WaterSMART:
Water and Energy Efficiency Grants for FY 2014

FOA No. R14AS00001

Funding Group II

Holmes Creek Irrigation Company
Water Conservation and Renewable Energy Project

Layton, Utah

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January 23, 2014

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IV.C. EXECUTIVE SUMMARY & BACKGROUND DATA

1. Executive Summary

The executive summary should include:

- *The date, applicant name, city, county, and state.*
- *A one paragraph project summary that specifies the work proposed, including how project funds will be used to accomplish specific project activities and briefly identifies how the proposed project contributes to accomplishing the goals of this FOA (see Section III.B, "Eligible Projects" in the FOA).*
- *State the length of time and estimated completion date for the project.*
- *Whether or not the project is located on a Federal facility.*

Start date: September 1, 2014

Applicant: Holmes Creek Irrigation Company
Layton City, Davis County, Utah

Project Title: Holmes Creek Irrigation Company Water Conservation and Renewable Energy Project

Project Summary:

The Holmes Creek Irrigation Company (HCIC) Water Conservation and Renewable Energy Project will conserve an estimated 800 acre-feet of water per year. About 200 acre-feet will be left in Holmes Creek, which is part of the Lower Weber Basin, to benefit the fish habitat in the water courses and the Great Salt Lake bird habitat. Water conservation will be realized by piping 2.6 miles of over 90-year-old canals and deteriorating concrete pipeline. This transmission pipeline will deliver water to Kayscreek Irrigation Company's (KIC) system for use within their pressurized system west of I-15, while maintaining water delivery to Holmes Creek shareholders' via existing ditches. These ditches are proposed to be piped in the future for a pressurized irrigation system. Water marketing to Layton City will allow precious culinary water to be conserved for future development by integrating this project with KIC's existing pressurized irrigation system. High pressures in the pipe will be dissipated at the proposed hydropower plant.

This project is essential to begin the establishment of a pressurized irrigation system in Layton City east of the freeway. While there is a pressurized system west of the freeway installed by KIC, no infrastructure has been installed east of the freeway. With the transmission pipeline installed, additional phases can be completed in the future, allowing for additional water savings within HCIC's distribution system as ditches and canals are converted to pressurized pipe.

Critical steps to accomplish this project include: acquiring funding commitments, obtaining necessary permits, and moving forward in the design process. Funding assistance, such as from the WaterSMART grant program, is essential to moving this project forward. Members of the HCIC have proposed some aspects of system improvements since 1998; however, no progress has been made due to lack of funds. After collaborating for years to help this project move forward, HCIC board members are now looking to obtain funding sources to realize the potential benefits.

This project fits the WaterSMART: Water and Energy Efficiency Grants for FY 2014 very well by fulfilling all of the task areas including: water conservation, power generation, environmental benefits, and water marketing.

Approximate Length: 24 months

Completion Date: September 1, 2016

2. Background Data

Location (state, county, and direction from nearest town)

Provide a map of the area showing the geographic location (include the State, county, and direction from nearest town).

The proposed project is located in Layton City, east of I-15. Figure 1 on the following page shows the location of the proposed project.

Applicant's Water Supply

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

HCIC's water right #31-2462 allows for 1,500 acre-feet to be used twice to fill its reservoir (Holmes Reservoir), or for a total of up to 3,000 acre-feet of water for irrigation uses. Of the 1,500 acre-feet allocation, it was determined that 1,300 acre-feet comes from the North Fork Holmes Creek and the remaining 200 acre-feet is diverted from Snow Creek. The annual diversion from the North Fork Holmes Creek is up to 2,600 acre-feet and up to 400 acre-feet from Snow Creek by applying the twice-a-year filling allowance. The full amount has not historically been used due to the size and condition of the diversion structure and transmission line. However, a new diversion structure and transmission line was recently constructed.

Currently, there are 400 shares in the Holmes Creek Irrigation Company representing 92 shareholders.

Historically an estimated average of 2,200 acre-feet has been released from the reservoir annually. It is projected that the full water right of 3,000 acre-feet will be released and delivered to water users due to the new diversion structure. Water is being used for the irrigation of traditional crops including alfalfa/hay. In addition, some water is being used to irrigate lawns and gardens of residential users in Layton City.

Describe Water Delivery System

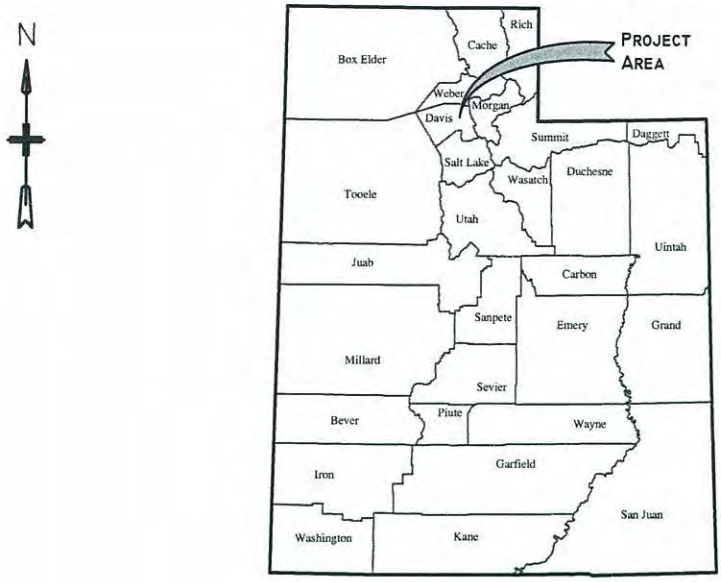
In addition, describe the applicant's water delivery system as appropriate. For agricultural systems, please include the miles of canals, miles of laterals, and existing irrigation improvements (i.e., type, miles, and acres). For municipal systems, please include the number of connections and/or number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

The majority of the HCIC's infrastructure was constructed from the 1920's to 1950's. Water is diverted from the water sources and delivered via pipe to the Holmes Reservoir. Water enters the delivery system from the Holmes Reservoir 24-inch outlet, which currently transitions to a 12-inch pipe for the next 3,400 feet. At this location, the pipe is upsized to an 18-inch pipe transitioned with an open concrete box. This pipeline and an open ditch system of three ditches deliver water to HCIC's residential, commercial, and agricultural customers. Portions of the open ditch system have been enclosed with concrete pipe which is deteriorating and cracked, resulting in additional water losses.

Renewable Energy or Energy Efficiency

If the application includes renewable energy or energy efficiency elements, describe existing energy sources and current energy uses.

There are currently no existing energy sources.



State of Utah

Layton City

FRANSON CIVIL ENGINEERS

DATE:	JANUARY 21, 2014
SCALE:	1" = 1000'
HC_Location Map.dwg	H:\CLIENT\9-North Utah Area\Holmes Creek - WaterSmart\3-Drawings
LAYOUT: Location Map	

WATER SMART GRANT APPLICATION

HOLMES CREEK IRRIGATION COMPANY

WATER CONSERVATION PROJECT

FIGURE 1

LOCATION MAP

A small hydropower plant will be installed along the pipeline to dissipate some of the excess energy as well as produce power that can be added to the power grid. It has been calculated that at $0.05 per kWh, based on the flows and the change in elevation, the turbines will produce approximately 575,000 kWh per year, which equates to annual power revenue of $28,700. This will benefit the HCIC to operate and maintain the system as well as make loan payments for their cost share of the project.

Prior Work with Reclamation

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

Originally constructed in 1922, Holmes Dam was determined to be unsafe and was reconstructed in 1998 to meet current seismic and hydraulic design standards. The HCIC worked with Reclamation during this process.

3. Technical Project Description

Technical Project Description

The technical project description should describe the work in detail, including specific activities that will be accomplished as a result of this project. This description shall have sufficient detail to permit a comprehensive evaluation of the proposal.

A 2.6 mile transmission pipeline will be designed and constructed to carry water from the Holmes Reservoir outlet along the existing easements along Gentile Street to I-15. Figure 2 shows the project features including a 21-inch and reduced to an 18-inch pipeline that will carry up to 12 cfs. The majority of the project will be constructed on a busy asphalt street. The pipeline will carry water that has previously been delivered through the existing canal and deteriorating concrete pipeline. At the head of the old outlet pipeline is a recent 4-inch break. The existing canals and deteriorating pipeline have a lot of surface area and cracks for seepage and evaporative losses. By keeping the headloss to a minimum, the life of the pipe will be extended and the pressure head will provide opportunities for a small hydropower facility to take advantage of the energy that will need dissipating. The turbine will produce approximately 575,000 kWh. The power produced will be sold to Rocky Mountain Power.

A side benefit to piping this portion of the system is the improved safety of eliminating the open canals along Gentile Street. Children and animals are drawn to water sometimes with potentially disastrous results. By placing the canals in underground pipe, the opportunity for a tragic accident is removed. Additionally, canal breaks can wash out property and create costly repairs in urban developments.

