WaterSMART

WATER AND ENERGY EFFICIENCY GRANTS FOR FY 2024

NO. R24AS00052
FUNDING GROUP I

WATER EFFICIENCY & CONTROL PROJECT
UINTAH BASIN IRRIGATION COMPANY

DUCHESNE COUNTY, UTAH

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1. TECHNICAL PROPOSAL

1.1. EXECUTIVE SUMMARY

The executive summary should include:

Date: February 22, 2024

Applicant: Uintah Basin Irrigation Company

City, County, State: Myton, Duchesne, Utah

Applicant Category: A

Project Summary:

The UBIC Water Efficiency and Control project, located in Duchesne County, Utah, includes installation of a water regulation structure below an existing overflow structure at the beginning of the North Pipeline branch in the Pleasant Valley Pipeline system. Water is lost operationally and physically when over-deliveries and fluctuations are experienced in the system and the proposed 30-acre foot water regulation structure will provide a storage buffer for providing reliable flow down the existing North Pipeline and increase the ability to operate the upper pipeline with sufficient flow and head to benefit both upstream and downstream agricultural fields without the potential for loosing water. These improvements are estimated to conserve 552 acre-feet of water and increase efficiency from water diverted from the Duchesne River. The Uinta Basin has been in a substantial drought within the past 5 years, with 2020 through 2022 having many months with exceptional drought levels according to the US Drought Monitor. The North Pipeline water regulation structure will mitigate conflict and add drought resiliency for water users by providing up to a full-day of water for average consumption of that portion of the system, which will greatly improve operations of the pipeline. The current system allows excess flows to overflow into a private irrigation pond which then drains into a natural drainage and is lost to water users. This project will capture that loss and provide a dampening effect for both upstream and downstream demands. An additional pond in this area will increase wildlife habitat and wetland area in an otherwise arid region in Duchesne County.

Estimated Completion Date & Length of Time: Approximately 6 months for Final Design/Permitting and 8 months for construction. Start of construction October 1, 2024 or October 31, 2024 (can adjust if necessary). End of construction April 19, *no later than July 2025*

Is this project located on a federal facility?: No, (project is located on private property)

1.2. PROJECT LOCATION

The North Pipeline water regulation structure (Project) lies on the southern-end of the Uintah Basin Irrigation Company system in Pleasant Valley, approximately 6 miles south of the town of Myton in Duchesne County, Utah. The project is located at 40° 6' 44.99"N latitude and 110° 2' 11.94"W longitude. See attached project location map in Appendix C.

1.3. PROJECT DESCRIPTION

The Project consists of a 22-foot tall embankment dam being placed across a wasteway channel to capture spilled water due to fluctuations of deliveries and overflow from an adjacent pond owned by Henderson Ranches, as well as natural drainage water in the small catchment area. The pond will hold approximately 30 acre-feet, which is a full day of water or more for average consumption on that end of the system. The berm will be 15 feet wide on the top and approximately 700 feet in length, with a maximum depth of 20-feet of water, making provisions for a 2-foot safety factor for freeboard. The spillway will be constructed to route any excess water back to the existing drainage and a valve and pipe will be installed for maintenance in draining the pond.

The pond is planned to be placed near the crossing of the North Pipeline in UBIC's system, and an inlet and screen structure will be constructed to allow water to be delivered and pulled from the pond. The current pipeline receives water through a stand pipe within a concrete box, with an overflow. As the flow from the Pleasant Valley canal enters the concrete box, it provides a pressure break from the upper system before entering the North Pipeline. The water level fluctuates within the overflow box and a level sensor has been installed to track the height of the water. If the water goes above elevation 5291, it starts to spill into another pipe to the drainage and Henderson Pond, which will be the spillage that this project will capture directly within a structure owned by UBIC.

Materials needed will primarily be existing material excavated to create the storage capacity of 30-acre feet, with native clays being harvested to build the embankment and nearby rock gathered for spillway and riprap armoring. Approximately 6,800 cubic yards of material is required to build the embankment. The pipe outlet and screen structure, as well as an outflow structure on the pipe coming into the pond will be constructed such that water enters the pond on the upstream end and is drawn from the pond through the screen structure near the deepest part of the pond.

The proposed UBIC North Pipeline Pond project will include the following milestones and activities:

- Topographic survey, geotechnical analysis, preliminary design and hydraulics, and determining existing features and pipeline locations for connection to new pond.
- Environmental surveys, permitting, and coordination with Utah Dam Safety.
- UBIC has memorandums of understanding with landowners willing to donate easement on the land with the proposed pond and appurtenances, with the intent for a recorded easement once design and footprint of pond is finalized.
- Final design, reviews with funding agency, UBIC Board, and Quality Control Reviews
- Advertise for bidding, Contractor Procurement
- Excavation of pond and construction of embankment, along with necessary liner and filter layers.

- Connections to existing North Pipeline for outlet structure and new inlet structure with screen, including modifications of existing stand pipe and overflow box to eliminate spills to Henderson Pond.
- Installation of emergency bypass valve and pipe on downstream side of pond embankment draining to natural drainage per Utah Dam Safety requirements.
- Installation of telemetry on pond level, integration of pipeline metering, and associated startup and testing.
- Associated access road and fence repairs as necessary for construction and maintenance of the project
- Filling of pond and associated reporting and documentation required by funding agency and Utah Dam Safety

The following list of objectives for the project includes:

- Eliminate water losses by eliminating spills into natural drainage and Henderson Pond
- Minimize maintenance disturbances and manhours required to correct system problems during periods of lost pressure or lost water flow (both upstream and downstream users)
- Improve water management, level control, and measuring capabilities
- Improve the ability to enable farmers to have access to their full water share through on-farm improvements, including providing more reliable and steady pressure for both upstream and downstream water users on the Pleasant Valley pipeline.
- Provide storage for an increased response time for ditchrider to make adjustments without draining pipeline or overflowing, a buffer that will reduce conflict within the system.

Provide a more comprehensive description of the technical aspects of your project, including the work to be accomplished and the approach to complete the work. This description should provide detailed information about the project including materials and equipment and the work to be conducted to complete the project. This section provides an opportunity for the applicant to provide a clear description of the technical nature of the project and to address any aspect of the project that reviewers may need additional information to understand.

1.4. EVALUATION CRITERIA

1.4.1. EVALUATION CRITERION A – QUANTIFIABLE WATER SAVINGS (25 POINTS)

All applicants should be sure to:

1) *Describe the amount of estimated water savings. For projects that conserve water, please state the estimated amount of water expected to be conserved (in acre-feet per year) as a direct result of this project. Please include a specific quantifiable water savings estimate; do not include a range of potential water savings.*

The estimated water savings by implementing the UBIC North Pipeline Pond Project is 552 acre-feet annually. The water being conserved with the project as proposed is currently being spilled into a private pond owned by Henderson Ranches, who have their own separate pipeline with metered inflow

and when their pond is full it causes their pond to overflow to the natural drainage. Water is both operationally and physically lost to UBIC and users on the North Pipeline, which is a source of contention and dispute. Water spilled into the natural drainage often gets soaked up and enters sub-surface groundwater table and downstream riparian areas, similar to natural runoff water and also any excess water from irrigated lands.

2) *Describe current losses. Please explain where the water that will be conserved is currently going and how it is being used. Consider the following:*
   - *Explain where current losses are going (e.g., back to the stream, spilled at the end of the ditch, seeping into the ground)?*
   - *If known, please explain how current losses are being used. For example, are current losses returning to the system for use by others? Are current losses entering an impaired groundwater table becoming unsuitable for future use?*
   - *Are there any known benefits associated with where the current losses are going? For example, is seepage water providing additional habitat for fish or animal species?*
   - *Explain where current losses are going (e.g., back to the stream, spilled at the end of*

Water losses have been quantified using an existing level sensor installed in the overflow box which tracks and records water levels during the operation of the pipelines. Elevations of water above the elevation of 5291 begin to spill over the overflow weir, as illustrated in the Figures below extracted from 2006 As-built plan sheets by CH2MHill. Similar to other projects of that era, the full design included an overflow and regulating pond but project budgets were short and it wasn't installed and sometimes not understood or valued until years later when operations create the need and benefits can be realized.

Data pulled from the 2020 irrigation season, which was a typical year for water availability per UBIC board, was used to calculate an incremental head over the weir plate and subsequent flow estimate for water passed on through the overflow.

A second check was by observation by the irrigation board members and also substantiated by down-time estimates given during the annual meeting of irrigation shareholders, which aren't as easily quantified, but show an operational loss to their water availability and poor reliability at certain times during the water year.

