



Kittitas Reclamation District

North Branch SCADA

Urban Eberhart

KRD District Manager

Kittitas Reclamation District

P.O. Box 276

Ellensburg, WA 98926

Email: urban@krdistrict.org

Phone: (509) 925-6158

Fax: (509) 925-7425

Contents

Executive Summary.....	3
Background	3
Project Location	4
Project Description.....	4
Evaluation Criterion A—Project Benefits.....	5
Evaluation Criterion B—Planning Efforts Supporting the Project.....	5
Project Budget	7
Budget Narrative.....	7
Appendix A – KRD Budget Support Documents.....	9
Appendix B – KRD Board Resolution of Support.....	11

Table of Figures

Figure 1 - Project Area	4
Figure 2 – Project and station location.	5

Executive Summary

March 11, 2021

Kittitas Reclamation District is a Category A applicant, located in Ellensburg, Kittitas County, Washington State.

This proposed project would install SCADA stations on the North Branch Canal, enabling the District to better manage the water supply and reducing the operational spill. Installation would begin February of 2022, and be completed by April of 2024. All work will be done within Reclamation rights-of way. This project will save approximately 1.7 cfs, or 607 acre-feet of water per each future irrigation season.

Background

The Kittitas Reclamation District (KRD) is located in central Washington and is part of the U.S. Bureau of Reclamation's Yakima Project. The KRD service area (see Figure 1) stretches from Easton Diversion Dam to 11 miles southeast of the city of Kittitas. The District encompasses approximately 104,588 acres, and water is supplied to about 60,000 acres through 330 miles of canals and laterals. Operational waters are drawn from two United States Bureau of Reclamation impoundments, the Keechelus and the Kachess reservoirs. The majority of the irrigated land is pasture and forage crops, with increasing acres of orchards and other fruit. The KRD operates more than 20 gauging stations to help regulate flows and reduce operational spills.

Droughts impact the KRD's proratable water supply regularly. The last two droughts were in 2019 and 2015. The KRD's supply was cut to 72 and 46% respectively during those years.

The KRD participated in the first phase of the Yakima River Basin Water Conservation Program, with the submittal of the KRD's Water Conservation Plan in February 1999, and a Feasibility Investigation of the water conservation measures completed in March of 2015. Implementation of the CWCP will eventually save 39,300 acre-feet of water and is being phased in as funding becomes available. Many smaller laterals and operational spills were not included in the CWCP, and the KRD will need other funding opportunities to address those issues. Without additional resources, high water losses will continue.

