

WaterSMART Grant

Small-Scale Water Efficiency Projects Grant for Fiscal Year 2020
Funding Opportunity Announcement No. BOR-DO-20-F006

Application - \$75,000 Grant Request

March 4, 2020

Newton Water Meter and SCADA Upgrade

Newton, Utah

Applicant

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Executive Summary

The executive summary should include:

- The date, applicant name, city, county, and state
- A one paragraph project summary that specifies 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.
- State the length of time and estimated completion date for the proposed project including the construction start date (month/year). Note: Proposed projects shall not have a construction start date that is prior to April 1, 2020, for FY 2020 funding. This FOA will be updated to provide a construction start date restriction for FY 2021 funding.
- Whether or not the proposed project is located on a Federal facility

Date: March 4, 2020

Applicant: Newton Town Corporation – Newton Water Meter and SCADA Upgrade
PO Box 146
Newton, Cache County, Utah 84327

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Project Summary:

The purpose of this project is to address the failing residential water meters within Newton Town. The proposed project, Newton Water Meter and SCADA Upgrade, will replace the existing residential meters with new SCADA compatible meters. The implementation of the new meters will reduce on going repairs and increase water efficiency within Newton. Additionally, the real time information will be used for early leak detection within the water system. The new meters will aid in the conservation of water and improve water management. The requested \$75,000 grant amount from Reclamation would be coupled with an equal or greater portion of funds from Newton Town to purchase and install more than 280 residential meters to implement this project.

Approximate Project Length: 18 months

Estimated Completion Date: October 2021

Federal Facility: This project is not located on a Federal facility



Background Data

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

In addition, describe the applicant's water delivery or distribution system as appropriate. For agricultural systems, please include the types and approximate total lengths of canals and laterals (e.g., unlined or lined open channel, pipe, including types of pipe and lining materials), the number of irrigation turnouts and other significant existing irrigation improvements (e.g., automated control structures, remote monitoring devices and SCADA systems). For municipal systems, please include the total approximate length of distribution lines, number and sizes of storage tanks, number of pump stations and capacities, and the number of connections and/or number of water users served and any other relevant information describing the system.

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

Newton Town was established in 1869 when residents of Clarkston, Utah decided to move to the "new town" five miles to the south east. Newton currently has approximately 850 residents and supports about 280 homes. The growth of Newton has been controlled primarily by the available



Figure 1: Area Map for Newton, UT

water for drinking and irrigation. The Newton Water Users Association was established in 1941 to help provide irrigation water to the Newton area from Newton Dam, which is a Reclamation Facility. The majority of Newton's irrigation needs are satisfied by the Newton Water Users Association, their drinking water has always been their limiting factor. Figure 1 shows the location of Newton within the State of Utah.

The primary source of drinking water for Newton is a series of springs located 7.5 miles to the north west. These springs are collectively referred to as the Big Birch Springs and primarily operates under water right number WR 25-7204, which is owned by Reclamation. Newton also receives water from another spring referred to as the Loosle Buttars Springs. This spring is located about 4.7 miles to the north west. Both the Big Birch water and the Loosle Buttars water are conveyed to the town's

single storage tank. The town uses a 0.5 MG concrete water tank to hold and treat their drinking water, the tank is located 1.25 miles north west of the town. The water is then released from the tank to the town's distribution system that consists of approximately 10 miles of 4", 6" and 8" pipes. The town is provided for by gravity alone, there are no pumps in the system. The location of the of the major water elements are presented in Figure 2.

Presently, the Newton water system serves 286 connections: 280 residential connections and 6 commercial connections. With comparison to how many connections are serviced, the Newton water system has a significant amount of large infrastructure to operate and maintain. This results in the majority of the operation and maintenance funds being used on the large elements, and only addressing the individual components, like water meters, on a case by case basis and only as needed.

The water rights involved in this project are listed under water right numbers 25-3073, 25-7204, 25-7205, 25-7206, 25-7207, 25-7208, and 25-9263. A summary of the water rights is presented in Table 1. Copies of the water rights are provided in Appendix B.

Table 1: Water Right Information

Utah Water Right	Owner	Water Source	Priority Date	Flow	Volume
25-3073	Newton Town	Loosle Spring	1936	0.033 CFS	24 AC-FT
*25-7204	Reclamation	Big Birch Springs	1864	3 CFS	2,172 AC-FT
25-7205	Newton Town	Little Birch Springs	1864	0.512 CFS	371 AC-FT
25-7206	Newton Town	Hansen Spring	1902	0.145 CFS	105 AC-FT
25-7207	Newton Town	Jones Spring	1903	0.267 CFS	193 AC-FT
25-7208	Newton Town	John Butters Springs	1902	0.234 CFS	169 AC-FT
25-9263	Newton Town	Hammond Spring	1992	0.176 CFS	127 AC-FT
Total				4.367 CFS	3161 AC-FT

* Newton has 33.33% interest in Water Right. Water Split between Newton, Clarkston, & Trenton Towns

Although Newton does have a right to a large amount of water, they have difficulty developing that water. Dry wells have been drilled repeatedly and springs have failed or are currently declining. Currently the town has an average flow of 250 gpm (0.6 cfs) supplying their system. As such, Newton has placed a Water Conservation Plan in effect to help protect what water they do have.

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}.

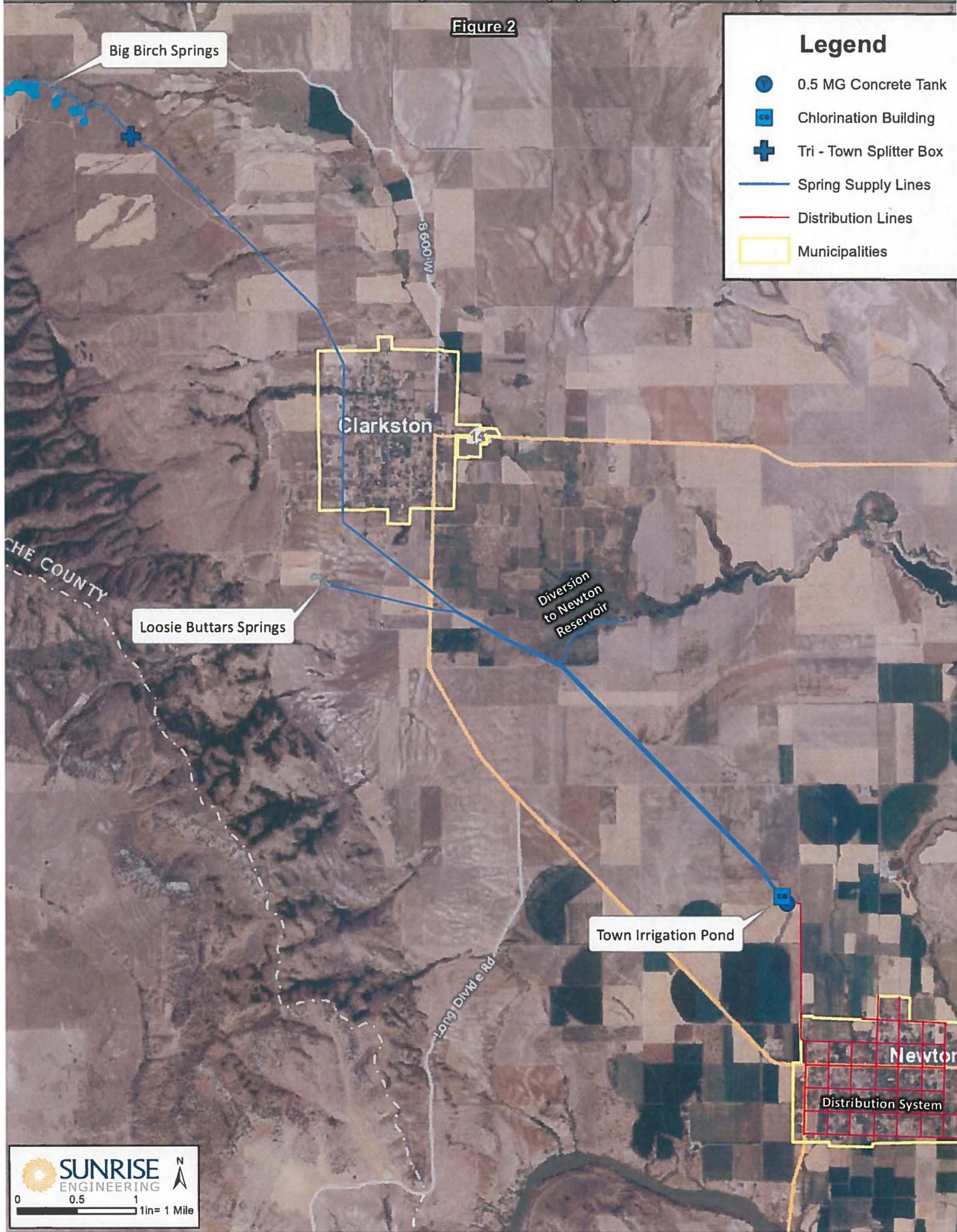
Newton Town is in Cache County, Utah. The project boundary is the town Boundary. The center of town is located at 41°51'45.65"N and 111°59'26.79"W. Figure 2 illustrates the location of the town.

Newton Water System Map (key elements)

Figure 2

Legend

- 0.5 MG Concrete Tank
- Chlorination Building
- Tri - Town Splitter Box
- Spring Supply Lines
- Distribution Lines
- Municipalities



SUNRISE
ENGINEERING

0 0.5 1
1in= 1 Mile

N

Technical Project Description

The technical project description should 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.

The technical project description should 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. The technical project description must include milestones for the completion of the project, including, but not limited to, environmental compliance, permitting, final design, and construction. If on-Federal cost share is not yet secured, the milestones should identify when the applicant anticipates that the funds will be available. Note: If the work for which you are requesting funding is a phase of a larger project, please only describe the work that is reflected in the budget and exclude description of other activities or components of the overall project.

- *Identify the problems and needs*
- *Describe how the project is intended to address the problems and needs*
- *Identify the expected outcomes*

System Problems and Needs

Newton Town has just under 300 residential water users and a population of approximately 1,000 people. The community has never had large amounts of available funds to perform large scale preventative projects. In the past the town has been able to accomplish a few large-scale water improvement projects with the help of State agencies such as the Division of Drinking Water. These projects have been completed to address a major and immediate need such as drinking water source development, storage facilities, major transmission line upgrades, etc. The town's finances are generally devoted to reactive measures such as transmission repairs, service line repairs, and failed meter replacements. The town has not had funds available to perform proactive upgrades or improvements. As such their meters, although functional, are obsolete and are performing poorly.

Meters are replaced as funding and time allows. Recently 80 meters within the town have been replaced with new accurate meters, but have no data transmitting capabilities. Without the ability to remotely read the meters, the meters are read manually periodically during the warmer months. During the winter months, the meters are inaccessible due to snow and ice buildup. Often times the meters will go 6 months without being read. This system is ineffective in leak monitoring and early detection. In 2019, two major leaks occurred on old service lines that failed. The town was unaware of the leak until the leak reached the surface. The leak had wasted water continually until it was discovered by inspection methods. If the meters within the town had been reporting data continually on water usage, the leaks could have been detected and addressed quickly.

As mentioned, Newton is a small community with limited resources. The time and resources spent manually reading meters and addressing continual meter repairs could be re-directed to other critical areas to better serve the community with the implementation of the proposed project. Not only does the manual reading of the meters take precious time and resources, so does the manual data entry of the flow measurement. The manual entry also allows for errors to enter the meter readings which can affect billings and water management for the entire system.

Project Description

To address these concerns and issues, Newton Town is proposing to replace all meters with meters that can communicate with a database that can continually monitor flows. The proposed project will replace 200 existing obsolete meters with new 5/8" Neptune T-10 Meters w/built-in radio/antennas. Meters that have been replaced recently are capable of being upgraded with the installation of a top mounted antenna. As such the proposed project will purchase and install 80 Neptune Antenna packages that will be top mounted to the recently installed meters to enable them to transmit data. To accommodate the larger water users within the town, three 1" T-10 Neptune Meters w/built-in radio/antennas and three 2" Mach-10 Neptune Meters w/built-in radio/antennas will be installed.

In order to monitor the water demand for the town as a whole, a master meter will be installed immediately downstream of the storage tank. Currently water is only metered as it flows to the storage tank from the various sources. The water leaving the storage tank is not currently monitored. With the installation of a new master meter and the new residential meters, water entering the town's system can then be compared against water leaving the system through the residential meters to monitor for system leaks.

Included with the purchase of the meters, a GIS mapping service will be provided. This mapping service will aid Newton in their asset management and leak monitoring. Later, the GIS mapping can be expanded to include pipelines, service lines, valves, and other key water system elements.

Upon receiving the WaterSMART Grant, Newton Town will then provide funding for the remaining portion of the project from their internal savings. A commitment letter from the town's mayor is attached in Appendix A.

By completing the Newton Water Meter and SCADA Upgrade, the town anticipates seeing the following outcomes:

- The frequency of meter reading will become routine and cyclical rather than sporadic during the warmer months and non-existent in the winter months.
- With the installation of the master meter in connection with the residential meters, the town will be able to monitor for leaks and address them quickly when they arise.
- With the accurate meters in place, residents and the town will be treated fairly in regard to billings.
- The new SCADA read meters will free up precious time and resources previously used for manually meter reading and data entry.

Evaluation Criteria

Evaluation Criterion A—Project Benefits

Up to 35 points may be awarded based upon evaluation of the benefits that are expected to result from implementing the proposed project. This criterion considers a variety of project benefits, including the significance of the anticipated water management benefits and the public benefits of the project. This criterion prioritizes projects that modernize existing infrastructure in order to address water reliability concerns, including making water available for multiple beneficial uses and resolving water related conflict in the region. Describe the expected benefits and outcomes of implementing the proposed project.

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

The system upgrades accomplished by the proposed project will benefit Newton's water system in several key ways.

1. The installation of the master meter on the main distribution line leaving the storage tank will provide the necessary data to help Newton better manage their water and understand the demands of the town as a whole. Prior to this, Newton has only been able to monitor the flows reaching their storage tanks.
2. The installation of the new meters equipped with antennas to transmit data remotely will allow Newton to monitor water use continually and bill regularly on a monthly basis. Currently meters are only read manually every other month during the warm months. During the winter periods, the meters are not read due to snow and ice.
3. With the new residential meters and the master meter reporting data continually, water balancing comparisons can be performed to detect leaks within the system. Currently, leaks are only discovered when the leak causes surface damage.
4. The shift from manual reading to instant digital reading will free up manpower that can be directed to other pressing matters, or total man hours could be reduced saving Newton finances.
5. The new meters will provide a greater accuracy for water consumption within the system. This data can then be used to help improve the management of the water sources available to the system. It will also provide for the fair billing of the residents.

- *Extent to which the proposed project improves overall water supply reliability*

As discussed previously, Newton has a very limited water supply in spite of their numerous water rights. The new meters provided by this project will provide another means to help conserve water that is lost due to undetected leaks and in accurate meters. This conservation of water will help prolong the water supply currently providing for Newton and provide a more reliably water system as a whole.

- *The expected geographic scope benefits from the proposed project (e.g., local, sub-basin, basin)*

Benefits from the proposed project extend beyond the limits of Newton Town. The Big Birch Spring, Newton's primary water source, supplies water to three communities: Newton Town, Clarkston Town, and Trenton Town. Clarkston and Trenton, like Newton, are small communities struggling to conserve water and provide for their residents. Any conservation efforts made by Newton will directly benefit their two neighbors sharing their water source.

Additionally, water conserved within Newton can also be directed to Newton Reservoir and held for irrigation purposes managed by the Newton Water Users Association and Reclamation. Likewise, water conserved can also be directed to an irrigation pond located near Newton's storage tank. This pond feeds the irrigation system providing water to the residents of Newton.

