

WaterSMART

Funding Opportunity No. R23AS00005

PROPOSAL/SUBMISSION

Application due date: June 15, 2022

Applicant: City of Walla Walla, Washington

Contact: Frank Nicholson P.E., Utility Engineer, 509.524.4510

Project Title: City of Walla Walla, ASR Upgrade Well #5



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Technical Proposal and Evaluation Criteria

Executive Summary

Date: June 15, 2022 Name of Applicant: City of Walla Walla City: Walla Walla, County: Walla Walla, State: Washington

Project Name: Upgrade Well #5 to ASR

The City of Walla Walla is a Category A applicant, located in Walla Walla County in Southeast Washington State. Currently, City Well #5 on Sturm Avenue (see map below) is used for emergencies and drought. This project will convert CITY domestic Well #5 to an Aquifer Storage and Recovery (ASR) well/project. This would be the City's third ASR well. This would restore the aquifer to historic water levels and reverse the declining basalt aquifer that has been over pumped. Surface water from the pristine forest service watershed would be treated at the water plant and then used to recharge the wells in winter and spring when water is plentiful. This would make stored water available for emergencies, climate change, and drought. This project will store/recharge 1,000 acre-feet of water per year in the basalt aquifer. During the past year, the basin has been under a drought declaration issued by the governor's office. The drought planning document is the Walla Walla Water 2050 Strategic Plan. This plan was published by Ecology's Office of Columbia River working collaboratively with the Confederated Tribes of the Umatilla Indian Reservation, Oregon Department of Water Resources, local governments in both Washington and Oregon, environmental non-profits, irrigators, and basin stakeholders representing a diverse representation of water users and the interested public to address the lack of available water in the basin. This tier 1 project is needing funding.

Schedule: This project will have a start date of March 2023 and have a project duration of 36 months. This project is not located on a federal facility.

Project Location

Well #5 is located at 1505 Sturm Avenue in the City of Walla Walla, County of Walla Walla in the state of Washington. The project latitude is 45°03'10"N and the longitude is 118°1''24W. See map below:



Technical Project Description

This construction project will convert existing Well #5 to an Aquifer Storage and Recovery (ASR) well. Construction work will consist of demolition of the existing small well house and the construction of a new well house, new well pump and motor, new chlorination room, ASR piping and metering, regenerative power producing Variable Frequency Drive (VFD), and an emergency generator. This project will also cover pilot testing and reporting of the final facility as required by the Washington Department of Ecology for the new ASR well to be added to the existing City ASR operational permit.

This project would move plentiful winter water from the pristine protected 36 square mile forest service/city watershed to the water plant. The treated water would then travel through the water distribution system and be injected into the ASR well restoring the deep basalt aquifer. The aquifer has been declining and ASR will reverse the decline and protect the City against drought. The City has been using ASR since 1999 and currently has two ASR wells. The City has three distinct basalt aquifer blocks under the city, blocks are isolated and have separate water levels. The City has restored the water levels in two blocks using surplus winter water and this project will restore water levels in block 3. This will improve summer flows in Mill Creek by decreasing the City's surface diversions and replacing this water with Well #5 pumping, leaving the water instream. We do this by leasing water to the Washington Water Trust during two months in the summer, when the creek has low flows. See attached letters of recommendation on this highly successful program with many partners to support tribal goals of restoring salmon and endangered species to the basin.

The City is under threat of climate change, flood and drought and needs to store more water for such emergencies. The City is currently well testing and gathering data for ASR permitting at this well. This reclamation grant is needed to construct the new facility. Once operational, some of this stored water will be used by local farms, some will be used by the City, some of this will benefit local streams and aquatic wildlife and some will be stored for future droughts. The water in this basin is over appropriated, has no storage reservoirs, and water calls are frequent during the summer irrigation season.

Performance Measures

Performance measures will include:

- (Build) Building the ASR facility to include new ASR building, chlorine room, ASR piping and metering, new pump, new motor, electrical controls and communications, a regenerative variable frequency drive (to generate power while recharging), and an emergency generator, and general site work.
- 2. (Test and permit) The ASR facility will have to perform ASR recharge and recovery pilot testing before the final permit with operational parameters is issued. The City's existing permit will be amended, or a new modified permit will be issued.

3. (Report) Annual report on the amount of water stored and recovered, as well as operational and environmental data.

Evaluation Criteria

A. Project Benefits (30 points)

• How will the project build long-term resilience to drought? How many years will the project continue to provide benefits?

This project will build long term resiliency to drought. The City started the ASR program in 1999. At that time, levels in the basalt aquifer were dropping one to two feet per year and being mined. The basalt aquifer underneath the city is divided into three distinct aquifer compartment bathtubs separated by earthquake faults and was under artesian pressure. Carbon dating the water has found it to be 10,000 years old, thus water stored and recharged there stays a very long time and is available for drought times.

The City has restored water levels in two of the three basalt bathtubs. This project will restore the water level in the third aquifer compartment/bathtub. Drought is a major factor in making our water supplies more sustainable. Drought has also made our watershed much more susceptible to wildfire. In the worst-case scenario, a wildfire could impair the water quality out of the watershed to the point where the City cannot use its surface water for up to five years. In this case, stored water in the basalt aquifer would be the key to making it through a drought. Restoring the water level in the basalt aquifer will make it available for future generations. The plan is for at least seven generations.