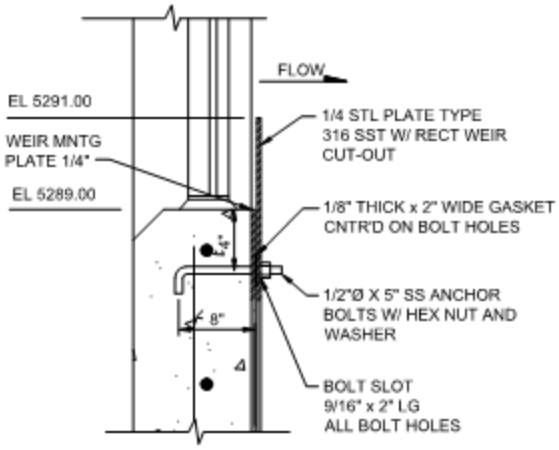

Figure 1. Weir Plat Connection Detail

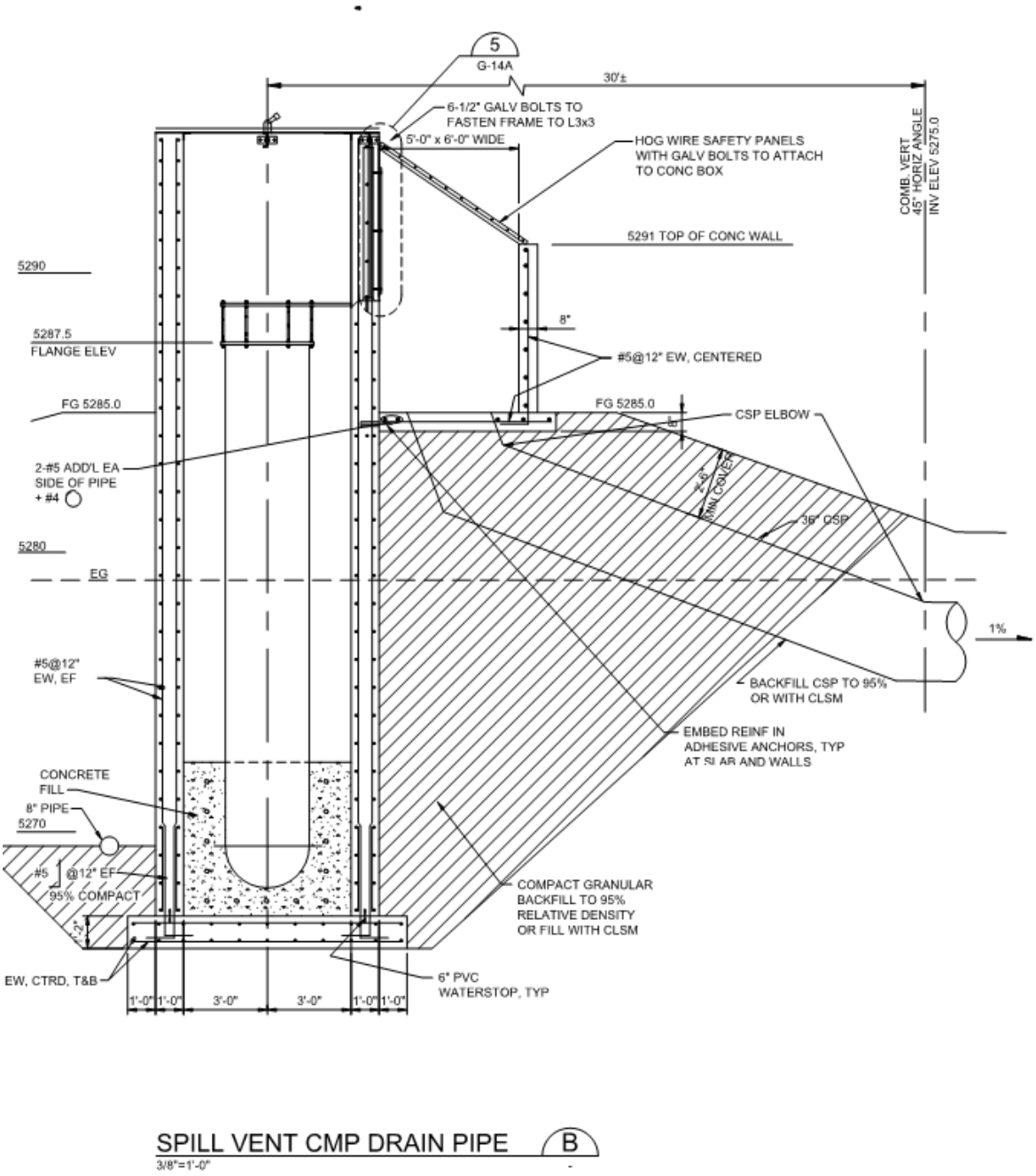

Figure 2. Spill Vent Draine Pipe Detail

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

Savings were estimated using data pulled from a level sensor inside of the overflow box. When water goes above elevation 5291, it begins to spill over a weir plat and goes into another pipe which spills into

the Henderson pond, which ends up in a natural drainage. Data was obtained from the level sensor and using a weir equation a volume of water spilled was calculated for an average irrigation year.

4) *Please address the following questions according to the type of infrastructure improvement you are proposing for funding.*
   (1) ***Canal Lining/Piping**: Canal lining/piping projects can provide water savings when irrigation delivery systems experience significant losses due to canal seepage. Applicants proposing lining/piping projects should address:*
      a) *How has the estimated average annual water savings that will result from the project been determined? Please provide all relevant calculations, assumptions, and supporting data.*

This portion of the project doesn't incorporate canal lining or piping, however this project is closely aligned with water savings from a canal and pipeline combination. While seepage is a secondary loss from the current system, the operational losses and spills to the natural drainage has been calculated as described above, with a weir plate height used to establish a benchmark for overflow. The flow rate and subsequent volume over time increments was calculated using a standard weir equation, the head over the weir, width of plate, and a sharp crested weir coefficient. See attached raw data and calculations in Appendix D.

      b) *How have average annual canal seepage losses been determined? Have ponding and/or inflow/outflow tests been conducted to determine seepage rates under varying conditions? If so, please provide detailed descriptions of testing methods and all results. If not, please provide an explanation of the method(s) used to calculate seepage losses. All estimates should be supported with multiple sets of data/measurements from representative sections of canals.*

Average overflow quantities were found using data from the 2020 season, as earlier timeframes had inconsistent measurements and incomplete data. In 2019 or early 2020, adjustments were made and consistent heights of water were being logged.

      c) *What are the expected post-project seepage/leakage losses and how were these estimates determined (e.g., can data specific to the type of material being used in the project be provided)?*

Expected post project seepage and leakage losses will be minimal, a geotechnical investigation and report have been completed and found that the native material is mostly silty clay. This material will be used to construct the pond, and the pond will be lined with a native clay or bentonite. Any loses due to seepage or evaporation will be significantly less the current operational losses.

      d) *What are the anticipated annual transit loss reductions in terms of acre-feet per mile for the overall project and for each section of canal included in the project?*

This North Pipeline has no transit losses as it is an enclosed system consisting of HDPE pipe with a maximum size of 42". Losses are due to entrances into the pipeline. Phase II of the pleasant valley irrigation project had this pond planned, but due to budget constrains was abandoned, and the current regulation structure was constructed. The structure serves as pressure break for the North Pipeline, losses are due to having more supply than there is demand this causes the system to spill into the natural drainage.

e) *How will actual canal loss seepage reductions be verified?*

Seepage losses will be negligible or minimal in the pond.

f). Include a detailed description of the materials being used.

Materials to be used during the construction of this project include earthen materials found on site and imported embankment material. A clay liner will be sourced from the construction area or imported from a suitable source. Rip-Rap for the spillway will be mined from a local gravel pit.

Pipe and other appurtenance for the outlet works will be sourced from local suppliers.

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

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

b) How have current system losses and/or the potential for reductions in water use by individual users been determined? 35 Notice of Funding Opportunity No. R24AS00052

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

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

e) How will actual water savings be verified upon completion of the project?

(3) ***Irrigation Flow Measurement****: Irrigation flow measurement improvements can provide water savings when improved measurement accuracy results in reduced spills and overdeliveries to irrigators. Applicants proposing municipal metering projects should address:*

a) How have average annual water savings estimates been determined? Please provide all relevant calculations, assumptions, and supporting data.

Annual water saving for an average irrigation season have been calculated using a level sensor inside of weir box using a weir equation describe in previous section and included in Appendix D.

b) Have current operational losses been determined? If water savings are based on a reduction of spills, please provide support for the amount of water currently being lost to spills.

Spills have been calculated based on the water level data in the spill vent box and metal plate weir over the full irrigation season of 2020 which is representative of water usage in the UBIC system. Operational losses outside of the overflow at the spill vent pipe/box have not been calculated, however an additional loss of service occurs anytime the pipeline feeding this area of the system experiences fluctuations in pressure and/or water supply. Time and water is lost because of the lag time that occurs for ditchrider to make adjustments on the system to keep a steady flow at this location. When conditions are right, there is minor to no spillage, but as soon as the demand changes, either a loss or overflow is eminent.

c) Are flows currently measured at proposed sites and if so, what is the accuracy of existing devices? How has the existing measurement accuracy been established?

Flows are measured through a level/pressure sensor installed near the overflow spill and tight tolerances were used on the weir plate system for the purpose of flow measurement. Calculations utilized a standard weir equation and a reasonable coefficient was found and utilized for a conservative and representative flow rate and volume. As downstream water users install their own on-farm meters, comparisons of upstream mainline meters and the on-farm meters would give an estimate to check the accuracy of the calculations. Based on ditchrider/board member experience in observing flows going down natural drainage, the weir method is accurate in their opinions.