- *Extent to which the proposed project will increase collaboration and information sharing among water managers in the region*

As discussed previously, Newton shares their primary water source with Clarkston and Trenton. The information gathered within Newton, made available by the implementation of the proposed project, will contribute greatly to the collaboration with Clarkston and Trenton in planning for the better management of their collective water.

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

Water diverted to Newton from the Big Birch Spring or from the Loosle Butters Spring that is currently not needed is diverted to Newton Reservoir. With the meters in place, water conserved will result in more water being diverted to Newton Reservoir than previously seen. Newton Reservoir holds water for irrigators surrounding Newton Town. The Newton Water Users Association pulls water from the reservoir and irrigates approximately 4,000 acres of farm ground. The water conserved and diverted to Newton Reservoir will directly benefit the farmers dependent on the Newton Water Users Association's irrigation system for their livelihood.

- *Extent to which the project will complement work done in coordination with NRCS in the area (e.g., with a direct connection to the district's water supply). Describe any on-farm efficiency work that is currently being completed or is anticipated to be completed in the future using NRCS assistance through EQIP or other programs. Up to 30 points may be awarded for this criterion. This criterion prioritizes projects that will conserve water and improve water use efficiency by modernizing existing infrastructure. Points will be allocated based on the quantifiable water savings expected as a result of the project. Points will be allocated to give greater consideration to projects that are expected to result in more significant water savings.*

Although Newton Town does not work along side the NRCS to help improve on farm irrigation systems, the water conserved with the implementation of this project will be beneficial for irrigators and NRCS projects. As previously discussed, water conserved and not needed by Newton is diverted to Newton Reservoir where the Newton Water Users Association then utilizes the water for irrigator over 4,000 acres surrounding Newton. The shareholders within the Newton Water Users Association are regularly working with the local NRCS office to perform on farm improvements.

Evaluation Criterion B—Planning Efforts Supporting the Project

Up to 35 points may be awarded based on the extent to which the proposed on-the-ground project is supported by an applicant's existing water management plan, water conservation plan, System Optimization Review, or identified as part of another planning effort led by the applicant. This criterion prioritizes projects that are identified through local planning efforts and meet local needs. 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?*

Newton Town does have a Culinary Water Conservation Plan that was prepared in April 2016 in effect. The plan discusses the capacities of the water system at the time it was prepared and projected growth to help determine future water system needs. A copy of the Culinary Conservation Plan can be found in Appendix C. The plan calls for four main plans to help conserve water, they are: 1) Public Education, 2) Water Use Regulation, 3) Water Pricing Structure, and 4) Water System Operations. The installation of new accurate meters is in line with three of the four plans.

1. Public Education
 - a. The public currently does not know how much water they are consuming due to inaccurate meters and the infrequency of billings and water consumption reports. The new meters provide the required accuracy and will increase the billing frequency to monthly. This will help keep the public informed on a regular basis.
2. Water Pricing Structure
 - a. The Water Conservation Plan mentions the use of a structured billing rate to help discourage gross amounts of water usage. Although, if the existing meters are not accurately reading water flow, the pricing structure is irrelevant. The new meters will ensure that accurate flows are used for billing purposes. If the current rate structure is not proving effective, it can then be altered to be effective knowing the meters are reporting accurate readings.
3. Water System Operations
 - a. The section in the Water Conservation Plan concerning the Water System Operations states that the primary conservation will be every other month meter readings. It also states that old meters are to be prioritized for replacement. The proposed project will replace all of the old meters and increase the meter readings to a monthly reading.
 - b. Currently the mayor has published the main screen of their SCADA system on the town's website to help educate the public. Figure 3 shows what the main screen looks like. As mentioned in the Water system Operations section, one of the goals is to help the residents understand water usage patterns. Although the publishing of the main SCADA screen is a wonderful step forward in educating the public, there is no master meter to show the usage pattern of the town. The proposed project will implement a master meter that can then show the usage pattern on the website for the public to see.

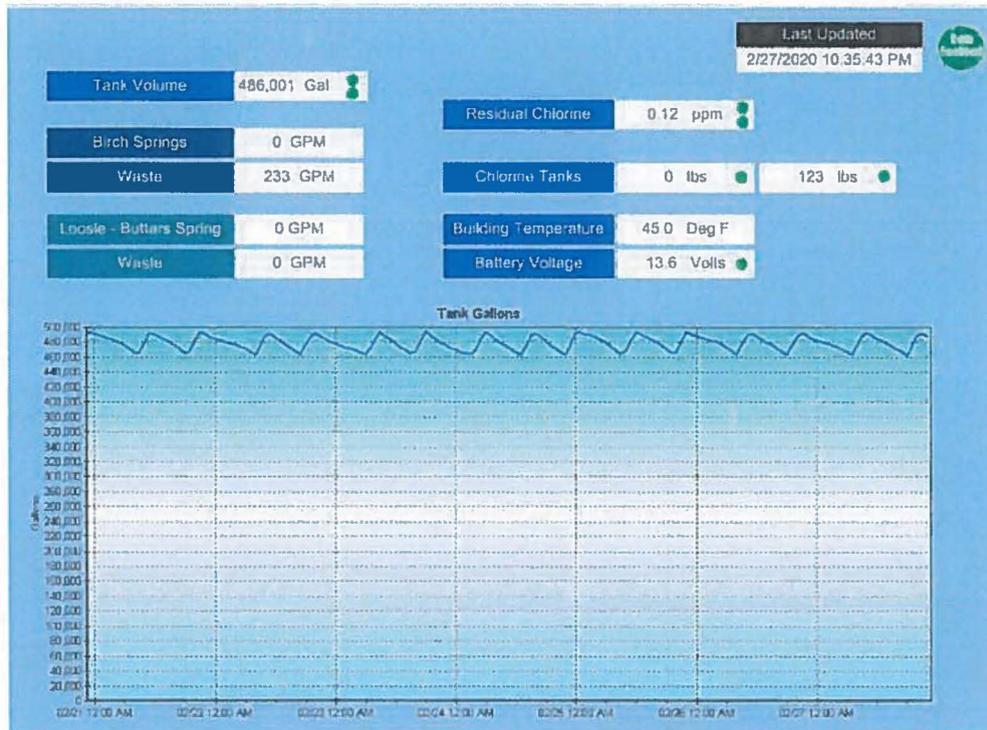


Figure 3: Newton Town Main SCADA Screen

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

Various water improvement projects have been discussed in city councils, planning seasons, discussions between the mayor and the water operator, and the Water Conservation Plan. The main water improvement projects discussed are as follows:

- New residential meters and a new master meter
- Trunk line from Big Birch Spring replacement
- Trunk line from storage tank to town distribution replacement
- Service line replacement – specifically the ones installed around 1980
- Development of alternate source – well drilling

Although all of these projects are important and would benefit the town greatly, the implementation of the New residential meters and the new master meter was selected as the top priority. The meters have the highest benefit to cost ratio and can be accomplished quickly with minimum disturbance to the town. Additionally, it was determined that before new water is acquired or new infrastructure was built, it is best to properly manage resources already available than to obtain new resources or infrastructure.

Evaluation Criterion C—Project Implementation

Up to 10 points may be awarded based upon the extent to which the applicant is capable of proceeding with the proposed project upon entering into a financial assistance agreement. Applicants that describe a detailed plan (e.g., estimated project schedule that shows the stages and duration of the proposed work, including major tasks, milestones, and dates) will receive the most points under this criterion.

- Describe the implementation plan for the proposed project. Please include an estimated project schedule that shows the stages and duration of the proposed work, including major tasks, milestones, and dates.

With the awarding of the WaterSMART Grant, Newton Town will contract with Sunrise Engineering to help with project management for the project. The environmental review will be started immediately as it is a critical element for hitting construction window. During the time the environmental documents are being reviewed, meters and materials will be purchased. Installation is set to start in March of 2021. Installation is scheduled to be finished by the end of October 2021 prior to snow fall. The proposed project schedule with corresponding tasks, milestones and dates is presented in Figure 4, a larger copy has been included as Appendix H.

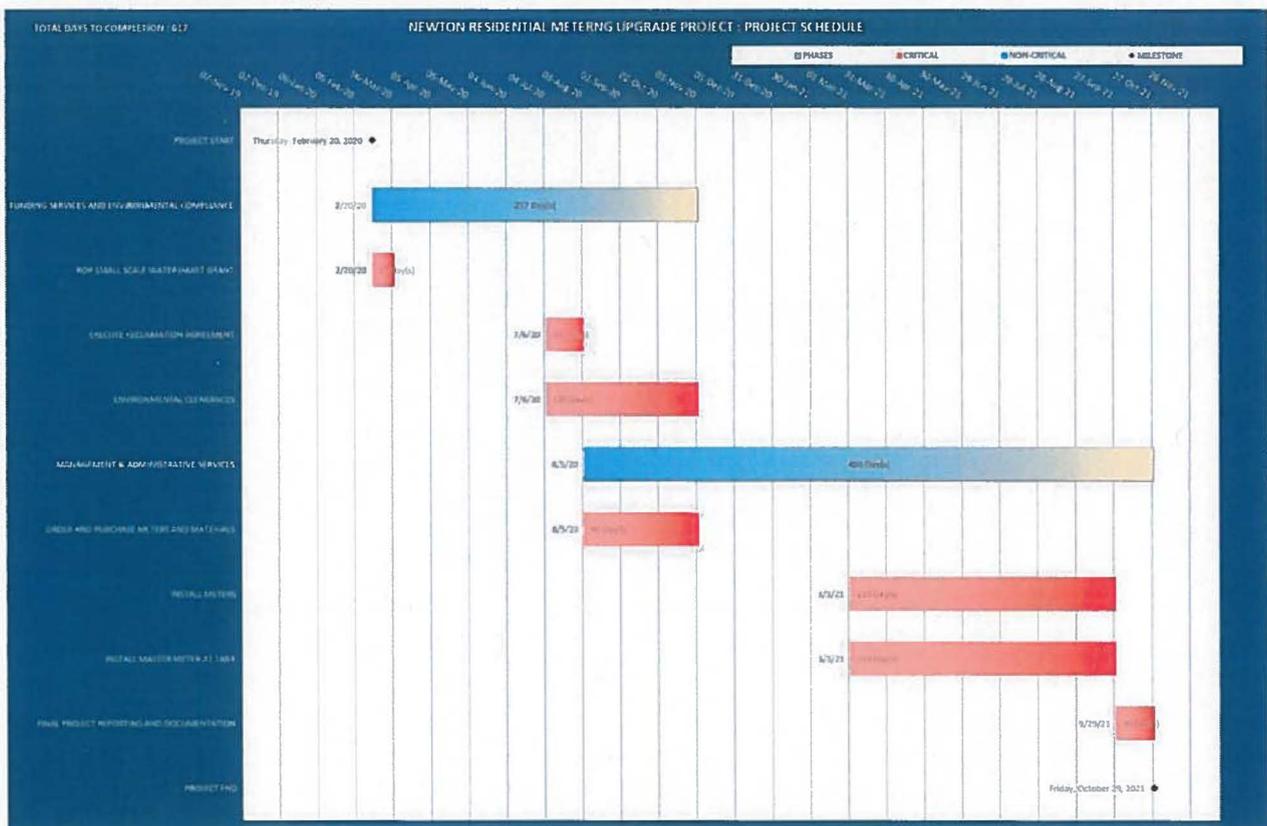


Figure 4: Project Timeline

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

No permits will be required for the installation of the new meters.

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

No engineering or design work will be required for this project.

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

No new policies or administrative actions will need to occur to move forward at this time.

- *Describe how the environmental compliance estimate was developed. Have the compliance costs been discussed with the local Reclamation office?*

The environmental compliance estimates were taken from Sunrise's experience with completing NEPA documents in connection with recent projects. For a list of projects containing environmental evaluation and NEPA documentation, see Appendix F. Sunrise has reviewed these costs with the local Reclamation office.

Evaluation Criterion D—Nexus to Reclamation

Up to 10 points may be awarded based on the extent that the proposal demonstrates a nexus between the proposed project and a Reclamation project or activity. 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? Please consider the following:*

- *Does the applicant receive Reclamation project water?*

The proposed project does receive Reclamation water. Appendix B contains the water rights involved in the proposed project. Water Right # 25-7204 belongs to Reclamation and is known as Big Birch Spring. The water produced from Big Birch Spring is the primary source for Newton's drinking water.

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

No, however, the secondary irrigation system within the town is supplied water from Newton Reservoir. Newton Dam is a Reclamation Facility.

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

The town is directly connected to the Newton Dam, a Reclamation Facility. A local irrigation association, Newton Water Users Association, pulls water from Newton Reservoir through the dam and supplies irrigation water to Newton Town. There are also various other projects that are currently under way. There are as follows:

- Newton Lateral Piping Project – WaterSMART Grant 2018
 - Within 2.5 mile of proposed project
- Southfields Piping Project – WaterSMART Grant 2019
 - Within 1.2 miles of proposed project
- Hansen and Ezola Laterals Piping Project – WaterSMART Grant 2019
 - Within 3.8 miles of proposed project

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

Yes, water discharged from Newton Dam (through the irrigation system and through the dam's spillways) flow to Cutler Reservoir. Both the Newton Reservoir and the Cutler Reservoir are within the Bear River Basin. As stated in the "Bear River Basin Planning for the Future", the Bear River Development Act of 1991 allocates 50,000 ac-ft of water to both the Jordan Valley Water Conservancy District and Weber Basin Water Conservancy District, 60,000 ac-ft to the Bear River Water Conservancy District, and 60,000 ac-ft to the water users in Cache County. These allocated waters impact a vast number of Reclamation projects, such as, the Weber Basin Project and its related projects and dams.

- *Will the project benefit any tribe(s)?*

The project will not provide any known benefit to the tribes.

Evaluation Criterion E—Department of the Interior Priorities

Up to 10 points may be awarded based on the extent that the proposal demonstrates that the project supports Department and Reclamation priorities. Please address those priorities that are applicable to your project. It is not necessary to address priorities that are not applicable to your project. A project will not necessarily receive more points simply because multiple priorities are addressed. 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.

Department Priorities

1. *Creating a conservation stewardship legacy second only to Teddy Roosevelt*
 - a. *Utilize science to identify best practices to manage land and water resources and adapt to changes in the environment.*

The proposed project will replace old obsolete meters with new meters with the capability of linking to the town's SCADA system. The meters use radio technology to relay flow data to a central database where it can be monitored and accessed with ease.

2. *Modernizing our infrastructure*
 - a. *Support the White House Public/Private Partnership Initiative to modernize U.S. Infrastructure.*

This project will help modernize the Newton Town's water system. The new meters are equipped with technology capable of transferring data to a database in real time. This data can then be used to monitor of leaks within the water system. Additionally, the new meters will provide accurate flow measurement that will aid in the development of proper watering practices within the town. This data will also provide an accurate method for billing that will ensure the residents and the town are both protected in the retail and purchasing of water.

Project Budget

The project budget includes:

1. Funding plan and letters of commitment
2. Budget proposal
3. Budget narrative

Project costs for environmental and cultural compliance and engineering/design that were incurred or are anticipated to be incurred prior to award should be included in the proposed project budget. If the proposed project is selected, the awarding Reclamation Grants Officer will review the proposed pre-award costs to determine if they are consistent with program objectives and are allowable in accordance with the authorizing legislation. Proposed pre-award costs must also be compliant with all applicable administrative and cost principles criteria established in 2 CFR Part 200, available at www.ecfr.gov, and all other requirements of this FOA. **In no case will costs incurred prior to July 1, 2019, be considered for inclusion in the proposed project budget for FY 2020 funding; similarly, no costs incurred prior to July 1, 2020, will be considered for inclusion in the proposed project budget for FY 2021 funding.**

Note: Proposed projects shall not have a construction start date that is prior to April 1, 2020, for fiscal year 2020 funding. This FOA will be updated to provide a construction start date restriction for FY 2021 funding. Please note that the costs for preparing and submitting an application in response to this FOA, including the development of data necessary to support the proposal, are not eligible project costs under this FOA and must not be included in the project budget. In addition, budget proposals must not include costs for the purchase of water or land, or to secure an easement other than a construction easement. These costs are not eligible project costs under this FOA.

