

CITY OF BULLHEAD CITY



WATER METER CONVERSION TO AMR/AMI PROJECT

WATERSMART GRANTS: A SMALL-SCALE WATER
EFFICIENCY PROJECTS A PROJECTS A FOR A FY 2022 A

NOTICE OF FUNDING OPPORTUNITY (NOFO): A
R22AS00195A

APPLICANT: A

CITY OF BULLHEAD CITY
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04.22.22A

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i. Application Information

Submittal Date:	April 28, 2022
Applicant:	City of Bullhead City Edigar Kajirwa, Assistant to the City Manager City Manager’s Office 2355 Trane Road Bullhead City, AZ 86442 (928)-763-0122
Funding Opportunity Title:	WaterSMART Small-Scale Water Efficiency Projects
Funding Opportunity Number	R22AS00195
Applicant Type:	Category A
Grant Funding Requested	\$100,000
Total Project Budget	207,971.50
Project Duration	March 2023 through September 2023
Estimated Project Completion Date	September 31, 2023
Project Location	Project will be located within the City limits and area boundaries of the City of Bullhead City Utilities Department
Project Description	BHC recently completed our 2021 Water Conservation Plan Update. The plan includes many water saving measures including the installation of AMR meters on large water use customers. In accordance with that plan BHC plans on purchasing and installing new AMR meters on large customers. This will allow the city to accurately measure our customers usage enabling us to make informed decisions on where to focus efforts.

Executive Summary

Bullhead City (BHC or City) is located in northwest Arizona in Mohave County, laying adjacent to the Colorado River. The City of Bullhead City has a population of just under 50,000 residents. With its beautiful parks and natural amenities BHC attracts over 2,000,000 visitors to enjoy the river. The City shares its tourism destination status with its neighbor Laughlin who receive over 3 million. City parks and Lake Mohave on an annual basis. With all this traffic water resources are

critical to BHC. BHC is very aware of the current water shortage situation. In fact, BHC initiated a significant preemptive water strategy to conserve water. Over the past 8 years BHC has spent \$1,600,000.00 on water conservation measures that have saved over 2,000 acre-feet of water. BHC has \$550,000.00 budgeted for water conservation measures for the next fiscal year beginning July 1, 2022.

BHC has been proactive in working to ensure that the City will have enough water available for the City's buildout. On July 7, 1982, Reclamation entered into contract number 2-07-30-W0027 with Mohave County for 10,000 acre-feet of the MVIDD block of Colorado River Water. After the City incorporated in August 1984 Mohave County assigned, transferred, and conveyed all rights, titles, interests, and obligations to 8,200 acre-feet of this water to BHC and 1,800 acre-feet of water to the Mohave Water Conservation District (MWCD) in the north part of the city. The City then requested an additional 7,010 acre-feet of Colorado River Water entitlement. This request was approved November 9, 1994, under contract 2-07-30-W0273. In 1995 the City entered into sub-contract with the Mohave County Water Authority (MCWA) for 6,000 acre-feet of additional Colorado River Water which was amended in 2004 to add an additional 2,139 acre-feet of Colorado River Water. In 2009 City obtained an additional 1,000 acre-feet of water from the MCWA. The City is currently in the process of taking over the water entitlement contract and sub-contracts of the MWCD. With all these entitlement contracts BHC will have 29,149 acre-feet of Colorado River water entitlement available. In the BHC General Plan dated May 17, 2016, which was approved by the voters of BHC, the City shows it has enough water entitlement for its buildout of approximately 110,000 residents.

BHC is now requesting financial assistance for the removal and replacement of 25 old manual read water meters with 25 Automated meter reading (AMR) and Automated Meter Infrastructure (AMR / AMI) water meters. Total cost of this project is estimated at \$207,971.50. This project is part of item 1 described in section 3.2 (Conservation Measures Evaluated) of the City's 2022 Water Conservation Plan.

This project will assist the BHC in providing more accurate information to city staff and the Bureau of Reclamation in regard to water usage. As we move thru a Tier One Shortage into deeper shortages, it becomes more important than ever to be able to have accurate water use data. The 25 water meters the city plans to replace account for 17% of the City's water use. This could potentially have a large effect on the City's water reporting. This will also assist BHC in focusing on specific water users and their specific water conservation needs, thus allowing the City to focus on the largest users to develop even more focused conservation programs, further reducing water requirements within the city. Finally, by providing customers with quicker access to their water usage they will be better able to quickly address issues that arise and reduce their water consumption.

Project Location

The project will take place in the Bullhead City – through the City's Utilities Department. The City of Bullhead City is located in northwest Arizona in Mohave County, laying adjacent to the Colorado River. The City is located just 90 miles south of Las Vegas, NV, 275 miles to Los Angeles, CA and 232 miles to Phoenix, AZ. Bullhead City is easily accessible by major highways

from Southern California, Arizona and Nevada. Figure 1 below shows a map of this service area. There are multiple project locations in relation to each meter, thus there is not single latitude and longitude. Bullhead City's location has a latitude of 35°05'04.6"N and longitude of 114°32'59.7"W. A more detailed map with the exact location of the meters is attached in the appendix.



Project Description

The City of Bullhead Utilities Department greatly relies entirely on Colorado River Water for its water resources. Under the new formed Utilities Department Management strategy, we are committed to reducing demand on non-renewable resources. The use of advance water technologies, like AMI, allows for better water use tracking and ultimately reduces the loss of precious limited resources.

