

# West Canal Concrete Lining Project 2024

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## **Technical Proposal and Evaluation Criteria**

### **Executive Summary**

Application Date: *July 28<sup>th</sup>, 2022*

Applicant Name: *Quincy-Columbia Basin Irrigation District (QCBID)*

City: *City of Quincy*

Location: *Grant County*

State: *Washington State*

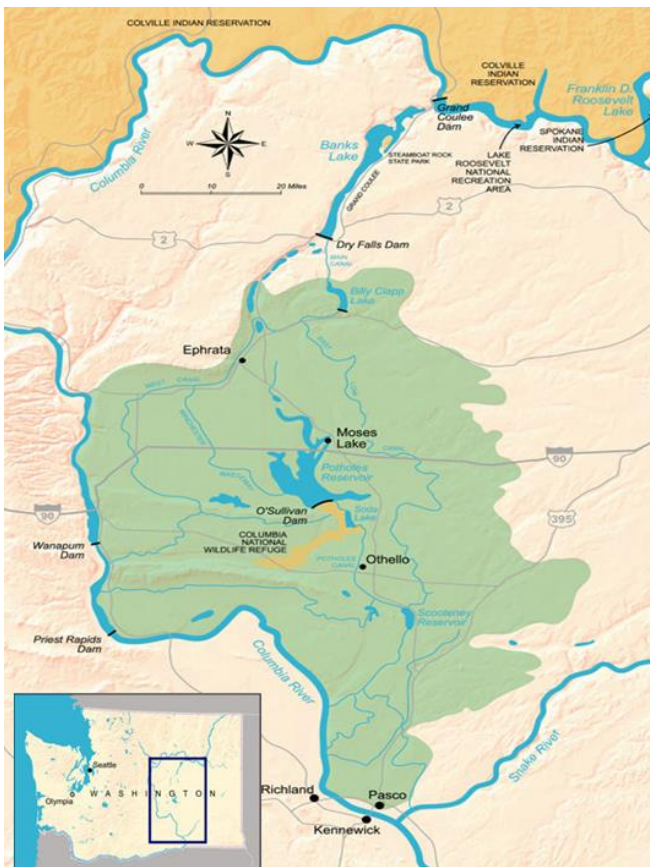
- QCBID is a Category A applicant (water district).
- Construction start date is estimated to be November 2024.
- Construction end date is estimated to be March 2025.
- The length of construction time is estimated to be five (5) months.
- This project is located on the Columbia Basin Project, a Federal facility.

QCBID, located in the Columbia Basin Project in central Washington, will install 2500 linear feet of concrete lining on its main canal, the West Canal from station 3829+40 to station 3854+20, underlain with a geomembrane liner. This section of the West Canal is just downstream of a critical bifurcation point in QCBID’s canal system, and reinforcing it with concrete lining will conserve 840 acre-feet annually. This area of the West Canal has also consistently disrupted local landowners’ crop production; farmers with land bordering the West Canal have reported water pooling in their fields along the outer banks of the canal. Lining the West Canal in this section will eliminate pooling problems in nearby fields, and will eliminate water seepage to increase water delivery efficiency. This lining will connect to previous sections of concrete lining that have also been funded through USBR’s WaterSMART Water and Energy Efficiency Grants program. QCBID will contract out the construction portion of this project in an open bid to local contractors; this will be the third phase of the project.

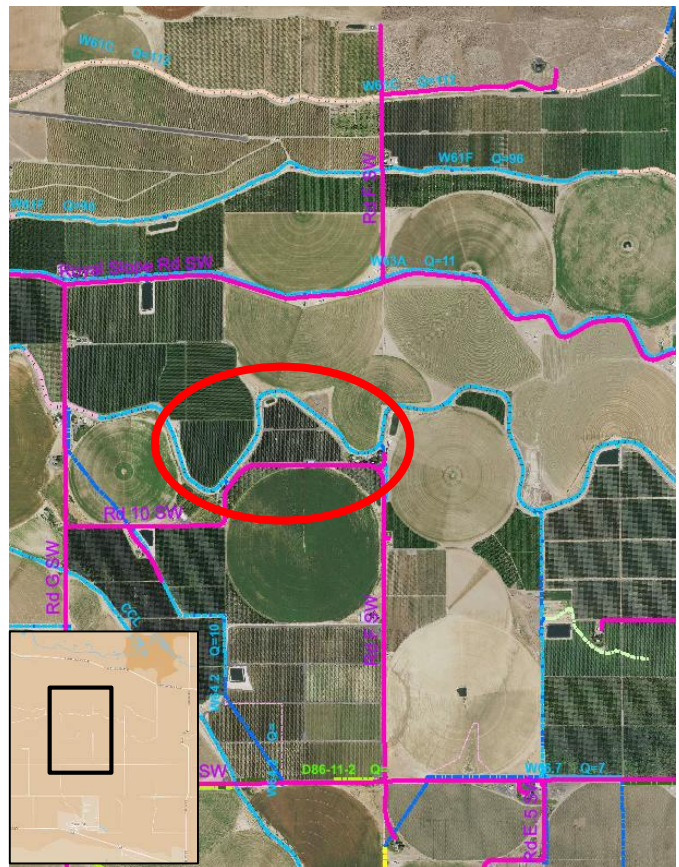
## Project Location

The Quincy-Columbia Basin Irrigation District is located in central Washington, within the Bureau of Reclamation’s Pacific Northwest Region and is part of Reclamation’s Columbia Basin Project. QCBID’s headquarters are located on the southern edge of the city of Quincy, WA. The District operates and maintains a portion of the Columbia Basin Project, under contract with the Bureau of Reclamation’s Ephrata Field Office.

The portion of the West Canal that will be lined with concrete is near the canal’s 65-mile marker from station 3829+40 to station 3854+20. This location is approximately three (3) miles due north of Royal City, WA. The coordinates for this section of the West Canal are 46°56’44”N 119°38’34”W.



*Location of Columbia Basin Project*



*Location of West Canal lining project*

## **Technical Project Description**

QCBID has identified this section of the West Canal as an area that experiences an above average amount of water loss by seepage through the canal bank. In prior years, QCBID has had success with using concrete lining to virtually eliminate seepage loss on other nearby areas of the West Canal. This project would continue that process of replacing the prism of the West Canal with concrete lining over a geomembrane liner to eliminate water loss in the area. QCBID will install approximately 2500 linear feet of concrete liner from station 3829+40 to station 3854+20, and will bid construction work out to a contractor to provide. QCBID will complete all design work and will provide the selected contractor with project specifications, and will oversee and inspect all construction work.

## Evaluation Criteria

### Evaluation Criterion A – Quantifiable Water Savings (28 points)

**Describe the amount of estimated water savings.**

The estimated amount of water expected to be conserved as a direct result of this project is 840 acre-feet per year.

**Describe current losses:**

1. *Explain where current losses are going (e.g., back to the stream, spilled at the end of the ditch, seeping into the ground)?*

Current losses on the West Canal that will be conserved are seeping into the ground.

2. *If known, please explain how current losses are being used. For example, are current losses returning to the system for use by others? Are current losses entering an impaired groundwater table becoming unsuitable for future use?*

There is no current use for the water loss that will be conserved. All water loss seeps into the ground and becomes unusable.

3. *Are there any known benefits associated with where the current losses are going? For example, is seepage water providing additional habitat for fish or animal species?*

There are no fish or animal species that benefit from current water losses, nor are there any other benefits that come from the water lost that will be conserved.

**Describe the support/documentation of estimated water savings.**

Water savings were estimated using previous methodologies established by the Quincy-Columbia Basin Irrigation District’s Coordinated Water Conservation Plan. The following formula was used for determining the annual seepage loss:

$$\text{Seepage Loss (acre-feet/yr)} = \text{Seepage Rate (ft/day)} * \text{Wetted Perimeter (ft)} * \text{Length (ft)} * 210 \text{ (days)} / 43,560 \text{ (ft}^3\text{/ac-ft)}$$

The seepage rate used depends on the underlying geology. Average seepage rates for different geologic units were determined. Those rates were accepted by the Washington State Department of Ecology and Bureau of Reclamation for use in estimating water conserved in past conservation projects. Table 1 presents those seepage rates by geologic unit.

