

# WaterSMART

WATER AND ENERGY EFFICIENCY GRANTS FOR FY 2022

NO. R22AS00023  
FUNDING GROUP I

## CLASS K2 OPERATION IMPROVEMENT PROJECT

### DUCHESNE COUNTY WATER CONSERVANCY DISTRICT

IN ASSOCIATION WITH:  
DRY GULCH IRRIGATION COMPANY  
MOON LAKE WATER USERS ASSOCIATION

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## 1. TECHNICAL PROPOSAL

### EXECUTIVE SUMMARY

Start Date: July 1, 2022

Applicant: Duchesne County Water Conservancy District

1.1.

City, County, State: Roosevelt, Duchesne County, Utah

Partners: Dry Gulch Irrigation Company (DGIC) and

Moon Lake Water Users Association (MLWUA)

Project Title: Class K2 Operation Improvement Project

Project Summary:

The Class K2 Operation Improvement Project is a partnering effort between the Duchesne County Water Conservancy District (DCWCD) and Dry Gulch Irrigation Company (DGIC), along with the Moon Lake Water Users Association (MLWUA). DCWCD is acting as the sponsor for the project with financial support from the other entities involved. The Project consists of the installation of a series of pressure reducing valves on the Class K2 pipeline and modifications to the Browns Draw Reservoir outlet pipe to connect directly to the Class K2 pipeline, creating a pressurized closed system and removing two open-ended spill points. These improvements will conserve approximately 944 acre-feet of irrigation water lost due to these operational obstacles. A closed pipeline system, along with new flow meters on the outlet pipe will allow the DGIC and MLWUA to benefit from technology to increase the reliability and delivered quantity of irrigation water to agricultural users in the area. This project is the proposed upgrade to a previously funded alternative that entailed the installation of a clay-lined regulation reservoir near the Cottonwood Spill location, which would allow the K2 pipeline to maintain a stable pressure and flow to the irrigation users on this portion of their system and avoid spilling it to Cottonwood Wash, but would have still kept the system open with no connection at the upstream end at Browns Draw reservoir. The DCWCD and DGIC respectfully returned the grant funding for this initial phase to change the scope from the installation of a regulating pond to the installation of hydraulically controlled PRVs and the reservoir connection to completely enclose the pipeline system for Class K2 and avoid evaporation losses and potential operational spills.

Length of Time: 12 Months

Completion Date: August 1, 2023

Federal Facility Location: N/A (Project will occur on private property)

## PROJECT LOCATION

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

See attached Project Location Map in Appendix C for location of project in relation to watershed and political boundaries. The K2 project is located in Cedarview, at approximately 5500 North and 3500 West, near the Cottonwood Wash (southern portion of project). Latitude of 40°23.002'N and longitude is 110°3.551'W. Proposed PRVs will extend northward up the Parry Page pipeline from this location. The connection at Browns Draw Reservoir is located at Latitude of 40°25'28.60"N and longitude is 110° 7'13.01"W.

## TECHNICAL PROJECT DESCRIPTION

- 1.3. *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.*

Browns Draw Reservoir holds irrigation water for multiple classes of Dry Gulch Irrigation Company. Moon Lake Water Users Association delivers water to Browns Draw and operates the reservoir to deliver water into a canal that delivers water to Class K2 and others downstream. Shortly after the dam outlet, the water enters a pipeline and transitions to pressurized flow. The design and operation of this pipeline requires blowoff pipes where water spills once a certain pressure head is reached. If not for these spills, the pipe integrity could be jeopardized by high pressures. Unfortunately, the operation of the pipeline requires that the pressure head be maintained close to where multiple stand pipes would spill. If pressures were not maintained this high, some deliveries would be impossible. The major downside is that with any reduction in flows downstream, these stand pipes, especially the Cottonwood Spill, begin to spill water that flows into the natural drainage and is lost to beneficial use by the irrigators.

The Class K2 Operation Improvement Project will connect the existing pipeline to the reservoir outlet works, providing constant pressurized flow, and install multiple pressure reducing valves at strategic locations to replace stand pipes. The pressure reducing valves will be set to maintain necessary pressures, while reducing the pressures below the design rating of the piping materials already in use. This project will benefit Class K2 and others that receive their water through Browns Draw Reservoir. Ultimately, these improvements will drastically reduce the volume of lost water due to current operating needs, increase water reliability and sustainability, and reduce the unnecessary impact of ditch riders continuously checking on both the reservoir outlet and the spill pipes.

The proposed Class K2 project will include the following milestones and activities:

- Topographic survey, preliminary design and hydraulics, and determining existing features and pipeline locations for connections not already obtained through Phase I efforts.
- Environmental surveys, permitting, and coordination with Utah Dam Safety. MLWUA owns the land with the proposed reservoir connection work and Class K2 has a construction easement for their pipeline, so only minor temporary access is needed for installation of PRVs within the existing right of way. It is assumed that the level of NEPA analysis required for the project would be a categorical exclusion.
- Final design, reviews with funding agency, DCWCD & DGIC/MLWUA, Quality Control Reviews
- Advertise for bidding, Contractor Procurement
- Installation of up to four additional PRV Stations with shutoff valves, blowoff valves, and bypass lines for maintenance activities.
- Modification of “Goliath” from pressure sustaining to combination of sustaining and pressure reducing and removal of stand pipe with spill vent.
- Decommissioning of Cottonwood Spill and connecting pipe through a proposed PRV (this work will be covered through the existing WaterSMART grant, or Phase I efforts)
- Installation of telemetry on PRV stations as needed, pipeline metering on mainline, and associated startup and testing.
- Browns Draw Reservoir connection to include slip lining the outlet pipe of the reservoir to meet Dam Safety requirements, since outlet pipe will now be pressurized.
- Demolition of existing outlet baffle and screen structure
- Installation of an emergency bypass valve to allow draining of Reservoir for safety purposes
- Connection to K2 pipeline with valves and mainline meter upgrades
- Associated access road restoration included in project

The following list of objectives for the project includes:

- Eliminate water losses at reservoir screen structure and eliminate spills at Cottonwood Wash by connecting to reservoir and enclosing system entirely, with appropriate pressure reduction to stay within pipe pressure ratings
- Minimize maintenance disturbances and manhours required to correct system problems during periods of lost pressure or lost water flow
- 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 greater pressure in upper portion of Class K2 utilizing the reservoir storage pool elevation for a new hydraulic grade line
- Increase water supply (and pressure) reliability for local farmers

## EVALUATION CRITERIA

*The evaluation criteria portion of your application should thoroughly address each criterion and subcriterion in the order presented to assist in the complete and accurate evaluation of your proposal.*

*(See Section E.1. Technical Proposal: Evaluation Criteria for additional details, including a*

*detailed description of each criterion and subcriterion and points associated with each.)*

#### 1.4.1. EVALUATION CRITERION A: QUANTIFIABLE WATER SAVINGS (28 POINTS)

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*Up to 28 points may be awarded for this criterion. This criterion prioritizes projects that will conserve water and improve water use efficiency, supporting the goals of E.O. 14008. Points will be allocated based on the quantifiable water savings expected as a result of the project. Points will be allocated to give greater consideration to projects that are expected to result in more significant water savings.*

##### 1.4.1.1. DESCRIBE THE AMOUNT OF ESTIMATED WATER SAVINGS

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*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 to be conserved through the Class K2 Operational Improvements project is broken down below:

Browns Draw Operational Loss 106 acre-feet annually

Class K2 Cottonwood Spill Loss 838 acre-feet annually

**Total Estimated Water Savings 944 acre-feet annually**

##### 1.4.1.2. DESCRIBE CURRENT LOSSES

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

*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?*

The operational losses at the Browns Draw Reservoir outlet and K2 Pipeline screen structure consist of currently un-metered spills over the screen overflow, which follow natural drainage paths and seep into ground. These spills occur when the fluctuations in the system happen and operators are unable to constantly monitor the gate at the reservoir or pipeline flows; overflows at the reservoir are not as frequent as spillage at Cottonwood wash, but are still a lost opportunity for stored water

to be utilized by water users. At times this has actually caused contention and concern with the downstream landowners if spills are substantial.

Class K2 losses on Parry Page occur when high pipeline pressures force water from the Cottonwood spill and vent pipes to rise above the high point and then flow down into Cottonwood Wash. While there are other irrigation diversions and water rights on Cottonwood Wash, this water is operationally lost from the K2 system. Spill or vent pipes, depending on location, can spill to the ground and drainage channel.

#### 1.4.1.3. DESCRIBE THE SUPPORT/DOCUMENTATION OF ESTIMATED WATER SAVINGS

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*Please provide sufficient detail supporting how the estimate was determined, including all supporting calculations. Note: projects that do not provide sufficient supporting detail/calculations may not receive credit under this section. Please be sure to consider the questions associated with your project type (listed below) when determining the estimated water savings, along with the necessary support needed for a full review of your proposal.*

*In addition, please note that the use of visual observations alone to calculate water savings, without additional documentation/data, are **not** sufficient to receive credit under this section. Further, the water savings must be the result of reducing or eliminating a current, ongoing loss, not the result of an expected future loss.*

Support documentation of the water losses comes from data accessible through the Duchesneriver.org website, including data logger information associated with measurement devices throughout the DGIC, MLWUA, and DCWCD service areas (see Section C in 1.4.1.4 below). The Class K2 telemetry at the Cottonwood Spill has a flow meter on the primary spill pipe that registers flow amounts when pressures and flow force water over the grade line that the spill pipe establishes. Along with visual observations that the second un-metered spill pipe has been flowing more often in recent years, the quantities of water lost in this current system is considered a conservative estimate and likely represents less loss than what has actually occurred.

The spills that occur at the Browns Draw Reservoir happen between the outlet baffle and the pipe inlet screen and do not have a meter or other flow measurement, other than the ditchrider, landowner, and dam operator experience and observation. A conservative estimate has been formulated between historic events and quantity of water that was sufficient to cause alarm and doesn't account for smaller overflows that seep into ground and are not recognized other than ditchrider noticing that there had been some water running over. See sections below for further explanation on calculations and existing data.



1.4.1.4. ADDRESS THE FOLLOWING ACCORDING TO THE TYPE OF INFRASTRUCTURE IMPROVEMENT YOU ARE PROPOSING FOR FUNDING

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*See Appendix A: Benefit Quantification and Performance Measure Guidance for additional guidance on quantifying water savings.*

**(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 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.*

The Class K2 Pipeline is an existing pipeline that uses multiple open ended spill pipes to limit pressure in the pipeline. Water savings have been estimated based on metered and observed flows being spilled at the Cottonwood Wash and also the Browns Draw Reservoir outlet and pipeline inlet screen. Proposed improvements will entirely enclose the pipeline with no manual or human action required for the pipeline to deliver water. This will eliminate spills entirely, with the only 'spill' possible on the pipeline is a break or a pressure surge that is relieved through vent pipes or pressure relief valves standard to irrigation pipelines. Sections below further explain the data utilized to formulate this water savings.