BHC Utilities Department since being formed has acquired great employees with a vast array of experience. This department plans to leverage the experiences and successes to make this a successful AMI project program. Furthermore, the City sees this as a trial phase and plans on rolling out the same project in different phases across the city to have all meters modernized. With this the City envisages all the residential, commercial and business water meters in Bullhead City will be upgraded so that water can be better managed and conserved more efficiently while creating an environment for sustainability.

AMI water meters allow all residential and commercial water meters to be read remotely via a regular radio frequency transmission sent directly from each individual meter. AMI water meters

are less expensive to operate. They provide a snapshot of water consumption across the area in near real time which will assist staff in anticipating water demands and assist with water conservation. Bullhead City through its meter supplier (Neptune) are still evaluating and conducting field studies in order to select the appropriate Neptune meter for this project but as of now the City and Neptune are considering installing Neptune Technology Group E-Coder R900i meters.

It is anticipated that each AMI water meter in the Bullhead City, AZ area will conduct a meter read every 15 minutes and will transmit this data through a standard radio frequency each hour. An on demand read is possible at any point in time. The data is received by several collecting units throughout the area and is transmitted via cellular network to Bullhead City Utilities Department.



Evaluation Criteria

E.1.1 Evaluation Criterion A—Project Benefits (35 points)

Describe the expected benefits and outcomes of implementing the proposed project.

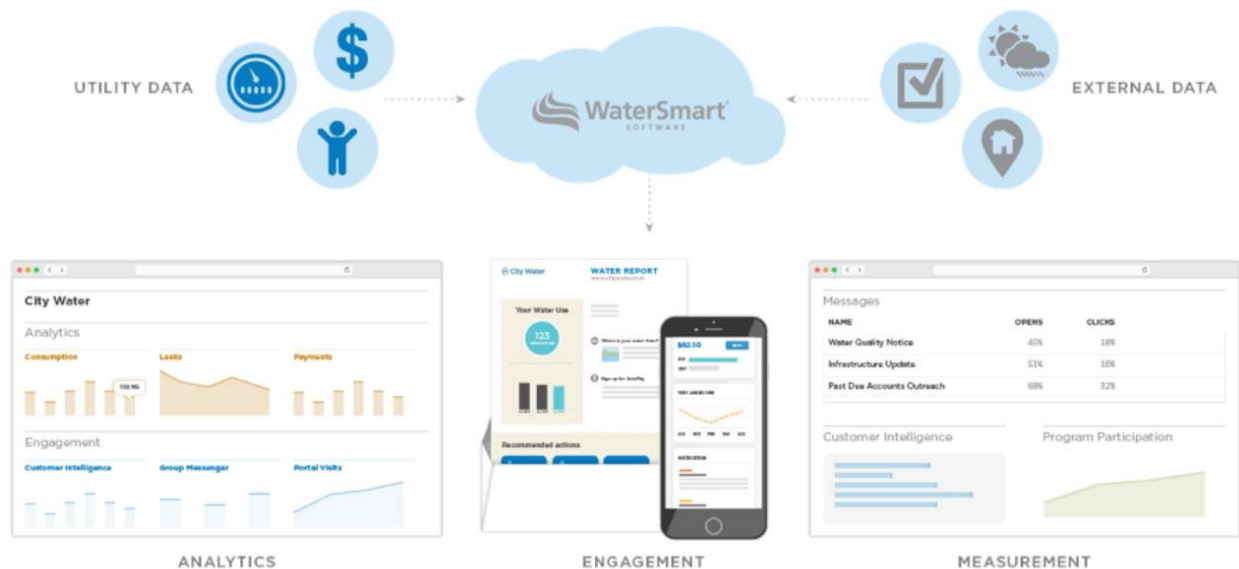
What are the benefits to the applicant's water supply delivery system?

This project will modernize existing metering infrastructure with the goal of conserving water and empowering customers. BHC through this conversation of manual meters to AMI metering will include increased water conservation through timely leak detection, empowerment of customers to manage their own water use, and improved data for the water utility. With the potential in the reduction of water consumption because of this project, the City can reduce energy use. The reduction in water consumption will yield a lower level of water being pumped to a holding tank (reservoir). This will increase the longevity of the City's water supply delivery system and as well mitigate repairs.

Water conservation

Having taken over the water utilities system and water operations the city has evaluated and discovered that some sections of the system is deficient with significantly dilapidated. The City has found that our systems located within city limits have a significant water loss, with percentages between 14% and 20%. This according to the latest data from EPCOR, 2020.

Current meters only provide monthly water usage data points. Any leaks, water use adjustments, or changes in water related habits can take two, three, or even more months to notice. With AMI meters, near real time data results in earlier leak detection. At any time, a resident can access their consumption in near real time by logging into the software customer portal or by contacting Bullhead City Utilities Department. BHC will also introduce a software (e.g. WaterSmart) platform that analyze data received from AMI meters and can send customers a leak detection alert via email, text, and/or voice notifications within 24 hours of detecting a high-water use event. This BHC initiative will make water usage information available online so the customer can review water usage and costs in near real-time. This will enhance and avoid unintentional high-water consumption. If the customer takes action and finds the leak, thousands of gallons can be saved. This service has been well received by customers with access to this information. The figure below shows some examples of the anticipated usage and system flow of the customer-user interface portal with AMI.