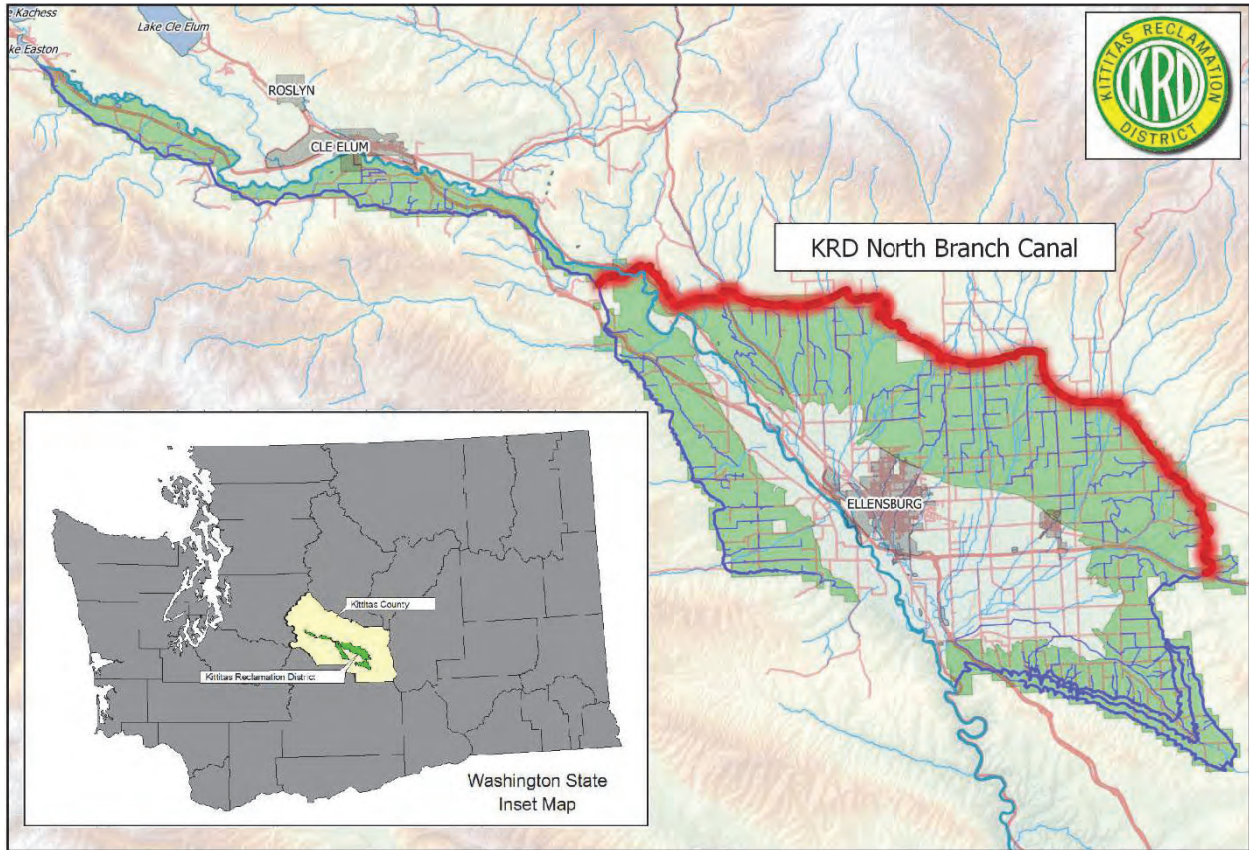


Figure 1 - Project Area

Project Location

This project is located in Kittitas County in Washington State. The project is approximately five miles to the north of the city of Ellensburg. The requested funding will pay for the installation of four SCADA stations on the KRD’s North Branch Canal starting at its headworks and extending down to the Johnson operation spill. The station locations would be:

Latitude (N)	Longitude (W)
47.120	120.760
47.072	120.461
47.048	120.363
46.957	120.299

Project Description

The KRD North Branch Canal travels for 31.3 miles before there is an operational spill. Canal flows vary due to incoming return flows, runoff during the spring, and landowner demands. It is difficult to meet demands on the system and remain within the designed canal capacities. The operational spill at

Johnson (see map below), is necessary to remove excess water from the system when capacities are exceeded. If real-time information on canal flows were known, much of this operational spill could be eliminated.