• Will the project make additional water supplies available?

This project will recharge and store 1,000 acre-feet per year. depending on climate and usage. This project could store between 3,000 to 5,000 acre feet of water over 10 years in the basalt aquifer. It will also make water available for future generations.

• What percentage of the total water supply does the additional water supply represent? How was this estimate calculated?

Over one year, this represents 9% of the City's water usage. The City uses 11,000 acre-feet of water per year and this project would store 1,000 acre-feet per year. Over ten years, up to 5,000-acre feet would be stored, which represents 45% of the City's year use for one year. This project will restore the aquifer for many future generations.

• Provide a qualitative description of the degree/significance of the benefits associated with the additional water supplies.

For the domestic water system, water in the system becomes quite stagnant in the distribution system in the winter, and this causes low chlorine residual. The low chlorine residual causes problems for the Regional Hospital and the VA hospital which require a minimum chlorine residual to prevent Legionnaires disease. By recharging the aquifer, it will keep water flowing in the distribution system and it will keep the water moving and improve water quality. Also, if we do not recharge the aquifer and pump it dry, any remaining water quality would suffer and degrade.

Because we are storing water, we will be able to lease some surplus/stored water to the Washington Water Trust for Mill Creek during the two low flow months. This will increase the flow in the Mill Creek by 40%. This flow is critical because the Confederated Tribes of the Umatilla Indian Reservation is trying to restore Chinook salmon in the basin. Water is very scarce in the basin. The Mill Creek water quality is impaired and listed on the TMDL listing of impaired streams. The additional water greatly improves water quality, helps meet minimum stream flows needed for aquatic restoration, fish runs, reduction in temperature, and improved water quality.

• Will the project improve the management of water supplies? For example, will the project increase efficiency, increase operational flexibility, or facilitate water marketing (e.g., improve the ability to deliver water during drought or access other sources of supply)? If so:

Water is stored in the basalt aquifer for droughts, emergencies, and future generations.

The closed watershed is at extreme risk of wildfires after not being logged for 100 years. The watershed provides 80% to 90% of the water to the city. If a catastrophic fire occurs, the ash from the wildfire may require the City to convert it to 100% well use up to five years. This stored water in the aquifer would be critical to allowing the City to provide water through this catastrophic emergency and give the City operational flexibility. Storing winter water greatly increases the efficiency of the basin water cycle.

We are currently storing water and marketing this water to the Washington Water Trust to restore tribal fish runs. This project would allow the City to lease water to the Washington Water Trust during critical low flow periods in Mill Creek during non-emergency years. This would benefit water quality, aquatic life and help the Confederated Tribes of the Umatilla Indian Reservation goals of restoring fish runs in the basin. The protected closed Mill Creek Watershed is pristine spawning habitat, and this extra water will help reestablish conductivity between the Columbia River and the pristine spawning habitat of the closed protected watershed.

In 1998 and 2020, the transmission main from the watershed was destroyed by flood and the City had to rely on well water. Restoring the basalt aquifer is critical to giving the City the operational flexibility to cope with such emergencies.

• Will the project make new information available to water managers?

The protected closed Mill Creek Watershed is pristine spawning habitat, and this extra water will help reestablish conductivity between the Columbia River and pristine spawning habitat of the watershed and a key goal to fish/water managers. This information will be shared with all the water managers and the watermaster at monthly meetings.

The Confederated Tribes of the Umatilla Indian Reservation (CTUIR) has built a new fish hatchery on the Walla Walla River in an effort to restore a chinook salmon run to the basin. Next summer they plan to reintroduce 10,000 chinook salmon smolt into Mill Creek. These additional flows will help young spring chinook migrate to the ocean and the release of extra water will be carefully managed to promote fish migration.

Mill Creek and the Walla Walla River have many TMDL water quality and temperature listings. The additional flow will help with temperature, water quality, and reduce algae blooms. The City and many other agencies including the Bureau of Reclamation are involved in the Walla Walla Basin Integrated Flow Study. This project is one of the tools needed to help restore basin water flows. The Bureau of Reclamation is a funding partner for this study under grant number R16AP00151. This basin has no surface reservoir so using the basalt aquifer as a reservoir is critical.

With climate change, drought, and an enhanced risk of forest fires, efficient and smart use of water is of extreme importance to the City in managing the limited water supply.

B. Drought Planning and Preparedness (20 points)

The Walla Walla Water 2050 Strategic Plan (WWW2050) lays out a 30-year effort to improve stream flows and water supplies in the Walla Walla watershed. Employing an integrated water resource management approach, the WWW2050 Plan integrates goals and solutions from the basin's diverse stakeholders in both Washington and Oregon to achieve a holistic and viable long-term plan for water use in the basin.

The plan provides a broad summary of key accomplishments and ongoing work in the basin, a description of current watershed conditions, and desired future watershed conditions to support prioritized short and long term strategy recommendations to provide improved water supply reliability and streamflow.

This plan can be found at https://apps.ecology.wa.gov/publications/SummaryPages/2112011.html

• Explain how the applicable plan addresses drought. Proposals that reference plans clearly intended to prepare for and address drought will receive more points under this criterion.