Funding Plan and Letters of Commitment

Describe how the non-Federal share of project costs will be obtained. Reclamation will use this information in making a determination of financial capability.

Project funding provided by a source other than the applicant shall be supported with letters of commitment from these additional sources. Letters of commitment shall identify the following elements:

- The amount of funding commitment
- The date the funds will be available to the applicant
- Any time constraints on the availability of funds
- Any other contingencies associated with the funding commitment

Commitment letters from third party funding sources should be submitted with your application. If commitment letters are not available at the time of the application submission, please provide a timeline for submission of all commitment letters. Cost-share funding from sources outside the applicant's organization (e.g., loans or State grants), should be secured and available to the applicant prior to award.

Reclamation will not make funds available for an award under this FOA until the recipient has secured non-Federal cost-share. Reclamation will execute a financial assistance agreement once non-Federal funding has been secured or Reclamation determines that there is sufficient evidence and likelihood that non-Federal funds will be available to the applicant subsequent to executing the agreement.

The funding plan for the project is as follows and will be split as follows:

- 61.1% Newton Town through internal funding from saved finances: \$118,000
- 38.9% Reclamation Water SMART Grant: \$75,000
- Support letters from Newton Town can be found in Appendix A. A copy of the draft official resolution supporting the project to be accepted by Newton can be viewed in Appendix G
- There are no other known contingencies that are associated with the funding commitment

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

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

Newton Town will be using saved funds for their portion of the funding. These funds have been set aside for the maintenance and improvement of the town's water system.

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

The town will be using internal funds to provide for their cost-sharing requirements.

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

There are no third party individuals or entities that will be participating in the cost sharing of this project.

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

The town has not received any cash from non-Federal entities and there are no current requests for cash from non-Federal entities.

- *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.*

The town does not have any pending funding requests. The town plans to fund the project with money that has been set aside within the town.

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

- *The project expenditure and amount*
- *The date of cost incurrence*
- *How the expenditure benefits the Project*

The Newton Town signed an engineering agreement with Sunrise Engineering for preliminary engineering and Reclamation application preparation.

- Grant Preparation & Funding Assistance – Sunrise Engineering: \$1,500
- Expenses Occurred between February-March 2020
- Without these expenditures the Newton Town would not have had the resources to make the application with Reclamation.
- Newton Town is paying for these expenses and this cost is NOT included as costs to be funded by this budget proposal.

Table 2: Summary of Non-Federal and Federal Funding Sources

Funding Source	Amount	Percentage
Non-Federal Entities		
Newton Town	\$ 118,000	61.1%
Other Federal Entities		
None	\$ 0	0%
Reclamation Federal Entity		
Requested Reclamation Funding	\$ 75,000	38.9%
Total Project Funding	\$ 193,000	100%

Budget Proposal

The total project cost (Total Project Cost), is the sum of all allowable items of costs, including all required cost sharing and voluntary committed cost sharing, including third-party contributions, that are necessary to complete the project (Table 1). Note: The budget proposal must include the cost of all equipment, materials and supplies, and labor or contractual costs to complete the project. Applicants must include the costs of all equipment, materials and supplies, and labor required to complete the project in the budget proposal (Table 2).

The budget proposal should include detailed information on the categories listed on the next page and must clearly identify all cost items, including those that will be contributed as non-Federal cost share by the applicant (required and voluntary), third-party in-kind contributions, and those that will be covered using the funding requested from Reclamation, including any requested pre-award costs. Unit costs must be provided for all budget items including the cost of services or other work to be provided by consultants and contractors. Applicants are strongly encouraged to review the procurement standards for Federal awards found at 2 CFR §200.317 through §200.326 before developing their budget proposal.

It is also strongly advised that applicants use the budget proposal format shown below in Table 2 or a similar format that provides this information. If selected for award, successful applicants must submit detailed supporting documentation for all budgeted costs.

Table 3: Budget Proposal

BUDGET ITEM DESCRIPTION	COMPUTATION		Quantity Type	TOTAL COST
	\$/Unit	Quantity		
Salaries and Wages				
Included within Contractual	N/A	N/A	N/A	\$ 0
Fringe Benefits				
Not Applicable for Current Budget	N/A	N/A	N/A	\$ 0
Travel				
Not Permitted Under this FOA	N/A	N/A	N/A	\$ 0
Equipment				
Included within Contractual	N/A	N/A	N/A	\$ 0
Supplies and Materials				
Included within Contractual	N/A	N/A	N/A	\$ 0
Contractual/Construction				
Engineering Professional Services	Refer to Appendix D			\$ 6,600
Construction	Refer to Appendix E			\$ 173,000
Environmental	Refer to Appendix F			\$ 13,400
Other				
Not Applicable for Current Budget	N/A	N/A	N/A	\$ 0
TOTAL DIRECT COSTS				\$ 193,000
Indirect Costs				
Not Applicable for Current Budget	N/A	N/A	N/A	\$ 0
TOTAL ESTIMATED PROJECT COSTS				\$ 193,000

Budget Narrative

Submission of a budget narrative is mandatory. An award will not be made to any applicant who fails to fully disclose this information. The budget narrative provides a discussion of, or explanation for, items included in the budget proposal. The types of information to describe in the narrative include, but are not limited to, those listed in the following subsections. Costs, including the valuation of third-party in-kind contributions, must comply with the applicable cost principles contained in 2 CFR Part §200, available at the Electronic Code of Federal Regulations (www.ecfr.gov).

Salaries and Wages

Indicate the project manager and other key personnel by name and title. The project manager must be an employee or board member of the applicant. Other personnel should be indicated by title alone. For all positions, indicate salaries and wages, estimated hours or percent of time, and rate of compensation. The labor rates must identify the direct labor rate separate from the fringe rate or fringe cost for each

position. All labor estimates must be allocated to specific tasks as outlined in the applicant's technical project description. Labor rates and proposed hours shall be displayed for each task.

The budget proposal and narrative should include estimated hours for compliance with reporting requirements, including the final financial and performance reports. Please see Section F.3. Reporting Requirements and Distribution information on types and frequency of reports required.

Generally, salaries of administrative and/or clerical personnel will be included as a portion of the stated indirect costs. If these salaries can be adequately documented as direct costs, they should be included in this section; however, a justification should be included in the budget narrative.

Within the budget narrative, please provide a certification that the labor rates included in the budget proposal represent the actual labor rates of the identified personnel and are consistently applied to Federal and non-Federal activities. If the proposal is selected for award and the awarding Grants Officer determines that the provided rates fall within Bureau of Labor Statistic averages for personnel with similar job descriptions, no further documentation for this item of cost shall be requested during budget negotiations.

Salaries and Wages are included in Contractual Costs. With the Contractual Costs, the budgeted amounts have been broken down to Salaries and Wages (Fee Schedule) where applicable. These cost break downs are included in Appendix D.

Fringe Benefits

Identify the rates/amounts, what costs are included in this category, and the basis of the rate computations. Federally approved rate agreements are acceptable for compliance with this item.

Fringe Benefits are not included in this budget. All compensation for employees with the engineering firm are expressed in the Fee Schedule attached in Appendix D. All other compensation for employees outside of the engineering firm are included in their Contractual Costs.

Travel

Travel related expenses are not eligible for reimbursement under this FOA and should not be included within the proposed budget.

Travel Costs are not necessary for the completion of this project and are not allowed under this FOA.

Equipment

If equipment will be purchased, itemize all equipment valued at or greater than \$5,000. For each item, identify why it is needed for the completion of the project and how the equipment was priced. Note: If the value is less than \$5,000, the item should be included under materials and supplies. If equipment is being rented, specify the number of hours and the hourly rate. Local rental rates are only accepted for equipment actually being rented or leased.

If the applicant intends to use their own equipment for the purposes of the project, the proposed usage rates should fall within the equipment usage rates outlined by the United States Army Corps of Engineers (USACE) within their Construction Equipment Ownership and Operating Expense Schedule (EP 1110-1-

8) at www.publications.usace.army.mil/USACE-Publications/Engineer-Pamphlets/u43545q/313131302D312D38.

If the proposal is selected for award and the awarding Grants Officer determines that the proposed rates fall within those outlined within the USACE publication, no further documentation for this item of cost shall be requested during budget negotiations. Note: If the equipment will be furnished and installed under a construction contract, the equipment should be included in the construction contract cost estimate.

Equipment Costs are included in Contractual Costs. Documentation of all contracts incurred during the project will be properly document as required and will be made available upon request.

Materials and Supplies

Itemize supplies by major category, unit price, quantity, and purpose, such as whether the items are needed for office use, research, or construction. Identify how these costs were estimated (i.e., quotes, engineering estimates, or other methodology).

Note: If the materials/supplies will be furnished and installed under a contract, the equipment should be included in the construction contract cost estimate.

Materials and Supplies are included in Contractual Costs. Documentation of all contracts incurred during the project will be properly documented as required and will be made available upon request.

Contractual

Identify all work that will be accomplished by consultants or contractors, including a breakdown of all tasks to be completed, and a detailed budget estimate of time, rates, supplies, and materials that will be required for each task. For each proposed contract, identify the procurement method that will be used to select the consultant or contractor and the basis for selection

Please note that all procurements with an anticipated aggregate value that exceeds the Simplified Acquisition Threshold (currently \$10,000) must use a competitive procurement method (see 2 CFR §200.320 – Methods of procurement to be followed). Only contracts for architectural/engineering services can be awarded using a qualifications-based procurement method. If a qualifications-based procurement method is used, profit must be negotiated as a separate element of the contract price. See 2 CFR §200.317 through §200.326 for additional information regarding procurements, including required contract content.

If the proposal is selected for award and the awarding Grants Officer determines that the contractual engineering services costs for design engineering and/or construction management costs within the budget proposal do not exceed 8 percent of total project construction costs, then no further documentation for this item of cost shall be requested during budget negotiations.

Funding for the project will be used to pay for contractors, construction material, engineering consultants, and environmental consultants. This includes construction, engineering, and environmental, services. A breakdown of these services can be viewed in the following Appendices.

Appendix D – Engineering Services
Appendix E – Construction Services

Appendix F – Environmental Services

The costs found in the above referenced Appendices were prepared by a professional engineering firm. Costs for construction were taken from recent bid documents from similar type of work and projects. This information is available for review upon request.

Third-Party In-Kind Contributions

Identify all work that will be accomplished by third-party contributors, including a breakdown of all tasks to be completed, and a detailed budget estimate of time, rates, supplies, and materials that will be required for each task. Third-party in-kind contributions, including contracts, must comply with all applicable administrative and cost principles criteria, established in 2 CFR Part 200, available at www.ecfr.gov, and all other requirements of this FOA.

At this point in the project, Newton Town does not anticipate work to be completed from a third-party contributor.

Environmental and Regulatory Compliance Costs

Prior to awarding financial assistance, Reclamation must first ensure compliance with Federal environmental and cultural resources laws and other regulations (“environmental compliance”). Every project funded under this program will have environmental compliance costs associated with activities undertaken by Reclamation and the recipient.

In order to estimate environmental compliance costs, please contact compliance staff at your local Reclamation Office for additional details regarding the type and costs of compliance that may be required for your project. Note: Support for your compliance costs estimate will be considered during review of your application. Contact the Program Coordinator for the Reclamation staff to contact regarding compliance costs and requirements (Section G.2. Agency Contacts).

Environmental compliance costs are considered project costs and must be included as a line item in the project budget and will be cost shared accordingly. The amount of the line item should be based on the actual expected environmental compliance costs for the project, including Reclamation’s cost to review environmental compliance documentation. Environmental compliance costs will vary based on project type, location, and potential impacts to the environment and cultural resources.

How environmental compliance activities will be performed (e.g., by Reclamation, the applicant, or a consultant) and how the environmental compliance funds will be spent will be determined pursuant to subsequent agreement between Reclamation and the applicant. The amount of funding required for Reclamation to conduct any environmental compliance activities, including Reclamation’s cost to review environmental compliance documentation, will be withheld from the Federal award amount and placed in an environmental compliance account to cover such costs. If any portion of the funds budgeted for environmental compliance is not required for compliance activities, such funds may be reallocated to the project, if appropriate.

Costs associated with environmental and regulatory compliance must be included in the budget. Compliance costs include costs associated with any required documentation of environmental compliance, analyses, permits, or approvals. Applicable Federal environmental laws could include NEPA, ESA, National Historic Preservation Act (NHPA), Clean Water Act (CWA), and other regulations depending on the project. Such costs may include, but are not limited to:

- *The cost incurred by Reclamation to determine the level of environmental compliance required for the project*
- *The cost incurred by Reclamation, the recipient, or a consultant to prepare any necessary environmental compliance documents or reports*
- *The cost incurred by Reclamation to review any environmental compliance documents prepared by a consultant*
- *The cost incurred by the recipient in acquiring any required approvals or permits, or in implementing any required mitigation measures*

A budget of \$13,400 is planned to complete the environmental requirements of this project. It is anticipated that a team of consultants will be used to prepare the environmental documents to a level acceptable by the National Environmental Policy Act (NEPA) requirements.

Other Expenses

Any other expenses not included in the above categories shall be listed in this category, along with a description of the item and why it is necessary. No profit or fee will be allowed.

There are no other expenses that have not been accounted for in the previous sections and previous budgets.

Indirect Costs

Applicants with a federally approved indirect cost rate agreement may include indirect costs as part of the project budget. Show the agreed upon rate, cost base, and proposed amount for allowable indirect costs. It is not acceptable to simply incorporate indirect rates within other direct cost line items.

If the applicant has never received a Federal negotiated indirect cost rate, the budget may include a de minimis rate of up to 10 percent of modified total direct costs. For further information on modified total direct costs, refer to 2 CFR §200.68 available at www.ecfr.gov.

If the applicant does not have a federally approved indirect cost rate agreement and is proposing a rate greater than the de minimis 10 percent rate, include the computational basis for the indirect expense pool and corresponding allocation base for each rate. Information on "Preparing and Submitting Indirect Cost Proposals" is available from the Department's Interior Business Center, and Indirect Cost Services, at www.doi.gov/ibc/services/finance/indirect-cost-services.

There are no Indirect Costs associated with this proposed project.

Total Costs

<u>Non-Federal Funding Amount</u>	<u>Reclamation Funding Amount</u>	<u>Total Project Cost</u>
\$ 118,000	\$ 75,000	\$ 193,000

Environmental and Cultural Resources Compliance

To allow Reclamation to assess the probable environmental and cultural resources impacts and costs associated with each application, all applicants should consider the following list of questions focusing

on the NEPA, ESA, and NHPA requirements. Please answer the following questions to the best of your knowledge. If any question is not applicable to the project, please explain why. The application should include the answers to:

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

The proposed project will occur at 287 different locations within Newton Town limits (180 residential meters, 6 commercial meters, 1 master meter). Each of the 280 residential meters and the 6 commercial meters are protected by an existing utility service box, and although some boxes will be removed and replaced, earth-disturbing activity is expected to be low. The master meter will distribute more area than the other meters but is still expected to be a low earth-disturbing activity. Minimal dust may occur but is not expected to affect air, water, or animal habitat.

- *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?*

The Newton area has been identified to be a suitable habitat for the Yellow-billed Cuckoo and the Ute Ladies'-tresses, however, the area is not a critical habitat. Additionally, the work for this project would be performed within town limits in highly disturbed areas. It is anticipated that there will be no negative effect to any threatened or endangered species.

- *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.*

There are no wetlands or other surface waters that fall within the CWA jurisdiction as "Waters of the United States"

- *When was the water delivery system constructed?*

The original water system was built in 1920, since then it has undergone various significant improvements. The following list provides the year and what significant improvement occurred.

