The Bureau of Reclamation

WaterSMART Grants: Water and Energy Efficiency Grants

Benchland Water District

FY 2020

BOR-DO-20-F001

Secondary Water Project Phase II

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Executive Summary

Applicant Info

Date: October 3, 2019

Applicant Name: Benchland Water District (BWD/District)

City, County, State: Kaysville, Davis County, Utah

Project Manager:

Brian Deeter
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Project Funding Request: Funding Group I $300,000; total project cost $675,150

Project Summary

Specify the work proposed, including how funds will be used to accomplish specific project activities and briefly identifies how the proposed project contributes to accomplishing the goals of this FOA.

The Benchland Water District Secondary Water Metering Project Phase II will install 450 secondary water meters. This project will have a quantifiable water savings of 176 acre-feet of water per year. The water metering Project is Phase II of a multiphase project that works to help achieve the Weber Basin Water Conservancy District (WBWCD) conservation goal to meet the Utah Governor's goal of 25 percent water conservation by 2025. This project is a much-needed efficiency upgrade to a system that is seeing unsustainable water use for outdoor watering. As drought has become more extreme, BWD has seen water users overwatering, having a huge impact on the BWD's water supply and reliability. In the 2018 irrigation season, secondary water that is typically allotted for September and October in the Benchland Water District was already gone in May of that year. Between May 20th and May 23rd, the streams that normally provide the late irrigation water just completely dropped off with little to no flow in the streams. General Manager, Scott Parsell said, "We've had some pretty tight years, but never like this." Snowpack in the area that usually runs about 60 percent of normal was down to 20 percent of normal in 2018.

Metering secondary water is more than just a tool for calculating water bills, and meters inform users a lot about their habits. Most users might only need to know how much exactly they are overwatering to guide them toward conservation practices.

The proposed project will contribute to the goals of this FOA in the following ways:

- **Water Reliability:** The installation of secondary water meters, significant public involvement, and conservation education that BWD will initiate in the Benchland service areas will encourage users to manage and conserve water resources more efficiently. The increased awareness among residential water users on how they can develop sound water

use habits and evaluate their water use through monthly meter information will contribute to better water reliability in the BWD system.

- **Mitigate Conflict:** The proposed project will work towards mitigating conflict in an area that is at a high risk of future water conflicts. BWD's service area has seen the impacts of drought and the conflicts that happen due to reduced watering requirements and fines. Over the past several drought years, BWD has implemented watering restrictions and fines to help reduce overwatering. However, these restrictions and fines have intensified conflicts between BWD staff and those overwatering. The District has no ability to hold people accountable for the amount of water they are using except by reports by neighbors or by the observation of District staff. By adding secondary meters, BWD is taking the necessary steps to manage their system better and ensure that valuable water resources are conserved.

Length of Time and Estimated Completion Date

State the length of time and estimated completion date for the proposed project.

This project is ready to move forward as soon as it is awarded. An environmental document will be prepared as part of the project, and it is anticipated that a Categorical Exclusion will be approved since the project will take place in previously disturbed areas and within existing road alignments. The environmental document will take four to eight months. The installation of the meters will take place after the irrigation season (October 2020 - April 2021 and October 2021-April 2022). The education and information process will be ongoing with regular public information regarding the time and placement of the meters throughout the entire project.

Federal Facility

Whether or not the project is located on a Federal facility.

The project is not directly located on a Federal facility; however, Benchland Water District receives water from Weber Basin Water Conservancy District (WBWCD), which receives water from the Echo and Rockport reservoirs, both of which are owned by Reclamation. This project will allow better management of water purchased from WBWCD, allow water to stay in the Echo and Rockport reservoirs longer during the irrigation season, which will benefit the habitats and recreational opportunities within the reservoirs.

Background Data

On October 1, 1969, the Farmington Area Pressurized Irrigation District, aka "FAPID," became a legal entity (renamed Benchland Water District in January 2006). The first regular pressurized service was provided beginning April 28, 1978. Up until that point, all the water was delivered via a series of open ditches, canals, and headgates, with water turns based on the number of shares owned; flood irrigation being the primary method of application.

During the summer of 1967, the then Mayor of Farmington City contacted the District telling them that something must be done to correct the wasted water and open ditch irrigation problems in the community. The Mayor asked the District to work at getting the open ditch stock irrigation companies to cooperate in instituting a pressurized underground irrigation system to replace the open ditches. As a result of this request, a committee was organized with that objective as its purpose.

A jointly funded feasibility study was developed, and public meetings were held. Extensive dialogue and debate was had for over two years. The conclusion was to create an irrigation improvement district under the legal statutes of the State of Utah.

Today, Benchland Water District (BWD/District) serves over 5,600 users and an estimated 1,477 irrigated acres. Their service area has one of the fastest growth rates in the nation. The 2018 water season was the most difficult Benchland has ever experienced. Due to the lack of snowpack, the length of runoff was shortened, leaving the District's Board no choice but to restrict water use. Watering between the hours of 10am and 6pm was prohibited and proper water times and lengths were given as a guide to the users. The Board passed a motion to allow rebates to its customers for automatic sprinkler sensors, good for one rebate of $50 per customer until budgeted funds of $5,000 were depleted. The District is constantly educating users on the water conservation policies through their monthly newsletters and on their website. BWD requires the installation of a secondary water meter on all new development projects where secondary water connections are installed. Each individual connection is to have its own meter and service valve in addition to the technology to facilitate the gathering of water use information from the meter. See Attachment A – New Development Water Meter Requirements and Attachment B – Newsletter Updates.

Despite these conservation efforts, BWD relies heavily on Weber Basin Water Conservation District for adequate water supply and realizes that greater measures must be taken in order to make a substantial impact on overall water conservation.

Water Supply

Describe the source of water supply, the water rights involved, current water uses (e.g., agricultural, municipal, domestic, or industrial), the number of water users served, and the current and projected water demand. Also, identify potential shortfalls in the water supply. If water is primarily used for irrigation, describe major crops, and total acres served.

Source of water supply and water rights involved: Benchland Water District relies heavily on Weber Basin Water Conservation District to supply enough water to meet its needs throughout the year. There are numerous small streams that BWD owns rights to, but without the storage capacity to retain early and late year runoff, WBWCD ends up supplying a vast majority of the water needed for irrigation season. Over the last seven years, WBWCD has supplied BWD with 68 percent of their total water usage. 2018 topped the charts with a total of 79 percent of BWD's total water coming from WBWCD.

Table 1 - Current Water Rights

Source	Priority	Total CFS	Water Right Number
Farmington Creek and Springs	1850	24.03	31-2807
Farmington Creek	1850	92.89	31-2809 thru 31-2813
Farmington Creek	1865	70	31-2814
Steed Creek and Lewis Spring	1851	53.52	31-2816 thru 31-2820
Shepard Creek	1849	7.52	31-3136
Davis Creek	1850	41.03	31-450 thru 31-456

Davis Creek	1850	12.14	31-4917
Davis Creek	1850	12	31-5200
John Arthur Canyon/Farmington Canyon	1879	4	35-9016
Total		**317.13cfs**	

Source: **Utah Division of Water Rights (DWRi)**

Current water uses and number of water users served: Benchland Water District is a secondary water company with municipal, domestic, and secondary industrial use making up 90 percent of the demand for the District. The other 10 percent is used for agriculture water use. There are currently 5,633 users with an average yearly growth rate of about 1.6 percent or between 22 and 29 irrigated acres added per year.

Current and projected water demand/potential shortfalls in water supply: BWD has seen more and more demands as farmers sell their lands for residential use. Over the past five years, the service area has experienced major population growth, intense drought conditions, and large water losses due to overuse, waterline breaks, and aging infrastructure. Water to service the growing populations in Kaysville and Farmington has the Company feeling that they might not have the water available to service all the new users over the next 20 years. This would require BWD to purchase more water from WBWCD at a higher price than their current water allocation cost.

The District constructed a storage project in 2017 and will complete additional storage projects in 2018 and 2019. The projects will increase the storage capacity needed to maintain distribution at the current growth rate of the service area. In 2010, the District constructed Reservoir A (Shephard Creek) to add 9.6 acre-feet of storage capacity to the system, as the current two reservoirs had reached capacity. Currently, the total reservoir capacity is 63.6 acre-feet.

Calculations were done for a projected 17 years of usage; the projected water use at buildout without meters is 6,857 acre-feet and with meters is 5,142 acre-feet. At buildout, Benchland shows a shortfall in their water supply of 2,259 acre-feet without meters, and 544 acre-feet with meters. This has prompted BWD to make major changes to their system to reduce water losses and encourage conservation for their secondary water users through metering and education. The proposed Secondary Metering Project is the second phase of a multiphase project and will help further advance the District's goals toward conservation.

Potential Shortfalls in Water Supply: Benchland Water District faces potential shortfalls in three main areas:

1. **Water Loss** – The number one potential shortfall for BWD is water losses through overuse. These losses have impacted water delivery, triggered water restrictions and fines, and a serious re-evaluation of water sustainability. Visual inspections show consistent overwatering and waste as it runs over sidewalks and down roads. On average, residential users use nearly two-thirds of their water outdoors; most tend to water too often and too long.

2. **Past Drought** – The 2018 water season was the most difficult the District has ever experienced. Due to the lack of snowpack, streams ran low, and the length of run-off was shortened. Compounding the problem was the lack of precipitation and above-average temperatures throughout the summer months. The District's Board had no choice but to restrict water usage. This measure was extremely difficult on all of their water users and staff.

