding assistance for Federal Funding Group II. KRD will use the funds (matched with $975,000 non-Federal) to provide benefits for fish and wildlife and the environment through a water conservation program designed to restore instream flows in over-appropriated or flow-impaired tributaries to the upper Yakima River. The program provides the instream flow through measures designed to reduce canal seepage and designates 100% of the otherwise lost water through an allocation, management, and protection agreement for instream flows. This application will eliminate water loss in a section of KRD's South Branch Canal. The water will then be delivered for instream flow to the streams in Figure 1. The project provides significant benefits for fish and wildlife and the environment. Water delivered to the streams for instream flow will benefit designated Critical Habitat for ESA-listed steelhead and Bull trout. KRD will begin implementation after the 2020 irrigation season and complete by spring 2021. Water designated for instream flow is calculated to be 515 acre-feet/year (1.44 cfs).

BACKGROUND DATA

SERVICE AREA AND PROJECT MAP

KRD lies in Kittitas County in central Washington State and is part of Reclamation's 'Yakima Basin Project' (Fig. 1). Headquartered in the city of Ellensburg, KRD diverts water from the Yakima River near Lake Easton and serves lands along both sides of the Yakima River through the Kittitas Valley. The total service area encompasses about 104,588 acres and is approximately 40 miles long by 10 miles wide.

KRD was organized under Revised Code of Washington Title 87, Irrigation Laws of the State of Washington, on September 25, 1911, and in accordance with KRD's Federal Repayment Contract. KRD assesses and delivers water to customers that irrigate 59,478 acres. Primary crops within KRD's service area include fruit orchards (apple, pear, cherry) and hay (timothy, alfalfa), all under combinations of pivots, sprinklers, and flood irrigation systems.

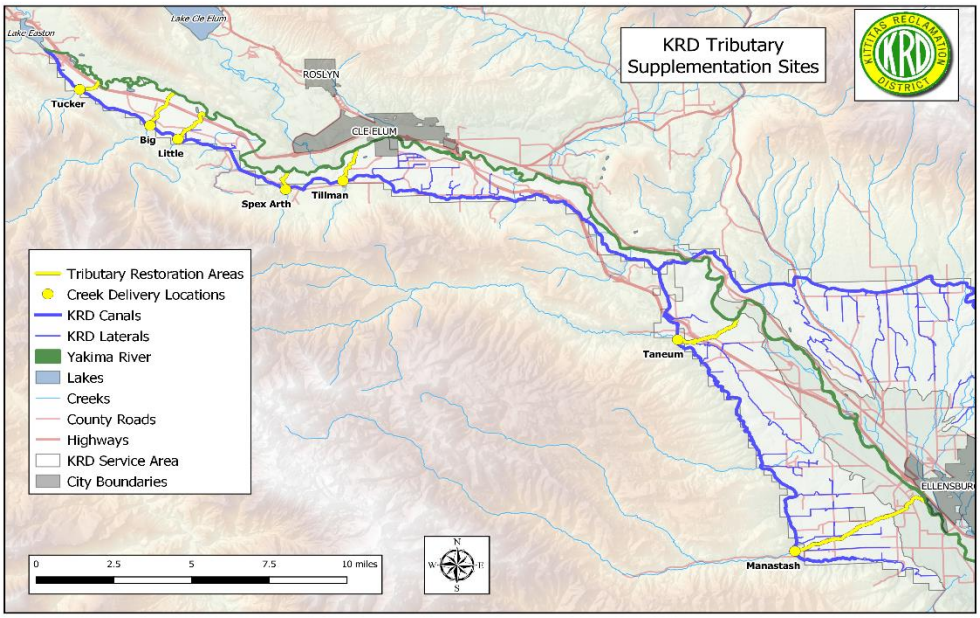

Figure 1. KRD sits in Kittitas County of Central Washington, east of the Cascade Mountains in the upper Yakima River Basin and provides water through over 330 miles of canals and laterals.

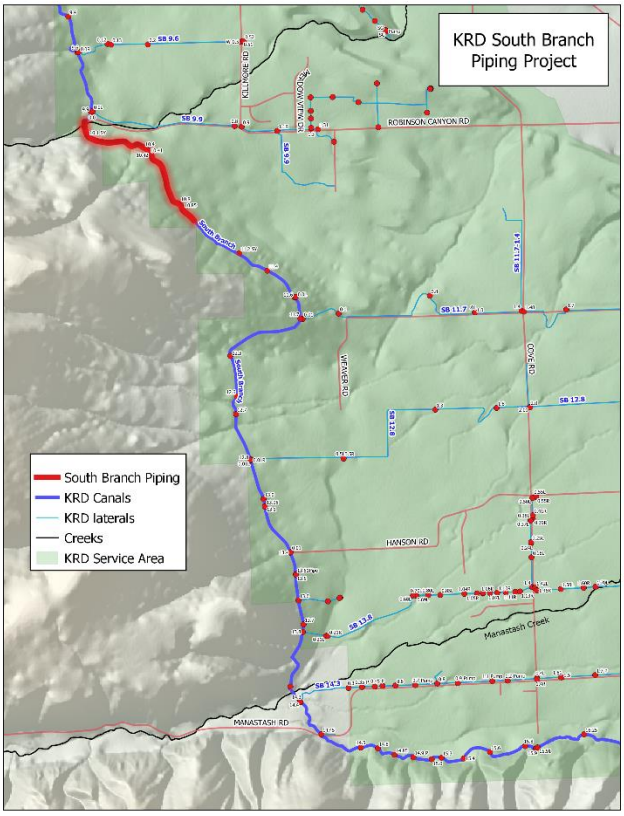

Figure 2. KRD plans 4,637 lineal feet of piping of the SBC.

This project proposal is for Phase II of KRD's South Branch Canal project ("SBC"). Phase II is designed and will proceed once funding is attained, projected for fall 2020. The total SBC Phase II efforts will line 21,648 feet of canal and conserve 2,474 acre-feet/year (at 6.9 cfs delivery) for instream flow supplementation, including the calculated 515 acre-feet/year (1.44 cfs) from this project. This project is situated amongst other effcicienceis projects the KRD has previously, or will, in the future, have completed. See Figure 3.

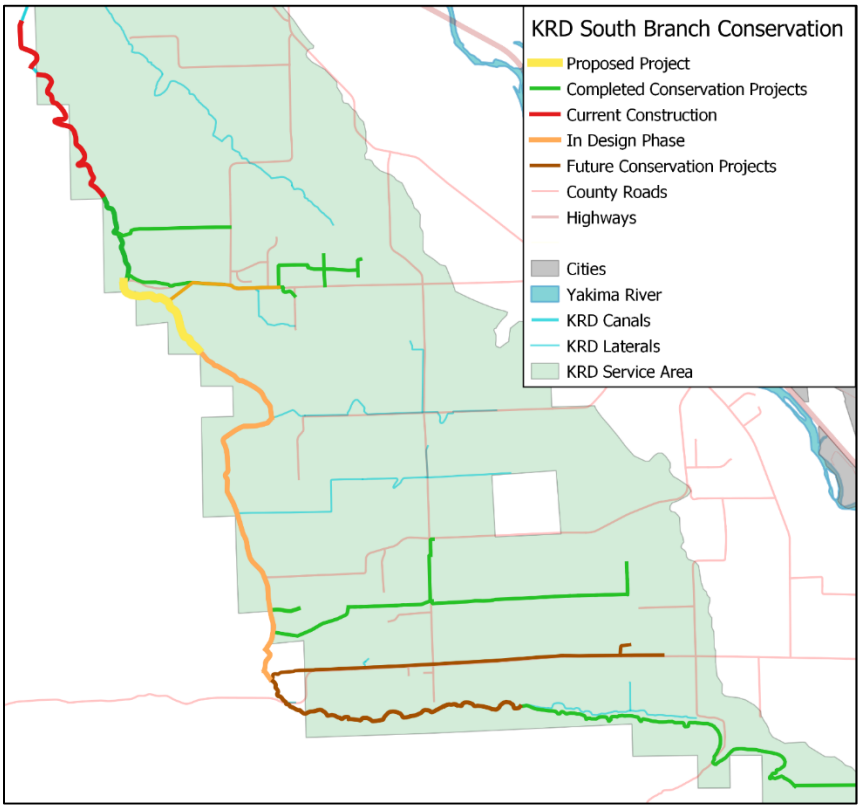

Figure 3. The current project, in yellow, complements previously completed projects as well as those planned for the future.

WATER SUPPLY AND WATER RIGHTS

KRD's water source is surface water from the Yakima River headwaters. The source typically provides water from mid-April thru mid-October for the 178 day growing season (avg). KRD's water right authorizes diversion from April 1 through October 15. However, KRD's water right is 'proratable' due to its priority date of 1905. In the Yakima Basin project operations this means KRD's annual water supply depends on total water supply available. In a full supply year, KRD receives 336,000 Acre Feet (AF) and may deliver up to 5.0 AF/assessed acre.

In drought years, Yakima Basin water supply is greatly reduced and is insufficient to fulfill prorated water rights and, as such, KRD receives a prorated amount of its entitlement. Significant shortfalls occurred in 2001, 2005, and 2015, when KRD got less than 50% of its entitlement (Table 1). However, a formal drought declaration is not required for KRD to receive less than 100% of its water. The water supply in any given year when paired with weather conditions may result in less than 100% of water supply.

Table 1. KRD Annual Water Supply and Prorationing Level from 2000 through 2019. Bolded years indicate formal drought declarations.

