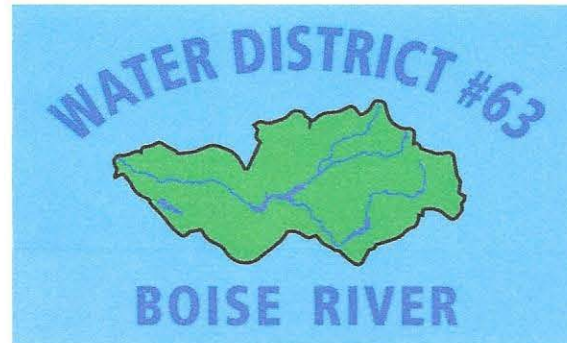


Water District 63 Real-Time Monitoring Implementation Project



Applicant:

Water District 63
PO Box 767
Star, ID 83669

Project Manager:

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Prepared for:

U.S. Department of the Interior, Bureau of Reclamation
WaterSMART Small-Scale Water Efficiency Grants Fiscal Year 2022
Notice of Funding Opportunity No. R22AS00195
April 28, 2022

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WATER DISTRICT 63 REAL-TIME MONITORING IMPLEMENTATION PROJECT

WaterSMART Small-Scale Water Efficiency Projects FY 2022

1. Executive Summary

Applicant Info

Date: April 28, 2022

Applicant Name: Water District 63

City, County, State: Star, Ada, Idaho

Applicant Category: A

Grant Funding Request: \$74,185

Non-Federal Matching Funds: \$74,185

Total Project Costs: \$148,370

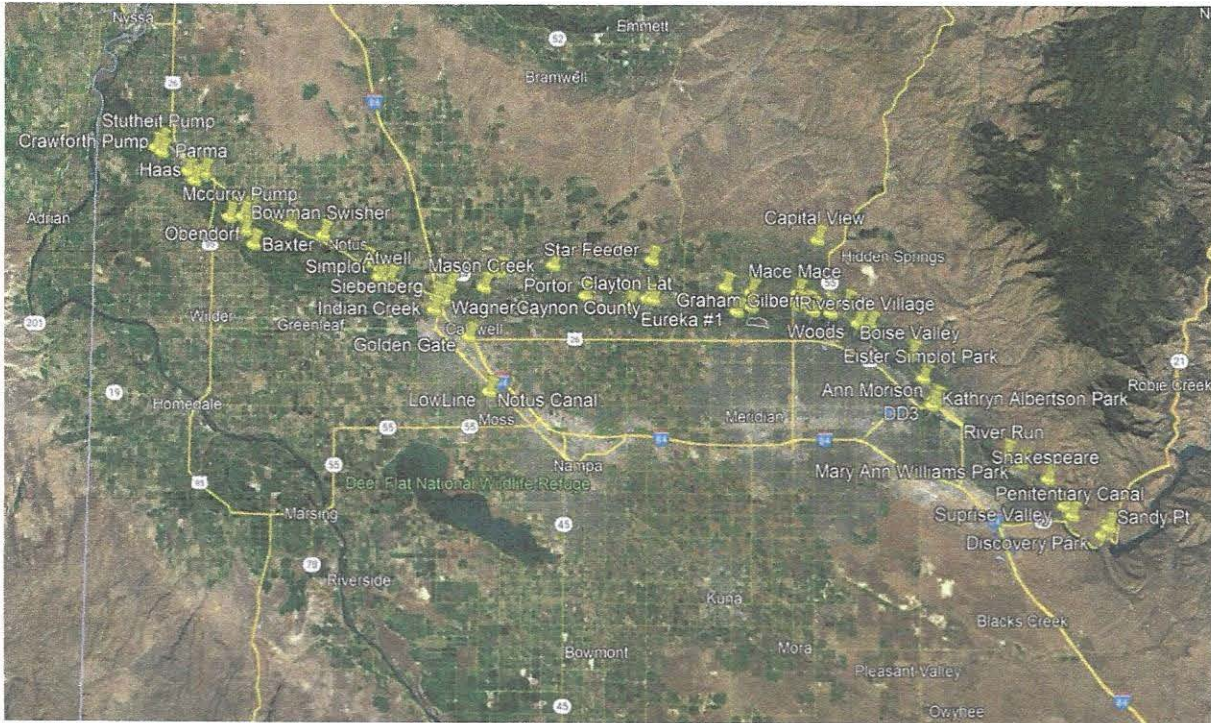
Federal Facility Denotation: The project is not located on a federal facility.