   Figure 1- Reservoir Storage as of September 9, 2018

Dwindling reserves

A sampling of water levels at some of Utah's reservoirs as of Sept. 9, 2018

NAME OF RESERVOIR	% CURRENT LEVEL	FULL CAPACITY ACRE/FEET
Willard Bay	65	215,000
Pineview	46	110,100
Echo	21	73,900
East Canyon	56	49,500
Rockport	37	60,900
Jordanelle	71	314,000
Deer Creek	65	149,700
Utah Lake	50	870,900
Strawberry	77	1,105,900
Scofield	41	65,800
Piute	1	71,800
Lake Powell	47	24,322,000

SOURCE: Utah Natural Resource Conservation Service

DESERET NEWS GRAPHIC

   Drought will continue to be an issue based on reservoir storage. In March of 2019, the reservoirs (Echo and Rockport) that service WBWCD were at 50 percent capacity. If the snowpack had not been as good as it was this winter (2019), many of the water users along the Wasatch Front would have been in real trouble. In September 2018, Echo Reservoir was sitting at 21 percent capacity and Rockport at 37 percent, according to a Utah National Resource Conservation Service report (see Figure 1). If reservoirs continued to drop and if we had another winter like the winter of 2018, water supply in 2019 would be at the highest level of risk. But thankfully in 2019, a good snowpack and a very wet spring allowed the reservoirs to fill and stay filled. However, this is just one year of good snowpack after 12 years of drought. We never know what the next water year will bring.

3. **Growth** – Over the past 10 years, the Kaysville area has grown by 14 percent while the Farmington area has seen a 24 percent population increase. These growth rates are extremely high when compared to the National growth rate of about 1 percent per year during that same period. These population increases have come with many new residential housing developments, businesses, schools, and churches. As the population increases in the service area, the need for more culinary and secondary water will also increase. This demand could have significant effects on BWD's ability to provide water the way it has always been accustomed to and could also have an impact on available water based upon drought conditions and continued overwatering.

If water is primarily used for irrigation, describe major crops, and total acres served: Only 10 percent is used for agriculture purpose, and that is mostly for hay and alfalfa. However, this land is quickly moving from agriculture use to residential housing.

Water Delivery System

Describe the applicant's water delivery system as appropriate. For agricultural systems, please include the miles of canals, miles of laterals, and existing irrigation improvements (e.g., type, miles, and acres). For municipal systems, please include the number of connections and/or number of water users served and any other relevant information describing the system.

BWD first supplied regular pressurized irrigation service to customers beginning April 27, 1978. The District currently owns and operates over 82 miles of canals and piped laterals, with piping

ranging in size from 2-inch to 24-inch. There are currently 5,633 connections and an estimated 1,477 irrigated acres. In 2018, water usage was 5,089 acre-feet.

Hydropower/Energy Efficiency

If the application includes a hydropower component, describe existing energy sources and current energy uses.

N/A

Relationship with Reclamation

Identify any past working relationships with Reclamation. This should include the date(s), description of prior relationships with Reclamation, and a description of the project(s).

The Bureau of Reclamation originally lent the funds to construct BWD's system in 1978. The loans have been paid off since 2008.

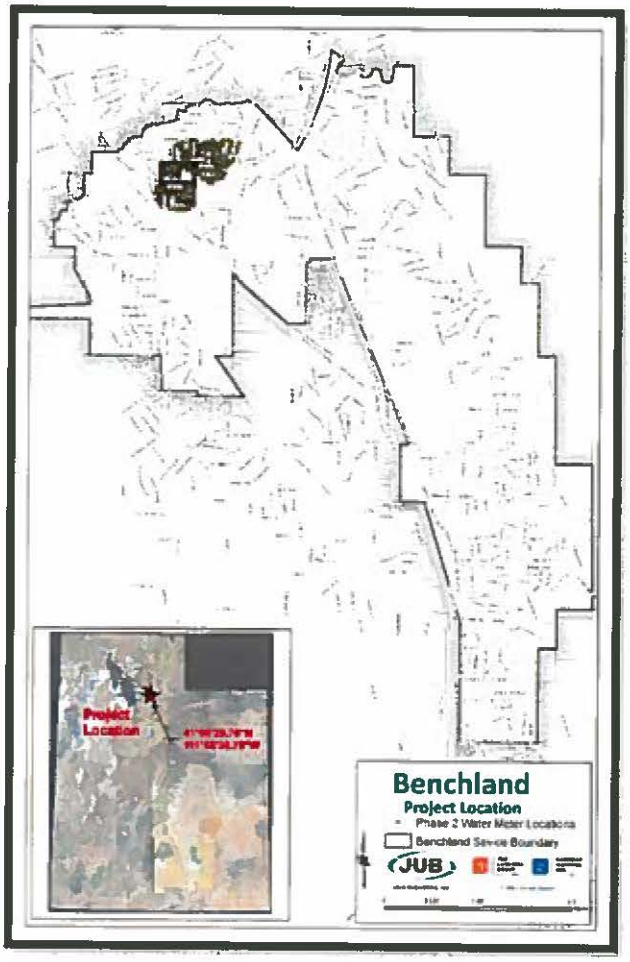
Project Location

Provide specific information on the proposed project location or project area including a map showing the geographic location. For example, {project name} is located in {state and county} approximately {distance} miles {direction, e.g., northeast} of {nearest town}. The project latitude is {##°##'N} and longitude is {###°##'W}.

Geographic Location

The Benchland Water Metering Project is located in Davis County 20 minutes north of Salt Lake City. The metering project will take place along I-15 within Kaysville City. This is a growing community that serves as a suburban-type area. For project location and detailed project info, see Attachment C – Project Location Map, and Attachment D – Project Detail Map.

Figure 2 Project Location Map



Technical Project Description

Describe the work in detail, including specific activities that will be accomplished. This description shall have sufficient detail to permit a comprehensive evaluation of the proposal.

BWD is working with Weber Basin Water Conservation District (WBWCD), the major wholesale water supplier for BWD, to meet the goal set by WBWCD to reduce water usage by 25 percent by 2025. This proposed project helps to advance this goal, as BWD begins the process of metering its users. WBWCD has installed over 4,000 meters, advancing the goal to reduce water usage.

BWD currently has approximately 5,600 connections and growing. Their objective is to eventually have all secondary connections within the District's system being metered. This proposed project is Phase II of a multi-phase plan toward metering all of the District's existing users. New developments within the District's service area are required to include meters on their secondary connections, so all new connections are being metered at this time. The meters are equipped with endpoints that allow hourly data to be collected using a drive-by reader or a fixed network Advanced Metering Infrastructure (AMI) system that allows continuous data collection.

The proposed project includes activities that will conserve 176 acre-feet of water by installing 450 residential secondary water meters. The project area is located in the District's Kaysville secondary service areas. Similar to other meter installation projects, BWD will purchase the water meters and AMR radio transmitters for the project, thereby reducing costs and allowing them to link the meters to the appropriate address where they will be installed. Prior to any physical construction or disruption to individual yards, a public information campaign will be organized to identify and inform all users who will be affected. As part of the public information, the District will provide a time frame for installation and a list of benefits that will come as a result of having an individual meter on their connection. The contractor will distribute door hangers prior to construction to inform homeowners of their presence in the areas that they will be working and provide at least 48 hours lead time prior to installation on their property.

E.1. Technical Proposal: Evaluation Criteria

E.1.1. Evaluation Criterion A – Quantifiable Water Savings (30 Points)

Quantifiable Water Savings

Describe the amount of estimated water savings. *For projects that conserve water, please state the estimated amount of water expected to be conserved (in acre-feet per year) as a direct result of this project.*

This project will have a quantifiable sustainable water savings of 176 acre-feet per year. The average annual acre-feet of water usage for BWD is approximately 4,794 acre-feet (seven-year measured average). The water is diverted from the Bair Creek and WBWCD aqueduct, which is upstream from the Upper Reservoir. The water directly diverted to the project area is 585 acre-feet and is delivered directly from the Upper Reservoir. This project will help better manage the 585 acre-feet of water as it is delivered to the project area. Overall, this project will allow for better management of all the water released into the Upper Reservoir (4,794 acre-feet), allowing water to be held in the Upper Reservoir and within WBWCD reservoirs for longer in the season. This will consequently benefit the environment, fish and wildlife, and recreation opportunities.

Describe current losses. *Explain where the water that will be conserved is currently going (e.g., back to the stream, spilled at the end of the ditch, seeping into the ground).*

Water is being overused on lawns, gardens, concrete sidewalks, and pastures and is mostly lost to evapotranspiration and evaporation. Excess watering can cause water to run off the property and often is lost into the underground drainage system. In some cases, the secondary system has been used to irrigate row crops and pastures.

Describe the support/documentation of estimated water savings. *Provide sufficient detail supporting how the estimate was determined, including all supporting calculations.*

Estimated water savings was determined based on metered secondary use data from the Farmington service area provided by Weber Basin Water Conservancy District. Secondary water use, on average for the Farmington area, is 1.30 acre-feet per secondary connection, making the estimated secondary use of the proposed connections to be metered 585 acre-feet/year (450 x 1.30 = 585acre-feet). The total water supply being considered for the proposed project is 585 acre-feet/year.

Municipal Metering:

Municipal metering projects can provide water savings when individual user meters are installed where none exist to allow for unit or tiered pricing, when existing individual user meters are replaced with advanced metering infrastructure (AMI) meters, and when new meters are installed within a distribution system to assist with leakage reduction. To receive credit for water savings for a municipal metering project, an applicant must provide a detailed description of the method used to estimate savings, including references to documented savings from similar previously implemented projects. Applicants proposing municipal metering projects should address the following:

a. How has the estimated average annual water savings that will result from the project been determined? Please provide all relevant calculations, assumptions, and supporting data.