Annual Water Supply		
Year	**Acre-feet**	**Percentage**
2000	305,873	91%
2001	**139,168**	**41%**
2002	294,366	88%
2003	278,995	83%
2004	287,313	86%
2005	**155,056**	**46%**
2006	286,832	85%
2007	303,050	90%
2008	288,499	86%
2009	312,334	93%
2010	280,446	83%
2011	292,537	87%
2012	314,896	94%
2013	309,433	92%
2014	316,908	94%
2015	**154,146**	**46%**
2016	297,167	88%
2017	304,910	91%
2018	313,360	93%
2019	**241,920**	**72%**
Avg.	**273,860**	**82%**

Between 2000 and 2019, the Yakima Basin experienced a formal drought declaration four (4) times—one in every five years. Additionally, KRD's water supply is frequently below 90%, with an average of only 82%, highlighting that water supply is not guaranteed, even for an irrigation district relying on large reservoirs.

WATER DELIVERY SYSTEM AND CURRENT USES

KRD receives water from two storage reservoirs, Keechelus and Kachess—both owned and operated by Reclamation. Water from the reservoirs enters the Yakima River and KRD diverts its irrigation and stream supplementation water at the Easton Diversion Dam (Fig. 1). The diversion structure is a drum gate, two radial gates, fish ladder, and fish screening facilities and is designed to divert the KRD's maximum authorized instantaneous flow of 1,320 cubic feet per second (cfs).

From the Easton Diversion Dam, diverted water enters an open-channel canal system, with over 330 miles of canals and laterals. Water is conveyed from the point of diversion through the 26-mile long, and mostly concrete lined, Main Canal. The Main Canal's initial capacity is 1,320 cfs and includes two tunnels, eight siphons, and three wasteways. The Main Canal splits into two smaller canals: the North and South Branches. The South Branch Canal (SBC) is 14.2 miles long starting at the Main Canal bifurcation. There are 2 tunnels, 6 siphons, and 2 wasteways in this section. The initial capacity of the SBC is 250 cfs with a final capacity of 55 cfs.

EXISTING AND PREVIOUS RECLAMATION PARTNERSHIPS

Since 1999, KRD, the Washington Department of Ecology ("Ecology"), and Reclamation have collaborated and partnered to plan, design, and construct the Manastash Creek Project through the Yakima River Basin Water Enhancement Project (YRBWEP). The Manastash project, an award-winning water conservation pilot project near Ellensburg, Washington, replaced 20,000 LF of unlined lateral with a buried gravity pressure pipeline. The project, completed in spring 2014, annually conserves about 1,215 AF of water by eliminating seepage, operational spills, and evaporation. Conserved water is used to increase flow and restore habitat in Manastash Creek through a water allocation and management agreement between KRD, Ecology, and Reclamation. The pressurized system also reduces irrigator costs for pumping and maintenance.

Additionally, in 2016 KRD received a WaterSMART award ($147,104) to implement Phase I of the North Branch Canal lining project. As part of Phase I, KRD received technical assistance from partners to complete all permitting and compliance requirements. Moreover, both projects demonstrate KRD's ongoing partnership with Reclamation to allocate, manage, and protect conserved water (from these types of project) for the benefit of environmental restoration goals.

In 2017, KRD was awarded a WaterSMART Water Marketing grant award ($198,989) to develop a water market strategy for the Yakima Basin. Also in 2017, KRD was awarded $3 million from the Yakima River Basin Water Enhancement Program to line sections of the North Branch Canal and use 100% of conserved water for instream flow.

TECHNICAL PROJECT DESCRIPTION

The KRD prides itself on this unique project that is serving as a model for other western U.S. irrigation districts. The present proposal will pipe 4,637 LF of the SBC downstream of Robinson Siphon. The existing canal bottom is an earthen mix of cobbles, fine silts and sands, and basalt bedrock. KRD identified seepage losses from multiple water measurements, visual observations of canal bank seepage, and vegetation growth downslope of canal banks.

This piping project will eliminate seepage losses through the project area and immediately accrue significant water for fish, wildlife, and environmental benefits. KRD identified the project benefits as enhanced improved instream flows for ESA-listed species and habitat with an additional benefit of water management efficiency for irrigation delivery. Combined, these benefits demonstrate the true multi-purpose value of the project, which helps avoid taking emergency steps to deliver water during drought years.

The technical aspects of the piping project are relatively straightforward. After mobilization, the contractor will improve the site access and staging areas. This will include clearing, grubbing and rough grading of the access roads, installation of silt fencing, culvert protection, and any other provisions required by the stormwater prevention plan.

The contractor will then excavate and regrade the canal, lay a gravel base course, and install two 60 inch steel reinforced polyethylene pipes. The trench will then be backfilled and a crushed road surfacing top course will be installed. Six turnouts will be replaced, and inspection ports will be installed every 1500 feet. A slope stabilization seeding, and any other site restoration will finish up the project.

The technical aspects of the water allocation, management, and protection are designed to provide benefits for fish, wildlife, and the environment during years of impaired stream flows in upper Yakima River tributaries. KRD accomplishes this through a three-party agreement between KRD, Reclamation, and the Washington Department of Ecology that specifies KRD will use the conserved water to supplement instream flows in upper Yakima River tributaries that are provide habitat for ESA-listed and unlisted species. The saved water from this project will go to improve stream flows in Manastash Creek, where KRD will utilize existing infrastructure at the creek-canal intersection to deliver a controlled amount of conserved water to help restore flows and keep the creek flowing.

If water is not biologically necessary in Manastash Creek, then this project allows KRD to use its conveyance system to deliver the water to other streams in need of flow. The priority stream for this water is Manastash Creek, but KRD will use a committee made of local Yakima Basin fisheries and water professionals to identify additional stream(s) most needing instream flow help on an annual basis. The committee will recommend the stream for supplementation to mimic natural flows. KRD will then spill the water into the stream for ecosystem benefits. The Washington Department of Ecology administers protection of this water.

This project provides the flexibility to shape the water delivery as needed to mimic natural flows. Moreover, by piping the canal, KRD creates additional system capacity so that the canal system can also “wheel” downstream irrigation district water during drought conditions through the canal system and supplement stream flows without risk of delaying downstream water user water delivery due to canal seepage loss. This is possible because the water is Reclamation Yakima Project water and is protected by Ecology.

This project is modeled on an ongoing effort by KRD, Ecology, and basin partners to find innovative ways to conserve water for instream flows. Traditional methods of acquiring water rights to restore flows is less predictable and, even when the most senior water is acquired, can leave a stream dry during drought conditions. In addition to providing guaranteed water during drought years, this project also provides water during non-drought years so the environment is resilient to drought conditions.

PRIOR PHASE COMPLETION

Between 2001 and 2015, KRD identified water conservation opportunities and ranked them in order of priority based on estimated water loss. As previously mentioned, seepage losses in the NBC were apparent for years based on annual water measurements, observed seepage, and vegetation growth downslope of the canal banks.

In 2016, Reclamation awarded a WaterSMART grant of $147,104 to KRD to begin the North Branch lining project. The 2016 award, paired with an initial $147,104 of state and applicant funding, allowed KRD to complete design work and initial project implementation. KRD hired TetraTech to complete necessary engineering designs for fall 2016 construction. TetraTech based its work on the KRD's Feasibility Investigation completed that was completed March of 2015. The Feasibility Investigation provided the basis for the proposed implementation of KRD's water conservation projects identified in KRD's Comprehensive Water Conservation Plan.

Phase II of the North Branch lining project proceeded in the fall of 2017, with $3 million in funding from Reclamation, and $500,000 from the State of Washington, with 100% of saved water going to tributary enhancement.

PERFORMANCE MEASURES

KRD measures the delivery of saved water to impaired streams through flow meters and loggers. An annual summary of deliveries, including daily stream supplementation and total acre-feet, is made available to Reclamation and the Washington State Dept. of Ecology. Additionally, the Washington Department of Fish and Wildlife are monitoring the ecological responses to continually wet streams during summer months to identify and track any changes in ecosystem health.

EVALUATION CRITERIA

EVALUATION CRITERION A—QUANTIFIABLE WATER SAVINGS

Q: Describe the amount of estimated water savings.
A: 515 acre feet of water will be saved each year after construction is completed.

Q: Describe current losses: Please explain where the water that will be conserved is currently going (e.g., back to the stream, spilled at the end of the ditch, seeping into the ground)?
A: Saved water can be delivered to many streams that cross the KRD canal system anywhere from Easton down to Manastash Creek. The KRD currently works with a multi-agency team of biologists and other fisheries specialists who meet and discuss where the highest uses for water are each year. With that plan in place, KRD supplements the flow in the designated streams to provide habitat for ESA listed species, including Bull Trout. Throughout the season, as conditions warrant, the team may fine-tune the stream supplementation program by increasing or decreasing flow or changing the timing of the supplementation deliveries.

Q: Describe the support/documentation of estimated water savings:
A: The District estimated canal losses using current metering, water balances, and accepted

engineering. Table 2 shows the total supply, deliveries to landowners in the project area, and flow after the project. The difference between the supply, the total deliveries, and the remaining flow represents the total conveyance losses in this canal reach.

Site	Turnout	4/26/2016 Discharge (cfs)	5/18/2016 Discharge (cfs)	7/25/2016 Discharge (cfs)	8/26/2016 Discharge (cfs)
Measured Flow SB7.6		58.43	50.16	117.2	121.41
Deliveries	7.6	0	0	0	0
	7.8	0.1	0	0.03	0.35
	8.2	0	0	0	0
	8.5	0	0	0	0
	8.8	0	0	2.23	2.23
	8.9	0	0	0	0
	9.2-0.01L	0	0	0	0
	9.2-0.01	0.42	0	0	0.97
	9.4	0	1.66	1.5	3.15
	9.6	0	1	2	1.25
Total Deliveries (cfs)		0.52	2.66	5.76	7.95
Measured Flow SB 9.6		54.16	44.99	104.58	106.84
Daily Conveyance Loss		**3.75**	**2.51**	**6.86**	**6.62**
Average Conveyance Loss in Three Miles (cfs)					**4.93**
Average Daily Loss (acre-feet)					**13.1**
Annual Loss for 180 Day Irrigation Season (acre-feet)					**1760.2**
Annual Acre-foot Loss per Mile					**586.7**
Annual Acre-foot loss in Project Area (4637 lineal feet)					**515.3**

The piping of the South Branch Canal is expected to eliminate 100% of the system loss in this area. Two double barrel 60 inch, SRPE steel reinforced pipes will be used in the project area. After the project is complete, flow meters will be installed on all deliveries. A ramp flume will be installed at the beginning of the project, and a Cipoletti weir at the end, so determining any system loss will be straightforward.