**Table 1**  
**Estimated Seepage Rates by Geologic Unit**

Geology	Seepage Rate (ft/day)		
	Unlined	Lined	Piped
Outburst flood deposits, gravel (Qfg)	2.0	0.2	0
Outburst flood deposits, sand and silt (Qfs)	1.5	0.2	0
Continental sedimentary rocks (PLMc)	0.73	0.2	0
Wanapum basalt (Mv)	0.99	0.2	0
Loess (Ql)	2.24	0.2	0
Alluvium (Qa)	1.7	0.2	0
Dune sand, stabilized dunes (Qds)*	2.24	0.2	0

The soil characteristics are a mix of outburst flood deposits (sand and silt) in the West Canal. Using the equation in the Coordinated Water Conservation Plan:

$$\text{Seepage Loss} = (1.5 \text{ ft/day})(46.47 \text{ feet})(2,500 \text{ feet})(210 \text{ days}) / (43,560 \text{ cubic feet/ac-ft}) =$$

**840 acre feet per year**

The expected post-project seepage loss is zero. These reductions will be verified with inflow/outflow testing using an acoustic Doppler water velocity measurement device.

**A description of materials being used include:**

**4.5-inches of cast in place concrete canal lining with minimum compression strength of 3,500 psi at 28 days**

The Contractor shall furnish and place all materials for use in concrete, including cement, water, sand, coarse aggregate, specified admixtures and materials for curing concrete. Pozzolan, as specified, is an acceptable partial replacement for cement and may be used to replace 20 percent by weight of cement. The shotcrete shall meet the following requirements:



- Portland cement shall meet the requirements of ANSI/ASTM C 150 for type II cement and shall meet the low-alkali and false-set limitations.
- Pozzolan shall meet the requirements of ANSI/ASTM C 618 for class N, F, or C.
- Water shall be free from objectionable quantities of silt, organic matter, salts, and other impurities.
- Sand and coarse aggregate shall meet all requirements of ANSI/ASTM C 33.
- Air-entraining admixture. The air-entraining admixture shall conform to ANSI/ASTM C 260.
- Chemical admixtures which conform to ANSI/ASTM C 494, type A, or D.
- Accelerator shall conform to ANSI/ASTM C 494 for type C, or E, chemical admixtures.
- Curing compound shall conform to ASTM C309 Type 1-D, Class B.

**HDPE geotextile liner**

The Contractor shall furnish and install HDPE geotextile with a 6-ounce per square yard nonwoven polyester geotextile laminated on each face of the material. The material shall meet the following requirements:

<b>Properties for Geocomposite Liner</b>		
<b>Property</b>	<b>Test Method</b>	<b>Values</b>
Mass per Unit Area	ASTM D-5261	18 oz/yd <sup>2</sup>
Membrane Thickness	ASTM D-5199	20 mils
Grab Tensile Strength (MD)	ASTM D-4632	300 lbs
Grab Elongation (MD)	ASTM D-4632	>50%
Trapezoidal Tear Strength (MD)	ASTM D-4533	100 lbs
Puncture Strength (5/16 Pin)	ASTM D-4833	175 lbs
Permeability	ASTM D-449	Non-measurable

The liner shall be placed over the prepared subgrade in such a manner to ensure minimum handling. The rolls shall be of maximum size and shall be placed in such a manner as to minimize seaming.



## Evaluation Criterion B – Renewable Energy (20 points)

Not applicable

## Evaluation Criterion C – Sustainability Benefits (20 points)

### Enhancing drought resiliency:

- *Does the project seek to improve ecological resiliency to climate change?*

This WaterSMART project will reduce the total amount of water that must be diverted to the Columbia Basin Project, making the surrounding ecological area more resilient to the effects of climate change and drought conditions.

- *Will water remain in the system for longer periods of time? If so, provide details on current/future duration and any expected resulting benefits (e.g., maintaining water temperatures or water levels).*

This WaterSMART project will not directly result in water remaining in the system for longer periods of time.

- *Will the project benefit species? Please describe the relationship of the species to the water supply, and whether the species is adversely affected by a Reclamation project or is subject to a recovery plan or conservation plan under the Endangered Species Act (ESA).*

Conserved water will be used to meet the water needs of growing communities and their rural and agricultural economies along the mainstem of the Columbia River and do so in a manner that reduces the risk to endangered salmon and steelhead resulting from out-of-stream use of water.

- *Please describe any other ecosystem benefits as a direct result of the project.*

Water conservation will help support the Odessa Subarea. The Odessa aquifer is declining and the parties in the 2004 Memorandum of Understanding agreed to cooperate to support and pursue the diversion and delivery of additional water to supplement the declining groundwater.

- *Will the project directly result in more efficient management of the water supply? For example, will the project provide greater flexibility to water managers, resulting in a more efficient use of water supplies?*

This WaterSMART project will improve the efficiency of water distribution and reduce the total amount of water required to operate and deliver water within QCBID's boundary.

**Addressing a specific water and/or energy sustainability concern(s):**

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

QCBID has experienced an unprecedented amount of demand for more water deliveries in the recent years. In almost all of the past 10 years, QCBID has had to implement water rationing during peak delivery periods in the summer. This can also be attributed to intense drought conditions that have been more prevalent in recent years.

- *Explain and provide detail of the specific issue(s) in the area that is impacting energy sustainability, such as reliance on fossil fuels, pollution, or interruptions in service.*

The Ground Coulee Dam, which provides water to QCBID's canal system, draws large amounts of power for its pumping operations. USBR operations in Grand Coulee consistently look for ways to minimize power usage and reduce unnecessary pumping operations.

- *Please describe how the project will directly address the concern(s) stated above. For example, if experiencing shortages due to drought or climate change, how will the project directly address and confront the shortages?*

This WaterSMART project will reduce the total amount of water required to operate and deliver water within QCBID's boundary, thereby reducing the need for water rationing during drought conditions and increasing drought resiliency in the Columbia Basin.

- *Please address where any conserved water as a result of the project will go and how 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 water conserved by this WaterSMART project will reduce the total amount of water required to operate the West Canal and increase the efficiency of water deliveries within

QCBID’s boundary. This will allow QCBID to be more resilient to usually hot temperatures in the summer months and reduce the need for water rationing during drought conditions.

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

Water conserved from this WaterSMART project will automatically be available in QCBID’s canal system to be used, and no additional mechanism will be required.

- *Indicate the quantity of conserved water that will be used for the intended purpose(s).*

100% of the water conserved by this WaterSMART project will be available to be used for the intended purposes.

**Other project benefits:**

**1) Combating the Climate Crisis:**

- a) *Please provide specific details and examples on how the project will address the impacts of climate change and help combat the climate crisis.*

This WaterSMART project will reduce the total amount of water that must be diverted to the Columbia Basin Project, making the surrounding area more resilient to the effects of climate change and drought conditions.

- b) *Does this proposed project strengthen water supply sustainability to increase resilience to climate change?*

The conserved water from this WaterSMART project will be available as a replacement water supply for groundwater deliveries in the Odessa Subarea, environmental uses, and for municipal and industrial supply. This will make the Columbia Basin more resilient towards usually hot or drought conditions.

- c) *Will the proposed project establish and utilize a renewable energy source?*

This WaterSMART project will not directly establish or utilize a renewable energy source.

- d) *Will the project result in lower greenhouse gas emissions?*

This WaterSMART project will not directly result in lower greenhouse gas emissions.

**2) Disadvantaged or Underserved Communities:**

- a) *Does the proposed project directly serve and/or benefit a disadvantaged or historically underserved community? Benefits can include, but are not limited to: public health and safety through water quality improvements, new water supplies, new renewable energy sources, or economic growth opportunities.*

This WaterSMART grant will increase the reliability and resiliency of water supply to farmer and landowners in disadvantaged and underserved communities within the Columbia Basin. This project will increase the efficiency of water delivery and reduce the total amount of water required to operate the West Canal, providing more reliable water deliveries even during peak delivery periods.

Water conservation from this project will also help meet the needs of growing communities and their rural and agricultural economies along the mainstem of the Columbia River. The 2004 MOU and Coordinated Water Conservation Plan identify water conservation as a way to secure economic and environmental benefits along the mainstem of the Columbia River and within the federal Columbia Basin Project.

- b) *If the proposed project is providing benefits to a disadvantaged community, provide sufficient information to demonstrate that the community meets the disadvantaged community definition in Section 1015 of the Cooperative Watershed Act, which is defined as a community with an annual median household income that is less than 100 percent of the statewide annual median household income for the State, or the applicable state criteria for determining disadvantaged status.*

According to the US Census Bureau, the median household income in Washington State is \$77,006. Data from the US Census Bureau shows that all neighboring communities have an annual median household income under the statewide median, with Ephrata city at \$71,269, Quincy city at \$57,731, and Othello city at \$49,806.

