WaterSMART

Water and Energy Efficiency Grants for FY 2019

Funding Opportunity Announcement No. BOR-DO-19-F004

Funding Group I

Last Chance Canal Company SCADA Project

Grace, Idaho

Last Chance Canal Company
Mark Mathews, President
P.O. Box 93
Grace, Idaho 83241
Email: mathews6@live.com
Phone: 208-681-8008

Franson Civil Engineers
Eric Franson, P.E.
1276 South 820 East, Suite 100
American Fork, Utah 84003
Email: efranson@fransoncivil.com
Phone: 801-756-0309

March 19, 2019

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Executive Summary

The executive summary should include:

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

Date: March 19, 2019

Applicant: Last Chance Canal Company
Grace, Caribou County, Idaho

Project Title: Last Chance Canal Company SCADA Project

Project Summary:

The Last Chance Canal Company (Last Chance) SCADA Project is a collaborative effort to improve water efficiency and conserve water in southeastern Idaho. The Last Chance Canal Company SCADA Project involves installing 18 SCADA sites on the existing irrigation canal system at existing and new flow measurement sites and the installation of a SCADA Software Program. The 18 SCADA sites will monitor 23 flow measurement devices consisting of 6 new flumes, 15 existing flumes, and 2 new area flow meters. It is anticipated that this system will collect flow data from strategic points along the transmission system. This data will then be available remotely on any mobile device, tablet, or computer used by Last Chance. The existing flumes will be checked for correct installation and re-leveled if needed. The new flumes will be installed at strategic locations on the canal system and area flow meters will be installed on pipe outlets at the ends of the canal. The strategic locations of the flumes and area flow meters will allow Last Chance to determine canal losses, determine and control end of the canal spillage, and eliminate flow measurement issues. The SCADA system and program will also facilitate the efficient use of irrigation water and reduce spillage at the ends of the canals. By installing a SCADA system on the Last Chance system, this project will help meet these challenges and achieve the goals of this FOA by saving time and money, conserving nearly 2,900 acre-feet of water annually, and improving the overall management of 65,000 acre-feet of water. In addition, there is future potential to connect SCADA to valve and gate actuators such that these valves and gates can be opened or closed remotely on the devices used by the system operators. Funding requested for this project will be used to purchase and install SCADA equipment necessary to implement this project.

Approximate Length: 21 Months

Completion Date: June 30, 2021

Federal Facility: The project is not located on a federal facility.

Background Data

Applicant's Water Supply

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

Last Chance is a non-profit canal company that provides water to shareholders via eight lateral canal companies. Last Chance holds the overall water rights for all shareholders and operates the diversion structures and main canals. The eight lateral canal companies deliver the water diverted by Last Chance to the shareholders. These lateral canal companies operate independently with their own board of directors and water master. Shareholders on the system hold stock in both Last Chance and their specific lateral canal company and pay assessments to each for operation and maintenance.

Last Chance water rights are separated into two types: natural flow and storage water. The natural flow water rights include spring runoff and tributary inflow into the Bear River. These rights are governed by the Dietrich Decree in Idaho and the Kimball Decree in Utah. The storage water is flow dedicated to Last Chance from Bear Lake per an established contract. This flow is used to supplement natural flow supplies as required by demand and permitted by the contract. All water rights held by Last Chance are shown in Table 1.

Last Chance serves approximately 150 shareholders via the eight lateral companies. Annual water deliveries are approximately 65,000 acre-feet and serve approximately 30,000 acres of agricultural lands within a 67,888-acre service area. Crops grown in the service area include potatoes, barley, winter and spring wheat, alfalfa, and grass hay.

Table 1: Water Rights for the Last Chance Canal Company

Water Right	Priority Date	Source	Flow or Volume	Water Use
11-00262	07/29/1910	Bear River	54 cfs	Irrigation
13-00955	08/09/1909	Bear River	138.16 cfs	Irrigation
13-00956	12/31/1909	Bear River	25.6 cfs	Irrigation
13-00991C	03/01/1897	Bear River	200 cfs	Irrigation
13-00992C	05/14/1901	Bear River	240 cfs	Irrigation
13-04076	04/01/1919	Bear River	19,043 ac-ft	Irrigation
13-07288	05/30/1980	Bear River	440 cfs	Power
13-07297	02/11/1981	Bear River	220 cfs	Power
Bear Lake Settlement Agreement	1995	Bear Lake	19% of Total Storage up to 40,000 ac-ft	Irrigation

Water Delivery System

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

Last Chance, with its eight lateral canal companies, uses 14 canals and ditches to convey water to their shareholders. These canals are supplied via two diversion points on the Bear River, the Last Chance Diversion Dam and the Bench B Diversion. In total, the distribution system comprises approximately 50 miles of open canals.

The irrigation season can run from the middle of April to the end of October. However, at times the season is shorter due to late spring weather or early cold weather conditions in the fall. The typical growing season in this area is usually around 120 days.

Flow in the various canals is currently measured using flumes and weirs. This data is then compiled by Last Chance and the Bear River Commission. The flow in each canal ranges from 5 cubic feet per second (cfs) to 320 cfs, with most canals diverting between 30 cfs and 70 cfs. Last Chance instituted a mandate in 2016 requiring all shareholders to install a working flow meter on their turnout. At this point, approximately 80% of all turnouts have a meter installed, however, the accuracy of these meters has not been verified. Last Chance is working with the remaining 20% to ensure meters are installed on their turnouts.

There is significant loss in the canals due to seepage and evaporation. Water is also lost to overflow at the ends of the canal system. At the ends of several canals, water is placed in holding ponds and a substantial portion of this water is also lost to seepage and evaporation. A small portion of the flow not used in the system is returned to the Bear River via open channels and small seasonal streams.

Recent improvements to the system include the newly-constructed roller-compacted concrete Last Chance Diversion Dam which replaced a 100-year-old timber crib dam and the west flume replacement which delivers water to approximately half of the Last Chance service area. Last Chance is also working on structural improvements to the eastern flume that serves nearly a quarter of the service area.

Hydropower or Energy Efficiency

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

The Last Chance Hydroelectric Project was designed and constructed between 1980 and 1983 by Last Chance's subsidiary, Last Chance Hydro Electric Company. This plant was then traded to Utah Power and Light (now PacifiCorp) in 1984 in exchange for supplemental water from Bear Lake and an annual royalty payment. While Last Chance no longer owns and operates its own hydroelectric facility, PacifiCorp owns and operates several plants along the Bear River, two of which are within the Last Chance service area.

A large portion of Last Chance shareholders utilize sprinkler irrigation systems to water their crops. Since the distribution system consists of open canals, these shareholders must use pumps to operate their on-farm irrigation systems. Many pumps are outdated and less efficient than newer technology and result in higher energy and maintenance costs.

In addition to on-farm pumps, Last Chance uses large volumes of fuel in order to travel within their service area to operate and maintain their system, repair system breaks, record flow measurements, and respond to emergency situations. The implementation of a SCADA project would reduce this energy use since flow measurements will be recorded and transmitted digitally. In the future, as the SCADA system expands, system valves and gates could be controlled remotely, therefore reducing operation time.

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 project(s).

Last Chance received a Reclamation WaterSMART grant in 2017 to prepare a water master plan. This plan was completed in February 2018 and identified issues within the system as well as improvement projects to address these issues. One of the proposed improvement projects listed in the master plan was the installation of a SCADA system as proposed in this application. Last Chance has seen the benefit of evaluating their system and planning for the future throughout the creation of this plan and hopes to be able to implement this specific project as identified during the planning efforts.

In addition to directly working with Reclamation, several other projects in the Bear River Basin are the result of Reclamation grant funding. These include the St. Johns Canal Enclosure Project, the Upper High Creek Canal Enclosure & Hydropower Project, Cub River West Lewiston, and Middle Ditch Projects, and the Benson Canal Enclosure. These projects have greatly impacted the local economies and indirectly encouraged the NRCS to provide funding for on-farm improvements. Last Chance recognizes the benefits these projects have had on the local communities and wishes the same for those within its service area.

Project Location

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

The project is located near Grace, Caribou County, Idaho, and would include the entire Last Chance service area of 67,888 acres as shown in Figure 1. The project latitude is 42°34'36"N and the longitude is 111°43'49"W.

Technical Project Description

The technical project description should describe the work in detail, including specific activities that will be accomplished. This description shall have sufficient detail to permit a comprehensive evaluation of the proposal. Please note, if the work for which you are requesting funding is a phase of a larger project, please only describe the work that is reflected in the budget and exclude description of other activities or components of the overall project.