EVALUATION CRITERION B—WATER SUPPLY RELIABILITY

The KRD agrees:

> **Not to use any associated water savings to increase the total irrigated acreage of the applicant, and**
>
> **Not to otherwise increase the consumptive use of water in the operation of the applicant, as determined pursuant to the law of the State in which the operation of the applicant is located.**

Q. *Will the project make water available to address a specific water reliability concern? Please address:*

1) ***Explain and provide detail of the specific issue(s) in the area that is impacting water reliability, such as shortages due to drought, increased demand, or reduced deliveries.***

Water availability and reliability in the area served by the South Branch are the primary issues. KRD has a junior water right that is proratable depending on the amount of water available in the Yakima Basin (termed 'Total Water Supply Available'). The annual amount can vary, which results in a variable supply for irrigators. Moreover, Manastash Creek, which is crossed by the South Branch Canal experiences annual drought conditions in a key reach due to irrigation withdraws of surface water rights. The resulting dewatered reach provided no habitat and impeded passage for fish (ESA-listed and unlisted species). However, through canal and lateral piping, KRD is able to eliminate sources of seepage and provide a more reliable delivery to customers. KRD is also able to deliver the formerly lost, non-consumptive water (that would go to ground water and then ultimately to downstream water users) to supplement flows in Manastash Creek and restore fish passage to headwater habitat.

2) ***Describe how the project will address the water reliability concern?***

The project improves the management of existing water supplies by both increasing conveyance efficiency and improving operational flexibility. The increased conveyance efficiency allows water managers to reduce the amount of water needed to deliver the desired amount down-canal of the leaking section. This provides managers greater certainty in their ability to deliver the irrigator's water because they no longer must account for "lost water". The improved reliability also provides mangers the flexibility to use the conserved water for instream flow (100% of saved water goes to instream flow) and to use the additional capacity during drought periods to wheel downstream irrigation district water through the formerly leaking section to increase the amount for instream flow without the risk of delaying the water for downstream irrigation use.

3) ***Provide a description of the mechanism that will be used, if necessary, to put the conserved water to the intended use.***

KRD has a water "allocation, management, and protection" memorandum of agreement with the U.S. Bureau of Reclamation and Washington Department of Ecology (see Appendix B). This agreement provides the pathway to allocate the water for instream flow on an annual basis (and adjust it during the irrigation season as conditions require). This 3-party MOA is the key to this project.

The KRD system has several ways to deliver the saved water to Manastash Creek, including two pipelines, a dedicated turnout, and an operational spill. Each path has flow meters or a weir with loggers to record continuous delivery rates.

4) Indicate the quantity of conserved water that will be used for the intended purpose.

The KRD will deliver all of the saved water, 515 acre-feet annually, to Manastash Creek or other flow-impaired tributaries of the Yakima River.

Q. ***Will the project make water available to achieve multiple benefits or to benefit multiple water users?***

1) ***Will the project benefit species (e.g., federally threatened or endangered, a federally recognized candidate species, a state listed species, or a species of particular recreational, or economic importance). Please describe the relationship of the species to the water supply, and whether the species is adversely affected by a Reclamation project.***

Yes, this project will provide significant benefits for fish and wildlife. The species of interest are Coho and Chinook salmon, Mid-Columbia steelhead (ESA-threatened), and Bull trout (ESA-threatened). Coho and Chinook salmon historically had access to and likely migrated and reared in the lower reaches of upper Yakima River tributaries. These fish are all reliant on adequate water supply and quality to provide passage and habitat. KRD expects benefits to include: improved instream flows that increase available fish habitat and improve fish passage through flow-impaired stream reaches; improved conditions for aquatic insects (prey base for fish and wildlife); improved natural stream processes such as sediment transport and channel formation; and improved riparian forest health. Moreover, KRD (through its work with the Washington Department of Fish and Wildlife, expects these benefits to interact and provide greater ecosystem benefits that are difficult to measure. For example, improved stream flows will likely promote riparian vegetation growth that shade the stream and reduce the stream's solar exposure which, in turn, may limit the stream's high temperatures during summer months, which in turn may provide more habitat than originally anticipated and increase aquatic invertebrates' diversity and density—the prey base for fish.

This project will benefit two ESA-listed species (both threatened): Mid-Columbia steelhead and Bull trout. Both fish species are subject to plans for recovery and conservation within the Yakima Basin. The 2009 Yakima Steelhead Recovery Plan states that "drought worsens the effects of other threats on adult spawning success and juvenile survival" (p. 73, 2009 Yakima Steelhead Recovery Plan). Specifically, the flow, temperature, and key habitat quantity may be impaired. The proposed project would help reduce the impacts of drought on Steelhead by providing continuous flow in tributaries that provide habitat for adult and juvenile fish.

Bull trout distribution in the Yakima Basin have an Action Plan (2012) that provides guidance on species recovery. The Yakima Bull trout are, like all fish, reliant on water for survival. However, they are less likely to be present in the immediate flow supplementation areas due to the timing and general habitat conditions in the streams. Rather, the Bull trout in tributaries may inhabit headwaters where conditions are more suitable when the instream flow restoration is taking place in the flow impaired (lower) reaches. Regardless, the project will help improve stream conditions

during summer and fall months that leave the stream in better health for winter months when the Bull trout may utilize lower reaches for feeding, migration, or overwintering.

2) Will the project benefit a larger initiative to address water reliability?

This project is part of the Yakima Basin Integrated Water Resource Management Plan, and builds upon the ongoing dialogue with neighbors this has made possible. Through the "Plan" stakeholders have a place to discuss ideas surrounding water resources and improved water security for fish, farms, and communities in the Yakima Basin.

3) *Will the project benefit Indian tribes?*

Yes, this project will help restore fish populations to which the Yakama Nation has a Treaty Right to harvest. Please see the attached letter of support from the Confederated Tribes and Bands of the Yakama Nation.

4) *Will the project benefit rural or economically disadvantaged communities?*

Yes, this project will benefit rural KRD customers being served by the South Branch Canal.

5) *Describe how the project will help to achieve these multiple benefits. In your response, please address where the conserved water will go and where it will be used, including whether the conserved water will be used to offset groundwater pumping, used to reduce diversions, used to address shortages that impact diversions or reduce deliveries, made available for transfer, left in the river system, or used to meet another intended use.*

The saved water will be delivered to tributaries of the Yakima River. The technical aspects of the water allocation, management, and protection are designed to provide benefits for fish, wildlife, and the environment during years of impaired stream flows in upper Yakima River tributaries—especially during drought periods. KRD accomplishes this through a three-party agreement between KRD, Reclamation, and the Washington Department of Ecology that specifies KRD will use the conserved water to supplement instream flows in upper Yakima River tributaries that are provide habitat for ESA-listed and unlisted species. The water from this project will go to improve stream flows in Manastash Creek, where KRD will utilize existing infrastructure at the creek-canal intersection to deliver a controlled amount of conserved water to help restore flows and keep the creek flowing.

The project improves the management of existing water supplies by both increasing conveyance efficiency and improving operational flexibility. The increased conveyance efficiency allows water managers to reduce the amount of water needed to deliver the desired amount down-canal of the leaking section. This provides managers greater certainty in their ability to deliver the irrigator's water because they no longer must account for "lost water". The improved reliability also provides mangers the flexibility to use the conserved water for instream flow (100% of saved water goes to instream flow) and to use the additional capacity during drought periods to wheel downstream irrigation district water through the formerly leaking section to increase the amount for instream flow without the risk of delaying the water for downstream irrigation use.

Q. Does the project promote and encourage collaboration among parties in a way that helps increase the reliability of the water supply?

1) ***Is there widespread support for the project?***

Yes, this project requires collaboration among fish and water resource managers, and other stakeholders in the Yakima Basin.

2) ***What is the significance of the collaboration/support?***

The support and collaboration is significant in that it shows how this project is bridging historical divides for water resources. The support brings diverse stakeholders together to find an alternative solution to instream flow for the ecosystem while maintaining the water needed to maintain the agricultural nature of area. This is a key element of the Yakima Basin Integrated Plan.

3) ***Is the possibility of future water conservation improvements by other water users enhanced by completion of this project?***

Yes, this project provides greater water delivery certainty (increases reliability) which should enable water users to have a more known quantity of water available annually.

4) ***Will the project help to prevent a water-related crisis or conflict? Is there frequently tension or litigation over water in the basin?***

Yes, this project will help prevent crisis and conflicts for water in the Yakima Basin. The Yakima Basin is undergoing a surface water adjudication that is over 40 years old. The adjudication has made water rights more certain for surface water right owners from tributaries. However, there is also a clear water need for instream flows to restore stream ecosystems. These competing needs are a constant source of tension among resource users and managers. This project presents a pathway to provide instream flows without requiring landowners to dry-up productive agricultural lands. By using for instream flows the water currently lost to canal seepage, KRD is able to help supplement flows that are well below natural levels due to surface water diversions without increasing costs to irrigation water customers.