- c) *If the proposed project is providing benefits to an underserved community, provide sufficient information to demonstrate that the community meets the underserved definition in E.O. 13985, which includes populations sharing a particular characteristic, as well as geographic communities, that have been systematically denied a full opportunity to participate in aspects of economic, social, and civic life.*

Under the definition of “underserved communities” in E.O. 13895 Sec. 2(b), The population of the city of Quincy, city of Othello, and the surrounding area within QCBID qualify as an underserved community as the majority of individuals identify as Hispanic or Latino and live in rural areas.

**3) Tribal Benefits:**

- a) *Does the proposed project directly serve and/or benefit a Tribe? Will the project increase water supply sustainability for an Indian Tribe? Will the project provide renewable energy for an Indian Tribe?*

The 2004 Memorandum of Understanding, which this WaterSMART project falls under, along with an agreement in principal with the Confederated Tribes of the Colville Reservation, served as the basis for creating the Columbia River Water Management Program. This Program is focused on increasing water sustainability and quality on the Columbia River, which the Confederated Tribes of the Colville Reservation directly benefits from.

- b) *Does the proposed project directly support tribal resilience to climate change and drought impacts or provide other Tribal benefits such as improved public health and safety through water quality improvements, new water supplies, or economic growth opportunities?*

This WaterSMART project improves drought resiliency in the Columbia Basin by conserving water and reducing the total amount of water that must be delivered during usually hot or drought conditions. This will directly support Tribal resilience to drought within the Columbia Basin and along the Columbia River.

**4) Other Benefits:**

- a) *Will the project assist States and water users in complying with interstate compacts?*

There are no interstate compacts that this WaterSMART project directly benefits.

- b) *Will the project benefit multiple sectors and/or users (e.g., agriculture, municipal and industrial, environmental, recreation, or others)?*

Conserved water will be available as a replacement water supply for groundwater deliveries in the Odessa Subarea, environmental uses, and municipal and industrial water supply.

- c) *Will the project benefit a larger initiative to address sustainability?*

This WaterSMART project will help meet the goals of both the Coordinated Water Conservation Plan and the 2004 Memorandum of Understanding which both seek to increase and support water reliability and sustainability on the Columbia River and within the Columbia Basin. Copies of these documents are included in the Appendix.

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

The Coordinated Water Conservation Plan was developed in 2010 to address action items in the 2004 Memorandum of Understanding. The 2004 MOU describes the ways in which all parties will work collaboratively and in good faith to secure economic and environmental benefits through improved water management to avoid future conflict.

Frequent litigation has occurred such as involving the Federal Columbia River Power System Biological Opinion which includes Bureau of Reclamation facilities. Water conservation will help address Biological Opinion action items, such as to provide adequate flows for Endangered Species Act salmon and steelhead.

## **Evaluation Criterion D – On-Farm Irrigation Improvements (10 points)**

QCBID has worked with the regional NRCS branch to assemble and submit an NRCS EQIP-WSI application to bring over \$10 million to the area surrounding the West Canal. This NRCS application is partnering with previous completed WaterSMART grant projects on the West Canal, and this WaterSMART project will open additional opportunities to apply for more EQIP-WSI funding for the surrounding area.

There are many farmers and landowners in the area who are looking to complete on-farm efficiency projects such as constructing ponds, converting farms away from reel irrigation, and installing pipelines to eliminate water loss. There is a joint outreach operation currently underway to organize interest in NRCS assistance for landowners between QCBID and the Grant County

Conservation District. Documentation regarding the submitted NRCS application is included in the Appendix.

This WaterSMART project will complement on-farm efficiency projects by maximizing efficiency in the area and minimizing water loss from ditch seepage, allowing water to be more efficiently delivered to the surrounding farmland.

The estimated potential on-farm water savings that would result from this NRCS EQIP-WSI application is 6,000 acre-feet per year. Documentation for this amount is included in the Appendix.

A map of the water service area that NRCS has identified in its application in coordination with QCBID is included in the Appendix.

## **Evaluation Criterion E – Implementation and Results (8 points)**

**Does the applicant have a Water Conservation Plan and/or System Optimization Review in place? Does the project address an adaptation strategy identified in a completed WaterSMART Basin Study?**

There are two applicable Conservation plans by which QCBID abides. The first is the 2004 Memorandum of Understanding between the State of Washington, Bureau of Reclamation, and the three Columbia Basin Irrigation Districts (the Quincy-Columbia Basin Irrigation District, the East Columbia Basin Irrigation District, and the South Columbia Basin Irrigation District). This MOU serves to facilitate cooperation between the involved parties to advance economic and environmental benefits from improved water management. The second is the 2010 Columbia Basin Project Coordinated Water Conservation Plan. This Plan was created in collaboration with the three water districts in the Columbia Basin Project, as well as the Washington State Department of Ecology for the purpose of identifying water conservation projects that will allow additional acreage to be served without disrupting existing water supply and while remaining water budget neutral.

Copies of the 2004 Memorandum of Understanding and the 2010 Coordinated Water Conservation Plan are included in the Appendix.

This WaterSMART project is not related to a completed WaterSMART Basin Study.

**1. Identify any district-wide planning, or system-wide planning that provides support for the proposed project.**

The previously mentioned 2004 Memorandum of Understanding and Coordinated Water Conservation Plan provide support and direction for this WaterSMART project. In addition, QCBID maintains a system improvement list which factors in water loss, safety, and other factors to prioritize infrastructure projects.

**2. 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).**

This project helps meet the goals of the Coordinated Water Conservation Plan which is to find ways to conserve water along the mainstem of the Columbia River and on the federal Columbia Basin Project to support regional priorities. This project also helps meet the goals of the 2004 Memorandum of Understanding by advancing economic and environmental benefits through water conservation.

**3. If applicable, provide a summary describing performance measures that will be used to quantify actual benefits upon completion of the project.**

QCBID engineering staff will take flow measurements before and after construction of this WaterSMART project during water delivery season. These flow measurements will be taken at a station just upstream of the site of this project as well as a station just downstream of this project. QCBID uses an acoustic Doppler water velocity measurement device to perform inflow/outflow testing. The results of the inflow/outflow tests before and after construction will be compared and the actual amount of water savings determined.

**Identify and provide a summary description of the major tasks necessary to complete the project.**

The first major task for this project is the design phase. This has been completed by QCBID's engineering staff. Then, once funding is secured for the project, QCBID will put out an open call for contractors to bid on the project. Once a bid has been chosen, the project will be completed between November 2024 and March 2025 while irrigation canals are dewatered. Finally, once construction is finished, QCBID's engineering staff will inspect all work done, and will



conduct post-construction flow testing during water season to determine water savings as a result of this project.

**Describe any permits that will be required, along with the process for obtaining such permits.**

No permits are required.

**Identify and describe any engineering or design work performed specifically in support of the proposed project.**

QCBID’s Engineering Department has designed the project and will oversee all construction work and any necessary change-orders.

**Describe any new policies or administrative actions required to implement the project.**

The QCBID Board of Directors have approved a resolution to apply for Funding Opportunity Announcement R23AS00008 and to complete the project if funding is awarded. A copy of the official resolution is included in the Appendix.

**Please also include an estimated project schedule that shows the stages and duration of the proposed work, including major tasks, milestones, and dates. Was the expected timeline for environmental and cultural compliance discussed with the local Reclamation Regional or Area Office?**

- July 2022: Grant writing and application
- Winter 2023: QCBID engineering staff completes concrete liner design work
- Spring 2024: QCBID in conjunction with EFO completes any and all environmental and cultural compliance. This work will be extending into summer if necessary.
- June 2024: QCBID bids the project out to contractors.
- July 2024: A contractor bid is selected for the project.
- Fall 2024: Walkthroughs and design details are arranged with contractor. Contractor procures materials and prepares for construction.
- November 2024: Pre-construction mobilization and forming of new canal prism.
- December 2024-January 2025: Installing geomembrane liner along new canal prism.
- February-March 2025: Pouring concrete and shaping of final canal prism.
- April 2025: Final inspections by QCBID engineering staff.

Environmental and cultural compliance details have been discussed with the Ephrata Field Office.

## **Evaluation Criterion F – Collaboration (6 points)**

This project supports and is in line with the Columbia Basin Project Coordinated Water Conservation Plan of 2010. All invested parties are working together to bring more water conservation projects to the Columbia Basin Project, and this WaterSMART project is part of that effort. A copy of the Coordinated Water Conservation Plan is included in the Appendix.