*(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.*

No seepage losses have been assumed for this project as there are no substantial earthen channels in the project being replaced.

*(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)?*

No seepage losses for this project are anticipated.

*(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?*

The Class K2 improvements will not significantly impact transit losses in their closed system.

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

No seepage loss reductions for this phase of the project are anticipated.

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

Materials to be used in the proposed project include the following list. Other work will include staking, excavation and pipeline work.

- PVC Piping, fittings, concrete thrust blocks
- Hydraulically controlled pressure reducing valves, concrete vaults, painted steel pipe spools
- Double offset butterfly valves and gate valves
- Insertion Mag meters and pressure gages
- Solar Panels, data loggers, transmitters for telemetry and flow/pressure measurement

**(2) *Municipal Metering:***

Not applicable to project.

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

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

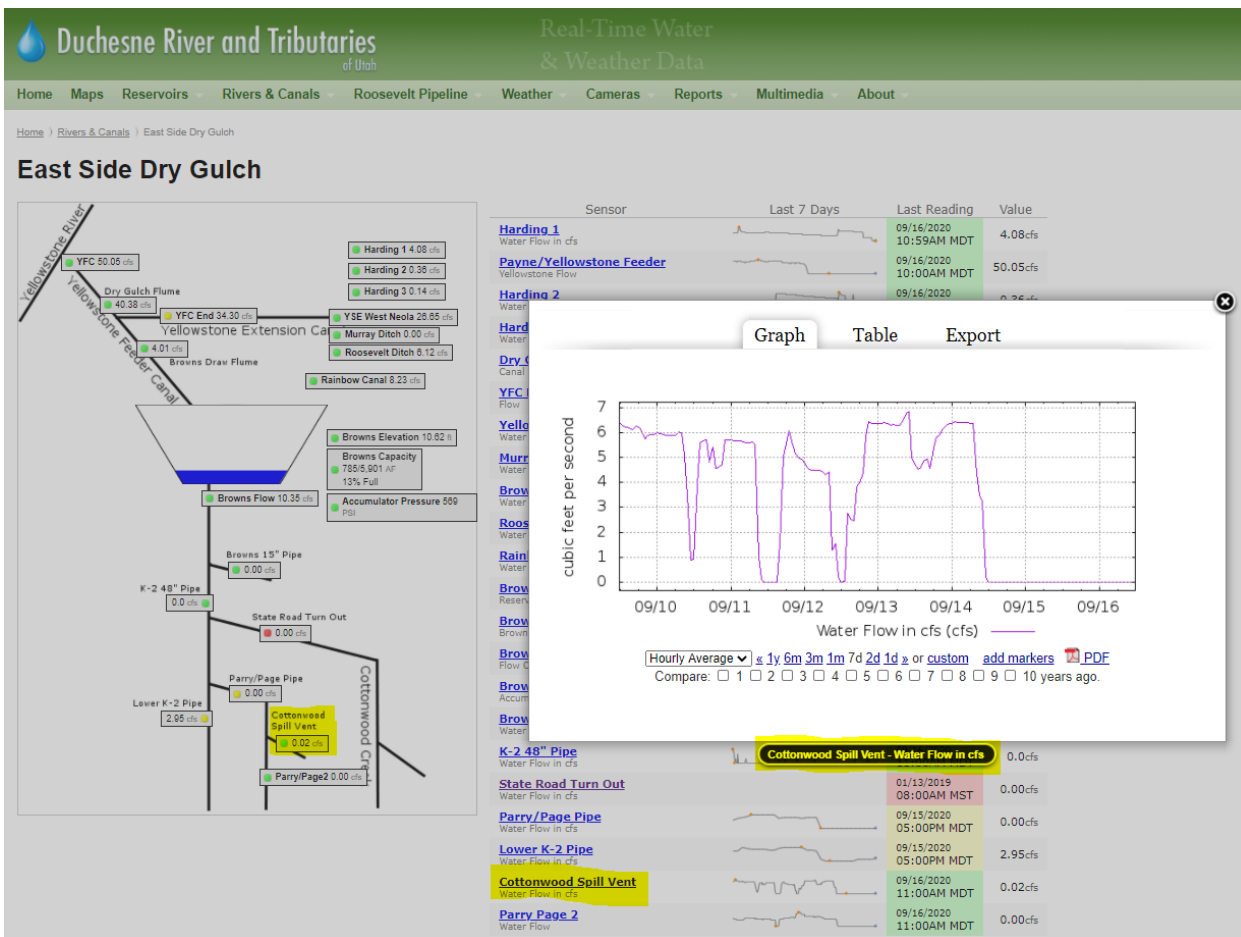
The Class K2 Operation Improvements have average annual water savings estimated based on DGIC flow records of the Cottonwood Spill meter, as well as experience of the Company staff and users. The second pipe in parallel is considered a vent and secondary spill pipe, which in the past two years has spilled water that went un-metered and unaccounted for other than being charged to Class K2. The Browns Draw outlet and screen structure has had substantial spills in the past, with some operationally caused by users shutting down and communication of those changes with ditchrider, screen becoming dirty and clogged and not manually cleaned often. These spills have been estimated based on Director's review and past ditchrider information shared during application preparation. One year the Class K2 ran out of water early due to spillage at both Cottonwood and Browns Draw, and it was estimated that 800 acre feet over the course of the season had been lost just at Browns Draw alone. Last year, with vigilance, there were still two substantial spills that occurred, both running approximately 5 cfs for 2 days and 4 days each, equating to 30 acre-feet of water in just those two occurrences. This was considered a good year at the reservoir and well below average from the past 5 years. See Appendix D for additional information.

*(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.*

Operational losses experienced in the Class K2 system at the Cottonwood Spill are currently being metered through the primary 12-inch spill pipe before dumping into Cottonwood Wash. The data and volume calculated over the last 5 years of data available show that an average of 838 acre-feet per year go through this pipe (See Appendix D for data). The un-metered 10-inch pipe running parallel to the 12-inch spill pipe does not start receiving water until the pressures are such in the Parry Page pipeline that the water column rises high enough to spill into the next level of protection (the 10-inch spill/vent pipe). In discussions with Rod Olsen (Current Class K2 Director) and Leon Nielson (former Class K2 Director), there have been spills going through both pipes during the past three years, lending the estimated losses conservative due to the second line not being metered, but visually spilling. Similar discussions have been had about the Browns Draw outlet and pipeline screen structure spilling periodically. A conservative estimate of 106 acre-feet annually was determined due to several large spills and the volume of a downstream 10-acre foot irrigation pond that was filled and overflowed with this excess water during an operational loss or screen clogging. During the irrigation season (May through September) on an average year, about once a week, there are overflows of approximately 5 cfs for a 12-hour period. The above-mentioned pond has a 10-inch overflow pipe with approximately a 1.6 cfs capacity and the flow rate has been above that capacity on several occasions, requiring Class K2 to pay the landowner for damages to the embankment dam and replace some of the materials washed away. This provides a second location for an estimated flow rate and volume that often is spilled at Browns Draw reservoir.

*(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 currently at the Class K2 Cottonwood Spill location (see Figure below). This data can be found at the Duchesne River and Tributaries website, <http://duchesneriver.org/rivers/east-side-dry-gulch/>.



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

Specific flow measurement devices being proposed for Class K2 Improvements are proposed to be electromagnetic flow meters with total flow and instantaneous flow readouts, an AMC2100 signal converter, solar panel, and control box. Accuracy is approximately 2%. Product can be viewed at <http://www.rockymtvalves.com/manufacturers/mccrometer/spi-mag-insertion-flow-meter>

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

Under current operating conditions, more water is delivered than necessary due to lack of monitoring abilities and the uncertain amount of water lost due to screen clogging and spills at Browns Draw reservoir. It is anticipated that actual delivery volumes will be reduced when monitoring is installed and losses are eliminated with a closed system. Class K2 deliveries will be

reduced by not having to send more flow than necessary to the lower Parry Page pipeline. The two improvements for Phase II will completely enclose the system so deliveries will be on-demand with the simple opening and closing of an irrigation users valves.

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

Monitored flow rates will be compared to records kept by DGIC and average savings will be calculated. Dataloggers on the telemetry will also keep a record of hourly averages and daily averages for review by DGIC. These flows will also be reported on the DCWCD maintained duchesneriver.org website.

***(4) Turf Removal:***

Not applicable to 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 the following:

On-farm improvements through NRCS EQUIP program will enable farmers to install these types of efficient controllers and nozzles. The extent of this project focuses on the area immediately downstream of Browns Draw Reservoir and the Parry Page line; however, the reliability improvements will encourage more users to convert to sprinklers and install high-efficiency nozzles. Browns Draw reservoir connection will also add pressure to an area that often had insufficient pressure for irrigation.

***(6) High-Efficiency Indoor Appliances and Fixtures:***

Not applicable to project.

***(7) Commercial Cooling Systems:***

Not applicable to project.

*Note that an agreement will not be awarded for an improvement to conserve irrigation water unless the applicant agrees to the terms of Section 9504(a)(3)(B) of Public Law 111-11 (see p.52 of the NOFO for additional information).*

#### 1.4.2. EVALUATION CRITERION B: RENEWABLE ENERGY (20 POINTS)

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*Up to **20 points** may be awarded based on the extent to which the project increases the use of renewable energy or otherwise results in increased energy efficiency and reduced greenhouse gas emissions.*

*For projects that include constructing or installing renewable energy components, please respond to Subcriterion No. B.1: Implementing Renewable Energy Projects Related to Water Management and Delivery. If the project does not implement a renewable energy project but will increase energy efficiency, please respond to Subcriterion No. B.2. Increasing Energy Efficiency in Water Management. If the project has separate components that will result in both implementing a renewable energy project and increasing energy efficiency, an applicant may respond to both.*

*Note: an applicant may receive points under both Subcriteria No.B.1 and B.2 if the project consists of an energy efficiency component separate from the renewable energy component of the project. However, an applicant may receive no more than 20 points total under both Subcriteria No. B.1 and B.2.*

##### 1.4.2.1. SUBCRITERION NO. B.1: IMPLEMENTING RENEWABLE ENERGY PROJECTS RELATED TO WATER MANAGEMENT AND DELIVERY

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*Up to **20 points** may be awarded for projects that include construction or installation of renewable energy components (e.g., hydroelectric units, solar- electric facilities, wind energy systems, or facilities that otherwise enable the use of renewable energy). Projects such as small-scale solar resulting in minimal energy savings or production will be considered under Subcriterion No. B.2.*

***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 pond, a level sensor to connect to existing SCADA. A typical panel that DGIC Class K2 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 pressure gauge with a data logger and connect existing SCADA to other points of the system. These pressures will be used to send alarms when necessary to the ditch rider. It will supplement the data already being sent with a level of the reservoir so that a ditch rider can see the status of the flow and the volume available, with high and low alerts coordinated so that a ditch rider could check on critical elements of the pipeline.