- 1920 – Water system was originally built
 - 1965 – Main trunk line from springs to storage tank was replaced
 - 1976 – Distribution system was replaced town wide
 - 1990 – Various trunk lines were replaced, and a new storage tank was built
 - 2016 – the Big Birch Springs were re-developed
- *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.*

This project has no effect on an irrigation system.

- *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.*

Not Applicable

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

No

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

No

- *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. Note that improvements to Federal facilities that are implemented through any project awarded funding through this FOA must comply with additional requirements. The Federal government will continue to hold title to the Federal facility and any improvement that is integral to the existing operations of that facility. Please see P.L. 111-11, Section 9504(a)(3)(B). Reclamation may also require additional reviews and approvals prior to award to ensure that any necessary easements, land use authorizations, or special permits can be approved consistent with the requirements of 43 CFR Section 429, and that the development will not impact or impair project operations or efficiency.

No permits will be required for the completion of this project.

Letters of Project Support

Please include letters from interested stakeholders supporting the proposed project. To ensure your proposal is accurately reviewed, please attach all letters of support/ partnership letters as an appendix.

Letters of support for the project are attached in Appendix A. Appendix A includes Letters of Support from the following individuals or groups:

- Cache Water District: Nathan Daugs
- Newton Town: Mayor Kevin Rhodes

- Newton Town Water Operator: Jed Woodward

Official Resolution

Include an official resolution adopted by the applicant's board of directors or governing body, or, for State government entities, an official authorized to commit the applicant to the financial and legal obligations associated with receipt of a financial assistance award under this FOA, verifying:

- *The identity of the official with legal authority to enter into an agreement*
- *The board of directors, governing body, or appropriate official who has reviewed and supports the application submitted*
- *The capability of the applicant to provide the amount of funding and/or in-kind contributions specified in the funding plan*
- *That the applicant will work with Reclamation to meet established deadlines for entering into a grant or cooperative agreement*

An official resolution meeting the requirements set forth above is mandatory. If the applicant is unable to submit the official resolution by the application deadline because of the timing of board meetings or other justifiable reasons, the official resolution may be submitted up to 30 days after the application deadline.

An official resolution meeting the criteria set forth above will be signed and submitted to the Bureau of Reclamation within the allotted 30 days permitted after the application deadline. A draft copy of the resolution has been attached in Appendix G.

Unique Entity Identifier and System for Award Management

All applicants (unless the applicant has an exception approved by Reclamation under 2 CFR §25.110[d]) are required to:

- (i) Be registered in the System for Award Management (SAM) before submitting its application;*
- (ii) Provide a valid unique entity identifier in its application; and*
- (iii) Continue to maintain an active SAM registration with current information at all times during which it has an active Federal award or an application or plan under consideration by a Federal awarding agency.*

Meeting the requirements set forth above is mandatory. If the applicant is unable to complete registration by the application deadline, the unique entity identifier must be obtained, and SAM registration must be initiated within 30 days after the application deadline in order to be considered for selection and award.

Reclamation will not make a Federal award to an applicant until the applicant has complied with all applicable unique entity identifier and SAM requirements and, if an applicant has not fully complied with the requirements by the time the Reclamation is ready to make an award, Reclamation may determine that the applicant is not qualified to receive a Federal award and use that determination as a basis for making a Federal award to another applicant.

The town is currently enrolling with SAM, under DUNNS number 0729796020000. Newton Town will maintain a SAM registration as required.

Appendix A

Commitment Letters
And
Support Letters



Cache Water District
199 N Main, Logan, Utah 84321 | TEL 435.999.0051

March 4, 2019

Bureau of Reclamation

RE: Small-Scale WaterSMART Grant – Newton Town Support Letter

To Whom it May Concern:

The purposes of the Cache Water District include planning for and facilitating the long-term conservation, development, protection, distribution, management and stabilization of water rights and water supplies for domestic, irrigation, power, manufacturing, municipal, recreation and other beneficial uses, including the natural stream environment, in a cost effective way to meet the needs of the residents and growing population of Cache County. It is our goal to help all water users in the Cache Valley area to manage, use, and conserve water in the most economical and effective way possible. This includes helping communities and municipalities manage their water more effectively with elements such as meters, SCADA data bases, quality distribution systems, etc.

Newton Town is currently planning for the installation of more than 300 residential meters. These new meters will replace their existing meters which have become obsolete. Their existing meters have to be monitored and read by hand. This results the meters not being read or maintained for 6 months out of the year due to winter conditions. Additionally, their existing meters are not connected to a SCADA network. This results in poor leak detection capabilities. The new meters will be connected to the Town's SCADA system and will be monitored monthly for billing purposes. They will also be monitored closely for leak detection between billing cycles. We believe this project will be a great benefit to Newton Town and Cache Valley.

Thank you for your consideration,

Nathan Daugs
Manager
Cache Water District

March 4, 2020

U.S. Department of Interior
Bureau of Reclamation
Financial Assistance Support Section

Re: Small-Scale WaterSMART Grant – FOA # BOR-DO-20-F006 Commitment Letter

To whom it may Concern,

Newton Town is in full support of the Newton Water Meter and SCADA Upgrade project outlined in the attached grant application. We are willing to bring funding to the project and work closely with the Bureau of Reclamation throughout the process. The funding match required has been saved and set aside for the operation and improvement of our water system. We are committed to devote our time and resources to this project, as it will bring so many benefits to our community and water system through increased reliability and improved water management.

The long-term effects of this project will provide the Town with an increased ability to manage water. Additionally, it will allow our meters to be read on a monthly basis as well as the data can be used for early leak detection. Newton Town strongly supports this proposal and appreciates the advancements it will make to improving the Newton Water System.

Please feel free to contact me for any other information at krhodes@campbellsci.com or (435) 563-9283

Sincerely,



Kevin Rhodes
Mayor

March 4, 2020

U.S. Department of Interior
Bureau of Reclamation
Financial Assistance Support Section

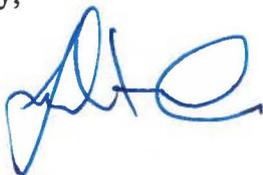
Re: Newton Water Meter and SCADA Upgrade - Support Letter

To whom it may Concern,

I am writing this letter in support of the Newton Water Meter and SCADA Upgrade project outlined in the attached grant application. The current water meters are at the end of their life and I have found many meters that are no longer metering correctly or have failed. The existing meters are not connected to our Town's SCADA system which means they must be read manually for billing and for leak detection. During the winter, the meters cannot be read due to snow and ice burying the covers. This leaves the meters un-read for up to 6 months every year. Not only is this an issue for billings, but early leak detection is near impossible during that time of year.

The implementation of new meters would be a significant improvement to our water system. The new meters would provide accurate readings to ensure the proper amount is billed to our residents. Additionally, the accurate readings would be key to early leak detection. With the new meters connected to our SCADA, leaks could then be monitored for continually instead of on a monthly basis at best. The installation of these meters would also free up large amounts of my time spent on repairs and meter reading. This would provide more time to care for other elements within the Town and save money on repairs in the future. I believe this project would be of great benefit to myself as the operator, the Town Leadership in their duty to provide for the residents, and for the residents in ensuring they are being billed properly.

Sincerely,



Jed Woodward
Newton Water System Operator

Appendix B

Newton Town Water Rights

Water Right Details for 25-3073

Utah Division of Water Rights

12/12/2019 1:35 PM

(WARNING: Water Rights makes NO claims as to the accuracy of this data.)

Water Right: 25-3073

Application/Claim: A12298

Certificate: 2291

Owners:

Name: Newton Town Corporation (Public Water Supplier)
Address: UT

Interest:

Remarks:

General:

Type of Right: Application To Appropriate Source of Info.: Proposed Determination Status: Certificated
Quantity of Water: 0.033 CFS

Source: Loosle Spring
County: Cache

Common Description:

Proposed Det. Book: 25-

Map: 24a

Pub. Date:

Land Owned by Appl.:

County Tax Id#:

Distribution System:

Dates:

Filing:

Filed:

Priority: 10/29/1936

Decree/Class:

Advertising:

Publication Began:

Publication End:

Newspaper:

Protest End Date:

Protested: Not Protested

Hearing Held:

Approval:

State Eng. Action: Approved

Action Date:

Recon. Req. Date:

Recon. Req Action:

Certification:

Proof Due Date:

Extension Filed Date:

Election or Proof:

Election/Proof Date:

Certificate Date:

Lapsed, Etc. Date:

Lapsed Letter

Wells:

Prov. Well Date:

Well Renov. Date:

Points of Diversion:

Points of Diversion - Surface:

Stream Alteration Required:

(1) N 1385 ft. W 610 ft. from SE corner, Sec 34 T 14N R 2W SLBM

Diverting Works:

Source: Loosle Spring

Elevation:

UTM: 412795.822, 4639884.393

Water Uses:

Water Uses - Group Number: 19496

Water Rights Appurtenant to the following use(s):

25-3073(CERT), 25-7204(WUC), 25-7205(WUC), 25-7206(WUC), 25-7207(WUC),
25-7208(WUC), 25-9263(REJ),

Water Use Types:

Municipal: Newton Period of Use: 01/01 to 12/31
Acre Feet Contributed by this Right for this Use: Unevaluated
Comments:

Water Uses - Group Number: 24663

Water Rights Appurtenant to the following use(s):

25-3073(CERT), 25-7205(WUC), 25-7206(WUC), 25-7207(WUC), 25-7208(WUC),
25-9213(CERT),

Water Use Types:

Domestic-Beneficial Use Amount: Unevaluated EDUs Group Total: 2 Period of Use: 05/01 to 10/31
Comments: Used only as a back-up supply, auxillary to Newton City.

Other: Dairy operation. Period of Use: 05/01 to 10/31
Acre Feet Contributed by this Right for this Use: Unevaluated
Comments: Used only as a back-up water supply, auxillary to Newton City.

Place Of Use:	North West				North East				South West				South East				Section Totals
	NW	NE	SW	SE													
Sec 18 T 13N R 1W										X							
Group Acreage Total :																	

Use Totals:

Domestic sole-supply total: Unevaluated EDUs for a group total of: 2 EDUs
Municipal sole-supply total: Unevaluated acft
Other sole-supply total: Unevaluated acft

Reservoirs:

Reservoir/Storage Name: Unnamed Equalizing Reservoir Dam Number:
Capacity: 0.742 acre-feet Area Inundated: 0 acres
Dam Height: 0 feet From: 01/01 to 12/31 inclusive

Area	North West Quarter				North East Quarter				South West Quarter				South East Quarter			
	NW	NE	SW	SE	NW	NE	SW	SE	NW	NE	SW	SE	NW	NE	SW	SE
Sec 07 T 13N R 1W SLBM										X						

Water Right Details for 25-7204

Utah Division of Water Rights

12/12/2019 1:39 PM

(WARNING: Water Rights makes NO claims as to the accuracy of this data.)

Water Right: 25-7204

Application/Claim:

Certificate:

Owners:

Name: USA Bureau of Reclamation (Public Water Supplier)
Address: ATTN: Water Rights Specialist
302 East 1860 South
Provo, UT 84606-7317
Interest: 33%

Remarks:

General:

Type of Right: Decree
Quantity of Water: 3 CFS
Source of Info.: Proposed Determination
Status: Water User's Claim
Source: Big Birch Springs
County: Cache
Common Description:
Proposed Det. Book: 25-
Map: 14c
Pub. Date:
Land Owned by Appl.:
County Tax Id#:
Distribution System:

Dates:

Filing:

Filed:
Priority: 05/01/1864
Decree/Class:

Advertising:

Publication Began:
Protest End Date:
Publication End:
Protested: Not Protested
Newspaper:
Hearing Held:

Approval:

State Eng. Action:
Recon. Req. Date:
Action Date:
Recon. Req Action:

Certification:

Proof Due Date:
Election or Proof:
Certificate Date:
Extension Filed Date:
Election/Proof Date:
Lapsed, Etc. Date:
Lapsed Letter

Wells:

Prov. Well Date:
Well Renov. Date:

Points of Diversion:

Points of Diversion - Surface:

Stream Alteration Required:

(1) S 1075 ft. E 245 ft. from W4 corner, Sec 16 T 14N R 2W SLBM
Diverting Works:
Elevation:
Source: Big Birch Springs
UTM: 409829.13, 4644791.281 (NAD83)

Water Uses:**Water Uses - Group Number: 19496**

Water Rights Appurtenant to the following use(s):

25-3073(CERT), 25-7204(WUC), 25-7205(WUC), 25-7206(WUC), 25-7207(WUC),
25-7208(WUC), 25-9263(REJ),

Water Use Types:

Municipal: Newton

Period of Use: 01/01 to 12/31

Acre Feet Contributed by this Right for this Use: Unevaluated

Comments:

Use Totals:

Municipal sole-supply total: Unevaluated acft

Reservoirs:

Reservoir/Storage Name: Unnamed Equalizing Reservoir

Dam Number:

Capacity: 0.742 acre-feet

Area Inundated: 0 acres

Dam Height: 0 feet

From: 01/01 to 12/31 inclusive

Area	North West Quarter				North East Quarter				South West Quarter				South East Quarter			
	NW	NE	SW	SE	NW	NE	SW	SE	NW	NE	SW	SE	NW	NE	SW	SE
Sec 07 T 13N R 1W SLBM										X						

Water Uses:

Water Uses - Group Number: 19496

Water Rights Appurtenant to the following use(s):

25-3073(CERT), 25-7204(WUC), 25-7205(WUC), 25-7206(WUC), 25-7207(WUC),
25-7208(WUC), 25-9263(REJ),

Water Use Types:

Municipal: Newton Period of Use: 01/01 to 12/31
Acre Feet Contributed by this Right for this Use: Unevaluated
Comments:

Water Uses - Group Number: 24663

Water Rights Appurtenant to the following use(s):

25-3073(CERT), 25-7205(WUC), 25-7206(WUC), 25-7207(WUC), 25-7208(WUC),
25-9213(CERT),

Water Use Types:

Domestic-Beneficial Use Amount: Unevaluated EDUs Group Total: 2 Period of Use: 05/01 to 10/31
Comments: Used only as a back-up supply, auxillary to Newton City.

Other: Dairy operation. Period of Use: 05/01 to 10/31
Acre Feet Contributed by this Right for this Use: Unevaluated
Comments: Used only as a back-up water supply, auxillary to Newton City.

Place Of Use:	North West				North East				South West				South East				Section Totals
	NW	NE	SW	SE													
Sec 18 T 13N R 1W										X							
Group Acreage Total :																	

Use Totals:

Domestic sole-supply total: Unevaluated EDUs for a group total of: 2 EDUs
Municipal sole-supply total: Unevaluated acft
Other sole-supply total: Unevaluated acft

Reservoirs:

Reservoir/Storage Name: Unnamed Equalizing Reservoir Dam Number:
Capacity: 0.742 acre-feet Area Inundated: 0 acres
Dam Height: 0 feet From: 01/01 to 12/31 inclusive

Area	North West Quarter				North East Quarter				South West Quarter				South East Quarter			
	NW	NE	SW	SE	NW	NE	SW	SE	NW	NE	SW	SE	NW	NE	SW	SE
Sec 07 T 13N R 1W SLBM										X						

Water Right Details for 25-7206

Utah Division of Water Rights

12/12/2019 1:35 PM

(WARNING: Water Rights makes NO claims as to the accuracy of this data.)