Water savings generated by this project will allow water supplies to be used for environmental benefits and for water marketing with Layton City.

Task A – Water Conservation: Water will be conserved by eliminating seepage and evaporation losses. A water loss analysis performed in 2011 showed annual losses of 27-31% in the system on an average year and would typically be higher in dry years. Assuming a conservative loss of 27%, the proposed project would result in an **estimated annual water savings of 800 acre-feet** based on the water delivered into the system.

Additionally, installing six water meters along the pipeline at each turnout will facilitate measuring water and detecting leaks.

Task B – Energy-Water Nexus: Hydroelectric power comes from the natural flow of water. The energy is produced by the fall of water turning the blades of a turbine. The turbine is connected to a generator that converts the energy into electricity. The original use of irrigation is retained as the water is not consumed as it passes through.

Renewable energy generates a range of benefits at the local, state, regional, national, and global levels. It uses natural resources, reduces greenhouse gas emissions, and reduces U.S. dependence on foreign energy sources. Renewable energy can also furnish long-term price stability as it rarely depends on costly fuel sources. (Dept of EERE, July 2011)

The project facility will have a 131 kilowatt (kW) capacity and generate approximately 575,000 kWh per year.

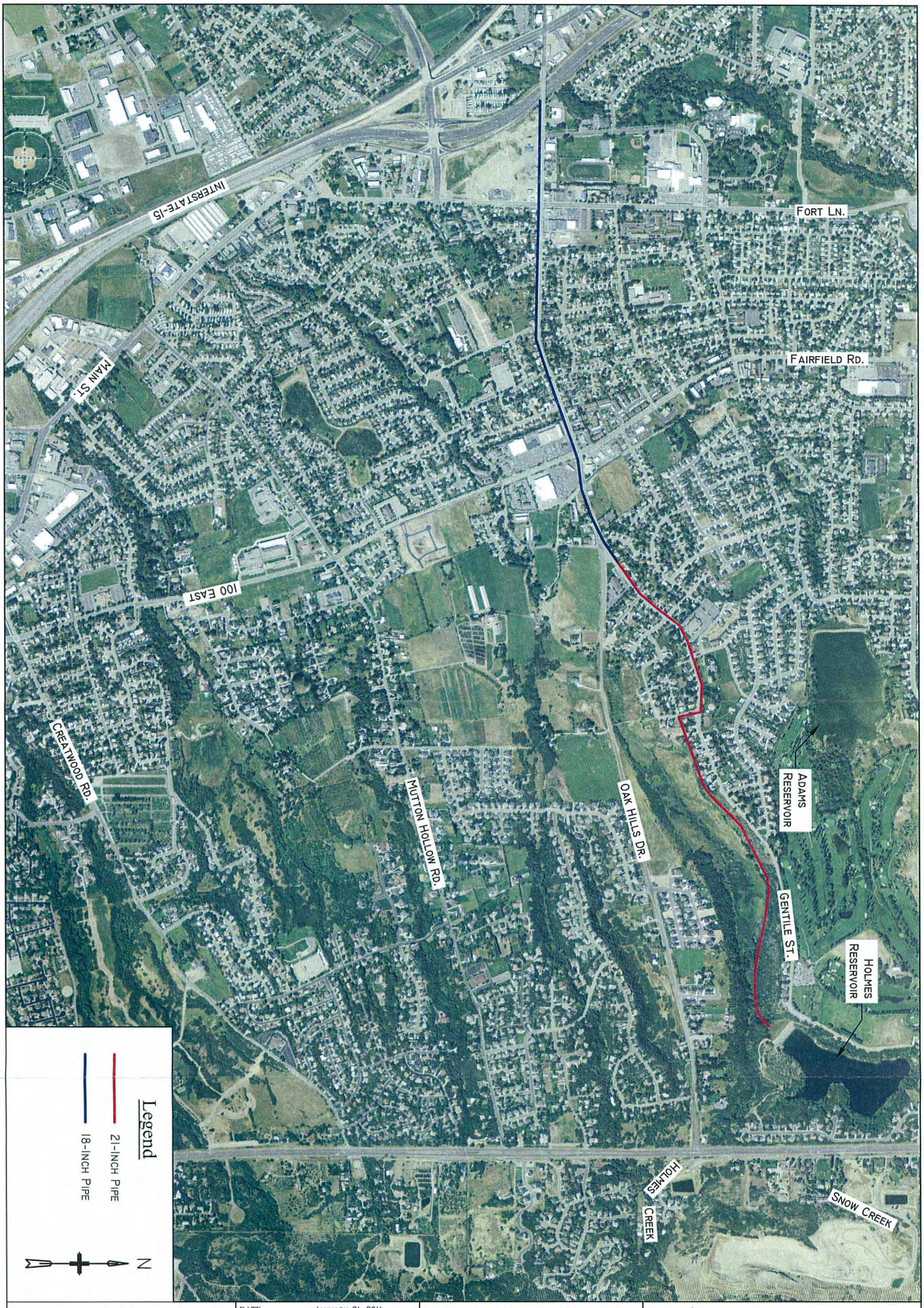


FIGURE 2

PIPING MAP

DATE:	JANUARY 21, 2014
SCALE:	1" = 600'
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H:\CLIENT\9-North Utah Area\Holmes Creek - WaterSmart\3-Drawings	
LAYOUT: Piping Map	

WATER SMART GRANT APPLICATION

HOLMES CREEK IRRIGATION COMPANY

WATER CONSERVATION PROJECT

FRANSON CIVIL ENGINEERS

Task C – Benefits to Endangered Species:
The Holmes Creek Reservoir drainage empties to the Great Salt Lake (GSL), which provides irreplaceable habitat for several million residents and migratory water birds. Several threatened and endangered species of birds spend time at GSL, such as the largest documented population of Snowy Plovers. The Bald Eagle also visits the highly productive wetlands and rivers that surround the GSL. The lake's ecosystems are threatened by new diversions from the freshwater streams. Contributing 200 acre-feet from the conserved water to the ecosystem will help to sustain the endangered species.

Task D – Water Markets: Six hundred acre-feet of conserved water will be available to sell to Layton City, allowing culinary water supplies to meet other existing water supply needs. Layton City has expressed interest in HCIC's water to be used west of I-15 where there is an existing pressurized system owned and operated by Kayscreek Irrigation Company (KIC). A water agreement can be made with Layton City and KIC to deliver pressurized irrigation water to the existing system. The additional supplies from HCIC will allow culinary water supplies to be used for culinary water uses. Layton City has determined that an estimated 1,600 acre-feet of culinary water will be saved. The city has expressed their support to the project as publicized in a letter dated February 1, 2011, a copy of which can be found in the Appendix.

Task E – Other Contributions to Water Supply Sustainability: As mentioned above, culinary water supplies typically used for outdoor use will be able to be used for growth as irrigation water is made available for outdoor uses. By using irrigation water made available by this project, it provides sustainability of precious culinary water sources.

Task F – Implementation and Results: This project helps with Utah's water conservation goals. The project is ready to begin upon approval and has a viable schedule.

Task G – Additional Non-Federal Funding: This project will provide non-federal funding of 71%. Although a small amount of grant monies are requested, those funds will go a long way in making this project a reality.

Task H – Connection to Reclamation Project Activities: This project is located within the Weber Basin and will contribute water to the Great Salt Lake Basin for environmental benefits.

4. Evaluation Criteria

(See Section V for additional details. Including a detailed description of each criterion and subcriterion and points associated with each.)

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.

Technical Proposal: Evaluation Criteria

The Evaluation Criteria portion of your application should thoroughly address each of the following criterion and subcriterion in the order presented to assist in the complete and accurate evaluation of your proposal. (Note: it is suggested that applicants copy and paste the below criteria and subcriteria into their applications to ensure that all necessary information is adequately addressed). ***Applications will be evaluated against the Evaluation Criteria (listed below), which comprise 100 points of the total evaluation weight and has a maximum page limit of 50.*** *Please note that projects may be prioritized to ensure balance among the program Task Areas and to ensure that the projects address the goals of the WaterSMART program.*

Please note, if the work described in your application is a phase of a larger project, please only discuss the benefits that will result directly from the work discussed in your application and that is reflected in the budget, not the overall project.

Evaluation Criterion A: Water Conservation

Up to 28 points may be awarded for a proposal that will conserve water and improve efficiency. Points will be allocated to give consideration to projects that are expected to result in significant water savings.