Project Summary

Water District 63 (“District”) provides water to 130 stakeholders, including irrigation districts, canal companies, farmers, water service companies, municipalities, and subdivisions across 4 counties (i.e., Ada, Boise, Canyon, and Elmore) in western Idaho. The District seeks funding to automate its currently manual flow-monitoring system on 64 diversion channels along the Boise River. The project scope includes procurement and installation of 25 flow meters, 39 pressure transducers, and 64 telemetry units that interface with a web-based platform via long-range (LoRa) radio and cellular networks. This real-time monitoring (RTM) implementation project will increase the frequency of data collection from weekly to hourly, thereby improving data accuracy and shortening Watermasters’ incident response time by up to a week. RTM is expected to reduce operational loss (i.e., stakeholders’ overconsumption) by an estimated 3,200 to 4,800 acre-feet of water per year. This will improve both the reliability of the water supply delivery system and the District’s operational efficiency and resilience. Stakeholders will in turn benefit from reduced risk of water shutoffs and restrictions, longer water-supply seasons, and improved enterprise quality (e.g., better profit margins, healthier landscapes, and increased potable water supply). This project will help the District accomplish certain goals and priorities outlined in the Idaho State Water Plan completed in 2012.

2. Project Locations

Water District 63 Real-Time Monitoring Implementation Project will occur at 64 diversion channels along the Boise River in Idaho. The westernmost channel is Stutheit Pump, located in Canyon County approximately 2 miles West of Parma, ID (site latitude is 43°47’ 00.31”N and longitude is 116°58’ 04.67”W). The easternmost channel is Sandy Point, located in Ada County approximately 2 miles East of Boise, ID (site latitude is 43°31’49.50”N and longitude is 116°3’30.26”W).



3. Technical Project Description

The District proposes to implement real-time monitoring (RTM) technology on 64 diversion channels (“diversions”) along the Boise River to better manage and conserve water. The project scope includes retrofitting 25 existing flow meters (ranging from 4” meters to 10”) on 21 closed-channel diversions, and new installation of 39 pressure transducers on 39 open-channel diversions. Each device will communicate via a cable-connected telemetry unit to a carrier-grade (i.e., cybersecurity, redundant, and future proof) network operated by Paige Wireless, the largest public carrier-grade LoRaWAN network provider in North America.

RTM will automatically and remotely collect, store, and display hourly flow data via a LoRaWAN network and web-based platform/graphical user interface (GUI) provided by Paige Wireless. The equipment and technology required for the project is commercially available today and has a proven history of successful use by other natural resource districts.

Two parties will execute this RTM deployment:

1. Agri-Lines Irrigation will deploy flow meters on closed-channel diversions. The District secured this qualified contractor in compliance with the Bureau of Reclamation’s procurement method for small purchases (i.e., for services under \$10,000).
2. District Watermasters will deploy pressure transducers on open-channel diversions and telemetry units on both closed- and open-channel diversions.

Project tasks will include, but will not be limited to:

1. Procurement of:

- a. Hardware:
 - i. Devices, i.e.,
 - 1. RS-485-enabled flow meters and pressure transducers
 - 2. LoRaWAN-enabled telemetry units
 - ii. Connectivity equipment, i.e., connectors and conduit including internal wires
 - iii. Anti-theft/tampering equipment, i.e., metal lockboxes, padlocks, bolts, and nuts
 - b. Software: A web-based platform/GUI for District Watermasters to access stakeholder consumption data
2. Installation of hardware:
- a. *Performed by Agri-Lines Irrigation (contractor)*: Installation of 25 flow meters by driving to 21 closed-channel diversions, cutting a section of pipe downstream from the pump(s) at each site, welding flanges to the pipe, installing inserts as needed, and bolting flow meters into place
 - b. *Performed by District Watermaster Mike Meyers and Deputy Watermaster Daniel Hoke*:
 - i. Installation of 39 pressure transducers by driving to 39 open-channel diversions, trenching and burying conduit 1 foot underground, drilling through the concrete wall of the diversion, inserting the conduit/pressure transducer through the wall, and mounting the conduit/pressure transducer to the wall
 - ii. Installation of 64 telemetry units by driving to 64 diversions, digging post holes, setting metal posts in concrete, mounting lockboxes to posts, and running conduit including internal wires to connect devices to telemetry units
3. Functional testing of hardware including powering on devices and then validating that data is being sent to GUIs for application users (i.e., District Watermasters) and network administrators (i.e., Paige Wireless)