Customer empowerment

Customer empowerment is when you give your customers the information and the tools that they need to make a decision. The goal is to create transparency and increase loyalty and quality customer service with a robust customer engagement experience. With AMI, customers have the ability track their personal home water use trends and set threshold notifications for their monthly water consumption goals. This information is far superior to the current meters that provide

customers with a single meter read or data point each month. This information empowers to customers to manage their personalized water use.

Improved information for Bullhead City Utilities

Near real-time water use data from AMI meters data can be used for a variety of analytical purposes, mitigation and forecasting planning. For example, Bullhead City Utilities employs targeted best management conservation practices in the BHC limits service area. AMI data can be used to support and refine this type of conservation programs. With the data provided by AMI meters it becomes possible to find trends and track potential changes in water use as a result of educational programs or other conservation incentives and different communication channels within the department, public and its customers. Data can also be used to assist customers in leak investigations as well as monitor localized issues within the system. AMI technology is the foundation of a smart utility, enabling BHC Utilities to use the latest technology and data to better serve our customers.

In addition to improving customer experience, access to real-time water usage information, increasing the ability to recognize potential leaks this also allows customers to also detect other home plumbing issues, which can significantly reduce bills and save money. Another additional benefit is a decrease of Bullhead City's carbon footprint by reducing the number of trucks that we have on the road.

Bullhead City Utilities Advancement

This technology is definitely an advantage to customers. There are so many customers who have internal leaks that they might not know about. You don't want them to have to wait for 30 days—what is often a traditional billing period for a utility—to see that their water consumption has suddenly jumped. Even a very small leak running all day and night can add up to a lot of water.

This system upgrade to AMI systems can reduce the customers and City's utility's yearly costs. The cost of having workers walk through neighborhoods, commercial and business to manually read meters is quite high. This is just one of the many associated costs of traditional manual reading. As with such a system one can anticipate additional fuel costs and vehicle maintenance fees as employees carry out service to the respective areas and injuries that occur out on the field during these times.

From a management perspective, the AMI readings will be more accurate and will eliminate the element of human error, removing this obstacle almost entirely and reducing the costs of having to send teams back out again to conduct re-reads. Thus, the Utilities department will be able to relocate these resources to other uses in the department to provide better service for the public.

If other benefits are expected explain those as well. Consider the following:

- Does this project have the potential to prevent lawsuits or water calls?

City of Bullhead City Utilities Department has not and does not anticipate any lawsuits. As for water calls yes this will greatly reduce the amount of water calls to the Utilities Department. The

City is in going through phases to transfer data, customer and system data information to a new system and this comes with irregularities that affect customers. Additionally, the City has had to hire more customer service representatives, and is also in process to acquire an IVR system to assist with the high volume of calls. This project will go a long way in reducing the stress and workload on the Utilities Department in regards to billing disputes. This will also give customers the opportunity to access their accounts and access the information they need instead of having to call customer service and wait to be assisted or sometimes be unfortunate and not be able to get a customer representative on the other end of the line to assist them. Thus, this AMI systems will dramatically reduce and help quickly address customer complaints by empowering customers and utility service representatives with access to accurate, timely, on-demand information about customer consumption and costs.

- [What are the consequences of not making the improvement?](#)

Some of the consequences or not making this improvement is mainly customer dissatisfaction, undetected leakage thus loss of water in an area struggling with water to supply, and employee stress and dissatisfaction.

- [Are customer water restrictions currently required?](#)

No

- [Other significant concerns that support the need for the project?](#)

None that not already mentioned.

- [Extent to which the proposed project improves overall water supply reliability.](#)

This project will improve overall water supply reliability through enhanced and active monitoring of water usage. As breaks and leaks occur, the City will be able to respond and fix them in a more efficient manner. This project will improve the reliability of the Bullhead City Utilities service using remote real-time telemetry indicating water flows per customer. The data is processed, and key personnel are alerted to adverse conditions whereby actions can be taken expeditiously.

- [The expected geographic scope benefits from the proposed project \(e.g., local, sub-basin, basin\)](#)

Direct benefits from this project will span the Bullhead City Utilities current service area. In-direct benefits from water conserved as a byproduct of this metering project would span throughout the entire water basin as a result of reduced water waste. Especially in relation to allocated water in relation to the Colorado River. Thus, it is expected that improved distribution system efficiencies will lower overall water demands because less water will be lost, thus making the City more resilient when droughts occur in the Colorado River region.

- [Extent to which the proposed project will increase collaboration and information sharing among water managers in the region](#)

This project will not directly increase collaboration between water managers in the region but will assist in water conservation and management of the water supply to the region. The project allows the City to learn more about how water is used in the City due to the in-depth data provided by the new technology. This new data will be shared with partners in the region to help the region develop new strategies to help conserve water.

- Any anticipated positive impacts/benefits to local sectors and economies (e.g., agriculture, environment, recreation, tourism)

A direct benefit to the customers involved in the program is the ability to save money from decreasing their water use. Customers are sometimes not aware of leaks at their property until they receive their monthly water bill and with this project, the City can significantly reduce that window of time. This ability will not only save the customer money from the water saved but they can also save on the costs involved to repair a leak if it's addressed sooner rather than later. This new data will be critical to the City as the City plans on phasing all infrastructure to go to AMI.

Utilizing AMI will reduce the amount of water that is lost throughout the City's water distribution system. As water loss is reduced, there are environmental benefits anticipated such as fewer chemicals used in the treatment and production of water, as well as lower energy consumption attributed to treatment and pumping of lost water. Utilization of a full-scale AMI system will also support lower water rates since BHC will be able to plan for less non-revenue water in future rate modeling and water fund budgeting efforts.