Subcriterion No. A.1—Water Conservation:

For projects with quantifiable and sustained water savings, please respond to Subcriterion No. 1(a)—Quantifiable Water Savings described in this subsection. If the project does not result in quantifiable water savings but will improve water management, please respond to Subcriterion No. 1(b)—Improved Water Management described in this subsection. If the project has separate components that will result in both quantifiable water savings and improved water management, an applicant may respond to both Subcriteria No. A.1(a) and (b). However, an applicant is limited to 20 points total under both Subcriteria No. A.1(a) and (b).

Subcriterion No. A.1(a) – Quantifiable Water Savings

*Up to **20 points** may be allocated based on the quantifiable water savings expected as a result of the project.*

***Describe the amount of water saved.** 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 provide sufficient detail supporting how the estimate was determined, including all supporting calculations. 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 (please note, the following is not an exclusive list of eligible project types. If your proposed project does not align with any of the projects listed below, please be sure to provide support for the estimated project benefits, including all supporting calculations and assumptions made).*

In addition, all applicants should be sure to address the following:

- *What is the applicant's average annual acre-feet of water supply?*

The HCIC's average annual acre-feet of water supply is 3,000 acre-feet.

- *Where is that water currently going (e.g., back to the stream, spilled at the end of the ditch, seeping into the ground, etc.)?*

A new diversion built in 2013 diverts water from Holmes Creek into Holmes Reservoir. Once leaving the reservoir, water is lost in the distribution system. There is a permanent fixture at the diversion structure that ensures a minimum amount of water will remain in the channel for environmental benefits.

- *Where will the conserved water go?*

An estimated 800 acre-feet of water per year will be conserved. Six hundred acre-feet will be used for water marketing to Layton City. HCIC will not divert approximately 200 acre-feet of HCIC's water right into the reservoir to allow it to remain in Holmes Creek, which is part of the Lower Weber Basin. This will be in order to benefit the fish habitat in the water courses and the Great Salt Lake bird habitat.

Please include a specific quantifiable water savings estimate; do not include a range of potential water savings.

Please address the following questions according to the type of project you propose for funding.

***(1) Canal Lining/Piping:** Canal lining/piping projects can provide water savings when irrigation delivery systems experience significant losses due to canal seepage. Applicants proposing lining/piping projects should address the following:*

- **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.**

A water loss analysis performed in February 2011 by Great Basin Engineering showed annual losses of 27-31% in the system on an average year. They estimated the losses by comparing what has been available in the water sources (North Fork Holmes Creek and Snow Creek) to the amount of water being distributed to the users. Assuming a conservative loss of 27%, the proposed project would result in an **estimated annual water savings of 800 acre-feet** based on the water delivered into the system.

- **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.**

The average annual canal losses were determined by estimating the diversion flows against the outflow. The difference has been determined to be losses in the system. Actual seepage rates based on infiltration and evaporation have not been performed at this time. See the previous question for determination of the losses.

- **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?)**

The pipe material to be installed is 21-inch and 18-inch PVC PIP Pipe DR 51 rated for 80 psi. With good construction practices and good construction observation, the losses due to seepage and evaporation will be near zero because of this project.

- **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 loss reductions are going to be 307 acre-feet per mile each year.

$$\frac{\text{800 acre-feet}}{\text{2.6 miles}} = \text{307 acre-feet per mile}$$

- **How will actual canal loss seepage reductions be verified?**

One component of the project will include installing flow measurement instruments to better monitor and manage flows in the system.

- **Include a detailed description of the materials being used.**

It has been determined that the pipeline will be 21-inch PVC PIP Pipe DR51 and reduced to 18-inch PVC PIP Pipe DR 51 rated for 80 psi. The hydropower facility has not been designed yet. Franson Civil Engineers will perform quality control on the materials to be used in the project.

(2) *Municipal Metering:* *Municipal metering projects can provide water savings when individual user meters are installed where none exist to allow for unit pricing and when new meters are installed within a distribution system to assist with leakage reduction. Applicants proposing municipal metering projects should address the following:*

As mentioned, it is anticipated that the transmission pipeline will reduce the water losses that are estimated to be 27%. This project will allow water to be used by Layton City in Kayscreek Irrigation Company's existing pressurized irrigation system. It is estimated by Layton City that 1,600 acre-feet of culinary water will be conserved each year. Water savings will be determined by Layton City.

(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 irrigation flow measurement projects should address the following:*

Neither meters nor measurement devices have historically been used within the HCIC's system. Six meters will be placed along the transmission line at each turnout to measure water and to use for leak detection. Water savings will be identified by users maintaining their supply while marketing the conserved water to Layton City.

(4) ***SCADA and Automation:*** *SCADA and Automation components can provide water savings when irrigation delivery system operational efficiency is improved to reduce spills, over-deliveries, and seepage. Applicants proposing SCADA and automation projects should address the following:*

N/A – A SCADA system is not proposed as part of this project.

(5) ***Groundwater Recharge:*** *Groundwater recharge can provide savings when surface water storage evaporation is reduced and/or surface runoff is intercepted for recharge. Applicants proposing groundwater recharge projects should address the following:*

N/A

(6) ***Landscape Irrigation Measures:*** *Landscape irrigation measures can provide water savings by reducing outdoor water usage. These measures include turf removal, Smart irrigation controllers (i.e., weather or soil-moisture based) and high-efficiency nozzles (e.g., sprinkler heads).*

N/A

(7) ***High-Efficiency Indoor Appliances and Fixtures:*** *Installing high-efficiency indoor appliance and fixtures can provide water savings for municipal water entities where there is significant potential for replacing existing non-efficient indoor appliances and fixtures. Applicants proposing high-efficiency indoor appliance and fixtures projects should address the following:*

N/A

(8) ***Other Project Types Not Listed Above:*** *Projects to provide water savings for irrigation and municipal water systems other than those listed above will considered and evaluated based on the amount of estimated water savings and the adequacy of the description of how the savings are estimated. Applicants proposing these types of projects should address the following items:*

N/A

AND/OR

Subcriterion No. A.1(b) – Improved Water Management

Up to 5 points may be awarded if the proposal will improve water management through measurement, automation, advanced water measurement systems, or through implementation of a renewable energy project, or through other approaches where water savings are not quantifiable.

Describe the amount of water better managed. *For projects that improve water management but which may not result in measurable water savings,* ***state the amount of water expected to be better managed, in acre-feet per year and as a percentage of the average annual water supply.*** *(The average annual water supply is the amount actually diverted, pumped, or released from storage, on average, each year. This does not refer to the applicant's total water right or potential water supply.) Please use the following formula:*

$$\frac{\text{Estimated Amount of Water Better Managed}}{\text{Average Annual Water Supply}}$$

Improved water management will include a more efficient transmission system and generation of power from the implementation of a hydropower system. All of the water will be better managed. By implementing the proposed project, 100% of the average annual water supply of 3,000 acre-feet will be better managed.

$$\frac{\text{3,000 acre-feet}}{\text{3,000 acre-feet}} = 100\%$$

Subcriterion No. A.2 – Percentage of Total Supply

Up to 4 additional points may be allocated based on the percentage of the applicant's total average water supply (i.e., including all facilities managed by the applicant) that will be conserved directly as a result of the project.

Provide the percentage of total water supply conserved: *State the applicant's total average annual water supply in acre-feet. Please use the following formula:*

$$\frac{\textit{Estimated Amount of Water Conserved}}{\textit{Average Annual Water Supply}}$$

The percent of water saved is as follows:
Percent of Total System Supply: 800 acre-feet/3,000 acre-feet = 26.6%

$$\frac{\text{800 acre-feet}}{\text{3,000 acre-feet}} = 26.6\%$$

Subcriterion No. A.3 – Reasonableness of Costs

*Up to **4 additional points** may be awarded for the reasonableness of the cost for the benefits gained.*

Please include information related to the total project cost, annual acre-feet conserved (or better managed), and the expected life of the improvement. Use the following calculation:

$$\frac{\textit{Total Project Cost}}{\textit{(Acre-Feet Conserved, or Better Managed x Improvement Life)}}$$

Failure to include this required calculation will result in no score for this section.

For all projects involving physical improvements, specify the expected life of the improvement in number of years and provide support for the expectation (e.g. manufacturer's guarantee, industry accepted life-expectancy, description of corrosion mitigation for ferrous pipe and fittings, etc.) Failure to provide this information may result in a reduced score for this section.

All of the water used in the HCIC project will be better managed throughout the system and will also conserve precious culinary water supplies through the water marketing component. Total project cost is estimated at $1,040,225. An estimated 800 acre-feet of HCIC's water will be conserved; however, the entire water source will be better managed.

The expected life of the project is estimated to be 50 years. The polyethylene pipe industry estimates a service life for PVC pipe to conservatively be 50–100 years. (Plastic Pipe Institute, 2009) This relates to savings in replacement costs for
generations to come. According to the U.S. Department of Energy, Energy Efficiency and Renewable Energy, the average lifespan of a hydropower facility is 100 years. (Dept. of Energy EERE, 2004) Maintenance of the turbines etc. can be expected at 50 years.

$$\frac{\$1,040,225}{\text{3,000 acre-feet Better Managed x 50 Years}}$$

The calculation yields a cost of $6.93 for every acre-foot of water. This does not account for the culinary water savings by Layton City.