#	Tier 1 Strategy	Category	Tool	Timeline	Cost	Ease of Implementation	# of Desired Future Conditions Met	
1.13	Expand and support Aquifer Storage and Recovery (ASR) to maintain groundwater quality and capacity	եղ	1 5	0→	\$\$\$\$	\mathbf{a}	5	
1.14	Improve coordination and response to drought management Basin-wide	*	省		\$		5	
		_					1	
2.03	Implement improved and additional municipal water conservation strategies such as detecting and repairing leaks, implementing tiered water rates, installing advanced smart meters, updating drought response programs, decreasing irrigated landscapes, and planting native species	եր	*	۲	\$\$\$	4	5	

The 2050 strategic plan addresses drought in many places to include:

• Does the drought plan contain drought focused elements including a system for drought monitoring, sector vulnerability assessments related to drought, prioritized mitigation actions, and response actions that correlate to different stages of drought? Yes, see table below:

						-	
1.14	Improve coordination and response to drought management Basin-wide	*		۲	\$		5
1.15	Expand and fund streamflow gages throughout the Basin	\bigcirc		Ð	\$\$		4
1.16	Increase coordination and enforcement of floodplain and riparian regulations and management between Counties and State water management entities			۲	\$		4
1.17	Increase infiltration of stormwater rather than discharge to surface water bodies and improve coordination and management		*	Ð	\$\$\$\$\$\$		4

• Explain whether the drought plan was developed with input from multiple stakeholders. Was the drought plan developed through a collaborative process?

Ecology's Office of Columbia River worked collaboratively with the Walla Walla Partnership, Confederated Tribes of the Umatilla Indian Reservation, Oregon Department of Water Resources, local governments (including City of Walla Walla) in both Washington and Oregon, environmental non-profits, irrigators, and basin stakeholders representing a diverse representation of water users and the interested public. Because the basin does not have any reservoirs, the basin suffers from a lack of water, has water calls almost every summer and water bodies run dry, taking endangered species, and local wells are going dry. Drought only aggravates an already bad problem. The result is the Walla Walla Water 2050 Strategic Plan will guide water resource decisions for the next 30 years in the basin. Does the drought plan include consideration of climate change impacts to water resources or drought?

Yes, section "4.1 PROJECTED IMPACTS OF CLIMATE CHANGE"

Snow, the primary mechanism for storing water is particularly sensitive to warming mid-winter temperatures. As rain precipitation events replace snowfall, there will be less overall snowpack and an earlier snowmelt peak [97]. Average spring snowpack in Washington is projected to decline by 56 to 70 percent by the 2080s, relative to 1916-2006 [95]. The largest declines in snowpack levels are projected for mid-elevation basins (including the Walla Walla Watershed) that accumulate snow as 10-40 percent of their October-March precipitation [95, 98]. Relative to 1970-1999 levels, the April 1 snow water equivalent (a measure of the total amount of water contained in the snowpack) for snow that feeds the Walla Walla River is expected to decrease by upwards of 66 percent by the 2040s and upwards of 89 percent by the 2080s [98]. This shift is expected to fundamentally change the ecology of Washington watersheds, with waterways once fed primarily by snowpack increasingly fed by a higher percentage of rain.

This is of key concern as the City gets 80 to 90% of the water from the watershed. If water is more plentiful in winter and less plentiful in the summer as climate change impacts predict, then the City will need to store more water in the basalt aquifer to make it through the summer. ASR is a key strategy for combating climate change. Climate change is also putting our watershed at high risk of wildfire. If this happens, the City may lose its surface water supply and rely on the aquifer storage for several years.

• Does the drought plan identify the proposed project as a potential mitigation or response action?

Yes, the plan identifies the ASR project. We once had an abundant large capacity artesian aquifer. After 100 years of pumping, it has been depleted. This project is key to restoring the aquifer and having stored water for drought and emergencies.

Yes, the ASR project is clearly defined in the plan.



o o How is the proposed project prioritized in the drought plan?

The ASR project is defined as a tier one project. The 2050 group is encouraging tier one projects to seek funding as they are the most important projects on the list with the greatest benefits.

C. Sustainability and Supplemental Benefits (15 points)

The project would recharge the aquifer with 1,000 acre-feet of water per year. This will reverse aquifer decline and restore water levels for future generations in a sustainable manner and provide water for drought periods and emergencies. Because this will help restore the aquifer, the City will enter into a water lease, and leave approximately 1,700 gpm (3.79 cfs) in Mill Creek during the peak summer low flow period identified as August and September. This is water that would otherwise be diverted to meet municipal demand. This extra water improves water quality, maintains aquatic health of the creek, and promotes fish migration.

Water that is used for ASR recharge water comes from the Mill Creek watershed. The 30" pipe from the watershed travels to a hydroelectric plant that produces green energy. Then at the well while injecting and restoring the aquifer, the potential energy is captured and also generates electric power at the well site. This project will generate sustainable green hydroelectric power at two facilities.

Years of planning by the City, Tribes, and planning groups described above have identified the City's ASR expansion as a high priority for improving summer flows in Mill Creek and helping restore fisheries in the Walla Walla basin broadly. (See the attached CTUIR Letter of Support).