## **Evaluation Criterion G – Additional Non-Federal Funding (4 points)**

Non Federal Funding / Total Project Cost =  $(\$745,749 / \$1,245,749) = 60\%$

## **Evaluation Criterion H – Nexus to Reclamation (4 points)**

**Does the applicant have a water service, repayment, or operations and maintenance contract with Reclamation?**

Yes, QCBID has an O&M contract with the Bureau of Reclamation and operates many of the Bureau’s transfer works facilities in the Columbia Basin Project.

**If the applicant is not a Reclamation contractor, does the applicant receive Reclamation water through a Reclamation contractor or by any other contractual means?**

Not applicable.

**Will the proposed work benefit a Reclamation project area or activity?**

Yes, this WaterSMART project is within and benefits Reclamation’s Columbia Basin Project.

**Is the applicant a Tribe?**

No, QCBID is not a Tribe.

## **Performance Measures**

The current annual seepage loss for this section of the West Canal was estimated using previous methodologies established by the QCBID’s Coordinated Water Conservation Plan. The following formula was used for determining the annual seepage loss:

$$\text{Seepage Loss (acre-feet/yr)} = \text{Seepage Rate (ft/day)} * \text{Wetted Perimeter (ft)} * \text{Length (ft)} * 210 \text{ (days)} / 43,560 \text{ (ft}^3\text{/ac-ft)}$$

Using this estimation yields an annual seepage loss of 840 acre-feet per year. A full explanation of this equation can be found in the Evaluation Criteria Section of this document on page 7.

QCBID engineering staff will take flow measurements before and after construction of this WaterSMART project during water delivery season. These flow measurements will be taken at a station just upstream of the site of this project as well as a station just downstream of this project. QCBID uses an acoustic Doppler water velocity measurement device to perform inflow/outflow testing. The results of the inflow/outflow tests before and after construction will be compared and the actual amount of water savings determined.

## Project Budget

### Funding Plan

QCBID’s contribution to the cost-share requirement will be \$745,749 and will be monetary. Though this project will utilize a significant amount of District employee time, no in-kind contributions or other source funds will be accounted for toward the grant. The District will fund 60% of the project. This expense will cover contract construction costs and materials.

Funding Sources	Funding Amount
<b>Non-Federal Entities (Quincy-Columbia Basin Irrigation District)</b>	
Contract Construction	\$ 745,749
<b>Non-Federal Entities Subtotal</b>	<b>\$ 745,749</b>
Non-Federal subtotal	\$ -
Other Federal Entities Subtotal	\$ -
<b>Requested Reclamation Funding Subtotal</b>	<b>\$ 500,000</b>
<b>Total Project Funding</b>	<b>\$ 1,245,749</b>

### Budget Proposal

To simplify accounting procedures and reduce the cost of grant management, the District is only applying construction toward the grant. It is expected that a significant amount of staff time, overhead, and indirect costs will occur on this project, but the District is only budgeting contracting / construction costs toward the grant. All other costs will be paid for out of the District’s general operating budget.

Funding Sources	Percent of Total Project Cost	Total Cost by Source
Cost reimbursed with Federal Funding	40%	\$500,000
Costs paid by Applicant	60%	\$745,749
Value of third-party contributions	0%	\$0
<b>Totals</b>	<b>100%</b>	<b>\$1,245,749</b>

**Budget Narrative**

Below is a summary of all items included in Section B of SF-424A. A table is included showing an itemized description of all expected expenses, as well as a line-by-line summary of each category in Section B of SF-424A. Note that a line item has been included for both Reporting and Environmental & Regulatory; this has been included to cover any costs incurred in determining the required level of environmental compliance.

<b>Budget Item &amp; Description</b>	<b>\$/Unit</b>		<b>Quantity</b>	<b>Total Cost</b>
<b>Personnel</b>				
(Not putting toward grant)	\$0	hr	0	\$0
<b>Fringe Benefits</b>	\$0	hr	0	\$0
<b>Contractual &amp; Construction</b>				
*See Construction Detail Below	1		1	*\$ 1,245,749
<b>Other</b>				
Reporting	1		1	\$ 0
Environmental & Regulatory	1		1	\$ 0
<b>Indirect Costs</b>				\$ 0
<b>Total</b>				<b>\$1,245,749</b>

**\*Contractual & Construction breakdown**

Quincy-Columbia Basin Irrigation District West Canal Lining Cost Estimate July 15, 2022				
Quantity	Item	Unit	Price	Total
1	Mobilization	EA	\$ 65,000.00	\$ 65,000.00
4,500	Mass/Common Excavation	CY	\$ 2.50	\$ 11,250.00
4,500	Native Common Backfill	CY	\$ 4.50	\$ 20,250.00
1	Lateral Subgrade Preparation	EA	\$ 30,000.00	\$ 30,000.00
138,000	Geomembrane Liner Furnished	SF	\$ 0.90	\$ 124,200.00
138,000	Geomembrane Liner Installed	SF	\$ 0.75	\$ 103,500.00
2,500	Concrete Liner Furnished and Installed	CY	\$ 280.00	\$ 700,000.00
5	Concrete Cutoff Walls	CY	\$ 340.00	\$ 1,700.00
10,300	Contraction Joints	LF	\$ 1.20	\$ 12,360.00
1	Final Site Grading	EA	\$ 15,000.00	\$ 15,000.00
	Subtotal			\$1,083,260.00
	Safety Factor (15%)			\$ 162,489.00
	Total Material Cost			\$1,245,749.00

*Personnel*

Project planning and engineering will be conducted by the QCBID's engineering staff and O&M Field Supervisors. Additional administrative work may be needed. QCBID is not including these costs toward the project to simplify grant management and they are not reflected in the budget. These expenses will be paid out of QCBID's general operating budget.

*Fringe Benefits*

There will be no fringe benefits to report.

*Travel*

There will be no travel to report.

*Equipment*

No equipment will be purchased.

*Supplies*

No supplies will be purchased. All necessary materials and supplies will be provided by a contractor.

*Contractual*

The installation of the concrete and geomembrane liner will be performed by a contractor. All costs for materials, supplies, and machinery that are being included in this WaterSMART grant proposal will be included within the contractor's final cost (see the above table in this section). Cost of work is estimated based on prior District projects.

*Construction*

No construction costs will be included in the grant. Costs for all construction work will be included in the contractor's final cost (see the above table in this section).

*Other*

There will be no other expected expenses. A line item has been included in the budget to cover any costs incurred for any reporting required for the project. A line item has been included in the budget to cover any costs incurred to determine the level of environmental compliance required for the project.

*Indirect Charges*

No indirect charges will be included in the grant.

*Total Costs*

Total project total cost is expected to be \$1,245,749.

## **Pre-Award Costs**

QCBID does not expect or intend any pre-award costs to be included in this WaterSMART grant. To simplify accounting procedures and reduce the cost of grant management, QCBID is only including construction costs in this grant. It is expected that a significant amount of staff time, overhead, and indirect costs will occur on this project, but QCBID will pay for these expenses out of its general operating budget.



## **Environmental and Cultural Resources Compliance**

- 1) Will the project impact the surrounding environment (e.g., soil [dust], air, water [quality and quantity], animal habitat)? Please briefly describe all earth-disturbing work and any work that will affect the air, water, or animal habitat in the project area. Please also explain the impacts of such work on the surrounding environment and any steps that could be taken to minimize the impacts.

The project will reshape a constructed irrigation lateral. Dust abatement may be needed. There are no known impacts to air and water quality or animal habitat.

- 2) 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?

There are no known listed or proposed to be listed Federal threatened or endangered species, or designated critical habitat in the project area. This was verified by Reclamation’s Ephrata Field Office.

- 3) 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 project may have.

There are no wetlands or other surface waters inside the project boundaries that potentially fall under CWA jurisdiction. This was verified by Reclamation’s Ephrata Field Office.

- 4) When was the water delivery system constructed?

The water delivery system was constructed in 1966.

- 5) Will the project result in any modification of or effects to, individual features of an irrigation system (e.g., head gates, 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.

Modification to the irrigation canal system will occur. Earthen canal will be lined with geomembrane liner and concrete. Original irrigation features were constructed in 1966. There are no known prior extensive alterations or modifications to proposed project features.

- 6) 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.

There are no buildings, structures, or features listed on the National Register of Historic Places. Currently the Main Canal Bifurcation, West Canal, and West Canal Bifurcation are eligible for the National Register of Historic Places. This was verified by Reclamation's Ephrata Field Office.

- 7) Are there any known archeological sites in the proposed project area?

There are no known archaeological sites in the proposed project area. This was verified by Reclamation's Ephrata Field Office.

- 8) Will the project have a disproportionately high and adverse effect on low income or minority populations?