Evaluation Criteria B: Energy Water Nexus

*Up to **16 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.*

For projects that include construction or installation of 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. However, an applicant may receive no more than 16 points total under both Subcriteria No. B.1 and B.2.

Subcriterion No. B.1. – Implementing Renewable Energy Projects Related to Water Management and Delivery

*Up to **16 points** may be awarded for projects that include construction or installation of renewable energy components (i.e., 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. 2 below.*

(1) Energy Capacity

***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 hydropower unit will be installed about mid-way from the reservoir to the pipeline termination at a location where sufficient head is available for power generation and can be easily connected to the local power grid. A 21-inch pipeline will enter the hydropower plant with a flow of 12 cfs. The hydroelectric capacity was calculated using a head loss of 20 feet and assuming a turbine and generator efficiency of 70%.

The energy capacity is 131 kW.

(2) Energy Generated

***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.*

The actual anticipated energy generation will be approximately 575,000 kWh. With this energy production, income would result in approximately $28,700 per year.

(3) Other Renewable Energy Benefits

***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:*

- *Expected environmental benefits of the renewable energy system*
- *Any expected reduction in the use of energy currently supplied through a Reclamation project*
- *Anticipated beneficiaries, other than the applicant, of the renewable energy system*
- *Expected water needs of the renewable energy system*

Producing energy will reduce the amount of energy needed to supply the area.

AND/OR

Subcriterion No. B.2 – Increasing Energy Efficiency in Water Management

If the project is not implementing a renewable energy component, as described in Subcriterion No. B.1 above, up to ***4 points*** *may be awarded for projects that address energy demands by retrofitting equipment to increase energy efficiency and/or through water conservation improvements that result in reduced pumping or diversions.*

(1) Energy Efficiencies

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

- *Please provide sufficient detail supporting the calculation of any energy savings expected to result from water conservation improvements. If quantifiable energy savings are expected to result from water conservation improvements, please provide sufficient details and supporting calculations. If quantifying energy savings, please state the estimated amount in kilowatt hours per year.*
- *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?*
- *Please indicate whether your energy savings estimates originates from the point of diversion, or whether the estimate is based upon an alternate site of origin.*
- *Does the calculation include the energy required to treat the water?*
- *Will the project result in reduced vehicle miles driven, in turn reducing carbon emissions? Please provide supporting details and calculations.*

N/A

(2) Minimal Energy Savings/Production

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).*

N/A

Evaluation Criteria C: Benefits to Endangered Species

Up to ***12 points*** *may be awarded for projects that will benefit federally-recognized candidate species or up to* ***12 points*** *may be awarded for projects expected to accelerate the recovery of threatened species or engendered species, or addressing designated critical habitat.*

Projects that benefit both federally-recognized candidate species and federally-listed threatened or endangered species or designated critical habitat will receive additional consideration under this criterion. Please see <www.fws.gov/ endangered/index.html> for a complete listing of federally-recognized candidate species and federally-listed threatened or endangered species in your area.

Benefit to Federally-Recognized Candidate Species

For projects that will directly benefit federally-recognized candidate species, please include the following elements:

(1) What is the relationship of the species to water supply

The water source is part of the Lower Weber System, which is a tributary to the Great Salt Lake (GSL), which provides irreplaceable habitat for several million resident and migratory water birds. Several threatened and endangered species

of birds spend time at the GSL, such as the largest documented population of Snowy Plovers. The Bald Eagle also visits the highly productive wetlands and rivers that surround the GSL. The lake's ecosystems are threatened by new diversions from the freshwater streams.

By leaving 200 acre-feet of water in Holmes Creek, additional supplies would be available to those species in the GSL. There are two species of birds that are listed as federally recognized candidate species; Yellow-Billed Cuckoo, and the Greater Sage-Grouse. Our project will benefit these species, not further damage them.

(2) What is the extent to which the proposed project would reduce the likelihood of listing or would otherwise improve the status of the species

The increased water supply would directly lead to an improved habitat for the candidate species and benefit the ecosystem of the Great Salt Lake.

Accelerated Recovery of Federally-Recognized Species

For projects that will directly accelerate the recovery of threatened species or endangered species or address designated critical habitats, please include the following elements:

(1) How is the species adversely affected by a Reclamation project?
(2) Is the species subject to a recovery plan or conservation plan under the Endangered Species Act?
(3) What is the extent to which the proposed project would reduce the likelihood of listing or would otherwise improve the status of the species

N/A

Evaluation Criteria D: Water Marketing

*Up to **12 points** may be awarded for projects that propose water marketing elements, with maximum points for projects that establish a new water market. Note: Water marketing does not include an entity selling conserved water to an existing customer. This criterion is intended for the situation where an entity that is conserving water uses water marketing to make the conserved water available to meet other existing water supply needs or uses.*

***Briefly describe any water marketing elements included in the proposed project.** Include the following elements:*

Currently the city of Layton is experiencing growth and is expected to grow by 30,000 residents by 2030. Culinary water supplies will be needed for this future growth.

(1) Estimated Amount of Water to be Marketed

It is estimated that the 600 acre-feet of water conserved will be water marketed to Layton City. This project is essential to begin the establishment of a pressurized irrigation system east of the freeway. With the transmission pipeline installed, additional phases can be completed in the future within HCIC's distribution system as ditches and canals are converted to pressurized pipe.

(2) Method of Water Marketing
A detailed description of the mechanism through which water will be marketed (e.g., individual sale, contribution to an existing market, the creation of a new water market, or construction of a recharge facility.

A new water market between HCIC and Layton City will be created.

(3) Number of Users, Types of Water Use, etc. in the Water Market

Layton City has expressed great interest in using HCIC water for pressurized irrigation supplies for residential and commercial uses in Layton west of the freeway. Based on the estimated 600 acre-feet and a water consumptive use of 3 acre-feet, an estimated 200 acres of irrigated land could be supported. HCIC's water right's place of use currently includes lands west of the freeway. It is not anticipated that a water right change application for the place of use will be necessary.

(4) Water Marketing Legal Issues

A description of any legal issues pertaining to water marketing (e.g., restrictions under Reclamation law or contracts, individual project authorities, or State water laws)

Layton City currently has contracts with other local irrigation companies for water marketing. Any legal contracts will follow Layton City's existing contracts.

(5) Estimated Duration of the Water Market

The water market period would be April to October each year. This estimated duration is unlimited. Secondary water sources will always be needed and more so in the future as culinary water supplies become scarcer.

Evaluation Criteria E: Other Contributions to Water Supply Sustainability

*Up to **14 points** may be awarded for projects expected to contribute to a more sustainable water supply. This criterion is intended to provide an opportunity for the applicant to explain how the project relates to a WaterSMART Basin Study, how the project could expedite future on-farm improvements, or how the project will provide other benefits to water supply sustainability within the basin. An applicant may receive the maximum 14 points under this criterion based on discussion of one or more of the numbered sections below.*

(1) Points may be awarded for projects that address an adaptation strategy identified in a WaterSMART Basin Study.

Proposals that provide a detailed description of how a project is addressing an adaptation strategy specifically identified in a Basin Study (i.e., a strategy to mitigate the impacts of water shortages resulting from climate change, drought, increased demands, or other causes) may receive maximum points under this criterion. Applicants should provide as much detail as possible about the relationship of the proposed project to the adaptation strategy identified in the Basin Study, including, but not limited to, the following:

- *(a) Identify the specific WaterSMART Basin Study where this adaptation strategy was developed. Describe in detail the adaptation strategy that will be implemented through this WaterSMART Grant project, and how the proposed WaterSMART Grant project would help implement the adaptation strategy.*
- *(b) Describe how the adaptation strategy and proposed WaterSMART Grant project will address the imbalance between water supply and demand identified by the Basin Study.*
- *(c) Identify the applicant's level of involvement in the Basin Study (e.g., cost-share partner, participating stakeholder, etc.)*
- *(d) Describe whether the project will result in further collaboration among Basin Study partners.*

Through the WaterSMART Basin Study Program, Reclamation is working with State and local partners, as well as other stakeholders, to comprehensively evaluate the ability to meeting future water demands within a river basin. The Basin Studies allow Reclamation and its partners to evaluate potential impacts of climate change to water resources within a particular river basin, and to identify adaptation strategies to address those impacts. For more information on Basin Studies, please visit: <www.usbr.gov/WaterSMART/bsp>.

This project does not fall within one of the areas that have completed studies through the WaterSMART Basin Study Program.