Design and Permitting

If a grant from Reclamation is received, Last Chance will proceed with the design, permitting, and construction of the SCADA project. A professional engineering firm will be contracted to perform the design, assist with permitting, and coordinate the environmental clearance process. An engineering design criteria report will be prepared to analyze the system for optimal locations for the SCADA systems, evaluate the required materials, and determine all criteria necessary for this project to succeed. It is anticipated that there will be 18 SCADA locations as shown on Figure 1. The SCADA locations will monitor 23 measurement devices. The main purpose of these SCADA locations will be to measure and record canal flows and any spillage out of the ends of the canals. This project will not be designed to measure individual water users. An environmental assessment (EA) will be prepared per NEPA compliance. Once the EA is complete and environmental clearance has been obtained, the engineering design and construction documents will be prepared.

Construction

Once the design is complete and the construction documents have been prepared, the project will go to competitive bid and construction will begin. Construction activities will include the installation of radio/cell transmitters and other related telemetry at critical locations throughout the system and connect it to strategic meters and water measurement structures, test transmission signals, purchase and setup of a SCADA software. Each of the 18 SCADA site locations shown in Figure 1 will include a battery, solar panel, pole, data logger, radio, and necessary electrical wiring. These 18 SCADA sites will monitor 23 measurement structures and devices. It is anticipated that there will be six new flumes and two new area flow meters installed at select locations shown on Figure 2 in addition to the 15 existing system measurement devices. Minor modifications to the existing system will be necessary in preparation for the installation of the SCADA system, these will include re-setting and leveling flumes, installing stilling wells, surveying, and installing three SCADA signal repeater sites.

Following installation, all equipment will be tested and calibrated to ensure proper operation. All programming will be completed in order to ensure the SCADA software is working properly with its physical counterparts. This will most likely take part at the beginning of the irrigation season when there is water in the canal system.

Benefits

The installation of this project will allow Last Chance to evaluate the proper operation and accuracy of installed measurement devices throughout the entire system and make any required adjustments using the company's general funds. After the completion of this project, Last Chance will monitor

and analyze the data collected. The data will be used to improve water management, conserve water, locate sections of the canal systems that need improvement, and create a prioritized system improvement projects list. In addition, the data will be used to establish a baseline of the system's performance so that when improvements are made, the results can be easily quantified. It is anticipated that this SCADA equipment will continue to be incorporated into future additions and improvements to increase water savings and efficiency while also improving the overall management of the system. Additional SCADA sites are planned as additional phases to eventually read all flow meters and to remotely operate and control gates on the Last Chance Canal system.

Figure 1: Strategic SCADA & Measurement Locations

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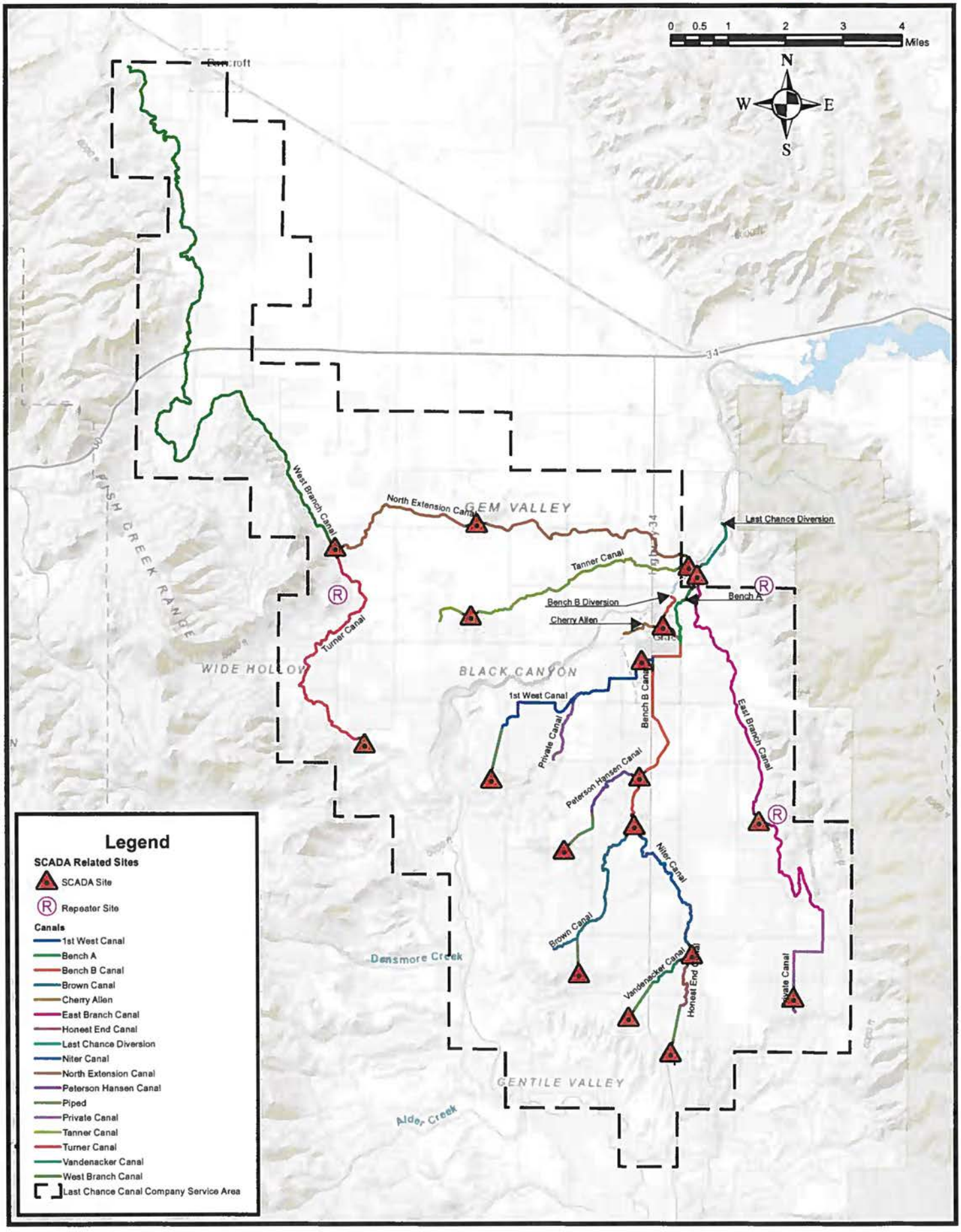