It is estimated that the proposed project will conserve 176 acre-feet per year. Based on the data provided by WBWCD for 2012-2018, metered secondary user connections in the Farmington service area used on average 0.91 AF/connection/yr. During the same time period, un-metered secondary connections in Woods Cross service area were estimated to have used on average 1.30 AF/connection/yr. The 1.30 AF/connection/yr. was calculated based on data from main line flow meters delivering water to the area. Meter data from 2012 – 2018 has shown that secondary users in Farmington that have a secondary meter use significantly less water than those who are in Woods Cross and not metered. Figure 3 below shows the secondary water use by year for both metered and un-metered connections using the Farmington and Woods Cross service areas as the comparison. On average, metered secondary connections used 0.39 AF/per connection less than un-metered connections.

BWD believes additional conservation is possible beyond the observed 0.39 AF/connection/yr. if users continue to respond to the targeted water use given for their properties.

The following calculations show the anticipated water savings for the proposed metering project.

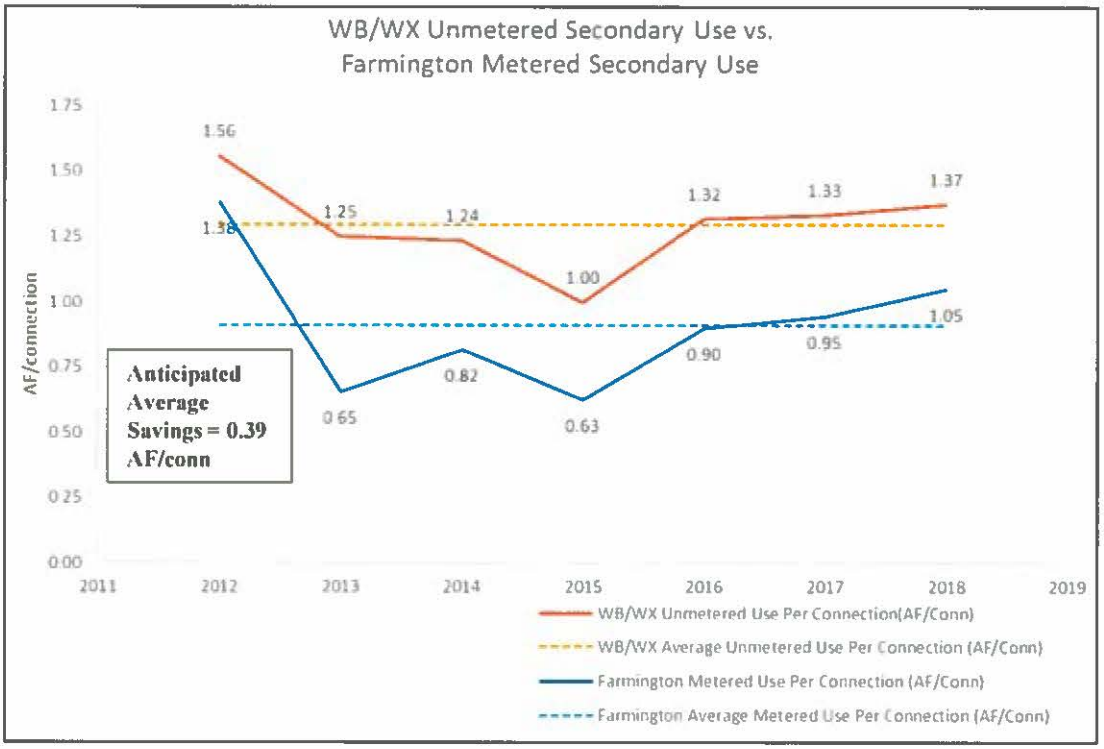
Calculation 1: Documented Water Use Reduction for Metered Secondary Connections in Farmington and Woods Cross.

1.30 AF/conn/yr. – 0.91 AF/conn/yr. = 0.39 AF/conn/yr. Water Savings

Calculation 2: Anticipated water savings for the proposed BWD Phase II Project in Kaysville service area.

450 new meters x 0.39 AF/conn/yr. savings = 176 AF/yr.

Figure 3 Metered to unmetered users via WBWCD data



b. How have current distribution system losses and/or the potential for reductions in water use by individual users been determined?

Water reductions for individuals in the proposed project are based on actual 2012-2018 metered connection data collected by Weber Basin Water Conservancy District that are located near the project area. As was shown in the above calculations, there is an impact from having a meter on a water connection and showing water users what they use. Without usage information from the meter, people assume they are using a reasonable amount of water. However, when the actual usage is known, coupled with help and information on proper landscape water needs, data shows that water use in metered areas has decreased. The calculation for how much each user can reduce is based on average use from what has been seen and recorded. However, it is believed that even greater savings can be achieved due to user demographics in remaining unmetered areas, parcel sizes, site locations, and other factors that can play a role in high usage. BWD is confident that there will be substantial water savings with each new meter based on the historical data on meters already installed within Davis County.

c. For installing individual water user meters, refer to studies in the region or in the applicant's service area that are relevant to water use patterns and the potential for reducing such use. In the absence of such studies, please explain in detail how expected water use reductions have been estimated and the basis for the estimations.

All new subdivisions and new service connections to Benchland Water District's system are now required to install individual meters, which accelerates BWD's goal of metering all service connections.

Weber Basin Water Conservation District's studies over the past seven years have provided BWD with the information needed to move forward with this project. Data is available for all WBWCD's meters they have installed, but WBWCD in order to have some consistency over time, WBWCD used data from a group of 1,057 meters that have usage records from 2012-2018. BWD has used this information to develop their understanding of possible water savings for their service area.

WBWCD collected data and compiled it in hourly increments to analyze and determine the effectiveness of these 1,057 meters, during the irrigation seasons of the past seven years. In addition to usage data, the WBWCD has used mapping technology to identify the parcel size and the area of each parcel that would be considered to be "irrigated area" (everything that is not a physical structure or hardscape surfaces).

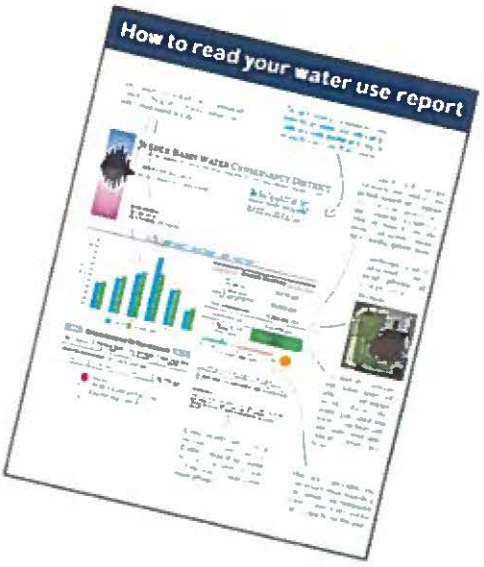
Table 2 below offers a side-by-side comparison of WBWCD's 2012-2018 irrigation seasons, again using the metered data group for calculation. On average, customers are using less than the traditional allocation, which is 3 acre-feet per gross acre, per year. Average usage compared to estimated need over the seven years shows improvement. Users comply with the volume given them, as the estimated demand shows a significant improvement from 145 percent in 2012 to just 90 percent in 2015, but due to the hot and dry summer of 2016, 2017, and 2018, all three saw an increased in usage.

Table 2 Water Savings Comparison - Source WBWCD

Water Savings Comparisons							
	2012	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Used Gallons	284,912,371	220,146,962	205,346,968	168,066,551	217,748,680	236,101,249	252,738,705
Used AF	874	675.3	629.9	515.5	667.9	724.2	775.6
Used AF / Gross Acreage	2.69	2.08	1.94	1.6	2.06	2.23	
Landscaped Area	225.3	225.3	225.3	225.3	225.3	225.3	225.3
Used AF/ Landscaped Area Acres	3.9	3	2.8	2.3	3	3.2	3.4
Estimated Need (inches)	30.46	29.72	24.81	22.33	28.6	29	33.7
Average % Used of Est. Need	153.64%	121.13%	135.43%	123.60%	124.52%	132.37%	122%
Average % Allocation Used	82.44%	63.70%	59.41%	48.62%	63.00%	68.31%	73%
Average Allocation per Parcel/yr.	1.003	1.003	1.003	1.003	1.003	1.003	1
Total Allocation	1060.171	1060.171	1060.171	1060.171	1060.171	1060.171	1060.2
***This data includes 1,057 meters that have data for 2012-2017 with accurate landscape area.**							

As WBWCD develop this Water Savings Comparison they keep the estimated need the same because it is based on the historical average reference rates with parcel size. Most users exceed the estimated need, which is listed on every metered customer's Secondary Water Use Report and is almost always less than the allotted amount they have for their parcel. See Attachment E – WBWCD Sample Secondary Water Use Report for larger view of the report. The Report gives

useful information and also includes instructions on how to read the report. A similar report will be implemented by BWD.



WBWCD developed the estimated water use need based on the moisture required for turf, which has the highest water demand in any landscape. The assumption is made that the entire landscape area is turf, which gives users a generous amount of water for different landscape needs. Considering that most yards are not 100 percent turf and that other landscaping plants are more water-efficient (trees, shrubs, gardens), it is a reasonable goal to have users reduce water consumption to meet their estimated water need or below the estimated need. This data seems conclusive in showing that having a meter, a targeted goal, and receiving usage information (educating) promotes accountability and motivates behavior changes.

d. If installing distribution main meters will result in conserved water, please provide support for this determination (including, but not limited to leakage studies, previous leakage reduction projects, etc.). Please provide details underlying any assumptions being made in support of water savings estimates (e.g., how leakage will be reduced once identified with improved meter data).

This project does not deal with the installation of main distribution meters; however, the project will install secondary end-user meters to most of the Kaysville secondary system area. This will allow BWD to understand if any water is currently being lost to through the distribution system. If system losses are found, steps will be taken to find and repair leaks.

e. What types (manufacturer and model) of devices will be installed and what quantity of each?