There is also a meter on the upstream side of the weir box, this meter collects total flow in the pipeline but not losses like the level sensor.

d) Provide detailed descriptions of all proposed flow measurement devices, including accuracy and the basis for the accuracy.

Proposed flow measurement devices will utilize existing pipeline meters and level sensor on the spill vent as well as a level sensor on the proposed pond itself. Since on-farm meters are either installed or being required in the near future, the pipeline system will have reasonably accurate metering with accuracy tolerances within the 5% range or less. Since the spill vent will not actually send water out of

the system, it will not be as critical to know the flowrate because flows from the North Pipeline and the overflow will both go to the same proposed pond.

e) Will annual farm delivery volumes be reduced by more efficient and timely deliveries? If so, how has this reduction been estimated?

Farm delivery will become more consistent for both upstream and downstream users by reducing fluctuations using the larger volume to buffer peaks and low flow rates rather than those fluctuations being inside a 6'x6' concrete vault. Water diverted for the UBIC system from the Duchesne River will also be more consistent with the proposed pond installed such that net benefits will be realized in the river system as well. Volumes may be reduced based on a steadier pressure at the delivery point and less startup and pressure losses. This reduction is being considered as negligible and has not been estimated.

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

Water savings will be verified using both the mainline meters and the on-farm meters, as well as the more efficient use of water and the ability to cover crop water requirements for water users in the system. Metering will provide quantifiable flow volumes and post-project meetings with shareholders annually will provide qualitative results of savings and other associated benefits due to the project.

(4) ***Turf Removal****: Applicants proposing turf removal projects should address:*

a) How have average annual water savings estimates been determined? Please provide all relevant calculations, assumptions, and supporting data.
b) What is the total surface area of turf to be removed and what is the estimated average annual turf consumptive use rate per unit area?
c) Was historical water consumption data evaluated to estimate average annual turf consumptive use per unit area? If so, did the evaluation include a weather adjustment component?
d) Will site audits be performed before applicants are accepted into the program?
e) How will actual water savings be verified upon completion of the project?

Not applicable to this project.

(5) ***Smart Irrigation Controllers, Controllers with Rain Sensor Shutoff, Drip Irrigation, and High-Efficiency Nozzles****: Applicants proposing smart irrigation controllers, controllers with rain sensor shutoff, drip irrigation, or high-efficiency nozzle projects should address:*

a) How have average annual water savings estimates been determined? Please provide all relevant calculations, assumptions, and supporting data.

b) *Was historical water consumption data evaluated to estimate the percent reduction in water demand per unit area of irrigated landscape? If so, did the evaluation include a weather adjustment component?*
c) *What types (manufacturer and model) of devices will be installed and what quantity of each?*
d) *Will the devices be installed through a rebate or direct-install program? e. Will site audits be performed before and after installation?*
e) *How will actual water savings be verified upon completion of the project?*

Not Applicable to this project

(6) ***High-Efficiency Indoor Appliances and Fixtures****: Installing high- efficiency indoor appliances and fixtures can provide water savings for municipal water entities where there is significant potential for replacing existing non-efficient indoor appliances and fixtures. Applicants proposing high-efficiency indoor appliance and fixtures projects should address:*
a) *How have average annual water savings estimates been determined? Please provide all relevant calculations, assumptions, and supporting data.*
b) *What types (clothes washers, shower heads, etc.) of appliances and fixtures will be installed and what quantity of each?*
c) *Have studies been conducted to verify the existence of non-efficient appliances and fixtures? Provide published water savings rates for each of these devices and reference the source for each of the device savings rates.*
d) *Will the devices be installed through rebate or direct-install programs?*
e) *How will actual water savings be verified upon completion of the project?*

Not applicable to this project.

(7) ***Commercial Cooling Systems****: Cooling towers are components of many refrigeration systems with many applications. They dissipate heat to the atmosphere through the evaporative process and are common in manufacturing processes where cooling is required. They are also used for cooling large commercial buildings. Cooling tower structures vary in size, design, and efficiency. Regardless, all cooling towers consume large volumes of water and energy. Open-circuit or direct contact are the most common types of cooling towers. Water is supplied to the tower after gathering heat and then released in the upper tower levels. A fan near the base of the tower creates upward airflow. Closed-circuit towers are more efficient and closed-circuit towers with adiabatic cooling are more efficient yet. Water and energy savings can be achieved by replacing or retrofitting older low efficiency cooling towers. Applicants proposing cooling system projects should address:*
a) *How have average annual water savings estimates been determined? Please provide all relevant calculations, assumptions, and supporting data.*
b) *Was historical water consumption data evaluated to estimate the percent reduction in water demand?*

c) *Specify type (manufacturer and model) of cooling tower system to be installed and/or provide a detailed description of the system retrofit plan.*

Not applicable to this project

1.4.2. EVALUATION CRITERION B – RENEWABLE ENERGY (20 POINTS)

1.4.2.1. SUBCRITERION B.1 – IMPLEMENTING RENEWABLE ENERGY PROJECTS RELATED TO WATER MANAGEMENT AND DELIVERY

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

The renewable energy systems included in this project include solar panels for flow metering and data loggers, and for the proposed regulation structure, a level sensor to connect to existing SCADA. A typical panel that UBIC would utilize should have an average capacity of 300 watts.

Describe the amount of energy generated. *For projects that implement renewable energy systems, state the estimated amount of energy that the system will generate (in kilowatt hours per year). Please provide sufficient detail supporting the stated estimate, including all calculations in support of the estimate. Please explain how the power generated as a result of this project will be used, including any existing or planned agreements and infrastructure.*

The power used in this project will be minor, with enough energy to operate a level sensor and connect existing SCADA to other points of the system. It will supplement the data already being sent with a level of the regulation structure so that a ditchrider can see the status of the flow and the volume available, with high and low alerts coordinated such that adjustments can be made to the inflow at the river diversion. This project and the telemetry that will be tied into will reduce the required amount of travel and time spent to adjust diversions, and most importantly, adjusting and troubleshooting on-farm fluctuations as a result of the current system setup; The board members have each experienced periods of frustration and water loss where the supply or pressure dropped and they were scrambling to get wheel lines and pivots back pressured up and running, or finding the source of the water loss. With solar power and the structure being regulated, it will dampening affect on highs and lows, there will be less power and fuel consumption as the system regulates.

Describe the status of a mothballed hydropower plant*. For projects that are bringing mothballed hydropower capacity back online, please describe the following:*

- *Clearly describe the work that will be accomplished through the WaterSMART Grant. Note: Normal OM&R activities are not eligible for funding. The work being proposed must be an investment.*

- *Provide information about the capacity (in kilowatts) of the existing hydro system and the expected capacity once it is brough back on-line.*
- *Provide information about the duration that the hydro system has been offline and the reasons why it has been mothballed. Please include any regulatory reporting or filings (e.g., FERC filings) or other documentation regarding the system.*

Not applicable to this project.

Describe any other benefits of the renewable energy project*. Please describe and provide sufficient detail on any additional benefits expected to result from the renewable energy project, including:*

- *How the system will combat/offset the impacts of climate change, including an expected reduction in greenhouse gas emissions*

Less physical travel for adjustments due to a larger storage buffer for irrigation peaks and dips will reduce required vehicle usage and therefore reduce greenhouse gas emissions.

- *Expected environmental benefits of the renewable energy system. 39 Notice of Funding Opportunity No. R24AS00052*

Not applicable to this project.

- *Any expected reduction in the use of energy currently supplied through a Reclamation project.*

Not applicable to this project.

- *Anticipated benefits to other sectors/entities.*

Efficiencies on the UBIC system will also provide benefits to the Ute Tribe and Gray Mountain canal as well as other Duchesne River water users.

Expected water needs, if any, of the system.

No additional water is needed for the project, it will conserve water in the system as a whole.

AND/OR

1.4.2.2. SUBCRITERION B.2 – INCREASING ENERGY EFFICIENCY IN WATER MANAGEMENT

Describe any energy efficiencies that are expected to result from implementation of the water conservation or water efficiency project (e.g., reduced pumping).

- *If quantifiable energy savings is expected to result from the project, please provide sufficient details and supporting calculations. If quantifying energy savings, please state the estimated amount in kilowatt hours per year.*

The UBIC system is designed such that gravity flow will provide sufficient pressures for agricultural users to utilize pressurized sprinkler systems for irrigation, therefore eliminating the need for pumping. This project will sustain that effort and reduce the down-time that has been experienced when lower users 'loose' their water and ditchriders are having to make adjustments and also drive the system to see where deliveries have changed since their last adjustment. Having the proposed regulation structure will allow for fluctuations to occur without the emergency-like actions that have to be taken currently to restore water to those who have a water turn. Another type of savings will be on the individual farmers aspect, where they won't have to chase water and slowly re-pressurize every time it goes down. While this is hard to quantify, it has been a common topic amongst the users on that pipeline and the downtime can sometimes cost production and crop watering turns.