4. Evaluation Criteria

Evaluation Criterion A: Project Benefits (35 points)

Benefits to the Category A Applicant's Water Delivery System:

1. Clearly explain the anticipated water management benefits to the Category A applicant's water supply delivery system and water customers: The proposed project will provide multiple benefits to the District's water supply delivery system and stakeholders, including:

1. Improved operational efficiency for the District: RTM will save approximately 25% of Watermasters' time per week by automating data-collection and data-entry. Each Monday, Watermasters drive 121 miles to 64 diversions and manually record (i.e., with pen and paper) the previous week's stakeholder diversion rate (SDR) for each diversion. Tuesday morning, they manually input this data into a state database that prescribes SDRs for the upcoming week. (Prescribed SDRs are thus based on historical data; this drives operational loss due to its

inaccuracy [see 3.a. below].) RTM will allow Watermasters to eliminate this set of tasks that consumes 25% of their time.

2. Improved operational resilience for the District: In certain cases, such as a natural disaster or homeland security risk, Watermasters may be unable to manually monitor flow due to high risk of driving to diversions. Also, in the event of employee turnover, interim/replacement water managers may not have the knowledge or skills needed to manually monitor and manage flow. In each of these cases, RTM will provide automated, remote data versus the District's current manual system that will fail to provide any data. RTM is also a cost-effective way to expand water-management resources: Today, 2 Watermasters monitor 64 diversions once per week; RTM will result in 64 devices monitoring 64 diversions once per hour.

3. Improved reliability of water supply delivery system by conserving water: Watermasters will use RTM to reduce operational loss by an estimated 3,200 to 4,800 (maximum 8,000) acre-feet per year (AFY). Two key factors will enable this:

- a. *Improved accuracy of prescribed SDRs:* As river flow rates fluctuate continuously, Watermasters cannot use last week's flow data (even if it is accurate) to accurately predict this week's average flow rate. Yet this is precisely how Watermasters calculate and prescribe SDRs for the upcoming week. If actual flow rates turn out to be lower than estimated flow rates (the odds of this happening are 50%), stakeholders will have overused water *while complying with the District's prescribed SDRs*. RTM will enable Watermasters to prescribe SDRs based on real-time data, not week-old data. This will improve SDR accuracy and conserve water—thereby reducing the risk of water shutoffs, water restrictions, and shortened water-supply seasons for stakeholders.
- b. *Shortened management response time by up to a week.* Currently, Watermasters wait an entire week between prescribing SDRs and measuring actual SDRs. So, actual SDRs for the current week cannot be managed until the following week. RTM will enable Watermasters to manage SDRs *throughout* a given week (and even a given day), thereby reducing operational loss.

4. Extended season for stakeholders: Stakeholders are typically permitted to divert water from the Boise River from April through October. However, as the District is currently in its third consecutive year of drought, Watermasters plan to deactivate the water supply 8 to 10 weeks early this year. Watermasters estimate that RTM will extend the season by 2 to 3 days each year—a significant benefit to stakeholders (see immediately below)—by conserving 3,200 to 4,800 (maximum 8,000) AFY.

5. Improved enterprise quality for stakeholders: By extending the water supply season, RTM will improve stakeholders' enterprise quality in the following ways:

- a. Better profit margins for farmers based on increased quantity and quality of crop yield. This is especially important now, as the District is in its third consecutive year of drought; many farmers face the difficult choice of growing their typical crop despite reduced yields, growing a different drought-tolerant crop despite reduced margins, or quitting farming altogether.

- b. Healthier/more appealing landscapes (e.g., trees, shrubs, flowers and lawns) for municipalities and subdivisions.
- c. Increased potable water supply to the public. Given rapidly-increasing population growth and corresponding demand for water, even small-scale optimization of water management is critical. Ada and Canyon counties, which comprise the vast majority of land mass in the Boise River basin, grew by an average of 24.2% compared to a national average of 7.4% between 2010 and 2020.^{1,2}

2. Are customers not currently getting their full water right at certain times of year?

Stakeholders are not getting their full water right at certain times of the season due to (1) water restrictions and (2) water shutoffs.

- 1. Each summer, water restrictions occur relative to decreased water flow from the Boise River into the District’s reservoirs.
- 2. Each water right issued by the State of Idaho specifies a stakeholder’s (1) diversion rate (i.e., allowed rate of consumption) and (2) the priority date (i.e., date the water right goes into effect). If the river flow rate becomes sufficiently low, a stakeholder with a senior priority date may compel Watermasters to shut off water access to a competing stakeholder with a later priority date.

