D.2.2.1. Title Page

Birch Creek Diversion Automation Project

Project Location: Pondera County, Montana

BUREAU OF RECLAMATION
WaterSMART GRANT APPLICATION
Water and Energy Efficiency Grants for Fiscal Year 2024
Funding Opportunity Announcement No. R24AS00052

Applicant:
Pondera County Canal & Reservoir Company
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Congressional District of Applicant: MT-002
Congressional Districts of Project Area: MT-002

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D.2.2.2 TECHNICAL PROPOSAL CONTENT

D.2.2.2.3 EXECUTIVE SUMMARY

The executive summary should include:

- The date, applicant name, city, county, and state

Date: January 26, 2024

Applicant Name: Pondera County Canal & Reservoir Company

Address: PO Box 245, 501 Pondera Avenue, Valier, MT 59486, Pondera County, MT

- Please indicate whether you are a Category A applicant or a Category B applicant. If you are a Category B applicant, please briefly explain how you are acting in partnership with a Category A partner. Note: If you are a Category B applicant, you must include a letter from the Category A partner confirming that they are partnering with you and agree to the submittal and content of the proposal. See Section C.1. Eligible Applicants.

  The Pondera County Canal & Reservoir Company is a Category A Applicant, designated as other organizations with water or power delivery authority.

- A one-paragraph project summary that provides the location of the project, a brief description of the work that will be carried out, any partners involved, expected benefits, and how those benefits relate to the water management issues you plan to address. Note: This information will be used to create a summary of your project for our website if the project is selected for funding. For example, see the following description of a project selected for funding in FY 2023:

  Example: The East Columbia Basin Irrigation District, near Othello, will convert 24,483 feet of earthen canals to polyvinyl chloride pipelines to address seepage and evapotranspiration losses. The project is expected to result in annual water savings of 290 acre-feet, which will be used to offset existing groundwater pumping in an area with significant aquifer depletion and to enhance flows in the Columbia River.

  The Pondera County Canal and Reservoir Company (PCCRC), near Valier, MT, will automate the Birch Creek Diversion via implementation of a Supervisory Control and Data Acquisition (SCADA) system with the construction of flow measurement devices at several critical points throughout the irrigation system. The project will allow flow monitoring capabilities at a critical point within the area's irrigation infrastructure. This efficiency upgrade translates into a water savings of approximately 1,500 acre-feet annually and will fortify the region's resilience against drought conditions. The 2023 drought conditions within the vast majority of Pondera County are Severe Drought by the U.S. Drought Monitor. The anticipated benefits include improved water management, reduced operational and maintenance costs, project partners include the Pondera County Conservation District and the local water users.

- State the length of time and estimated completion date for the proposed project (month/year).

  Proposed Construction Start Date: 10/2024

Proposed Construction End Date: 12/2026
Project Duration: 24 months

- Whether or not the proposed project is located on a Federal facility.

The Pondera County Canal & Reservoir Company is not located on a Federal facility.

D.2.2.2.4 Project Location

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

The Birch Creek Diversion is located approximately 29 miles southwest of Valier, MT in Section 27, Township 29 North, Range 8 West at an approximate latitude and longitude of 48.244389°N and 112.638298°W in Pondera County, MT. Exhibit 1 provides a general location map of the Birch Creek Diversion. The Birch Creek Diversion diverts water from the Birch Creek stream channel into the B Canal. The B Canal later feeds the Dupuyer Creek Diversion before continuing to the main D-Canal, C-Canal, and then filling Lake Frances. The Birch Creek Diversion affects the water supply of the entire PCCRC irrigation system—up to 72,000 acres each season.

D.2.2.2.5 Project Description

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

Please do not include your project schedule and milestones here; that information is requested in response to the Readiness to Proceed criterion described in Section E.1.5.2. In addition, please avoid discussion of the benefits of the project, which are also requested in response to evaluation criteria described in Section E.1. This section is solely intended to provide an understanding of the technical aspects of the project.

Note, if the work you are requesting funding for 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.