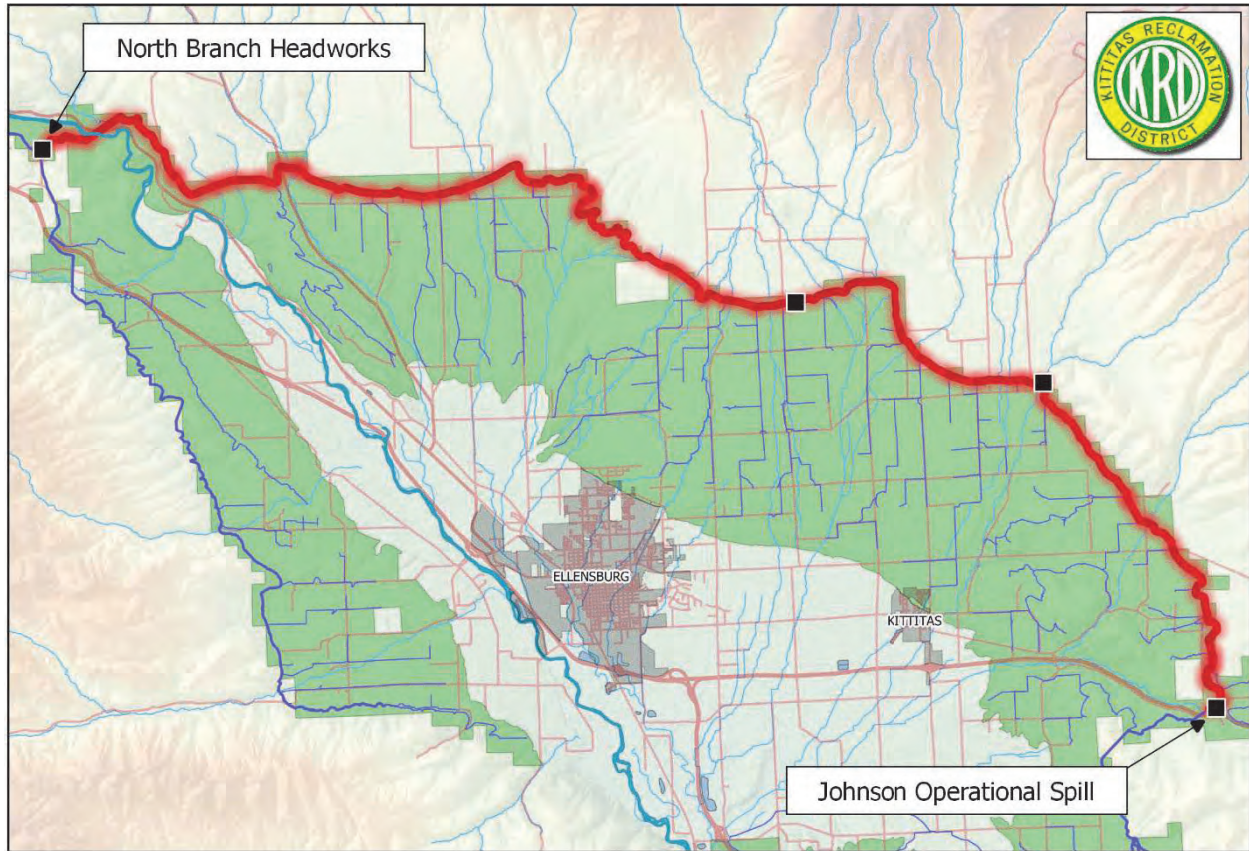


Figure 2 – Project and station location.

Evaluation Criterion A—Project Benefits

The proposed SCADA system would help the District manage water within the system and eliminate a portion of the operational spill on the North Branch Canal. Water savings is estimated to be 607 acre-feet annually. The water savings would help the Total Water Supply Available (TWSA) for the Yakima Basin. This will lead to a more reliable supply of water, especially in drought years, for agriculture throughout the Yakima Basin.

Evaluation Criterion B—Planning Efforts Supporting the Project

The KRD completed its Water Conservation Plan in February 1999, and a Feasibility Plan in March of 2015. Implementation of the CWCP will eventually save 39,300 acre-feet of water and will be phased in as funding becomes available. Many smaller laterals and operational spills were not included in the CWCP, and need other funding opportunities to address. Without additional resources, these projects will not be addressed and high losses will continue.

Evaluation Criterion C—Project Implementation

Task Schedule:

Task	February 2022	March-April 2022	April 2022-April 2024	Mar-Oct 2024
Regulatory Compliance	*****			
Planning and Procurement		*****		
Installation			*****	
Testing & Evaluation				*****

No permits are required other than a NEPA review. No ground disturbing work is required for this project, and all work is within established Reclamation rights-of-way. An electrical engineer will be required to help integrate the station into the KR system, but design work has already been completed. No new policies or administrative actions are required.