Additionally, keeping in mind that the meters being replaced are meters of the highest users. It's important to note that quite a handful of the meters are for the City's Parks and schools. These meters will help for better management and upkeep of these parks. Especially keeping in mind, the City's status as a sport-tourism destination, this will further drive the economic impact of those industries. There are no other anticipated positive impacts from this metering project.

- Will the project complement work being done in coordination with NRCS in the area (e.g., the area with a direct connection to the districts water supply)? Please explain.

No. Bullhead City is not working with NRCS currently.

- Will the project address drought conditions at the sub-basin or basin scale?

Yes.

Water conservation measures to address drought conditions in the Colorado River Basin have been implemented and over the past few years this have seen a higher increase and concern due to the threat of severe declining Colorado River basin water levels.

With these challenges Bureau of Reclamation has had to cut water releases from or for Lake Powell, Lake Mead, Davis Dam (Lake Mohave) and other reservoirs. In 2021 the Bureau of Reclamation released the Colorado River Basin August 2021 24-Month Study which addressed the concerns of water supply issues. In this study BOR declared a shortage due to drought and low runoff conditions in the Colorado River Basin by increased climate change effects. This shortage

will see annual apportions of water reduced. Thus this project will assist BOR's efforts in conservation of water at the basin scale.

E.1.2 Evaluation Criterion B—Planning Efforts Supporting the Project (30 points)

Describe how your project is supported by an existing planning effort.

- Does the proposed project implement a goal or address a need or problem identified in the existing planning effort?

Yes. This project is part of item 1 described in section 3.2 (Conservation Measures Evaluated) of the City's 2022 Water Conservation Plan.

Since taking over the water system, BHC has been at the fore front of water conservation planning and implementation. The City's mission is to develop industry-leading, integrated water and wastewater utilities focused on conservation and reuse; allowing our customers, the department, and the City to realize the benefits of consolidation, regionalization, and environmental stewardship towards a sustainable and water efficiency future in relation to Bullhead City's dependence on supply from resources that are threatened. Bullhead City Utilities Department incorporates water conservation and sound water management into all aspects of our business mainly driven through its most recent Water Conservation Plan and the City is also currently conducting a Water Master Plan. The Water Conservation Plan document was developed by the Utilities Department management and has been approved by the City Council. This AMI metering project supports City of Bullhead's comprehensive approach to utility management and planning. Furthermore, the project will also support conservation efforts as well as help with water use restriction enforcement in the event of water shortages or droughts and not just for Bullhead City planning purposes but also for the regional areas, Colorado River Basin, Arizona in general and the United States as a whole.

- Explain how the proposed project has been determined as a priority in the existing planning effort as opposed to other potential projects/measures.

This has been a problem getting accurate reading for the largest water users in the City. This is amongst a number of high priority projects. We need to know how much water our largest users are using. The City evaluated water use and AMI planning efforts in 2021 after taking over the water system. Through those planning efforts, it was deemed a priority to improve the City's water meter network and reading processes, as well as reduce the amount of water loss in the distribution system.

E.1.3 Evaluation Criterion C—Project Implementation (20 points)

- Describe the implementation plan for the proposed project.

The proposed project is anticipated to begin in April 2023 after the anticipated award date of March 31, 2023, with an estimated completion date of 6 months, although with recent supply chain issues the City is adding 2 months for any unforeseen circumstances that could relate to that.

Table 1- *Project Timeline and Milestone* depicts Milestone/Task/Activity Timeline for this project over the anticipated 8 months (2 months for contingency) period. Dates shown are not expected to vary greatly from proposed start dates related to the funding announcement and Federal Award Date.

Table 1. —Project Timeline and Milestone

Milestone/Task/Activity	Planned Start Date	Planned Completion Date
Anticipated Announcement, Federal Award Contact and Agreement	August 2022	03/31/2023
Preliminary Planning	04/03/2023	04/14/2023
Propagation Study (Update’s/Revision’s Meetings)	04/17/2023	04/28/2023
Permitting, Permissions, and Approvals Contingency***	04/24/2023	04/28/2023
Order Equipment & Receive Equipment	05/01/2023	09/30/2023
Customer Communication – Press Releases	05/01/2023	05/12/2023
Meter Exchange and Installation	05/15/2023	09/30/2023
Data Integration into CIS (Customer Information System)	06/05/2023	09/30/2023
Post-Installation Customer Communication – Education on Portal and billing Overview	07/03//2023	09/30/2023
Complete Project Installation, Project Closeout and Final Reporting	07/31/2023	09/30/2023
***The City does not anticipate any requirements for permits, permissions and approvals but is included in the project timeline for contingency purposes.		

The implementation plan is tentatively set to occur throughout the first half of 2023. The first two months will be dedicated for pre-planning, administrative tasks, and pulling the necessary permits to begin the project (if needed). It is also the time allocated to mobilizing to start the project. In late Spring 2022, this will be the final stages of preliminary planning and studies, orders will then be placed. It is our hope that by early Summer 2022, we will in a full meter exchange and installation phase, data integration into CIS and observing the results through post-installation maintenance and communication before closing the project out.

If the City of Bullhead City is successful in receiving grant funding, the City will work cooperatively with the Bureau of Reclamation to meet specific milestones and adhere to schedule requirements set forth by the Bureau of Reclamation.

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

Since the project entails the replacement of old inaccurate manual read water meters with new AMR / AMI water meters in the same location, there are no permits or approvals needed for this project. As for the potential meters the city is looking at the meter frequency operates between 902MHz and 928MHz and the meter radios have been certified by the Federal Communication Commission (FCC). A fact sheet from the meter manufacture can be found in Appendix.