Figure 2: Existing & Proposed Measurement Sites & Methods

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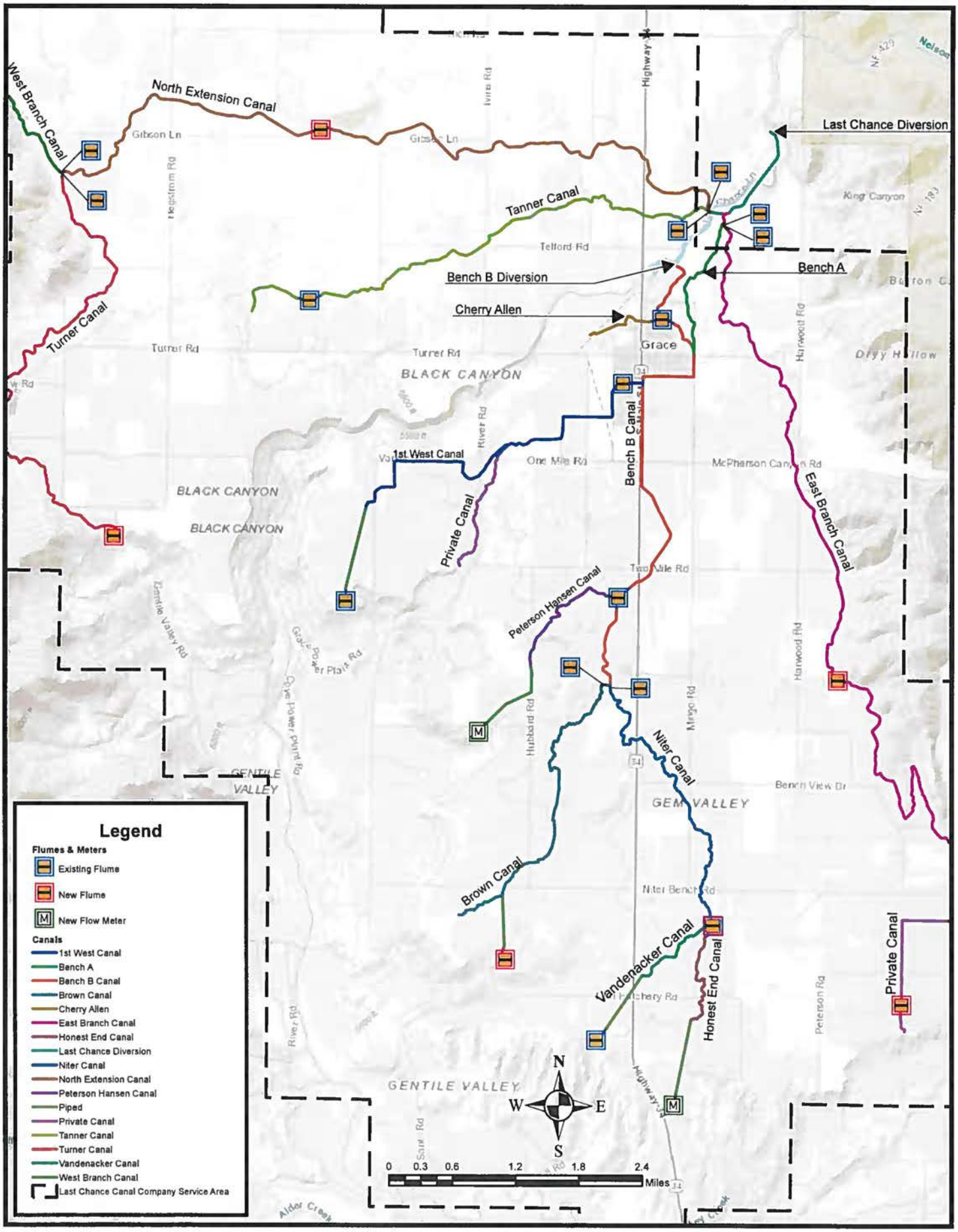

Evaluation Criteria

Evaluation Criterion A: Quantifiable Water Savings

Up to 30 points may be awarded for this criterion. This criterion prioritizes projects that will conserve water and improve water use efficiency by modernizing existing infrastructure. Points will be allocated based on the quantifiable water savings expected as a result of the project. Points will be allocated to give greater consideration to projects that are expected to result in more significant water savings. All applicants should be sure to address the following:

Water Savings

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

The Last Chance system currently experiences excessive overflow and spills at the ends of a majority of the main canals in the system. These spills are a result of system inefficiencies that are out of the operator's control, sudden decreases in water use due to rain events, and individual users shutting off their turnouts without first notifying the operator. Although there are several measurement devices installed throughout the system, including the newly-mandated meters on individual turnouts, some of these are inaccurate, unreliable, and unverified. With the large service area and the unreliable devices, Last Chance has a basic understanding of how their water is being used and wasted. With a SCADA system installed, Last Chance will be able to confirm where their water is going and how it is being used. The operators can then develop strategies and plans to send the needed amount of water to the users at the right time, therefore minimizing waste. With a web-based SCADA program, Last Chance can monitor their entire system remotely, automatically record usage data, and make immediate changes based on information provided by the SCADA system.

Each of the eight canals that spill regularly typically loses between 2 cfs and 5 cfs. This estimation is based on observations of the water master and the available flow records near the waste locations. Using the conservative assumption that each canal loses a minimum of 2 cfs (4 acre-feet per day) over the course of a 120-day irrigation season, approximately 3,840 acre-feet of water per year is lost to spills.

$$Water\ Losses = 4\ {}^{ac-ft}/_{day} * 120\ days * 8\ canals = 3{,}840\ {}^{ac-ft}/_{year}$$

It is anticipated that the installation of a SCADA system will reduce spills to approximately 0.5 cfs (1 acre-foot per day). Over the course of the irrigation season this would result in annual water losses of 960 acre-feet.

$$Water\ Losses\ After\ SCADA = 1\ {}^{ac-ft}/_{day} * 120\ days * 8\ canals = 960\ {}^{ac-ft}/_{year}$$

$$Estimated\ Water\ Savings = 3{,}840\ {}^{ac-ft}/_{yr} - 960\ {}^{ac-ft}/_{yr} = 2{,}880\ {}^{ac-ft}/_{yr}$$

This equates to a water spill reduction of 2,880 acre-feet per year due to the installation of a SCADA system. Years where the irrigation season is longer than the 120 days shown above, there would be an estimated 24 acre-feet of water conserved every day.

Current Water Losses

Describe current losses: *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)?*

The conserved 2,880 acre-feet of water is currently spilling at the end of eight of the main canals in the system. Once it spills, it either enters the Gentile Valley, collects in overflow ponds that seep into the ground, or eventually returns to the Bear River through seasonal streams.

Support/Documentation of Water Savings

Describe the support/documentation of estimated water savings: *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.*

One of the company's biggest struggles is controlling the flow rate of where their water goes. Flow data collection is sparse due to the large service area and the time required to collect flow information. The data that is collected typically depicts only an instantaneous snapshot of the flows, therefore the measurements are subject to the accuracy of the equipment as installed and human error. At the same time, there is no way to verify the information collected. So, while Last Chance knows it loses significant water to spilling at the end of their canals, there is little recorded data to quantify it. As such, visual observations and assumptions were used to supplement existing records and estimates.

A majority of the Last Chance canals have a weir, flume, or pipe at or near the end of the canal, sometimes with several users diverting water downstream of the measurement device before water spills at the end. Spilling loss estimates were calculated by taking the flow measured at the weir or flume and subtracting the flow used by the users downstream as indicated by those users' meters. The problem with this data is that very little data is available for these weir and flume flows at the end of the canals. Also, some of the end users, downstream from the weirs or flumes, do not have meters installed yet.

One example of the issues above is the East Branch Canal. A flume near the end of this canal was reported as having an average flow of 9.25 cfs between June 6 and July 19. There are two users after the flume and they both have flow meters. The length of canal where this takes place is approximately 1,150 feet between this flume near the end of the canal and the final user. Due to the relatively short segment of canal, it is unreasonable to think that there would be more than a 10% loss for this length of canal. Assuming there were 10% losses, this would mean that there are

approximately 0.93 cfs losses in this section of the canal. The average use of the first user is 1.89 cfs while the second user averages 2.49 cfs over this same time period. Taking the flow of the canal and subtracting the users water use on days where they are both using water and subtracting canal losses will tell approximately how much water is passing the last water user or being wasted.

$$Estimated\ Losses = 9.25\ cfs * 10\% = 0.93\ cfs$$

$$Estimated\ Waste = 9.25\ cfs - (1.89\ cfs + 2.49\ cfs) - 0.93 cfs = 3.94\ cfs$$

Last Chance knows that their flow records are sparse, but they have done what they can with the resources they have. As such, the water savings estimates are very approximate and do not have the desired supporting documentation. For this very reason, Last Chance feels very strongly that a SCADA system is needed. The company wants to know what their flows are and where those flows are going, and they believe this can be achieved through accurate, consistent, reliable data available with a SCADA system.

The estimate of 2 cfs to 5 cfs spilling at the end of the canals was estimated using the end-of-ditch weir and flume readings and subtracting the downstream users' diversions. Because the flow information collected only had sufficient information for a few canal spill calculations, a conservative estimate of 2 cfs was used. The post-project spilling estimate of 0.5 cfs assumed that once Last Chance understands how much water is needed in each canal and is therefore able to measure the diversion into the canal, the ultimate goal will be no spilling at the end. However, due to human error and other unknown factors, it is expected that up to 1 cfs of spilling may occur at times. Therefore, the average of 0 cfs and 1 cfs was used to estimate post-project spilling. Water conservation volumes are shown above under the section, "Water Savings".

Project Types

Please address the following questions according to the type of infrastructure improvement you are proposing for funding. See Appendix A: Benefit Quantification and Performance Measure Guidance for additional guidance on quantifying water savings.

(1) ***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:*

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

As described above, weir, flume, and meter flow records were used, as available, to estimate the spilling at the end of the ditch. These estimates are very approximate but are all that is available. Calculations are also shown above. Last Chance is continuing to gather data during the 2019 season,

as well as quantifying losses, to provide as much historical data as possible to use for post-project water savings verification.