The project will not have a disproportionately high and adverse effect on low income or minority populations.

- 9) Will the project limit access to and ceremonial use of Indian sacred sites or result in other impacts on tribal lands?

The project will not limit access to and ceremonial use of Indian sacred sites or result in other impacts on tribal lands.

10) Will the project contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area?

The project will not contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area.

## **Required Permits or Approvals**

There are no known required permits or approvals needed to complete the West Canal Concrete lining project.

## **Overlap or Duplication of Effort Statement**

There is no overlap or duplication of effort between this proposed WaterSMART project and any other active or anticipated proposals or projects in terms of activities, costs, or commitment of key personnel.

QCBID is currently waiting for a decision from the NRCS on an EQIP-WSI proposal that was submitted in June 2022. Should the EQIP-WSI proposal be approved, QCBID intends to apply for Federal funding assistance for this and other projects. If at any time QCBID is awarded funds that would be duplicative of the funding requested from Reclamation, QCBID will immediately notify the appropriate Reclamation personnel.

## **Conflict of Interest Disclosure Statement**

There are no existing or potential conflicts of interest among QCBID and its employees in regards to this WaterSMART project.

## **Uniform Audit Reporting Statement**

QCBID was not required to submit a Single Audit report for the most recently closed fiscal year.

## **Certification Regarding Lobbying**

Pursuant to 43 CFR §18, QCBID certifies, to the best of its knowledge and belief, that:

- 1) No Federal appropriated funds have been paid or will be paid, by or on behalf of QCBID, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- 2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, QCBID shall complete and submit Standard Form-LLL, “Disclosure Form to Report Lobbying,” in accordance with its instructions.
- 3) QCBID shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.



## **Official Resolution**

An official resolution was adopted by QCBID’s Board of Directors on July 5<sup>th</sup>, 2022 to approve this WaterSMART grant proposal and project. A copy of this official resolution is included in the Appendix.

## **APPENDIX:**

- 2010 CBP Coordinated Water Conservation Plan Excerpt A1
- 2004 Memorandum of Understanding Excerpt A7
- NRCS 2022 EQIP-WSI proposal documentation A10
  - o EQIP-WSI proposal excerpt A10
  - o Map of identified water service area A15
- QCBID Board of Directors Office Resolution A16



## COLUMBIA BASIN PROJECT COORDINATED WATER CONSERVATION PLAN - FINAL DRAFT

### **Prepared for**

East Columbia Basin Irrigation District  
Quincy-Columbia Basin Irrigation District  
South Columbia Basin Irrigation District  
Washington State Department of Ecology

### **Prepared by**

Anchor QEA, LLC  
811 Kirkland Avenue, Suite 200  
Kirkland, WA 98033

**March 2010**

**Ecology Publication Number: 10-12-010**

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## **1 INTRODUCTION**

### **1.1 Project Goals**

The three Columbia Basin Project (CBP) irrigation districts; Quincy-Columbia Basin Irrigation District (Quincy District), East Columbia Basin Irrigation District (East District), and South Columbia Basin Irrigation District (South District); and the Washington State

Department of Ecology (Ecology) jointly agreed to prepare this Coordinated Water

Conservation Plan (Plan) with the goal to identify water conservation projects that will allow additional acreage to be served without disrupting the water supply to existing acreage while also remaining water budget neutral to the Columbia River. The water conservation projects are proposed in an effort to address goals established in the December 2004 Memorandum of Understanding between the districts, Ecology, and the U.S. Bureau of Reclamation (Reclamation), the April 2005 Memorandum of Understanding between the

East District, Ecology and Reclamation and RCW 90.90, Columbia River basin water supply. The conserved water would be available as a replacement water supply for groundwater deliveries in the Odessa Subarea, environmental uses, and municipal and industrial water supply. Ecology funded the preparation of the Plan through the Columbia River Water Management Program.

### **1.2 Columbia Basin Project**

Reclamation's CBP is a congressionally authorized multipurpose development located in central Washington (see Map 1). The project's principal multiple use facility, Grand Coulee Dam, is on the main stem of the Columbia River about 90 miles west of Spokane, Washington, at the head of the Grand Coulee. Project irrigation works extend southward on the Columbia Plateau for 125 miles to the vicinity of Pasco, Washington, at the confluence of the Snake and Columbia Rivers. Beginning near Quincy, the Columbia River forms the western project boundary; the eastern project boundary is about 60 miles east near the communities of Odessa and Lind. CBP lands include portions of Grant, Lincoln, Adams, Franklin, and Walla Walla counties, with some northern facilities located in Douglas County.

Construction of the CBP began in 1933 with Grand Coulee Dam, which is the source of water and energy for the project. Construction of irrigation facilities commenced following World War II with first water delivery from Grand Coulee Dam in 1952. Irrigation development continued through the next two decades. Irrigation facilities were largely completed by the 1970s. Farm development has now caught up with the capacity of the "first half" canal and drainage system with approximately 671,000 acres being irrigated currently. This area represents platted farm units, Master Water Service contracts, Article 28 contracts, and artificially stored groundwater-irrigated acreage. The project is currently

authorized to irrigate 1,029,000 acres at its completion. The remaining acreage lies mostly within the East District and is located east of the East Low Canal (called East High land) with some acreage in the South District located south of the East Low Canal.

The Quincy District, headquartered in Quincy, operates and maintains the West Canal system. The Potholes East Canal system is operated and maintained by the South District from Pasco. The East District, headquartered in Othello, operates the East Low Canal system.

There are more than 300 miles of main canals, 2,000 miles of laterals, and 3,500 miles of drains and wasteways within the three districts. Map 1 also shows the canals and laterals within the CBP.

### **1.3 Past Water Conservation Studies and Actions**

#### **1.3.1 Comprehensive Water Conservation Plans**

All three districts have completed Comprehensive Water Conservation Plans within the past 7 years. The East District’s most recent plan was completed in 2007 (Anchor Environmental 2007), while the South District’s and Quincy District’s plans were completed in 2002 (Montgomery Water Group [MWG] 2002a, 2002b). These plans identified opportunities for improvements that could be implemented to improve water use efficiencies.

#### **1.3.2 Water Use, Supply, and Efficiency Report**

The Columbia Basin Project Water Supply, Use and Efficiency Report (MWG 2003) was first published in 1997 and updated in 2003. The purpose of those reports was to summarize data collected on CBP operations into a comprehensive format that is easy to interpret. The reports documented the effects of water conservation activities on diversions from the Columbia River, spills within the CBP, and deliveries to farms. The reports also documented the importance of return flow from the Quincy and East districts to the water supply for the South District, and how that reuse of water contributes to the very high efficiency of the overall CBP.

#### **1.3.3 Seepage Analyses**

The Phase I and Phase II Seepage Analyses East Columbia Basin Irrigation District Water Conservation Projects (MWG 2004a, 2004b) were prepared to determine the volume of water conserved from East District lining and piping projects that were previously completed with grants and loans from Ecology’s Referendum 38 program. This conserved water could then be put to beneficial use for water service contracts on the east side of the East Low Canal and replace groundwater currently

being pumped. The reports estimated seepage rates by geologic unit and analyzed the fate of seepage water, which was then used to determine the estimated volume of water savings available to be put to beneficial use.

## 2 METHODOLOGY

### 2.1 Identifying Water Conservation Projects

Projects analyzed in this Plan were obtained from the districts’ water conservation plans with additional projects provided by district managers and staff. The projects were grouped by district and irrigation block and input onto GIS layers. The GIS database was provided to Ecology and the districts separately for use as desired. The GIS layers also contain summaries of water savings and cost that were estimated using the methodology described in the following sections.

### 2.2 Estimating Water Savings

Water savings were estimated using previous methodologies established by the Phase I and Phase II reports. The following formula was used for determining the annual seepage loss:

$$\text{Seepage Loss (acre-feet/yr)} = \text{Seepage Rate (ft/day)} * \text{Wetted Perimeter (ft)} * \text{Length (ft)} * 195 \text{ (days)/43,560 (ft}^3\text{/ac-ft)}$$

The seepage rate used depends on the underlying geology. Average seepage rates for different geologic units were determined in the Phase I and Phase II reports. Those rates were accepted by Ecology and Reclamation for use in estimating water conserved in past conservation projects. Table 1 presents those seepage rates by geologic unit.