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

- (a) 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.*
- (b) Provide information about the capacity (in kilowatts) of the existing hydro system and the expected capacity once it is brought back on-line.*
- (c) 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.*

N/A

***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:

- (a) How the system will combat/offset the impacts of climate change, including an expected reduction in greenhouse gas emissions*
- (b) Expected environmental benefits of the renewable energy system*
- (c) Any expected reduction in the use of energy currently supplied through a Reclamation project.*
- (d) Anticipated benefits to other sectors/entities.*
- (e) Expected water needs, if any, of the system.*

This project and the telemetry that will be tied into will reduce the required amount of travel and time spent to adjust reservoir outlet flows, and most importantly, adjusting and troubleshooting on-farm fluctuations as a result of the current system setup, all while spilling water lost to Class K2. With solar power and the PRV's hydraulically regulated, there will be much less energy used by ditch riders and irrigators driving around trying to find the reason water is spilling or going and adjusting the reservoir valve multiple times a day when irrigators open or close their private systems.

1.4.2.2. SUBCRITERION NO. B.2: INCREASING ENERGY EFFICIENCY IN WATER  
MANAGERMENT

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*Up to 10 points may be awarded for projects that address energy demands and reduce greenhouse gas emissions by retrofitting equipment to increase energy efficiency and/or through water conservation improvements that result in reduced pumping or diversions.*

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

*(a) 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.*

This project will allow the system to be closed and essentially eliminate the need for a ditch rider to travel the pipeline and up to the reservoir multiple times a day. Telemetry and pressure sensors will send information to the ditch rider and reservoir operator to know the status of the pipeline and reservoir outlet without the need to drive a vehicle to the site. Irrigators will also have to travel less to chase low and high peaks whether it is to prevent spilling or to increase the flow to meet pressure requirements for on-farm systems.

*(b) How will the energy efficiency improvement 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 and to reduce spillage through stand pipes will reduce required vehicle usage and therefore reduce greenhouse gas emissions.

*(c) 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?*

This project will increase pressures and may eliminate the need for irrigators close to the reservoir to pump on their on-farm systems to reach operating pressures needed for pivots and wheel lines.

*(d) 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.*

Energy savings estimates are generally focused on the pipeline, reservoir connection, and PRV's, while some energy will likely be conserved by eliminating some on-farm systems to pump. The energy savings



also reach the extents of the pipeline and reservoir and eliminate the dozens of miles traveled multiple times a day to check on the outlet and standpipes.

*(e) Does the calculation include any energy required to treat the water, if applicable?*

N/A

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

A reduction in vehicle miles driven is anticipated, but has not been calculated at this time. As described above, the individual water users and ditch rider 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 pressure head and associated losses. This may be an item that is easier to calculate or realize after the project is complete.

*(g) 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 pond will utilize solar for a level sensor to tie into the SCADA system for DGIC and MLWUA.

#### 1.4.3. EVALUATION CRITERION C: SUSTAINABILITY BENEFITS (20 POINTS)

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*Up to 20 points may be awarded under this criterion. This criterion prioritizes projects that address a specific water and/or energy sustainability concern(s), including enhancing drought resilience, addressing the current and future impacts of climate change, and resolving water related conflicts in the region. In addition, this criterion is focused on the benefits associated with the project, including benefits to tribes, ecosystem benefits, and other benefits to water and/or energy supply sustainability.*

##### 1.4.3.1. ENHANCING DROUGHT RESILIENCY

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*In addition to the separate WaterSMART Environmental Water Resources Projects NOFO, this NOFO places a priority on projects that enhance drought resiliency, through this section and other sections above, consistent with the SECURE Water Act. Please provide information regarding how the project will enhance drought resilience by benefitting the water supply and ecosystem, including the following:*

*(a) Does the project seek to improve ecological resiliency to climate change?*

The project improves ecological resiliency by more efficiently utilizing water that is diverted from the Yellowstone River via exchange with Moon Lake and the Lake Fork River and allows agricultural products to be grown in an otherwise desert region. With climate change necessitating better stewardship of water resources, this project is a high priority for DGIC and MLWUA to continue their wise use of the water they are responsible for and the agricultural producers whom they serve in Duchesne County.

*(b) 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).*

Excess water that is currently being lost has a likelihood of remaining in Browns Draw Reservoir for longer periods of time, increase the average volume in the reservoir and helping the fishery and recreational opportunities in Browns Draw.

*(c) 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).*

MLWUA and DGIC utilize an open channel canal that diverts water from the Yellowstone 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 Yellowstone River, Lake Fork River, and Duchesne River will directly benefit these species, which have been adversely affected by a Reclamation project such as the Flaming Gorge Dam.

*(d) Please describe any other ecosystem benefits as a direct result of the project.*

Increase levels in Browns Draw Reservoir will benefit the ecosystems for local waterfowl, provide fringing wetland and associated plants along the edges, and allow more open water for big game and other small wildlife.

*(e) 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?*

This project will greatly improve efficiency and flexibility for the system, allowing the upstream users to keep a constant pressure head down below, established by the PRV's, and the lower users to keep a steady pressure established by the sustaining valves. This will allow more time available for adjustments

to be made and fluctuations to work themselves out of the system. It is a proactive way to address the spills and shortages that are currently being experienced.

#### 1.4.3.2. ADDRESSING A SPECIFIC WATER AND/OR ENERGY SUSTAINABILITY CONCERN(S)

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*Will the project address a specific sustainability concern? Please address the following:*

*(a) Explain and provide detail of the specific issue(s) in the area that is impacting water sustainability, such as shortages due to drought and/or climate change, increased demand or reduced deliveries.*

Water sustainability 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.

*(b) 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.*

Interruptions in service and water loss are the main problems in the water system, which causes repercussions to trickle down in the form lost revenue from produced crops. The water losses being tracked routinely causes a higher reliance on fossil fuels, and pollution. Adjusting the reservoir to reduce losses also causes interruptions in service when irrigators open their systems back up and don't have the necessary pressures to operate.

*(c) Please describe how the project will directly address the concern(s) stated above. For example, if experiencing shortages due to drought or climate change, how will the project directly address and confront the shortages?*

Water losses will essentially be eliminated by connecting the reservoir to the pipeline and utilizing hydraulically controlled PRV's to reduce pressure rather than human operation trying to keep a water level at the right height in a stand pipe. Interruptions in service will essentially be eliminated as well because the reservoir can act as full time storage with no transfer losses between open channel outlet and inlet to the pressurized pipe system.

*(d) 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.*

DGIC has water rights 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 result in more steady reservoir levels and present a lesser amount needing to be diverted from the river upstream. 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.

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

The reservoir connection and PRV's are the mechanisms that will reduce the losses and Browns Draw Reservoir will be the mechanism that allows the conserved water to be put to its intended use with the associated water rights for irrigation.

*(f) Indicate the quantity of conserved water that will be used for the intended purpose(s).*

The same quantity that was considered above for water conserved, approximately 944 acre-feet annually.

#### 1.4.3.3. OTHER PROJECT BENEFITS

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*Please provide a detailed explanation of the project benefits and their significance. These benefits may include, but are not limited to, the following:*

**(1) Combating the Climate Crisis:** *E.O. 14008: Tackling the Climate Crisis at Home and Abroad, focuses on increasing resilience to climate change and supporting climate resilient development. For additional information on the impacts of climate change throughout the western United States, see:*

<https://www.usbr.gov/climate/secure/docs/2021secure/2021SECUREREport.pdf>.

*Please describe how the project will address climate change, including the following:*

*(a) Please provide specific details and examples on how the project will address the impacts of climate change and help combat the climate crisis.*

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 DGIC 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 reservoir connection and PRV's 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.

*(b) Does this proposed project strengthen water supply sustainability to increase resilience to climate change?*

This proposed project is all about water supply sustainability for the system and its water users. Being resilient to drought requires an ample irrigation supply and an efficiently operated system that provides adequate pressures and flows so that crops can be efficiently irrigated and uniformly watered. Without the project, there will continue to be challenges in getting a consistent flow and the ability to put irrigation water to beneficial use, rather than lost to the natural drainage.

*(c) Will the proposed project establish and utilize a renewable energy source?*

The proposed project will establish and maintain a small-scale solar system with the SCADA that is there on the existing reservoir and pipeline and also the meters. The remote nature of the site is very conducive to solar as a renewable energy source.

*(d) Will the project result in lower greenhouse gas emissions?*

The project will result in lower greenhouse gas emissions by reducing the time, travel, and equipment currently being spent at chasing the problems of fluctuations in the system, loosing water, and other problems requiring a physical visit. Several water users have expressed the need for this project by their observations of time and effort being expended because of the current setup.

***(2) Disadvantaged or Underserved Communities: E.O. 14008 and E.O. 13985 support environmental and economic justice by investing in underserved and disadvantaged communities and addressing the climate-related impacts to these communities, including impacts to public health, safety, and economic opportunities. Please describe how the project supports these Executive Orders, including:***

*(a) Does the proposed project directly serve and/or benefit a disadvantaged or historically underserved community? Benefits can include, but are not limited to, public health and safety through water quality improvements, new water supplies, new renewable energy sources, or economic growth opportunities.*

Economics of the agricultural community in and around Roosevelt mixed with the local dependence upon energy extraction has and will play a major role in the families who live and work in the area. Without sufficient water to grow the crops, it is very hard to make a living solely within agriculture. This project directly benefits the farmers in the Class K2 group that are paying for the water being diverted but not always getting the volume or pressures that they need to make it to the end of the row.

*(b) If the proposed project is providing benefits to a disadvantaged community, provide sufficient information to demonstrate that the community meets the disadvantaged community definition in Section 1015 of the Cooperative Watershed Act, which is defined as a community with an annual median household income that is less than 100 percent of the statewide annual median household income for the State, or the applicable state criteria for determining disadvantaged status.*

The household income of Roosevelt, Utah, per Data USA in 2019 was \$63,479 with approximately 13% of families living in poverty. Although the average household income is close to the US median income of \$65,712, the area has been hit hard by energy extraction decreases and rising costs of fuel and food.