- *How will the energy efficiency improvement combat/offset the impacts of climate change, including an expected reduction in greenhouse gas emissions.*

This project and the telemetry that will be tied into will reduce the required amount of travel and time spent to adjust diversions, and most importantly, adjusting and troubleshooting on-farm fluctuations as a result of the current system setup; The board members have each experienced periods of frustration and water loss where the supply or pressure dropped and they were scrambling to get wheel lines and pivots back pressured up and running, or finding the source of the water loss. With solar power and the structure being regulated with a dampening affect on highs and lows, there will be less power and fuel consumption as the system regulates.

- *If the project will result in reduced pumping, please describe the current pumping requirements and the types of pumps (e.g., size) currently being used. How would the proposed project impact the current pumping requirements and energy usage?*

It is not anticipated that there will be reduced pumping cost due to this project. This project will help reduce wear on any booster pumps, booster pumps are unique to each farm based on their elevation. Generally, most of the fields receive sufficient pressure due to elevation head beside some in the upper system. This project won't substantially change the pressures seen on each farm, it will however increase the reliability of the water available and those in the upper portions of the system will not see the fluctuations that have occurred. The associated problems with the fluctuations has its own detrimental pressure surges and startup delays and wasted water with drains opening and closing and manual startup labor when there is a loss of pressure or flow.

- *Please indicate whether your energy savings estimate originates from the point of diversion, or whether the estimate is based upon an alternate site of origin.*

Some of the energy savings due to the reduction in driving originates at the point of diversion (Duchesne River), but there are also energy savings due to less driving to look at overflow box. The larger storage buffer will reduce the minor adjustments needed in the system.

- *Does the calculation include any energy required to treat the water, if applicable?*

Not applicable to this project.

- *Will the project result in reduced vehicle miles driven, in turn reducing greenhouse gas emissions? Please provide supporting details and calculations.*

Less physical travel for adjustments due to a larger storage buffer for irrigation peaks and dips will reduce required vehicle usage and therefore reduce greenhouse gas emissions.

A reduction in vehicle miles driven is anticipated but has not been calculated at this time. As described above, the individual water users have the greatest potential for a reduction in fuel and emissions due to time and equipment that is taken keeping an irrigation system going with a fluctuating source. This may be an item that is easier to calculate or realize after the project is complete.

- *Describe any renewable energy components that will result in minimal energy savings/production (e.g., installing small-scale solar as part of a SCADA system).*

The existing system utilizes small-scale solar power and the proposed structure will utilize solar for a level sensor to tie into the SCADA system for UBIC. The new regulations structure will utilize solar panels, batteries, the solar panels typically used in the area are 200 to 300 watts depending on equipment energy consumption.

1.4.3. EVALUATION CRITERION C – OTHER PROJECT BENEFITS (15 POINTS)

Resilience and Sustainability Benefits. *Will the project address a specific water and/or energy sustainability concern? Please address the following:*

- *Explain and provide detail of the specific issue(s) in the area that is impacting water resilience and sustainability. Consider the following:*
  - *Describe recent, existing, or potential drought or water scarcity conditions in the project area.*

Water scarcity issues for the area are coming from shortages due to drought and any other change or reason for less precipitation, less snowpack during winter months, and increased pressure on agriculture for economically viable products despite growing costs of fuel, materials, and chemicals as well as increased demand upon certain products and services.

  - *Is the project in an area that is experiencing, or recently experienced, drought or water scarcity?*

Yes, the impacts of climate change in the Uintah Basin are primarily evident in water supply and drought. This directly correlates with the amount of water available for agriculture, which is also a crisis waiting to happen. Conservation of the precious water resource that UBIC has is of top priority and making operational changes and improvements along with infrastructure upgrades is an important part of their mission. Installation of this structure to better manage and operate their system and reduce and eliminate spills and fluctuations is of great importance. Better stewardship of water and reliable

deliveries will allow crop yields to increase and may offset the drought with diligent metering, measurements, and awareness.

- *Describe any projected increases to the severity or duration of drought or water scarcity in the project area. Provide support for your response (e.g., reference a recent climate informed analysis, if available).*

Utah has experienced abnormally dry conditions for the past two decades. Which has had impacts on hay productions as well as economic impacts. The Uintah Basin is known for a large agricultural community, and drought conditions have a big impact on crop yields. Crop yields affect the price for feed for cattle which can negatively impact farmers profits. All of the irrigation companies have recognized the drought conditions will probably never go away and have been working diligently to increase water delivery efficiencies. Utah State University has done specific studies on the Uintah Basin and one can be found here - https://extension.usu.edu/drought/research/economic-impacts-of-drought-in-utah-uintah-and-ouray-reservation

- *Explain and provide detail of the specific issue(s) in the area that is impacting energy sustainability, such as reliance on fossil fuels, pollution, or interruptions in service.*

The Uintah Basin is a valuable source of fossil fuels and has impacts due to fossil fuel extraction, which has a strain on water resources in both population boom & bust cycles as well as production water for extraction activities. Irrigation water is sometimes targeted for lease by these companies and therefore unavailable for agriculture and other ecological resources. Energy production is very prevalent in the Pleasant Valley area where this project will be located. Oil wells are located within 800 feet of where this project will take place, with several others within a ¼ mile.

- *Please describe how the project will directly address the concern(s) stated above.*

Efficiency in irrigation and reduction in spills due to the operations of the North Pipeline will reduce impacts of shortages and improve drought conditions as much as possible with the water that is available. Reducing losses, improved measurement capability and accountability of water usage will benefit both the direct water users and indirect users/beneficiaries.

- *Will the project directly result in more efficient management of the water supply? For example, will the project provide greater flexibility to water managers, resulting in a more efficient use of water supplies?*

Uintah Basin Irrigation Company diverts water from the Duchesne River, the point of diversion for the water delivered to the North Pipeline is 14 miles to the west. If the existing system experiences a spill, adjustment must be made to the headgate which takes several hours before changes are seen where the existing overflow box is located. The proposed control structure will replace the overflow box allowing for a full day of storage for the system if needed. It is anticipated that the regulating structre

will run half full, to allow for higher or lower demand depending on the day-to-day needs. This will allow for the headgates on the Duchesne River to be set, and adjustments made less frequently.

- *Please address where any conserved water as a result of the project will go and how it will be used, including whether the conserved water will be used to offset groundwater pumping, used to reduce diversions, used to address shortages that impact diversions or reduce deliveries, made available for transfer, left in the river system, or used to meet another intended use.*
    - *Indicate the quantity of conserved water that will be used for the intended purpose(s).*
    - *Provide a description of the mechanism that will be used, if necessary, to put the conserved water to the intended use. 41 Notice of Funding Opportunity No. R24AS00052*

552 acre-feet of water will be conserved and will be utilized by UBIC. UBIC has a water right and will continue to divert up to that right when demands are high, however the water that is diverted will have a better chance of being used efficiently and therefore may present a lesser amount needing to be diverted from the river. The conserved water will be used on agricultural fields so that water users aren't burdened with a loss or 'shrink' factor to their water right and can use their full right and duty.

- *Will the project assist States and water users in complying with interstate compacts?*

This project increases efficiency and improves water stewardship in the Duchesne River, which is a tributary of the Green and Colorado River systems, which is currently one of the most critical interstate river systems for the Lower Colorado states. Increased water savings on this system allows more flows into an already critically low and stressed river system.

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

This project will help reduce conflicts or disputes between farmers. There is frequently tension between irrigators on the system. If upstream users are using too much water those at the end of the North Pipeline are without water and this can cause issues with pumps and other equipment. There is also the issue of downstream users aren't using enough water, and water is being lost in the overflow box. The new structure will minimize those conflicts.

***Ecological Benefits**. In addition to the separate WaterSMART Environmental Water Resources Projects NOFO, this NOFO places a priority on projects that that result in ecological benefits, through this section and other sections above, consistent with the SECURE Water Act. Please provide information regarding how the project will provide ecosystem benefits, including the following:*

- *Will the project benefit species (e.g., federally threatened or endangered, a federally recognized candidate species, a state listed species, or a species of particular recreational, or economic importance)? Please describe the relationship of the species to the water supply, and whether the species is adversely affected by a Reclamation project or is subject to a recovery plan or conservation plan under the Endangered Species Act (ESA).*

The UBIC and Uintah Indian Irrigation Project O&M Company both utilize an open channel canal that diverts water from the Duchesne River, a tributary of the Green River with 4 endangered fish species (bonytail, Colorado pikeminnow, humpback chub and razorback sucker) and 3 threatened species (bluehead sucker, flannelmouth sucker, and roundtail chub). Efficiency in the irrigation systems along the Duchesne River will directly benefit these species, which have been adversely affected by a Reclamation project such as the Flaming Gorge Dam.

- *Will water remain in the system for longer periods of time? If so, provide details on current/future durations and any expected resulting benefits (e.g., maintaining water temperatures or water levels, recreational benefits, etc.).*

With the design of the control structure, there will be a steady inflow and outflow, on opposite ends of the impoundment which will facilitate water movement and reduce the potential for higher water temperatures. Water will not substantially change in time within the system, although initially it will take longer to fill the control structure to the desired operating level.