BWD has approved the Neptune Mach 10 R900i meter for the traditional 1-inch connections. The new fixed network AMI system provides usage data in hourly increments, which is important to the District. BWD uses the hourly data to track irrigation timing and volume of water used at irrigation times. This proposed project will involve the installation of approximately 450 meters and radio transmitters over a two-year timeframe.

f. How will actual water savings be verified upon completion of the project?

At the completion of each year of the project, BWD will have water usage data from every meter installed. The data will be in hourly increments from April 15 to October 15. The data will also include a monthly consumption value. Water savings will **not be** fully known after just one irrigation year, so BWD will prepare a water savings comparison chart much like WBWCD did and will track the same 450 meters, from this project, every year for a series of years to document the changes.

BWD will be able to use historical main line meter data to compare usage from years prior to metering with years following metering. Comparing historical water use to use after full implementation of the meter project will more accurately depict what impact the installation of individual meters has on users and their entire system.

E.1.2. Evaluation Criterion B – Water Supply Reliability (18 Points)

Address how the project will increase water supply reliability. Provide sufficient explanation of the project benefits and their significance. These benefits may include, but are not limited to, the following:

1. *Will the project address a specific water reliability concern? Please address the following:*
   - *Explain and provide detail of the specific issue(s) in the area that is impacting water reliability, such as shortages due to drought, increased demand, or reduced deliveries. Will the project directly address a heightened competition for finite water supplies and over-allocation (e.g., population growth)?*

The specific issue affecting Benchland Water District's (BWD) service area is drought. In the fall of 2017 Troy Brosten, a hydrologist at the state Snow Survey said, "We ended the snowpack year with 50 percent or less for snowpack and then going into the summer it was well below precipitation. The month of September was only a trace for the whole month, it was the worst precipitation year on record." Winter 2018 brought one of the warmest and least-snowy winters since the late 1800s. Precipitation doesn't really fill the reservoirs, it just means during our summer months, irrigation water is used less. The rain becomes the irrigation, so we don't have to touch the savings of water in our reservoirs. However, if we have a low or no snow winter, the rain will not fill our reservoirs, and if the snow does not come, we will not have water for irrigation.

People began to feel a bit of relief with Winter 2019 and the amount of winter snow and spring rain we received; however, scientists have said that droughts in Utah are not random – 'Instead, there is a natural periodicity to them — distinct, multi-year wet and dry cycles of various durations." Climate cycles happen slowly in scale of a human lifetime, and an impending wet period does not mean Utah is in the clear when it comes to drought. Climate models show that activities that lead to a warmer planet, will continue have an impact on water availability in the West.

Utah has had twelve drought years over the past fifteen years. The severity of the drought from year to year is what has a real impact on the BWD service area. The BWD project area has been in a drought situation for four of the past five years, with three of those years requiring reduced allocations and shorter irrigation seasons. Because user conservation is swayed by the daily news, weather, and how they perceive the shortage will affect them, BWD has no real way to ensure that users are conserving. This project will begin to change that with the installation of service meters and education for BWD water users.

- *Describe how the project will address the water reliability concern? In your response, address where the conserved water will go and how it will be used, including whether the conserved water will be used to offset groundwater pumping, used to reduce diversions, used to address shortages that impact diversions or reduce deliveries, made available for transfer, left in the river system, or used to meet another intended use.*

BWD is prepared to address the drought and water reliability concerns described above by installing water meters and implementing water awareness education. BWD purchased 79 percent of their water from WBWCD last year, and on average 68 percent yearly. By maximizing the efficiency in which their customers use the

water, BWD will be able to limit the amount of water needing to be purchased from WBWCD.

Decreased secondary water use in the Kaysville area will be stored in the upper reservoirs of WBWCD's system reducing the amount that BWD has to buy from them each year. Water not required from BWD will remain in the system as stored water or instream flows. It is also can go to meet the needs of growth in BWD's service area.

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

Meters will allow for more water to be saved and held in BWD's upstream reservoirs, and within WBWCD's system, allowing WBWCD to hold water for later in the irrigation season when it is needed to be used for instream flows and held for storage water for the next season. Previously, in WBWCD's work with Utah Division of Wildlife Resources (UDWR), and Paul Burnett with Trout Unlimited, it was indicated that if WBWCD could allow more water to run down key portions of the Weber River during the irrigation season, it would help the Bonneville Cutthroat Trout and Bluehead Sucker, which are listed on the state's sensitive species list. It is proven and documented that by allowing for more available water to stay within the habitat areas for longer periods of time, these species are benefited.

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

For this project, the amount of estimated water savings is 176 acre-feet/year. All this water saved will equally reduce the amount of water BWD needs to purchase from WBWCD to meet its demands.

2. *Will the project make water available to achieve multiple benefits or to benefit multiple water users? Consider the following:*

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

Yes, metering secondary water connections will benefit the multiple sectors served by BWD. BWD serves primarily residential and some agriculture properties. Residential uses include lawns and gardens, and agriculture use includes irrigation of row crops and pastures. All users receiving metered connections will be able to use collected meter data to better understand how they can reduce water usage and contribute to greater water supply reliability.

     - *Will the project benefit species (e.g., federally threatened or endangered, a federally recognized candidate species, a state-listed species, or a species of particular recreational, or economic importance)? Describe the relationship of the species to the water supply, and whether the species is adversely affected by a Reclamation project.*

The development of this project will allow for more water to be saved and held in Echo and Rockport Reservoirs and within the Weber River system. Darren Hess, Assistant General Manager at WBWCD, has indicated that by working with WBWCD and their partners, more water could be released in the Weber River during the irrigation season to help the Bonneville Cutthroat Trout and

Bluehead Sucker, which are listed on the state's sensitive species list and are located between the Echo and Rockport Reservoirs and within the Weber River.

BWD is committed to working with WBWCD as they continue to work with the Utah Division of Wildlife Resources (UDWR) and Trout Unlimited (TU) to establish a percentage of the saved water to be released at critical times when UDWR feels this could enhance the habitat for the Bonneville Cutthroat Trout and Bluehead Sucker. BWD will work closely with WBWCD as they conserve water through their phased metering projects to help WBWCD meet any of their commitments.

- *Will the project benefit a larger initiative to address water reliability?*

  The proposed secondary water metering project contributes to a larger initiative of BWD to help achieve the Utah Governor's goal of 25 percent water conservation. BWD is doing its part to develop projects, such as the proposed, to encourage its users to manage and conserve water resources more efficiently. BWD also has an education area on their website and within their monthly newsletters that contains information articles to help educate users how to conserve. Through water use awareness education and conservation, BWD will work with its users to reduce water usage and conserve this precious resource that is so valuable, particularly in a dry climate.

- *Will the project benefit Indian tribes?*

  No, this project will not directly benefit Indian tribes.

- *Will the project benefit rural or economically disadvantaged communities?*

  No, the project will serve Kaysville, Utah, which **is not** considered to be rural or economically disadvantaged communities.

- *Describe how the project will help to achieve these multiple benefits. In your response, please address where the conserved water will go and where it will be used, including whether the conserved water will be used to offset groundwater pumping, used to reduce diversions, used to address shortages that impact diversions or reduce deliveries, made available for transfer, left in the river system, or used to meet another intended use.*

  Water will be held in BWD's storage reservoirs or within WBWCD upper storage reservoirs (Echo and Rockport), to be drawn when and if the water is needed.

3. *Does the project promote and encourage collaboration among parties in a way that helps increase the reliability of the water supply?*

   Yes, planning for the proposed project included meetings with shareholders and water users at a public meeting presentation during BWD's annual stakeholders' meetings. See Attachment A – New Development Water Meter Requirements

   - *Is there widespread support for the project?*

     BWD and the cities in the proposed project area are in support of the project because it will promote water conservation and free up capacity for growth. In addition, the proposed project will help move the state of Utah and BWD closer to their goal of 25 percent in reduced water use by 2025. Letters of Support for the

BWD metering project include Weber Basin Water Conservancy District, Kaysville City can be found in Attachment F – Letters of Support.

- *What is the significance of the collaboration/support?*

  The collaboration between BWD and Kaysville City, along with WBWCD will increase water use awareness among residential water users in a way that could not be achieved in any other way. BWD believes that this project, along with other conservation goals and activities, will help prevent a water-related crisis or conflict because it will provide more water to be available for future needs and growth.

- *Is the possibility of future water conservation improvements by other water users enhanced by completion of this project?*

  Yes. BWD has developed this project based on the savings from WBWCD data and metering projects. We hope that other secondary water districts will see the savings realized from our metering project and WBWCD large metering projects so that they will want to initiate their own secondary metering projects. BWD's users will be educated on the water savings, and they will hopefully help them think differently about proper water usage and help them become more accountable for their water use. The reach of this type of education and public involvement in conservation has great potential for future water savings.

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

  There has been major conflict within BWD's service area in recent years, mainly due to water restrictions that BWD has had to enforce due to drought and lack of supply. Users were prohibited from watering over the weekends, from 8 a.m. Saturday to 8 a.m. Monday, and those caught violating the order received a $50 fine on their first offense, $250 for the second offense, and a complete shutoff of secondary water at the third offense. They were also prohibited from watering between 10 a.m. and 6 p.m. on weekdays. The restrictions applied to everyone using Benchland water, including schools, city parks, and churches.

  Many ignored the restrictions and watered however and whenever they wanted. This caused conflict with users and BWD's staff as they were slated with implementing the fines and the shutoffs. These restrictions contributed to anxiety, stress, and limited water availability to all users. BWD will continue to feel the tension as demands for more water come from expanding residential growth and could be far worse off if they do not move forward with this project. By providing a system-wide usage standard, BWD believes the conflict and tension surrounding these topics will be largely mitigated as users are made aware of unnecessary over-watering practices.