*(c) If the proposed project is providing benefits to an underserved community, provide sufficient information to demonstrate that the community meets the underserved definition in E.O. 13985, which includes populations sharing a particular characteristic, as well as geographic communities, that have been systematically denied a full opportunity to participate in aspects of economic, social, and civic life.*

Although the statistics might not agree that Roosevelt is an underserved community, there are many of the population who are underserved. This project is well outside of Roosevelt and does not receive the same amenities that residents in Roosevelt or Duchesne might. Approximately 17% of the population is not white, with most others being from the Ute Indian Tribe or other designated nationalities. This project affects all of the population by allowing agriculture to continue and provide food and resources to the local community.

***(3) Tribal Benefits:*** *The Department of the Interior 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. Please address the following, if applicable:*

*(a) 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?*

Tribal water is involved with the MLWUA group due to Moon Lake Exchange and other water sharing and water rights prioritization in the Basin. Accurate and efficient water use from the Lake Fork, Yellowstone, and Uinta river sources will benefit the entire system, with the Ute Tribe utilizing approximately 75% of the river flows. Efficiency and elimination of water loss will indirectly benefit all water users and river systems.

*(b) 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, or economic growth opportunities?*

This project supports tribal resilience to climate change and drought impacts by increasing efficiency in water deliveries to the users out of Browns Draw Reservoir, which translates upstream to the the Yellowstone River via the Coyote Canal and Yellowstone Feeder Canal. If MLWUA, DGIC, and DCWCD can more efficiently use the water for which they have rights, they are able to leave more water in the river which extends to where BIA and the Uintah and Ouray Indian Irrigation Project Operation and Maintenance Company manage the tribal water rights.

**(4) Other Benefits:** *Will the project address water and/or energy sustainability in other ways not described above? For example:*

*(a) Will the project assist States and water users in complying with interstate compacts?*

This project increases efficiency and improves water stewardship in the Yellowstone River and Duchesne River, which is a tributary of the Green River 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.

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

The two main sectors that this project benefits are agricultural and environmental, with diversions and water volume savings benefiting the river system and also the creation of a new water body within an arid area, which will improve wetland and wildlife habitat. Agricultural benefits have been illustrated in this entire application, but will be benefited by a more steady storage for steady delivery and capturing flows that are currently lost from beneficial use.

*(c) Will the project benefit a larger initiative to address sustainability?*

This project follows several initiatives of the State of Utah, including the Utah Watershed Restoration Initiative and the Utah Water Resources mission to Plan, Conserve, Develop, and Protect Utah's Water Resources. It also benefits Colorado River initiatives like the Water & Tribes Initiative by responsibly using water and increasing efficiency in the upper Basin States.

DGIC lies within the Duchesne County Water Conservancy District also, which has a district policy statement: It is the District's policy to develop and conserve water supplies for the benefit of its inhabitants through the most cost effective and environmentally prudent methods. The water supplies shall be developed for any and all beneficial uses consistent with the mission

and statutory authority of the District. In furtherance of this policy, water rights shall be acquired by any lawful means and used for any lawful beneficial use, including with limitation, irrigation, municipal, industrial, hydropower generation and instream flows. (U.C. 17A-2-1401)

*(d) 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 was first brought up due to conflict between water users on the K2 pipeline and the Parry Page pipeline. There is definitely tension that has built and that was evident in the two or three meetings during the concept design and application for funding stages. Initially one group of shareholders just wanted to build a pond at the Cottonwood Spill to catch the lost water and help maintain pressures. Then a change in class directors happened and a larger group came on board to do the reservoir connection and PRV's as a more firm and permanent fix. Currently, when water use fluctuates, either water spills and is lost to the users, or pressures drop and some users can't operate their on-farm systems. Ultimately the class and users have come together and agreed that this project would benefit all shareholder and stakeholders in the pipeline and reservoir, reducing the conflict of lost water and low pressures due to operational demands on the system.

#### 1.4.4. EVALUATION CRITERION D: COMPLEMENTING ON-FARM IRRIGATION IMPROVEMENTS

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*Up to **10 points** may be awarded for projects that describe in detail how they will **complement on-farm irrigation improvements** eligible for NRCS financial or technical assistance.*

*Note: Scoring under this criterion is based on an overall assessment of the extent to which the WaterSMART Grant project will complement ongoing or future on-farm improvements. Applicants should describe any proposal made to NRCS, or any plans to seek assistance from NRCS in the future, and how an NRCS-assisted activity would complement the WaterSMART Grant project. Financial assistance through the Environmental Quality Incentives Program (EQIP) is the most commonly used program by which NRCS helps producers implement improvements to irrigation systems, but NRCS does have additional technical or financial assistance programs that may be available. Applicants may receive maximum points under this criterion by providing the information described in the bullet points below. **Applicants are not required to have assurances of NRCS assistance by the application deadline to be awarded the maximum number of points under this sub-criterion.** Reclamation may contact applicants during the review process to gather additional information about pending applications for NRCS assistance if necessary.*

*Please note: on-farm improvements themselves are not eligible activities for funding under this NOFO. This criterion is intended to focus on how the WaterSMART Grant project will complement ongoing or future on-farm improvements. NRCS will have a separate application process for the on-*



*farm components of selected projects that may be undertaken in the future, separate of the WaterSMART Grant project.*

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

- 1) Describe any planned or ongoing projects by farmers/ranchers that receive water from the applicant to improve on-farm efficiencies.*
  - a) Provide a detailed description of the on-farm efficiency improvements.*
  - b) Have the farmers requested technical or financial assistance from NRCS for the on-farm efficiency projects, or do they plan to in the future?*
  - c) 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.*
  - d) Applicants should provide letters of intent from farmers/ranchers in the affected project areas.*

As previously noted, there are still a handful of irrigators on both the upper K2 system and Parry Page Pipeline on lower K2 that have not converted over to sprinkler systems and still flood irrigate. At the time of application, there is not a current list available for specific farms that have requested assistance; however, more information has been requested of NRCS and the shareholders. Water supply and reliability have been one factor holding these individuals back. The project will improve the reliability of irrigation flows and stabilized pressures, which are the two main obstacles.

- 2) Describe how the proposed WaterSMART project would complement any ongoing or planned on-farm improvement.*
  - a) Will the proposed WaterSMART project directly facilitate the on-farm improvement? If so, how? For example, installation of a pressurized pipe through WaterSMART can help support efficient on-farm irrigation practices, such as drip irrigation. OR*
  - b) Will the proposed WaterSMART Project complement the on-farm project by maximizing efficiency in the area? If so, how?*

With the improvements or creation of a pressurized and closed system from the Dam, there will be sufficient pressures and capacity for water users to have on-demand access to irrigation water. The efficiency benefits will complement the current NRCS on-farm projects that have been installed in the last two to three years as well as provide the reliability to foster more projects.

- 3) Describe the on-farm water conservation or water use efficiency benefits that are expected to result from any on-farm work.*

- a) *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 improvements that can potentially be realized are mainly in the form of conversion from flood irrigation to sprinkler systems. Inquiry is in progress for how many acres would potentially be converted in the coming two years and data is not available at this time.

- 4) *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 Appendix C for map of service area boundaries.

*Note: On-farm water conservation improvements that complement the water delivery improvement projects selected through this NOFO may be considered for NRCS funding and technical assistance to the extent that such assistance is available. For more information, including application deadlines and a description of available funding, please contact your local NRCS office. See the NRCS website for office contact information, [www.nrcs.usda.gov/wps/portal/nrcs/main/national/contact/states/](http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/contact/states/).*

#### 1.4.5. EVALUATION CRITERION E: PLANNING AND IMPLEMENTATION (8 POINTS)

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*Up to 8 points may be awarded for these subcriteria.*

##### 1.4.5.1 SUBCRITERION E.1 – PROJECT PLANNING

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*Points may be awarded for proposals with planning efforts that provide support for the proposed project.*

*(1) Does the applicant have a Water Conservation Plan and/or System Optimization Review (SOR) in place? Does the project address an adaptation strategy identified in a completed WaterSMART Basin Study? Please self-certify or provide copies of these plans where appropriate to verify that such a plan is in place. Including a specific excerpt or a link to the planning document may also be considered where appropriate.*

*Provide the following information regarding project planning:*

- (a) *Identify any district-wide, or system-wide, planning that provides support for the proposed project. This could include a Water Conservation Plan, SOR, Drought Contingency Plan or other planning efforts done to determine the priority of this project in relation to other potential projects.*
- (b) *Describe how the project conforms to and meets the goals of any applicable planning efforts and identify any aspect of the project that implements a feature of an existing water plan(s).*
- (c) *If applicable, provide a detailed description of how a project is addressing an adaptation strategy specifically identified in a completed WaterSMART Basin Study or Water Management Options Pilot (e.g., a strategy to mitigate the impacts of water shortages resulting from climate change, drought, increased demands, or other causes)*

*For more information on Basin Studies, including a list of completed basin studies and reports, please visit: [www.usbr.gov/WaterSMART/bsp](http://www.usbr.gov/WaterSMART/bsp).*

The Class K2 Operation Improvements Project is supported by Dry Gulch Irrigation Company, Moon Lake Water Users Association and also the Duchesne County Water Conservancy District (DCWCD) who is responsible for water conservation within the Duchesne County and Western Uintah County area. The DCWCD has completed a Water Conservation Plan with this area of the County included. They also recently initiated a Watershed Plan EA for the NRCS PL-566 program which addresses the Yellowstone Feeder canal lining as one of the top 7 projects in the County, which directly benefits the water supply to the Browns Draw Reservoir and the proposed project.