5) ***Describe the roles of any partners in the process. Please attach any relevant supporting documents.***

Project partners are numerous and vital to project success. KRD leads the process for piping the canal and moving water for irrigators and instream flow. Please see the attached letters of support. Partners and their roles are:

- WA Dept of Ecology is responsible for water protection and enforcement;
- WA Dept of Fish and Wildlife is responsible for monitoring the environmental benefits and making recommendations for water delivery for instream flow;
- U.S. Bureau of Reclamation operates the Yakima Project and is supportive of the KRD's water conservation plans and how the KRD system can be used to meet the goals of the Yakima Basin Integrated Plan.
- Kittitas County Conservation District is responsible for working with landowners to implement irrigation efficiency (on-farm) projects that enhance canal piping benefits;
- Trout Unlimited assists with instream flow projects that reduce the need for instream flow and enhance instream flow benefits

Q. Will the project address water supply reliability in other ways not described above?
A. This project also helps build long-term resilience to drought by eliminating a source of water loss and then designating the previously lost water as water for instream flow. The instream flows help restore stream ecosystems and natural processes to benefit fish and wildlife habitat and the riparian communities (people and nature). The project will also free up system capacity to deliver conserved water to Manastash Creek.

EVALUATION CRITERION C—IMPLEMENTING HYDROPOWER

This project will not include construction or installation of any hydropower system, but it will not preclude from those types of activities happening in the future.

EVALUATION CRITERION D—COMPLEMENTING ON-FARM IRRIGATION IMPROVEMENTS

Progressing from open, unlined canal to underground piping will facilitate on-farm improvements in the area under this project. Filters on irrigation systems will clog less frequently and water supply will be bolstered. The Kittitas County Conservation District strongly supports this project knowing it will help local irrigators with their future NRCS EQIP projects.

EVALUATION CRITERION E—DEPARTMENT OF THE INTERIOR PRIORITIES

Creating a conservation stewardship legacy second only to Teddy Roosevelt:

Utilize science to identify best practices to manage land and water resources and adapt to changes in the environment;

Cooperatively working with scientists and engineers from multiple agencies and private firms, KRD water resource management follows the best available science to adapt methods and actions that will benefit the habitat and water users now and in the future. Responsiveness and steady improvement ensures that the KRD is always doing the best it can in order to yield the highest outcome for everyone, even in unsteady and changing times.

Review Department water storage, transportation, and distribution systems to identify opportunities to resolve conflicts and expand capacity;

Moving from open, unlined irrigation canals to an underground piped system expands the KRD capacity by eliminating loss.

Foster relationships with conservation organizations advocating for balanced stewardship and use of public lands;

The Yakima Basin Integrated Plan is fully supported by conservation organizations ranging from Trout Unlimited to the Washington Trails Association. This project, a component of the YBIP, saves water, restores streamflow, and benefits users of public lands.

Restoring trust with local communities:

Be a better neighbor with those closest to our resources by improving dialogue and relationships with person and entities bordering our lands;

This project is contiguous with open lands owned by DNR and WDFW that are popular with local people for recreation, as well as irrigators on the other side. Replacement of the open canal with underground piping demonstrates sensitivity to issues that arise when wildlife, pets, livestock, and people (especially children) are near open water. While it is trespassing for irrigators and recreationists to be near the canal, we know things can, and do, happen. Piping this project shows our desire to increase the safety of our system for people and animals in its proximity.

Expand the lines of communication with Governors, state natural resource offices, Fish and Wildlife offices, water authorities, county commissioners, Tribes, and local communities;

Water saved through this project is put into trust and dedicated to stream supplementation. Each year, the Yakama Nation, multiple environmental agencies, and other interested parties meet to discuss the needs of local streams with listed species to determine the locations and rates of stream supplementation based on up to the minute known needs of these streams. The spirit of cooperation is second only to the satisfaction of knowing what an incredible difference is being made.

Striking a regulatory balance:

Ensure that Endangered Species Act decisions are based on strong science and thorough analysis;

Partnering with multiple groups under the YBIP, utilizing the best science available from scientists, researchers, universities, and agencies, as well as keeping an open dialogue with local interests, ensures that all decisions made firmly and resoundingly support the ESA.

Modernizing our infrastructure:

Moving from an open, unlined canal to a piped, underground water delivery system reflects the strength and cost-effectiveness of modern materials and the companies who are adapting these materials for use in public and private sectors. This project could not proceed without the joint effort and cooperation of both the private and public sectors.

EVALUATION CRITERION F—IMPLEMENTATION AND RESULTS

SUBCRITERION F.1— PROJECT PLANNING

Q. Does the applicant have a Water Conservation Plan and/or System Optimization Review (SOR) in place?

A. Yes, please see the separate upload as the document is too large to attach here.

Identify any district-wide, or system-wide, planning that provides support for the proposed project. This could include a Water Conservation Plan, SOR, Drought Contingency Plan

or other planning efforts done to determine the priority of this project in relation to other potential projects.

Figure 3 shows how this project fits into the KRD's Water Conservation Plan prioritized list of projects. This project also supports Yakima Basin Integrated Plan's stated goals of water conservation and stream supplementation.

Describe how the project conforms to and meets the goals of any applicable planning efforts and identify any aspect of the project that implements a feature of an existing water plan(s).

These efforts will ensure successful water conservation efforts, one of the seven goals under the Yakima Basin Integrated Plan (YBIP)—a diverse multi-stakeholder, basin-wide integrated water resources management effort co-administered by the WA Dept. of Ecology and U.S. Bureau of Reclamation. KRD canal modifications to reduce seepage and enhance tributary flows are specifically listed as a priority in the Record of Decision in the Yakima River Basin Integrated Water Resource Management Plan. Because of the KRD's location in relation to many important fish bearing tributaries in the upper Yakima River Basin, the KRD is uniquely situated to provide multiple benefits to improve water supply for agriculture and fish and to improve the ability of water and fisheries managers to adapt to drought years that create low flows. A recent successful example of this is the Manastash KRD South Branch Lateral 13.8 piping project that was constructed by the BOR. This was the first on the ground construction project of the Yakima River Basin Integrated Water Resource Management Plan (Integrated Plan). The piping saved 3.5 CFS of water previously used for irrigation that is now delivered to Manastash Creek to enhance instream flows. As a direct result of this enhanced instream flow, Steelhead are now reaching the headwaters of Manastash Creek.

KRD is well positioned to lead this effort not only because of its strategic location in the basin, but also as a result of its leadership and history on supporting forward thinking water management strategies, past experience in working with all entities in the Basin to support projects that provide multiple benefits to water users and instream flow, such as finding creative solutions to keep streams flowing by using irrigation infrastructure to address dewatered upper Yakima River tributaries during summer months.

SUBCRITERION F.2— PERFORMANCE MEASURES

KRD measures the delivery of saved water to impaired streams through flow meters and loggers. An annual summary of deliveries, including daily stream supplementation and total acre-feet, is made available to Reclamation and the Washington State Dept. of Ecology. Additionally, the Washington Department of Fish and Wildlife are monitoring the ecological responses to continually wet streams during summer months to identify and track any changes in ecosystem health.

SUBCRITERION F.3— READINESS TO PROCEED

The table below shows the milestones (deliverables) for the current Ecology grant to complete the design, permitting, and construction of the project.

Deliverable Number	Description	Due Date
2.1	Section 106 report	12/31/2019
2.2	MOA with DAHP	03/31/2020
2.3	NEPA documents	03/31/2020
2.4	Bid-ready plans	05/31/2020
2.5	Contractor award	07/31/2020
	Contractor mobilization	10/15/2020
3.1	Construction complete	04/15/2021
3.2	Delivery of saved water to tributaries; completed allocation, management, and protection agreement between Ecology, Reclamation, and the KRD	04/30/2021

Q. Describe any permits that will be required, along with the process for obtaining such permits.
A. Jacobs Engineering has been hired to complete a cultural review of the project area that will be submitted to the local Reclamation office for review. An MOA with Washington State DAHP will then be negotiated by March of 2020. When the design is completed, Jacobs Engineering will help the KRD to complete SEPA documents and apply for a State Construction Stormwater permit if required.

Q. Identify and describe any engineering or design work performed specifically in support of the proposed project.
A. Jacobs Engineering is currently working on the design for the project. Bid ready plans are scheduled to be complete by March of 2020.

Q. Describe any new policies or administrative actions required to implement the project.
A. No new policies are required for this project.

Q. Describe how the environmental compliance estimate was developed. Has the compliance cost been discussed with the local Reclamation office?
A. The environmental compliance costs are not part of this grant, and will be completed before this grant is awarded.

EVALUATION CRITERION G— NEXUS TO RECLAMATION PROJECT ACTIVITIES

Q. Does the application receive Reclamation project water?
A. Yes, KRD receives water from Reclamation owned/operated reservoirs in the Yakima River headwaters.

Q. Is the project on Reclamation project lands or involving Reclamation facilities?
A. Yes, the proposed piping would be within lands owned by Reclamation and conserved water would be delivered to tributaries within the Yakima Basin Project.

Q. Is the project in the same basin as a Reclamation project or activity?
A. Yes, the presently proposed project will occur in the Upper Yakima River Basin where Reclamation operates the Yakima Project.

Q. Will the proposed work contribute water to a basin where a Reclamation project is located?
A. Yes, the saved water will be delivered to tributaries of the Yakima Basin and become part of the Total Water Supply Available.

Q.Will the project benefit any tribe(s)?
A. Yes, the water delivered to tributaries with no or low summer flows will help recover salmon stocks and contribute to Yakama Nation Treaty Rights.