ASR operations are designed to leave more water in Mill Creek (and the Walla Walla River below Mill Creek) during critical low-flow periods. The water that is recovered during summer pumping at Well #5 will reduce diversions at the intake by a corresponding amount.

Increased flows below the diversion structure benefit the aquatic ecosystem both through improved flow profile and the greater maintenance of cold water temperatures.

Recharge has restored groundwater levels in other portions of the aquifer beneath the City (which are compartmentalized by faulting) after decades of declines from over-pumping. It is expected that aquifer levels near Well #5 will benefit similarly. Increased water levels can lead to increased baseflow to springs and streams, helping to restore normative basin hydrology.

Restoring the aquifer pressures ensures that the City has a sustainable backup water supply if water quality problems occur in the watershed, whether short term turbidity events, or longer-term issues resulting from floods, fires, spills, or drought.

The protected closed Mill Creek Watershed is pristine spawning habitat, and this extra water will help re-establish conductivity between the Columbia River and pristine spawning habitat of the watershed, as well as provide rearing habitat. This project will be of benefit to two species of fish that are listed as threatened on the endangered species list, mid-Columbia steelhead and bull **trout** by improving minimum streamflow's and associated temperature and water quality problems associated with low flows.

The extra flow would help address climate change and drought, due to extreme hot weather (117 degrees last summer) and lack of flow, the streams temperatures reach lethal levels for salmonoids in the summer, and the streams have TMDL temperature water quality listings.

Disadvantaged or Underserved Communities: The City is a tight knit urban settlement consisting of 34,060 residents, with 65% of the city population identifying as white alone and over 24% identifying as Hispanic or Latino. The per capital income is low at \$30,306 and the poverty rate is 12.9%. By saving water, this will help keep future water rates from increasing too rapidly. Low-income households are particularly vulnerable to increases in rent or utilities, especially for those on fixed incomes. In addition, the State Office of Financial Management (OFM) estimates that roughly 12% of the City's population live in group quarters including college residence halls, the state penitentiary, and nursing facilities. This sustainable water project will help keep rates low and help this disadvantaged and underserved Communities.

Tribal Benefits: The Mill Creek Report, May 30, 2018, was a joint report to improve the Municipal Water Supply and Increase the flow in Mill Creek for salmonids and other native aquatic life. The report was written in close collaboration with the Confederated Tribes of the Umatilla Indian Reservation (CTUIR), the Washington State Department of Fish and Wildlife and the City of Walla Walla. The City has a very close working relationships with CTUIR and has leased instream water for the restoration of fisheries. CTUIR has just completed a tribal fish hatchery on the Walla Walla River and plans to plant and reintroduce Chinook Salmon to Mill Creek just above the city in 2023. The plan is to reintroduce 10,000 Chinook Salmon smolt and this ASR/water management project will help provide much needed in-stream water for their rearing and migration during the critical low flow months.

D. Severity of Actual or Potential Drought Impacts to be addressed by the Project (15 points)

This area has no surface reservoirs and is currently depleting the basalt aquifer. This project goal is to retore storage in the aquifer. Consequences of running out of water are:

- Loss of drinking water to the City including the regional hospital, and the Washington State Penitentiary.
- Loss of business and tourism in the basin. Walla Walla is a Wine tourist destination.
- Loss of water in local rivers that include two threatened species under the species act, that include bull trout and mid-Columbia steelhead.
- Loss of the Chinook salmon run the Tribe is trying to restore.
- Water quality in water bodies would further deteriorate causing toxic algae blooms.
- Water temperatures would elevate killing salmon and other aquatic species.
- Loss to irrigated agriculture in the basin.

Currently, the basalt aquifer is declining. The watershed is at extreme risk of wildfire due to climate change. If the watershed burns, the City does not have a filtration plant, and the resulting ash and water quality may make surface water unavailable for up to five years. The City would have to 100% rely on the aquifer and would run out within a couple of years if the aquifer is not recharged.

Recharge has restored groundwater levels in other portions of the aquifer beneath the City (which are compartmentalized by faulting) after decades of declines from over-pumping. It is expected that aquifer levels near Well #5 will benefit similarly. Increased water levels can lead to increased baseflow to springs and streams, helping to restore normative basin hydrology.

Restoring the aquifer pressures ensures that the City has a sustainable backup water supply if water quality problems occur in the watershed, weather short term turbidity events, or longer-term issues resulting from floods, fires, spills, or drought.

The protected closed Mill Creek Watershed is pristine spawning habitat, and this extra water will help re-establish conductivity between the Columbia River and pristine spawning habitat of the watershed, as well as provide rearing habitat. This project will be of benefit to two species of fish that are listed as threatened on the endangered species list, mid-Columbia steelhead and bull trout by improving minimum streamflow's and associated temperature and water quality problems associated with low flows.

Walla Walla has been under a drought declaration for the past year. This week we came out of drought with floods (like Yellowstone). The cycle of drought, floods and fires is rapidly increasing in intensity, duration, and frequency. We need to store and restore the basalt aquifer that we have been mining for the last 100 years. The stored water is to help us get through the climate crisis we are experiencing. This area had some of the best artesian basalt wells in the world prior to over pumping. This project will help restore the aquifer for future generations.