The statement of work for the Watershed Plan-EA can be found on the DCWCD website, link: [http://dcwcd.org/assets/15/DCWCD\\_Statement\\_of\\_Work\\_3-25-19\\_updated\\_.pdf](http://dcwcd.org/assets/15/DCWCD_Statement_of_Work_3-25-19_updated_.pdf)

The Water Conservation Plan or Master Plan has not yet been updated online to be able to share a link within this application. Similarly, the Central Utah Water Conservancy District, which also covers the DCWCD and subsequent DGIC water service areas has a posted Water Conservation and Efficiency Plan that can be found here:

[https://cuwcd.com/assets/documents/resources/CUWCD\\_WCP10.15.2020LAYOUTVIEW.pdf](https://cuwcd.com/assets/documents/resources/CUWCD_WCP10.15.2020LAYOUTVIEW.pdf)

This project lies within the Colorado River Basin Water Supply and Demand Study, which can be found at the following link: <https://www.usbr.gov/lc/region/programs/crbstudy.html>

#### 1.4.5.2 SUBCRITERION E.2 – READINESS TO PROCEED

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*Points may be awarded based upon the extent to which the proposed project is capable of proceeding upon entering into a financial assistance agreement. Please note, if your project is selected, responses provided in this section will be used to*

*develop the scope of work that will be included in the financial assistance agreement.*

*Applications that include a detailed project implementation plan (e.g., estimated project schedule that shows the stages and duration of the proposed work, including major tasks, milestones, and dates) will receive the most points under this criterion.*

*(a) Identify and provide a summary description of the major tasks necessary to complete the project. Note: please do not repeat the more detailed technical project description provided in Section 1.3; this section should focus on a summary of the major tasks to be accomplished as part of the project.*

Project Funding Award Notification
Preliminary Engineering, NEPA & ROW
Finalize Design & Permitting
Contractor Procurement & Final Approvals from BOR
Construction of Browns Draw Outlet Improvements
Construction of K2 PRV's (Parry Page)
Pipeline Structures and Existing Structure Modification
<i>Winter Shut Down Anticipated</i>
Final Project Closeout & Begin Performance Measures
Final Walkthrough and Reporting

The above task list includes some work recently completed to have information for the funding application as well as establish feasibility of the location and design of the project. Funding tasks include this application and another local funding opportunity (non-federal) that isn't currently anticipated to be successful at this point. Once funding is obtained, there will be a kickoff meeting to move forward with the project and start the environmental permitting process, with wetland delineations and cultural survey. The Construction tasks will depend on the contractor, but generally they will likely excavate ground and install concrete vaults for the PRV's install the associated piping, and tie into the existing line, demolishing portions of the existing reservoir outlet works, and connecting the the reservoir with a new double offset butterfly valve, and testing all improvements. All work could likely be completed in cold weather. For contingency, and extra month was given in the schedule.

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

Approval from Utah Dam Safety is also a part of the project and will be addressed as plans for improvements to the dam outlet works are prepared. Plans will be created with details to provide

minimum requirements for a pressurized connection and valve work, along with an emergency drain system, which will be reviewed and approved by State staff.

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

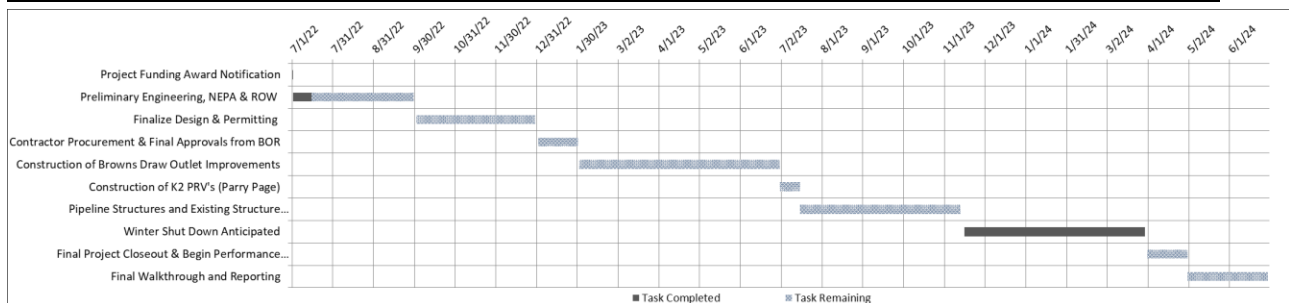
Engineering for the project has not begun. A preliminary look at pipeline hydraulics has been performed to determine the quantity of PRV's that will be needed.

*(d) Describe any new policies or administrative actions required to implement the project.*

Shareholders and Class members have met to discuss the project and have approved pursuit of the project and support for the construction of the project if funding is acquired.

*(e) 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).*

Phase Number	Milestone/Phase	Start Date	End Date
-	-	date	date
1	Project Funding Award Notification	7/1/2022	7/2/2022
2	Preliminary Engineering, NEPA & ROW	7/2/2022	10/2/2022
3	Finalize Design & Permitting	10/2/2022	1/1/2023
4	Contractor Procurement & Final Approvals from BOR	1/1/2023	2/1/2023
5	Construction of Browns Draw Outlet Improvements	2/1/2023	7/1/2023
6	Construction of K2 PRV's (Parry Page)	7/1/2023	7/16/2023
7	Pipeline Structures and Existing Structure Modification	7/16/2023	11/16/2023
8	<i>Winter Shut Down Anticipated</i>	11/16/2023	3/31/2024
9	Final Project Closeout & Begin Performance Measures	4/1/2024	5/1/2024
10	Final Walkthrough and Reporting	5/1/2024	7/1/2024



See attached schedule and tasks in Appendix A.

#### 1.4.6 EVALUATION CRITERION F: COLLABORATION (6 POINTS)

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*Up to **6 points** may be awarded for projects that promote and encourage collaboration among parties in a way that helps increase the sustainability of the water supply.*

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

*(a) 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?*

Class K2, as well as the DGIC, MLWUA, and DCWCD have held meetings and project planning efforts that have discussed these proposed improvements with support from the directors and the shareholders. There is support for these projects and funding that has been saved to go towards them. The benefits will be greatly appreciated, especially by those who receive their irrigation water through these pipelines and reservoir. Operational improvements will save hours of work and frustrations that are experienced on a weekly and sometimes daily basis in both areas of improvement.

*(b) What is the significance of the collaboration/support?*

A great community benefit lies in the area of Cedarview and Class K2. Both the upstream and downstream users of the Parry Page lateral of the K2 Pipeline will benefit from a series of hydraulically controlled PRVs above the spill location, in ways greater than just pressure and water conservation. Similar benefits will occur on the upper end of the K2 System with the reservoir connection. A smaller group of users has suffered the brunt of the operational deficiency, while others have not been affected, besides the storage and water loss that is spread across the board. This will bring some equality in the serviceability of the pipeline.

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

There are several agricultural water users who will be more inclined to move to a pressurized sprinkler system once the pressure and availability issues are stabilized. Rather than the risk of a pivot shutting down when the manual efforts of the ditchrider can't stop the pressure and flow problems, water users will feel more comfortable moving away from their traditional flooding practices that don't suffer as much with a pressure fluctuation. Benefits will enhance both the physical and psychological aspects of the areas in which improvements will be completed.

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

See attached letters of support and commitment.

**1.4.7 EVALUATION CRITERION G – ADDITIONAL NON-FEDERAL FUNDING (4 POINTS)**

*Up to 4 points may be awarded to proposals that provide non-Federal funding in excess of 50 percent of the project costs. State the percentage of non-Federal funding provided using the following calculation:*

$$\frac{\text{Non-Federal Funding}}{\text{Total Project Cost}}$$

\$600,000/\$1,100,000 = 54.5% Non-Federal Funding

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

*Up to 4 points may be awarded if the proposed project is connected to a Reclamation project or Reclamation activity. No points will be awarded for proposals without connection to a Reclamation project or Reclamation activity.*

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

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

Applicant has received WaterSMART funding in the past, in conjunction with the DCWCD on Bennett Water Association Bennett Pond Improvement Project. There is not an open contract with Reclamation at this time with DGIC, however there are several recent projects through the DCWCD that they are involved in and have their oversight and assistance to make this project successful.

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

Some of the water through the Duchesne River is routed through Starvation Reservoir and other Reclamation facilities on the river systems in the Uintah Basin.

*(c) Will the proposed work benefit a Reclamation project area or activity?*

Reclamation has been very active in the Uintah Basin. The DGIC is part of the Moon Lake Water Users, having multiple projects completed with Reclamation. The transfer of Moon Lake water

through the Yellowstone Feeder Canal (also a recent WaterSMART project with canal lining) to Browns Draw Reservoir. The proposed projects are contributing to this basin where Reclamation has been actively engaged. Further, DCWCD receives water in its Victory Pipeline through the Starvation Reservoir.

*(d) Is the applicant a Tribe?*

The applicant is not a Tribe.

## PERFORMANCE MEASURES

- 1.5. *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.*

Performance measures will be in place for the K2 pipeline, with meters on the enclosed system. The elimination of spills through this pipe to Cottonwood wash will be a measurable method to show the pipeline/PRV system's effectiveness in delivering the water demands where and when needed without spillage. Comparing historical results will provide a benchmark for water savings. The final report will document these elements after the first season of use.

***Note: program funding may be used to install necessary equipment to monitor progress. However, program funding may not be used to measure performance after project construction is complete (these costs are considered normal operation and maintenance costs and are the responsibility of the applicant).***

2.1.

## 2. PROJECT BUDGET

### FUNDING PLAN AND LETTERS OF COMMITMENT

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



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

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

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

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

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

- *Any monetary contributions by the applicant towards the cost-share requirement and source of funds (e.g., reserve account, tax revenue, and/or assessments)*
- *Any costs that will be contributed by the applicant*
- *Any third party in-kind costs (i.e., goods and services provided by a third party)*
- *Any cash requested or received from other non-Federal entities.*
- *Any pending funding requests (i.e. grants or loans) that have not yet been approved and explain how the project will be affected if such funding is denied.*

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

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

The funding plan for Class K2 and MLWUA on this project hinges upon a successful funding application through the WaterSMART program. The funds required for the non-federal cost share are directly from the UBIC shareholders and an additional assessment of approximately \$5.00 per share has been discussed with shareholders and the Board to be able to cover the project. DGIC will likely explore options to finance this amount through the Utah Board of Water Resources with a low interest loan, with a 20 year term rather than completely depleting savings accounts or asking a lump sum payment from shareholders. This will be completed in the summer of 2022 and would likely wait until the results of the WaterSMART applications is announced.