- *Describe the roles of any partners in the process. Please attach any relevant supporting documents.*

  No partners will be involved in this project.

4. *Will the project address water supply reliability in other ways not described above?*

This is Phase II of a multiphase secondary water meter project. BWD intends to continue to complete other metering phases to increase the water reliability for their district.

E.1.3. Evaluation Criterion C – Implementing Hydropower (18 Points)

If the proposed project includes construction or installation of a hydropower system, please address the following:

Describe the amount of energy capacity. *For projects that implement hydropower systems, state the estimated amount of capacity (in kilowatts) of the system. Provide sufficient detail supporting the stated estimate, including all calculations in support of the estimate.*

The project will not include any hydro elements.

E.1.4. Evaluation Criterion D – Complementing On-Farm Irrigation Improvements (10 Points)

If the proposed project will complement an on-farm improvement eligible for NRCS assistance, please address the following:

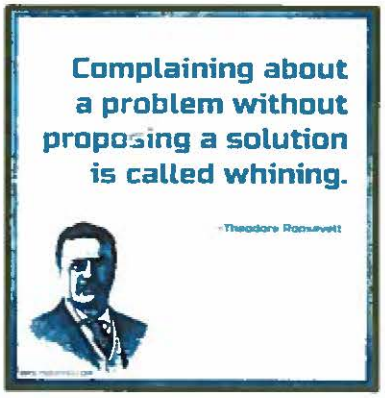
The project will not include any on-farm opportunities.

E.1.5. Evaluation Criterion E – Department of the Interior Priorities (10 Points)

Address those priorities that are applicable to your project. Points will be allocated based on the degree to which the project supports one or more of the priorities listed, and whether the connection to the Priority(ies) is well supported in the proposal.

1. *Creating a conservation stewardship legacy second only to Teddy Roosevelt.*

Teddy Roosevelt said, *"Complaining about a problem without proposing a solution is called whining."* BWD is committed to providing the best solutions to the problems facing its water users by identifying all areas in which BWD systems fall short. This Secondary Water Metering Project will provide the solutions that will modernize infrastructure and restore trust with local communities.



With Utah being the second driest state in the Nation, water conservation is essential rather than something to consider. Because of drought, water conservation in Utah is one of the highest priorities of water distributors and users throughout the state. The proposed project is an opportunity for BWD and its water users to work together to create goals and sound water use habits. Working towards these goals and implementing better water use habits will protect Utah's water resources and ensure that these resources are made available to sustain current and future water users within the BWD service area.

2. *Restoring trust with local communities.*

As BWD works with Kaysville and Farmington cities within their service area to address water supply reliability, they work to restore trust with those local communities and the water users within city jurisdiction. Building trust through education, conservation, and accountability, BWD will help its users better manage their water use habits. Many water users are concerned that their neighbors are overwatering. This metering project will help to

eliminate neighbor infighting due to the fact that the meters will tell the real story of overuse. The proposed metering project will give BWD the resources needed to address overuse issues while restoring trust with local communities through conservation of valuable water resources.

3. *Modernizing our infrastructure.*

According to a study from 2009 called "Metering Secondary Water in Residential Irrigation Systems," done by Utah State University, "…By way of innovative meter designs [as is proposed in BWD's project] …secondary water systems have had success metering their secondary water." Modern meter designs on secondary water systems have proven successful in making many water users more aware of how much water they are really using. The study mentions that because secondary water supply is commonly charged at a fixed rate, many water users assume that they have the right to an unlimited supply of water. BWD knows firsthand how users assume they have unlimited water and are hopeful that this project will educate and change this way of thinking.

E.1.6. Evaluation Criterion F – Implementation and Results (6 Points)

E.1.6.1. Subcriterion No. F.1 – Project Planning

Does the applicant have a Water Conservation Plan and/or System Optimization Review (SOR) in place? *Please self-certify or provide copies of these plans where appropriate to verify that such a plan is in place.*

Provide the following information regarding project planning:

1) *Identify any district-wide, or system-wide, planning that provides support for the proposed project. This could include a Water Conservation Plan, SOR, or other planning efforts done to determine the priority of this project in relation to other potential projects.*

The District Board adopted a system replacement plan. The plan allows the District to replace systematically, and where appropriate, strengthen facilities with the purpose of continuing to provide the highest quality of irrigation service. The plan includes a number of phases to meter existing services, replacing vulnerable sections of original main distribution lines, projects to provide cleaner water to customers, and implementation of a District GIS mapping program.

2) *Describe how the project conforms to and meets the goals of any applicable planning efforts and identify any aspect of the project that implements a feature of an existing water plan(s).*

The installation of meters is an essential part of the District's plan to implement a system metering and measurement of water by users. The meters will allow BWD to effectively gather water use information to better educate users regarding the ways in which they use water and how they can conserve water in the future. The overall planning and consideration from the Board has identified the lack of meters and a system-wide GIS mapping program as one of the 4 main deficiencies the system is currently facing. The proposed project would be a major contribution to this specifically identified deficiency, and therefore, the overall system replacement and optimization plan.

E.1.6.2. Subcriterion No. F.2 – Performance Measures

Provide a brief summary describing the performance measure that will be used to quantify actual benefits upon completion of the project (e.g., water saved or better managed, energy generated or saved).

Water Savings/Water Management Performance Measures

At the completion of each year of the project, BWD will have water usage data from every meter installed. The data will be in hourly increments from April 15 to October 15. The data will also include a monthly consumption value. Water savings will not be fully known after just one irrigation year, so BWD will prepare a water savings comparison chart much like WBWCD did and will track the same 450 meters, from this project, every year for a series of years to document the changes.

BWD will be able to use historical main line meter data to compare usage from years prior to metering with years following metering. Comparing historical water use to use after full implementation of the meter project will more accurately depict what impact the installation of individual meters has on users and their entire system.

E.1.6.3. Subcriterion No. F.3 – Readiness to Proceed

Describe the implementation plan of the proposed project. Include an estimated project schedule that show the stages and duration of the proposed work, including major tasks, milestones, and dates.

Milestone/Task	
Sign WaterSMART contracts	Feb-Aug 2020
NEPA Document prepared and approved by Reclamation	Jan - Nov 2020
Metering Project Year 1	Nov 2020- Apr 2021
Metering Project Year 2	Oct 2021- Apr 2022
Final report and project close-out	May 2022

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

Road excavation permits may be required. Kaysville City will be involved and notified of all metering project implications and timelines. Any concerns they have will also be addressed prior to project construction. BWD will work with homeowners to minimize installation impacts and provide an improved service connection.

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

None at this time.

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

No new policies or actions will be required in order to proceed with the proposed project.

Describe how the environmental compliance estimate was developed. Has the compliance cost been discussed with the local Reclamation office?

Environmental costs associated with the project come from estimates provided by JUB Engineers and are calculated based on previous metering projects of similar size.

E.1.7. Evaluation Criterion G – Nexus to Reclamation Project Activities (4 Points)

Is the proposed project connected to Reclamation project activities? If so, how? Please consider the following:

- *Does the applicant receive Reclamation project water?*

  Yes, they receive water from WBWCD who receives water from the Echo and Rockport Reservoirs, which are Reclamation projects.

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

  No.

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

  Yes, the project is in the Weber River Basin where the Echo and Rockport Reservoirs are located.

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

  Yes, the project will conserve water that can now be held in the Echo and Rockport Reservoirs, contributing to the storage and potential flow of the Weber River.

Will the project benefit any tribe(s)?

No, the proposed project will not benefit any Indian tribes.

E.1.8. Evaluation Criterion H – Additional Non-Federal Funding (4 Points)

State the percentage of non-federal funding provided using the following calculation: Non-Federal Funding divided by Total Project Cost.

$$\frac{\$375,150 \text{ Non-Federal Funding}}{\$675,150 \text{ Total Project Cost}} = \mathbf{56\%}$$

Project Budget

Funding Plan and Letters of Commitment

Describe how the non-Federal share of project costs will be obtained.

The $375,150 or 56% being provided by Benchland Water District will come from operating revenues.

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

- *Any monetary contribution by the applicant towards the cost-share requirement and source of funds (e.g., reserve account, tax revenue, and/or assessments).*

  The cash contribution will be provided from operating revenues.

- *Any costs that will be contributed by the applicant.*

  As stated previously, the cash contribution will come from operating revenues.

- *Any third-party in-kind costs (i.e., goods and services provided by a third party).*

  N/A

- *Any cash requested or received from other non-Federal entities.*

  N/A

- *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

In addition, identify whether the budget proposal includes any project costs that have been or may be incurred prior to award. For each cots, describe:

- *The project expenditure and amount.*

  N/A

- *The date of cost incurrence.*

  N/A

- *How the expenditure benefits the Project.*

  N/A

Budget Proposal

Table 3– Total Project Cost Table

Source	Amount
Federal funding	$300,000
Applicant funding	$375,150
Value of third-party contributions	$0
Total Project Cost	$675,150

Table 4 – Budget Proposal

Budget Item Description	Computation		Quantity Type	Total Cost
	$/Unit	Quantity		
Salaries and Wages	**$0.00**			**$0.00**
Fringe Benefits	**$0.00**			**$0.00**
Equipment	**$0.00**			**$0.00**
Supplies and Materials	**$0.00**			**$0.00**
Contractual /Construction				**$657,150**
Contractual Total				**$55,000**
Design	$25,000	1	EA	$25,000
NEPA Document	$15,000	1	EA	$15,000
Construction Engineering	$15,000	1	EA	$15,000
Construction Total				**$620,150**
Mobilization	$18,000	1	EA	$18,000
Meters	$377	450	EA	$169,650
Installation	$650	450	EA	$292,500
Surface Restoration	$450	450	EA	$135,000
Public Involvement	$5,000	1	EA	$5,000
Third-Party In-Kind Contributions				**$0.00**
Other				**$0.00**
Total Direct Costs				**$675,150**
Indirect Costs				**$0.00**
Type of rate	Percentage	$base		$0.00
Total Estimated Project Costs				**$675,150**

Budget Narrative

Salaries and Wages

No BWD Salaries or Wages will be included. All services will be contracted. BWD's staff time will be over and above the cost of the project and will not be counted toward the project cost.