The PCCRC has identified the proposed Birch Creek Diversion Automation project as a critical project for the irrigation system due to its location at the upstream end of the system and its significance in water delivery to users. The PCCRC irrigation system is a complex system of canals, channels, diversions, and reservoirs. Birch Creek Diversion is at the top of this system and controls most of the water coming into the system. A description of the irrigation system's configuration and methods of operation are provided in the subsequent section of this report.

Irrigation System Configuration

The PCCRC canals and laterals make annual water deliveries to 72,000 acres annually. The PCCRC system's service area currently contains 380 shareholders, and the PCCRC has senior water rights in the Birch Creek and Dupuyer Creek drainages. The system originates at Swift Dam (Birch Creek

Reservoir) located approximately 40 miles southwest of Valier, MT. The Swift Dam outlet releases water down Birch Creek. The released water flows down Birch Creek for approximately 12.5 miles until it reaches the Birch Creek Diversion. The Birch Creek Diversion diverts flows down the PCCRC's B-Canal for approximately 14.3 canal miles before converging with Dupuyer Creek. Flows continue within Dupuyer Creek for approximately 0.5 mile before approaching the Dupuyer Creek Diversion. The Dupuyer Creek Diversion collects the combined natural stream flows and diverted water and either spills water into downstream Dupuyer Creek or directs them down the PCCRC's D-Canal where they continue onto much of the PCCRC irrigation system including Lake Frances. The Birch Creek Diversion's location within the system ensures that water passing through the diversion flows to the vast majority of the PCCRC's service area. Figure 1 within this text provides a flow diagram showing the complex nature of the irrigation system. Exhibit 2, attached to this Technical Narrative, shows a vicinity map containing the PCCRC's system configuration.

Irrigation System Operation

Swift Dam (Birch Creek Reservoir) serves as the head of the PCCRC's irrigation system. The reservoir collects and stores inflows from snowmelt and other precipitation events during the winter and spring each year. The PCCRC's typical water cycle is described below.

- October 1 – November 1 (early off-season): Immediately following the irrigation season, the PCCRC staff drains the Birch Creek Reservoir of some of the remaining storage water. The PCCRC staff directs these releases toward Lake Frances and then closes the outlet gates at Swift Dam along with the PCCRC's canal system.
- November 1 – March 1 (Off-Season): Swift Dam begins impounding water within the Birch Creek Reservoir for use during the upcoming winter and spring. The PCCRC maintains an approximate 12 cubic feet per second (CFS) release from Swift Dam's single jet valve to maintain base in-stream flows for the fish populations within Birch Creek immediately downstream of the dam.
- March 1 – May 1 (late Off-Season): The PCCRC either partially or fully opens the main outlet gates at Swift Dam to ensure adequate storage capacity within Birch Creek Reservoir is available for the coming snowmelt and spring rains. Most flows released during this early season release are diverted into Lake Frances to increase the storage pool in that location. The flow path for this diversion occurs via Birch Creek, B-Canal, Dupuyer Creek, and D-Canal flow paths.
- May 1 – October 1 (Irrigation Season): The PCCRC delivers water to water users throughout the system. During the earlier portions of the irrigation season, Swift Dam is utilized to collect spring and summer runoff for metered release during the later irrigation season.
- October 1 (end of water year): Following the subsequent water shutoff after the irrigation season, the new water year begins, and the annual cycle repeats.