Water Right: 25-7206

Application/Claim:

Certificate:

Owners:

Name: Newton Town Corporation (Public Water Supplier)
Address: c/o Lyle Cooley
Newton UT 84327

Interest:

Remarks:

General:

Type of Right: Diligence Claim Source of Info.: Proposed Determination Status: Water User's Claim
Quantity of Water: 0.145 CFS
Source: Hansen Spring
County: Cache
Common Description:
Proposed Det. Book: 25- Map: 25c Pub. Date:
Land Owned by Appl.: County Tax Id#:
Distribution System:

Dates:

Filing:

Filed:
Priority: / /1902 Decree/Class:

Advertising:

Publication Began: Publication End: Newspaper:
Protest End Date: Protested: Not Protested Hearing Held:

Approval:

State Eng. Action: Action Date:
Recon. Req. Date: Recon. Req. Action:

Certification:

Proof Due Date: Extension Filed Date:
Election or Proof: Election/Proof Date:
Certificate Date: Lapsed, Etc. Date: Lapsed Letter

Wells:

Prov. Well Date: Well Renov. Date:

Points of Diversion:

Points of Diversion - Surface:

Stream Alteration Required:

(1) N 600 ft. E 675 ft. from SW corner, Sec 06 T 13N R 1W SLBM

Diverting Works:

Source: Hansen Spring

Elevation:

UTM: 416393.566, 4638040.946

Water Uses:

Water Uses - Group Number: 19496

Water Rights Appurtenant to the following use(s):

25-3073(CERT), 25-7204(WUC), 25-7205(WUC), 25-7206(WUC), 25-7207(WUC),
25-7208(WUC), 25-9263(REJ),

Water Use Types:

Municipal: Newton Period of Use: 01/01 to 12/31
Acre Feet Contributed by this Right for this Use: Unevaluated
Comments:

Water Uses - Group Number: 24663

Water Rights Appurtenant to the following use(s):

25-3073(CERT), 25-7205(WUC), 25-7206(WUC), 25-7207(WUC), 25-7208(WUC),
25-9213(CERT),

Water Use Types:

Domestic-Beneficial Use Amount: Unevaluated EDUs Group Total: 2 Period of Use: 05/01 to 10/31
Comments: Used only as a back-up supply, auxillary to Newton City.

Other: Dairy operation. Period of Use: 05/01 to 10/31
Acre Feet Contributed by this Right for this Use: Unevaluated
Comments: Used only as a back-up water supply, auxillary to Newton City.

Place Of Use:	North West				North East				South West				South East				Section
	NW	NE	SW	SE	NW	NE	SW	SE	NW	NE	SW	SE	NW	NE	SW	SE	Totals
Sec 18 T 13N R 1W										X							
Group Acreage Total :																	

Use Totals:

Domestic sole-supply total: Unevaluated EDUs for a group total of: 2 EDUs
Municipal sole-supply total: Unevaluated acft
Other sole-supply total: Unevaluated acft

Water Right Details for 25-7207

Utah Division of Water Rights

12/12/2019 1:35 PM

(WARNING: Water Rights makes NO claims as to the accuracy of this data.)

Water Right: 25-7207

Application/Claim:

Certificate:

Owners:

Name: Newton Town (Public Water Supplier)
Address: c/o Lyle Cooley
Newton UT 84327

Interest:

Remarks:

General:

Type of Right: Diligence Claim	Source of Info.: Proposed Determination	Status: Water User's Claim
Quantity of Water: 0.267 CFS		
Source: Jones Spring		
County: Cache		
Common Description:		
Proposed Det. Book: 25-	Map: 25c	Pub. Date:
Land Owned by Appl.:	County Tax Id#:	
Distribution System:		

Dates:

Filing:

Filed:
Priority: / /1903 Decree/Class:

Advertising:

Publication Began: Publication End: Newspaper:
Protest End Date: Protested: Not Protested Hearing Held:

Approval:

State Eng. Action: Action Date:
Recon. Req. Date: Recon. Req Action:

Certification:

Proof Due Date: Extension Filed Date:
Election or Proof: Election/Proof Date:
Certificate Date: Lapsed, Etc. Date: Lapsed Letter

Wells:

Prov. Well Date: Well Renov. Date:

Points of Diversion:

Points of Diversion - Surface:

Stream Alteration Required:

(1) N 1250 ft. W 925 ft. from SE corner, Sec 01 T 13N R 2W SLBM

Diverting Works: Source: Jones Spring
Elevation: UTM: 415905.886, 4638239.066

Water Uses:

Water Uses - Group Number: 19496

Water Rights Appurtenant to the following use(s):

25-3073(CERT), 25-7204(WUC), 25-7205(WUC), 25-7206(WUC), 25-7207(WUC),
25-7208(WUC), 25-9263(REJ),

Water Use Types:

Municipal: Newton Period of Use: 01/01 to 12/31
Acre Feet Contributed by this Right for this Use: Unevaluated
Comments:

Water Uses - Group Number: 24663

Water Rights Appurtenant to the following use(s):

25-3073(CERT), 25-7205(WUC), 25-7206(WUC), 25-7207(WUC), 25-7208(WUC),
25-9213(CERT),

Water Use Types:

Domestic-Beneficial Use Amount: Unevaluated EDUs Group Total: 2 Period of Use: 05/01 to 10/31
Comments: Used only as a back-up supply, auxillary to Newton City.

Other: Dairy operation. Period of Use: 05/01 to 10/31
Acre Feet Contributed by this Right for this Use: Unevaluated
Comments: Used only as a back-up water supply, auxillary to Newton City.

Place Of Use:	North West				North East				South West				South East				Section Totals
	NW	NE	SW	SE													
Sec 18 T 13N R 1W										X							
Group Acreage Total :																	

Use Totals:

Domestic sole-supply total: Unevaluated EDUs for a group total of: 2 EDUs
Municipal sole-supply total: Unevaluated acft
Other sole-supply total: Unevaluated acft

Reservoirs:

Reservoir/Storage Name: Unnamed Equalizing Reservoir Dam Number:
Capacity: 0.742 acre-feet Area Inundated: 0 acres
Dam Height: 0 feet From: 01/01 to 12/31 inclusive

Area	North West Quarter				North East Quarter				South West Quarter				South East Quarter			
	NW	NE	SW	SE	NW	NE	SW	SE	NW	NE	SW	SE	NW	NE	SW	SE
Sec 07 T 13N R 1W SLBM										X						

Water Right Details for 25-7208

Utah Division of Water Rights

12/12/2019 1:34 PM

(WARNING: Water Rights makes NO claims as to the accuracy of this data.)

Water Right: 25-7208

Application/Claim:

Certificate:

Owners:

Name: Newton Town (Public Water Supplier)
Address: c/o Lyle Cooley
Newton UT 84327

Interest:

Remarks:

General:

Type of Right: Diligence Claim	Source of Info.: Proposed Determination	Status: Water User's Claim
Quantity of Water: 0.234 CFS		
Source: John Buttars Springs		
County: Cache		
Common Description:		
Proposed Det. Book: 25-	Map: 24a	Pub. Date:
Land Owned by Appl.:	County Tax Id#:	
Distribution System:		

Dates:

Filing:

Filed:

Priority: / /1902

Decree/Class:

Advertising:

Publication Began:

Publication End:

Newspaper:

Protest End Date:

Protested: Not Protested

Hearing Held:

Approval:

State Eng. Action:

Action Date:

Recon. Req. Date:

Recon. Req Action:

Certification:

Proof Due Date:

Extension Filed Date:

Election or Proof:

Election/Proof Date:

Certificate Date:

Lapsed, Etc. Date:

Lapsed Letter

Wells:

Prov. Well Date:

Well Renov. Date:

Points of Diversion:

Points of Diversion - Surface:

Stream Alteration Required:

(1) N 1455 ft. W 385 ft. from SE corner, Sec 34 T 14N R 2W SLBM

Diverting Works:

Source: John Buttars Spring #1

Elevation:

UTM: 412864.402, 4639905.729

(2) N 1818 ft. W 293 ft. from SE corner, Sec 34 T 14N R 2W SLBM

Diverting Works:

Source: John Buttars Spring #2

Elevation:

UTM: 412892.444, 4640016.371

Points of Diversion - Surface:	
Stream Alteration Required:	
(3) N 2260 ft. W 120 ft. from SE corner, Sec 34 T 14N R 2W SLBM	
Diverting Works:	Source: John Buttars Springs #3
Elevation:	UTM: 412945.174, 4640151.093
(4) N 1910 ft. W 264 ft. from SE corner, Sec 34 T 14N R 2W SLBM	
Diverting Works:	Source: John Buttars Spring #4
Elevation:	UTM: 412901.283, 4640044.413
(5) N 2040 ft. W 225 ft. from SE corner, Sec 34 T 14N R 2W SLBM	
Diverting Works:	Source: John Buttars Spring #5
Elevation:	UTM: 412913.17, 4640084.037 (NAD83)

Water Uses:

Water Uses - Group Number: 19496

Water Rights Appurtenant to the following use(s):

25-3073(CERT), 25-7204(WUC), 25-7205(WUC), 25-7206(WUC), 25-7207(WUC),
25-7208(WUC), 25-9263(REJ),

Water Use Types:

Municipal: Newton Period of Use: 01/01 to 12/31
Acre Feet Contributed by this Right for this Use: Unevaluated
Comments:

Water Uses - Group Number: 24663

Water Rights Appurtenant to the following use(s):

25-3073(CERT), 25-7205(WUC), 25-7206(WUC), 25-7207(WUC), 25-7208(WUC),
25-9213(CERT),

Water Use Types:

Domestic-Beneficial Use Amount: Unevaluated EDUs Group Total: 2 Period of Use: 05/01 to 10/31
Comments: Used only as a back-up supply, auxillary to Newton City.

Other: Dairy operation. Period of Use: 05/01 to 10/31

Acre Feet Contributed by this Right for this Use: Unevaluated
Comments: Used only as a back-up water supply, auxillary to Newton City.

Place Of Use:	North West				North East				South West				South East				Section Totals
	NW	NE	SW	SE													
Sec 18 T 13N R 1W										X							
Group Acreage Total :																	

Use Totals:

Domestic sole-supply total: Unevaluated EDUs for a group total of: 2 EDUs
Municipal sole-supply total: Unevaluated acft
Other sole-supply total: Unevaluated acft

Reservoirs:

Reservoir/Storage Name: Unnamed Equalizing Reservoir

Dam Number:

Capacity: 0.742 acre-feet

Area Inundated: 0 acres

Dam Height: 0 feet

From: 01/01 to 12/31 inclusive

Area	North West Quarter				North East Quarter				South West Quarter				South East Quarter			
	NW	NE	SW	SE	NW	NE	SW	SE	NW	NE	SW	SE	NW	NE	SW	SE
Sec 07 T 13N R 1W SLBM										X						

Water Right Details for 25-9263

Utah Division of Water Rights

12/12/2019 1:33 PM

(WARNING: Water Rights makes NO claims as to the accuracy of this data.)

Water Right: 25-9263

Application/Claim: A66496

Certificate:

Owners:

Name: Newton Town David L. Larsen (Public Water Supplier)
Address: Newton UT 84327

Interest:

Remarks:

General:

Type of Right: Application To Appropriate Source of Info.: Application to Appropriate Status: Rejected
Quantity of Water: 0.176 CFS

Source: Hammond Spring
County: Cache

Common Description: 3 1/2 miles NW of Clarkston

Proposed Det. Book: 25-

Map:

Pub. Date:

Land Owned by Appl.: No

County Tax Id#:

Distribution System:

Dates:

Filing:

Filed: 09/25/1992

Priority: 09/25/1992

Decree/Class:

Advertising:

Publication Began: 11/12/1992

Publication End:

Newspaper: The Herald Journal

Protest End Date: 12/26/1992

Protested: Protested

Hearing Held:

Approval:

State Eng. Action: Rejected

Action Date: 12/02/1994

Recon. Req. Date:

Recon. Req Action:

Certification:

Proof Due Date:

Extension Filed Date:

Election or Proof:

Election/Proof Date:

Certificate Date:

Lapsed, Etc. Date: 12/02/1994

Lapsed Letter

Wells:

Prov. Well Date:

Well Renov. Date:

Points of Diversion:

Points of Diversion - Surface:

Stream Alteration Required:

(1) N 25 ft. E 775 ft. from S4 corner, Sec 08 T 14N R 2W SLBM

Diverting Works: Open joint collection lines

Source: Hammond Spring

Elevation:

UTM: 409192.693, 4645921.372

(2) S 30 ft. E 750 ft. from N4 corner, Sec 17 T 14N R 2W SLBM

Diverting Works: Open joint collection lines

Source: Hammond Spring

Elevation:

UTM: 409185.073, 4645904.608

Appendix C

*Newton Town Culinary Water Conservation
Plan*

NEWTON TOWN
CULINARY WATER
CONSERVATION PLAN
APRIL 2016



Prepared by:

Sunrise Engineering, Inc.
26 South Main
Smithfield, Utah 84335
Tel: (435)-563-3734
Fax: (435)-563-6097

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1.0 INTRODUCTION

In response to the growth that the state of Utah has seen statewide, citizens and leaders of Newton Town are concerned about the future cost and/or availability of a finite supply of water. Similar concerns have been demonstrated by the state legislature as shown by the Water Conservation Plan Act (House Bill 418) passed in the 1998 session and its revision (House Bill 153) passed in the 1999 session. This document constitutes the water conservation plan for Newton Town. It is intended to address the concerns of both Newton Town and the State of Utah while in compliance with the State of Utah Water Conservation Plan Act.

2.0 BACKGROUND INFORMATION

Newton Town is located about 12 miles northwest of Logan City in Cache County near the north end of the State of Utah. The 2010 records for Newton Town established the population at 789. In 2016 it was reported that there were 833 people. Leaders of Newton Town have always held the water needs of citizens as a top priority. As a result, a well-maintained and operated water system provides citizens with water where and when it is needed. According to Newton Town data, the existing number of culinary connections in fiscal year 2015 was 270, including all residential and commercial connections within the Town boundary. Of the 270 existing connections there are 269 residential connections and 1 commercial connection. Approximately, 90% of the water users use a secondary water system for outdoor watering. The average lot size is 5/8 an acre. For irrigation purposes, it is assumed that 1/2 an acre is irrigated per ERC.

Newton Town continues to experience growth. The population experienced an increase of 134 persons or 19.17% over the 2000 census population of 699(1.10% increase per year). As growth takes place, the Town's infrastructure, including the culinary water system, must be improved to support that growth.

3.0 EXISTING RESOURCES

Newton Town has water rights to four sources of water supply for its culinary water system. These are Big Birch Spring, Little Birch Spring, Loosle Spring, and John Buttars Spring. A summary of these water rights are listed in Table 3-1 below.

**Table 3-1
Existing Newton Town Culinary Water Rights**

Water Right No.	Source	Ac-Ft Based On Flow	CFS Flow	GPM Flow
25-7204	Big Birch Spring	2173	3.0	1346
25-7205	Little Birch Spring	371	0.512	230
25-3073	Loosle Spring	24	0.033	15
25-7208	John Buttars Springs	170	0.234	105
TOTAL:		2738 ac-ft.	3.779 cfs.	1696 gpm.

Actual water flows fluctuate from year to year and are typically less than what is reported above in the Table 3-1. The past few years we have experienced a drought. Big Birch and Little Birch Spring are metered together and the Loosle Spring and John Buttars Springs are metered together. The Loosle and John Buttars Springs produce approximately 50 gpm while the Big Birch and Little Birch Springs produce approximately 150 gpm. Newton Town does own the water rights to Hansen Spring, Jones Spring, and Hammond Springs but they are not currently used in the culinary system.

Newton Town has one concrete storage tank with a capacity of 500,000 gallons. The spring water is chlorinated at the entrance to the existing storage tank. The chlorination equipment is in good condition.

Table 3-2 shows the 2016 Culinary Water Budget Projections from the master plan used to operate and maintain the culinary water system. It must be understood that system loans are now paid off and money is being set aside for the upcoming improvements. Rates will increase to pay the loans that are required to fund the improvements discussed in this plan.