EVALUATION CRITERION H— ADDITIONAL NON-FEDERAL FUNDING

$$\frac{\text{Non-Federal funding } \$975{,}000}{\text{Total Project cost } \$1{,}950{,}000} = 50\%$$

PROJECT BUDGET

FUNDING PLAN AND LETTERS OF COMMITMENT

The project cost is $1,950,000. The project estimate is based on reasonable and allowable costs, price sheets from a geomembrane liner vendor, input from engineering professionals, and historical costs and production rates. These costs were assembled with the intent for construction to begin following the 2018 irrigation season and be completed before the 2019 irrigation season.

Table 2. Summary of non-federal and federal funding sources. KRD's non-federal amount will come from the Washington Department of Ecology's Water Resources Program.

Funding Sources	Amount
Non-Federal Entities	
Washington Department of Ecology	$ 975,000.00
Non-Federal Subtotal	$ 975,000.00
Other Federal Entities	
none	
Other Federal Subtotal	$ 0.00
Requested Reclamation Funding	**$ 975,000.00**

The Washington Department of Ecology's Water Resources Program's letter of commitment is attached. These funds are committed to KRD and are available for this project.

KRD will not incur any costs that will be included as project costs before the anticipated start date**.** KRD will receive committed funding from the Washington Department of Ecology's Water Resources Program in the amount of $975,000 to match this request.

At the present time, KRD has not requested nor received any additional federal funds to contribute to this project. If this changes, KRD will notify Reclamation to comply with the cost-share requirements for this project.

BUDGET PROPOSAL

BUDGET ITEM DESCRIPTION	COMPUTATION		Quantity Type	TOTAL COST
	$/Unit	Quantity		
Salaries and Wages				
Employee 1				$ -
Employee 2				$ -
Employee 3				$ -
Fringe Benefits				
Full-Time Employees				$ -
Part-Time Employees				$ -
Travel				
Trip 1				$ -
Trip 2				$ -
Trip 3				$ -
Equipment				
Item A				$ -
Item B				$ -
Supplies and Materials				
Item A				$ -
Item B				$ -
Contractual/Construction				
Construction Contractor				$ 1,950,000.00
Engineering Services				$ -
TOTAL DIRECT COSTS				$ 1,950,000.00
Indirect Costs				
Schedule & Market Condition				$ -
TOTAL ESTIMATED PROJECT COSTS				$ 1,950,000.00

SALARIES AND WAGES

KRD is not requesting or claiming any salary or wage related expenses from this project.

FRINGE BENEFITS

KRD is not requesting or claiming fringe benefits related expenses from this project.

TRAVEL

KRD is not requesting or claiming travel-related expenses from this project.

EQUIPMENT

KRD is not requesting or claiming equipment-related expenses from this project.

MATERIALS AND SUPPLIES

KRD will furnish materials and supplies and expects minimal costs from this action and excludes it from the project budget.

CONTRACTUAL (CONSTRUCTION)

The total contractual budget is for construction costs. The District will hire a contractor to complete construction of the project. The contractor chosen will be selected based on the results of an advertised competitive bidding process. The contractor will enter into a unit price contract for furnishing and installing all equipment and materials necessary for construction of the complete and functional proposed upgrades.

Construction scheduling and, to some extent, costs, may be affected by the need to do the entire canal piping work during the non-irrigation season. The limited available construction season occurs during the fall and winter months.

ENVIRONMENTAL AND REGULATORY COMPLIANCE

Environmental and regulatory compliance are underway by Jacobs Engineering. KRD does not anticipate any further environmental or regulatory compliance costs except for a possible construction stormwater permit. Those costs will be within the contractor's bid price, however.

OTHER—REPORTING

This line item includes costs to be incurred while reporting to federal funders. In accordance with the FOA requirements, KRD will prepare and submit to Reclamation an SF-425 Federal Financial Report, two quarterly reports, and a final report. KRD will assume this cost as part of regular operations.

INDIRECT COSTS

For this project, the recipient will not have any indirect costs. All costs associated with the project are direct and can be documented as such.

TOTAL COSTS

The estimated total project cost is $1,950,000. The requested federal share through the WaterSMART program is $975,000; the total non-federal share is $975,000. A copy of the completed SF 424C, Budget Information – Construction Programs, is provided.

ENVIRONMENTAL AND CULTURAL RESOURCES COMPLIANCE

The canal piping improvements will take place within the existing canal right-of-way. Existing KRD maintenance roads provide adequate site access, and all work will occur within KRD's right-of-way. An environmental review shows that there will be minor or no negative environmental impacts to earth (soils), air, plants, animals, energy and natural resources, environmental health (health hazards and noise), land and shoreline use, housing, aesthetics, light and glare, recreation, historic and cultural preservation, transportation, public services, and utilities. During construction, best management practices (BMPs), such as sediment control fencing and sprinkling the ground surface for dust control, will be maintained in ground-disturbance areas. There is no earth disturbing work anticipated from the stream supplementation component.

Q. ***Are you aware of any species listed or proposed to be listed as a Federal threatened or endangered species, or designated critical habitat in the project area? If so, would they be affected by any activities associated with the proposed project?***
A. Yes, KRD is aware of listed species and designated critical habitat in the project area (including Manastash Creek for instream flow). Stream supplementation will occur in streams with ESA-listed fish species and designated Critical Habitat. Both the habitat and fish species will be affected by the stream supplementation, though the effects are expected to be positive and help with species' recovery.

Q. ***Are there wetlands or other surface waters inside the project boundaries that potentially fall under CWA jurisdiction as "Waters of the United States?" If so, please describe and estimate any impacts the proposed project may have.***
A. Construction activities will occur along the existing KRD right-of-way, which does not possess wetlands or "waters of the United States"; therefore impacts to wetlands and/or waters under Federal jurisdiction are not anticipated. Regardless, construction activities will implement BMP measures to control erosion, turbidity from de-watering water, dust, and noise. Required mitigation of impacts to the environment is not anticipated.

Streams receiving supplementation water do fall within the "waters of the United States" under Federal Clean Water Act jurisdiction. KRD expects positive impacts to these streams will be restored flows. Moreover, KRD has non-sediment producing, designated turnout structures for each stream. The flows entering the stream will enter via designated and established input locations. As such, KRD does not anticipate any negative impacts from the stream supplementation portion.

Q. ***When was the water delivery system constructed?***
A. The South Branch Canal was constructed in 1928.

Q. ***Will the proposed project result in any modification of or effects to, individual features of an irrigation system (e.g., headgates, canals, or flumes)? If so, state when those features were constructed and describe the nature and timing of any extensive alterations or modifications to those features completed previously.***

A. Yes, this project will affect one canal originally constructed in 1928. Routine maintenance may have altered the canal since its original construction. A cultural review is being conducted, and if adverse effects are found, an MOA will be negotiated with Washington State DAHP for mitigation. Costs incurred for mitigation are not included in this proposal.

Q. ***Are any buildings, structures, or features in the irrigation district listed or eligible for listing on the National Register of Historic Places? A cultural resources specialist at your local Reclamation office or the State Historic Preservation Office can assist in answering this question.***
A. A cultural review is being conducted, and if adverse effects are found, an MOA will be negotiated with Washington State DAHP for mitigation. Costs incurred for mitigation are not included in this proposal.

Q. ***Are there any known archeological sites in the proposed project area?***
A. No archaeological deposits or Traditional Cultural Places (TCPs) were identified within the APEs.

Q. ***Will the proposed project have a disproportionately high and adverse effect on low income or minority populations?***
A. No, the total project will not have a disproportionally high and adverse effect on low income or minority populations. KRD is not aware of any low-income or minority population communities adjacent to, and subject to disproportionately high and adverse effects, the project area.

Q. ***Will the proposed project limit access to and ceremonial use of Indian sacred sites or result in other impacts on tribal lands?***
A. No, this project will not limit access to and ceremonial use of Indian sacred sites.

Q. ***Will the proposed project contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area?***
A. No, the project will not contribute to the spread of noxious weeds or non-native invasive species. BMP measures will take place during construction to limit introduction of noxious weeds and/or non-native invasive species. Post-construction, a native seed mix will be planted in all disturbed areas. Non-native Brook or Brown trout *may* be present in supplemental flow streams. Both species are present in other areas in the upper Yakima Basin but are typically confined to headwater reaches. As such, providing more natural stream flows will not likely contribute to the continued existence of these fish as they already exist and this project is designed to help recover native fish in the lower, dewatered reaches of perennial streams.

REQUIRED PERMITS AND/OR APPROVALS

FEDERAL PERMITTING

A cultural review is being conducted, and if adverse effects are found, an MOA will be negotiated with Washington State DAHP for mitigation. Costs incurred for mitigation are not included in this proposal. The Columbia-Cascades Area Office will complete a NEPA review.

The KRD anticipates that the project does not have significant impacts on the environment and will fit within a recognized Categorical Exclusion to NEPA. Environmental impacts will be minimized during construction using BMPs.

STATE PERMITTING

Permits for canal piping within KRD's right-of-way are not required. If necessary, a Construction General Permit for the protection of water quality during construction will be acquired by the contractor.

LOCAL PERMITTING

Permits for the canal piping and flow supplementation are not required at a local level.

OFFICIAL RESOLUTION

Kittitas Reclamation District
P.O. Box 276
Ellensburg, WA 98926
Phone: (509) 925-6158 Fax: (509) 925-7425

RESOLUTION 2019-10

WHEREAS, the Kittitas Reclamation District is in receipt of the U.S. Bureau of Reclamation Funding Opportunity Announcement No. BOR-DO-20-F001, WaterSMART Grants: Water and Energy Efficiency Grants for Fiscal Years 2020 and 2021; and;

WHEREAS, the Kittitas Reclamation District has legal authority to enter into a grant with the Bureau of Reclamation; and;

WHEREAS, the Board of Directors of the Kittitas Reclamation District supports the application submitted; and;

WHEREAS, the Kittitas Reclamation District will work with the U.S. Bureau of Reclamation to meet established deadlines for entering into a cooperative agreement.