- *Will the proposed project reduce the likelihood of a species listing or otherwise improve the species status?*

This project will reduce the likelihood of a species listing and will improve the species status. The Uintah Basin Irrigation Company receives water from the Duchesne River, which is a tributary of the Green River with four endangered fish species (bonytail, Colorado pikeminnow, humpback chub, and razorback sucker) and 3 threatened species (bluehead sucker, flannelmouth sucker, and roundtail chub). Efficiency in the irrigation systems along these rivers will directly benefit these species because less fluctuation of diverted water will allow for consistent flows in the Duchesne River.

- *Please describe any other ecosystem benefits as a direct result of the project.*

More consistent diversion rates will allow more water to remain in the Duchesne River which will support the growth of vegetation along the banks. The plants and vegetation will stabilize the soil along the banks which will reduce the amount of sediment going into the Duchesne River. Reduced sediments in the river also improves the water quality which benefits fish species and other irrigators downstream.

Climate Change: *E.O. 14008 emphasizes the need to prioritize and take robust actions to reduce climate pollution; increase resilience to the impacts of climate change; protect public health; and conserve our lands, waters, oceans, and biodiversity.*

- *Describe how the project addresses climate change and increases resiliency. For example, does the project help communities adapt to bolster drought resilience?*

By having more storage available to catch flows and sustain flows to the North Pipeline ditch riders can reduce changes made to the heading. This will ensure a more reliable water delivery and prevent water shortages while maintaining agricultural productivity. This will provide more consistent crop yields which are used to feed cattle which is a large part of the economy found in the Uintah Basin.

- *Does the project seek to improve ecological resiliency to climate change?*

This project improves ecologic resilience by utilizing water from the Duchesne River to water crops in a region that would otherwise be a desert. With climate change necessitating better stewardship of water resources, this project is a high priority UBIC in order to continue their wise use of the water they are responsible for and the agricultural producers whom they serve.

- *Does the proposed project seek to reduce or mitigate climate pollutions such as air or water pollution? 42 Section E. Application Review Information*

Fewer trips to the heading and the overflow box will result in lower fuel consumption by ditch riders by reducing the amount of trips they have to take. The reduces the demands for fossil fuels which is a large part of the economy in the Uintah Basin. Decreasing fuel consumption decreases the need for oil extraction, the oil extraction process produces air and water pollutants. These changes may be small but every bit helps to reduce climate change.

- *Does the proposed project include green or sustainable infrastructure to improve community climate resilience?*

This project will implement solar panels and batteries which will provide self-sufficient power for the instrumentation used to monitor the water levels in the pond. Solar Panels are also resilient and don't require any external power sources, which are more likely to withstand a natural disaster. This instrumentation is critical for water to be delivered to irrigators during normal operations as well as a disaster. Continuing to irrigate during climate change and disaster is critical for the economy and the community.

- *Does the proposed project contribute to climate change resiliency in other ways not described above?*

The impacts of climate change in the Uintah Basin are primarily evident in the water supply. Prolonged drought conditions cause the snowpack to be reduced which correlates directly to the amount of water available to irrigate with. Conserving water and maximizing the available water is a top priority of UBIC. The system that they currently operate is very efficient and this project. This project has been identified by water users as a deficiency of the existing system. Incorporating the new control structure into the system will reduce or eliminate the spills of the project. Better stewardship and more reliable deliveries will help increase crops yields and may offset the drought with better measurement and awareness.

1.4.4. EVALUATION CRITERION D – DISADVANTAGED COMMUNITIES, INSULAR AREAS, AND TRIBAL BENEFITS

1.4.4.1. SUBCRITERION D.1. DISADVANTAGED COMMUNITIES

E.O. 14008 affirms the advancement of environmental justice for all through the development and funding of programs to invest in disadvantaged communities. This criterion, which is used to identify projects that advance the Justice 40 Initiative, includes all Federally recognized Tribes and Tribal entities, and any disadvantaged communities in insular areas (American Samoa, Guam, the Northern Mariana Islands, or the Virgin Islands) identified pursuant to the following criteria.

- *Please use the White House Council on Environmental Quality's interactive Climate and Economic Justice Screening Tool (CEJST), available online at Explore the map - Climate & Economic Justice Screening Tool (screeningtool.geoplatform.gov/ en/#17.59/36.63278/-105.181329) to identify any disadvantaged communities that will benefit from your project. The CEJST developed by the White House Council on Environmental Quality is a geospatial mapping tool that utilizes publicly available, nationally consistent data sets related to climate change, the environment, health, and economic opportunity to identify disadvantaged communities. In addition to identifying specific census tracts that are disadvantaged, the CEJST includes the lands of Federally 43 Notice of Funding Opportunity No. R24AS00052 recognized Tribes as disadvantaged communities. In addition, regardless of whether a Federally recognized Tribe has land, all Federally recognized Tribal entities are considered disadvantaged communities for the purposes of the Justice40 Initiative.*

The land that will benefit from this project is located within the following tract:

49013940300

This tract is located within Duchesne County, Utah and is identified as a disadvantaged community.

"The lands of Federally Recognized Tribes that cover 100% of this tract are also considered disadvantaged."

- *If applicable, describe how the proposed project will serve or benefit a disadvantaged community, identified using the tool. For example, will the project improve public health and safety by addressing water quality, add new water supplies, provide economic growth opportunities, or provide other benefits in a disadvantaged community?*

Farmers and ranchers located within the disadvantaged community will benefit from the increased reliability of water that is delivered to the user for agricultural purposes. At this point, many of the landowners, farmers, and ranchers have felt a downturn in the economy due to economic challenges; however, if water is more reliably delivered due to this project, this could increase production, providing benefits to them.

1.4.4.2. SUNCRITERION D.2. TRIBAL BENEFITS

The Department is committed to strengthening tribal sovereignty and the fulfillment of Federal Tribal trust responsibilities. The President's memorandum, Tribal Consultation and Strengthening Nation-to-Nation Relationships, asserts the importance of honoring the Federal Government's commitments to Tribal nations. Address the following, if applicable:

- *Does the proposed project directly serve and/or benefit a Tribe? Will the project increase water supply sustainability for an Indian Tribe? Will the project provide renewable energy for an Indian Tribe?*

The demographics of the Myton area has approximately 25% of the residents as Native American, primarily of the Ute Tribe. This project is also closely tied to the Tribal water system, as UBIC shares the Gray Mountain Canal Diversion with the Ute Tribe, with operations of the canal and diversion from the Duchesne River happening in conjunction with Tribal water rights and a substantial portion of the canal flows. UBIC water and Tribal water are closely tied together in this system and improvements on the UBIC system will directly translate to more efficiency in deliveries to Tribal water rights and flow diversions.

- *Does the proposed project support Tribal led conservation and restoration priorities, and/or incorporate or benefit indigenous traditional knowledge and practices?*

UIIP has several ongoing projects that aim to conserve water, many of these projects include reconstructing irrigation headings or piping projects. This project will support those efforts. There is an additional project through the NRCS PL-566 project that will line three portions of the Gray Mountain canal that delivers water to UBIC, which has been a collaborative effort between Duchesne County Water Conservancy District, UIIP, and UBIC with the NRCS providing funding.

- *Does the proposed project directly support tribal resilience to climate change and drought impacts or provide other Tribal benefits such as improved public health and safety through water quality improvements, new water supplies, increased renewable energy, or economic growth opportunities?*

This project supports tribal resilience to climate change and drought impacts by increasing efficiency in water deliveries to the North Pipeline, which translates upstream to the Gray Mountain Canal via the Pleasant Valley pipeline. This canal, as mentioned above, carries a portion of irrigation flows to the lower Gray Mountain Canal, which is a BIA canal that delivers tribal water. UBIC, the BIA, and Uintah Indian Irrigation Project O&M Company work together to improve the irrigation efficiency and reliability in this system.

- *Does the proposed project support Reclamation's Tribal trust responsibilities or a Reclamation activity with a Tribe?*

The primary responsibility of the BOR Tribal trust is to help manage water resources and infrastructure development for Tribes. While this project does not directly benefit the Ute Tribe or tribal members, as mentioned prior the Gray Mountain Canal delivers water to both UBIC, the BIA and UIIP O&M company this project will increase efficiencies in that system by having more consistent water deliveries. These efforts do support the Reclamations responsibilities.

1.4.5. EVALUATION CRITERION E – COMPLEMENTING ON-FARM IRRIGATION IMPROVEMENTS (8 POINTS)

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

- *Describe any planned or ongoing projects by farmers/ranchers that receive water from the applicant to improve on-farm efficiencies.*
    - *Provide a detailed description of the on-farm efficiency improvements.*

Farmers and Ranchers in the area regularly receive help from the NRCS to improve on farm infrastructure. These include but aren't limited to, pivot installations, improving soil health and evaporation ponds.