(2) Points may be awarded for projects that describe in detail how they will directly expedite future on-farm irrigation improvements, including future on-farm improvements that may be eligible for NRCS funding. Please address the following:

- *Include a detailed listing of the fields and acreage that may be improved in the future.*
- *Describe in detail the on-farm improvements that can be made as a result of this project. Include discussion of any planned or ongoing efforts by farmers/ranchers that receive water from the applicant.*
- *Provide a detailed explanation of how the proposed WaterSMART Grant project would help to expedite such on-farm efficiency improvements.*
- *Fully describe the on-farm water conservation or water use efficiency benefits that would result from the enabled on-farm component of this project. 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.*
- *Projects that include significant on-farm irrigation improvements should demonstrate the eligibility, commitment, and number or percentage of shareholders who plan to participate in any available NRCS funding programs. Applicants should provide letters of intent from farmers/ranchers in the affected project areas.*
- *Describe the extent to which this project complements an existing or newly awarded AWEP project.*

Note: On-farm water conservation improvements that complement the water delivery improvement projects selected through this FOA may be considered for NRCS funding and technical assistance in FY 2014 to the extent such assistance is available. Complementing NRCS Farm Bill programs include the Environmental Quality Incentive Program (EQIP) and Agricultural Water Enhancement Program (AWEP), which are the primary programs that address water quantity and water quality conservation practices. For more information, including application deadlines and a description of available funding, please contact your local NRCS office or visit <www.nrcs.usda.gov>for further contact information in your area.

N/A

(3) Points may be awarded for projects that include other benefits to water supply sustainability.

Projects that do not address a need/adapatation strategy identified in a Basin Study or do not help expedite future on-farm irrigation improvements, may receive maximum points under this criterion by thoroughly explaining additional project benefits. Please provide sufficient explanation of the additional expected project benefits and their significance. Additional project benefits may include, but are not limited to, the following:

(a) Will the project make water available to address a specific concern? For example:

i. Will the project address water supply shortages due to climate variability and/or heightened competition for finite water supplies (e.g. population growth or drought)? Is the river, aquifer or other source of supply over-allocated?

ii. Will the project market water to other users? If so, what is the significance of this (e.g., does this help stretch water supplies in a water-short basin)?

iii. Will the project make additional water available for Indian tribes?

iv. Will the project help to address an issue that could potentially result in an interruption to the water supply if unresolved? (e.g., will the project benefit endangered species to maintain an adequate water supply)? Are there endangered species within the basin or other factors that may lead to heightened competition for available water supplies among multiple water uses?

v. Will the project generally make more water available in the water basin where the proposed work is located?

By water marketing to Layton City, additional culinary water supplies will be able to be used for culinary purposes. This precious resource needs to be conserved as the city's population is expected to grow by 30,000 over the next 20 years. By using some of HCIC's irrigation water, Layton City has determined that approximately 1,600 acre-feet of culinary water is expected to be conserved.

(b) Does the project promote and encourage collaboration among parties?

i. Is there widespread support for the project?

ii. *What is the significance of the collaboration/support?*

iii. *Will the project help to prevent a water-related crisis or conflict?*

iv. *Is there frequently tension or litigation over water in the basin?*

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

Yes. Layton City is supportive of the project and is currently working on a City-wide Water Management Plan. HCIC is proactive in efforts to partner with Layton City.

(c) Will the project increase awareness of water and/or energy conservation and efficiency efforts?

i. *Will the project serve as an example of water and/or energy conservation and efficiency within a community?*

ii. *Will the project increase the capability of future water conservation or energy efficiency efforts for use by others?*

iii. *Does the project integrate water and energy components?*

As Layton City continues to grow, the need for secondary water supplies becomes more important to stretch the culinary water supplies. Residents will be involved in using the secondary water system and the understanding that comes with it of the importance of water conservation.

Evaluation Criteria F: Implementation and Results

*Up to **10 points** may be awarded for the following:*

Subcriterion No. F.1 – Project Planning

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

Does the project have a Water Conservation Plan, System Optimization Review (SOR), and/or district or geographic area drought contingency plans in place? Does the project relate/have a nexus to an adaptation strategy developed as part of a WaterSMART Basin Study)? *Please self-certify, or provide copies of these plans where appropriate, to verify that such a plan is in place.*

Provide the following information regarding project planning:

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

This project meets goals in the Utah State Water Plan, which states "the state of Utah's role is to set policy, provide assistance, and protect statewide water resource interests." The state recognizes the urgent need to implement effective water conservation measures. These coupled with other innovative water management technologies must be implemented to safeguard the ability of existing water supplies and new developments to meet future needs and lessen impacts of drought. (UDWR, May 2001)

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

HCIC had a secondary system feasibility study prepared in 1998 and a water loss analysis prepared in 2011. Preliminary design estimates were prepared in connection with the preparation of this application.

(3) 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).

This project meets goals in the Utah State Water Plan. The goals that are met are under water conservation, water use efficiency, protecting state river system, and the expansion of hydropower capacity and generation to meet the need for affordable and renewable energy resources.

Subcriterion No. F.2 – Readiness to Proceed

Points may be awarded based upon the extent to which the proposed project is capable of proceeding upon entering into a financial assistance agreement.

(1) Describe the implementation plan of the proposed project. Please include an estimated project schedule that shows the stages and duration of the proposed work, including major tasks, milestones, and dates. (Please note, under no circumstances may an applicant begin any ground-disturbing activities—including grading, clearing, and other preliminary activities—on a project before environmental compliance is complete and Reclamation explicitly authorizes work to proceed).

Proposed Project Schedule:

Date	Activity
May 2014	Notice of Award from USBR
June 2014	Finalize All Remaining Funding Sources (Local, State of Utah)
September 2014	Begin Preliminary Design Begin FERC permitting conduit exemption process
October 2014	Begin Environmental Clearance (It is not expected that there will be any major environmental issues) Begin Design and Construction Drawing Preparation
February 2015	Complete Environmental Clearance Final Design and Construction Drawing Preparation
June – August 2015	Complete Design Process with Design Drawings and Specifications Complete FERC permitting conduit exemption process
September–November 2015	Agency Review and Approval (USBR and Utah Water Resources)
December 2015	Advertise for Pipeline Bids and Potential Pipe Purchase by Irrigation Company Advertise for Hydropower Facility Bids
January 2016	Pipeline Bid Opening
February 2016–July 2016	Pipeline Construction Hydropower Facility Construction
August- September 2016	Project Complete

(2) Please explain any permits that will be required, along with the process for obtaining such permits.

Environmental Compliance and FERC permitting conduit exemption need to be completed before any construction work can begin. The Environmental Clearance is not expected to have any major environmental issues. The National Register of Historic Places and the National Wetlands Inventory have both already been preliminarily checked, with no problems seen. It is also expected that FERC will award a conduit exemption for this power project as this project fits the description of a conduit exemption very well. The FERC conduit exemption process takes approximately 90 days.

Subcriterion No. F.3 – Performance Measures

Points may be awarded based on the description and development of performance measures to quantify actual project benefits upon completion of the project.

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, marketed, or better managed, or energy saved). For more information calculating performance measure, see Section VIII.A.1. "FY2013 WaterSMART Water and Energy Efficiency Grants: Performance Measures."

Note: All WaterSMART Grant applicants are required to propose a "performance measure" (a method of quantifying the actual benefits of their project once it is completed). A provision will be included in all assistance agreements with WaterSMART Grant recipients describing the performance measure, and requiring the recipient to quantify the actual project benefits in their final report to Reclamation upon completion of the project. If information regarding project benefits is not available immediately upon completion of the project, the financial assistance agreement may be modified to remain open until such information is available and until a Final Report is submitted. Quantification of project benefits is an important means to determine the relative effectiveness of various water management efforts, as well as the overall effectiveness of WaterSMART Grants.

The Final Report will describe the benefits as they have been implemented and will show the performance measurements as follows:

- Water Saved – The conserved water will be determined by measuring actual water used versus water not diverted.
- Hydropower and Water Better Managed – This project will put HCIC's water rights to better use, by not only using the water for irrigation, but for power generation. The documentation of power generation will be easy to put in the final report.
- Water Marketing – The opportunity for water marketing with Layton City and the benefits provided will be documented in the report.

Please see the evaluation criterion under Water Conservation and Energy Water Nexus for equations for water saving and energy generation.

Evaluation Criteria G: Additional Non-Federal Funding

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.

$$\frac{\textit{Non-Federal Funding}}{\textit{Total Project Cost}} \qquad \frac{\$740,225}{\$1,040,225} = 71\ \%$$

Evaluation Criteria H: Connection to Reclamation Project Activities

Up to 4 points may be awarded if the proposed project is in a basin with connections to Reclamation project activities. No points will be awarded for proposals without connection to a Reclamation project or Reclamation activity.

(1) How is the proposed project connected to Reclamation project activities?