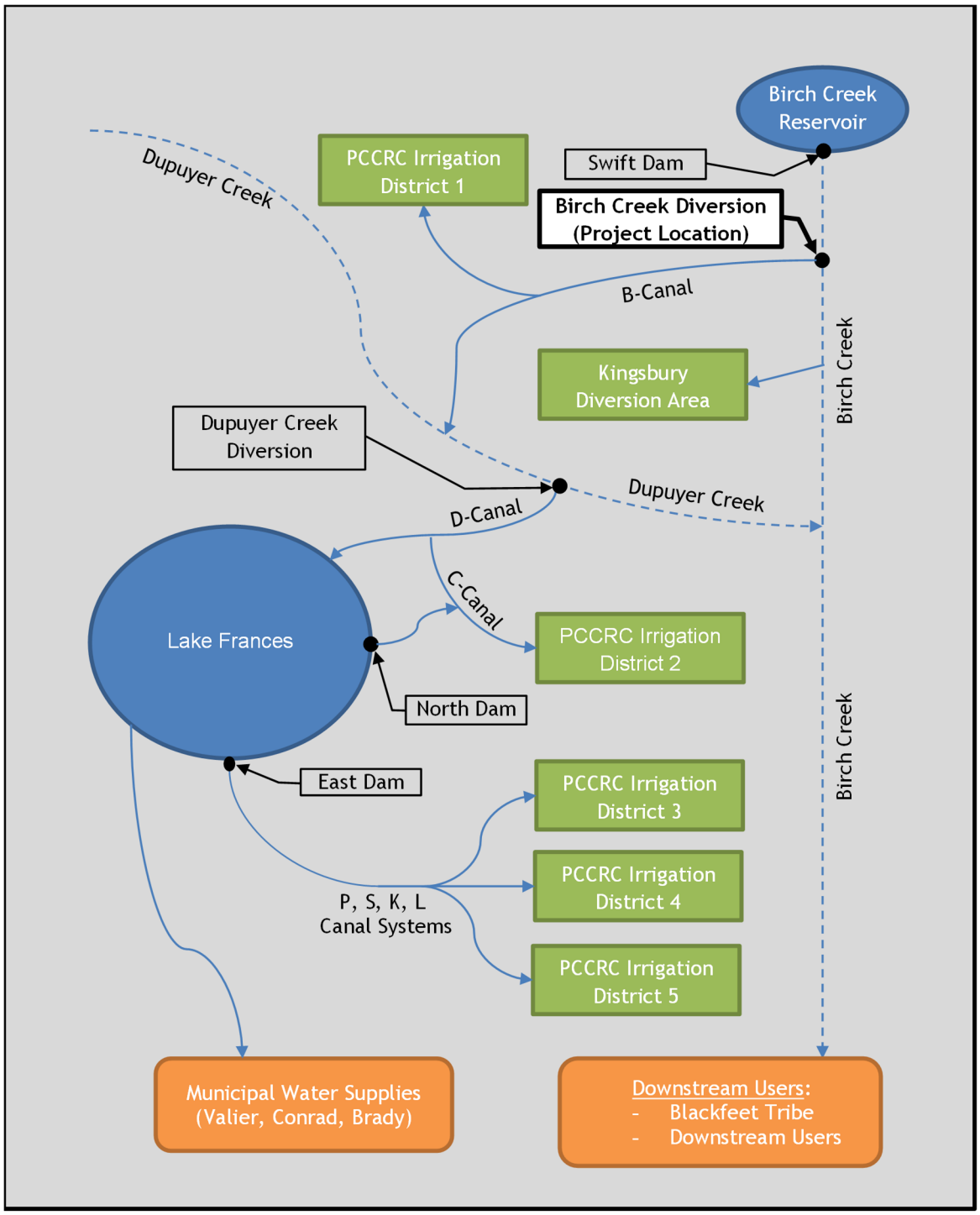


Figure 1. Schematic of the PCCRC Irrigation System

The PCCRC's irrigation system is divided into five (5) main irrigation districts, with District 1 and portions of District 2 being located between Swift Dam and Lake Frances. The larger portion of District 2 as well as the entirety of Districts 3, 4, and 5 are located downstream of Lake Frances. The Birch Creek Diversion structure is located between Swift Dam and Lake Frances. The Diversion allows the PCCRC to allocate water to both downstream routes via the B-Canal and downstream along Birch Creek. The Diversion's location places it at a critical location within the PCCRC system in which irrigation flows through the Diversion can eventually reach every acre within the PCCRC's 72,000 irrigated acres.