- *Have the farmers requested technical or financial assistance from NRCS for the onfarm efficiency projects, or do they plan to in the future?*

Many farmers in the area have requested financial assistance from the NRCS. The NRCS has funded several pivot projects through Salinity funding and the Utah Department of Ag & Food (UDAF) has also funded pivots through the Water optimization program. The UDAF has also funded half of this project through their water optimization program.

- *If available, provide documentation that the on-farm projects are eligible for NRCS assistance, that such assistance has or will be requested, and the number or percentage of farms that plan to participate in available NRCS programs.*

No documentation is available at this time for on-farm projects. Agreements between UDAF and UBIC for this project are included in Appendix D.

- *Applicants should provide letters of intent from farmers/ranchers in the affected project areas.*

No specific letters of intent available at this time.

- *Describe how the proposed WaterSMART project would complement any ongoing or planned on-farm improvement.*
    - *Will the proposed WaterSMART project directly facilitate the on-farm improvement? If so, how? For example, installing a pressurized pipe through*

WaterSMART can help support efficient on-farm irrigation practices, such as drip-irrigation.

OR

- *Will the proposed WaterSMART project complement the on-farm project by maximizing efficiency in the area? If so, how?*

This proposed WaterSMART project will greatly improve the efficiency of many NRCS on-farm improvements due to the storage that it will provide to maintain a consistent flow despite fluctuations in the upper system and also demand changes in the North Pipeline itself. There are times when lower pressures will open drains in wheel lines for example, which drops pressures enough on wheel lines that they are essentially bleeding water without efficiently irrigating the crop. Being able to have a stable buffer in the system with enough water to run an entire day if deliveries can't be made will make a great deal of difference in the UBIC system.

- *Describe the on-farm water conservation or water use efficiency benefits that are expected to result from any on-farm work.*
  - *Estimate the potential on-farm water savings that could result in acre-feet per year. Include support or backup documentation for any calculations or assumptions.*

On-farm water savings are difficult to calculate, but as previously mentioned, down-time in the system without automated valves can waste water on each individual farm when pressures fluctuate and drain valves are activated on a wheel line that then further drops the pressure on that particular line. Spikes and water hammer have taken their toll as well with leaks and breaks in the individual and UBIC pipelines, often taking more than an hour to discover and in that time wasting several CFS of water at a time. No recorded data for these types of losses is available, and the on-farm losses are captured with each individual water meter and not differentiated or reimbursed.

- *Please provide a map of your water service area boundaries. If your project is selected for funding under this NOFO, this information will help NRCS identify the irrigated lands that may be approved for NRCS funding and technical assistance to complement funded WaterSMART projects.*

See map in Appendix C.

1.4.6. EVALUATION CRITERION F – READINESS TO PROCEED (8 POINTS)

- *Identify and provide a summary description of the major tasks necessary to complete the project.* ***Note: Do not repeat the more detailed technical project description provided in Section D.2.2.2 Application Content. This section should focus on a summary of the major tasks to be accomplished as part of the project.***

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

Permits required may include an Army Corp Permit or Joint Stream Alteration Permit if the natural drainage is deemed a body of waters of the US. Also cultural clearances through SHPO will be required and the UBIC has been proactive in preliminary surveys and pre-design work to be able to move forward quickly with a concept footprint of the project and permitting work and associated surveys have already commenced, allowing final design and permitting to be reached quickly once funding is obtained.

Approval from Utah Dam Safety is also a part of the project and will be addressed through the consultants both civil engineering and geotechnical engineering. Plans will be created with details to provide minimum requirements for a small embankment dam, which will be reviewed and approved by State staff. Preliminary Geotechnical work has already been completed.

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

The first task lists what has been previously completed this past summer, with topographic survey completed to be able to accurately estimate volumes, elevations for embankment and the North Pipeline itself, and also establish a concept embankment footprint and associated water volume impoundment. UBIC dug test holes to share with a geotechnical consultant for preliminary estimates and opinions on existing soil in the site and depth to bedrock, groundwater, etc. Review of existing system plans and quantification of water saving data in conjunction with this application have been the other engineering tasks specific to this project. There has also been preliminary surveys done to establish right-of-way and property acquisition.

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

The Board has met several times about the project, as well as holding at least two well-attended shareholder meetings to address the project and take votes from the shareholders on going forward with finding funding and submitting this and previous applications. The vote was 5,674 shares for the project and 3,045 shares against the project, with a total of 8,719 shares being represented out of 10,374. Those against the project are mainly those on the upstream portion of the UBIC system who don't feel that it would benefit them, although others can see the benefits upstream as well as downstream.

- *Describe the current design status of the project. If additional design work is required prior to construction, describe the planned process and timeline for completing the design work.*

The project is in the preliminary design phase, conceptual plans have been developed. Some survey work has been completed, and some additional survey work will be needed to complete the project. A

SHPO consultation has been completed and no cultural resources were identified in the project area. Additionally a preliminary geotechnical investigation and associated report were completed by Gerhart Cole, and provided information that will be used in the design. A water resource delineation has also been completed by Jones & DeMille Engineering, which indicated that there is no suitable ULT habitat

If funding for this project is obtained for the project through the WaterSMART program, a final design would be completed shortly thereafter. Construction would take place in the off season somewhere between October and April. UBIC has already received the necessary votes for the project to proceed.

- *Please also include an estimated project schedule that shows the stages and duration of the proposed work, including major tasks, milestones, and dates. Milestones may include, but are not limited to, the following: complete environmental and cultural compliance; mobilization; begin construction/installation; construction/installation (50% complete); and construction/installation (100% complete). Was the expected timeline for environmental and cultural compliance discussed with the local Reclamation regional or area office?*

The project has been discussed with Reclamation and has had several attempts to be funded, the past application through drought resiliency was denied due to problems with the SAM registration which were in a stalemate between the Government and UBIC, it has taken almost a year to get things straightened out where they had a change in leadership and the SAM website was not allowing updates to occur. See attached project schedule in Appendix A.

1.4.7. EVALUATION CRITERION G – COLLABORATION (5 POINTS)

Please describe how the project promotes and encourages collaboration. Consider the following:

- *Is there widespread support for the project? Please provide specific details regarding any support and/or partners involved in the project. What is the extent of their involvement in the process?*

During meetings with shareholders, many of the water users were present and gave a majority vote supporting the project. Many of them see the value of a regulating structure and how it will affect the operations both upstream and downstream. The UBIC has done a very good job of communicating with their shareholders, with two specific meetings about the project. Many of the reasons listed above for benefits of the project came directly from these discussions with the water users who have the boots on the ground and experience the pressure fluctuations and shortages. Those who question the project are upstream from this structure and many of them realize that partnering with the downstream water users will benefit all within the UBIC system for several reasons, including a stable downstream pressure without being concerned with spilling water, which has always been a moving target. With the control structure, it will capture that excess overflow and therefore it would benefit to be able to run enough to keep the stand pipe full, therefore keeping their downstream pressure at a steady state. Attendance,

communication, and questions have all been very helpful to message the project and develop specific design criteria and project goals to shape the efforts going forward.

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

It is critical that the shareholders back the project as they will be financing it and also significantly shaping the way that UBIC goes about the project. This has great significance as these are friends, neighbors, and family in some cases who are working together rather than arguing over water problems and shortages in the system that this structure will rectify.

- *Will this project increase the possibility/likelihood of future water conservation improvements by other water users?*

This project will most definitely improve relationships, create new interest in the UBIC board and their future plans, and foster future improvements like an upgrade upstream on the Gray Mountain canal with a lining system for seepage reduction. There is a very high likelihood that future projects will be invested in with this successful collaboration on the North Pipeline Efficiency & Control Structure

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

This project will benefit multiple sectors including agriculture, environmental, and recreational. The agricultural benefits have been discussed throughout this application, including the more reliable delivery of water. Environmental sector will benefit from the project because of the elimination or reduction in the loss of water that is currently experienced, which can be left in the Duchesne River to promote vegetation growth. The water that is saved will remain within the river systems, benefiting threatened and endangered species of fish. Additionally, other fish species will also benefit, supporting the recreation sector in more fishing opportunities being available along the river system.

- *Please attach any relevant supporting documents (e.g., letters of support or memorandum of understanding).*

See attached letters from landowners pledging support of the project and donating easement towards the construction of the project (Appendix B).

1.4.8. EVALUATION CRITERION H – NEXUS TO RECLAMATION (4 POINTS)

Describe the nexus between the proposed project and a Reclamation project or Reclamation activity. Please consider:

- *Does the applicant have a water service, repayment, or operations and maintenance (O&M) contract with Reclamation?*

The applicant does not have any contracts with Reclamation but water in the Duchesne River has many ties to BOR reclamation projects such as the Strawberry Aqueduct and Collection System. It also is a tributary of the Green and Colorado Rivers which hold several critical Reclamation facilities and programs.

- *If the applicant is not a Reclamation contractor, does the applicant receive Reclamation water through a Reclamation contractor or by any other contractual means?*

The Duchesne and Strawberry Rivers receive and contribute water in Starvation Reservoir, another BOR facility within the river system. They receive 44,000 acre feet of water annually to support and enhance trout and other sports fishing.