N/A

(2) Does the applicant receive Reclamation project water?

N/A

(3) Is the project on Reclamation project lands or involving Reclamation facilities?

N/A

(4) Is the project in the same basin as a Reclamation project or activity?

Yes, Weber Basin Project.

(5) Will the proposed work contribute water to a basin where a Reclamation project is located?

As described above, 200 acre-feet will be added to the Great Salt Lake Basin.

IV.D. PERFORMANCE MEASURES

(See Section VIII.A. for additional details) All WaterSMART Grant applicants are required to propose a method (or "performance measure") of quantifying the actual benefits of their project once it is completed. Actual benefits are defined as water actually conserved, marketed, or better managed, as a direct result of the project. Quantifying project benefits is an important means to determine the relative effectiveness of various water management efforts, as well as the overall effectiveness of WaterSMART Grants.

1. Environmental and Cultural Resources Compliance

To allow Reclamation to assess the probable environmental and cultural resources impacts and costs associated with each application, all applicants must respond to the following list of questions focusing on the NEPA, ESA, and NHPA requirements. Please answer the following questions to the best of your knowledge. If any question is not applicable to the project, please explain why. Additional information about environmental compliance is provided in Section IV.D.4. "Project Budget," under the discussion of "Environmental and Regulatory Compliance Costs," and in Section VIII.B., "Overview of Environmental and Cultural Resources Compliance Requirements."

Note: Applicants proposing a Funding Group II project must address the environmental and cultural resources compliance questions for their entire project, not just the first one-year phase.

If you have any questions, please contact your regional or area Reclamation office (see <http://www.usbr.gov/main/regions.html>) with questions regarding ESA compliance issues. You may also contact Mr. Josh German at 303-445-2839 or jgerman@usbr.gov, for further information.

Note, if mitigation is required to lessen environmental impacts, the applicant may, at Reclamation's discretion, be required to report on progress and completion of these commitments. Reclamation will coordinate with the applicant to establish reporting requirements and intervals accordingly.

Under no circumstances may an applicant begin any ground-disturbing activities (including grading, clearing, and other preliminary activities) on a project before environmental compliance is complete and Reclamation explicitly authorizes work to proceed. This pertains to all components of the proposed project, including those that are part of the applicant's non-Federal cost chare. Reclamation will provide a successful applicant with information once environmental compliance is complete. An applicant that proceeds before environmental compliance is complete may risk forfeiting Reclamation funding under this FOA.

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

Work will include normal construction activity related to pipe construction. Contract documents will outline contractor responsibility relative to dust, air, and water pollution during construction activities. All construction will be in previously disturbed areas. Construction within Layton City will require permits and cooperation with Layton City.

(2) Are you aware of any species listed or proposed to be listed as a Federal threatened or endangered species, or designated critical habitat in the project area? If so, would they be affected by any activities associated with the proposed project?

There is one bird (Yellow-Billed Cuckoo) and one fish (Least Chub) listed as candidate species for Davis County on Utah's Federal Listed Threatened and Endangered Species, or designated critical habitat. (www.dwrcdc.nr.utah.gov/ucdc/viewreports/te_cnty.pdf) Based on the proposed construction, none of the listed species will be affected by construction impacts. The construction will be in the existing road rights-of-way.

(3) Are there wetlands or other surface water inside the project boundaries that potentially fall under CWA jurisdiction as "waters of the United States?" If so, please describe and estimate any impacts the project may have.

The National Wetlands Inventory has been searched and there is wetland or other surface water located within the project boundaries. However, these areas will be protected and not impacted by the project. The construction will occur in previously disturbed areas. There will be no impacts to wetlands by this project.

(4) When was the water delivery system constructed?

The majority of the HCIC's infrastructure was constructed from the 1920s to 1950s.

(5) Will the project result in any modification of or effects to, individual features of an irrigation system (e.g., headgates, canals, or flumes)? If so, state when those features were constructed and describe the nature and timing of any extensive alterations or modifications to those features completed previously.

The project will replace the existing pipeline and open ditch system with pipeline.

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

The Joseph Adams House was listed on the Historic National Register on 2/17/1978. Although it is located within the service area at 300 N. Adamswood Road, it will not be impacted by this project.

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

There are no known archeological sites.

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

This project will not have negative effects on low income or minority populations.

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

There are no known sacred Indian sites within the project area.

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

No, the project will not contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species.

2. 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.

Applicants proposing renewable energy components to Federal facilities should note that some power projects may require FERC permitting or a Reclamation Lease of Power Privilege. To complete a renewable energy project within the time frame required of this FOA, it is recommended that an applicant has commenced the necessary permitting process prior to applying.To discuss questions related to projects that propose renewable energy development, please contact Mr. Josh German at 303-445-2839 or jgerman@usbr.gov.

Note that improvements to Federal facilities that are implemented through any project awarded funding through this FOA must comply with additional requirements. The Federal government will continue to hold title to the Federal facility and any improvement that is integral to the existing operations of that facility. Please see Section III.H1. 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 429, and that the development will not impact or impair project operations or efficiency.

A permit with Layton City will be obtained to construct the pipeline in the city's road rights-of-way.

3. Official Resolution

Include an official resolution adopted by the applicant's board of directors or governing body, or for state government entities, an official authorized to commit the applicant to the financial and legal obligations associated with receipt of WaterSMART Grant financial assistance, verifying:

- *The identity of the official with legal authority to enter into 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 cooperative agreement*

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

An Official Resolution, adopted by the applicant's board of directors, is attached in the Appendix.

4. Project Budget

The project budget includes: (1) Funding Plan and Letters of Commitment, (2) Budget Proposal, (3) Budget Narrative and (4) Budget Form.

Funding Plan and Letters of Commitment

Describe how the non-Reclamation 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:*

(1) The amount of funding commitment
(2) The date the funds will be available to the applicant
(3) Any time constraints on the availability of funds
(4) 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 a WaterSMART Grants project 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.

Note: Applicants proposing a Funding Group II project are not required to have non-Federal cost share funding secured for the entire project at the time of award. Funding Group II applicants must demonstrate sufficient evidence that non-Federal cost-share for the first year of the project will be available by the start of that phase and must describe a plan and schedule for securing non-Federal funding for subsequent years of the project.

Funding is being pursued from the State of Utah, Division of Water Resources. The loan will be utilized for the sponsor's financial portion of the project costs. The loan application will be presented at the Utah Board of Water Resources meeting on June 12, 2014, at which time the project loan will be authorized if the project is acceptable to the board. Funds would be available for use after the committal of funds by the board, which would most likely occur at the June 2014 board meeting.

The funding plan must include all project costs, as follows:

(1) How you will make your contribution to the cost share requirement, such as monetary and/or in-kind contributions and source funds contributed by the applicant (e.g., reserve account, tax revenue, and/or assessments).

HCIC's cost share will be provided through the following sources:

- Monetary Contributions – The majority of the sponsor's initial funds will be made available through loans. The involved parties will then use shareholder assessments to make the loan payments.

(2) Describe any in-kind costs incurred before the anticipated project start date that you seek to include as project costs. Include: (a) What project expenses have been incurred (b) How they benefitted the project (c) The amount of the expense (d) The date of cost incurrence

N/A

(3) Provide the identity and amount of funding to be provided by funding partners, as well as the required letters of commitment.

N/A

(4) Describe any funding requested or received from other Federal partners. Note: other sources of Federal funding may not be counted towards your 50 percent cost share unless otherwise allowed by statute.

There are no other Federal sources of funding.

(5) Describe any pending funding requests that have not yet been approved, and explain how the project will be affected if such funding is denied.

If the funds are not secured from USBR and/or the State of Utah, the project will not move forward at this point.

Please include the following chart (table 1) to summarize your non-Federal and other Federal funding sources. Denote in-kind contributions with an asterisk (*). Please ensure that the total Federal funding (Reclamation and all other Federal sources) does not exceed 50 percent of the total estimated project cost.

Table 1. Summary of non-Federal and Federal funding sources

Funding Sources	Funding Amount
Non-Federal Entities	
1. State of Utah – Water Resources Board	$ 640,225
2. Local Contribution (In-kind Services)	$ 0
3. Local Contribution (Cash)	$ 100,000
Non-Federal Subtotal:	$ 740,225
Other Federal Entities	
1. None	$ 0
Other Federal Subtotal:	$ 0
Requested Reclamation Funding:	$ 300,000
Total Project Funding:	$ 1,040,225

For applicants submitting a proposal under Funding Group II, please include the following chart (table 2) to summarize your Federal funding request by year.