**Table 1 Estimated Seepage Rates by Geologic Unit**

Geology	Seepage Rate (ft/day)		
	Unlined	Lined	Piped
Outburst flood deposits, gravel (Qfg)	2.0	0.2	0
Outburst flood deposits, sand and silt (Qfs)	1.5	0.2	0
Continental sedimentary rocks (PLMc)	0.73	0.2	0
Wanapum basalt (Mv)	0.99	0.2	0
Loess (Ql)	2.24	0.2	0
Alluvium (Qa)	1.7	0.2	0
Dune sand, stabilized dunes (Qds)*	2.24	0.2	0

Source: MWG 2004b

\* - No previous seepage rate established; the seepage rate for dune sand was assumed to be similar to loess based on professional experience

Geologic units that underlie the three districts are shown in Map 2. The estimated water savings for piping and lining projects was calculated for each project using the geologic information from Map 2 and information on the length of project and wetted perimeter of canal or lateral lined or piped. Some projects include relining laterals or canals and replacing piped laterals with new pipe. The seepage savings for these projects were estimated to be 0.4 ft/day for the purpose of this plan.

The seepage estimates provided in this plan are based upon average seepage rates encountered for certain geologic units and canal or lateral condition. These estimates are considered to be adequate for planning purposes, but actual seepage rates may vary from these estimates and should be confirmed using field data such as ponding tests or inflow/outflow measurements.

**2.3 Estimating Costs**

Costs were estimated using unit costs for pipelines, canal lining, and other lining obtained from the districts and other recent bidding experience. The costs of the short-term projects (see Section 3.1) include sales tax but not engineering and administrative costs as the districts are designing and managing the construction contracts. The same assumptions were used for the long-term projects (see Section 3.2). However, if a program of aggressively implementing the long-term projects is in place, the districts may have to hire outside consultants to design and manage construction of projects, which would increase the costs from those listed in this Plan.

**2.4 Fate of Seepage Water**

The fate of seepage water from canals and laterals was reviewed in the Phase II report for the East District. It is assumed that the methodology used in that report to estimate the fate of seepage can also be applied to this Plan for the Quincy and South districts.

Water that seeps from canals and laterals in the CBP typically flows into shallow groundwater systems that contribute flow to surface waters. Some of that flow ends up in

Potholes Reservoir or the Potholes East Canal, both of which are relied upon by the South District for its water supply. Therefore, a reduction in seepage water from water conservation projects in the Quincy and East districts may result in a reduction in supply to

the South District. An exception is seepage water that flows directly to the Columbia River and does not enter Potholes Reservoir or the Potholes East Canal.

The Phase II report estimated that 17.1% of seepage flow is lost due to deeper groundwater aquifers, evaporation, and evapotranspiration (ET). The remainder is picked up in project drains or other water bodies. The report also estimated that 18% of the remaining seepage flow returns to a project drain or other water body outside of the irrigation season.

### **2.4.1 Quincy District**

Water conservation projects implemented by the Quincy District in areas that currently drain to the Columbia River would allow 100 percent of the water conserved to be delivered elsewhere in the Quincy District, depending on available canal capacity. The West Canal would have capacity to deliver at least to the point where the conservation project is proposed. For water conservation projects located in areas that drain to Potholes Reservoir, the seepage that currently reaches Potholes Reservoir would still need to be delivered to Potholes Reservoir to ensure the South District's supply is not reduced. That would be accomplished through delivery of feed water through district wasteways. The capacity in the West Canal that would be available for other uses would be the amount of water that is lost from the project through deep groundwater infiltration, evaporation, and ET, which is an estimated 17.1% of the seepage volume. Although seepage water also returns to Potholes Reservoir outside of the irrigation season, that water is stored in the reservoir and may be used by the South District the following year.



# **Memorandum of Understanding Concerning the State of Washington's Columbia River Initiative**

## **PARTIES**

This Memorandum of Understanding (MOU) is entered into between the State of Washington (State), acting through the state agencies which are signatories hereto; the Pacific Northwest Region of the U.S. Bureau of Reclamation (Reclamation); and the South Columbia Basin Irrigation District, the East Columbia Basin Irrigation District, and the Quincy-Columbia Basin Irrigation District (collectively, the Districts). The State, Reclamation, and the Districts are collectively referred to as the "parties" herein.

## **EFFECT**

**Section 1.** This MOU is intended only to coordinate and facilitate cooperation between the parties to advance the actions described in this MOU 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 MOU does not constitute an explicit or implicit agreement by the parties 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 MOU 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 MOU shall not be construed to create any right to judicial review involving the compliance or noncompliance of the parties with this MOU.

**Section 2.** Nothing in this MOU shall (a) result in any impairment to the existing water supplies or water rights for the Columbia Basin Project (Project), (b) result in an amendment or modification of the rights and obligations of the Districts and Reclamation under the existing Project repayment contracts, (c) affect the priority dates of any existing water rights, (d) impair the current operations of the Project, (e) impair or interfere with eventual completion of the Project as congressionally authorized, or (f) result in an increase in the Districts' construction cost obligations and operation and maintenance obligations under the existing Project repayment contracts.

## **PURPOSE AND OBJECTIVES**

**Section 3.** The parties will use their best efforts in working collaboratively and in good faith to secure economic and environmental benefits from improved water management both within the federal Project and along the mainstem of the Columbia River by advancing the actions described in this MOU.

**Section 4.** Through the Columbia River Initiative (CRI), the State is developing a program for the mainstem of the Columbia River that will allow access to the river's water resources while providing support for salmon recovery. The objectives of the CRI are to meet the water needs of

growing communities and their rural and agricultural economies along the mainstem of the Columbia River, and to do so in a manner that reduces the risk to fish resulting from out-ofstream use of water. While the CRI is focused on the mainstem of the Columbia River, the State recognizes that there are important needs within the Project that remain unmet and that require and warrant increased attention and resources from the State. As established in state statute and state-based water rights, the parties hereby affirm their long-standing and mutual commitment to the Project as congressionally authorized.

## **MAINSTEM STORAGE PROGRAM**

**Section 5.** The parties recognize the growing water needs of the region will require development and use of new water storage facilities that are properly designed, constructed and managed to meet both economic and environmental needs – including power production, municipal water supplies, irrigation development, and improved stream flows to assist salmon recovery.

**Section 6.** The parties will cooperate in initiating an appraisal level assessment of the potential to store additional water from the Columbia River mainstem, including an assessment of the costs and benefits of alternative water storage sites (the Storage Assessment). The State will be responsible for conducting the Storage Assessment with existing state funds. The State will, in consultation with other parties, develop a scope of work for the Storage Assessment by December 31, 2004. The State will also secure by February 28, 2005, a contractor to conduct the Storage Assessment. The State will request additional state funding for the Storage Assessment for the coming state fiscal biennium. Reclamation will participate in and support the Storage Assessment to the extent funding is available to it within its Washington Investigations budget line item in federal fiscal years 2005 and 2006, as determined by it.

**Section 7.** If and as warranted by the initial results of the Storage Assessment, the State and the Districts will propose by July 2005 federal legislation to authorize and fund a mainstem storage program, including feasibility studies by Reclamation for proposed storage projects; provided, however, the Districts may participate and support one or more of these feasibility studies, as they determine. By December 20, 2004, the State will submit a budget request to support the new mainstem storage program during the state 2005-2007 biennium to include funding for feasibility studies. Reclamation's position regarding the authorization and funding of the mainstem storage program and feasibility studies will be determined by the views of the Administration at the time Congress considers authorizing legislation and appropriations. If and as authorized by Congress, the State and Reclamation will negotiate and enter into one or more feasibility study contracts. If federal authorization is not secured by January 2006, the State will fund the initiation of one or more feasibility studies to evaluate potential new storage sites, while continuing to pursue federal authorization. By July 2006, the parties will develop a schedule of future milestones for the mainstem storage program.

**Section 8.** If and as warranted by the feasibility studies, the State and the Districts agree to pursue federal authorization of mainstem storage projects to be undertaken by Reclamation, with the State as local sponsor for the storage projects. As authorized and as necessary to support the new mainstem storage program, or as specific storage projects are identified for feasibility studies, Reclamation and the State will work together to secure a new federal withdrawal of water from the mainstem pursuant to Chapter 90.40 RCW.

## **MAINSTEM DROUGHT RELIEF**

**Section 9.** Reclamation and the State, acting through the Department of Ecology (Ecology), will use their best efforts to negotiate and enter into a contract by March 31, 2005 (the Drought Relief Contract), to make available up to 50,000 acre-feet from the Project storage rights from Lake Roosevelt for release into the Columbia River in any year in which the March 1 runoff forecast at the Dalles for April through September, as provided by the National Weather Service in their "Water Supply Outlook for the Western United States," is less than 60 MAF, and in which the Governor of the State of Washington makes a formal request in accordance with the Reclamation States Drought Relief Act of 1991 (P.L. 102-250) (the Drought Relief Act).