Table 3-2
2016 Newton Town Annual Culinary Water Budget Projections

REVENUES

Water Sales	\$85,000.00
Impact Fee	\$1,500.00
Connection Fees	\$1,500.00
Penalties & Forfeitures	\$2,000.00
Interest Earnings	\$500.00
Water Misc. Revenue	\$2,500.00
TOTAL REVENUES:	\$93,000.00

EXPENSES

Salaries and Wages	\$6,200.00
Books, Subscription & Members	\$700.00
Public Legal Notices	\$0.00
Travel	\$1,500.00
Office Supplies & Expense	\$1,300.00
Equipment, Supplies & Maintenance	\$500.00
Utilities	\$400.00
Telephone	\$500.00
Professional & Tech Services	\$5,000.00
Education & Training	\$1,200.00
Special Department Supplies	\$3,000.00
Fuel	\$0.00
Insurance & Surety Bonds	\$0.00
Miscellaneous Supplies	\$500.00
Miscellaneous Services	\$200.00
Water Sample Services	\$1,000.00
Depreciation	\$38,000.00
Capital Outlay - Equipment	\$0.00
Impact Fee – Water Development	\$3,000.00
Capital Outlay - Other	\$0.00
Debt Principal (Subject to increase)	\$0.00
Debt Service – Interest (Subject to increase)	\$0.00
TOTAL EXPENSES:	\$63,000.00

4.0 CURRENT AND FUTURE WATER USE

Water usage for Newton in 2014 and 2015 are as follows. The average gallons per capita per day (gpcd) usage is 172 in 2014 and 186 in 2015 for the culinary water system. There are no meters on the secondary system to generate usage data from. In 2010, the State of Utah's average for potable water usage was 185 gpcd and 55 gpcd for secondary. When comparing Newton's usage per capita to the State averages, Newton is right in line with the States numbers.

Newton	833	Population		
	2014		2015	
	Usage (Gallons)	GPCD	Usage (Gallons)	GPCD
January	2,997,829	116.09	2,050,571	79.41
February	3,095,585	119.88	2,050,571	87.92
March	2,574,223	99.69	4,101,143	158.82
April	3,291,095	127.45	6,151,714	246.17
May	4,398,989	170.35	4,180,000	161.87
June	8,700,222	336.92	9,806,500	392.42
July	8,602,466	333.13	9,806,500	379.76
August	6,614,775	256.16	5,395,000	208.92
September	4,203,478	162.78	5,395,000	215.89
October	3,193,340	123.66	2,510,500	97.22
November	2,997,829	116.09	2,510,500	100.46
December	2,704,563	104.73	2,510,500	97.22
Total	53,374,394		56,468,500	
Average	4,447,866	172.24	4,705,708	186

4.1 Population Projection

Since 2000, Newton Town has seen an average annual growth rate of 1.10%. Based on the historic growth rates, growth rates in nearby cities, the continued growth in Cache Valley, and projections from the Governor's Office of Planning and Budget, it is projected that Newton Town will experience an average annual growth rate of 1% over the next 25 years. This is a conservative value. Based on this growth rate, Newton Town is projected to have a population of 1034 in 2040. This equates to 346 connections in 2040.

Water usage projections can be viewed in the table below. The projections are based on 2015 - 186 gpcd usage and the population projection of 1,034 users.

2040	
	Usage (Gallons)
January	2,545,367
February	2,818,085
March	5,090,734
April	7,890,638
May	5,188,619
June	12,578,533
July	12,172,774
August	6,696,795
September	6,920,021
October	3,116,275
November	3,220,151
December	3,116,275
Total	71,354,269

4.2 Water Rights

The State of Utah requires that communities have enough water rights to meet two conditions. Water rights have to meet a flow and a volume requirement over the year. The following table outlines the requirements by the State and compares them to the current and future water capacities of Newton. The table indicates whether or not there is a surplus or deficit under both scenarios. In both cases there is a surplus of water rights.

Water Rights: Flow Rate Requirements

Water Right	Number of Connections	Acres Irrigated	DDW Factor	Unit	Total Need (gpm)	Existing Capacity	Surplus (Deficit)
Existing Indoor Need	270		800	gal/day/conn	150		
*Existing Outdoor Need		14	3.96	gal/min/irrigated acre	53		
Existing Total WR Need					203	1,697	1,494
Projected Indoor Need	346		800	gal/day/conn	192		
*Projected Outdoor Need		17	3.96	gal/min/irrigated acre	69		
Projected Total WR Need					261	1,697	1,436

Water Rights: Volume Requirements

Water Right	Number of Connections	Acres Irrigated	DDW Factor	Unit	Total Need (AF)	Existing Capacity	Surplus (Deficit)
Existing Indoor Need	270		146,000	gal/year/connection	121		
*Existing Outdoor Need		14	1.87	ac-ft/irrigated acre	25		
Existing Total WR Need					146	2,736	2,590
Projected Indoor Need	346		146,000	gal/year/connection	155		
*Projected Outdoor Need		17	1.87	ac-ft/irrigated acre	32		
Projected Total WR Need					187	2,736	2,549

*Outdoor acres represents the amount of land that is irrigated using culinary water. (10% of ½ acre per user)

4.3 Water Source Capacity

Water source capacity is described by the wet water that is capable of being produced by a spring, well, or treatment plant. It is calculated that the existing source requirement for Newton is 685 gpm. The projected source requirement in 2040 is 261 gpm (see table below). These numbers are based on the Utah Administrative Code: R309-510. Currently the existing capacity for Newton's water source is 200 gpm. Newton has been able to function with little to no major issues as of late primarily due to the secondary irrigation system and careful management of the system. During the winter months there is excess water produced by the springs which is not used, but during the summer months very little is wasted. For the present time, there is enough source capacity for the town to function.

Approximately 90% of the town uses secondary irrigation to take care of almost all outdoor water usage. This reduces the demand on the culinary system greatly. Basically, calculations indicate that Newton is currently maxing out the existing source capacity. By 2040 it is calculated that there will be a water source capacity deficit of 61 gallons per minute. If growth occurs without the expansion or requirement to connect to the secondary irrigation system, the 2040 water source capacity deficit increases to 677 gallons per minute.

In the immediate future, Newton needs to begin looking into increasing their source capacity. It is very important that Newton continue requiring new connections to be connected to the secondary irrigation system. This will delay future supply as much as possible, however, Newton needs to begin planning for the future. The need for additional source will increase as the population increases and in the case of severe drought.

Water Source Requirements

Water Source	Number of Connections	Acres Irrigated	DDW Factor	Unit	Total Need (gpm)	Existing Capacity	Surplus (Deficit)
Existing Indoor Need	270		800	gal/day/conn	150		
Existing Outdoor Need		14	3.96	gpm/irr-acre	53		
Existing Total WS Need					203	200	-3
Projected Indoor Need	346		800	gal/day/conn	192		
Projected Outdoor Need		17	3.96	gpm/irr-acre	69		
Projected Total WS Need					261	200	-61

4.4 Storage Capacity

As mentioned in Section 3.0, Newton Town has 500,000 gallons of storage. The existing storage requirement for Newton Town is 326,000 gallons, including indoor, 10% of the users outdoor and fire protection storage requirements. This indicates that there is a 174,000 gallon surplus. It is projected that in 2040 the required storage will be 367,000 gallons of storage. This equates to a future surplus of 133,000 gallons of storage. For comparisons purposes, if there isn't a secondary irrigation system then Newton would need to add an additional 172,000 gallons now and the 2040 year project would require an additional 311,000 gallons of storage. It is extremely important that the secondary system be expanded with growth.

Water Storage Requirements

Water Storage	Number of Connections	Acres Irrigated	DDW Factor	Unit	Total Need (gal)	Existing Capacity	Surplus (Deficit)
Existing Indoor Need	270		400	gal/conn	108,000		
Existing Outdoor Need		13.5	2,848	gal/irr-acre	38,448		
Fire Protection			1,500	gpm/120min	180,000		
Existing Total Storage Need					326,448	500,000	173,552
Projected Indoor Need	346		400	gal/conn	138,400		
Projected Outdoor Need		17	2,848	gal/irr-acre	49,270		
Fire Protection			1,500	gpm/120min	180,000		
Projected Total Storage Need					367,670	500,000	132,330

4.5 Distribution System

Newton's current distribution system is able to service a fire flow of 1500 gpm throughout the majority of the system. There are a few locations near the fringes of the community where the complete fire flow cannot be reached. The system is able to provide water during peak demand periods. Since no deficiencies in the distribution system concerning peak demand periods were found and the majority of the community is capable of the fire flow, immediate upgrades to the system are not required. But as the community grows, upgrades to expand the distribution system to provide the necessary fire flow to all areas may be needed.

4.6 Treatment

All culinary water entering the distribution system is currently chlorinated. The water from the springs is chlorinated prior to entering the tanks. The existing chlorination facilities are adequate and well maintained. Since the existing chlorination equipment is in good condition, no changes are planned at this time.

5.0 SYSTEM PROBLEMS

Some components of the Newton culinary water system should be improved to meet current and future needs. The following table outlines improvements that are planned or recommended for the system. An option that may help offset a portion of the source capacity deficiencies could be to increase the storage capacity. This would allow additional spring water to be stored during non-peak times during the day and then be available to meet peak flows.

**Table 5-1
Recommended Culinary Water System Improvements**

Analysis Description	Recommended Upgrade
Maintain Existing Sources	Big Birch Spring Redevelopment Project (Under Way)
Increase Source Capacity	Drill new wells or develop additional springs
Tank Capacity	Increase Tank Capacity

6.0 CONSERVATION ISSUES

Newton Town is located in northern Utah, which is the second driest (only 13 inches of annual precipitation on average) state in the country. That being said, Utah also uses the second greatest amount of water per capita (185 gpcd) in the country. For these reasons Newton Town has a responsibility to help citizens use water sensibly. Some of the common problems concerning water conservation throughout the State of Utah are:

- The general public lacks information and understanding of landscaping water requirements, efficient water use habits, and practices. Very few water users know how much water is required to maintain healthy landscaped areas and how to consistently use water efficiently outdoors. Most water use practices, whether for indoor use or irrigation are based on convenience rather than plant needs and water supply considerations.
- Although water pricing and billing systems are generally adequate to cover costs associated with the enterprise account, they typically have minimal incentives for residents and businesses to use water more efficiently.
- Efficiency of water use practices on town-owned property can be improved.

7.0 CONSERVATION GOALS

Newton Town's conservation plan consists of two main parts. The first is the protection of all current and future water sources and easements. This is taken care of through the monitoring of building permits and water studies. The second point of the conservation goal is to continue requiring that future connections connect to the secondary irrigation system. By using secondary water instead of culinary water for irrigational purposes, total culinary water consumption per ERC is reduced by 481 gpm (70.3% reduction). This will preserve the culinary system. It is estimated that 90% of residential homes are currently linked into the secondary water system. Newton Town's goal is to have 100% of all future development to be connected to the secondary irrigation.

Currently Newton Town does have ordinances in place dealing with water conservation. As previously stated, all new residential developments are required to connect into the secondary system for all irrigation purposes as previously stated. This has been working effectively in minimizing the demand on the culinary water system. There are ordinances in place that restrict irrigating between the hours of 10 am and 6 pm with a penalty in place for those that ignore the restriction. In addition, it is unlawful to excessively irrigate, also enforced by penalty. Wasting water or being careless with water usage is also unlawful.

Newton Town has recently implemented the tiered water pricing structure as a conservation measure. This water pricing structure will be discussed later on in this report. Meters are read once every two months and residents are billed according to their usage and the water pricing structure. All water usage data is recorded and thus we are able to look back and evaluate the effectiveness of this measure. Due to the fact that this program has been recently placed, it is yet to be determined its effectiveness in encouraging water conservation. Although there is supporting evidence from surrounding cities that have implemented a similar measure that this will be effective. If it proves to be ineffective, then a steeper pricing structure may be warranted.

Newton Town does have a basic water conservation education program. Twice a year, generally in April and July, a post in the town newsletter is dedicated to a topic of water conservation. These newsletters are sent to each resident's home. In addition, notices are posted in public spaces concerning water conservation. If these programs are helping, it has not been determined as of yet. A future survey could be administered to help in establishing their effectiveness.

8.0 CONSERVATION SOLUTIONS

In general, it seems that it is more difficult to encourage or force conservation measures in smaller cities. This may be due to the fact that lot sizes are generally larger than in metropolitan areas, and the desire to have a nice yard results in greater irrigation pressure. There are probably other reasons as well, but lot sizes in Newton average nearly 5/8 acre. The problems faced by Newton Town are common among many cities in Utah. This plan discusses solutions that Newton Town has already implemented and solutions that are currently being investigated to solve these problems. These measures, or combinations of them, may help Newton Town attain its water conservation goals as outlined above.

8.1 Public Education

Future water supply problems, associated with the issues mentioned above, may be avoided by further educating the public on steps that can be taken to conserve water.

Newton Town already has in place a public education program designed to promote water conservation. This program includes placing posts dealing with water conservation

in the newsletter which is sent to individual homes. These posts are generally in the months of April and July. Currently it is being discussed to also send out posts in the October newsletter, but no decision has been made at this point. During the summer months' notices are posted in public spaces promoting water conservation.

Sending flyers with their annual consumer confidence reports (required by the Division of Drinking Water) could be an avenue of further education. It is also recommended that they should then try to build on the program to reach out to future users (children). This could include elementary and middle school presentations on water conservation given by state or local water officials. Some examples of additional educational water conservation tips are:

- Water landscape only as much as required by the type of landscape, and the specific weather patterns of the Newton area.
- Do not water on hot, sunny, and/or windy days. This could actually end up doing more harm than good to landscape, as well as wasting over 25% of the water.
- A single lawn sprinkler spraying five gallons of water per minute uses 50% more water in just one hour than the combination of 10 toilet flushes, two five-minute showers, two dishwasher loads, and one full load of laundry.
- Sweep sidewalks and driveways instead of using a hose to clean them off.
- Wash cars from a bucket of soapy (biodegradable) water and rinse while parked on or near grass or landscape so that all the water running off goes to beneficial use instead of running to waste.
- Check for and repair leaks in all pipes, hoses, faucets, couplings, valves, etc. Verify there are no leaks by turning everything off and checking the water meter to see if it is still running. Some underground leaks may not be visible due to draining off into storm drains, ditches, or traveling outside property boundaries.
- Use mulch around trees and shrubs, as well as in gardens to retain as much moisture as possible. Areas with drip systems will use much less water, particularly during hot, dry and windy conditions.
- Keep lawns well-trimmed and all other landscaped areas free of weeds to reduce overall yard water needs.

As of now, Newton Town does not have the population to warrant the implementing the school based educational options. As the town grows the feasibility of this option increases. An example of a potential flyer that could be sent to customers for outdoor watering conservation is included in Appendix A. Additional material for this program can be found at the website <http://www.conservewater.utah.gov/tips.html> or by contacting the Utah State Division of Water Resources.

8.2 Water Use Regulation

Some water conservation measures, of a more regulatory nature, that may be used to alleviate the problems identified above are mentioned below.

- Encourage users not to water lawns from 10 a.m. to 6 p.m. (already in place).

- Eliminate watering on town property from 10 a.m. to 6 p.m. (already in place).
- Eliminate watering of town property in cases of severe shortages.
- Educate the public on the water supply situation.
- Instigate voluntary public conservation measures.
- Instigate mandatory public conservation measures.
- Enforce outside watering restrictions, watering times and quantities (already in place).
- Instigate rate structures that increase fees for overage.
- Instigate emergency conservation measures.
- Strictly enforce all conservation policies with significant fines for non-compliance (already in place).
- Physically restrict water supplies to (in order of priority)
 - All outside irrigation systems on culinary system.
 - Park properties and other non-essential support facilities.
 - Commercial businesses, restricting the least impacted and largest users first.
 - Residential areas
 - Any other “non-life support” areas, insuring water supplies to hospitals, hospices, all other health care facilities, and controlled designated area water facilities.

8.3 Water Pricing Structure

A popular and practical solution to conservation issues involves implementation of a well thought out water pricing program. Newton Town’s current base rate and overage rates are as follows:

Resident Rates	
Base up to 20,000 gallons	\$21.50 per Month
Over 20,000 gallons	\$0.50 per 1000 gallons
County Rates	
Base up to 20,000 gallons	\$43.00 per Month
Over 20,000 gallons	\$1.00 per 1000 gallons

This rate will remain in effect; the community currently does not have any debt. It is recommended that the water users periodically increase rate to at least cover inflation.