The final propagation study will indicate where the collector units will need to be located. Collector units are the devices that receive the meter reads and then transmit them via a cellular network. Depending on the final locations of the collectors, a pole may need to be constructed to provide the elevation needed for the collector. A construction permit from Mohave County may be required. Bullhead City has worked with Mohave County's staff on many occasions, and the City does not anticipate any issues to permit any construction work, if required.

There are no Federal Facilities associated with, or impacted by, this project. Additionally, it is not anticipated that any easements, land use authorizations, or special permits will be required during the project, pending agreement of Reclamation.

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

There have been no engineering plans created or design work performed specifically for this project. If any there will be minimal engineering work for this project. This work will mostly be tied to the installation of the AMI systems. Engineering will be required to ensure the correct materials are purchased and that the upgrades are compatible with current systems.

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

There are no new policies or administrative actions that will be required to implement this project

- 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?

Work associated with this project is occurring only within previously disturbed areas and additional environmental or cultural resources compliance is not anticipated. Thus, no environmental compliance estimates were developed or needed for this project however, further discussion of environmental compliance can be found in the Environmental and Cultural Resource Compliance section.

E.1.4 Evaluation Criterion D— Nexus to Reclamation (5 points)

Describe the nexus between the proposed project and a Reclamation project or activity, including:

Is the proposed project connected to a Reclamation project or activity? If so, how?

The City of Bullhead City is now in a Tier 1 shortage declared by Bureau of Reclamation (BOR). We need to make sure we are being as water conscious as possible. We have spent \$1,600,000

over the past 8 years on water conservation and have \$550,000 budgeted for next year saving 2,000 acre feet of water. We are doing our part and will continue to push water conservation as hard as we can. This program is directed at our largest water users with the goal of providing them more current information to help them reduce their water use.

- Does the applicant receive Reclamation project water?

Yes, BHC receives project water from Hoover Dam and Davis Dam

- Is the project on Reclamation project lands or involving Reclamation facilities?

No. This project will not take place on Reclamation project lands or involve any Reclamation facilities.

- Is the project in the same basin as a Reclamation project or activity?

Yes. On the Colorado River, Reclamation's projects include the iconic Hoover Dam and Glen Canyon Dam. Other connections to the aforementioned are Lake Mead and Lake Mohave in the Lower Colorado River Basin.

- Will the proposed work contribute water to a basin where a Reclamation project is located?

Yes. Given that Bullhead City is located along the Colorado River. BHC falls under the Lower Colorado Basin Region. Lower Colorado Region provides and serves contemporary needs of the Colorado River Basin. Its operational priorities include (1) flood control, river regulation and improved navigation; (2) water conservation and storage; and (3) hydroelectric power generation. Water is released from Hoover, Davis and Parker dams only when requested by downstream users or when required by flood control regulations. Thus, this project relates to (2) in conservation of water and storage. Especially keeping in mind Bullhead City's source of water is the Colorado River.

E.1.5 Evaluation Criterion E— Presidential and Department of Interior Priorities (10 points)

Describe to what extent the project demonstrates support for the Biden-Harris Administration priorities, including.

i. E.1.5.1 Sub-criterion No. E1. Climate Change

Water utilities are facing a number of issues: droughts and climatic variations in water supply, rapidly rising operating costs, demands for increasingly expensive investments in treatment for fresh water and wastewater, heightened customer expectations in both service and environmental impacts, and the need to replace aging infrastructure. This has spurred interest among water suppliers in managing water demand, capturing all revenue, minimizing distribution system and customer water losses, and increasing customer support and information. Bullhead city believes changing its metering system to AMI will be a key aspect of combating water supply issues and conservation matter.

Combating Climate Change:

With AMR/AMI fewer vehicles are necessary for the meter reading process, reducing dust, fuel consumption, emissions, and reducing greenhouse gas emissions. Thus, this project set forth to reduce greenhouse gas emissions in accordance with the United Nations Sustainable Development Goal of universal access to water and sanitation by 2030 which is supported by the Biden-Harris Administration. Furthermore, this also supports President Bidens 2030 Greenhouse Gas Pollution Reduction Target Aimed at Creating Good-Paying Union Jobs and Securing U.S. Leadership on Energy Technologies.

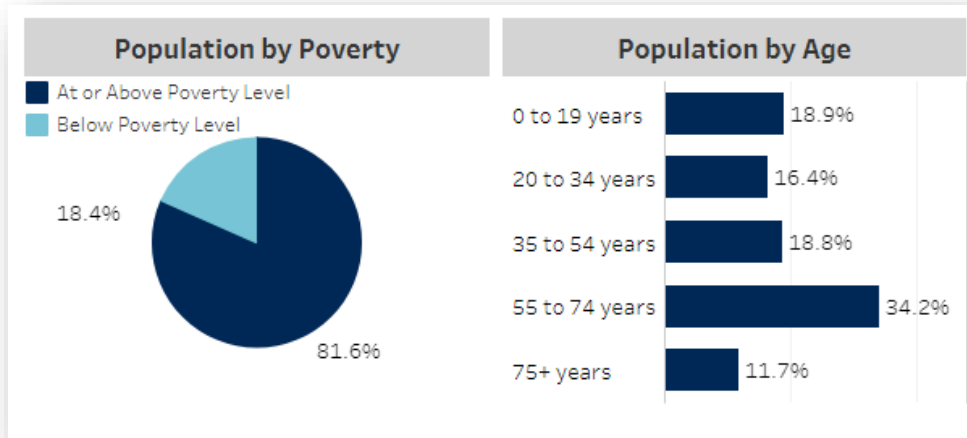
Secondly, AMI based consumption data has tremendous potential to support and augment utilities' water conservation programs, whether they are discouraging leaks, responding to short-term droughts or long-term water scarcity, or implementing innovative conservation programs. Having interval water usage data allows a water utility to design much more sophisticated rates that can more closely track costs (such as increased pumping costs during peak periods) or encourage conservation and support customized rates. Another benefit of AMI is as Bullhead City Utilities transitions to advanced meter readers, this advancement allows the water utility to monitor compliance with local water restrictions against outdoor watering or non-essential water use during daylight hours or mandatory odd/even day outdoor water. It can also be used to check on compliance with mandatory reductions in water use during any time period.