RTM will allow Watermasters to minimize operational loss—on both the supply side and the demand side (i.e., reservoirs and diversions, respectively)—thereby helping to avoid water restrictions and water shutoffs for stakeholders.

3. Does this project have the potential to prevent lawsuits or water calls? Stakeholders make water calls to the District when river flow rates are inadequate to deliver their prescribed SDRs. Typically, this occurs when Watermasters have overprescribed SDRs due to inaccurate weekly reporting. Watermasters will prescribe more accurate SDRs with RTM, as it improves resolution and accuracy of data. The District expects that this will prevent water calls.

4. What are the consequences of not making the improvement?

- 1. Operational inefficiency for the District: Watermasters will continue to spend 25% of their week driving to diversions and manually recording and entering data.
- 2. Lack of operational resilience for the District:
 - a. In the event of employee turnover/loss of legacy knowledge, a natural disaster, or homeland security risk, data-collection will be constrained or nonexistent.
 - b. Water-management resources will remain constrained; instead of 64 devices automatically recording hourly data, 2 people will manually record weekly data.
- 3. Lower reliability of the water supply delivery system due to unnecessary operational loss of 3,200 to 4,800 (maximum 8,000) AFY. Factors:
 - a. Low accuracy of prescribed SDRs, as these are based on previous week’s data.

¹ US Census: <https://www.census.gov/library/stories/state-by-state/idaho-population-change-between-census-decade.html>

² US Census: <https://www.census.gov/library/visualizations/2021/dec/2020-percent-change-map.html>

- b. Slow management response time (up to one week) due to Watermasters' measuring actual SDRs a week after prescribing SDRs.
- 4. Higher risk of water restrictions and water shutoffs for stakeholders due to decreased river flows.
- 5. Increasingly shorter water-supply seasons for stakeholders; if stakeholders exceed diversion rates by 5,000 AFY for 3 years, Watermasters may be liable to shorten the final season by 6 to 9 days.
- 6. Reduced enterprise quality for stakeholders including:
 - a. Reduced profit margins for farmers.
 - b. Reduced health/appeal of landscapes for municipalities and subdivisions.
 - c. Reduced potable water supply for the rapidly growing population in the District.

5. Are customer water restrictions currently required? Yes, stakeholder water restrictions occur every summer, corresponding with decreasing water flow into the District's reservoirs. RTM will mitigate the risk and severity of water restrictions by facilitating water conservation.

6. Other significant concerns that support the need for the project. In 2021 the District benefitted from a small-scale RTM deployment. Watermasters installed a pressure transducer on an open-channel diversion and learned unexpectedly that flow rates increase significantly for several hours each afternoon. (This is partly due to tidal changes, which occur in rivers as well as oceans.) Watermasters' current manual monitoring system (i.e., collecting one data point per diversion per week) is unable to track this change; this translates to stakeholders receiving more water than their water rights allow. The proposed larger-scale RTM project will enable Watermasters to monitor and mitigate this overconsumption in real time.

Broader Benefits:

1. Will the project improve broader water supply reliability at sub-basin or basin scale? This project will improve broader water supply reliability at the basin scale by conserving an estimated average of 3,200 to 4,800 (maximum 8,000) AFY. The District administers water to the entire 4,100 square mile Boise River basin that currently has a population of over 700,000 people and supports 130 stakeholders including irrigation districts, canal companies, farmers, water service companies, municipalities, and subdivisions.

2. Will the proposed project increase collaboration and information sharing among water managers in the region? Please explain. There are 60 water managers who oversee the 64 diversions pertaining to this project. The District will provide these water managers with access to the proposed RTM platform, enabling them to make better water-management decisions.

The District also expects increased collaboration among water managers, leading to improved and accelerated disaster mitigation. For example, if large debris becomes stuck in the river, managers can notify each other about problems (e.g., flooding upstream or restricted flow downstream) within hours rather than days.

Finally, RTM will provide a water-conservation template for other water districts in the region to follow. These districts face similar challenges as Water District 63, and the solutions identified in this proposal can be applied on a larger scale.

3. Will the proposed project positively impact/benefit various sectors and economies within the applicable geographic area (e.g., impacts to agriculture, environment, recreation, and tourism)? Please explain. By improving local water availability and reliability, this project will benefit various economic sectors. The District services stakeholders ranging from multinational farming companies to municipal lawns and gardens. The District also supplies irrigation water to various environmental and recreational sites including nature centers, city parks, and gardens.