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 have been estimated by using weir and flume measurements near the end of each canal to determine spilling. Calculations and assumptions are discussed above. It is assumed that losses due to spilling will be eliminated or significantly reduced with the installation of a SCADA system as it will aid operators in sending the needed water down each canal with minimal excess.

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?

The Last Chance system currently has operating flumes and weirs along the main canals to measure flows diverted into the system and then sent down each canal. In addition, as of 2016, each shareholder is required to install a working flow meter on their turnout. While not all shareholders have yet met this requirement, most of the system has measurement devices installed.

The accuracy of the weirs and flumes is completely dependent on the individual reading the measurement, as well as the proper installation of the device. In the case of Last Chance's devices, several flumes need to be re-set and leveled to increase the accuracy. Also, more care needs to be taken to ensure human reading errors are mitigated wherever possible. Human errors are currently being corrected where possible, but the estimated current accuracy for a typical flume on the canal system is ± 20%. The magnetic flow meters required for each individual turnout have an estimated manufacturer's accuracy of 2%.

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

Five new flow measurement devices are proposed as part of this project. See Table 2 below for estimated accuracy and the basis for this accuracy.

Table 2: Proposed Equipment Accuracy Tolerance

Measurement Device	Accuracy	Basis for Accuracy
Trapezoidal Ramp Flume	± 4.5%	Estimated using the Bureau of Reclamation Program WinFlume.
Parshall Flume	± 5%	Manufacturer reported accuracy.
Magnetic flow meter	± 2%	Manufacturer reported accuracy.
Water depth pressure gauge	± 2%	Manufacturer reported accuracy.
Ultrasonic depth gauge	± 1%	Manufacturer reported accuracy.

For the existing measurement structures, re-setting and leveling the existing flumes will result in increased accuracy of the measurements taken at these sites. Typical accuracy for a Parshall Flume is ± 5% if it remains properly installed and free from obstructions. The addition of automated water depth readers, included in the SCADA equipment, will eliminate human reading errors.

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

Annual farm delivery volumes will not change due to this project. However, because the operator will be more efficient in making those deliveries, excessive water will not be sent down the canals, resulting in spills at the end of the canals. Overall system efficiency will result in water conservation throughout the system.

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

Flow measurements will be recorded as part of the SCADA system and compared to available historic flow records. This comparison will indicate how much water is being sent down each canal and how much of that water is being spilled out of the ends of the canals on the system. It is anticipated that less water will be sent down each canal as operators will know how much water each user should receive and will therefore be able to accurately measure and control the correct amount of flow diverted into the canal. The SCADA system will allow Last Chance to enforce water use accountability among shareholders within their respective canals by ensuring water users do not use more water than they have been allocated. The reduction in spills at the end of the canals can also be visually observed. It is anticipated that the SCADA system will allow Last Chance to establish a baseline of current water usage to be utilized as a comparison when new projects are implemented.

Evaluation Criterion B: Water Supply Reliability

Up to 18 points may be awarded under this criterion. This criterion prioritizes projects that address water reliability concerns, including making water available for multiple beneficial uses and resolving water related conflicts in the region.

Please address how the project will increase water supply reliability. Proposals that will address more significant water supply shortfalls benefitting multiple sectors and multiple water users, will be prioritized. General water supply reliability benefits (e.g., proposals that will increase resiliency to drought) will also be considered. Please provide sufficient explanation of the project benefits and their significance. These benefits may include, but are not limited to, the following:

1. Will the project make water available to address a specific water reliability concern? Please address the following:

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

The Last Chance Canal Company SCADA Project is expected to minimize over-delivery of water to water users. The conserved water gained from minimizing spillage out the ends of the canals, as described above, will therefore be kept in the Bear River. Additional water left in the Bear River system will help reduce truncated water deliveries from Bear Lake during drought years, which has happened at times in the last 20 years.

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

The Last Chance Canal Company SCADA Project is expected to reduce Bear River diversions at the Last Chance and Grace Diversion Dams. The conserved water will remain in the Bear River and will provide benefits to all users downstream of Last Chance.

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

The Bear River downstream of the Grace Dam will be used to carry this water to downstream water users such as the Bear River Migratory Bird Refuge and the Great Salt Lake. No increase to acreage or consumptive use by Last Chance will result from the proposed project.

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

It is expected that the full 2,880 acre-feet will be used for this intended purpose.

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

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

The conserved water is expected to benefit multiple sectors. Agriculture is expected to benefit from the additional water in the Bear River. There will also be environmental benefits to the Bear River Migratory Bird Refuge, aquatic habitats downstream of Grace, and other habitats on the Great Salt Lake.

- *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.*

IPaC lists two species as threatened near the project area: the Canada Lynx and the North American Wolverine. While neither animal is expected to be directly impacted by the project, other endangered or threatened species will benefit from all flows left in the Bear River. The Bear River passes through the Bear River Migratory Bird Refuge, downstream from the Last Chance service area and provides habitat to many species, mostly birds. Any additional water in the Bear River, or simply the stabilization of the river flows, will greatly benefit this refuge. Additionally, the Bear River ultimately enters the Great Salt Lake and provides a habitat to many local species that will benefit from a stabilized or additional water supply.

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

See Evaluation Criterion F.1.1.

- *Will the project benefit Indian tribes?*

This project will not benefit Indian tribes.

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

Much of Last Chance's service area includes rural communities within Gem Valley and Gentile Valley. These areas are largely dependent on agricultural production and will benefit from better water management and a more reliable water supply to water their crops.

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

Answered above.

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

This project is expected to promote communication between Last Chance and the individual lateral canal company boards. This project will help to highlight system deficiencies and allow Last Chance to improve their water management methods.

- *Is there widespread support for the project?*

The project is widely supported by the Last Chance shareholders, the Bear River Water Users Association (BRWUA), Bear River District 11 Water Master, Caribou County Commissioners, and the city of Grace.

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

Support from BRWUA and the Bear River District 11 Water Master means they recognize the benefits that projects like this have on the communities and river system as a whole. The SCADA information provided for the project will allow better water use documentation and encourage collaboration between Last Chance and BRWUA.

Support from the shareholders and the city of Grace signifies the support of the local community. The community is dependent on the agricultural production that the better managed water will provide.

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

Yes. With the information provided by the SCADA system, water users will be informed of the amount of water they are using, how much is being lost to seepage, and how much is being spilled out the ends of their canals. This will drive the Last Chance and individual canal board members to prioritize projects that will give the greatest benefits.

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

The main type of tension in the basin is between shareholders within the canal companies. The SCADA project aims to provide a definitive accounting of the water diverted to the individual canals, thereby striving to relieve tensions of shareholders claiming over-delivery of water to others.

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

The BRWUA will play a crucial part in the SCADA project by providing their SCADA information on the diversion flows of the Last Chance and Grace Diversions. These diversions are already monitored by the BRWUA and in an effort to improve collaboration, the BRWUA and Last Chance will work together to share information on these structures.

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

No. The immediate benefits are discussed above. These actions are principally good for the environment and communities, no negative effects are expected in the immediate or foreseeable future.

Evaluation Criterion C: Implementing Hydropower

Up to 18 points may be awarded for this criterion. This criterion prioritizes projects that will install new hydropower capacity in order to utilize our natural resources to ensure energy is available to meet our security and economic needs.

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

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

Although no hydropower generation is proposed as part of this project, the additional water conserved in the Bear River will have the opportunity to contribute to power generation at hydroelectric facilities like the Last Chance hydroelectric facility, the Grace hydroelectric facility, and other hydroelectric facilities downstream on the Bear River. The amount of energy capacity at the Last Chance Hydroelectric Project is 1.7 MW. The Grace Power Plant currently has a capacity of 33 MW. There is additional energy capacity from other hydropower facilities further downstream on the Bear River.

Describe the amount of energy generated. *For projects that implement hydropower 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.*

No hydropower will be produced directly from the Last Chance Canal Company SCADA Project. Hydropower production is possible from hydropower facilities on the Bear River but is not a direct result of the project. It is estimated that the conserved 2,880 acre-feet of water could provide nearly 68,000 kWh at the Last Chance Hydroelectric Project. The Grace Power Plant could potentially produce 1,067 MWh with this additional water. This assumes 70% efficiency for the hydropower stations. There would be additional energy generated from other hydropower facilities further downstream on the Bear River, but this is a conservative estimate.