E. Project Implementation (10 points)

The City has a very long history with ASR. The City had the first ASR permitted project in this state and currently we have two ASR wells. This City has been planning and implementing ASR since the 1990s.

The Mill Creek Report, May 30, 2018, was a joint report to improve the Municipal Water Supply and Increase the flow in Mill Creek for salmonids and other native aquatic life. The report was written in close collaboration with the Confederated Tribes of the Umatilla Indian Reservation (CTUIR), the Washington State Department of Fish and Wildlife and the City of Walla Walla. This project has been planned for many years. We are currently finishing a Department of Ecology grant/ASR feasibility study and initial permitting is currently underway. Because the City already has an ASR permit with two wells, and this new well has similar geology and same source water, most of the technical hoops have been worked through and amending or upgrading the existing permit should be relatively straight forward. Water quality and pump testing and initial permit application will be completed in 2022, with an operation permit anticipated in early 2023. This grant will dove tail nicely for the construction upgrades to the well for ASR operations.

The project would be managed by City engineering staff with support from the water division, public works administration staff, and finance staff. City staff has consulted with Reclamation staff and any permitting will be minor and quick because no major ground disturbing activities will occur. The team is well practiced in administering federal grants having administered over \$50 million of grants in the last 10 years. The City has already installed and permitted two (2) ASR wells, so we are well practiced in the funding, permitting, bidding, contract administration and operation of ASR wells.

The site already has a drilled well, and a small existing well house that will need to be replaced to accommodate ASR. Because the site has already been disturbed, the needed excavation will be small thereby reducing the amount of environmental coordination. Most of the environmental permitting will be completed by City staff prior to receiving this grant.

F. Nexus to Reclamation – (10 points)

The City and many other agencies including the Bureau of Reclamation are involved in the Walla Walla Basin Integrated Flow Study. This ASR project is one of the tools needed to help restore basin water flows and prepare for droughts. The Bureau of Reclamation is a funding partner for this study under grant number R16AP00151.

Also, the Washington State Department of Ecology has applied for a smart water grant from the Bureau of Reclamation for support of the Walla Walla Water 2050 program/project. The basin's water rights are over allocated, and the Walla Walla basin needs solutions such as water storage as the basin has no water storage reservoirs. We will be looking to Reclamation for support and their expertise of water storage projects, funding, and administration. This project is also highly supportive of Tribal goals for restoring salmon and other fish runs to the basin and they are a key supporter, see letter of support.

Project Schedule:

- Project set up 3 months
- Final design and permitting 4 months
- Bidding, award, and contracting the project 4 months
- Order equipment and receive equipment 6 months. Any final environmental permitting will be done at this time. Equipment lead times are currently exceptionally long.
- Building new ASR facilities 12 months.
- Project testing ASR reporting and close out 7 months.
- Project total 36 months

Project Budget

Funding Plan:

The total project cost is \$3.2 million. This grant would provide \$1.6 million and the City would come up with an additional \$1.6 million, 50% match. The City Council has already committed to providing matching funds for the project as needed, see attached resolution. The City has also been approached by several other interested parties that would like to contribute to the project such as the Confederated Tribes of the Umatilla Indian Reservation, the office of the Columbia River and the Department of Ecology streamflow restoration grant program. The City will pursue these grants as additional matching money, however the City will provide the necessary matching funds required regardless of any additional funds using City water funds.

Budget Proposal:

This budget proposal was put together with the help of Murray Smith engineers and the City's consulting hydrogeologist.

Planning	-Level Cost Estimate						
Project: Well 5 ASR							
Owner: C	ity of Walla Walla						
Project N	lo.: wa2302						
Date: M	arch 2022						
1	Project and grant administration						\$20,000
2	Permiting (NEPA exc)						\$46,000
3	Desgin						\$398,000
Item No. 4	Construction Description	Est. Qty.	Unit	U	nit Price	1	otal Price
1	Mobilization, Bonds, Insurance, Permitting, Demobilization and Shop	1	15	¢	220.055	¢	220.055
1	drawings	1	LS	°	229,035	3	229,035
2	Site Work						
a.	Well Building Demolition	1	LS	\$	70,000	\$	70,000
b.	Yard Piping	1	LS	\$	50,000	\$	50,000
c.	Limited Landscape Parking Improvement	1	LS	\$	27,150	\$	27,150
3	Building						
a.	CMU Structure	1	LS	\$	47,000	\$	47,000
b.	Concrete Slabs & Foundations	1	LS	\$	27,195	\$	27,195
c.	Building Construction	1	LS	\$	66,000	\$	66,000
4	Mechanical						
a.	Piping	1	LS	\$	165,000	\$	165,000
b.	ASR Equipment	1	LS	\$	250,000	\$	250,000
c.	Water Quality Equipment	1	LS	\$	100,000	\$	100,000
5	Electrical						
a.	Service, Lighting, MCC, VFD	1	LS	\$	305,000	\$	305,000
b.	Standby Generator and ATS	1	LS	\$	181,500	\$	181,500
c.	ASR Net Metering Equipment	1	LS	\$	140,000	\$	140,000
Subtotal: Construction							1,657,900
25% Contingency						\$	165,790
8.9% Walla Sales Tax							162,310
							1,986,000
5 Consulting - ASR Testing, QAPP, observations wells.						750,000	
	Total Project Cost						3,200,000

Budget Narrative:

The estimated project cost is \$3,200,000. This construction project will convert existing Well #5 to an Aquifer Storage and Recovery (ASR) well/project. Construction work will consist of demolition of the existing small well house and the construction of a new well house, new well pump and motor, new chlorination room, ASR piping and metering, regenerative power producing Variable Frequency Drive (VFD), and an emergency generator.