**Section 10.** The Drought Relief Contract, if entered into, will allow the use of the water to be made in accordance with applicable state and federal laws by existing water rights which divert from the Columbia River downstream of Grand Coulee Dam and to benefit fish in the Columbia River. Of the amount to be made available under the Drought Relief Contract, if entered into, up to 33,000 acre-feet would be made available for existing state-based water rights along the mainstem and up to 17,000 acre-feet would be made available for improving stream flows for fish during the drought. The Drought Relief Contract, if entered into, will be effective for a term not exceeding the maximum period authorized by law and will, as needed and if and when allowed by law, provide for renewal of the contract for a longer period of time.

**Section 11.** The parties acknowledge that the Drought Relief Act is set to expire on September 30, 2005, and that any subsequent renewals of the Drought Relief Contract, if entered into, will be contingent, in part, upon the Drought Relief Act being extended or otherwise reauthorized. The State and the Districts agree to seek and support favorable congressional action to extend or otherwise reauthorize the Drought Relief Act and to pursue authorization for drought relief contracts that could exceed the current two-year statutory limit. Reclamation's position will be determined by the views of the Administration at the time Congress considers any such extension, amendment or reauthorization. The State will request support for reauthorization of the Drought Relief Act from the Western States Water Council and the Western Governor's Association and will introduce federal legislation by no later than March 2005.

## EQIP-WSI Priority Area Proposal

### EQIP WSI PRIORITY AREA NAME:

**WaterSMART QCBID West Canal**

EQIP WSI Priority Area CONTACT:	EQIP WSI State Level CONTACT:
<b>Erin Kaczmarczyk, D.C.</b>	<b>Keith Griswold, ASTC-Programs</b>
<b>USDA NRCS Field Office</b>	<b>USDA NRCS State Office</b>
<b>2145 Basin St. SW Ste.B, Ephrata, WA 98823</b>	11707 E. Sprague Ave., Ste. 301, Spokane Valley, WA 99206
<b>(509) 754-2463 ext.3</b>	<b>(509) 323-2971</b>
<a href="mailto:erin.kaczmarczyk@usda.gov" style="color: blue; text-decoration: underline;">erin.kaczmarczyk@usda.gov</a>	<a href="mailto:keith.griswold@usda.gov" style="color: blue; text-decoration: underline;">keith.griswold@usda.gov</a>

### PROPOSAL SUMMARY

Summarize the new priority area proposal in one paragraph. One proposal for each separate priority area in the State. Identify the county and state location of the proposed EQIP-WSI priority area and the name of the irrigation district, water supply or other entity carrying out the Reclamation WaterSMART project being complemented by the EQIP-WSI assistance. Briefly summarize the general need for action, primary resource concerns to be addressed, and the broad overall benefits expected from delivering multiple years of EQIP-WSI assistance. See Priority Area Funding Project Descriptions for example summaries.

The Quincy-Columbia Basin Irrigation District (QCBID) as a part of the Columbia Basin Project (which receives water from Grand Coulee Dam) in Grant County, WA, used Reclamation WaterSMART funds to concrete line 2,500 linear ft of the main West Canal and 15,300 linear ft of the W61F (a lateral of the W. Canal) through previously funded Water and Energy Efficiency Grants (WEEG). QCBID is also on schedule to complete an additional 2,500 linear ft of concrete lining on the West Canal with a 2022 awarded WEEG by April 2023. Significant water losses result from unlined laterals, sub-laterals and ditches in this area with losses in the proposed project area totaling more than 1,939 acre/feet/year. With the proposed assistance, NRCS will be able to continue to support water savings activities on laterals, sub-laterals and ditches of the West Canal by improving irrigation delivery and water savings by piping, lining and funding irrigation conversions (rill to micro or sprinkler irrigation). In addition to saving water during the west's ongoing drought this project will reduce irrigation induced soil erosion, treat water quality by reducing chemical drift entering open water, improve the health of area crops and pastures and treat wildlife habitat degradation.

*~ 400 words limit*

## Description of the EQIP WSI Priority Area

Insert or attach a map showing the location of the EQIP-WSI Priority Area being proposed and identify the priority area name, location county, and State on the map label. Briefly describe the area and the overall water resource problem or opportunity being addressed by targeting EQIP-WSI funds there. A geodata layer delineating the priority area boundary must be acquired or created for use in the CART fund pool. In the table below identify the land uses and their estimated extent in the area. Place an X in each applicable box to indicate which primary\* resource concern of each land use will be a priority for funding. Identify any related secondary resource concerns or components also being addressed.

Priority Water Quantity and Related Resource Concerns					
Land Use	Crop	Pasture	Associated Ag Land	Farmstead	Water
Extent	135,000 acres	10,000 acres	1500 acres		
Naturally Available Soil Moisture					
Irrigation Water Use Inefficiency	X	X	X	X	
Surface Water Depletion	X	X	X		
Ground Water Depletion					
Secondary RC # 1	Nutrients transported to surface water	Plant productivity and health	Wildlife-Habitat Degradation		
Secondary RC # 2	Water Quality- Pesticides transported to surface water	Water Quality- Pesticides transported to surface water			

\* The primary Resource Concerns addressable by this Landscape Conservation Initiative are Naturally Available Soil Moisture Management, Irrigation Water Use Efficiency, Source Water Depletion (Ground), and Source Water Depletion (Surface). Addressable secondary concerns related to these primary ones include water quality, plant, and wildlife concerns.

## Benefits of EQIP WSI assistance complementing the Reclamation WaterSMART Project

Describe how the proposed EQIP-WSI assistance enhances water conservation and drought resiliency efforts in the community and state the benefits expected from delivering EQIP-WSI assistance to complement activities of the Reclamation WaterSMART project. In the table below, identify the Fiscal Year Selected, Grant Category, Name of Entity, Project Title, and Project Activity Type of the Reclamation WaterSMART project(s) proposed for complementing. You may use the Reclamation WaterSMART Program Projects 2012-2022 file on [the EQIP WaterSMART Initiative SharePoint site](#) to find this information. To propose complementing a Reclamation WaterSMART project not listed in this file, cite the document name and page number where the implementation project being complemented is described in the box above the table, and attach a copy of the document to this proposal.

This NRCS proposal addresses an ever-increasing need at the QCBID to minimize operational water losses in expectation of drought years. In the 70 years of its operation, QCBID has added 32,000 acres of proratable water service contracts. In drought years or years with above average water losses, these proratable contracts are shut off from water supply until demand can be fully met. If water demand continues to exceed supply, QCBID implements district-wide water rationing. In the past decade, water service contracts have been shut off at some point in almost every water season, and district-wide rationing occurred in the 2015, 2016, and 2020 water seasons. These water saving projects and needs are not unique to QCBID and on a much larger scale Grant County is a part of the Odessa (Aquifer) Ground Water Replacement Project where efforts are underway to save dwindling aquifer supplies. Organizations in the county have partnered together to save area water resources including irrigation districts, USBR, conservation districts, municipalities and NRCS in an effort to save water throughout the county and the irrigated Columbia Basin Project created 70 years ago. This proposal further supports this on-going water saving collaboration amongst the community and organizations at large. QCBID's water delivery system has slowly deteriorated in the 70 years since its creation. Within the last 15 years, major work has been put into modernizing the existing field infrastructure to reduce water losses and increase delivery efficiency. To date, QCBID has been awarded 4 WaterSMART Water and Energy Efficiency Grant grants (lining a total of 15,300 linear feet of earthen canal) in the proposed focused priority area. These projects are part of an ongoing effort to increase water delivery efficiency and reduce water loss from seepage and spill. While these improvements have been substantial continued drought impacts necessitate additional water saving projects and measures included in this proposal.

The benefits expected from NRCS's EQIP-WSI funds include piping over 6,900 linear ft of on-farm laterals, sub-laterals and open ditches saving 2400 acre-ft of water each year. On-farm irrigation efficiency projects such as irrigation system conversions are an important part of addressing water shortages and future drought resiliency but are not funded components of the USBR WaterSMART grants received by QCBID. Conversion to higher efficiency sprinkler systems is an integral component to addressing drought resiliency and efficient water use that will allow proratable water service contracts to have access to water longer during the irrigation season. Irrigation system conversions and piping earthen ditches also address water quality by keeping water protected from overspray while also reducing irrigation induced soil erosion. As a result, collected tailwater will be returned to the system cleaner than historically for use further down the system.