As source capacity is an issue currently, additional changes to the rate structure are recommended. Altering the rate structure would help achieve further reductions in usage and help to conserve current source capacity for a growing population.

8.4 Water System Operations

Newton Town has recently started to read each meter every other month and bill the consumer accordingly. This practice will be the main conservation program Newton has implemented. This is starting to make residents more familiar with their water usage. It is assisting residents in conserving water:

- help each user understand their usage
- help the water system better understand usage patterns
- help the water system establish future rate structures
- help determine when in the future tighter restrictions need to be established
- help the water system determine repair needs to correct distribution system leak problems

Newton is a typical small Town in Northern Utah where the City staff consists of the clerk and water operator. Most other positions in the City are voluntary positions. There is not a Water Conservation Coordinator on City staff. Other than meter reading more regularly there are no conservation measures that Newton has implemented. It has only been a few years since Newton has been reading meters regularly. The current meter replacement schedule is on a case by case basis. Once a meter is reported to be damaged, broken, or ceases to meter correctly it is replaced immediately. Old meters are targeted for replacement, but due to a lack of records, it is difficult for old meters to be routinely replaced. As the town grows, a more regimented schedule will be established. It is also difficult to know the impact of this program at this time.

9.0 IMPLEMENTATION OF WATER CONSERVATION PLAN

It is recommended that Newton should continue to read meters regularly, bill users based on a usage, and continue to educate the users on water conservation needs. Rates may need to be adjusted to meet conservation goals.

10.0 PERIODIC EVALUATION

This Water Management and Conservation Plan should be updated periodically by Newton Town in order to reflect new data and trends as well as gauge performance and progress. This will ensure efficiency and timeliness of the plan. This plan may be updated and revised as needed to meet changing conditions and needs.

Appendix A:

Example of Flier to be Distributed to Water Users

Taken from the Division of Water Resources Conservation Program
<http://www.conservewater.utah.gov/materials.html>

General Water Information

Outdoor Watering

The DWR has focused water conservation efforts primarily on residential water use with an emphasis on outdoor landscapes because this category has the greatest potential for water conservation. With 64% of the residential water being used outdoors, Utahns can conserve millions of gallons water annually if they water more efficiently. One of these ways is to use a smart controller that allows homeowners a more efficient way to water using only what the plants actually need.

Residential (165 gpcd)

Category	Percentage
Indoor (60 gpcd)	36%
Outdoor (105 gpcd)	64%

Based on 2010 per capita data

Check the Lawn Watering Guide

The DWR already provides a statewide network of weather stations for Utahns to use. The weather stations track ET and tell Utahns in a given region how many times they should water during the week. If you don't yet have a smart controller installed, visit the Lawn Watering Guide online at www.conservewater.utah.gov to see how many times you should water each week.

General Lawn Watering Tips:

- Stop thinking of "watering your lawn" and start thinking of "refilling the soil moisture reservoir" under your lawn.
- Remember, water less often, but water more deeply! This will provide healthy roots and save water.
- Water in cycles so water will have time to penetrate the soil and reach the root zone.
- Make sure your sprinklers are only watering landscaped areas, not sidewalks, driveways, porches or streets.
- Make sure you apply the right amount of water each time you water, then check the weekly lawn watering guide online at www.conservewater.utah.gov to find out how many times to water each week.

Utah Division of Water Resources
 Mission: To Plan, Develop, Conserve and Protect Utah's Water Resources






Save Water Automatically!

Install a Smart Controller on Your Sprinkler System



SLOW THE FLOW
SAVE WATER

www.slowtheflow.org
www.conservewater.utah.gov

How Does a Smart Controller Work?

Smart Controllers Water to Evapotranspiration (ET)

ET is defined as the amount of water a plant and its environment loses from evaporation and transpiration. Simply put, transpiration is water the plant uses to grow and survive, and evaporation is water lost from the surrounding soil. The factors that affect ET, are temperature, wind, precipitation, humidity and solar radiation. ET is usually expressed in inches of water over a certain time period, commonly, a day, week, month or year. The Division of Water Resources' (DWR) main emphasis in water conservation education is for residents to water to the ET requirements of their landscapes as efficiently as possible. Smart controllers can assist residents in accomplishing this. Smart controllers can reduce outdoor water consumption by an average of 15% to 30%!



Smart Controllers Automatically Adjust Sprinkler Schedule

Once a smart controller is properly installed, the controller will automatically regulate your sprinkler system. This means that you will no longer have to adjust your sprinkler times and duration for seasonal changes and will still have a healthy beautiful lawn! Watering plants with the correct amount of water that is required by the plant, is the healthiest way to grow plants.

Smart Controllers Use Weather Stations or Soil Moisture Sensors

Some smart controllers use weather data and local sensors to manage the property's sprinklers. These types of controllers receive data from either sensors and/or weather stations and then turn the sprinklers on or off based on these weather conditions. These controllers can also turn the sprinklers off in the event of rain, high winds or low temperatures.

Other smart controllers use soil moisture probes that measure how much water is in the soil. As you water your landscape, imagine that there is a reservoir of water under the ground and you are filling it up. The soil moisture probe will measure how full that reservoir is. Once the reservoir level drops below a certain level the probe will turn the sprinklers on and re-fill the soil storage reservoir. These types of smart controllers can also turn off sprinklers during rain events.



Smart Controllers Help Save and Maintain Healthy Landscapes

Plants only require a certain amount of water to maintain health. Too much water, can actually damage your grass. Overwatering promotes fungal growth and insect activity. A smart controller can eliminate over watering.

Smart Controllers Cost

Smart controllers can cost anywhere from \$100 to several thousand dollars, seeming to be an expensive investment. However, when you consider what you are saving in both monthly water charges and water a smart controller can have a fairly fast payback time frame.

Companies that Make Smart Controllers

- Acclima
- Accurate Weather Set
- Accuwater
- Alestronics
- Aqua Conserve
- Baseline
- Calsense
- Dynamax
- ET Water Systems
- Hunter
- Hydromat-Weather Trak
- HydroEarth
- Irrisoft-Weather Reach
- Irritrol
- Irrumeter
- Rain Bird
- Rain Master Irrigation System
- Signature Controls
- Toro
- WCS
- Hydrosaver
- Water 2 Save
- Weather Set
- Weathermatic

DWR does not endorse any product

Remember if we each save a little we'll all save a lot!

See www.slowtheflow.org for more water wise landscaping tips.

Appendix D

Opinion of Engineering Costs

ACCOUNTING BREAKDOWN STRUCTURE						Project No.:	SCOTT ARCHIBALD	
PROJECT NAME						Project Engineer:	STEVEN WOOD	
CLIENT NAME						Completion Date:		
Sunrise Engineering Inc.						Contract Amount:	\$6,600	
						Fee Schedule:	Base 01-2020	
Hide Non-used Rows		Hide Non-used Columns		Unhide All Row		Unhide All Columns		
TASK #						8		
PHASE						003		
TASK						0001		
TASK DESCRIPTION						PROJECT MANAGEMENT		
EMPLOYEE	CLASS	DESCRIPTION	RATE / MARKUP	BUDGET →		HOURS PER CLASS	COST PER CLASS	
Scott Archibald	105	Engineer V	\$185.00	Hours	12	12	\$2,196	
Seven Wood	102	Engineer Intern (E.L.T.) II	\$108.00	Hours	40	40	\$4,320	
REIMBURSABLES		Mileage	\$0.61	Miles				
		Field Vehicle (on site)	\$57.00	Days				
		Per Diem Meals	\$60.00	Days				
		Traveler Nuclear Density Gauge	\$40.00	Days				
		High Density Scanner	\$150.00	Hours				
		Material Testing Lab Work	15%	Cost				
		Outside Consultants, Aerial Photography, etc.	15%	With Markup				
		Loading	10%	Cost				
		Other Expenses Incurred	0%	With Markup				
				Cost				
SUBCONSULTANTS		PORESIGHT SURVEYING	15%	With Markup				
		BIG HORN ARCHEOLOGY	15%	Cost				
			With Markup					
TOTAL				NET LABOR HOURS	52			
				NET LABOR COSTS	\$6,516			ACCURACY CHECK
				NET REIMBURSABLE COSTS				OKAY
				SUBCONSULTANT COSTS				\$6,516
				TOTAL COSTS	\$6,516			\$6,516
				ROUNDED / CONTRACT AMOUNTS	\$6,600			\$6,600



SUNRISE ENGINEERING
FEE SCHEDULE
EXHIBIT A

Work Code	Work Classification	Hourly Rate	Work Code	Work Classification	Hourly Rate
101	Engineer Intern (E.I.T.) I	\$99	451	Training Specialist I	\$130
102	Engineer Intern (E.I.T.) II	\$108	456	Training Manager	\$156
103	Engineer III	\$139	460	Training Director	\$180
104	Engineer IV	\$162	500	Funding Specialist	\$129
105	Engineer V	\$183	510	Plan Reviewer	\$115
110	Principal Engineer	\$199	511	Building Inspector I	\$68
121	Electrical Engineer Intern (E.I.T.) I	\$114	512	Building Inspector II	\$91
122	Electrical Engineer Intern (E.I.T.) II	\$128	513	Building Inspector III	\$113
123	Electrical Engineer III	\$145	525	Building Official	\$132
124	Electrical Engineer IV	\$167	601	GIS Tech	\$71
125	Electrical Engineer V	\$190	602	GIS Tech II	\$82
126	Principal Electrical Engineer	\$206	611	GIS Specialist I	\$103
301	Engineering Tech I	\$79	613	GIS Analyst	\$118
302	Engineering Tech II	\$95	614	GIS Programmer	\$103
303	Engineering Tech III	\$109	615	GIS Team Leader	\$134
304	Engineering Tech IV	\$135	624	GIS Mapping Technician	\$54.50
311	Electrical Tech I	\$88	625	GIS Mapping Supervisor	\$97.25
312	Electrical Tech II	\$100	51	Administrative I	\$45
313	Electrical Tech III	\$118	52	Administrative II	\$59
314	Electrical Tech IV	\$130	53	Administrative III	\$74
315	Electrical Tech V	\$143	96	Public Information Manager	\$115
351	Construction Observer I	\$67	705	Planner V	\$140
352	Construction Observer II	\$83	712	Project Manager II	\$173
353	Construction Observer III	\$99	723	Water Rights Specialist III	\$129
354	Construction Observer IV	\$113	921	Survey Tech	\$80
401	CAD Drafter I	\$69	930	Survey CAD Tech	\$115
402	CAD Drafter II	\$79	935	One Man Survey Crew	\$150
403	CAD Drafter/Designer III	\$99	940	Survey Manager	\$160
404	CAD Drafter/Designer IV	\$110	945	Registered Surveyor	\$170
			950	Principal Surveyor	\$185

REIMBURSABLE EXPENSE SCHEDULE

Expense	Rate	Mark-Up
Mileage	\$0.59 per mile	N/A
Field Vehicle (on site)	\$50 per day	N/A
Per Diem Meals	\$57 per day	N/A
Troxler Nuclear Density Gauge	\$40 per day	N/A
High Density Scanner	\$150 per hour	N/A
Material Testing Lab Work	Actual Cost	15%
Outside Consultants, Aerial Photography, etc.	Actual Cost	15%
Lodging	Actual Cost	10%
Other Expenses incurred	Actual Cost	10%

Fees automatically change after the beginning of the year and are subject to change on other occasions.

Base 01-2020



Newton Water Meter and SCADA Upgrade- March 2020

Appendix E

Opinion of Construction Costs

Newton Town Corporation

Newton Water Meter and SCADA Upgrade

Opinion of Probable Construction Costs

ITEM NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	Mobilization (5%)	1	L.S.	\$7,900	\$7,900
2	5/8" x 3/4" Neptune T-10 Meters R900i w/Radio	200	EA	\$263	\$52,600
3	R900i Register w/ 6' Antenna Only	80	EA	\$218	\$17,500
4	1" T-10 Neptune Meter	3	EA	\$384	\$1,200
5	2" Mach-10 Neptune Meter	3	EA	\$852	\$2,600
6	Neptune Software & Hosting Fees	1	L.S.	\$4,000	\$4,000
7	Reading Equipment	1	L.S.	\$7,000	\$7,000
8	Meter Lid Modification	286	EA	\$10	\$2,900
9	Full Meter Installation w/ New Setter	100	EA	\$500	\$50,000
10	Meter Swap Installation	186	EA	\$50	\$9,300
11	New 8" Master Mag Meter	1	L.S.	\$4,500	\$4,500
12	Concrete Manhole for Master Meter	1	L.S.	\$1,500	\$1,500
13	Installation of Master Meter	1	L.S.	\$4,000	\$4,000
14	Contingency 5%	1	L.S.	\$8,000	\$8,000
Construction Subtotal					\$ 173,000

Budget Narrative

The above cost estimate is based on unit prices. The unit prices were taken from actual construction bids tabulations from multiple projects of similar nature and/or type of work located in Cache County, Utah. Additional research was performed to aid in the developing of this cost estimate (such as contacting suppliers, etc.) Relative projects include the following:

Weston City Water Improvement Project 2017

Laketown Water Improvement Project 2018

And additional miscellaneous piping projects throughout Cache County

Item 1 - Mobilization is based on 5% of the construction costs.

Item 2 – Price provided by supplier – see attached quote from MeterWorks

Item 3 – Price provided by supplier – see attached quote from MeterWorks



SUNRISE
ENGINEERING

Newton Water Meter and SCADA Upgrade- March 2020

Item 4 – Price provided by supplier – see attached quote from MeterWorks

Item 5 – Price provided by supplier – see attached quote from MeterWorks

Item 6 – Price provided by supplier – see attached quote from MeterWorks

Item 7 – Price provided by supplier – see attached quote from MeterWorks

Item 8 – Price provided by supplier during conversations upon delivery of quote from MeterWorks

Item 9 – Price provided by local contractor and verified against recent projects

Item 10 – Price provided by local contractor and verified against recent projects

Item 11 – Price provided by supplier – see attached quote from McCrometer

Item 12 – Price was based on labor estimates from suppliers along with Sunrise’s professional experience and judgement.

Item 13 – Price was based on labor estimates from contractors along with Sunrise’s professional experience and judgement.

Item 14 – Construction Contingency was based on 15% of the construction materials. This 15% has been based on research and Sunrise’s professional experience and judgement.



NEPTUNE

TECHNOLOGY GROUP

1600 Alabama Highway 229
Tallahassee, AL 36078
www.neptunetg.com

No. of Pages: 1

Date: 02/27/20

Prices Valid Until: _____

Quote Provided By: **METERWORKS**

PRICE QUOTATION

Customer

Company: Newton
Address: _____
Attn: Jed Woodward / Scott Archibald
Phone: _____
Email: _____

Project

Job/City: Newton
Bid Number: N/A
Bid Date: N/A

Quantity	Product Description	Unit Price	Total
Neptune T-10 Meters R900i w/ built in radio			
200	5/8" x 3/4" T-10 Neptune Meter w/ R900i Pit Register w/ 6' Antenna	\$ 262.60	\$ 52,520.00
80	R900i Register w/ 6' Antenna Only for existing Neptune meters	\$ 218.40	\$ 17,472.00
3	1" T-10 Neptune Meter w/ R900i Pit Register w/ 6' Antenna	\$ 383.50	\$ 1,150.50
3	2" Mach-10 Neptune Meter w/ R900i Pit Register w/ 6' Antenna	\$ 851.50	\$ 2,554.50
Software & Hosting Fees (New Neptune 360)			
1	Neptune 360 Software <u>Annual</u> fee includes Software and Hosting	\$ 2,500.00	\$ 2,500.00
1	One Time Set Up Fee	\$ 1,500.00	\$ 1,500.00
1	Training on Software	No Charge	
1	Mapping <u>Annual</u> fee - Includes GeoCoding addresses and ESRI Maps First year of mapping is at no charge	\$ 500.00	
Service, Maintenance, Program Fees			
1	There are no other fees. MeterWorks will service, retrain, trouble shoot, send in any warranty items, and work with Caselle, all at no cost.	No Charge	
Reading Equipment			
1	Neptune MRX Laptop Reader includes Tablet & mapping	\$ 5,000.00	\$ 5,000.00
1	Neptune Belt Clip Transceiver w/ Tablet & NGO App(For Trouble Shooting) (Tablet can be either Samsung or Apple)	\$ 2,000.00	\$ 2,000.00
TOTAL			\$ 84,697.00

Notes

This is a complete meter reading system. The only thing you need is a transfer file from Caselle. This would be needed for any system you choose. We will help you set it up. Let me know if you have any questions. Thanks.