It's clear, AMI can have a significant impact on water conservation by enabling water consumption data to be determined on more frequent time intervals, which allows the utility and its customers access to consumption profile data for education or conservation program compliance monitoring/enforcement; detecting continuous flows which often indicate leaks at a customers' premises; providing meter readings at precisely the beginning and end of certain periods (which would support seasonal or other time of use pricing or programs). Thus, beyond reducing water waste through timely detection of continuous usage, real-time high-frequency water meter data empower customers to understand their water bills and adjust their water usage accordingly. AMI meters thus complement other water efficiency and conservation initiatives, such as public education, low use-based incentives, and the promotion of water-efficient appliances and fixtures. Such measures all fall in line with the Federal government and its other respective agencies' sin conserving water and increasing water resources and environmental sustainability

ii. E.1.5.2 Sub-criterion No. E2. Disadvantaged or Underserved Communities

The City is considered a rural economic challenged area. It is a mountainous community along the Colorado River. Majority of the project areas are in areas of surrounded persistent poverty and other areas that are defined as economically disadvantaged communities. Bullhead City is a typical Arizona community when viewing trends in income and poverty. In 2019 the Median household income in Bullhead City, AZ was \$41,507. The City continues to create programs and services to

lift individuals out of poverty. Census statistics estimates from July 2021 show that Bullhead City had its poverty percentage at 17.3%. Although most recent data Arizona State Department reflects the City has an estimated 18.4% of its population (7.36k out of 40k people) living below the poverty line, a number that is higher than the national average of 12.3%.



iii. E.1.5.2 Sub-criterion No. E3. Tribal Benefits

There are no direct Tribal benefits in relation to this project. Although south of Bullhead City on the shores of Colorado is the Fort Mojave Indian Tribe. How we use our water above them has direct impacts as you move downwards lower in the stream. Approximately half of the Reservation is devoted to intensively farmed, irrigated agriculture and it is the largest consumer of water on the Reservation. Thus, how we use our water is extremely important given the increasingly low levels of our water sources. If we don't mitigate our water consumption the Fort Mojave Indian Tribe will have devastating impacts on their livelihoods.

Section D.2.2.5- Project Budget

Bullhead City through its Utilities Department will provide Non-Federal/Non-Reclamation funding for 51.92% (\$107,971.50) of the project through its Fiscal Year 2022-2023 Budget. The City is requesting through this grant application for the remainder of the funds at 48.08% (\$100,000).

- [Funding Plan and Letters of Funding Commitment](#)

There are no Commitment Letters for this project proposal. All committed funds are internal, and no letter of support is needed. Non-Federal Funds will be sourced from the Bullhead City's Fiscal Year 2022-2023 budget.

- [Budget Proposal](#)

Table 1. —Total Project Cost Table

SOURCE	AMOUNT
Costs to be reimbursed with the requested Federal funding	\$ 100,000.00
Costs to be paid by the applicant	\$ 107,971.50
Value of Third-party contributions	\$ -
TOTAL PROJECT COST	\$ 207,971.50

Table 2. —Budget Proposal

BUDGET ITEM DESCRIPTION	COMPUTATION		Quantity Type	TOTAL COST
	\$/Unit	Quantity		
Supplies/Equipment				
Neptune Water Meters	\$ 3,668.00	25	Equipment Cost	\$ 91,700.00
AMI Antenna	\$ 39.20	25	Equipment Cost	\$ 980.00
Miscellaneous Parts	\$ 215.00	25	Equipment Cost	\$ 5,375.00
Collectors	\$ 8,050.00	7	Equipment Cost	\$ 56,350.00
Gateway	\$ 17,250.00	2	Equipment Cost	\$ 34,500.00
RF Antenna	\$ 550.00	13	Equipment Cost	\$ 7,150.00
TOTAL (SUPPLIES/EQUIPMENT) MATERIAL				\$ 196,055.00
Labor				
Removal Labor	\$ 24.52	25	Hourly Wage	\$ 613.00
Installation Labor	\$ 300.00	25	Hourly Wage	\$ 7,500.00
Testing Labor	\$ 24.52	25	Hourly Wage	\$ 613.00
Benefit Costs	\$ 19.62	25	Per event/unit	\$ 490.50
Labor Collectors (Gateway)	\$ 300.00	9	Equipment Cost	\$ 2,700.00
TOTAL DIRECT COSTS				\$ 11,916.50
TOTAL ESTIMATED PROJECT COSTS				\$ 207,971.50

- Budget Narrative

Bullhead City in accordance with its 2022 Water Conservation Plan, is working on a large manual read meter replacement project. The project will entail the removal of manual read water meters, replacing them with AMR / AMI electronic read water meters and installing collectors, gateways to record the data. The project is anticipated to take approximately six (6) months to complete once the equipment is received by City. Total cost of the project is estimated at \$207,971.50. This project is part of item 1 described in section 3.2 (Conservation Measures Evaluated) of BHC's 2022 Water Conservation Plan accepted by BOR.