4. Will the project complement work being done in coordination with NRCS in the area (e.g., the area with a direct connection to the district's water supply)? Please explain. The District is in discussions with the NRCS about future collaborations; however, the present RTM project does not relate to a particular NRCS project. As the District shares a common goal with the NRCS—to use water only when and where necessary—there is potential for future partnership with NRCS to improve the efficiency of water-supply infrastructure (e.g., pipes, reservoirs/dams, and diversions).

5. Will the project help address drought conditions at the sub-basin or basin scale? Please explain. This project will help address drought conditions at the basin scale by improving accuracy of prescribed SDRs and shortening Watermasters' management response time by up to a week.

Evaluation Criterion B: Planning Efforts Supporting the Project (30 points)

Plan Development:

1. Describe how your project is supported by an existing planning effort; identify the planning effort and who developed it. This project is supported by the Idaho State Water Plan (ISWP) and directly aligns with the plan's purpose to better conserve, manage, and use Idaho's water resources. The Idaho Water Resource Board (IWRB) developed this plan in 2012.

2. If the planning effort was not developed by the Category A applicant, describe the Category A applicant's involvement in developing the planning effort. The District is authorized by the IWRB to operate diversions; however, the District did not participate in developing the ISWP.

Support for the Project

1. Is the project identified specifically in the planning effort? No.

2. Does the proposed project implement a goal or address a need or problem identified in the existing planning effort? Yes. The primary objective identified in the ISWP is to quantify water supplies and water demands for all water rights within the state. The plan further specifies required technologies and implementation strategies for achieving this goal. The proposed project directly addresses these requirements in the following ways:

REQUIREMENTS IDENTIFIED (in ISWP)		SOLUTIONS PROPOSED (via RTM)
Technologies	Automated electronic data recording equipment	Flow meters and pressure transducers will automatically record electronic data
	Transfer of data through wireless systems	Telemetry units integrated with long-range (LoRa) radio and cellular networks will transfer data wirelessly
Implementation Strategies	Adopt new water measurement methods and technologies that improve water management capabilities	RTM is a new method/technology that will improve water management capabilities (see above response to Evaluation Criterion A)
	Convert from manual to automated electronic data collection and reporting systems	RTM will automate the District's manual flow-monitoring system on 64 diversions

3. Explain how the proposed project has been determined as a priority in the existing planning effort as opposed to other potential projects/measures. The ISWP defines goals for optimizing water resource management; it does not prioritize specific plans over others. This project addresses the ISWP's main goal of quantifying water supplies and water demands for all water rights within the state.

Evaluation Criterion C: Implementation and Results (20 points)

1. Describe the implementation plan for the proposed project. Please include an estimated project schedule that shows the stages and duration of the proposed work, including major tasks, milestones, and dates. The schedule below shows the timing of key milestones and tasks for the proposed project. Prior to RTM installation, the District and Reclamation's Snake River Area Office will collaborate to sign WaterSMART contracts and document compliance with the National Environmental Policy Act (NEPA). The District plans to install RTM equipment during the water-supply season, since expected disruptions (e.g., shutting down pumps for up to a few hours) will not significantly affect stakeholders.

SCHEDULE	Feb 2023	Mar 2023	Apr—Jun 2023	Jul—Aug 2023
Milestone/Task				
Sign WaterSMART contracts	X			
NEPA document prepared and approved by Reclamation		X		
RTM Installation			X	
Final reporting and project close-out				X

2. Describe any permits that will be required, along with the process for obtaining such permits. None required

3. Identify and describe any engineering or design work performed specifically in support of the proposed project. None required

4. Describe any new policies or administrative actions required to implement the project. None required

5. Describe the timeline for completion of environmental and cultural resource compliance. Was the timeline for completion of environmental and cultural resource compliance discussed with the local Reclamation office? The District discussed compliance with Reclamation and found that (1) this project meets a Categorical Exclusion to NEPA and (2) there is approximately a 10-day turnaround period for Reclamation to process this documentation.

Evaluation Criterion D: Nexus to Reclamation (5 Points)

1. Is the proposed project connected to a Reclamation project or activity? If so, how? Yes, Reclamation owns and operates two reservoirs/dams (i.e., Anderson and Arrowrock dams) that supply water ultimately to District stakeholders. Thus, water conserved by RTM will be stored in Reclamation's facilities.

2. Does the applicant receive Reclamation project water? The District receives water from Reclamation facilities (i.e., Anderson and Arrowrock dams) and conveys this to stakeholders/irrigators.