NOW, THEREFORE, IT IS HEREBY RESOLVED by the Board of Directors that the Secretary-Manager, Urban Eberhart, has legal authority to enter into agreement with the U.S. Bureau of Reclamation WaterSMART Grant financial assistance program and to sign any and all documents necessary to enter into the WaterSMART program.

DATED. this 9th day of September, 2019.

Fred Schneebly
CHAIRMAN

Absent Paul Weaver
~~VICE CHAIRMAN~~ Board Member

Gary Eberhardt
BOARD MEMBER

Eric Ackerman
BOARD MEMBER

Mark Hansen
~~BOARD MEMBER~~ VICE CHAIRMAN

Urban Eberhart
SECRETARY-MANAGER

APPENDICES

A: Letters of Commitment and Project Support

B: KRD-Ecology-Reclamation Allocation, Management, and Protection Agreement

APPENDIX A: LETTERS OF PROJECT SUPPORT

Confederated Tribes and Bands
of the Yakama Nation

Established by the
Treaty of June 9, 1855

September 30, 2019

Bureau of Reclamation Financial Assistance Support Section
Attn: Mr. Josh German
P.O. Box 25007, MS 84-51000
Denver, CO 80225
RE: Kittitas Reclamation District 2020 WaterSMART Grant: Water and Energy Efficiency Grant

Dear Mr. German:

The Yakama Nation Department of Natural Resources is pleased to support the WaterSMART proposal "KRD South Branch Water Conservation Project" being submitted by Kittitas Reclamation District under the 2020 WaterSMART Drought Response Program, Drought Resiliency Projects for FY2020.

The draft proposal we have seen focuses on the upper Yakima River Basin in Washington State and is designed to address water shortages in Yakima River tributaries. As climate change is expected to significantly impact the Yakima Basin, Yakama Nation DNR is especially interested in finding alternative and innovative ways to keep streams flowing using existing irrigation infrastructure that has historically served a single purpose.

This proposal builds on years of successful work by KRD to augment tributary flows in the upper basin and other work accomplished under the Yakima Basin Integrated Water Resource Management Plan (YBIP). YBIP goals include addressing reduced Cascade Mountain snowpack and climate change by employing seven different elements. As a key part of restoring fish and wildlife habitat under the YBIP, this proposal helps advance the goals and improve the Yakima Basin's drought resiliency.

We encourage Reclamation's support and approval of this proposal. If you have any questions regarding this letter, please contact me at phil_rigdon@yakama.com.

Sincerely,

Phil Rigdon, Superintendent
Yakama Nation Department of Natural Resources

Post Office Box 151, Fort Road, Toppenish, WA 98948 (509) 865-5121

State of Washington
DEPARTMENT OF FISH AND WILDLIFE

Region Three Office: 1701 S 24th Avenue - Yakima, WA 98902-5720 - (509) 676-2740

Bureau of Reclamation Financial Assistance Support Section
Attn: Mr. Josh German
P.O. Box 25007, MS 84-51000
Denver, CO 80225

30 September 2019

RE: Kittitas Reclamation District 2020 WaterSMART Grant: Water and Energy Efficiency Grant

Dear Mr. German,

WDFW is pleased to support the WaterSMART proposal "KRD South Branch Water Conservation Project" being submitted by Kittitas Reclamation District under the 2020 WaterSMART Drought Response Program, Drought Resiliency Projects for FY2020.

This proposal focuses on the upper Yakima River Basin in Washington State and is designed to address water shortages in Yakima River tributaries. As climate change is expected to significantly impact the Yakima Basin, WDFW is especially interested in finding alternative and innovative ways to keep streams flowing while providing water to maintain the agricultural heritage of the basin, particularly during periods of drought which is exactly what KRD does with this project.

We are excited about the proposed work to reduce canal seepage, conserve water, improve water quality, and provide a higher level of human and animal safety along KRD's South Branch. The conserved water will be used for the Tributary Supplementation Project, and is designated through an allocation, management, and protection agreement for instream flows.

This proposal builds on years of success and work accomplished under the Yakima Basin Integrated Water Resource Management Plan (YBIP). YBIP goals include addressing reduced Cascade Mountain snowpack and climate change by employing seven different elements. As a key part of restoring fish and wildlife habitat under the YBIP, this proposal helps advance the goals and improve the Yakima Basin's drought resiliency.

We encourage Reclamation's support and approval of this proposal. If you have any questions regarding this letter, please contact me at 509-457-9325.

Sincerely,

Mike Livingston
Region 3 Director

Kittitas County Conservation District
2211 W. Dolarway Road, Suite 4 • Ellensburg, WA 98926 • Phone (509) 925-3352 • Fax (888) 546-0825

September 30, 2019

Bureau of Reclamation Financial Assistance Support Section
Attn: Mr. Josh German
P.O. Box 25007, MS 84-51000
Denver, CO 80225

RE: Kittitas Reclamation District 2020 WaterSMART Grant: Water and Energy Efficiency Grant

Dear Mr. German:

The Kittitas County Conservation District (KCCD) is pleased to support the WaterSMART proposal "KRD South Branch Water Conservation Project" being submitted by Kittitas Reclamation District under the 2020 WaterSMART Drought Response Program, Drought Resiliency Projects for FY2020.

This proposal focuses on the upper Yakima River Basin in Washington State and is designed to address water shortages in Yakima River tributaries. As climate change is expected to significantly impact the Yakima Basin, the Kittitas County Conservation District is especially interested in finding alternative and innovative ways to keep streams flowing while providing water to maintain the agricultural heritage of the basin, particularly during periods of drought which is exactly what KRD does with this project.

This proposal builds on years of success and work accomplished under the Yakima Basin Integrated Water Resource Management Plan (YBIP). YBIP goals include addressing reduced Cascade Mountain snowpack and climate change by employing seven different elements. As a key part of restoring fish and wildlife habitat under the YBIP, this proposal helps advance the goals and improve the Yakima Basin's drought resiliency. It also complements our work on-farm with individual producers to improve their water management efficiency through upgrades to irrigation systems (i.e. conversion to sprinklers).

We encourage Reclamation's support and approval of this proposal. If you have any questions regarding this letter, please contact me at a-lael@conservewa.net or 509-925-3352 ext. 207.

Sincerely,

Anna Lael
District Manager

KITTITAS COUNTY
DEPARTMENT OF PUBLIC WORKS
Arden Thomas, Water Resources Manager

September 30, 2019

Bureau of Reclamation Financial Assistance Support Section
Attn: Mr. Josh German
P.O. Box 25007, MS 84-51000
Denver, CO 80225
RE: Kittitas Reclamation District 2020 WaterSMART Grant: Water and Energy Efficiency Grant

Dear Mr. German:

Kittitas County Public Works enthusiastically supports the WaterSMART proposal "KRD South Branch Water Conservation Project" submitted by Kittitas Reclamation District under the 2020 WaterSMART Drought Response Program, Drought Resiliency Projects for FY2020.

Effective water management requires innovative and multi-benefit solutions, as well as agencies stepping into new roles and responsibilities. For Kittitas County, we have seen our role in water management evolve as the County has established a Flood Control Zone District, worked in partnership to develop solutions so that new water uses will not impair existing water users, secured water rights, and this last summer, made water rights available to farmers in response to the 2019 drought.

As reflected in the "KRD South Branch Water Conservation Project" proposal, KRD is a leader in innovate, multi-benefit water management. This proposal focuses on the upper Yakima River Basin in Washington State and in Kittitas County and is designed to address water shortages in Yakima River tributaries. As climate change is expected to significantly impact the Yakima Basin, Kittitas County Public Works recognizes the need for alternative and innovative ways to keep streams flowing while providing water to maintain the agricultural heritage of the basin, particularly during periods of drought. KRD advances these priorities with this project. From a flood control perspective, maintaining summer baseflows and supporting healthy riparian vegetation is essential for improving the resiliency of our rivers and streams to flood events.

This proposal builds on years of success and work accomplished under the Yakima Basin Integrated Water Resource Management Plan (YBIP). YBIP goals include addressing reduced Cascade Mountain snowpack and climate change by employing seven different elements. As a key part of restoring fish and wildlife habitat under the YBIP, this proposal helps advance the goals and improve the Yakima Basin's drought resiliency.

411 N. Ruby, Suite #1
Ellensburg, WA 98926

TEL (509) 962-7523
FAX (509) 962-7663

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
1250 W Alder St • Union Gap, WA 98903-0009 • (509) 575-2490

October 2, 2019

Bureau of Reclamation Financial Assistance Support Section
Attn: Mr. Josh German
P.O. Box 25007
MS 84-51000
Denver, CO 80225

Re: Kittitas Reclamation District 2020 WaterSMART Grant: Water and Energy Efficiency Grant

Dear Mr. German:

The Washington State Department of Ecology (Ecology) is pleased to support the WaterSMART proposal "KRD South Branch Water Conservation Project" being submitted by Kittitas Reclamation District under the 2020 WaterSMART Drought Response Program, Drought Resiliency Projects for FY2020.

This proposal focuses on the upper Yakima River Basin in Washington State and is designed to address water shortages in Yakima River tributaries. As climate change is expected to significantly impact the Yakima Basin, Ecology is especially interested in finding alternative and innovative ways to keep streams flowing while providing water to maintain the agricultural heritage of the basin, particularly during periods of drought which is exactly what KRD does with this project.

This proposal builds on years of success and work accomplished under the Yakima Basin Integrated Water Resource Management Plan (YBIP). YBIP goals include addressing reduced Cascade Mountain snowpack and climate change by employing seven different elements. As a key part of restoring fish and wildlife habitat under the YBIP, this proposal helps advance the goals and improve the Yakima Basin's drought resiliency.