Evaluation Criterion D— Nexus to Reclamation

The KR is within the USBR’s Yakima Project, and receives its water from USBR reservoirs. The project will install SCADA stations on an open canal within USBR rights-of-way. The project will increase the Total Water Supply available in the Yakima Basin Project, which will help meet tribal claims on the Yakima River.

BUDGET PROPOSAL

Total Project Cost Table SOURCE	AMOUNT
Costs to be reimbursed with the requested Federal funding	\$ 61,476.00
Costs to be paid by the applicant	\$ 61,476.00
Value of third-party contributions	\$ -
TOTAL PROJECT COST	\$ 122,952.00

Project Budget

BUDGET ITEM DESCRIPTION	COMPUTATION		Quantity Type	TOTAL COST
	\$/Unit	Quantity		
Salaries and Wages				
Employee 1				\$ -
Fringe Benefits				
Full-Time Employees				\$ -
Travel				
				\$ -
Equipment				
SCADA station				\$ -
				\$ -
Supplies and Materials				
				\$ -
Contractual/Construction				
Programming/engineer	\$26,952.00			\$ 26,952.00
Electrical contractor installation	\$96,000.00			\$ 96,000.00
TOTAL DIRECT COSTS				
Indirect Costs				
Type of rate	percentage	\$ base		\$ -
TOTAL ESTIMATED PROJECT COSTS				\$ 122,952.00

Budget Narrative

Budget costs are based on recent costs in installing a similar station on another project. The costs shown in appendix A are for installation (electrical contractor) and programming (electrical engineer) of a single station and should be multiplied by four for this project.

Personnel Salary/Wage: No KRD wages will be charged to this grant.

Fringe Benefits: No KRD wages will be charged to this grant.

Travel: No KRD travel will be charged to the grant.

Equipment: All equipment is included in the electrical contractor installation portion of the budget.

Total Material and Supplies (Major): No materials or supplies are anticipated for the project.

Contractual: An electrical contractor will be hired for station installation. An electrical engineer will be hired to integrate the new stations into our SCADA system.

Environmental and Regulatory Compliance Costs: Environmental/regulatory compliance costs are assumed to be covered by the Columbia/Cascades area office.

Contingency: No contingency costs are included.

Indirect Costs: No indirect costs are included.

Appendix A – KRD Budget Support Documents

INVOICE

Conley Engineering, Inc.

P.O. Box 8326
 1430 N. 16th Ave, Suite A
 Yakima, WA 98902
 (509) 965-9872

DATE	INVOICE NO.
12/31/2020	1801.1220

Jacobs Engineering Group
 1100 112th Avenue Northeast
 Suite 500
 Bellevue, WA 98004
 USAPInvoices@jacobs.com

1801

Kittitas Reclamation District
 SCADA System
 Replacement SCADA

DESCRIPTION	HOURS	RATE	AMOUNT
For Professional Services 12/01/20 to 12/31/20			
Multiple Independent Prime Delivery Subconsulting Agreement MPIDSA NO: JEMLP260 Delivery NO: W3X78309/WBS NO: C. P3. TPE. 4340 Prime Task Order NO: Contract KRD2017-PS-02			
Senior Registered Professional Engineer	41	162.00	6,642.00
Project Engineer	0.75	128.00	96.00