3. Is the project on Reclamation project lands or involving Reclamation facilities? No.

4. Is the project in the same basin as a Reclamation project or activity? Yes, Reclamation is conducting several projects in the Boise River basin including the Boise Project Board of Control, which supply irrigation water to 167,000 acres through the New York Canal and the Mora Canal.

5. Will the proposed work contribute water to a basin where a Reclamation project is located? Yes. The project will conserve water in the Boise River basin where Reclamation projects are occurring such as the Boise Project Board of Control.

Evaluation Criterion E: Presidential and Dept. of the Interior Priorities (10 points)

Sub-criterion No. E1. Climate Change

1. Please provide specific details and examples on how the project will address the impacts of climate change and help combat the climate crisis. This project will reduce CO₂ emissions by an estimated 47,475 lbs per year by reducing scheduled weekly transportation miles as well as unscheduled maintenance miles historically driven by the District Watermasters. The project will also benefit the District's drought-mitigation planning efforts by providing insights into water behavior, water loss, and water misuse.

2. Does this proposed project strengthen water supply sustainability to increase resilience to climate change? Yes, this project will mitigate water loss typically seen in conveyance, thereby increasing water availability in the reservoirs/dams.

3. Does the proposed project contribute to climate change resiliency in other ways not described above? Yes, RTM will enable the District to proactively manage water allocations, distribution, and flow in extreme drought conditions, flood situations, and extreme weather events. It will also improve communication and collaboration among water managers during natural disasters driven by climate change.

Sub-criterion No. E2. Disadvantaged or Underserved Communities

1. Will the proposed project serve or benefit a disadvantaged or historically underserved community? This project will improve public safety during flash floods, which disproportionately impact disadvantaged communities. RTM will lower the risk of flash floods in the foothills of the Boise River basin by providing Watermasters with the needed data to proactively reduce dam flows during such disasters. This will save water and, more importantly, minimize flood damage.

2. Please describe in detail how the community is disadvantaged based on a combination of variables that may include The District administers water in four counties, i.e., Ada, Boise, Canyon, and Elmore. Compared to the national average, (1) Boise and Elmore counties have higher rates of poverty, unemployment, and lack of healthcare (by up to 47%), and (2) Canyon county has a higher rate of lack of healthcare (by 50%).^{3,4}

3. 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. E.O. 13985 includes “persons who live in rural areas” in its definition of “underserved communities.” Elmore County, one of the four counties that the District serves, meets the definition of rural according to the USDA ERS.⁵

Sub-criterion No. E3. Tribal Benefits

1. Does the proposed project directly serve and/or benefit a tribe? Will the project improve water management for a tribe? Yes. In 2004, the State of Idaho agreed to settle the Nez Perce Tribe’s water rights claims by supplying 800 kilo acre feet per year to the tribe.⁶ The state has difficulty providing this much water during drought years. While most of this water comes from

³ US Census: <https://www.census.gov/quickfacts/fact/table/adacountyidaho.canyoncountyidaho.elmorecountyidaho.boisecountyidaho.US/PST045221>

⁴ US Bureau of Labor Statistics: <https://www.bls.gov/cps/>

⁵ USDA Economic Research Service https://www.ers.usda.gov/webdocs/DataFiles/53180/25567_ID.pdf?v=5302.2

⁶ Idaho Department of Water Resources: <https://idwr.idaho.gov/IWRB/water-planning/minimum-stream-flows/nez-perce-agreement/>

the upper Snake River basin, the Boise River basin also contributes water when it is available. By conserving water, RTM will reduce the risk of water scarcity for the Nez Perce Tribe.

2. Does the proposed project support Tribal resilience to climate change and drought impacts or provide other Tribal benefits such as improved public health and safety by addressing water quality, new water supplies, or economic growth opportunities?

Yes. The proposed project supports the Nez Perce Tribe's resilience to drought impacts by conserving water in the District's reservoirs/dams that supply water to the tribe.

5. Environmental and Cultural Resources Compliance

1. Will the proposed 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 not impact the surrounding environment. The work will occur in previously disturbed areas. No heavy equipment will be used. Digging, trenching, and drilling will be done by hand to minimize impacts. No animal habitats will be negatively affected.

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? This project will not impact any endangered species.

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 proposed project may have. This project will not affect the wetlands in the District's boundaries.

4. When was the water delivery system constructed? Initial construction of the District's water delivery system was completed in 1864. Since then, infrastructure including reservoirs/dams, diversions, and pipes has been built to meet the water needs of Idaho's rapidly-growing population.