We encourage Reclamation's support and approval of this proposal. If you have any questions regarding this letter, please contact me at trevor.hutton@ecy.wa.gov or (509) 454-4240

Sincerely,

Trevor Hutton, Section Manager
Water Resources Program
Central Regional Office

TH:FG/191004

TROUT UNLIMITED

Trout Unlimited: America's Leading Coldwater Fisheries Conservation Organization

October 2, 2019

Bureau of Reclamation Financial Assistance Support Section
Attn: Mr. Josh German
P.O. Box 25007, MS 84-51000
Denver, CO 80225

RE: *Kittitas Reclamation District 2020 WaterSMART Grant: Water and Energy Efficiency Grant*

Dear Mr. German:

Trout Unlimited (TU) is pleased to support Kittitas Reclamation District's (KRD) submittal, "KRD South Branch Water Conservation Project," to the WaterSMART Water and Energy Efficiency Grant Program for FY2020.

The proposal focuses on the upper Yakima River Basin in central Washington state and is designed to address water shortages in Yakima River tributaries. As climate change is expected to significantly impact the Yakima Basin and its tributaries, TU is keenly aware of the importance of instream flow for coldwater fish. TU is especially interested in finding innovative ways to keep streams flowing while providing water to maintain the agricultural heritage of the basin, particularly during periods of low streamflows (irrigation season) and times of drought, which is exactly what KRD will do with this project.

The project this proposal supports builds on years of success and work accomplished under the Yakima Basin Integrated Water Resource Management Plan (YBIP). YBIP goals include addressing reduced Cascade Mountain snowpack and climate change by employing seven different elements, which include KRD efficiency and tributary flow supplementation. As a key part of restoring fish and wildlife habitat under the YBIP, this proposal helps advance the goals and improve the Yakima Basin's water security and drought resiliency in the future.

Trout Unlimited supports this proposal and encourages the U.S. Bureau of Reclamation to support this proposal. If you have any questions regarding this letter, please contact me at apenvose@tu.org or 509-881-7689.

Sincerely,

Aaron Penvose
Project Director
Trout Unlimited Washington Water Project

Washington Water Project
103 Palouse, Suite 14, Wenatchee, WA 98801; 115 S. Glover Street, Twisp, WA 98856;
119 W. 5th Ave, Ellensburg, WA 98926,
(509) 888-0970 • Fax: (509) 888-4352 • www.tu.org

APPENDIX B: KRD-ECOLOGY-RECLAMATION ALLOCATION, MANAGEMENT, AND PROTECTION AGREEMENT

Reclamation Agreement No. R16MA13720

MEMORANDUM OF AGREEMENT
Between
Bureau of Reclamation
Pacific Northwest Region, Columbia-Cascades Are Office
and
Kittitas Reclamation District
and
Washington State Department of Ecology

PROVIDING FOR THE ALLOCATION, MANAGEMENT, AND PROTECTION OF CONSERVED WATER

THIS AGREEMENT, is entered into pursuant to the Act of June 17, 1902 (32 Stat. 388), and acts amendatory thereof and supplementary thereto, and particularly section 1207 of Title XII of Public Law 103-434, October 31, 1994 (108 Stat. 4550) (commonly known as the Yakima River Basin Water Enhancement Project (YRBWEP) Act), as amended, by and between **THE UNITED STATES OF AMERICA,** acting through the Bureau of Reclamation, hereinafter referred to as Reclamation, the **KITTITAS RECLAMATION DISTRICT,** hereinafter referred to as the District, and the **WASHINGTON STATE DEPARTMENT OF ECOLOGY,** hereinafter referred to as Ecology; jointly referred to as the "Parties".

WITNESSETH, THAT;

EXPLANATORY RECITALS

1. WHEREAS, the United States, acting through the Bureau of Reclamation, constructed and is operating the Yakima Project (Project), Washington, for the storage and delivery of water for irrigation and other beneficial uses; and

2. WHEREAS, the District is a special purpose district of the State of Washington, created pursuant to the Revised Code of the State of Washington (RCW)

87.03, that delivers irrigation water pursuant to a water right confirmed in *State of Washington, Department of Ecology v. James J. Acquavella, et al.,* Yakima County Superior Court Cause No. 77-2-01484-5 *(Acquavella),* which is subject to a Conditional Final Order entered June 1, 1994, as modified by the Kittitas Reclamation District Water Rights Settlement Agreement. The water right authorizes the District to deliver Project irrigation water pursuant to an amendatory contract between the United States of America and the District dated January 20, 1949 to those irrigable lands within the boundaries of the District that are designated as irrigable by Reclamation; and

3. WHEREAS, Reclamation implements YRBWEP for multiple purposes, including to: (a) protect, mitigate, and enhance fish and wildlife through improved water management, improved instream flows, and by other appropriate means of habitat improvement; (b) improve the reliability of the water supply for irrigation; and (c) implement a Yakima River basin water conservation program that will improve the efficiency of water delivery and use; and

4. WHEREAS, the District intends to enter into the Wipple Canal Lining and Conservation Project (Wipple Conservation Project), which involves construction of an impervious lined canal in place of an existing unlined dirt canal. The distance between the beginning of the lining project and the end of the lining project is approximately 17,109 linear feet, to be done in phases with approximately 1,983 linear feet in this Phase 1; and

5. WHEREAS, Trout Unlimited (TU), which is working to obtain funding to support the implementation of the Wipple Conservation Project but is not a party to this Agreement, has applied for funding from both the Columbia Basin Water Transactions Program (CBWTP), which is administered by the National Fish and Wildlife Foundation,

through Transaction No. 440-15, and Ecology for a total of $600,000.00 for the use of conserved water associated with Phase I of the Wipple Conservation Project, which is to line approximately 1,983linear feet of canal and will conserve at least 1.01 cfs, and at least 312.94 acre-feet and up to 431.244 acre-feet of water, to augment instream flows in tributaries of the Yakima River; and

6. WHEREAS, the District, as part of the Wipple Conservation Project, intends to enter into this Agreement Providing for the Allocation, Management, and Protection of Conserved Water for the Wipple Conservation Project with Ecology and Reclamation; and

7. WHEREAS, the Project's water right for the Kittitas Division has a priority date of 1905 and the District is a proratable irrigation district, meaning that within the Project, in years when there is less than a full water supply, the quantity of water available to the District for delivery to lands entitled to water within the District boundaries is subject to reduction and curtailment.

8. WHEREAS, the parties recognize that the conserved water realized by the Wipple Conservation Project will benefit the public interest, the interests of Reclamation to protect and restore habitat for fish and other species in various tributaries of the Yakima River, and the interests of Ecology to protect instream flow water for fish and other species in various tributaries of the Yakima River; and

NOW, THEREFORE, in consideration of the mutual and dependent provisions herein contained, the parties hereto agree as follows:

9. **Definitions.** The following terms, wherever used in this Agreement, shall have the following respective meanings:

9.1 "Conserved Water" shall mean for purposes of this Agreement and the Wipple Conservation Project only, the water saved from conveyance losses as a result of the conversion of the open canal lateral delivery system into an impervious lined canal.

9.2 "Contracting Officer" shall mean the Secretary of the Interior's duly authorized representative acting pursuant to this Agreement or applicable Federal reclamation law, regulation or policy.

9.3 "Project" shall mean the entire Yakima Project constructed by the United States under the Federal Reclamation laws.

9.4 "Secretary" shall mean the Secretary of the Interior, a duly appointed successor, or an authorized representative acting pursuant to the authority of the Secretary.

9.5 "Amendatory Contract" shall mean the amendatory contract between the United States of America and the District dated January 20, 1949, as amended and supplemented.

10. **Scope of Agreement.**

10.1 This Agreement pertains only to the realization of conserved water and its discharge into tributaries of the Yakima River as stated in Article 12.1.2 herein, and is not intended to and does not create a legally binding contract or any right or benefit, substantive or procedural, enforceable at law or in equity by any party against another party, its directors, officers, employees or other persons. This Agreement does not constitute an explicit or implicit agreement to subject any of the parties to the jurisdiction of any federal or state court over and above any rights or procedures presently available to

the parties. This Agreement does not create any right or benefit, substantive or procedural, enforceable at law or in equity, by any person or entity against the parties. This Agreement shall not be construed to create any right to judicial review involving the compliance or noncompliance of the parties with this Agreement.

10.2 Nothing in this Agreement shall result in an amendment or modification of the rights and obligations of the District and the United States under the Amendatory Contract, or affect the priority dates of any existing water rights.

11. **Term of Agreement.**

11.1 This Agreement shall become effective on the date upon which it is executed by all the parties.

11.2 This Agreement has no expiration date.

11.3 Any of the parties may formally request the review, amendment or modification of this Agreement. Amendments or modifications to this Agreement shall be made by mutual consent of the parties, with the issuance of a written amendment, signed and dated by all parties, prior to any changes being made.

12. **Treatment of Conserved Water Discharged into Tributaries of the Yakima River.**

12.1 **District Responsibilities:**

12.1.1 **Discharge of Conserved Water.** The District will discharge Project water conserved by the Wipple Conservation Project from District facilities directly to the tributaries of the Yakima River at the locations identified on Exhibit A.

12.1.2 **Determination of Which of the Tributaries of the Yakima River to Discharge Water to.** Each year a determination shall be made, pursuant to paragraph 12.1.7 as to which of the tributaries of the Yakima River identified on Exhibit A conserved water will be discharged into. The District will determine which of the tributaries recommended for supplementation following the process set forth in paragraph 12.1.7 it is operationally able to discharge conserved water into from the list of locations identified on Exhibit A hereto.