Amount Due This Invoice \$6,738.00

3.1. Site Improvements and Base Reach (Sta. 528+75 to Sta. 551+70) Bid Schedule

Item No.	Approx. Quantity	Unit	Item Description	Unit Price	Total Amount
000.0	-	-	CONTRACTOR ADMINISTRATION	-	-
010.0	1	Lump Sum	Mobilization (5% max.)	\$ 99,000.00	\$ 99,000.00
020.0	1	Lump Sum	Permit documentation / compliance	\$ 2,000.00	\$ 2,000.00
030.0	1	Lump Sum	General Contractor Margin	\$ 95,000.00	\$ 95,000.00
040.0	1	Lump Sum	Sales and Use Tax	\$ 153,000.00	\$ 153,000.00
050.0	1	Lump Sum	Record Document Maintenance	\$ 2,000.00	\$ 2,000.00
060.0	1	Lump Sum	Demobilization (3% max.)	\$ 37,000.00	\$ 37,000.00
100.0	-	-	SITE PREPARATION (Sta. 528+75 to 551+70)	-	-
110.0	1	Lump Sum	Access Improvement (O&M road clear and rough grade)	\$ 51,000.00	\$ 51,000.00
120.0	1	Lump Sum	Staging Site Improvements (staging site clear and rough grade)	\$ 20,000.00	\$ 20,000.00
130.0	1	Lump Sum	Erosion Control / SWPP Plan	\$ 8,000.00	\$ 8,000.00
140.0	250	Lineal Feet	Wire Fence and Gates (incls. siphon outlet and vehicle gate)	\$ 30.00	\$ 7,500.00
200.0	-	-	CANAL PIPING (Sta. 530+26 to 551+25)	-	-
211.0	2,100	Lineal Feet	Trench Excavation and Final Grade (incls. common borrow, compaction, and soil stabilization seeding)	\$ 53.00	\$ 111,300.00
212.0	2,100	Lineal Feet	Pipe Materials (incls. material and delivery)	\$ 367.00	\$ 770,700.00
213.0	2,100	Lineal Feet	Pipe Bedding, Install, and Haunching (incls. placement and compaction)	\$ 148.00	\$ 310,800.00
214.0	2,100	Lineal Feet	Trench Initial Backfill and Compaction (incls. select borrow & compaction)	\$ 59.00	\$ 123,900.00
215.0	600	Cubic Yard	Rock Excavation	\$ 28.00	\$ 16,800.00
220.0	1	Each	Overshot & Undershot Drains (incls. all materials and installation)	\$ 21,000.00	\$ 21,000.00
230.0	1	Each	Telemetry Station (incls. transducer, cell comm, solar)	\$ 24,000.00	\$ 24,000.00
240.0	2	Each	Canal Control Structure (incls. struct & install w/ misc. metal)	\$ 40,000.00	\$ 80,000.00
250.0	2	Each	Replacement Irrigation Turnout, Piping, and Delivery Boxes (SB10.1 and SB10.4)	\$ 24,000.00	\$ 48,000.00
270.0	2	Each	Pipeline to Canal Transitions (incls. both upstream & downstream)	\$ 19,000.00	\$ 38,000.00
TOTAL BASE REACH BID PRICE					\$ 2,019,000.00

Acknowledgement that the District has no tax exemptions on this Work and the above prices include all applicable sales and use taxes.

Appendix B – KRD Board Resolution of Support



Kittitas Reclamation District

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

RESOLUTION 2021-04

WHEREAS, the Kittitas Reclamation District is in receipt of the U.S. Bureau of Reclamation Funding Opportunity R21AS00300, WaterSMART - Small-Scale Water Efficiency Projects; 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.

WHEREAS, The Kittitas Reclamation District adopted Resolution 2021-5 in which the Kittitas Reclamation District resolved to commit to the required cost-share and legal obligations associated with Receipt of the WaterSMART Grant financial Assistance.

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 11th day of March, 2021.