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

- *Any expected reduction in the use of energy currently supplied through a Reclamation project*
- *Anticipated benefits to other sectors/entities*
- *Expected water needs, if any, of the system*

Additional energy benefits can be expected from the Last Chance Canal Company SCADA Project. The SCADA units will be self-sufficient, receiving their power from a solar cell and batteries, therefore not impacting local power grid demands. Additional energy will be conserved by reducing the amount of travel needed to maintain and record system measurements and conditions. A small amount of water will be required to setup and implement the Last Chance Canal Company SCADA Project. This will mostly come from water spilling out the ends of the canals which will be needed to calibrate those measurement devices.

Evaluation Criterion D: Complementing Future On-Farm Irrigation Improvements

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.*

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

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

Most irrigators in the Last Chance service area already have sprinkler irrigation systems in place. However, there are some shareholders who are interested in making on-farm improvements with the financial assistance of the NRCS. In general, when users are held accountable to only use their allocated water share, improvements will likely be required so that they can continue to properly irrigate their crops. Last Chance will assist all interested shareholders in seeking NRCS assistance.

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

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

The proposed project will complement on-farm improvements in the area by increasing water management efficiency. Better control of water deliveries will stabilize the water supply, ensuring timely deliveries to individual users so they can rely on water for their crops at specific times. With this confidence in the volume and timing of their received water, users can make improvements specific to their situation and maximize their on-farm efficiencies.

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

Any on-farm improvements made by individual users will increase efficiency and lead to water conservation experienced by Last Chance as a whole. While many users already utilize sprinkler irrigation, some of the pumps used to feed their systems are outdated and inefficient. Depending on the age and model of the pump, energy savings could vary greatly with the replacement of the pumps but would nevertheless result in savings in each case. In addition, those who don't already have sprinkler irrigation systems in place could expect anywhere from 10 to 50 percent increases in efficiency by converting to sprinkler irrigation systems. Irrigation systems could be further upgraded from hand lines or wheel lines to center pivots to further improve on-farm and water use efficiency. Exact water savings from on-farm improvements have not been quantified in detail as it is out of the scope of this project.

Evaluation Criterion E: Department of the Interior Priorities

Up to 10 points may be awarded based on the extent that the proposal demonstrates that the project supports the Department of the Interior priorities. Please address those priorities that are applicable to your project. It is not necessary to address priorities that are not applicable to your project. A project will not necessarily receive more points simply because multiple priorities are addressed. Points will be allocated based on the degree to which the project supports one or more of the priorities listed, and whether the connection to the priority(ies) is well supported in the proposal.

1. *Creating a conservation stewardship legacy second only to Teddy Roosevelt*
    a. *Utilize science to identify best practices to manage land and water resources and adapt to changes in the environment;*
    b. *Examine land use planning processes and land use designations that govern public use and access;*
    c. *Revise and streamline the environmental and regulatory review process while maintaining environmental standards.*
    d. *Review DOI water storage, transportation, and distribution systems to identify opportunities to resolve conflicts and expand capacity;*
    e. *Foster relationships with conservation organizations advocating for balanced stewardship and use of public lands;*
    f. *Identify and implement initiatives to expand across to DOI lands for hunting and fishing;*
    g. *Shift the balance towards providing greater public access to public lands over restrictions to access.*

Advances in SCADA systems in recent years have had significant impacts on the management of water resources across the country, especially in the western United States. Last Chance will greatly benefit from utilizing this technology as it has become a best practice in the industry while providing useful savings to the company. The installation of a SCADA system will reduce the travel time, fuel use, and labor hours required to manage the system; provide instantaneous flow measurements at critical locations throughout the system; and provide reliable data to create a water budget for the system and improve management of the water. Not only does this benefit Last Chance, but it also meets the DOI's priority to utilize science to identify best practices to manage water resources and adapt to changes in the environment.

2. *Utilizing our natural resources*
    a. *Ensure American Energy is available to meet our security and economic needs;*
    b. *Ensure access to mineral resources, especially the critical and rare earth minerals needed for scientific, technological, or military applications;*
    c. *Refocus timber programs to embrace the entire 'healthy forests' lifecycle;*
    d. *Manage competition for grazing resources.*

Not applicable.

3. *Restoring trust with local communities*
    a. *Be a better neighbor with those closest to our resources by improving dialogue and relationships with persons and entities bordering our lands;*
    b. *Expand the lines of communication with Governors, state natural resource offices, Fish and Wildlife offices, water authorities, county commissioners, Tribes, and local communities.*

The success of this project is dependent on the collaboration of all Last Chance shareholders as well as the support of PacifiCorp, local governments, the Caribou County Commissioner, and the Bear River Commission. By supporting this project as well, Reclamation will build trust with all entities involved and those observing from outside the project. This will expand the lines of communication between local entities, water authorities, and the Federal government via Reclamation. This can then

be used to encourage better management of the country's resources, as well as to build trust in the laws that are enacted to provide for the future. Improved communication is always beneficial to all involved.

4. *Striking a regulatory balance*
    a. *Reduce the administrative and regulatory burden imposed on U.S. industry and the public;*
    b. *Ensure that Endangered Species Act decisions are based on strong science and thorough analysis.*

Not applicable.

5. *Modernizing our infrastructure*
    a. *Support the White House Public/Private Partnership Initiative to modernize U.S. infrastructure;*
    b. *Remove impediments to infrastructure development and facilitate private sector efforts to construct infrastructure projects serving American needs;*
    c. *Prioritize DOI infrastructure needs to highlight:*
        1. *Construction of infrastructure;*
        2. *Cyclical maintenance;*
        3. *Deferred maintenance.*

As it is not possible for the Federal government to directly improve all infrastructure within the country, Last Chance appreciates Reclamation's funding assistance in supporting them in modernizing their infrastructure to better plan for the future, manage water supplies, and increase system efficiencies. This project is just one step in working to modernize an extensive system that provides the necessary resources to sustain the local agricultural economy. The proposed SCADA system is a perfect example of modernizing existing systems by utilizing technological advancements to provide significant benefits to all involved.

Evaluation Criterion F: Implementation and Results

Up to 6 points may be awarded for these subcriteria.

Subcriterion No. F.1 – Project Planning

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

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

Provide the following information regarding project planning:

(1) Identify any district-wide, or system-wide, planning that provides support for the proposed project. This could include a Water Conservation Plan, SOR, Drought Contingency Plan or

other planning efforts done to determine the priority of this project in relation to other potential projects.

Last Chance received a WaterSMART planning grant in 2017 to complete a water master plan that covered their entire system. This plan evaluated the condition of the current system, identified issues and needs within the system, and recommended improvement projects to address the identified issues. This plan was the main basis and support for the completion of this SCADA project.

In addition, the State of Idaho completed a comprehensive water plan in 2012 that also addressed key strategies for all water users to be aware of and implement as appropriate for the welfare of the State moving into the future. The first objective of the Idaho State Water Plan is "1) Water Management: Encourage the quantification of water supplies, water uses, and water demands for all water rights within the state. Encourage integrated, coordinated, and adaptable water resource management and the prudent stewardship of water resources"

The State of Utah, in 2004, prepared a Water Plan for the Bear River Basin, which spans the states of Utah, Idaho, and Wyoming. The Plan encourages and emphasizes the importance of water management and metering. "Measurement or metering of flows is important in both the agricultural setting and the urban setting. Accurate measurement of water use encourages conservation in several ways. Not only is each user assured a fair and equitable water distribution and a corresponding financial assessment, it is also a more business-like way to operate a system and maintain records. When users pay according to the quantity of water they actually use, there is a built-in incentive to conserve, whether the use is irrigation, municipal, or industrial. Accurate metering can also help to identify and quantify system losses."

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

The Last Chance Water Master Plan directly identifies the implementation of a SCADA system as a critical improvement project in increasing the efficiency of the system. The plan identified several system weaknesses resulting from not having the capabilities a SCADA system provides including:

- Significant travel time required to address emergencies due to large service area
- High fuel use and travel time required to record flow measurements and operate system features (e.g. gates, valves, etc.) due to large service area
- Wasted water during emergencies because so much time is needed to reach the emergency location and operate

By implementing the proposed project, these weaknesses will be resolved or mitigated. While it will still take time to travel to the emergency location, the operator can quickly work to close gates, divert water, and make other necessary changes upon notification of the emergency which will reduce the damage caused by the emergency and thus significantly decrease the water wasted. The project will also reduce the fuel energy use and time required to record flow measurements. Typical operations are to operate a gate or valve, allow the system to stabilize, check the end of canal spill waste, adjust the diversion amount to minimize waste, and repeat. This process will be improved as the travel time and investigations of the end of canal waste can all be done remotely with the SCADA transmitters.