5. Will the proposed project result in any modification of or effects to, individual features of an irrigation system (e.g., headgates, canals, or flumes)? If so, state when those features were constructed and describe the nature and timing of any extensive alterations or modifications to those features completed previously. No.

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. No.

7. Are there any known archeological sites in the proposed project area? No.

8. Will the proposed project have a disproportionately high and adverse effect on low income or minority populations? No.

9. Will the proposed project limit access to, and ceremonial use of, Indian sacred sites or result in other impacts on tribal lands? No.

10. Will the proposed project contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area? No.

6. Required Permits or Approvals

No permits or approvals are required for this project. All equipment will be installed on recorded easements.

7. Project Budget

Funding Plan and Letters of Funding Commitment

Please identify the sources of the non-Federal cost-share contribution for the project, including:

1. Any monetary contributions by the applicant towards the cost-share requirement and source of funds (e.g., reserve account, tax revenue, and/or assessments): The District's operating revenues will fund all project costs, aside from those costs covered by Federal contributions.

2. Any costs that will be contributed by the applicant: N/A

3. Any third-party in-kind costs (i.e., goods and services provided by a third party): N/A

4. Any cash requested or received from other non-Federal entities: N/A

5. Any pending funding requests (i.e., grants or loans) that have not yet been approved and explain how the project will be affected if such funding is denied: N/A

FUNDING SOURCES	AMOUNT
Water District 63	\$ 74,185.21
Non-Federal Subtotal	\$ 74,185.21
REQUESTED RECLAMATION FUNDING	\$ 74,185.21

SOURCE	AMOUNT
Costs to be reimbursed with the requested Federal funding	\$ 74,185.21
Costs to be paid by the applicant	\$ 74,185.21

Value of third-party contributions	\$ -
TOTAL PROJECT COST	\$ 148,370.42

Budget Proposal

BUDGET ITEM DESCRIPTION	COMPUTATION		Quantity Type	TOTAL COST (\$)
	\$/Unit	Quantity		
Salaries and Wages				
Project Manager - Mike Meyers, District Watermaster	\$ 32.55	100	hours	\$ 3,255.21
Daniel Hoke, District Deputy Watermaster	\$ 27.60	100	hours	\$ 2,760.42
Fringe Benefits				
Mike Meyers	\$ 16.28	100	hours	\$ 1,627.60
Daniel Hoke	\$ 13.80	100	hours	\$ 1,380.21
Equipment				
4" Flow Meter	\$ 1,440.00	14	units	\$ 20,160.00
6" Flow Meter	\$ 1,520.00	7	units	\$ 10,640.00
10" Flow Meter	\$ 1,710.00	4	units	\$ 6,840.00
Transducer	\$ 500.00	39	units	\$ 19,500.00
Telemetry	\$ 500.00	64	units	\$ 32,000.00
Connectors	\$ 200.00	64	units	\$ 12,800.00
Supplies and Materials				
Concrete	\$ 6.00	64	bags	\$ 384.00
Metal Post	\$ 35.00	64	units	\$ 2,240.00
Metal Lockbox	\$ 50.00	64	units	\$ 3,200.00
Conduit	\$ 25.00	64	units	\$ 1,600.00
Pad Locks	\$ 15.00	64	units	\$ 960.00
Bolts	\$ 0.50	256	units	\$ 128.00
Nuts	\$ 0.50	256	units	\$ 128.00
854-040 Flange, 4"	\$ 32.38	28	units	\$ 906.64
854-060 Flange, 6"	\$ 50.96	14	units	\$ 713.44

854-100 Flange, 10"	\$ 238.73	8	units	\$ 1,909.84
HB714 Bolt 3/4" x 7"	\$ 3.54	150	units	\$ 531.00
HN007 Nut 3/4"	\$ 0.68	150	units	\$ 102.00
431-060 Insert, IPSXPIP 6"	\$ 13.78	7	units	\$ 96.46
431-100F Insert, IPSXPIP 10"	\$ 57.97	4	units	\$ 231.88
Contractual/Construction				
Agri-Lines Irrigation	\$ 391.50	25	installation fee/meter	\$ 9,787.50
Other				
Environmental (NEPA) document preparation fee				\$ 1,000.00
TOTAL DIRECT COSTS				\$ 134,882.20
Indirect Costs				\$ 13,488.22
Proposed rate				10%
Cost base				\$ 134,882.20
TOTAL ESTIMATED PROJECT COSTS				\$ 148,370.42

Budget Narrative

Salaries and Wages: Mike Meyers and Daniel Hoke (i.e., the District's Watermaster and Deputy Watermaster, respectively) will be paid for their time to install pressure transducers and telemetry units. Estimated time to install pressure transducers is 70 hours per person; estimated time to install telemetry units is 30 hours per person (total: 100 hours per person).