Telephonic Approval

Fred Schnebly, Chairman

Telephonic Approval

Mark Hansen, Vice Chairman

Telephonic Approval

Brad Haberman, Board Member

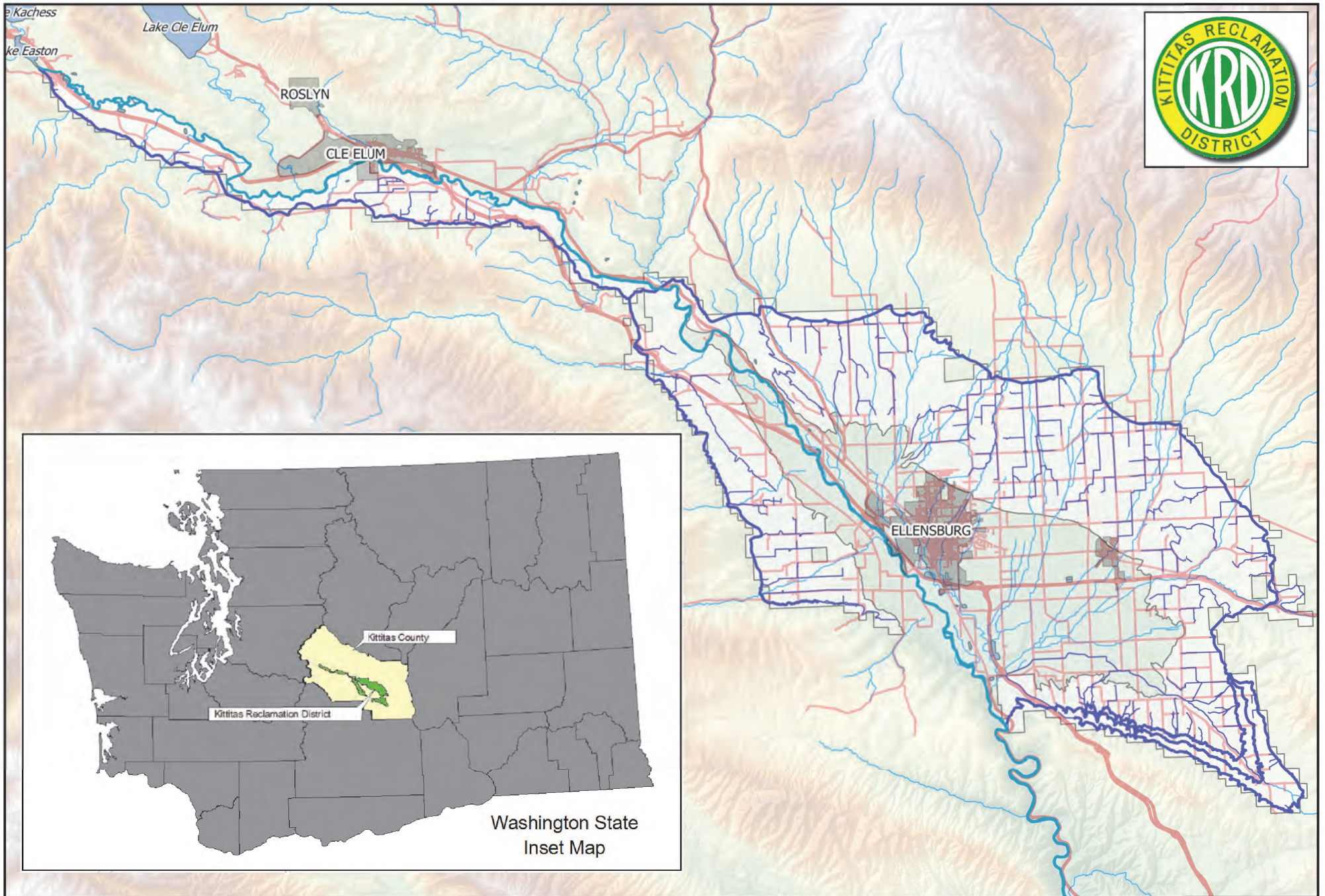
Telephonic Approval

Sherry Swanson, Board Member

Telephonic Approval

Larry Bland, Board Member

A handwritten signature in blue ink that reads "Urban Eberhart".
Urban Eberhart, Secretary-Manager



Upload #4

Applicant: Kittitas Reclamation District
Application Number: R-DO-2021-000303
Project Title: KRD North Branch SCADA
Status: Complete
Document Title: **Form AttachmentForm_1_2-V1.2.pdf failed to attach**

GrantSolutions.gov was not able to attach this document Form AttachmentForm_1_2-V1.2.pdf due to technical reasons.