In a more general perspective, this project also meets the goals and objectives of the Idaho State Water Plan which aims to promote water conservation and water use efficiency. The installation of a SCADA system will allow Last Chance to better manage and increase the water use efficiency of 65,000 acre-feet per year and conserve approximately 2,880 acre-feet of water per year.

Subcriterion No. F.2 – 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 or better managed, energy generated or saved). For more information calculating performance measure, see Appendix A: Benefit Quantification and Performance Measure Guidance.

With the installation of a SCADA system and the utilization of existing flow measurement devices, Last Chance will confirm how much water is diverted from the Bear River and how it is used within their system. They will then be able to monitor overall canal conveyance flows and compare them with the available historic records. Most of the flow measurement devices on the main canals have been in place for several years, but regular flow readings have not been recorded. In addition, some devices were not functioning properly due to improper installation or age of the equipment and will be adjusted so that all system readings are accurate as a result of this project.

Subcriterion No. F.3 - 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.

- *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.*

A tentative plan is shown below.

Task	Timeline
Apply for WaterSMART Grant	March 2019
Record system flows and establish baseline	April-October 2019
Finalize WaterSMART Grant Contract	September 2019
Design Criteria Memo for EA	October 2019
NEPA, Permitting, FONSI	October 2019-July 2020
Finalize Engineering Design, Construction Bid	July -September 2020
Construction	October 2020 – April 2021
SCADA Programming and Implementation	April-June 2021
Final Reporting	June 2021

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

Should this project receive WaterSMART funding, NEPA compliance will be required. Since the majority of the SCADA sites and equipment are within the existing canal right of way, it is expected to meet NEPA environmental requirements with a simplified EA and subsequent FONSI. Engineering and design of the SCADA project will be completed by a licensed engineer with the construction and SCADA setup being performed by licensed contractors. Construction permits will be obtained by the selected contractor with Last Chance facilitating access to the SCADA sites. The SCADA repeater sites will require land use agreements. Last Chance will work with the engineer to determine and obtain the feasible repeater locations. The SCADA contractor will be responsible for obtaining the necessary permits for all SCADA telecommunications equipment.

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

According to the Last Chance Canal Company Master Plan, engineering services were used to prepare feasibility options for a SCADA system and prepare preliminary cost estimates. As part of this WaterSMART application, general engineering services have been completed to determine strategic measurement locations, summarize existing flow information, prepare refined cost estimates, and prepare this application.

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

Administrative actions by Last Chance will entail extensive input during design and construction. The board members of Last Chance have extensive knowledge of the area, facilities, and operations of the system as well as an understanding of the Last Chance water users. Additional actions will also include updating system operational procedures, set assessment values, and provide training to employees on new equipment.

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

The environmental cost estimate was developed using cost estimates from other SCADA projects similar to this project. This estimate has been discussed with the local Reclamation office.

Evaluation Criterion G: Nexus 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.

- *Is the proposed project connected to Reclamation project activities?*
    - *Does the applicant receive Reclamation project water?*
    - *Is the project on Reclamation project lands or involving Reclamation facilities?*
    - *Is the project in the same basin as a Reclamation project or activity?*

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

While Last Chance does not directly receive Reclamation water, their water supply is the Bear River which impacts several Reclamation-funded projects downstream. Flows not used within the Last Chance system will remain in the Bear River, contributing water to the Bear River Basin, and will positively impact projects such as the Benson Canal Enclosure, Upper High Creek Canal Enclosure & Hydropower, and Cub River West Lewiston and Middle Ditch Projects. In addition, Reclamation provided funding to Last Chance in 2017 to develop a system-wide water master plan which is now complete and lists the proposed project as a priority for the company. This plan has proven extremely beneficial to Last Chance as it moves forward with various improvements to their system.

In addition, all water conserved from this project will remain in the Bear River as instream flows. The Bear River supports a large variety of fish and bird species that will be directly impacted by water management decisions made by Last Chance. The downstream ecosystem and habitat for these species will be enhanced with the additional water left in the river. Last Chance has had a positive experience up to this point with Reclamation and would like to continue expanding the line of communication whereby both parties will benefit from the relationship.

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

Not applicable.

Evaluation Criterion H: 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 using the following calculation:

$$\frac{\textit{Non-Federal Funding}}{\textit{Total Project Cost}} = \frac{\$ \quad 299{,}300}{\$ \quad 544{,}300} = \mathbf{55\%}$$

Project Budget

Project costs for environmental and cultural compliance and engineering/design that were incurred or are anticipated to be incurred prior to award should be included in the proposed project budget.

If the proposed project is selected, the awarding Reclamation Grants Officer will review the proposed pre-award costs to determine if they are consistent with program objectives and are allowable in accordance with the authorizing legislation. Proposed pre-award costs must also be compliant with all applicable administrative and cost principles criteria established in 2 Code of Federal Regulations (CFR) Part 200, available at www.ecfr.gov, and all other requirements of this FOA. ***In no case will costs incurred prior to July 1, 2018 be considered for inclusion in the proposed 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. Letters of commitment shall identify the following elements:

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

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

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

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 request (i.e., grants or loans) that have not yet been approved and explain how the project will be affected if such funding is denied*

The total project cost is $544,300. Last Chance will apply for a loan from the Idaho Division of Water Resources to cover their cost share of $299,300. The loan will be repaid with increased assessments to the shareholders. Any work performed by Last Chance employees or board members will be funded by the company's general fund and serve as in-kind contributions. No other applications for funding have been requested from any other Federal funding agency. Funding from the Idaho Division of Water Resources and Reclamation are pending. If these funds are not received, it is unlikely that the project will move forward at this time.

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*

Engineering costs associated with preliminary design efforts may be accrued prior to the project start date. This may include the recording of system flows and the establishment of a baseline as shown in the implementation plan. This expenditure will be part of the company's cost share and would be incurred between April 2019 and October 2019. These costs are estimated to be between $3,000 to $5,000.

Please include the following chart to summarize all funding sources. Denote in-kind contributions with an asterisk (*).

Table 3: Summary of Non-Federal and Federal Funding Sources

FUNDING SOURCES	AMOUNT
Non-Federal Entities	
1. Idaho Division of Water Resources	$299,300
Non-Federal Subtotal	**$299,300**
Other Federal Entities	
1.	$0
Other Federal Subtotal	**$0**
REQUESTED RECLAMATION FUNDING	**$245,000**

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 4: Total Project Cost

SOURCE	AMOUNT
Costs are reimbursed with the requested Federal Funding	**$245,000**
Costs to be paid by the applicant	**$299,300**
Value of third-party contributions	**$0**
TOTAL PROJECT COST	**$544,300**

*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 §200.326 before developing their budget proposal.

It is also strongly advised that applicants use the budget proposal format shown below in Table 5 or a similar format that provides this information. If selected for award, successful applicants must submit detailed supporting documentation for all budgeted costs. Additional information regarding the types of documentation that will be necessary to support budgeted costs can be found in Attachment 1 to this FOA.

Table 5: Budget Proposal

BUDGET ITEM DESCRIPTION	COMPUTATION		Quantity Type	TOTAL COST
	$/Unit	Quantity		
Legal Services	$200/hr	75	Hours	$15,000
Environmental Services	See Appendix E			$30,000
Engineering Services	See Appendix C			$61,500
Construction Management	See Appendix C			$61,500
Construction Contract	See Appendix D			$361,300
Reclamation Reporting	$100/hr	150	Hours	$15,000
TOTAL ESTIMATED PROJECT COSTS				**$544,300**

Budget Narrative

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

Salaries and Wages

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

Not applicable.

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.

Not applicable. All applicable work will be performed on a contractual basis.

Travel

Identify 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.

Not applicable.

Equipment

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

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

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

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

Last Chance board members and employees will not earn salary, wages, fringe benefits, or reimbursements from funding obtained to implement this project. All contributions by the irrigation

company board members and employees will be volunteered or funded by the company's general fund and serve as Last Chance's contributions to the project.

All funding secured from Reclamation and the Idaho 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.

All equipment for the project will be included in the contracted work.

Materials and Supplies

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

All materials and supplies for the project will be included in the contracted work.