12.1.3 **Quantity of Conserved Water.** Reclamation, the District, and Ecology recognize, agree, and anticipate that at least 312.94 acre-feet and up to 431.244 acre-feet per year is the quantity of conserved water the District will discharge to tributaries of the Yakima River. The target flow rate to discharge to the tributaries of the Yakima River is a constant 1.01 cfs. Depending on variances in deliveries and other factors that may not be in the District's control, the target rate may not be achieved at all times and the actual delivery may be higher or lower. The quantity of conserved water the District will discharge to the creeks will be reduced in years when the District does not receive a full water supply because the District's water allocation from Reclamation has been prorated. In years when the District's water allocation is prorated, the amount of the reduction in the target quantity of conserved water shall be determined by multiplying the annual target quantity of at least 312.94 acre-feet and up to 431.244 acre-feet per year by the percentage of the water supply the District receives as a result of proration.

12.1.4 **No Increase in Diversion Quantities.** The District re-affirms its agreement to limit its diversions of water from the Yakima River and its tributaries

to the quantity it is authorized to divert under the *Acquavella* Conditional Final Order and the Kittitas Reclamation District Water Rights Settlement Agreement (effective June 24, 2006).

12.1.5 **Conserved Water Realized, Segregated, and Conveyed from the Yakima River.** The District recognizes that although there will be no reduction in the quantity of water annually diverted from the Yakima River at least 312.94 acre-feet and up to 431.244 will be segregated and excluded from irrigation use, at the diversion works on the Yakima River, and recognized as the conserved water realized from the Wipple Conservation Project. Reclamation and the District will then convey that conserved water through the District's delivery system to the tributaries identified on Exhibit A using the process specified in Paragraph 12.1.2.

12.1.6 **No Right of Recapture.** The District agrees that once it discharges conserved water to tributaries of the Yakima River the District or its members will not seek to recapture or deliver the conserved water at another location.

12.1.7 **Process to Determine Which Tributaries to Supplement.**

12.1.7.1 **Purpose and Goal of the Committee.** Each year the District shall be responsible for convening and facilitating the District's Tributary Supplementation Program Committee (hereinafter referred to as the "Committee"). The purpose of the committee shall be to make recommendations to Reclamation on the quantities of conserved water to be discharged to tributaries in Kittitas County. The goal of determining how conserved water is going to be discharged to tributaries to supplement flow is to balance the instream flow need in the tributaries with the District's operational ability to deliver

conserved water to a given tributary. Each year Reclamation shall make its recommended determination of which tributaries receive what quantities of conserved water only after consulting with the Committee. Reclamation shall, after said consultation and based on its water supply forecast, determine how much conserved water shall be discharged into each tributary identified on Exhibit A. The District shall inform Reclamation which tributaries recommended for supplementation that the District is operationally able to discharge conserved water into.

12.1.7.2 **Composition of the Committee**. The committee shall be comprised of one representative from the following entities: Yakama Nation, Ecology, Washington State Department of Fish and Wildlife, National Marine Fisheries Service, U.S. Fish and Wildlife Service, the District and TU. Each of the above referenced agencies shall designate one individual to participate in the committee and its work, as described herein, each year.

12.1.7.3 **Timing of Committee Actions**. The District shall, on or before April 1 of each year convene a meeting of the Committee. The committee shall meet and/or confer thereafter during the irrigation season on an "as-needed to" basis to monitor and adjust and regulate how much conserved water is discharged to which tributaries.

12.2 **Reclamation Responsibilities.** Reclamation will treat the conserved water discharged by the District to the creeks as instream flow for the benefit of species listed under the Endangered Species Act (ESA), will recognize the Wipple Conservation Project, and will not use the discharged conserved water for other project purposes while in the creeks. Reclamation will apply to Ecology to change the purpose of use to instream flow for

conserved water. The parties acknowledge and agree that the change in purpose of use to instream flow, (with a correlating change to the place of use), is limited to the 356.796 acre feet of conserved water and no other or additional part of the water right confirmed in the name of the United States for the benefit of the District in *Ecology v. Acquavella*, Yakima County Superior Court Cause No. 77-2-01484-5, Court claim Nos. 00465, (A)03033, (A)05444, as modified by written agreement dated January 3, 2006, shall be included in the proposed change in purpose of use. Where authorized, Reclamation will assist Ecology to protect the conserved water while in tributaries of the Yakima River against appropriation or other uses. Reclamation will protect the conserved water consistent with the other provisions of this Agreement and consistent with all other agreements and contracts between the District and Reclamation, except where explicitly superseded by this Agreement. Reclamation will include recognition of this project as part of its ESA efforts in the Yakima Basin.

12.3 **Ecology Responsibilities:**

Ecology will manage and protect the conserved water from the point of discharge into tributaries of the Yakima River, as shown in Exhibit A, downstream to the confluence of the Yakima River.

13. **Notices.** Any notice, demand, or request authorized or required by this Agreement shall be deemed to have been given, on behalf of the United States, when mailed, postage prepaid, or delivered either to the Regional Director, Pacific Northwest Region, Bureau of Reclamation, 1150 N. Curtis Road, Suite 100, Boise, ID 83706-1234, or to the Columbia-Cascades Area Office Manager, Yakima Project, 1917 Marsh Road, Yakima. WA 98901-2058; and on behalf of the District, when mailed, postage prepaid, or delivered to

the Manager, Kittitas Reclamation District. P.O. Box 276, Ellensburg, WA 98926; and on behalf of Ecology, when mailed, postage prepaid, or delivered to: Water Resources Program Section Manager, Central Regional Office, 1250 W. Alder St., Union Gap, WA 98903. The designation of the addressee or the address may be changed by notice given in the same manner as provided in this article for other notices.

14. **Principal Contacts.** The principal contacts for this Agreement are:

Reclamation:
Dawn Wiedmeier
Area Manager
U.S. Bureau of Reclamation
Columbia-Cascades Area Office
1917 Marsh Road
Yakima, WA 98901-2058
Phone: 509-575-5848
Email: dwiedmeier@usbr.gov

The District:
Urban Eberhart
Secretary/Manager
Kittitas Reclamation District
P.O. Box 276
Ellensburg, WA 98926
Phone: 509-925-6158
Email: urban@krdistrict.org

Ecology:
Trevor Hutton
Water Resources Program Section Manager
Central Regional Office
1250 W. Alder St.
Union Gap, WA 98903
thut461@ecy.wa.gov

15. **General Provisions.**

15.1 Non-Fund Obligating Document. This Agreement is neither a fiscal nor a funds obligating document. Any endeavor or transfer of anything of value involving reimbursement or contribution of funds between the Parties will be handled in accordance

with applicable laws, regulations, and procedures including those for Government procurement and printing. Such endeavors will be outlined in separate agreements that shall be made in writing by representatives of the Parties and shall be independently authorized by appropriate statutory authority. This Agreement does not provide such authority. Specifically, this MOU does not establish authority for noncompetitive award to the parties of any contract or other agreement.

15.2 No Binding Rights or Obligations. Nothing in the Agreement is intended to create any right or benefit, substantive or procedural, enforceable at law by a party against the United States, its agencies its officers, or any other person. Nothing in this MOU shall be deemed to increase the liability of the United States beyond that currently provided in the Federal Tort Claims Act (28 U.S.C. 2671 et seq.).

15.3 **No Sharing of Benefits.** No member of or delegate to Congress, or resident Commissioner, shall be admitted to any share or part of this Agreement or to any benefit that may arise out of it.

15.4 Freedom of Information Act. Any information furnished to Reclamation under this Agreement is subject to the Freedom of Information Act (5 U.S.C. 552).

15.5 **Compliance with Federal Laws.** All Parties to this Agreement agree to comply with all Federal statutes relating to nondiscrimination, including but not limited to: Title VII of the Civil Rights Act of 1964, as amended, which prohibits discrimination on the basis of race, color, religion, sex, or national origin; Title IX of the Education amendments of 1972, as amended, which prohibits discrimination of the basis of sex; the Rehabilitation Act of 1973, as amended, and the Americans with Disabilities Act of

1990, as amended, which prohibit discrimination on the basis of disability; the Age Discrimination in Employment Act of 1967, as amended, which prohibits discrimination based on age against those who are at least 40 years of age; and the Equal Pay Act of 1963. All Parties to this Agreement agree to comply with all Federal statutes relating to nondiscrimination, including but not limited to: Title VII of the Civil Rights Act of 1964, as amended, which prohibits discrimination on the basis of race, color, religion, sex, or national origin; Title IX of the Education amendments of 1972, as amended, which prohibits discrimination of the basis of sex; the Rehabilitation Act of 1973, as amended, and the Americans with Disabilities Act of 1990, as amended, which prohibit discrimination on the basis of disability; the Age Discrimination in Employment Act of 1967, as amended, which prohibits discrimination based on age against those who are at least 40 years of age; and the Equal Pay Act of 1963.

16. **Agreement Drafting Considerations.** This Agreement has been negotiated and reviewed by the parties hereto, each of whom is sophisticated in the matters to which this Agreement pertains. Articles 1 through 13 of this Agreement have been drafted, negotiated, and reviewed by the parties, and no one party shall be considered to have drafted the stated articles.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the last date written below.

KITTITAS RECLAMATION DISTRICT

Urban Eberhart
Secretary/Manager
Kittitas Reclamation District

9/30/2016
Date

UNITED STATES OF AMERICA

Dawn Wiedmeier, Area Manager
Columbia-Cascades Area Office
United States Department of the Interior
Bureau of Reclamation

9/30/16
Date

STATE OF WASHINGTON DEPARTMENT OF ECOLOGY

Trevor Hutton, Manager
Water Resources Program Section
Central Regional Office

9/30/16
Date