- *Will the proposed work benefit a Reclamation project area or activity?*

Yes, this project will benefit the area and activities within the Duchesne, Green, and Colorado River systems.

- *Is the applicant a Tribe?*

UBIC is not a tribe, like mentioned in previous section UBIC, UIIP O&M Company and the BIA both receive water from the Gray Mountain Canal. All involved parties will benefit from this project.

1.5. PERFORMANCE MEASURES

Provide a brief summary describing the performance measure that will be used to quantify actual benefits upon completion of the project (e.g., water saved or better managed, energy generated or saved). For more information calculating performance measure, see Appendix A: Benefit Quantification and Performance Measure Guidance.

The performance measures after the implementation of this project will be measured by how much water (if any) is spilled over the spillway. A level sensor will be installed on the pond, if water does spill there will be a way to quantify those spills. It is not anticipated that spills will occur to the volume of the pond, the control structure will have a storage capacity of 30 acre-feet. The North Pipeline has a capacity of 32 CFS, even if the structure was overdelivered by 5 cfs and the pond was half full the structure would be able to store the water at this flow rate for up to a day and a half. Likewise, if they were to underdeliver by 5 cfs, the structure would be able to supply a day and a half of water to downstream users. It is unlikely that this would happen, the level sensor would be able to alert ditchriders if the structure was too full or too empty.

A non-technical performance measure will be improved relationships between farmers. As mentioned in previous sections there are always disputes when there is not enough water for those receiving water from the North Pipeline. This is due to insufficient flow delivered to the system. It is anticipated that this project will reduce water related issues for UBIC.

1.6. BUDGET NARRATIVE

In the budget detail and narrative section, applicants should describe and justify requested budget items and costs. Applicants should provide details to support the SF-424A, "Object Class" categories or the SF-424C, "Cost Classification" categories. The budget narrative must clearly identify all items of cost (total estimated project cost), including those contributed as non-Federal cost share by the applicant (required and voluntary), third-party in-kind contributions, and those covered using the funding requested from Reclamation, and any requested pre-award costs.

The 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 necessary to complete the project. Applicants must include detailed descriptions of all cost justifications (see Reclamation's suggested format in Attachment B for more detail). Costs, including the valuation of third-party in-kind contributions, must comply with the applicable cost principles contained in 2 CFR, §200.

The success of the Uintah Basin Irrigation Company's project hinges significantly on securing funding from the Bureau of Reclamation's WaterSMART program. As a crucial partner in water resource management and infrastructure development, the BOR plays a pivotal role in providing financial support for projects aimed at enhancing water delivery systems, improving irrigation efficiency, and ensuring sustainable agricultural practices in the Uintah Basin. This funding is essential for developing UBIC's infrastructure to ensure a consistent water supply for agricultural needs. The project will provide consistent flows which will promote economic success and improve environmental stewardship. Without this funding, the project's ability to address water management challenges and meet the evolving needs of farmers and shareholders within UBIC would not be able to be resolved.

The table below shows the breakdown of funding sources for the project. See the attached cost estimate for further breakdown of each item and budget in Appendix A.

FUNDING SOURCES	AMOUNT
Non-Federal Entities	
UDAF Water Optimization	$420,000
UBIC Shareholder Financing	$72,000
Property In-Kind Donation	$25,000
Non-Federal Subtotal	$517,000
REQUESTED RECLAMATION FUNDING	$450,000

1.6.1. PERSONNEL

See Contractual rates and title page for key personnel. The salaries and/or reimbursements of UBIC or other support staff are not included in this budget nor are they anticipated to be part of it.

1.6.2. FRINGE BENEFITS

All fringe benefits are fixed rates for billing through engineering and construction contracts.

1.6.3. TRAVEL

Travel costs will be part of the contracted portion of the project. It is likely that the scope of this project will utilize local consultants and contractors so that travel costs are minimal.

1.6.4. EQUIPMENT

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

1.6.5. SUPPLIES

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

1.6.6. CONTRACTUAL

An engineering consultant will be contracted through the UBIC procurement process to perform the design, funding procurement, and construction engineering of this project. JDE has assisted in the preparation of this application and a budgetary estimate of time and rates anticipated for the civil and construction engineering scope of the project. The environmental consultant will provide the appropriate permitting and surveys for the project, along with coordination with USFWS for ULT flowers. The table below includes the design and environmental laborer classifications, billing rates, and estimated number of hours.

Role/Position	Rate	Hours	Total
Senior Project Manager	$219	40	$8,760
Project Engineer	$160	80	$12,800
Graduate Engineer	$140	90	$12,600
CAD Technician	$101	40	$4,040
Professional Land Surveyor	$175	30	$5,250

Survey Technician	$135	40	$5,400
Administrative Assistant	$84	40	$3,360
Environmental Scientist	$142	40	$5,680
		TOTAL	$58,000

1.6.7. CONSTRUCTION

A general contractor will be contracted through UBIC procurement process to perform the construction of the project. See Appendix A for a breakdown of construction items and tasks, which will be utilized for bidding purposes for construction contractors, with a price-based selection for qualified contractors to perform the work.

Additionally, an engineering consultant will be contracted through the UBIC procurement process to perform construction staking, material testing, and construction observation during construction of the project. The table below includes the construction engineering laborer classifications, billing rates, and estimated number of hours.

Role/Position	Rate	Hours	Total
Senior Project Manager	$219	30	$6,570
Project Engineer	$160	50	$8,000
Construction Project Manager	$140	80	$11,200
Construction Engineering Technician	$118	225	$26,550
Professional Land Surveyor	$175	16	$2,800
Survey Technician	$135	16	$2,160
		TOTAL	$58,000

1.6.8. OTHER

No other expenses are anticipated.

1.6.9. INDIRECT COSTS

Not included. Note that "Indirect" costs on the attached cost estimate could also be defined as non-construction costs to help clarify. All costs proposed in the budget are based on quotes, estimates, and contractual itemized costs from similar projects in the area.

1.7. 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.*

There will be effects on the surrounding environment because of the project. These effects include excavation for borrow material and material and the placement of embankment material. To minimize these impacts, construction will be confined to a designated construction area, it is not anticipated the construction will extend very far beyond the proposed structure. The completed project would improve the quantity of water staying within the river systems, improving habitat for animals and fish species as well. No other impacts are anticipated.

- *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?*

There are four federally listed fish species (Colorado pikeminnow, razorback sucker, bonytail, and humpback chub) and 3 threatened species (bluehead sucker, flannelmouth sucker, and roundtail chub) within the river systems where these projects would be constructed. These projects will not directly impact these fish species; however, the saved water will remain within the river system to benefit the fish. During the wetland delineation that was already completed no ULT or suitable ULT habitat was found. In order to eliminate or minimize disturbance, the project sites will be evaluated prior to the start of construction.

- *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.*

An aquatic resource delineation was completed and there is a small amount of wetlands that fall under CWA jurisdiction near the project area. Any impacts to wetlands would be permitted with the Army Corps of Engineers and the Utah Division of Water Rights. The final impacts will be quantified during design completion, so impacts would be minimized and kept under 0.1 acres.

- *When was the water delivery system constructed?*

From available information the Gray Mountain canal and Pleasant Valley Canal were built around 1920, the North Pipeline and other supporting infrastructure was built in 2004-2005.

- *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 will result in a small section of the pipeline being removed and modified. The control structure will replace the existing overflow box, but it is possible that the overflow box could stay in place. There are several ways to modify the pipeline, but the best alternative has not been selected yet. The pipeline was constructed from 2004-2005

- *Are any buildings, structures, or features in the irrigation district listed or eligible for listing on the National Register of Historic Places? A cultural resources specialist at your local Reclamation office or the State Historic Preservation Office can assist in answering this question.*

No and the cultural resource survey has already been completed through the UDAF local planner, and coordination with SHPO has previously occurred.

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

No, there are no known archeological sites in the proposed project area.

- *Will the proposed project have a disproportionate and adverse effect on any communities with environmental justice concerns?*

No, the project will not have a disproportionate or adverse effect on any communities with environmental justice concerns.

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

No, the proposed project will not limit access to ceremonial use of Indian sacred sites or result an any negative impacts to Tribal lands; however, increase in efficiency in Tribal water systems will be a result of this project.

- *Will the proposed project contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area?*

No, the proposed project will not contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area. The Contractor will be required to have a specific cleaning and preventative plan by specification to avoid spread of unwanted weeds and species.

1.8. REQUIRED PERMITS OR APPROVALS

You should state in the application whether any permits or approvals are necessary and explain the plan for obtaining such permits or approvals.

The project will require a stream alteration permit and also an approval from the State of Utah Division of Dam Safety, which has already been started in both cases. Once funding is approved and final design completed, the permits approvals can be obtained during the irrigation season, so that construction can commence in the off-season.

1.9. OVERLAP OR DUPLICATION OF EFFORT STATEMENT

Applicants should provide a statement that addresses if there is any overlap between the proposed project and any other active or anticipated proposals or projects in terms of activities, costs, or commitment of key personnel. If any overlap exists, applicants must provide a description of the overlap in their application for review.