Contractual

Identify all work that will be accomplished by consultants or contractors, including a breakdown of all tasks to be completed, and a detailed budget estimate of time, rates, supplies, and materials that will be required for each task. For each proposed contract, identify the procurement method that will be used to select the consultant or contractor and the basis for selection. Please note that all procurements with an anticipated aggregate value that exceeds the Micro-purchase Threshold (currently $10,000) must use a competitive procurement method (see 2 CFR §200.320 – *Methods of procurement to be followed*). Only contracts for architectural/engineering services can be awarded using a qualifications-based procurement method. If a qualifications-based procurement method is used, profit must be negotiated as a separate element of the contract price. See 2 CFR §200.317 through §200.326 for additional information regarding procurements, including required contract content.

All funding obtained for the project will be used to pay consultants, construction contractors, and subcontractors. These include legal and administrative services, environmental services, engineering design, construction management, and construction services. Detailed tasks to be completed, rates, and materials for each task are outlined in the appendices as follows:

Appendix C – Probable Cost for Engineering Design & Construction Management

Appendix D – Probable Cost for Construction Services

Appendix E – Probable Cost for Environmental Services

The costs shown in the appendices were prepared by a professional engineering firm. Costs for construction services were estimated using bid abstracts from similar projects. A narrative for the unit costs used for the construction services estimate is included in the appendix. The estimates for

engineering design, construction management, and environmental services have been broken down into various tasks and employee types to provide a more detailed estimate. The cost for legal and administrative services is outlined in Table 5.

Third-Party In-Kind Contributions

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

No Third-party contributions will be part of this project.

Environmental and Regulatory Compliance Costs

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

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

Environmental compliance costs are considered project costs and must be included as a line item in the project budget and will be cost shared accordingly.

The amount of the line item should be based on the actual expected environmental compliance costs for the project, including Reclamation's cost to review environmental compliance documentation. Environmental compliance costs will vary based on project type, location, and potential impacts to the environment and cultural resources.

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

Costs associated with environmental and regulatory compliance must be included in the budget. Compliance costs include costs associated with any required documentation of environmental

compliance, analyses, permits, or approvals. Applicable Federal environmental laws could include NEPA, ESA, NHPA, 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 Last Chance diversion and delivery system was originally constructed in the late 1890s. The old Last Chance Diversion Dam (timber-crib dam) was completed during the winter of 1897 to 1898 and replaced with a roller-compacted concrete dam in 2016. The Bench B Diversion was completed around 1918.

The project proposes to install telemetry sites at strategic locations on the system and re-set existing flumes. The environmental impact is anticipated to be temporary and minimal. All work will be completed in previously-disturbed areas. Contract documents will outline the responsibility of the contractor relative to dust control and air and water pollution during construction activities. No significant impacts are expected.

Existing flumes will be re-set and leveled to ensure measurement accuracy in the future. Automated measurement devices will be installed on the existing and new measurement flumes. No other modifications to system features are included in this project.

There is one historical feature located near Grace, Idaho, listed on the National Register of Historic Places, the Pegram Truss Railroad Bridge. The bridge will not be impacted by this project. If additional features are identified during the cultural resources survey, they will be avoided. If avoidance is not possible, mitigation practices will be implemented.

There are no known archeological sites in the proposed project area.

The project will not adversely affect low income or minority populations. It is anticipated that the project will benefit the local rural communities.

The project will not affect tribal lands.

The project will not contribute to the spread of noxious weeds. Disturbed areas will be reseeded with native species.

IPaC lists one threatened species, the Canada Lynx, and one proposed as threatened, the North American Wolverine, as potentially located in the project area. However, there are no critical habitats identified within the project area. There are no anticipated impacts to these species due to the proposed project.

According to the National Wetlands Inventory, there are some palustrine wetlands located in the project area south of Grace, Idaho. It is not anticipated that the installation of a SCADA system will impact these wetlands, but if during NEPA compliance impacts are identified, measures will be taken to avoid or mitigate these impacts. The project will not affect any "Waters of the United States" that are under CWA jurisdiction.

The applicant is planning to conduct the environmental compliance process with the assistance of consultants and in consultation with Reclamation. A total of $30,000 is budgeted for environmental services as shown in Appendix E. As shown in the appendix, $6,000 has been budgeted for a cultural resources specialist to conduct a cultural survey and prepare the associated report. In addition, $10,000 was budgeted for Reclamation's effort in pursuing NEPA compliance. The total amount budgeted for environmental compliance is approximately 5.5% of the total project costs.

A total of $15,000 was budgeted for all coordination with Reclamation necessary to complete this project and meet all reporting requirements.

Other Expenses

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

No other expenses are anticipated to complete this project.

Indirect Costs

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.

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

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

project is selected for award, the recipient will be required to submit an indirect cost rate proposal with their cognizant agency within 3 months of award.

No indirect expenses are anticipated to complete this project.

Total Costs

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

The total project cost is $544,300. Last Chance will provide $299,300 through a loan from the Idaho Division of Water Resources. The remaining $245,000 is requested from Reclamation.

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.

Should this project receive WaterSMART funding, NEPA compliance will be required. Since the majority of the SCADA sites and equipment are within the existing canal right of way, it is possible to meet NEPA environmental requirements with a simplified EA. A FONSI would be prepared and submitted. Engineering and design of the SCADA project would be completed by a licensed engineer with the construction and SCADA setup being performed by licensed contractors. Construction permits will be obtained by the selected contractor, with Last Chance facilitating access to the SCADA sites. The SCADA Repeater sites would require land use agreements. Last Chance will work with the engineer to plan and obtain feasible repeater locations. The SCADA contractor would be responsible for obtaining the necessary permits for all SCADA telecommunications equipment. The necessary environmental compliance and permits would be contracted through the engineering firm. The construction permits would be contracted through the construction contractor. Any permits required for the SCADA setup would be part of the SCADA contractor agreement.

Letters of Support

Please include letters from interested stakeholders supporting the proposed project. To ensure your proposal is accurately reviewed, please attach all letters of support/partnership letters as an appendix. (Note: this will not count against the application page limit.) *Letters of support received after the application deadline for this FOA will not be included with your application.*

Letters of Support are included in Appendix A.

Official Resolution

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

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

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

The signed Official Resolution will be submitted to Reclamation within 30 after the application deadline.

Unique Entity Identifier and System for Award Management

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

(i) Be registered in the System for Award Management (SAM) before submitting its application;

(ii) Provide a valid unique entity identifier in its application; and

(iii) Continue to maintain an active SAM registration with current information at all times during which it has an active Federal award or an application or plan under consideration by a Federal awarding agency.

The Last Chance Canal Company hereby self certifies that the above requirements have been completed and/or will be completed in a timely manner so that an agreement can be signed with Reclamation.

Appendix A

Letters of Support

BEAR RIVER WATER USERS ASSOCIATION, INC.
P.O. Box 1391, Pocatello, Idaho 83204-1391
Phone: 208-232-6101
Fax: 208-232-6109

May 7, 2018

Bureau of Reclamation
Financial Assistance Support Section
P.O. Box 25007, MS 84-27814
Denver, CO 80225

Re: Last Chance Canal Company SCADA Project

To Whom It May Concern:

The Bear River Water Users Association (BRWUA) is committed to water conservation and preparing for the future. We recognize the value of water conservation programs as they are highly-effective in their communities. Last Chance Canal Company (LCCC) is striving to implement a water conservation program in-line with these same goals.

Through similar programs, we have seen significant water savings and are confident in the impact irrigation monitors and enhanced management software will have in the area. By implementing software that allows individual users to access their real-time water use, water conservation should increase. In addition, with the ability to better manage water demand, the LCCC will be able to identify infrastructure needs and improve their water supply management.

The BRWUA is pleased to see LCCC moving forward with a valuable water conservation program and support them in this project.

Sincerely,

Mark Mathews
President
Bear River Water Users Association
(208) 681-8008
mathews6@live.com

Idaho Water District 11 - Bear River

May 3, 2018

Last Chance Canal Company
2055 Last Chance Ln
Grace, ID 83241

I would like to lend my support to your project to add SCADA with remote telemetry to your canal system. Having worked with systems that have automation, and remote data capabilities, I can most definitely support this addition to your system. I believe that you will find a considerable amount of water savings by adding automation to your water delivery process. The automation will make your water delivery much more efficient and save water in Bear Lake that can be used in drier seasons. Having digital records of water use will also help to understand and manage the delivery of irrigation water in ways that may not have been understood in the past. Since the Last Chance Canal is one of the largest users on the Bear River this project could benefit many other users as well.

Please let me know if there is anything that I can do to help in this process.