The project would be managed by City engineering staff with support from the water division, public works administration staff, and finance staff. The City finance team has experience with many federal funds projects and has tight controls in place to ensure proper management, ensuring no conflict of interests are occurring and policies on disclosure of any lobbying. The team is well practiced in administering federal grants having administered over \$50 million of grants in the last 10 years.

Environmental and Cultural Resources Compliance

Reclamation will be the lead Federal agency for NEPA compliance and will be responsible for evaluating technical information and ensuring that natural resources, cultural, and socioeconomic concerns are appropriately addressed and the City is looking forward to working through this process.

We have consulted with the Bureau of Reclamation, and they have advised on the budget for this phase of work. The existing well house shall be demolished and a larger well house installed. The construction will be slab on grade so any excavation will be minimal, however there will be a few pipes and electric conduits below grade. Much of the area has been previously disturbed.

This project will be of benefit to two species of fish that are listed as threatened on the endangered species list, mid-Columbia steelhead and bull trout by improving minimum streamflow's and associated temperature and water quality problems associated with low flows. The Tribe has seen great success with the City ASR program and is huge supporter (see letter of recommendation).

Required Permits or Approvals

Work shall consist of:

- NEPA permit
- City Shorelines Permit, within 75 feet of Yellowhawk Creek
- WA Ecology Permit, testing/water quality data and permit application will be submitted fall of 2022, currently underway.
- Ecology will require pilot testing the recharge and recovery capability of the facility after construction prior to issuing final ASR operational permit.

June 14, 2022

United States Bureau of Reclamation Water Resources and Planning Office P.O. Box 25007 Denver, CO 80225

Re: City of Walla Walla Application for WaterSMART Funding Opportunity R23AS00005

Dear Application Review Team,

As the Water Resources Program Manager for the Confederated Tribes of the Umatilla Indian Reservation (CTUIR), I am pleased to submit this letter in support of the City of Walla Walla's 2022 application to the WaterSMART Drought Response Program under funding opportunity R23AS00005.

Increasing the resilience of municipal water supply systems and implementing high quality, permanent projects to restore stream flows are critical to preparing communities and ecosystems to cope with drought. This project would further progress toward both these objectives by enhancing the City of Walla Walla's ability to store water. As snowpack diminishes and seasonal hydrographs shift, increasing water storage capacity will be critical to adapting to a changing climate.

By increasing the City's ability to inject and store water in the groundwater aquifer, this project will allow the City to divert and store surface flows in the winter, when water is relatively more plentiful. As a result, the City will be able to reduce its reliance on surface water in Mill Creek during the dry, summer months, when flows desperately are needed instream for fisheries.

This work will not only strengthen the City's water supply infrastructure, but also will help restore flows in Mill Creek and re-establish connectivity to the pristine spawning habitat in its headwaters. This will be critical to the recovery of threatened salmonid, lamprey, and other native aquatic species that are central to CTUIR's culture and traditions.

The City has been an active participant in the various water planning processes ongoing in the basin, and upgrading its water system consistently is cited as one of the best opportunities to immediately improve summer stream flows and secure municipal water supplies. These efforts also align with Washington State's goals under RCW 90.94 to maintain and restore functioning aquatic ecosystems for the survival of the species and communities that depend upon them.

We feel that this proposal builds upon a proven, successful strategy for restoring flows and improving the climate resilience of municipal water systems, and we are pleased to provide this letter in support.

Respectfully. ust Maite David Haire

Water Resources Program Manager Department of Natural Resources Confederated Tribes of the Umatilla Indian Reservation

June 1, 2022

Attn: Applications Review Team

R23AS00005

WaterSMART Drought Response Program: Drought Resiliency Projects for Fiscal Year 2023 Department of the Interior Bureau of Reclamation

Dear Application Review Team,

As the Executive Director for the Washington Water Trust (WWT), I pleased to submit this letter in support of the City of Walla Walla's application for a 2023 WaterSMART Drought Response grant.

The City of Walla Walla's aquifer and storage recovery (ASR) system has been identified in multiple efforts, including the WWT's 2018 Mill Creek Basin Review, as having the greatest potential to immediately improve summer streams flows in Mill Creek, secure municipal water supply, and improve the resilience of the City's municipal water supply in the face of droght and climate change. Currently, the City's water right allows the City to divert up to 28 CFS from Mill Creek which during the low flow summer period which can be roughly half of the natural flow. Surface water diversions downstream further reduce flow, and in late summer only 2-3 CFS typically remain at the confluence of Mill Creek with the Walla Walla River.