FOB Newton

TERMS NET 30

DELIVERY Meters 2-3 Weeks, Reading equipment 3-4 weeks

METERWORKS

Name Ken Sheffield
Title Sales Representative
Address 1199 West 850 North
Centerville, UT 84014
Phone (801) 309-6612
Email ken.sheffield@meterworks.net

WE APPRECIATE THE OPPORTUNITY
TO PROVIDE PRICING ON THE
PRODUCTS LISTED AND LOOK
FORWARD TO SERVING YOU



Model UM06 Ultra Mag Flow Meter

UM06-XX 150 PSI Service Pressure

AWWA Class D Flat Face Flanges
 (XX = Meter Size) Example: 4" = UM06-04



Standard Configuration:

- Remote Mount AC or DC Converter
- Stainless Steel Tube
- 316 Stainless Steel Electrodes
- Two Grounding Rings [note 1]
- Steel AWWA Class D Flat Faced Flanges
- NSF Approved Fusion Bonded Ultra Liner
- 2-Year Warranty
- 25 Feet of Submersible Cable With Each Remote Mount Unit Standard (Optional Configuration: Meter Mount or Panel Mount (non-CSA) Signal Converter at no additional charge)

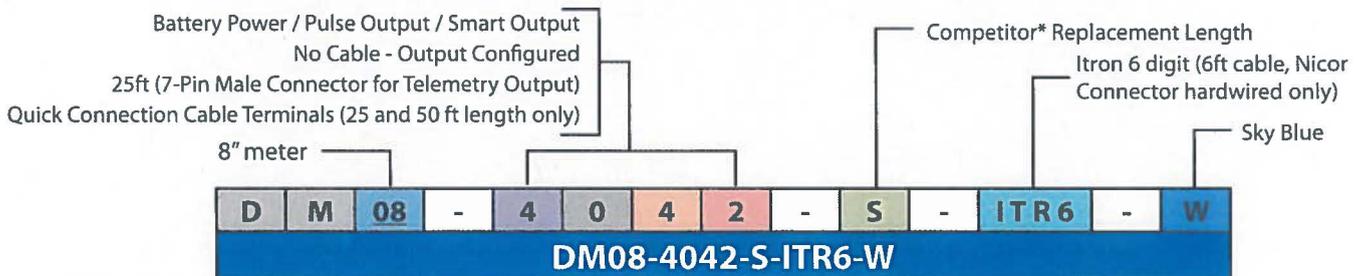
	List Price \$ US	Shipping Weight (Crated Lbs.)	Standard Program		Standard length (AWWA Class D Flanges)	Optional Configurations (List Prices in \$ US)				
			20mA = GPM	Totalizer Units		Special Laying Length [note 2]	Base Fee for Special Length	Per Inch Adder	ANSI 150 PSI Flanges [note 3]	Additional SS Grounding Ring Kit, Part # 3-2781-XX-K [note 1]	3 Year Add'l Warranty (5 Years Total) [note 4]
2"	\$3,010	88	160	Gal X 1	11.0"	\$64	\$5	\$166	\$56	\$357
3"	\$3,034	106	350	Gal X 1	13.4"	\$64	\$5	\$179	\$64	\$357
4"	\$3,093	83	1,000	KGAL	13.4"	\$64	\$5	\$179	\$67	\$357
6"	\$3,331	98	2,000	KGAL	14.6"	\$64	\$9	\$209	\$154	\$357
8"	\$3,985	118	3,500	KGAL	16.1"	\$104	\$9	\$274	\$160	\$595
10"	\$4,604	168	5,500	KGAL	18.5"	\$104	\$11	\$405	\$241	\$595
12"	\$4,920	210	6,500	KGAL	19.7"	\$104	\$11	\$416	\$252	\$595
14"	\$6,067	380	8,000	KGAL	21.7"	\$104	\$14	\$494	\$451	\$713
16"	\$6,306	448	9,000	KGAL	23.6"	\$104	\$28	\$547	\$524	\$713
18"	\$7,436	469	10,000	KGAL	23.6"	\$104	\$34	\$595	\$572	\$713
20"	\$7,674	588	12,000	KGAL	25.6"	\$104	\$48	\$833	\$607	\$713
24"	\$9,637	763	15,000	KGAL	30.7"	\$270	\$54	\$865	\$880	\$952
30"	\$14,872	1,330	20,000	KGAL	35.8"	\$270	\$56	\$1,190	\$998	\$952
36"	\$19,631	1,450	25,000	KGAL	46.1"	\$270	\$64	\$1,731	\$1,013	\$952
42"	\$26,770	Consult Factory			48.05"	\$368	\$74	\$2,380	\$1,071	\$1,320
48"	\$28,933	Consult Factory			50.0"	\$368	\$83	\$2,974	\$1,456	\$1,320

- 1 Fluid must be grounded to the flow meter/sensor. **Two stainless steel grounding rings are included with the flow meter.** See prices above for additional grounding ring kit. This kit will include two stainless steel grounding rings and grounding wire assembly. When ordering additional grounding rings, please specify meter size. (2-inch...48-inch).
- 2 Please use the price adder list to calculate the extra laying length. Start with "Base Fee" and add the cost per inch price. Note that all prices are list, subject to your standard Ultra Mag discount.
- 3 Laying lengths for meters with ANSI Class 150 Flanges are equal to UM08 laying lengths. ISO Standard lay lengths available at no additional charge.
- 4 Extended warranty P/N: 2"-6" = 5G-03-UM; 8"-12" = 5G-08-UM; 14"-20"=5G-14-UM; 24"-36"= 5G-24-UM; 42"-48"= 5G-42-UM.



Dura Mag Price List

D	M	XX	-	-	-	-	-	-	-	Price
METER SIZE										
	4" Meter	04								\$ 1,696
	6" Meter	06								\$ 1,790
	8" Meter	08								\$ 1,978
	10" Meter	10								\$ 2,452
	12" Meter	12								\$ 2,944
POWER & OUTPUT OPTIONS										
	Battery Power / No Outputs (Default)	-								\$ 0
	Battery Power / Pulse Output	1	0	.	.					\$ 0
	DC Power (10-32v) / 4-20mA Output	2	.	0	.					\$ 0
	DC Power (10-32v) / 4-20mA Output / Pulse Output	3	.	.	.					\$ 0
	Battery Power / Smart Output Only	-								\$ 0
	Battery Power / Pulse Output / Smart Output	4	0	.	.					\$ 0
	DC Power (10-32V)	5	.	0	0					\$ 0
POWER CABLE LENGTH OPTIONS										
	No Cable - Output Configured	0								\$ 0
	6ft (Open Leads - Hardwired only) [Default]	1								\$ 25
	25ft (Open Leads)	2								\$ 45
	50ft (Open Leads)	3								\$ 90
PULSE CABLE LENGTH OPTIONS										
	No Cable - Output Configured	0								\$ 0
	6ft (Open Leads - Hardwired only) [Default]	1								\$ 30
	25ft (Open Leads)	2								\$ 50
	50ft (Open Leads)	3								\$ 100
	25ft (7-Pin Male Connector for Telemetry Output)	4								\$ 120
	50ft (7-Pin Male Connector for Telemetry Output)	5								\$ 190
CABLE TERMINAL OPTIONS										
	Open Leads (Hardwired)	1								\$ 0
	Quick Connection Cable Terminals (25 and 50 feet only)	2								\$ 150
MCCROMETER COMPETITOR* REPLACEMENT LENGTH OPTION										
	McCrometer Dura Mag Length (Standard)	-								\$ 0
	Competitor* Replacement Length	S								\$ 0
SMART OUTPUT OPTIONS										
	Sensus Protocol (6ft cable, Nicor Connector hardwired only)	SEN								\$ 300
	Itron 6 digit Protocol (6ft cable, Nicor Connector hardwired only)	ITR6								\$ 300
	Itron 9 digit Protocol (6ft cable, Nicor Connector hardwired only)	ITR9								\$ 300
COLOR OPTIONS										
	McCrometer Green									\$ 0
	Sky Blue	W								\$ 120
	Dark Blue	DB								\$ 120
	Lavender	LV								\$ 120
DATA LOGGER Standard Feature										
Internal Data Logger (Default frequency every 12 hours)										



* Seametrics Electromagnetic Meters (Ag3000/Ag3000P or iMag4700 series); Seametrics® is a registered trademark of their respective owners. Sparling Instruments (BlueWater Flowmeter FM676); Sparling® is a registered trademark of their respective owners.



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PRICING EFFECTIVE: 7-27-18
 Lit. 30122-60 Rev. 1.5 / 20 MAR 2019

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Appendix F

Opinion of Environmental Costs



SUNRISE
ENGINEERING

Newton Water Meter and SCADA Upgrade- March 2020

Newton Town, Utah

Newton Water Meter and SCADA Upgrade

Opinion of Probable Environmental Costs

ITEM NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
Archeologist Investigation					
1	Archeology File Search	12	Hrs	\$ 100.00	\$ 1,200.00
2	Reporting and Deliverables	20	Hrs	\$ 100.00	\$ 2,000.00
Archeologist Subtotal					\$ 3,200.00
Additional Required Items					
3	BOR Environmental Fees	1	LS	\$ 7,000.00	\$ 7,000.00
4	SHPO - Utah State History File Search	1	LS	\$ 200.00	\$ 200.00
5	Project Manager Coordination and Reporting	1	LS	\$ 3,000.00	\$ 3,000.00
Additional Required Items Subtotal					\$ 10,200.00
Total					\$ 13,400

Budget Narrative

The above cost estimate is based Sunrise's professional experience and judgement. Additionally, it is based on recent projects that environmental reviews and approvals have been required. These projects include:

- Newton Lateral Piping Project (with BOR)
- Hansen and Ezola Laterals Piping Project (with BOR)
- Newton Dam – Pipeline through the Dam (with BOR)
- Weston, Idaho Capital Facility Water Master Plan
 - Tank Construction
 - Well Construction
 - Transmission Line Construction
- Laketown, Utah Capital Facility Water Master Plan
 - Tank Construction
 - Transmission Line Construction

The local Reclamation Office was also contacted during the preparation of this application. Their estimates are as follows:



Steven D. Wood

From: Baxter, Jared J <jbaxter@usbr.gov>
Sent: Thursday, February 27, 2020 10:31 AM
To: Steven D. Wood
Subject: RE: Request for BOR Input Concerning Environmental Requirements and Costs for the Newton Town Water Meter and SCADA Upgrade

Steven,

Thank you for the email. First, note that my reply does not commit Reclamation to awarding your project a WaterSMART grant, nor does it commit Reclamation to a certain level of NEPA documentation or funding required to provide an environmental review of your project.

Based on the information provided, I agree that a categorical exclusion would be appropriate and that approximately \$7,000 for Reclamation's environmental review would be adequate.

Thanks,
Jared

Jared Baxter
NEPA Specialist
Bureau of Reclamation
Provo Area Office
o: 801-379-1081
c: 385-225-7700

From: Steven D. Wood <sdwood@sunrise-eng.com>
Sent: Wednesday, February 26, 2020 3:24 PM
To: Baxter, Jared J <jbaxter@usbr.gov>
Subject: [EXTERNAL] Request for BOR Input Concerning Environmental Requirements and Costs for the Newton Town Water Meter and SCADA Upgrade

Afternoon Jared,

Thank you for talking with me the other day concerning Newton Town and their desire to upgrade their meters and SCADA system. To provide a brief summary of our discussion, Newton Town is currently pursuing a WaterSMART Grant with the Bureau of Reclamation for the replacing of their water meters with new meters that are capable of connecting to their SCADA system. Below is a brief project description.

Newton Town: Water Meter and SCADA System Upgrade

Currently Newton Town uses residential meters that have to manually read. This results in the meters going un-read for typically 6 months of the year due to winter conditions. Even during the summer months, it is difficult to monitor over 300 meters by hand with a single part time water operator. Additionally, the existing meters make leak detection near impossible as information is provided on a monthly basis at best. This results in leaks being identified a month or more after the leak starts (if it is not a major leak that has surface evidence). This project would replace meters throughout the Town with meters that are capable of being linked to the Town's SCADA system and their billing software. This will provide real time information to be fed to the water operator for quick leak detection. This will also allow water meters

to be read quickly and monthly to provide residents with proper billings and information on water usage. A KMZ file of Newton Town has been included.

The meters will be replacing old meters along the streets of Newton in areas that have been constantly disturbed since the establishment of Newton Town. As such, it is anticipated that there will be a minimal impact to the environment as a result of this project. It is also anticipated that a categorical exclusion can be filed for this project.

Sunrise has prepared a cost estimate for the environmental portion of the project, it is shown below.

ITEM NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
Archeologist Investigation					
1	Archelogy File Search	12	Hrs	\$ 100.00	\$ 1,200.00
2	Reporting and Deliverables	20	Hrs	\$ 100.00	\$ 2,000.00
Archeologist Subtotal					\$ 3,200.00
Additional Required Items					
3	BOR Environmental Fees	1	LS	\$ 7,000.00	\$ 7,000.00
4	SHPO - Utah State History File Search	1	LS	\$ 200.00	\$ 200.00
5	Project Manager Coordination and Reporting	1	LS	\$ 3,000.00	\$ 3,000.00
Additional Required Items Subtotal					\$ 10,200.00
Total					\$ 13,400

Sunrise would like to request your input on the environmental portion for the Newton Town Water Meter and SCADA Upgrade Project. Thank you for your input and support for this project.

Regards,

Steven D. Wood



STEVEN D WOOD
Assistant Project Manager

sdwood@sunrise-eng.com
26 S. Main Street, Smithfield, Utah 84335
TEL 435.213.4221 CELL 801.573.0769
sunrise-eng.com

Appendix G

Resolution

OFFICIAL RESOLUTION

OF THE

The Town of Newton

Resolution No. 2020 -1

The Mayor of Newton Town is Kevin Rhodes, and he will be the legal authority on the project.

AUTHORIZING THE MAYOR OF NEWTON TOWN TO APPLY FOR A CONTRIBUTION GRANT FROM THE U.S. DEPARTMENT OF THE INTERIOR, BUREAU OF RECLAMATION, FOR THE RENOVATION AND IMPROVEMENT OF PART OF THE NEWTON TOWN'S WATER SYSTEM, SPECIFICALLY THE WATER METERS.

WHEREAS, the Town of Newton, (the "Town") of, Utah deems it necessary to apply to the Department of the Interior, Bureau of Reclamation, for funding through a cost-sharing grant, shall not exceed (\$ 193,000 Total Project, \$ 75,000 Water SMART Grant) for management & construction to re-habilitate and upgrade the Town's residential meters. The Town has reviewed and supports the application submitted.

WHEREAS, The Town intentions are to provide the remaining funding using internal funds that have been saved and set aside for the operation and improvement of the Town's water system.

WHEREAS, the Town will work with Reclamation to meet environmental compliance and established deadlines for the entering into a grant or cooperative agreement.

Date: _____

Kevin Rhodes, Mayor

ATTEST:

Scott Archibald, Project Manager

*Signed Copy was sent to BOR as part of the Final Submission

Appendix H

Proposed Schedule

TOTAL DAYS TO COMPLETION: 617

NEWTON RESIDENTIAL METERING UPGRADE PROJECT : PROJECT SCHEDULE