Applicants should also state if the proposal submitted for consideration under this program does or does not in any way duplicate any proposal or project that has been or will be submitted for funding consideration to any other potential funding source—whether it be Federal or non-Federal. If such a circumstance exists, applicants must detail when the other duplicative proposal(s) were submitted, to whom (Agency name and Financial Assistance Program), and when funding decisions are expected to be announced. If at any time a proposal is awarded funds that would be duplicative of the funding requested from Reclamation, applicants must notify the NOFO point of contact or the Program Coordinator immediately.

1.10. CONFLICT OF INTEREST DISCLOSURE STATEMENT

Per 2 CFR §1402.112, "Financial Assistance Interior Regulation" applicants should state in the application if any actual or potential conflict of interest exists at the time of submission. Submission of a conflict-of-interest disclosure or certification statement is mandatory prior to issue of an award.

1.11. UNIFORM AUDIT REPORTING STATEMENT

All U.S. states, local governments, federally recognized Indian Tribal governments, and non-profit organizations expending $750,000 USD or more in Federal award funds in the applicant's fiscal year must submit a Single Audit report for that year through the Federal Audit Clearinghouse's Internet Data Entry System. U.S. state, local government, federally recognized Indian Tribal governments, and non-profit applicants must state if your organization was or was not required to submit a Single Audit report for the most recently closed fiscal year. If your organization was required to submit a Single Audit report for the most recently closed fiscal year, provide the Employer Identification Number (EIN) associated with that report and state if it is available through the Federal Audit Clearinghouse website.

1.12. CERTIFICATION REGARDING LOBBYING

Applicants requesting more than $100,000 in Federal funding must certify to the statements in 43 CFR §18, Appendix A. If this application requests more than $100,000 in Federal funds, the authorized official's signature on the appropriate SF-424 form also represents the applicant's certification of the statements in 43 CFR § 18, Appendix A.

1.13. SF-LLL: DISCLOSURE OF LOBBYING ACTIVITIES (IF APPLICABLE)

If applicable, a fully completed and signed SF-LLL: Disclosure of Lobbying Activities form is required if the applicant has made or agreed to make payment to any lobbying entity for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with a covered Federal action. This form cannot be submitted by a contractor or other entity on behalf of an applicant.

1.14. LETTERS OF SUPPORT

You should include any letters from interested stakeholders supporting the proposed project. To ensure your proposal is accurately reviewed, please attach all letters of support as an appendix. Letters of support received after the application deadline for this NOFO will not be considered in evaluating your proposed project. These letters do not count within the 125 page maximum.

Letters of support and commitment can be found in Appendix B.

1.15. LETTER OF PARTNERSHIPS (CATEGORY B APPLICANTS)

Category B applicants should submit a Letter of Partnership from the Category A partner, stating that they are acting in partnership with the applicant and agree to the submittal and content of the application (see Section C.1 Eligible Applicants). However, if the project is selected, a Letter of Partnership must be received prior to award.

This is a Category A project;

1.16. OFFICIAL RESOLUTION

If selected, the applicant must provide prior to award an official resolution adopted by your organization'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 NOFO, 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
• That your organization 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 before an award of funding will be made.

If selected, an official resolution can be adopted by the board of directors and provided.

1.17. LETTERS OF FUNDING COMMITMENT

If a project is selected for award under this funding opportunity and cost share funding is anticipated to be provided by a source other than the applicant, the third-party cost share must be supported with letters of commitment prior to award. Letters of commitment should 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
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 execute a financial assistance agreement until non-Federal funding has been secured or Reclamation determines that there is enough evidence and likelihood that non-Federal funds will be available to the applicant after executing the agreement.

Letters of commitment are included in Appendix B

APPENDIX B. LETTERS OF SUPPORT AND FUNDING COMMITMENT

Duchesne County Water Conservancy District

275 West 800 South
Roosevelt, UT 84066
General Manager: Clyde Watkins
Admin Assist: Carrie Lynn Shiner
Board Members:
Rodger Ames
Keith Hooper
Don Richards
Dex Winterton

Office: (435)-722-4977
Cellular: (801)-360-0312
Email: clydedcwcd@stratanet.com
Email: carriedcwcd@stratanet.com

Kelly Crozier
Kevin Rowley
Connie Sweat

August 31, 2022

Jay Olsen
Water Optimization Grant Committee
Utah Department of Ag & Food
4315 South 2700 West
TSOB South Bldg. Floor 2
Taylorsville, UT 84129-2128

Support Letter for Uintah Basin Irrigation Company – Water Efficiency & Control Project Phase I

To Whom It May Concern:

The Duchesne County Water Conservancy District is submitting this letter to show support for the Uintah Basin Irrigation Company (UBIC) efforts to more responsibly use water in their service area of Pleasant Valley south of Myton. They have been diligent in applying for funding assistance and we support the projects they have identified to increase their systems efficiency and allowing greater control of the water they have stewardship over.

The improvements identified include greater control and automation at the diversion of the Gray Mountain canal on the Duchesne River, which is an important tributary of the Green and Colorado Rivers. The DCWCD also has helped in gathering funding assistance for improvements on the Gray Mountain Canal, with sections that have the highest seepage being lined with a geomembrane liner with a concrete protective layer. The UBIC has also identified their North Pipeline structures as an area of water loss and operational inefficiency and has spent funds and held meetings to identify a solution for regulating and capturing that water in a way that benefits both groups of shareholders above and below the system.

We appreciate the opportunity to partner with the UBIC, Reclamation, NRCS and UDAF to apply for funding assistance. We formally request your consideration and funding support for these applications for assistance from the WaterSMART and Water Optimization programs. Please contact us with further updates and any other required information. We look forward to hearing about the results of the grant applications.

Sincerely,

Clyde Watkins
General Manager
Duchesne County Water Conservancy District

Duchesne County Conservation District
240 West Hwy. 40 - Box 333-4 - Roosevelt, UT 84066 - Phone (435) 722-4621 - Fax (435) 722-9065

September 1, 2022

Jay Olsen
Water Optimization Grant Committee
Utah Department of Ag & Food
4315 South 2700 West
TSOB South Bldg, Floor 2
Taylorsville, UT 84129-2128

RE: Support Letter for Uintah Basin Irrigation Company for the Water Optimization Grant

Mr. Olsen:

The Duchesne Conservation District is submitting a support letter on behalf of the Uintah Basin Irrigation Company (UBIC) project application for funding through the UDAF Water Optimization Grant. In support of the project, the Conservation district has assisted in funding the preliminary engineering work to make this project a success, with a grant of $20,000 being allocated to UBIC. They have applied for funding in multiple avenues and we feel that their project meets the objective and goals of the Water Optimization program.

The improvements identified include greater control and automation at the diversion of the Gray Mountain canal on the Duchesne River, which is an important tributary of the Green and Colorado Rivers. The UBIC has a very long canal system and adjustments take a significant lag time to manifest themselves in their system, so spillage and also shortages are common and difficult to manage at times.

The Pleasant Valley area is also an important water quality aspect to the drainages within the UBIC system that flow into the Parriette Wetlands, which have an impairment due to salinity. The UBIC has also identified their North Pipeline structures as an area of water loss due to spillage into the nearby wash. This area also has operational inefficiency that will greatly benefit from the proposed water regulation structure to level the high and low flows in a way that benefits both groups of shareholders above and below the system. Those in the North Pipeline often don't have enough water in their pipeline, and the opposite occurs when upstream users turn off and water spills out at the current structure.

We support the UBIC and hope that the UDAF will consider this project for funding assistance. The project has been given funds to start preliminary design and the Conservation District fully supports the efforts that UBIC is taking to more responsibly use their water.

Respectfully,

Steve Remund
Chairman
Duchesne Conservation District

OFFICIAL RESOLUTION
OF THE
UINTAH BASIN IRRIGATION COMPANY

RESOLUTION # 2021-10-09-01

WHEREAS, the United States Department of the Interior, Bureau of Reclamation has announced the *WaterSMART Water and Energy Efficiency Grants* in order to prevent water supply crises and ease conflict in the western United States, and has requested proposals from eligible entities to be included in the WaterSMART Program, and

WHEREAS, the Uintah Basin Irrigation Company (UBIC) has need for funding to complete an irrigation project that will install a regulation pond on the North Pipeline to increase operation efficiency and reduce water loss so that water can be conserved, measured, and efficiently delivered to the water users of UBIC.

NOW, THEREFORE, BE IT RESOLVED that the UBIC Board agrees and verifies that:

1. The application has been reviewed and supports the application submitted;
2. The UBIC is capable of providing the amount of funding as specified in the funding plan;
3. If selected for a WaterSMART Grant, the applicant will work with Reclamation to meet established deadlines for entering into a cooperative agreement; and
4. The Company Official signing this document has the legal authority to enter into this agreement.

DATED: 10/9/21

SIGNED: Lance Henderson
Water

NAME: Lance Henderson
TITLE: Chairman, UBIC

ATTEST: _____