Table 2. Funding Group II Funding Request

Funding Group II Request			
N/A	**Year 1 (FY 2014)**	**Year 2 (FY 2015)**	**Year 3 (FY 2016)**

Budget Proposal

The project budget shall include detailed information on the categories listed below and must clearly identify all project costs. Unit costs shall be provided for all budget items including the cost of work to be provided by contractors. Additionally, applicants shall include a narrative description of the items included in the project budget, including the value of in-kind contributions of goods and services provided to complete the project. It is strongly advised that applicants use the budget proposal format shown below on tables 3 and 4 or a similar format that provides this information.

Table 3. Funding Sources

Funding Sources	Percent of Total Project Cost	Total Cost by Source
Recipient Funding	71 %	$ 740,225
Reclamation Funding	29 %	$ 300,000
Other Federal Funding		$ 0
Totals	**100 %**	**$ 1,040,225**

Table 4. Budget Proposal

Budget Item Description	Computation		Quantity Type (hours/days)	Total Cost
	$/Unit	Quantity		
Salaries And Wages				
Fringe Benefits				
Travel				
Equipment				
Supplies/Materials				
Contractual/Construction [1]				
Engineering Predesign/Design	See Appendix			$ 139,625
Environmental Compliance	2% of Construction Cost			$ 15,515
FERC Permitting				$ 9,815
Contractor - Construction	See Appendix			$ 775,700
Construction Observation	See Appendix			$ 77,570
Other				
Reporting				$ 10,000
Legal and Administrative				$ 12,000
Total Direct Costs				$ 1,040,225
Indirect Costs - __%				
Total Project Costs				**$ 1,040,225**

[1] *Contracts should be broken out into specific line items. You may attach a separate, detailed budget for each contract to adequately address all contractor budget items.*

Budget Narrative

Submission of a budget narrative is mandatory. An award will not be made to any applicant who fails to fully disclose this information. The budget narrative provides a discussion of, or explanation for, items included in the budget proposal. Include the value of in-kind contributions of goods and services and sources of funds provided to complete the project. The types of information to describe in the narrative include, but are not limited, to those listed in the following subsections.

Salaries and Wages

Indicate program manager and other key personnel by name and title. Other personnel may be indicated by title alone. For all positions, indicate salaries and wages, estimated hours or percent of time, and rate of compensation proposed. The labor rates should identify the direct labor rate separate from the fringe rate or fringe cost for each category. All labor estimates, including any proposed subcontractors, shall be allocated to specific tasks as outlined in the recipient's technical project description. Labor rates and proposed hours shall be displayed for each task.

Clearly identify any proposed salary increases and the effective date.

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.

The billing rates for Franson Civil Engineers are as follows:

Table 5: Billing Rates for Franson Civil Engineers
Effective January 1, 2014

Personnel Classification	Fee Schedule ($/hour)
Program Manager	$156
Senior Manager	$136
Senior Engineer	$116
Senior Field Manager	$113
Staff Engineer	$101
Engineer 1	$ 86
Senior Designer	$ 93
Reports Writer/Editor	$ 85
Designer	$ 84
Engineering Assistant	$ 81
Engineering Intern	$ 70
Office Assistant	$ 57
Clerk	$ 51

See Appendix for the full engineering manpower and cost estimate for all design work and construction management tasks.

Construction contractors have not yet bid on this project; therefore, no salary and wage data are available for construction. The construction cost estimate is based on the engineer's estimate of probable construction costs.

Fringe Benefits

Indicate rates/amounts, what costs are included in this category, and the basis of the rate computations. Indicate whether these rates are used for application purposes only or whether they are fixed or provisional rates for billing purposes. Federally approved rate agreements are acceptable for compliance with this item.

Holmes Creek Irrigation Company board members and employees will not earn a salary, wages, fringe benefits or reimbursements from funding obtained to implement this project. All contributions by board members and employees will be volunteered or funded by the company's general fund and be in-kind contributions to the project.

All funding secured from Reclamation and the Utah Division of Water Resources will be used to pay contractual agreements for implementing the project, including the construction contract and fees for legal, engineering, and environmental services as described below.

Travel

Include purpose of 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.

There will be no lodging or per diem expenses. The engineer will visit the site during the design phase and during construction. Charges related to travel will be only the result of travel by vehicle for site visits and construction observation. The charge will be at the rate of $0.66 per mile. The total direct expenses for traveling are shown in the "Other Direct Costs" column of the engineering manpower estimate enclosed in the Appendix.

Equipment

Itemize costs of all equipment having a value of over $5,000 and include information as to the need for this equipment, as well as how the equipment was priced if being purchased for the agreement. 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 for the project. If equipment currently owned by the applicant is proposed for use under the proposed project, and the cost to use that equipment is being included in the budget as in-kind cost share, provide the rates and hours for each piece of equipment owned and budgeted. These should be ownership rates developed by the recipient for each piece of equipment. If these rates are not available, the U.S. Army Corp of Engineer's recommended equipment rates for the region are acceptable. Blue book, Federal Emergency Management Agency (FEMA), and other data bases should not be used.

N/A

Materials and Supplies

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

N/A

Contractual

Identify all work that will be accomplished by subrecipients, 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. If a subrecipient, consultant, or contractor is proposed and approved at time of award, no other approvals will be required. Any changes or additions will require a request for approval. Identify how the budgeted costs for subrecipients, consultants, or contractors were determined to be fair and reasonable.

Several portions of the project will use consultants and contractors. First, Franson Civil Engineers will be retained to provide design engineering services as well as construction management and observation services. Second, a construction contractor will be solicited to assist in the installation of the facilities. Several subcontractors will be used throughout the construction of the project. Third, Rocky Mountain Power will upgrade the transmission lines for the produced power to make it to the grid. The detailed engineering and construction cost estimates are in the Appendix.

Environmental and Regulatory Compliance Costs

Applicants must include a line item in their budget to cover environmental compliance costs. "Environmental compliance costs" refer to costs incurred by Reclamation or the recipient in complying with environmental regulations applicable to a WaterSMART Grant, including costs associated with any required documentation of environmental compliance, analyses, permits, or approvals. Applicable Federal environmental laws could include NEPA, ESA, NHPA, and the CWA, and other regulations depending on the project. Such costs may include, but are not limited to:

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

The amount of the line item should be based on the actual expected environmental compliance costs for the project. However, the minimum amount budgeted for environmental compliance should be equal to at least 1-2 percent of the total project costs. If the amount budgeted is less than 1-2 percent of the total project costs, you must include a compelling explanation of why less than 1-2 percent was budgeted.

How environmental compliance activities will be performed (e.g., by Reclamation, the applicant, or a consultant) and how the environmental compliance funds will be spent, will be determined pursuant to subsequent agreement between Reclamation and the applicant. If any portion of the funds budgeted for environmental compliance is not required for compliance activities, such funds may be reallocated to the project, if appropriate.

Environmental costs are expected to be minimal, so the recommended value of two percent is used for the cost estimate.

Reporting

Recipients are required to report on the status of their project on a regular basis. Failure to comply with reporting requirements may result in the recipient being removed from consideration for funding under future funding opportunities. Include a line item for reporting costs (including final project and evaluation costs). Please see Section VI.C. for information on types and frequency of reports required.

A total of $10,000 was budgeted for coordination with Reclamation for the WaterSMART grant. This amount would include the costs to create a final construction report and finalize repayment agreements, prepare quarterly construction reports, annual project performance reports, and to coordinate requests for reimbursement.

Other

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

N/A

Indirect Costs

Show the proposed rate, cost base, and proposed amount for allowable indirect costs based on the applicable OMB circular cost principles (see Section III.E., "Cost Sharing Requirement") for the recipient's organization. It is not acceptable to simply incorporate indirect rates within other direct cost line items.

If the recipient has separate rates for recovery of labor overhead and general and administrative costs, each rate shall be shown. The applicant should propose rates for evaluation purposes, which will be used as fixed or ceiling rates in any resulting award. Include a copy of any federally approved indirect cost rate agreement. If a federally approved indirect rate agreement is not available, provide supporting documentation for the rate. This can include a recent recommendation by a qualified certified public accountant (CPA) along with support for the rate calculation.

If you do not have a federally approved indirect cost rate agreement, or if unapproved rates are used, explain why, and 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 Interior, the National Business Center, and Indirect Cost Services, at *http://www.aqd.nbc.gov/services/ICS.aspx*.

N/A

Total Costs

Indicate total amount of project costs, including the Federal and non-Federal cost-share amounts.

The total project costs are estimated at $1,040,225.

Budget Form

In addition to the above-described budget information, the applicant must complete an SF-424A, Budget Information—Nonconstruction Programs, or an SF-424C, Budget Information—Construction Programs. These forms are available at <http://apply07.grants.gov/apply/FormLinks?family=15>.

See the Table of Contents for the location of the SF-424C, Budget Information – Construction Programs Form.

IV.E. FUNDING RESTRICTIONS

See Section III.E.3 for restrictions on incurrence and allowability of pre-award costs.