## BUDGET PROPOSAL

- The total project cost (Total Project Cost), is the sum of all allowable items of costs, including all required cost sharing and voluntary committed cost sharing, including third-party contributions, that are necessary to complete the project.*

*Table 1. – Total Project Cost Table*

<b>SOURCE</b>	<b>AMOUNT</b>	<b>% of Total</b>
Costs to be reimbursed with the requested Federal Funding (WaterSMART)	\$500,000	45.5%
Costs to be paid by the applicant	\$600,000	54.5%
Value of third-party contributions	\$0.00	0%
<b>Total Project Costs</b>	<b>\$1,100,000</b>	<b>100%</b>

*The budget proposal should include detailed information on the categories listed below and must clearly identify all items of cost, including those that will be contributed as non-Federal cost share by the applicant (required and voluntary), third-party in-kind contributions, and those that will be covered using the funding requested from Reclamation, and any requested pre-award costs. Unit costs must be provided for all budget items including the cost of services or other work to be provided by consultants and contractors. Applicants are strongly encouraged to review the procurement standards for Federal awards found at 2 CFR §200.317 through §200.327 before developing their budget proposal.*

*If you have any questions regarding your budget proposal or eligible costs, please contact the grants management specialist identified in Section G. Agency Contacts.*

*It is also strongly advised that applicants use the budget proposal format shown in Table 2 or a similar format that provides this information. If selected for award, successful applicants must submit detailed supporting documentation for all budgeted costs. It is not necessary to include separate columns indicating which cost is being contributed as non-Federal cost share or which costs will be reimbursed with Federal funds.*

***Note: The costs of preparing bids, proposals, or applications on potential Federal and non-Federal awards or projects, including the development of data necessary to support the non-Federal entity's application are not eligible project costs and should not be included in the budget proposal (2 CFR §200.460).***

## BUDGET NARRATIVE

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

### 2.3.1. SALARIES AND WAGES

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*Indicate the Project Manager and other key personnel by name and title. The Project Manager must be an employee or board member of the applicant. Other personnel should be indicated by title alone. For all positions, indicate salaries and wages, estimated hours or percent of time, and rate of compensation. The labor rates must identify the direct labor rate separate from the fringe rate or fringe cost for each category. All labor estimates must be allocated to specific tasks as outlined in the applicant's technical project description. Labor rates and proposed hours shall be displayed for each task.*

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

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

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

#### 2.3.2. FRINGE BENEFITS

---

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

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

#### 2.3.3. TRAVEL

---

*Include the purpose of each anticipated trip, destination, number of persons traveling, length of stay, and all travel costs including airfare (basis for rate used), per diem, lodging, and miscellaneous travel expenses. For local travel, include mileage and rate of compensation.*

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

#### 2.3.4. EQUIPMENT

---

*If equipment will be purchased, itemize all equipment valued at or greater than \$5,000. For each item, identify why it is needed for the completion of the Project and how the equipment was priced. Note: if the value is less than \$5,000, the item should be included under materials and supplies.*

*If equipment is being rented, specify the number of hours and the hourly rate. Local rental rates are only accepted for equipment actually being rented or leased.*

*If the applicant intends to use their own equipment for the purposes of the project, the proposed usage rates should fall within the equipment usage rates outlined by the United States Army Corps of Engineers (USACE) within their Construction Equipment Ownership and Operating Expense Schedule (EQ 1110-1-8) at [www.publications.usace.army.mil/USACE-Publications/Engineer-Pamphlets/u43545q/313131302D312D38](http://www.publications.usace.army.mil/USACE-Publications/Engineer-Pamphlets/u43545q/313131302D312D38).*

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

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

#### 2.3.5. MATERIAL AND SUPPLIES

---

*Itemize supplies by major category, unit price, quantity, and purpose, such as whether the items are needed for office use, research, or construction. Identify how these costs were estimated (i.e., quotes, engineering estimates, or other methodology). **Note: If the materials/supplies will be furnished and installed under a contract, the equipment should be included in the construction contract cost estimate.***

Materials and supplies will be part of the contracted portion of project and will be documented as required. Costs were estimated through an engineer's opinion of probable cost.

#### 2.3.6. CONTRACTUAL

---

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

An engineering consultant will be contracted, through the DCWCD and/or DGIC's procurement process to perform the design and construction engineering for this project. JDE has assisted in the preparation of the application and a budgetary estimate of time and rates. The consultant will prepare bid packages for the project. They will monitor progress during construction to provide quality assurance with plans and specifications. The table below includes the design engineering laborer classifications, billing rates, and estimated number of hours. 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.

Table 1. Design Engineering Hours & Rates for Class K2 Operation Improvement Project

Role/Position	Rate	Hours	Total
Senior Project Manager	\$165.00	80	\$13,200.00
Project Engineer	\$125.00	150	\$18,750.00
Graduate Engineer	\$105.00	200	\$21,000.00
CAD Technician	\$100.00	158	\$15,800.00
Professional Land Surveyor	\$140.00	25	\$3,500.00
Survey Technician	\$90.00	75	\$6,750.00
Administrative Assistant	\$75.00	80	\$6,000.00
Construction Observation Technician	\$100.00	200	\$20,000.00
<b>Total</b>		<b>767</b>	<b>\$105,000.00</b>

### 2.3.7. THIRD-PARTY IN-KIND CONTRIBUTIONS

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

At this time, no third-party in-kind contributions are expected, solely monetary contributions by DGIC and MLWUA. DGIC and MLWUA staff will assume the project upon completion and be instrumental in tracking the performance measures with DCWCD website being the database that logs the flow data.

### 2.3.8. ENVIRONMENTAL AND REGULATORY COMPLIANCE COSTS

*Prior to awarding financial assistance, Reclamation must first ensure compliance with Federal environmental and cultural resources laws and other regulations (“environmental compliance”). Every project funded under this program will have environmental compliance activities undertaken by Reclamation and the recipient. Depending on the potential impacts of the project, Reclamation may be able to complete its compliance activities without additional cost to the recipient. Where environmental or cultural resources compliance requires significant participation by Reclamation, costs incurred by Reclamation will be added as a line item to the budget during development of the financial assistance agreement and cost shared accordingly (i.e., withheld from the Federal award amount). Any costs to the recipient associated with compliance will be identified during the process of developing a final project budget for inclusion in the financial assistance agreement.*

Environmental costs are included in the project budget (see Appendix A). The proposed project is designed to minimize environmental impacts. Staff at the local Bureau of Reclamation office were briefly consulted regarding the development of environmental project costs. Approximately 3% percent or \$34,000 of the total budget was allocated to environmental costs, including environmental coordination with agencies, a cultural resource survey, and the cost anticipated for Reclamation's review of the environmental compliance documentation. This amount should be ample for the needs of the project.

#### 2.3.9. OTHER EXPENSES

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

Not included.

#### 2.3.10. INDIRECT COSTS

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*Indirect costs are costs incurred by the applicant for a common or joint purpose that benefit more than one activity of the organization and are not readily assignable to the activities specifically benefitted without undue effort. Costs that are normally treated as indirect costs include, but are not limited to, administrative salaries and fringe benefits associated with overall financial and organizational administration, operation and maintenance costs for facilities and equipment, and payroll and procurement services. If indirect costs will be incurred, identify the proposed rate, cost base, and proposed amount for allowable indirect costs based on the applicable cost principles for the applicant's organization. It is not acceptable to simply incorporate indirect rates within other direct cost line items.*

*Any non-Federal entity that does not have a current negotiated (including provisional) rate, except for those non-Federal entities described in appendix VII to 2 CFR §200, paragraph D.1., may elect to charge a *de minimis* rate of 10% of modified total direct costs (MTDC) which may be used indefinitely. For further information on MTDC, refer to 2 CFR §200.68 available at [www.ecfr.gov](http://www.ecfr.gov).*

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

Not Included.

### 3. REQUIRED PERMITS OR APPROVALS

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

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

It is assumed that the level of NEPA analysis required for the project would be a categorical exclusion. It is anticipated that the project would not impact jurisdictional waters of the U.S. and would not require permitting with the U.S. Army Corps of Engineers. No impacts to listed species are anticipated. State of Utah Dam Safety will require a review and approval of plans associated with Browns Draw Reservoir.

### 4. LETTERS OF SUPPORT AND LETTERS OF PARTNERSHIP

*Please include letters from interested stakeholders supporting the proposed project. To ensure your proposal is accurately reviewed, please attach all letters of support/partnership letters as an appendix. Letters of support received after the application deadline for this NOFO will not be considered in the evaluation of the proposed project.*

*Category B applicants must include a letter from the Category A partner, stating that they are acting in partnership with the applicant and agree to the submittal and content of the proposal (see Section C.1. Eligible Applicants). Letters of Partnership must be received by the application deadline for this NOFO—otherwise the applicant will be considered ineligible, and the proposed project will not be evaluated.*

Letters of support are included in Appendix B.

### 5. OFFICIAL RESOLUTIONS

*Include an official resolution adopted by the applicant's board of directors or governing body, or, for State government entities, an official authorized to commit the applicant to the financial and legal obligations associated with receipt of a financial assistance award under this 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*
- *The capability of the applicant to provide the amount of funding and/or in-kind contributions specified in the funding plan*
- *That the applicant will work with Reclamation to meet established deadlines for entering into a grant or cooperative agreement*

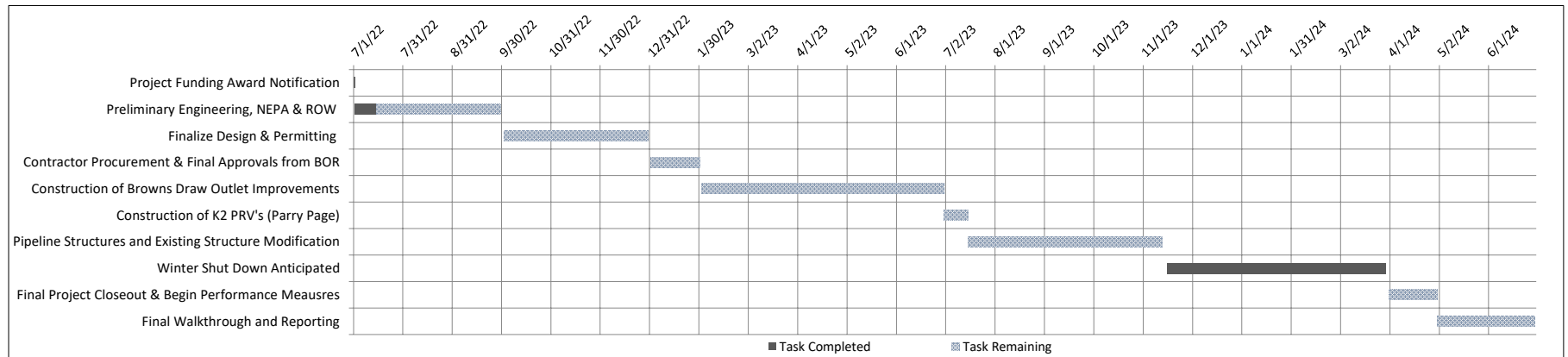
***An official resolution meeting the requirements set forth above is mandatory. If the applicant is unable to submit the official resolution by the application deadline because of the timing of board meetings or other justifiable reasons, the official resolution may be submitted to [bor-sha-fafoa@usbr.gov](mailto:bor-sha-fafoa@usbr.gov) up to 30 days after the application deadline.***

The DCWCD board will meet on November 10th to schedule a meeting to sign official resolution and send to Reclamation within 30 days.