Increasing the capacity of the City's ASR program by adding ASR capability to an additional well will increase the City's ability to divert water during the winter for underground storage. This stored water can be recovered during the summer months to help meet municipal demands during the critical low-flow period allowing the City to reduce their surface water diversion. Increasing instream flow in Mill Creek is critical for supporting connectivity to the high-quality headwater tributary habitat that salmon and steelhead rely on.

WWT, the Confederate Tribes of the Umatilla Indian Reservation (CTUIR), and the City of Walla Walla are partnered on an ongoing project funded through the National Fish and Wildlife Foundation (NFWF) Columbia Basin Water Transaction Program (CBWTP) that utilizes the City's existing ASR well capability to forego 5.5 CFS of surface water diversion during the critical low flow time period and protect this water instream to restore streamflow in Mill Creek.

We support the continued expansion of the City's ASR system in furtherance of the goal of permanently reducing their summer surface water diversions. The City's leadership has been instrumental in the development of their ASR system that is critical to maintaining and restoring functioning aquatic ecosystems for the species and communities that depend on them, and for the Umatilla Tribes' culture and traditions that depend on these species. The City's 2020 Streamflow Restoration Grant is an opportunity to further these goals and WWT strongly supports this application.

James Kraft,

James Kraft, Executive Director

June 9, 2022

R23AS00005 WaterSMART Drought Response Program: Drought Resiliency Projects for Fiscal Year 2023 Department of the Interior Bureau of Reclamation

Re: Letter of Support for City of Walla Walla's Well 5 Aquifer Storage and Recovery (ASR) Project

To Whom it May Concern:

The Walla Walla Basin Advisory Committee (BAC) is writing to you in support of the City of Walla Walla's Well 5 Aquifer Storage and Recovery (ASR) Project for funding through the WaterSMART Drought Response Program for Fiscal Year 2023.

The basalt aquifer in the Walla Walla Basin has been declining. ASR has been found to reverse the decline and restore water levels, which increases the amount of water available for periods of drought or emergencies. The City of Walla Walla ASR program seeks to reduce summer surface diversions, benefit the aquifer system, and meet municipal demands during critical, low-flow periods. The City of Walla Walla currently operates two ASR wells (Wells 1 and 6) and is currently conducting a feasibility analysis of well 5 via a grant from the Washington State Department of Ecology.

This WaterSMART funding would be used to construct the ASR well 5 facility. By upgrading an additional well to ASR capacity, this would expand the City's ability to divert water during the winter for underground storage, which will then enable the City to reduce their summer surface diversions and support streamflow restoration in Mill Creek. This will re-establish connectivity to pristine headwater tributary habitat and help restore the threatened salmonid, lamprey, and other native aquatic species.

The Walla Walla BAC continues to work to identify and prioritize projects based on decades of watershed planning and current Basin needs which are then vetted through a technical and stakeholder process within the Walla Walla Basin. The BAC and its partners in the Basin seek to leverage and secure funding for high priority projects to accomplish the multiple goals of the Walla Walla Water 2050 Strategic Plan.

The proposed project impact is in direct alignment with the Walla Walla Water 2050 planning effort, led by Washington State Department of Ecology, Oregon Water Resources Department, and the Confederated Tribes of the Umatilla Reservation. Within that plan, this project supports the implementation of Strategy 1.13: Expand and Support ASR to maintain groundwater quality and capacity. Specifically, this proposed project will restore groundwater levels, support streamflow restoration in Mill Creek, and expand resiliency of the City's water supply.

By funding this proposal, you will be investing in an important piece of a Basin-wide strategy for improved water management – you will also be investing in a proven project sponsor in the City of Walla Walla.

Thank you for your consideration of the City of Walla Walla Well 5 ASR Project proposal. If you have any questions or concerns, please contact Amanda Cronin, Walla Walla Basin Project Manager, <u>amanda@ampinsights.com</u>.

Sincerely,

Walla Walla Basin Advisory Committee



TRI-STATE STEELHEADERS SALMON ENHANCEMENT GROUP

PO Box 1375 Walla Walla, WA 99362 | (509) 529.3543 | www.tristatesteelheaders.com

May 23, 2022

Dear Bureau of Reclamation,

I am writing in support of the City of Walla Walla's WaterSMART Drought Response Program: Drought Resiliency Projects for Fiscal Year 2023 application.

Our mission is to restore sustainable populations of native salmon and steelhead by enhancing habitat, providing public education, and promoting recreational angling. For over 10 years, we have been conducting projects to improve fish passage in the non-federal portion of the Mill Creek flood control channel.

Mill Creek is critical for summer steelhead and bull trout, both listed as threatened under the Endangered Species Act, for spring chinook, for species of state concern, and for species of tribal significance.

Average daily flow in Mill Creek during August and September is around two cubic feet per second at the stream gage near the community college. The City's ASR proposal would provide a significant increase in stream flow during the months of the lowest flows of the year. Improved instream flow is a direct benefit to all aquatic species in Mill Creek.