The project entails the following:

- A. **Siting Study for communications.** Complete a siting study to determine the locations and number of collectors, gateways for consolidating and transmitting water meter data to City.
- B. **Removal of existing manual read water meters.** This would entail the removal of the existing meters and any appurtenant items.
- C. **Installation of new AMR / AMI water meters.** This will entail the installation of AMR / AMI electronically read water meters. The installation of antenna and appurtenant equipment.
- D. **Meter testing.** This will include testing the meter and antenna to ensure City is able to remotely read meters.

This project is estimated to cost \$207,971.50. The cost would be paid by the assistance agreement (\$100,000.00) and BHC (\$107,971.50).

- *Salaries and Wages*

The identified positions are employees of the City of Bullhead City. Labor costs, associated salary, and benefit figures were calculated using figures from wage schedules and position costing forms provided by Human Resources and Finance departments for staff needs throughout the projects.

- *Travel*

Not applicable. Expenses related to trips, or any other Project travel are not included as part of this proposed budget.

- *Equipment*

The project has four main components: 1) AMI Capable water meters, 2) Data Collectors, 3) Antennas, and 4) Gateways. The City expects to have ample supplies based on the budget breakdown. With the exception of the Data Collectors and Gateways, the equipment listed does not exceed \$5,000 individually, however, total costs for the 25 water meters are budgeted for \$91,700, two (2) Gateways at \$34,500, and seven (7) gateways at \$56,350.

Equipment rentals are not part of this project. Any additional equipment for the project is anticipated to be already in Bullhead City Utilities Department vehicle/equipment inventory and thus eliminating any rental fees.

- *Materials and Supplies*

The materials and supplies needed for the project are listed in the above table, including unit price and quantity. All items are those that will be used in the field for accomplishing the goals of the project. All costs were derived from actual product costs, estimates and similar projects by other cities, and by quotes the City of Bullhead City received within the last 365 days. The products that cost less than \$5,000 are Neptune Water Meters, AMI Antennas, Miscellaneous Parts, and are RF Antenna.

- *Contractual*

Not applicable

- *Third-Party In-Kind Contributions*

Not Applicable. There are no anticipated Third-Party In-Kind Contributions associated with this project.

- *Environmental and Regulatory Compliance Costs*

Not applicable. Since the project is not expected to disturb earth, there is minimal, if any environmental impact to mitigate. The City of Bullhead City does not anticipate any environmental and regulatory compliance costs to be incurred under this grant budget.

Bullhead City takes its responsibilities seriously to ensure that its activities, including any new construction, have minimal or no impact to the environment. Bullhead City will take all necessary mitigative actions to minimize any impact to the environment, when needed. In addition to this Bullhead City has great relationships with Regulatory Agencies and although the City doesn't anticipate any issues the City is willing to partner with the respective agencies to ensure all environmental and regulatory compliance aspects are handled correctly.

- *Other*

It is important to inform residents of the meter upgrades, not only so that they are aware of a short interruption of service while changing out the meters, but also how to fully utilize the new usage features the meters will provide. Bullhead City Utilities Department will print communication material to educate the respective site owners prior to meter installation. Printed material in the form of Informational Flyers, Posters, Cards, and Billing Inserts will be distributed during and following meter installation.

Section D.2.2.6- Environmental and Cultural Resources Compliance

- 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.

Since the project entails the replacement of water meters that are currently not reading correctly in the same location, there are no environmental, biological, or cultural issues associated with this project. Thus, there are no NEPA, clean water act, ESA, NHPA, issues or EIS requirements. The new meter replacements will not require the evaluation of regulatory approvals or environmental concerns.

Bullhead City will take all necessary mitigative actions to minimize any impact to the environment, when needed. In addition to this Bullhead City has great relationships with Regulatory Agencies and although the City doesn't anticipate any issues the City is willing to partner with the respective agencies to ensure all environmental and regulatory compliance aspects are handled correctly.

- 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?

No, the City of Bullhead City is not 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. It is not anticipated that upgrading existing water meters will have any impact on endangered species, tribal artifacts, or the environment in general.

- 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.

The City of Bullhead City is not aware of any wetlands or other surface waters inside the project boundaries that potentially fall under CWA jurisdiction as "Waters of the United States," and, moreover, the City does not expect the proposed program to impact any such wetlands or surface waters.

- When was the water delivery system constructed?

The earliest parts of Bullhead City's original water delivery system were constructed in the late 1960s and have been updated and developed further over the years. In 2021, the City of Bullhead City began operating the water system with a new Municipal Water Utilities Department.

- 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. The proposed program is designed to incentivize efficiency modifications to the largest water users, increase water conservation and sustainability while cutting back on water in respect to the identified properties connected to the City of Bullhead City's water system limits.

- 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.

None that the City is aware of.

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

No. There are no known archeological sites in the proposed project areas.

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

No. The proposed program will not have a disproportionately high and adverse effect on low income or minority populations.

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

No. The proposed program will not limit access to and ceremonial use of Indian sacred sites or result in other impacts on tribal lands.