Fringe Benefits: Meyers and Hoke will be paid fringe benefits for the 100 total hours they each spend installing pressure transducers and telemetry units.

Travel: Travel is required for RTM installation; however, these costs will be over and above the cost of the project and will not be counted toward the project cost.

Equipment: The District will procure equipment in compliance with state requirements.

Materials and Supplies: The District will procure materials and supplies and document purchases as required.

Contractual: Agri-Lines Irrigation will install 9 plastic and 16 metal flow meters. Estimated installation time for each type of meter is 1.5 hours and 2.25 hours, respectively. The hourly rate for installation of plastic meters is \$125; the hourly rate for installation of metal meters is \$225.

Third Party In-Kind Contributions: N/A

Environmental and Regulatory Compliance Costs: The District will work with Reclamation to complete NEPA documentation.

Other Expenses: N/A

Indirect Costs: Since the District has never received a Federal negotiated indirect cost rate, the budget includes a *de minimis* rate of 10% of total direct costs.

8. Letters of Support

A letter of support from Idaho Department of Water Resources is attached as Attachment A.

9. Official Resolution

An official resolution from the District is attached as Attachment B.

10. System for Award Management (SAM) and Unique Entity Identifier (UEI)

The District is registered in SAM; UEI: LFPKCTE8WPH5.

**Attachment A.
Letter of Support**



IDAHO DEPARTMENT OF
WATER RESOURCES

322 E Front Street, Suite 648, Boise ID 83702 • PO Box 83720, Boise ID 83720-0098
Phone: 208-287-4800 • Fax: 208-287-6700 • Email: idwrinfo@idwr.idaho.gov • Website: idwr.idaho.gov

Governor Brad Little

Director Gary Spackman

April 27, 2022

Mike Meyers, Watermaster
Water District No. 63
PO Box 767
Star, ID 83369-4500

Re: Support for Water District 63 Grant Proposal for Real Time Water Measurement and Monitoring

Dear Mr. Meyers,

I am writing you on behalf of the Idaho Department of Water Resources (“IDWR”) to support Water District 63’s (“WD63”) US Bureau of Reclamation WaterSmart cost-share grant application to help implement a real time water measurement and monitoring (“RTM”) network on the Boise River.

Implementation of RTM will increase the frequency of data reporting from weekly to hourly, thereby allowing WD63 and IDWR to increase the frequency of Boise River water right accounting, including daily accounting runs or updates. The increased accounting runs will assist in more accurate water right priority date projections and regulation, thus enhancing equitable distribution of natural flow to senior priority right holders. The RTM network will also improve accessibility of diversion data to water users and the public by downloading data to IDWR’s online water right accounting applications. Data can be accessed near real-time or on a daily basis as opposed to weekly updates dependent on manual data entry by WD63 staff.

IDWR encourages the Bureau of Reclamation to evaluate the benefits of this proposed project as it considers WD63’s grant application. IDWR looks forward to WD63’s goal of implementing RTM on the Boise River.

Sincerely,

Tim Luke
IDWR Water Compliance Bureau Chief

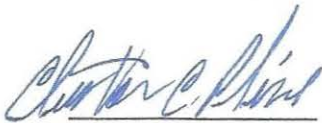
**Attachment B.
Official Resolution**

STATE OF IDAHO
WATER DISTRICT No. 63
(BOISE RIVER)
Mike D Meyers, Watermaster
P.O. Box 767
STAR, IDAHO 83669-0767
(208) 908-5482

Resolution K

RESOLVED, That the water users of Water District #63 grant Mike D Meyers the legal authority to enter into an agreement with the Bureau of Reclamation for Water Smart Grants. The Water Users of Water District #63 grant the authority to the Advisory Committee of Water District #63 to review and approve the grant. The Water Users of Water District #63 grant the authority to Water District #63 to provide the amount of funding and / or in-kind contributions specified in the funding plan. The Water User of Water District #63 grant the authority to Water District #63 to work with Reclamation to meet established deadlines for entering into a grant or cooperative agreement.

Clinton C Pline



Mike D Meyers