Fringe Benefits

No fringe benefits will be required.

Travel

No travel will be required.

Equipment

Equipment will be part of the contracted portion of the project.

Materials and Supplies

Materials and Supplies will be part of the contracted portion of the project and will be documented as required.

Contractual

In order to determine unit cost, BWD received a quote directly from Neptune Technology Group.

BWD will bid the insulation portion of the project to several prequalified construction companies. The contractual costs shown are estimates for each of the components to install all the equipment. Generally, the low bidder will be selected based on a determination of acceptable qualifications.

Contractual will include installing 450 meters and boxes.

Third-Party In-Kind Contributions

There will not be any Third-Party In-Kind contributions associated with this project.

Environmental and Regulatory Compliance Costs

The environmental document for this project will be minimal in that all the metering will be within previously disturbed areas. The cost was included as 1 percent of the project at $15,000 with $5,000 of that to be held back for Reclamation review.

Other Expenses

No other expenses will be part of the project.

Indirect Costs

No indirect costs will be part of the project.

Total Costs

BWD Portion: $375,150 Fed Portion: $300,000 Total: $675,150

Environmental and Cultural Resources Compliance

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

Impacts will be those associated with metering existing secondary water connection in streets and park strips. The proposed project improvements will take place entirely within the existing street and park strip right-of-way. In the past, similar projects have had minimal impacts and were approved as a Categorical Exclusion.

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?

BWD is not aware of any impacts.

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.

BWD is not aware of any impacts.

When was the water delivery system constructed?

BWD's water delivery pipes were constructed in the 1960s. Many improvements have been done over the years.

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.

The project will install 450 secondary water meters.

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.

N/A

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

BWD is not aware of any sites.

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

No. The proposed project will have no negative impact on the socioeconomic resources in the project area. The proposed project would not require the relocation of any residences or businesses and is not anticipated to put a strain on the local workforce, businesses, or other resources.

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

No.

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.

Required Permits or Approvals

Applicants must state in the application whether any permits or approvals are required and explain the plan for obtaining such permits or approvals.

Kaysville City will be involved and notified of all metering project implications and timelines. Any concerns they have will also be addressed prior to project construction. BWD will work with homeowners to minimize installation impacts and provide an improved service connection.

Letters of Project Support

Include letters from interested stakeholders supporting the proposed project.

Attached are letters of support from the following;
Weber Basin Water Conservancy District
Kaysville City

Official Resolution

Include an official resolution adopted by the applicant's board of directors or governing body. The official resolution may be submitted up to 30 days after the application deadline.

The Official Resolution for the Benchland Water Secondary Water Metering Project Phase II will be submitted within 30 days after the application deadline.

Attachment A

BENCHLAND WATER DISTRICT
EST 1976

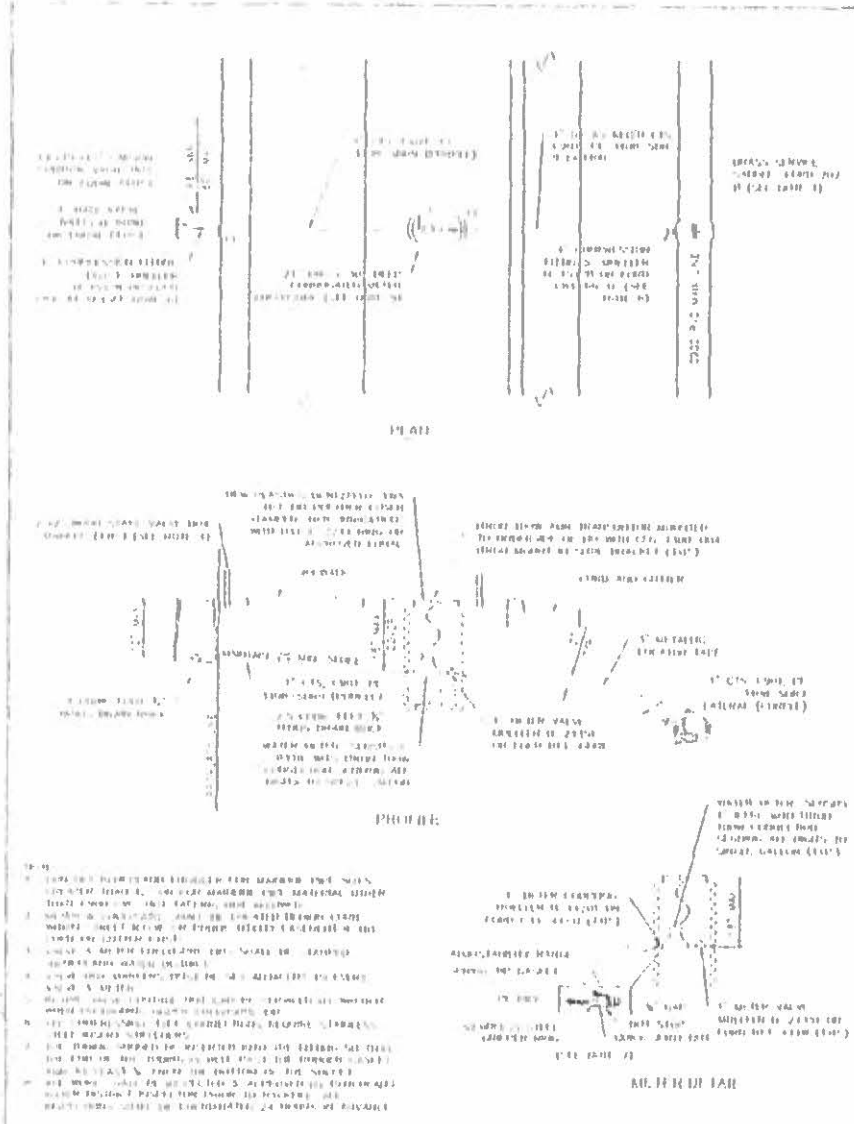
485 East Shepard Lane, Kaysville, Utah 84037 Phone: (801) 451-2105 Fax (801) 451-6232

August 16, 2018

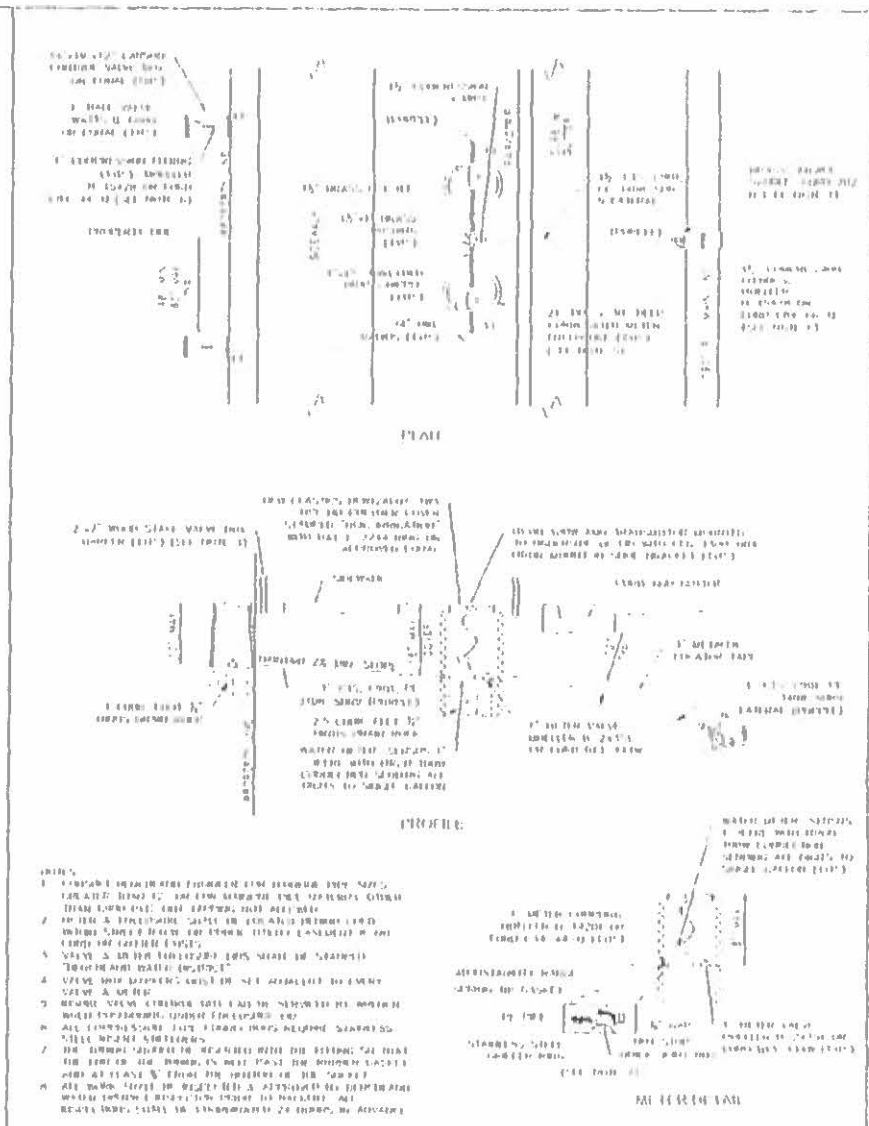
Meter/Sensor Policy

A policy to require the installation of a secondary water meter on all new development projects where secondary water connection are required/installed. Each individual connection is to have its own meter and service valve in addition to the technology (if meter radio read unit) to facilitate the gathering of water use information from the meter.