- 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. The proposed program will not contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area, and in fact seeks to incentivize the restoration of native landscapes.

Section D.2.2.7- Required Permits or Approvals

Since the project entails the replacement of old inaccurate manual read water meters with new AMR / AMI water meters in the same location, there are no permits or approvals needed for this project.

Letter of Support

Daniel A. Dialessi- Executive Director: Water Infrastructure Finance Authority of Arizona (WIFA)

Jamie Kelley- General Counsel: Mohave County Water Authority

Toby Cotter- City Manager: City of Bullhead City

Tom Brady- Mayor: City of Bullhead City

Official Resolution

Resolution by City Council of Bullhead City will be submitted for consideration and approval at the May 3, 2022, Council meeting. Thereafter, an official resolution from Bullhead City Council will be provided within 30 days of the application deadline as an addendum.

April 26, 2022

The Honorable Deb Haaland
Secretary of Interior
U.S. Department of Interior
1849 C Street, N.W.
Washington, D.C. 20240

Dear Secretary Haaland:

I am writing to support the City of Bullhead City Arizona's application for the WaterSmart Small-Scale Water Efficiency grant. The City is requesting \$100,000 in funding, which will be used to implement an Automated Metering Infrastructure (AMI)/Automated Meter Reading (AMR) project. Arizona and the Southwestern region in general are experiencing its worst drought in 1,200 years. As such, it is more critical than ever that we find ways to conserve and better manage our limited water resources. The City's AMI/AMR project will allow the Utility Department and the end water users in Bullhead city to accurately track usage in a much more effective manner.

The City of Bullhead City provides water service to approximately 20,000 customers. Its customer base includes a mix of residential and commercial water users. The continuing drought poses a significant threat to each resident and business owner in Bullhead City and beyond. For this reason, the City is committed to deploying water saving measures. In accordance with the City's 2022 Water Conservation Plan, the Utility Department is working on a large meter replacement project. The project will entail the removal of manual read water meters, replacing them with AMI/AMR electronic read water meters and installing collectors and gateways to record the data. By replacing the existing meters with AMI/AMR equipment, staff will have the ability to efficiently monitor accurate meter readings. With more accurate and timely meter readings, the Department can better assess Water Conservation plan outcomes and in turn, conduct much more effective resource planning.

The City of Bullhead City is committed to achieving the goals set out in the City's 2022 Water Conservation plan. This project will position the City to better navigate future worsening drought scenarios. Implementing the AMI/AMR project will be key to the City's success in carrying out its water conservation plan and becoming more drought resilient. WIFA is committed to supporting the City's efforts and I humbly ask for your support of the project and hope that the department will approve of the City of Bullhead City's grant application.

Sincerely,



Daniel A. Dialessi, CFA
Executive Director
Water Infrastructure Finance Authority of Arizona

MOHAVE COUNTY WATER AUTHORITY

1355 Ramar Road, Suite 6, Bullhead City, AZ 86442
Telephone No. (928) 763-6969

April 27, 2022

The Honorable Deb Haaland
Secretary of Interior
U.S. Department of Interior
1849 C Street, N.W.
Washington, D.C. 20240

re: Support of Bullhead City Arizona's application for the WaterSmart Small-Scale Water Efficiency grant

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The City of Bullhead City is committed to achieving the goals set out in the City's 2022 Water Conservation plan. This will position the City to better navigate future worsening drought

April 27, 2022

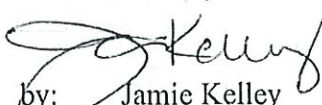
MCWA Letter in support of Bullhead City

Page 2 of 2

scenarios. Implementing the AMI/AMR project will be key to the City's success in carrying out its water conservation plan and becoming more drought resilient. Considering the importance of this endeavor, it is requested that you help move this project forward and support approval of the City of Bullhead City's grant application for the requested amount.

Very truly yours,

Mohave County Water Authority



by: Jamie Kelley
its: General Counsel



CITY OF BULLHEAD CITY

2355 Trane Road | Bullhead City, Arizona 86442-5966 | (928) 763-9400

April 22, 2022

The Honorable Deb Haaland
Secretary of Interior
U.S. Department of Interior
1849 C Street, N.W.
Washington, D.C. 20240

Dear Secretary Haaland:

I am writing to support the City of Bullhead City Arizona's application for the WaterSmart Small-Scale Water Efficiency grant. The City is requesting \$100,000 in funding, which will be used to implement an Automated Metering Infrastructure (AMI)/Automated Meter Reading (AMR) project. Arizona and the Southwestern region in general are experiencing its worst drought in 1,200 years. As such, it is more critical than ever that we find ways to conserve and better manage our limited water resources. The City's AMI/AMR project will allow the Utility Department and the end water users in Bullhead city to accurately track usage in a much more effective manner.

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Sincerely,

Toby Cotter
City of Bullhead – City Manager

2355 Trane Rd, Bullhead City, AZ 86442

Office: (928) 763-9400 | www.bullheadcity.com





CITY OF BULLHEAD CITY

2355 Trane Road | Bullhead City, Arizona 86442-5966 | (928) 763-9400

April 22, 2022

The Honorable Deb Haaland
Secretary of Interior
U.S. Department of Interior
1849 C Street, N.W.
Washington, D.C. 20240

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Sincerely,

Tom Brady
City of Bullhead – City Mayor

2355 Trane Rd, Bullhead City, AZ 86442

Office: (928) 763-9400 | www.bullheadcity.com