## APPENDIX A. PROJECT BUDGET AND SCHEDULE

**Project Schedule - Class K2 Operation Improvement Project**

Phase Number	Milestone/Phase	Start Date	End Date	Percent Complete	Task Duration	Task Completed	Task Remaining	Notes
-	-	date	date	%	days	days	days	-
1	Project Funding Award Notification	7/1/2022	7/2/2022	100%	1	1	0	
2	Preliminary Engineering, NEPA & ROW	7/2/2022	10/2/2022	15%	90	14	77	
3	Finalize Design & Permitting	10/2/2022	1/1/2023	0%	89	0	89	
4	Contractor Procurement & Final Approvals from BOR	1/1/2023	2/1/2023	0%	30	0	30	
5	Construction of Browns Draw Outlet Improvements	2/1/2023	7/1/2023	0%	150	0	150	
6	Construction of K2 PRV's (Parry Page)	7/1/2023	7/16/2023	0%	15	0	15	
7	Pipeline Structures and Existing Structure Modification	7/16/2023	11/16/2023	0%	120	0	120	
8	<i>Winter Shut Down Anticipated</i>	11/16/2023	3/31/2024	100%	135	135	0	
9	Final Project Closeout & Begin Performance Measres	4/1/2024	5/1/2024	0%	30	0	30	
10	Final Walkthrough and Reporting	5/1/2024	7/1/2024	0%	60	0	60	



Owner: Dry Gulch Irrigation Company  
 Project: Class K2 Operation Improvement Project  
 Today's Date: 11/3/2021



www.jonesanddemille.com

**CONCEPT COST CLASS K2 PARRY PAGE PRVS (FULL PROJECT)**

Item No.	Item Description	Unit	Estimated Quantity	Unit Price	Price
1-1	MOBILIZATION	LUMP	1	\$ 62,000	\$ 62,000
1-2	INSTALL 12" PRV STATION w/BYPASS VALVES*	EACH	4	\$ 80,000	\$ 320,000
1-3	INSTALL CONTINUOUS ACTING AIR VENT STATIONS	EACH	12	\$ 5,000	\$ 60,000
1-4	REMOVE STAND PIPES	EACH	10	\$ 1,000	\$ 10,000
1-5	MODIFICATION OF GOLIATH - PRV CONVERSION	LUMP	1	\$ 15,000	\$ 15,000
1-6	REMOVE AND DECOMMISSION SPILL PIPES AND OBSOLETE ITEMS	LUMP	1	\$ 20,000	\$ 20,000
1-7	INSTALL PRESSURE RELIEVE AND SURGE PROTECTION VALVES	EACH	4	\$ 10,000	\$ 40,000
1-8	SURVEY, DESIGN/CONSTRUCTION ENGINEERING, LEGAL	LUMP	1	\$ 60,000	\$ 60,000
1-9	ENVIRONMENTAL COMPLIANCE	%	3%	\$ 22,000	\$ 22,000
1-10	CONTINGENCY & ITEMS NOT ESTIMATED	%	15%	\$ 108,000	\$ 108,000
<b>TOTAL CONCEPT PROJECT COST PRV INSTALLATION</b>					<b>\$ 717,000</b>

**CONCEPT COST BROWNS DRAW RESERVOIR CONNECTION**

Item No.	Item Description	Unit	Estimated Quantity	Unit Price	Price
2-1	MOBILIZATION	LUMP	1	\$ 23,000	\$ 23,000
2-2	SLIPLINING EXISTING OUTLET PIPE	FOOT	370	\$ 210	\$ 78,000
2-3	GROUTING ANNULAR SPACE	LUMP	1	\$ 32,000	\$ 32,000
2-4	CONNECT TO EXISTING BROWNS DRAW OUTLET	LUMP	1	\$ 40,000	\$ 40,000
2-5	INSTALL BYPASS/FLUSH VALVE PER DAM SAFETY	LUMP	1	\$ 45,000	\$ 45,000
2-6	EXISTING SITE WORK AND DEMOLITION	LUMP	1	\$ 20,000	\$ 20,000
2-7	MAINLINE METER & CONNECT TO TELEMETRY	LUMP	1	\$ 30,000	\$ 30,000
2-8	SURVEY, DESIGN/CONSTRUCTION ENGINEERING, LEGAL	LUMP	1	\$ 45,000	\$ 45,000
2-9	ENVIRONMENTAL COMPLIANCE	%	3%	\$ 12,000	\$ 12,000
2-10	CONTINGENCY & ITEMS NOT ESTIMATED	%	15%	\$ 58,000	\$ 58,000
<b>TOTAL CONCEPT PROJECT COST RESERVOIR CONNECTION</b>					<b>\$ 383,000</b>

<b>GRAND TOTAL CONCEPT PROJECT COST CLASS K2 OPERATION IMPROVEMENTS</b>					<b>\$ 1,100,000</b>
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APPENDIX B. LETTERS OF SUPPORT

# *Dry Gulch Irrigation Company - Established 1905*

"Quality People, Providing Quality Water and Service through Quality Delivery Systems"

263 East Lagoon Street - PO Box 265 - Roosevelt, Utah 84066

[drygulch@ubtanet.com](mailto:drygulch@ubtanet.com)

Directors: "A" Junior Tidwell "B" Rodger Ames "C" Tracy Killian "D" Mark Winterton  
"E" Mark Kettle "F" Wayne Malnar "K2" Rod Olsen  
Secretary: Bonnie L Dehart

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October 13, 2021

Bureau of Reclamation  
Denver, CO  
R22AS00023

**RE: Class K2 Operation Improvement Project Phase II – Letter of Commitment from Dry Gulch Irrigation Company**

Grant Application Review Committee:

The Dry Gulch Irrigation Company is submitting this letter to show support and cost-share funding commitment for the proposed K2 Operation Improvement Project Phase II being submitted for funding assistance by the Duchesne Water Conservancy District through the Bureau of Reclamation's WaterSMART Grant opportunity.

Funds will be secured through a combination of Class K2 and Class E savings and a loan from the State of Utah Board of Water Resources to provide the full non-Federal cost-share amounts listed in the budget plan for the project. Funds will be secured to be available by the time the Reclamation agreement is ready for acceptance. There are no other time-constraints or contingencies for this commitment of funding.

This phase of the project will provide a greater level of enhancements and operational ability for the Class K2 system and water users who experience loss of water, shutdowns, losses of pressure, and inefficient and inconsistent deliveries in the Dry Gulch Irrigation Class K2 service area.

We appreciate the opportunity to partner with Moon Lake Water Users and Dry Gulch Class K2 and Class E sharing in the project as well as the possible funding assistance from the WaterSMART grant. Please contact us with further updates and any other required information. We look forward to hearing about the results of the grant application.

Sincerely,



Rodger Ames  
President  
Dry Gulch Irrigation Company



# MOON LAKE WATER USERS ASSOCIATION

P.O. Box 235  
263 East Lagoon Street  
Roosevelt, Utah 84066  
Office: 435-722-2002 Fax: 435-722-2241

Manager:  
Dex Winterton  
Mobile: 435-823-4174

October 13, 2021

Bureau of Reclamation  
Denver, CO  
R22AS00023

**RE: Class K2 Operation Improvement Project Phase II – Letter of Commitment from MLWUA**

Grant Application Review Committee:

The Moon Lake Water Users Association (MLWUA) is submitting this letter to show support and cost-share funding commitment for portions dealing with the Browns Draw Reservoir outlet modifications for the proposed K2 Operation Improvement Project Phase II being submitted for funding assistance by the Duchesne Water Conservancy District through the Bureau of Reclamation's WaterSMART Grant opportunity.

Funds will be allocated from MLWUA savings to provide the full non-Federal cost-share amounts listed in the budget plan for the project. Depending on other budget needs, a loan may be secured from the State of Utah Board of Water Resources in time for meeting the requirements. There are no time-constraints or contingencies for this commitment of funding.

MLWUA owns and operates the Browns Draw Reservoir and works with Dry Gulch Irrigation to deliver stored water into the K2 Pipeline and routing water for the State Road lateral on the Class E system. We will work with Utah Dam Safety to obtain approvals of the necessary improvements and design of the outlet pipe slip lining and valving to allow connection to a closed pipeline system. This proposed project will allow MLWUA to avoid having to make frequent adjustments of flow to the discharge and eliminate losses at the dam outlet/pipeline inlet screen.

We appreciate the opportunity to partner with the Duchesne County Water Conservancy District and Dry Gulch Class K2 and Class E sharing in the project as well as the possible funding assistance from the WaterSMART grant. Please consider this application for funding, as it will benefit multiple entities and increase water savings and pressures for those nearby the dam.