See attached detail typical service connection



B1 TYPICAL SINGLE SERVICE CONNECTION DETAIL



B3 TYPICAL DOUBLE SERVICE CONNECTION DETAIL

Attachment B

February 2019
Volume 14, Issue 1

BENCHLAND WATER DISTRICT
EST 1974

485 East Shepard Lane, Kaysville, Utah 84037
We are on the Web! www.benchlandwater.com

Special Interest Articles:

Impact Fee To be updated

Water Conservation

System Replacement Plan

District Election Information

Important Dates:

April 1
It is your responsibility to have your system off by this date to avoid possible water damage to your property as we charge the main water lines for the season.

April 15
Water service will be available to all users by this date. Please contact our office if you do not have water to your connection by this date.

October 1 - 15
Irrigation Season will close & draining of the system will begin. On October 25th open your valve and drain your system for the winter.

Please Note!

►The irrigation water is NOT treated for human consumption.

►Never cross connect with culinary water lines.

►Paint all irrigation taps, valves, outlets, etc. "RED" as a warning that they are NOT for human consumption.

2019 News Update

♦ **Snow Pack.** As of January 2019 we have received 90% of normal estimates, an increase over last year of 40%. Please familiarize yourself with the water conservation practices the District has in place and be alert to all notices of restrictions regarding use or limitation of service. Even in a good water year, everyone benefits when we conserve water.

♦ **Water Delivery** during the 2018 water season was the most difficult Benchland has ever experienced. Due to the lack of snow pack, streams ran low and the length of run-off was shortened. Compounding the problem was the lack of precipitation and above average temperatures throughout the summer months. The Benchland Trustees had no choice but to restrict water usage. This measure was extremely difficult on all of our water users and our staff as well. We appreciate everyone's cooperation and understanding during the water season. Let's all hope for a great snow pack in 2019.

♦ **Smart Controller Rebate Program.** The Board of Trustees have passed a motion to allow rebates to its customers for automatic sprinkler sensors with the following qualifications:

Good for one rebate of $50 per customer until budgeted funds of $5,000 are depleted.

Rebate recipients must live within the District Boundaries and products purchased must be installed on properties within the boundaries.

Applications must be submitted within 30 days of purchase.

Only the products on the approved product list will qualify for rebate. See www.weberbasin.com/conservation for a full list.

CHANGES TO THE DISTRICT BOARD OF TRUSTEES

By Scott L Parsell, Manager, Benchland Water District

On February 15, 2018, Ralph Reeves was appointed to the District Board to fill the position left due to the resignation of Chairman, Paul E. White. Ralph is a strong believer in serving his community. His many years of management experience in different parts of the country and in several industries is sure to be a positive contribution to the District. On behalf of all the employees and trustees, we welcome Ralph to the Benchland Water District Team.

We are on the Web!

Would you like to receive your Annual Billing by Email?

Go to:
www.benchlandwater.com/contact

Annual Use Charges are based on the size of the property. Billing is mailed in February prior to the season of usage.

The Charge pays for irrigation service from April 15th through October 15th of that season at which time the service is discontinued for the year.

Benchland Water District
Offices located at:
485 East Shepard Lane
Kaysville, Utah 84037

Open Monday through Friday
9 am to 5 pm
Office (801) 451-2105
Fax (801) 451-6232

AFTER HOURS EMERGENCY
(801) 726-3709

No Changes to the 2019 Water Use Rates

The Water District has considered all cost increases in the past year and has determined that there will be no change in the Water Use charges for the 2019 season. Our Board of Trustees and District Staff shall continue to provide the most efficient service possible for your use.

ANNUAL SERVICE CHARGE SCHEDULE

Residential

.00	to	.184 Acres	$105.00
.185	to	.249 Acres	$125.00
.25	to	.499 Acres	$130.00
.50	to	.749 Acres	$140.00
.75	to	2.0 Acres	$160.00

Condominium Unit:

Per Residential Unit $ 80.00

Agricultural:

Track Charge $100.00

Water Charge per ac ft. 6.50

Contract Requires 3 ac ft. per ac

(Minimum – 19.50 per ac)

Commercial, Residential and Governmental Entities over 2.0 Acres

Track Charge $100.00

Water Charge per ac ft. $ 10.00

Contract requires 3 ac ft. per ac

(Minimum - $30.00 per ac)

Pumping Facility Users:

a. Track Charge $100.00

b. Acreage Use Charge _____

c. Operation Cost $100.00

(Replacement Charge for Pumping)

d. Electrical Charges _____

(Pass through charge for Pumping)

e. Total Charges _____

Usage of water over and above the contracted amount will be charged $160.00 per acre ft. used in excess of the contracted amount. The District charges a one-time contract charge of $300 plus any cost of installation for each delivery point located on user's property.

Impact fees apply for any new construction per schedule.

Billing Policy

Benchland Water will assess the following fees on all unpaid accounts:

60 to 90 days of the initial billing - $25.00

91 to 100 days of the initial billing - additional $10.00

101 to 130 days of the initial billing - additional $50.00

$50 Late Penalty – Service will not be available to the property. This will be strictly enforced. Customers will be prohibited from using irrigation water until all unpaid balances and delinquent charges are paid in full.

131 days and over – The contract for service will be cancelled due to non-payment of annual use charges. Service will no longer be available and will result in removal of Water District lines. In order to resume service, the customer will need to contract for service and pay the $350 contract charge.

Charges are due upon receipt – April 1st $25.00 late charge applies

Impact Fee Schedule is going to be updated in 2019

Impact fees will be assessed on any newly installed service lines, new subdivisions or new construction that will take place within the District's boundaries. In other words, any existing homes or lots within the boundaries that do not have Benchland Water stubbed to the property as of February 12, 2010.

.00	to	.25	acres	$ 586.00
.251	to	.50	acres	$ 1,172.00
.501	to	.75	acres	$ 1,758.00
.751	to	1.0	acres	$ 2,344.00
1.01	to	1.25	acres	$ 2,930.00
1.251	to	1.50	acres	$ 3,516.00
1.501	to	1.75	acres	$ 4,102.00
1.751	to	2.0	acres	$ 4,688.00

Anything above 2.0 Acres will be assessed the following Impact fee formula
Number of Irrigated Acres x Impact fee of $2,344.00

NOTE: Our Impact Fees are currently under review. Look for changes to Fees in 2019.

Water Conservation

During recent seasons our Water District Users have cooperated in conserving our drought stricken reduced water supply. Our objective this season is to provide a full season of service. If we are unable to go to October 15th the irrigation season will be shortened by draining the system when we no longer have the water resource to maintain pressure. We enlist your cooperation to help us provide a full season of service.

DO NOT – Water between 10 am & 6 pm

DO NOT – Water your sidewalks, driveways, or roadways.

DO NOT – Water your landscape for more than the recommended length of time or time frequencies. If water is running down the streets and gutters, it is too much. (see watering guide)

On average, we use nearly two-thirds of our water outdoors. As much as one-half of the water used on lawns is wasted through incorrect watering.

Meter Policy

Benchland Water District requires the installation of a secondary water meter on all new development projects where secondary water connections are required/installed. Each individual connection is to have its own meter and service valve in addition to the technology (if meter radio read unit) to facilitate the gathering of water use information from the meter.

For additional tips on how to irrigate more efficiently, contact:
Utah State University Extension Office
Telephone: 801-451-3412 or 544-3089
Or visit their web site:
www.extension.usu.edu

Residential Lawn Watering Guide

Most of us tend to water too often and leave the sprinklers on too long.

Turf studies have shown that most lawns need to be watered once every 3 or 4 days to stay healthy and green. Watering everyday creates shallow roots. Watering infrequently develops deep roots and healthier turf. Grass roots grow deeper into the soil and become stronger with less watering. If grass does not spring back after being stepped on, it's time to water.

Use the following watering schedule to determine how often and how to irrigate. It is a guideline based on 30 year average precipitation rates. Unusual warm conditions may require an occasional irrigation a day earlier than scheduled. Rain storms or cool periods may allow postponing or skipping an irrigation day.

By following the irrigation schedule provided on this page, you will apply the maximum amount of water required by lawn. You will also use about half of the water the average Utah homeowner uses.

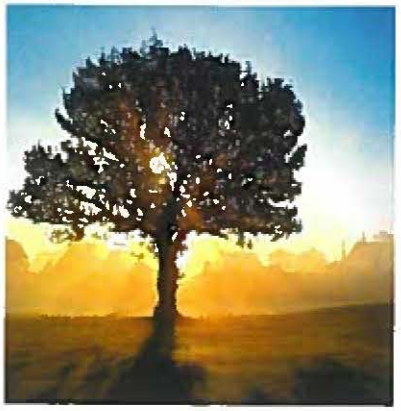
Month	Interval
Startup to April 30th	Once every 6 days
May	Once every 4 days
June	Once every 3 days
July	Once every 3 days
August	Once every 3 days
September	Once every 6 days
October until shut off	Once every 10 days

What's New?

Rain/Soil Moisture/ Weather Sensors

A device that acts like a thermostat for your sprinkler system, telling it when to turn-on and off. To be used instead of irrigating using a controller with a clock and a preset schedule. Sensor Controllers allow watering schedules to better match your landscaped water needs and reduce overwatering by applying water only when lawns and plants need it. Experts estimate this could save as much as 50% of Water used for landscaped irrigation.