Sincerely,

Josh Hanks
Watermaster
Water District 11 - Bear River
watermasterdist11@gmail.com

Caribou County Commissioners

P.O. Box 775
Soda Springs, Idaho 83276
(208) 547-4324

MARK MATHEWS
Commissioner District #3

BRYCE SOMSEN
Commissioner District #2

PHIL CHRISTENSEN, Chairman
Commissioner District #1

April 30, 2018

Bureau of Reclamation
Financial Assistance Support Section
P.O. Box 25007, MS 84-27814
Denver, CO 80225

Re: Last Chance Canal Company SCADA Project

To Whom It May Concern:

Caribou County is committed to water conservation and preparing for the future. We recognize the value of water conservation programs as they are highly-effective in their communities. Last Chance Canal Company (LCCC) is striving to implement a water conservation program in-line with these same goals.

Through similar programs, we have seen significant water savings and are confident in the impact irrigation monitors and enhanced management software will have in the area. By implementing software that allows individual users to access their real-time water use, water conservation should increase. In addition, with the ability to better manage water demand, the LCCC will be able to identify infrastructure needs and improve their water supply management.

Caribou County is pleased to see the LCCC moving forward with a valuable water conservation program and support them in this project.

Sincerely,

Phil Christensen
Commission Chairman
Caribou County Courthouse
159 South Main
Soda Springs, Idaho 83276 (208) 648-7729 pchristensen@co.caribou.id.us

Appendix B

Signed Official Resolution

Official Resolution will be submitted within 30 days of the application deadline.

Appendix C

Probable Cost for Engineering Services

(Engineering Design and Construction Management)

Last Chance Canal SCADA Project

Probable Cost Opinion for Engineering Services

(Rate Table Attached)

Task Description	Hours By Personnel Category						Total Hours	Total Labor Charges	Other Direct Costs	Total Fee
	1	3	7	6	9	11				
	Principal	Senior Engineer	Engineer I	Senior Designer	Engineering Assistant	Office Assistant				
Phase 1 - Project Management & Coordination										
Task 1. General Project Management Tasks	4	20	8			4	36	$4,348	$40	$4,388
Task 2. Client Coordination Meetings		18	8				26	$3,138	$500	$3,638
Task 3. Coordination with Division of Water Resources		12	8			4	24	$2,588	$40	$2,628
Task 4. Coordination with Shareholders		8	6				14	$1,622	$40	$1,662
Task 5. Loan Closing & Legal Coordination		12			10	4	26	$2,644	$40	$2,684
SUBTOTAL	**4**	**70**	**30**	**0**	**10**	**12**	**126**	**$14,340**	**$660**	**$15,000**
Phase 2 - Engineering Design										
Task 1. Design Team Management	5	10	10	4			29	$3,538		$3,538
Task 2. Site Visits		20	15	4			39	$4,463	$1,500	$5,963
Task 3. Design Criteria Contract	3	4	6			2	15	$1,736		$1,736
Task 4. Coordination with Client & Shareholders	10	10	3				23	$3,349		$3,349
Task 5. Site Planning & Evaluation	3	4	14	10			31	$3,376		$3,376
Task 6. Coordination with SCADA Subcontractor	2	7	10				19	$2,209		$2,209
Task 7. Hydraulic Design	2	7	40				49	$4,999		$4,999
Task 8. Construction Drawings Draft	4	8	10	40	4		66	$7,090	$200	$7,290
Task 9. Construction Drawings Final	4	8	10	25	4	3	54	$5,746	$200	$5,946
Task 10. Construction Specifications	4	12	24		8	3	51	$5,350	$200	$5,550
Task 11. Bid & Award Coordination		7	10		3		20	$2,101	$443	$2,544
SUBTOTAL	**37**	**97**	**152**	**83**	**19**	**8**	**396**	**$43,957**	**$2,543**	**$46,500**
Phase 3 - Construction Management										
Task 1. Construction Team Management	15	36	26				77	$9,816		$9,816
Task 2. On-Site Observation and Documentation		80	140				220	$23,660	$3,500	$27,160
Task 3. Submittal Reviews		20	10				30	$3,590		$3,590
Task 4. Contractor Coordination		45					45	$5,985		$5,985
Task 5. Record Drawings Preparation		8	10	25	10		53	$5,344		$5,344
Task 6. O&M Manual	10	15	15		10	5	55	$6,240	$223	$6,463
Task 7. Project Closeout		8	6		10	10	34	$3,042	$100	$3,142
SUBTOTAL	**25**	**212**	**207**	**25**	**30**	**15**	**514**	**$57,677**	**$3,823**	**$61,500**
Project Totals	**66**	**379**	**389**	**108**	**59**	**35**	**1,036**	**$115,974**	**$7,026**	**$123,000**

Appendix D

Probable Cost for Construction Services

Last Chance SCADA

Item	Item Description	Quantity	Unit	Unit Cost	Total Cost		
Construction Costs							
1	Mobilization 7%	1	LS	$ 25,000	$ 25,000	4%	*Average of all Bidders Welby Jacob
2	Surveying	1	LS	$ 14,000	$ 14,000	$8,803.60	*Average of all Bidders Welby Jacob - Last Chance is a much larger area
3	Furnish and Install SCADA Equipment (Solar Panel)	18	EA	$ 8,200	$ 147,600	$6,590.20	*Average of all Bidders Welby Jacob
4	Re-set and Level Existing Flume	15	EA	$ 3,000	$ 45,000	$3,037.60	*Average of all Bidders Welby Jacob
5	North Extention Ramp Flume	1	LS	$ 10,000	$ 10,000	$20,557.14	*Average of all Bidders Last Chance Div. Dam - 90 ft vs 40 ft
6	Furnish and Install 30" Parshall Flume	1	EA	$ 9,000	$ 9,000	$10,324.00	*Average of all Bidders Gobblefield for a slightly larger flume
7	Furnish and Install 18" Parshall Flume	1	EA	$ 7,000	$ 7,000		*Interpolate between 30" and 6" flumes.
8	Furnish and Install 6" Parshall Flume	3	EA	$ 4,000	$ 12,000	$3,950.00	*$2,750 fiberglass flume and estimate $1,200 install.
9	Furnish and Install 24" ADS Manhole or Stilling Well	21	EA	$ 1,600	$ 33,600	$1,577.60	*Average of all Bidders Welby Jacob
10	Furnish and Install MagFlow Meters	2	EA	$ 9,000	$ 18,000	$8,875.00	*Average of all Bidders Center Creek Dam Rehab
11	Furnish and Install Repeater Site	3	EA	$ 6,700	$ 20,100	$6,147.00	*Average of all Bidders Welby Jacob
12	Furnish and Install SCADA Software	1	LS	$ 20,000	$ 20,000	$19,853.20	*Average of all Bidders Welby Jacob
				Construction Total	**$ 361,300**		
Professional Expenses							
13	Engineering				$ 61,500		
14	Construction Management				$ 61,500		
15	Environmental				$ 30,000		
16	Legal				$ 15,000		
17	Reclamation Reporting				$ 15,000		
				Project Total	**$ 544,300**		

Appendix E

Probable Cost for Environmental Services

(Environmental and Cultural Resources Compliance)

Last Chance Canal SCADA Project

Probable Cost Opinion for Environmental Services

Task Description	Hours By Personnel Category					Total Hours	Total Labor Charges	Other Direct Costs	Total Fee
	1	3	7	6	8				
	Principal	Senior Engineer	Engineer I	Senior Designer	Engineering Assistant				
Environmental Services									
Task 1. Cultural Resources Survey/Report[1]		4	4			8	$904	$6,000	$6,904
Task 2. Preparation of Environmental Assessment Draft	2	20	36		6	64	$6,878	$155	$7,033
Task 3. Coordination with Reclamation[2]		12				12	$1,596	$10,000	$11,596
Task 4. Coordination with Other Agencies		4				4	$532		$532
Task 5. Public Involvement		4	4			8	$904	$200	$1,104
Task 6. Preparation of Environmental Assessment Final Report	1	4	12		4	21	$2,170	$129	$2,299
Task 7. FONSI		4				4	$532		$532
PROJECT TOTALS	**3**	**52**	**56**	**0**	**10**	**121**	**$13,516**	**$16,484**	**$30,000**

[1] *A cost of $6,000 was budgeted for the Cultural Resources Survey/Report that will be prepared by a registered archeologist.*

[2] *A cost of $10,000 was budgeted for Reclamation's effort on NEPA Compliance.*