Sincerely,

Kirk Christensen  
President  
Moon Lake Water Users Association





**APPENDIX C. PROJECT MAPS**






**BROWNS DRAW RESERVOIR**

**RESERVOIR OUTLET**

**CLASS K2 SERVICE AREA**

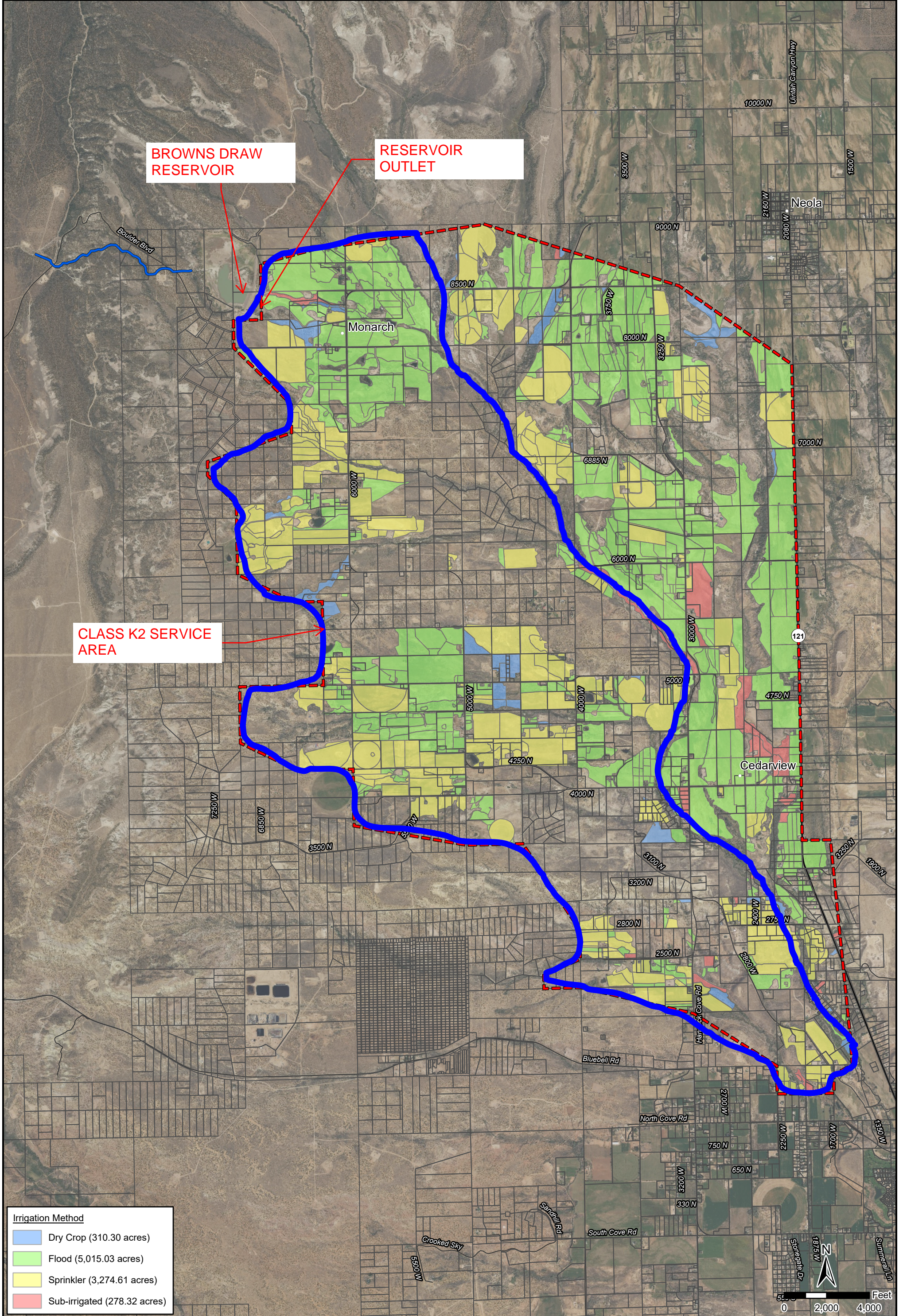
Irrigation Method	
	Dry Crop (310.30 acres)
	Flood (5,015.03 acres)
	Sprinkler (3,274.61 acres)
	Sub-irrigated (278.32 acres)

	Proposed Project Extent
	Economic Analysis Boundary (18,047.70 acres)
	Parcels



**Jones & DeMille Engineering**  
- Shaping the Quality of Life -  
800.748.5275 www.jonesanddemille.com

<b>Duchesne County Water Conservancy District</b>		Duchesne County
<b>Watershed Plan EA Economic Analysis - Coyote Canal: Irrigation Method</b>		
Map Name: H:\JD\Proj\1907-354\Design\GIS\Projects\Design\1907-354_Design.aprx - Exh DCWCD Watershed EA Coyote Canal Economic Analysis - Irrigation Method 11x17P		
Project Number: 1907-354	Drawn by: JEM 09-21	Last Edit: 09/28/2021
		Scale: 1" = 4,000'
		<b>1</b>



APPENDIX D. WATER SAVINGS DATA

**Browns Draw Spill Calculations**

Flow during spill (cfs)	5
Spill Months (May-Sep)	5
Spill days (1 day per week)	21.4
Spill Hours (12 hours per day)	257.1
<b>Total Spill Volume (ac-ft)</b>	<b>106</b>

<b>Cottonwood Spill Calculations</b>	
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<b>Total Volume Lost last 5 years (ac-ft)</b>	<b>4190.67</b>
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<b>Average Acre feet lost per year</b>	<b>838.13</b>
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APPENDIX E. PHOTOS & EXAMPLE PLANS



Figure 1: Cottonwood Spill Location and Stand Pipes



Figure 2: Telemetry on Overflow Pipe at Cottonwood Spill



Figure 3: Cottonwood Spill Pipes Proposed to Be Abandoned by Closing System



**Figure 4: Goliath Pressure Sustaining Valve - To be converted to a PRV Upon Connection to Reservoir**



**Figure 5: Stand Pipe and Vent at Goliath, Setting Hydraulic Grade for Parry Page Line**

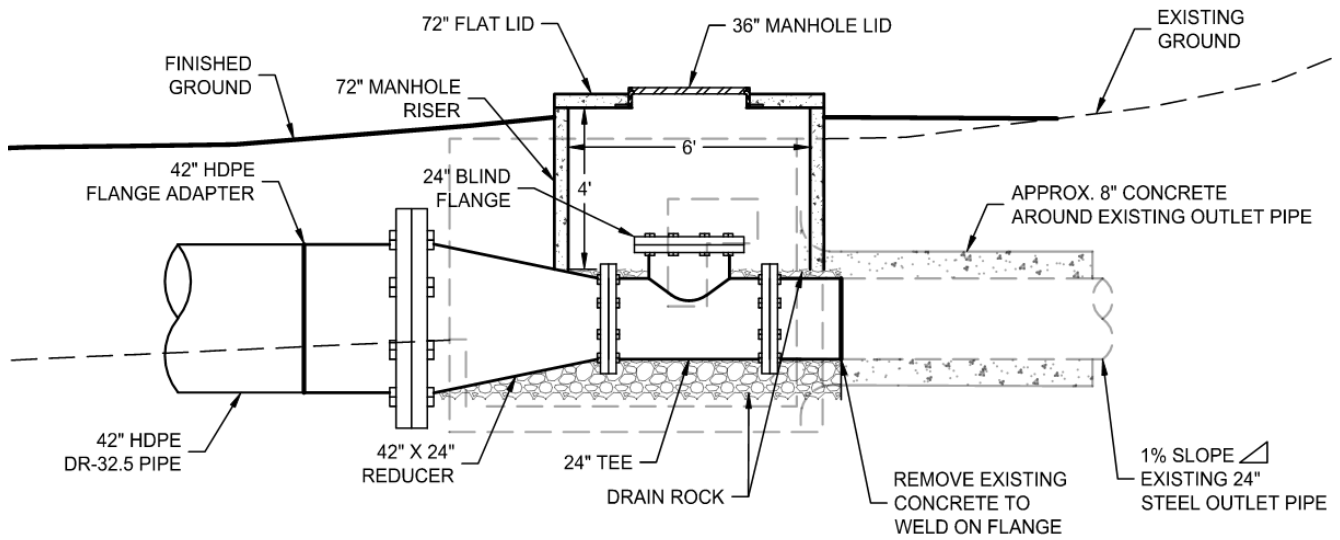




**Figure 6: Browns Draw Outlet Structure & Screen**



**Figure 7: K2 Pipeline Inlet Screen & Baffle of Outlet**



**PROFILE VIEW**

Figure 8: Example Reservoir Connection Detail

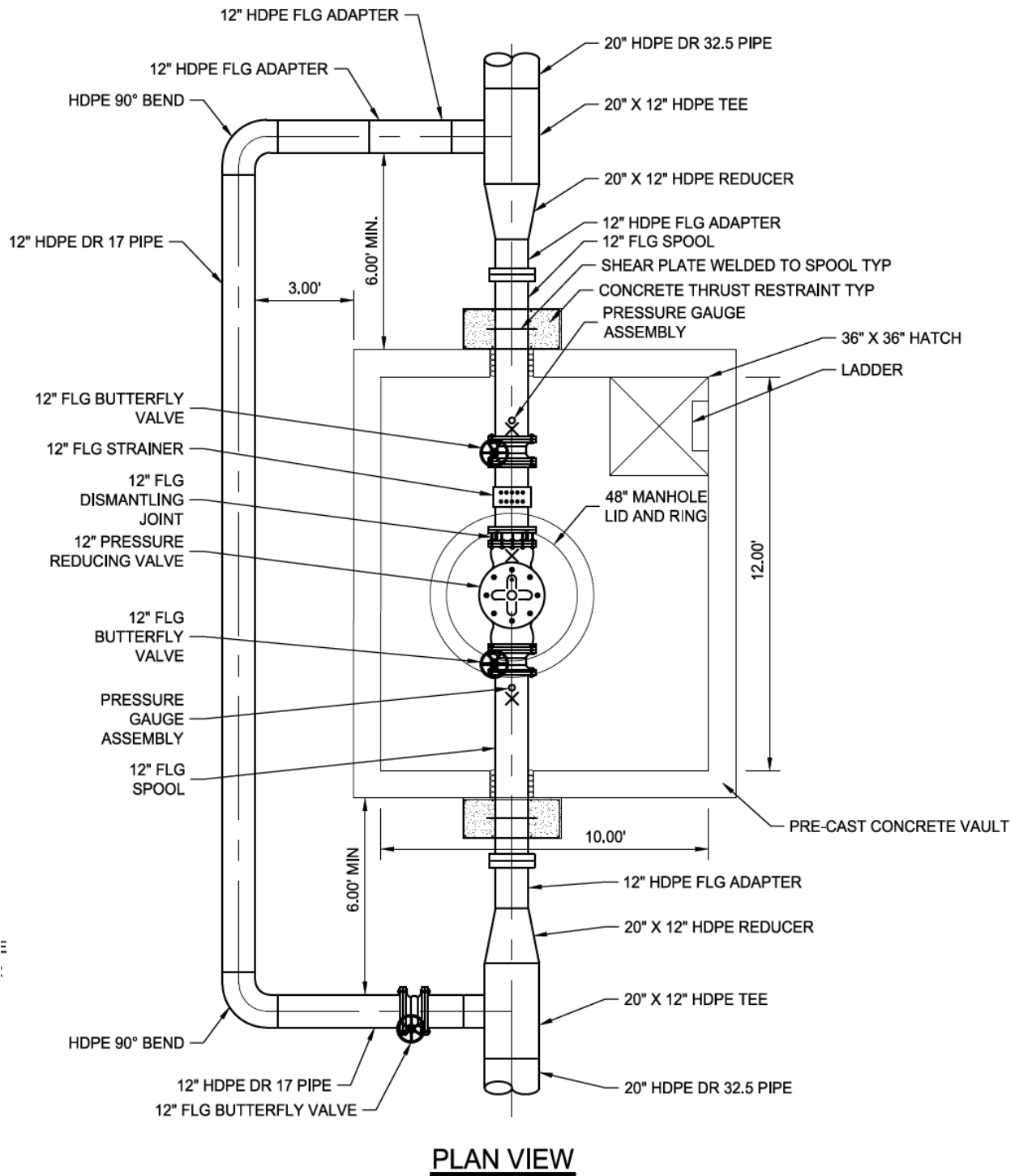


Figure 9: Example Pressure Reducing Valve Station w/Bypass