Sincerely, Rey Bruns

Brian Burns Executive Director

RESOLUTION NO. 2022-82

A RESOLUTION AUTHORIZING THE CITY MANAGER AND DESIGNEES TO APPLY FOR GRANT FUNDING FOR EXPANSION OF ITS AQUIFER STORAGE AND RECOVERY WELL PROGRAM, AND TAKING OTHER NECESSARY ACTION WITH RESPECT TO SUCH GRANT PROGRAM

WHEREAS, the City of Walla Walla seeks to expand its aquifer storage and recovery program; and

WHEREAS, the City of Walla Walla passed Municipal Ordinance A-2405 on May 13, 1970 which classified the City of Walla Walla as a nonchartered code city under Title 35A of the Revised Code Washington (RCW); and

WHEREAS, RCW 35A.11.020 provides in pertinent part that "[t]he legislative body of each code city shall have all powers possible for a city or town to have under the Constitution of this state, and not specifically denied to code cities by law;" and

WHEREAS, Walla Walla has "all of the powers which any city of any class may have and shall be governed in matters of state concern by statutes applicable to such cities in connection with such powers to the extent to which such laws are appropriate and are not in conflict with the provisions specifically applicable to code cities" pursuant to RCW 35A.21.160; and

WHEREAS, RCW 35A.11.040 authorizes the Walla Walla City Council to "accept any gift or grant for any public purpose and may carry out any conditions of such gift or grant when not in conflict with state or federal law;" and

WHEREAS, section 35.21.735 of the Revised Code of Washington declares that "carrying out the purposes of federal grants or programs is both a public purpose and an appropriate function for a city, town, county, or public corporation" and authorizes entry into agreements to receive and expend grant funds; and

WHEREAS, Chapter 39.34 of the Revised Code of Washington authorizes political subdivisions to enter into intergovernmental cooperation agreements, and

WHEREAS, grant funding is available through the United States Bureau of Reclamation; and

WHEREAS, the Walla Walla City Council has considered this matter during a regularly and duly called public meeting of said Council, has given said matter careful review and consideration, and finds that passage of this resolution is an appropriate function for the city and that the best interests of the City of Walla Walla will be thereby served;

NOW THEREFORE, the City Council of the City of Walla Walla resolves as follows:

Section 1: The Walla Walla City Council hereby authorizes the City Manager of the

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City of Walla Walla and/or designees of the Walla Walla City Manager to apply for grant funding available from the United States Bureau of Reclamation WaterSMART grant for the expansion of the City's aquifer storage and recovery program on behalf of the City of Walla Walla, and the Walla Walla City Manager, and/or designees of the Walla Walla City Manager, are hereby authorized and empowered to accept such grant funding execute a grant agreement and all other documents that may be required to participate in the grant program.

Section 2: The Walla Walla City Council hereby authorizes the City Manager of the City of Walla Walla and/or designees of the Walla Walla City Manager to apply for additional grants to fund the expansion of the City's aquifer storage and recovery program on behalf of the City of Walla Walla, and the Walla Walla City Manager, and/or designees of the Walla Walla City Manager, are hereby authorized and empowered to accept such grant funding and execute a grant agreements and all other documents that may be required to participate in the grant program(s).

Section 3: The City Manager of the City of Walla Walla is designated as the chief administrative official and authorized representative in all matters arising out of participation in the grant program(s) authorized by section 1 and 2 herein, and the City Manager of the City of Walla Walla, and/or designees of the Walla Walla City Manager, are hereby authorized, empowered, and directed to comply with program requirements and to make such certifications, funding commitments, reports, or other representations which may be necessary on behalf of the City of Walla Walla.

Section 4: The Walla Walla City Manager, and/or designees of the Walla Walla City Manager, are hereby authorized and empowered to approve and execute other documents related to and required by the grant program(s).

Section 5: The Walla Walla City Manager, and/or designees of the Walla Walla City Manager, are hereby authorized and empowered to negotiate and execute an intergovernmental agreements regarding usage of grant funds subject to the following conditions: (a) no agreement executed in accordance with this section shall relieve the City of Walla Walla from compliance with enactments of the Walla Walla City Council or any other obligation or responsibility imposed by law, (b) any agreement executed in accordance with this section shall be reported to the Walla Walla City Council at the first meeting of the Walla Walla City Council following its execution, and (c) any agreement executed in accordance with this section may be revoked and terminated by the Walla Walla City Council at the meeting that it is first reported to the Walla Walla City Council.

Section 6: The City Manager of the City of Walla Walla, and/or designees of the

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Walla Walla City Manager, are hereby authorized, empowered, and directed to execute amendments to agreements authorized by section 5 herein subject to the following conditions: (a) no amendment executed in accordance with this section shall relieve the City of Walla Walla from compliance with enactments of the Walla Walla City Council or any other obligation or responsibility imposed by law, (b) any amendment executed in accordance with this section shall be reported to the Walla Walla City Council at the first meeting of the Walla Walla City Council following its execution, and (c) any amendment executed in accordance with this section may be revoked and terminated by the Walla Walla City Council at the meeting that it is first reported to the Walla Walla City Council.

Section 7: The Walla Walla City Clerk is hereby authorized and directed to attest any application, agreement or other document executed in accordance with this resolution.

PASSED on June 8, 2022 by the City Council of the City of Walla Walla,

Washington.

10m

Mayor

Attest: CityClerk

Approved as to form:

City Attorney