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## EQIP WSI assistance

Using the table format below, identify the conservation practices or activities recommended to address the **priority** resource concerns for each land use, and record the estimated number of instances and measurable map feature units (number, feet, or acres) to be applied. Precise practice cost scenarios do not need to be identified at this time. In the box following the table briefly describe any significant barriers that may impact the delivery of EQIP-WSI assistance in the area including special environmental concerns.

### Recommended Conservation Practices

Practice Name	Practice Code	Estimated Instances	Map Unit Type	Estimated Map Units
<b>Crop</b>				
Irrigation Pipeline	430	20	Feet	20,000
Irrigation Water Management	449	10	Acre	820
Sprinkler System	442	15	Acre	1,500
Pumping Plant	533	20	Number	20
Structure for Water Control	587	15	Number	15
Conservation Cover	327	20	Acre	30
Structures for Wildlife	649	20	Number	20
Wildlife Habitat Planting	420	20	Number	30
Hedgerow Planting	422	10	Feet	250
<b>Pasture (example)</b>				
Irrigation Pipeline	430	5	Feet	5,000
Irrigation Water Management	449	3	Acre	250
Sprinkler System	442	3	Acre	250
Pumping Plant	533	2	Number	2
Structure for Water Control	587	5	Number	5
Conservation Cover	327	10	Acre	10
Structures for Wildlife	649	10	Number	10
Wildlife Habitat Planting	420	10	Number	10
Hedgerow Planting	422	5	Feet	125
<b>Associated Ag Land</b>				
Irrigation Pipeline	430	10	Feet	10,000
Canal Lining	428	10	Feet	30,000
Structure for Water Control	587	5	Number	5
<b>Farmstead (example)</b>				
Pumping Plant	533	15	Number	15

**Special Environmental Concerns, barriers, risks, other factors to consider in delivering EQIP assistance to the priority area:**

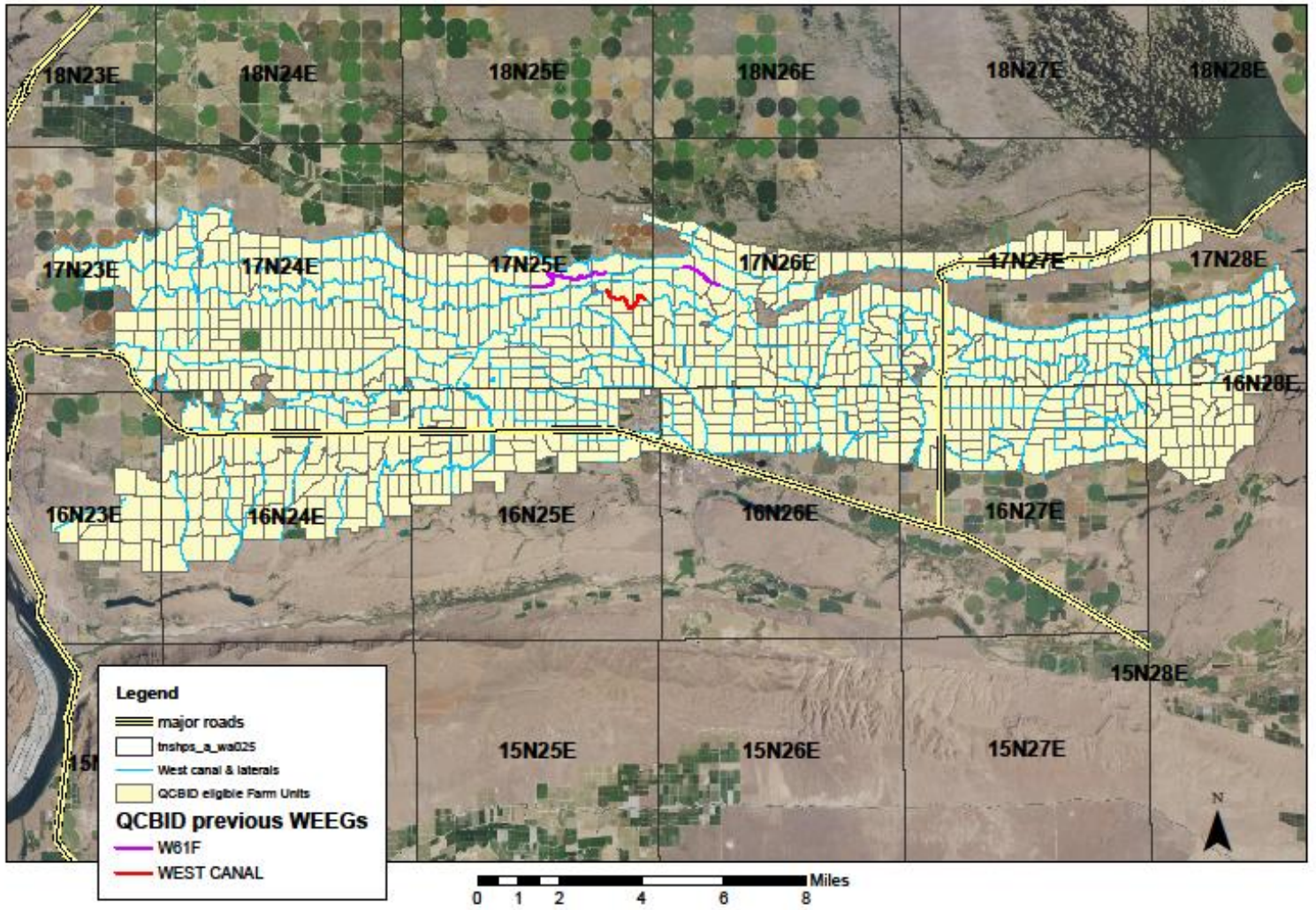
This proposal supports an overarching concern of water scarcity in eastern Washington, specifically the irrigated Columbia Basin. The proposal further highlights the need for gains in water efficiency and dovetails with other ongoing projects such as the Odessa Ground Water Recharge Project which will further address water scarcity in the region in addressing Aquifer overdraft. A region wide approach to treating water scarcity through addressing ground and surface water depletion as well as irrigation efficiency is a multi-tiered approach that partnering agencies in the region have elevated to the highest levels and as a result much needed attention, coordination and funding are being aligned. The effectiveness of addressing these concerns will rely heavily on funding projects such as those in this proposal and a future commitment to continue to fund these types of proposed projects in the future. Every drop counts as the west continues to battle the impacts of drought and our region will no-doubt face difficult choices moving forward if water conservation and projects that support those efforts are not made a priority by all involved from every level.

*~ 400 words limit*



EQIP-WSI map of identified water service area

WaterSMART - QCBID



QUINCY-COLUMBIA BASIN IRRIGATION DISTRICT RESOLUTION 2022-15

**WaterSMART — Water and Energy Efficiency Grants (West Canal Concrete Lining)**

WHEREAS, the Quincy-Columbia Basin Irrigation District is in receipt of the U.S. Bureau of Reclamation Funding Opportunity Announcement R23AS00008, WaterSMART Grants: Water and Energy Efficiency Grants for Fiscal Year 2023; and

WHEREAS, the Quincy-Columbia Basin Irrigation District has legal authority to enter into a grant agreement with the U.S. Bureau of Reclamation; and

WHEREAS, the Board of Directors of the Quincy-Columbia Basin Irrigation District supports the application submitted; and

WHEREAS, the Quincy-Columbia Basin Irrigation District is capable of providing the amount of funding and/or in-kind contributions specified in the funding plan; and




WHEREAS, the Quincy-Columbia Basin Irrigation District will work with the U.S. Bureau of Reclamation to meet established deadlines for entering into a cooperative agreement; and

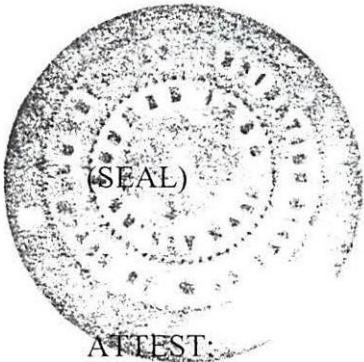
WHEREAS, receiving financial assistance through a WaterSMART Grant does not subject the Quincy-Columbia Basin Irrigation District to the discretionary provisions of the Reclamation Reform Act of 1982;


NOW, THEREFORE, BE IT HEREBY RESOLVED by the Board of Directors that the Quincy-Columbia Basin Irrigation District is committed to the financial and legal obligations associated with receipt of WaterSMART Grant financial assistance.

DULY ADOPTED during the regular meeting of the Board of Directors this 5th day of July 2022.

BOARD OF DIRECTORS

  
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Secretary