For more information go to www3.epa.gov/watersense/products/controltech.html



Drought conditions may limit the supply of irrigation water available. Your use of water conservation practices will extend the availability of our irrigation water supply. During drought conditions be alert to all notices of restriction of use or limitation of service.

After Hours Emergency Phone: (801) 726-3709

Even in a good water year,

Everyone benefits when we

Conserve water.

Thank you!

USING FILTERS

The Benchland Water System screens all water entering the distribution system through 1/8" screens. Particles small enough to pass through the 1/8" screen will enter the distribution system. This size particle passes through the majority of traditional sprinkler heads.

In an effort to assist users of the District's irrigation service, the following recommendations are offered:

•No filter on the market at the present time is self-cleaning. A regular schedule of cleaning a filter is essential in maintaining an irrigation system that utilizes a filter.

•For those users who choose to use filters with their irrigation system the District suggests the use of a 32 mesh filter.

•If a filter more fine than the 32 mesh is used, the maintenance and cleaning will be expected to increase significantly.

2019 System Replacement Plan

The Benchland Water District first supplied regular pressurized irrigation service to customers beginning April 27, 1978. The Bureau of Reclamation, who originally lent the funds to construct our system, required that our plan of replacement provide means to replace the initially constructed facilities within the first thirty-two years of operation. Our own experience in providing irrigation service for the past quarter of a century confirms the validity of this projection.

After careful study of all options, Trustees of the District have adopted a system replacement plan. Looking ahead this plan can be accomplished with small increases in our rates. During the operation of the plan, the District will systematically replace, and where appropriate, strengthen facilities with the purpose of continuing to provide the highest quality of irrigation service.

Projects include a vulnerable section of original main distribution lines replaced, cathodic protection installation on metal distribution lines not adequately protected, projects to provide cleaner water to customers, and implementation of a District GIS program.

The District is most appreciative of the cooperation of our customers in conserving water. We continue to enlist your support by only using the water you need and needing the water you use.

You are invited to request additional information concerning these matters or other aspects of District operations by contacting our office at:

485 East Shepard Lane
Kaysville, Utah 84037
Or
(801) 451-2105
During Business Hours
Or
www.benchlandwater.com

After Hours emergency line:
(801) 726-3709

District Election Information

The Benchland Water District is governed by a Board of seven Trustees, elected by District water users every second year. Each elected Trustee is in office for a period of four years. In the General Election to be held in 2019 three trustees are up for re-election. They are Chairman Scott Bass, trustees Paul Hirst and Ralph Reeves. Their terms as well as the remaining Trustees current terms are as follows:

Scott Bass Chairman	Jan 1, 2016 - Dec 31, 2019	Ralph Reeves	Feb 15, 2018– Dec 31, 2019
Paul Hirst	Jan 1, 2016 - Dec 31, 2019	Judy Rice	Jan 1, 2018 - Dec 31, 2021
Phil Leonard Vice Chairman	Jan 1, 2018 - Dec 31, 2021	Justen Smith	Jan 1 2018 - Dec 31, 2021
		Jim Taylor	Jan 1, 2018 - Dec 31, 2021

Did you know . . . ?

♦The District delivers irrigation water to property user. The water, its management, and service requirements, become the responsibility of the user at point of delivery.

The service valve installed by the District between curb and sidewalk or at property's edge is for District use. The water user must control his or her delivery system beyond the District Valve by installing your own isolation valve. **DO NOT USE THE DISTRICT VALVE IN ANYWAY WITHOUT CONSENT FROM THE DISTRICT OFFICE. (801) 451-2105.**

♦Lines will begin to be pressurized with water beginning **April 01** of each service year. Turn your valves off prior to that time to prevent water from running on your property without your directing it.

♦Pressurized irrigation lines will be drained for the season beginning **October 15**. Drain your own system after the main-lines have been drained to insure that frost damage does not occur in your system.

Note from the Staff:

Our mission is to provide customers with an adequate and reliable supply of quality water that meets customer needs at a reasonable cost, supported by excellent customer service.

Scott Parsell
Justin Page
Drew Stayner
Andrew Golden
Ron Stoddart
Jason Moss
Seth Henzi
Cody Bradshaw
Julie Dyreng
Jennifer Holbrook

For questions or comments:
(801) 451-2105 Monday- Friday 9 – 5
Or
www.benchlandwater.com/contact

Attachment C

Benchland

Project Location

Phase 2 Water Meter Locations

Benchland Sevice Boundary

N

JUB ENGINEERS, INC.

THE LANGDON GROUP

GATEWAY MAPPING INC.

OTHER JUB COMPANIES

0 0.325 0.65 1.3 Miles

Attachment D

How to read your water use report

Attachment E

This user exceeded their estimated need in August, but was below their estimated need in July.

To get hourly information on how much water you are using, visit our web portal and log in using this account # and code.

Estimated need is unique for every user and is computed based on irrigated area of your parcel and daily weather conditions. This is based on the amount of water needed for a healthy, green, lawn.

Landscape area is calculated using aerial photos of your property.

Example:

WEBER BASIN WATER CONSERVANCY DISTRICT

2837 East Highway 193 • Layton, Utah 84040 • Phone (801) 771-1677 • (SLC) 359-4494 • Fax (801) 544-0103

Report Date: 9/27/2018

Account Number: 01-001-0001D

Did you know you can view your hourly and daily usage information online? Visit Customers.WeberBasin.Com and supply the below information when registering!

Account Number: 01-001-0001D
Website Authentication Code: 1235

BOB SMITH
123 MAIN ST
ANYTOWN, UT 12345

SECONDARY WATER USE REPORT

Account Summary	
Water Used This Month	19,779 gal.
Your Water Need Based On Your Landscape Area This Month	23,836 gal.
Your Landscape Area	11,545 (sq. ft.)
Year To Date Use	234,779 gal.
This Month's Percent Of Use To Estimated Need	83%

Meters Assigned To Your Account			
Meter Number	Previous Read 9/15/2018	Current Read 10/15/2018	Water Used This Month
Meter Service Address: 123 MAIN ST LAYTON			
12345678	269,585	289,364	19,779 gal.

Your landscape area is derived from aerial imagery and encompasses your entire lot according to county records excluding your home and driveway footprint. Estimated need is calculated based on 30 year evapotranspiration needs of your landscaping

Information:

Due to a hot and dry summer the District will shut off all secondary and irrigation services on October 1, 2018 Please remember to close your personal valve after shutoff

Weber Basin's Water Conservation Learning Garden

To find the percent you have used of your estimated need, divide the water you used this month (top box) with your estimated need (second from top box).

Every month we have a message for you from the District regarding water supply, education, or tools to help you manage water more efficiently.

This scale provides the user information regarding their actual use compared to their estimated need for their property for the year.

Attachment F

WEBER BASIN WATER CONSERVANCY DISTRICT

2837 East Highway 193 • Layton, Utah 84040 • Phone (801) 771-1677 • (SLC) 359-4494 • Fax (801) 544-0103

September 25, 2019

Scott Bass, Chairman, Board of Trustees
Benchland Water District
485 East Shepard Lane
Kaysville, Utah 84037

RE: Letter of Support for Benchland Secondary Water Metering Project

Dear Scott,

Weber Basin Water Conservancy District is pleased to support your effort to implement a Secondary Water Metering Project under the Bureau of Reclamation's WaterSMART Water and Energy Efficiency Program. We appreciate the importance of improving the efficiency of your system and becoming more resilient to overuse in our water-scarce basin. We look forward to being a stakeholder in this process and participating with Benchland Water in the process of metering secondary water use. This type of system upgrade is important as it will permit all users to better understand their usage and limit unnecessary overuse.

Weber Basin Water delivers wholesale irrigation water to Benchland. Benchland Water also operates and maintains Weber Basin's secondary water system in Centerville and West Farmington.

Weber Basin is currently in the process of installing meters on all of its secondary water connections and has realized a water savings of 20 to 30% by sending monthly educational statements to users. Benchland Water will benefit greatly by installing meters and understanding better how much water is being used.

We strongly support your grant application and appreciate the advancements it will make in water conservancy and efficiencies for the Benchland Water District and the Weber River Basin.

Sincerely,

Darren E. Hess

Darren E. Hess, PE
Assistant General Manager/COO

DEH/bjt

Kaysville City

SETTLED IN 1850

Scott Brass, Board of Trustee, Chairman
Benchland Water District
485 East Shepard Lane
Kaysville, Utah 84037

September 25, 2019

Dear Scott,

Kaysville City is pleased to hear of and add our support to Benchland's effort to develop a Secondary Water Metering Project under the Bureau of Reclamation's WaterSMART Water and Energy Efficiency Program. Having recently undergone an update to and automation of our own culinary meter network, we can appreciate the importance and positive impacts that metering improvements bring to system efficiencies and water conservation efforts. As a stakeholder, we see this as a critical effort, especially as it permits users to better understand their usage and ultimately help reduce unnecessary watering and other wasteful practices.

Benchland Water is one of three secondary irrigation water providers in Kaysville. We have enjoyed a very positive and supportive relationship with not only Benchland's executive members, but especially so with ground level staff. Benchland is, and always has been, a responsible and progressive partner in evaluating future water demands in our City, and we know that they will continue to be as we work together to help educate and encourage users to change views and behaviors regarding water resources.

We strongly and happily support your grant application and appreciate the advancements it will make in water conservancy and efficiencies for the Benchland Water District, and the subsequent regional impacts to the Weber River Basin.

Sincerely,

Josh Belnap, P.E.
Public Works Director, City Engineer

23 East Center Street, Kaysville, Utah 84037 | phone 801-546-1235 | fax 801-544-5646
www.kaysvillecity.com