APPENDIX

LAYTON City

Mayor • J. Stephen Curtis
City Manager • Alex R. Jensen
Asst. City Manager • James S. Mason

• Public Works - Engineering •
Terry R. Coburn • Director
James (Woody) Woodruff • City Engineer
Telephone: (801) 336-3700
FAX: (801) 336-3713

February 14, 2011

Holmes Creek Irrigation
178 Whitesides St.
Layton, Utah 84041

To Whom It May Concern:

Layton City is working closely with Holmes' Creek Irrigation Company and Davis County Flood control to construct a new inlet structure and irrigation line from Holmes Creek to the existing Holmes Creek Reservoir. This infrastructure will reduce the flooding that occurs within Layton City each year. This project will also provide secondary water to replace and save culinary water in target areas in our community. Layton City has a population of over 70,000 residents and is projected to reach nearly 100,000 by 2030.

We are in favor and approve the proposed project by Holme's Creek Irrigation Company. This project will be a great service to our community by protecting existing homes and provide secondary water to parks, schools and future development in the Layton area. By providing irrigation water to our community we are estimating saving over 1,600 acre-feet of culinary water. We understand the value of water and want to encourage our residents to utilize irrigation water during the summer months.

We look forward to Holme's Creek Irrigation completing this pipeline project. Please contact me at 801-336-3700 if we can be of any further assistance.

Sincerely,

Woody

James "Woody" Woodruff, P.E.
City Engineer

OFFICIAL RESOLUTION
Of The
HOLMES CREEK IRRIGATION COMPANY REGARDING THE WATERSMART GRANT PROGRAM

RESOLUTION NO. 2014 - 1

WHEREAS, the United States Department of the Interior, Bureau of Reclamation has established the WaterSMART Water and Energy Efficiency Grants in order to prevent water supply crises and ease conflict in the western United States of American, and

WHEREAS, the United States Department of the Interior, Bureau of Reclamation has requested proposals from eligible entities to be included in the WaterSMART Program, and

WHEREAS, the Holmes Creek Irrigation Company has need for funding to complete an irrigation and energy project that will construct a pressurized irrigation system and construct a hydropower structure so that water can be more efficiently delivered to the water users and green power can be produced.

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of the HOLMES CREEK IRRIGATION COMPANY agrees and authorizes that we:

1. **Have reviewed and supports the proposal submitted; and**
2. **Are capable of providing the amount of funding and/or in-kind contributions, specified in the funding plan; and**
3. **If selected for a WaterSMART Grant, will work with Reclamation to meet established deadlines for entering into a cooperative agreement.**

DATED: 1/20/2014

Authorized Signature(s)

ATTEST:

Holmes Creek Irrigation Company
Water Conservation and Renewable Energy Project
Engineer's Estimate of Probable Cost

Item #	Description	Bid Quantity	Units	Unit Price	Total Amount
1	Mobilization	1	LS	$ 15,000.00	$ 15,000.00
2	Potholing Utilities	1	LS	$ 10,000.00	$ 10,000.00
3	Construction Surveying	1	LS	$ 15,000.00	$ 15,000.00
4	Site Preparation	1	LS	$ 10,000.00	$ 10,000.00
5	Traffic Control and Traffic Control Specialist	1	LS	$ 10,000.00	$ 10,000.00
6	Furnish and Install 21" PVC PIP Pipe DR51	6,800	LS	$ 33.00	$ 224,400.00
7	Furnish and Install 18" PVC PIP Pipe DR51	6,800	LS	$ 28.00	$ 190,400.00
8	Furnish and Install 21" Gate Valves	1	EA	$ 5,500.00	$ 5,500.00
9	Furnish and Install 18" Gate Valve	1	EA	$ 4,500.00	$ 4,500.00
10	Furnish and Install Air Vac Valve Assembly	6	EA	$ 3,000.00	$ 18,000.00
11	Furnish and Install bends	10		$ 1,100.00	$ 11,000.00
12	Furnish and Install Large Sump	1	EA	$ 5,000.00	$ 5,000.00
13	Box Turnouts	6	EA	$ 3,000.00	$ 18,000.00
14	Furnish and Install Meters	6	EA	$ 3,000.00	$ 18,000.00
15	Remove and Replace Additional Asphalt and Roadbase (3" Asphalt)	20,400	SF	$ 2.25	$ 45,900.00
16	Furnish and Install Hydropower Turbines and Generators	1	LS	$ 150,000.00	$ 150,000.00
17	Furnish and Install Hydropower House	1	LS	$ 25,000.00	$ 25,000.00

Construction Subtotal	$ 775,700.00
Environmental compliance	$ 15,515.00
FERC Permitting	$ 9,815.00
Engineering Predesign and Design	$ 139,625.00
Construction Observation	$ 77,570.00
Legal and Administrative	$ 12,000.00
Reporting	$ 10,000.00
Total	**$ 1,040,225.00**

ENGINEERING MANPOWER AND COST ESTIMATE

Client: Holmes Creek Irrigation Company
Project: Water Conservation and Renewable Energy Project

Personnel Assigned

1. Principal ($155)
2. Senior Manager ($136)
3. Senior Engineer ($116)
4. Staff Engineer ($101)
5. Engineer I ($86)
6. Senior Designer ($93)
7. Reports - Writer/Editor ($85)
8. Designer ($84)
9. Office Assistant ($57)
10. Clerk ($51)

Task Description	Hours By Personnel Category									Total Hours	Total Labor Charges	Other Direct Costs	Total Fee
	1	2	3	4	5	6	8	9	10				
	Principal	Sen. Man.	Sen. Eng.	Staff Eng.	Eng. I	Sen. Des.	Des.	Off. Assist.	Clerk				
Phase 1 - Predesign													
Task 1. Management and Coordination	4		4							8	$1,088	$0	$1,088
Task 2. Client Meetings	8		16					2		26	$3,218	$0	$3,218
Task 3. Pipeline Predesign				10	5					15	$1,440	$0	$1,440
Task 4. Cost Estimate			3	3						6	$651	$0	$651
Task 5. Funding Applications	2	2	15	5			6	2		32	$3,447	$0	$3,447
Task 6. Water Rights Research			2							2	$232	$0	$232
SUBTOTAL	**14**	**2**	**40**	**18**	**5**	**0**	**6**	**4**	**0**	**89**	**$10,076**	**$0**	**$10,076**
Phase 2 - Design													
Task 1. Management and Coordination	10		50	10				10	5	85	$9,195	$0	$9,195
Task 2. Environmental Compliance	6	6	50	30	25	10	10	15	2	154	$15,459	$56	$15,515
Task 2. FERC Permitting	4		30	28		15	15	4		96	$9,815	$0	$9,815
Task 3. ROW Coordination			5	15		20	10	5	5	60	$5,335	$0	$5,335
Task 4. Hydraulic Design			10	30		10				50	$5,120	$0	$5,120
Task 5. Utility Coordination		10	20	30						60	$6,710	$0	$6,710
Task 5. Power Transmission Line Work		10	10	20		20		5	5	70	$6,940	$0	$6,940
Task 6. Pipeline Design and Selection			20	40		5	5			70	$7,245	$0	$7,245
Task 6. Hydropower Design and Selection	4		40	50	40	25				159	$16,079	$0	$16,079
Task 7. Pipeline Drawings and Specifications	4	20	35	50	40	80	80	25	5	339	$31,734	$0	$31,734
Task 7. Hydropower Drawings and Specifications	4	16	35	50	40	70	60	25	6	306	$28,631	$0	$28,631
Task 8. Pipeline Bid and Award		10	15	20				15	5	65	$6,230	$100	$6,330
Task 8. Hydropower Bid and Award		10	15	20				15	5	65	$6,230	$0	$6,230
SUBTOTAL	**32**	**82**	**335**	**393**	**145**	**255**	**180**	**119**	**38**	**1579**	**$154,723**	**$156**	**$154,879**
Phase 3 - Construction Observation													
Task 1. Management and Coordination	20		60							80	$10,080	$0	$10,080
Task 2. On-Site Observation and Documentation	10		18	400						428	$44,048	$1,000	$45,048
Task 3. Contract Administration				60				20	10	90	$7,710	$0	$7,710
Task 4. Record Drawings					40	65		20		125	$10,625	$45	$10,670
Task 5. Project Closeout				12		10	10	10	10	52	$4,062	$0	$4,062
Task 6. Quarterly and Final Reports	10		25	10		10		60		115	$9,820	$180	$10,000
Task 7. Legal	10	20	30	30					20	110	$11,810	$190	$12,000
SUBTOTAL	**50**	**20**	**133**	**512**	**40**	**85**	**10**	**110**	**40**	**1000**	**$98,155**	**$1,415**	**$99,570**
Project Totals	**96**	**104**	**508**	**923**	**190**	**340**	**196**	**233**	**78**	**2668**	**$262,954**	**$1,571**	**$264,525**