Underlying and Potential Causes

The PCCRC's irrigation system requires a significant operational capacity to balance the many competing requirements it must fulfill. The system must provide for irrigation water throughout the 72,000 acres irrigated annually while at the same time maintaining base flows within Birch Creek. Water exiting the Swift Dam outlet structure flows down Birch Creek for approximately 12.5 miles to the Birch Creek Diversion. At this diversion location, most of the water is diverted to the B-Canal which directly supplies all of PCCRC's District 1 with a service area of 12,700 acres and a 500-acre portion of District 2 with irrigation water. Water not diverted to the B-Canal continues in Birch Creek downstream. The diverted water within the B-Canal that is not directly used in District 1 and the portion of District 2 flows into Lake Frances near the Town of Valier or is diverted into the C Canal. Water within Lake Frances and the C Canal is then used across a larger portion of District 2 and the entirety of Districts 3, 4, and 5.

The PCCRC Board's adopted policy states that shareholders in each of their 5 districts be allotted the same amount of water, regardless of geography. Typically, the limiting factors in this equation are the furthest upstream districts, District 1 (nearest Swift Dam and highest in elevation) and District 2 (serviced by a combination of Swift Dam and Lake Frances). However, District 2's main supply of water originates at the North Dam on Lake Frances. The invert of the North Dam outlet is approximately 22 feet higher than the invert of the East Dam outlet on Lake Frances. If the PCCRC has a dry year or storage within Lake Frances is low, District 2 can only be serviced by Swift Dam. During these irrigation seasons, Districts 1 and 2 are physically unable to receive as much irrigation water as Districts 3, 4, and 5 which are downstream of the larger Lake Frances. Therefore, the PCCRC is required to limit water deliveries to the entire PCCRC service area to the per acre allotment that can be delivered to Districts 1 and 2.

The PCCRC typically releases an extra 30 cubic feet per second (cfs) on average from Swift Dam into Birch Creek throughout the 150-day irrigation season to ensure there is enough water for downstream users. The PCCRC estimates that with flow gaging stations and telemetry, they could reduce these 'extra' buffer releases by up to 10 cfs each day and thereby retain an additional 2,975 acre-feet of water in the Birch Creek Reservoir for use later in the season. This potential increased storage in the upper elevations of the irrigation project could allow for irrigators to increase application by as much as a 0.5 inch of additional water per irrigated acre per season. This additional water storage would ensure higher water allotments to water users based on their Board Policy.

As the PCCRC cannot remotely measure flows diverted at the Birch Creek Diversion between the downstream B-Canal and Birch Creek, the PCCRC is proposing the automation of the gate controls, installation of flow monitoring devices in the return flow corridor, and at the existing B-Canal weir, and installation of a Supervisory Control and Data Acquisition (SCADA) system that can be monitored and controlled on-site as well as from the PCCRC office in Valier. Further, the significant volume of bed load that is transported along Birch Creek each year causes issues for the PCCRC in their attempts to measure flowrates that pass through the

return flow gate at the Birch Creek Diversion and continue downstream within Birch Creek. The bed load builds up within the chute on the downstream side of the return flow gate. The PCCRC is often forced to remove this built-up sediment within the chute via hand shovel. The project therefore includes a flow measurement weir immediately downstream of the return flow gate chute that will allow PCCRC staff to make more accurate readings, allow for easier implementation of a remote flow monitoring system, and allow the space to maneuver a small skid-steer behind to periodically remove the built-up sediment behind the weir.

The Birch Creek Diversion Automation will allow the PCCRC to make timelier, better informed, and higher precision adjustments to Birch Creek and B-Canal Flows. The project would significantly reduce the resource strain on the PCCRC's operation and maintenance budget as well as allow for much greater conservation, coordination, and planning of water levels in both Swift Dam and Lake Frances. The proposed project would improve water delivery efficiencies in the system and allow the PCCRC to allocate more water throughout the entire PCCRC system each irrigation season.

Problems and Needs

The original Birch Creek Diversion was replaced with a new reinforced concrete structure in 1985-1986. The structural concrete and steel gate assemblies are in good condition. However, the structure currently requires on-site, manual operation by PCCRC staff. Depending on the origin of assigned staff, the remote location of the structure can necessitate numerous daily trips (about 64 miles round-trip) to the turnout to check water flows and make necessary adjustments to the gate positions. This daily travel is inefficient and has become unnecessary as technology has advanced in recent years. With automation, a weekly staff trip to the site would be sufficient to verify diversion function and condition. At times when access is limited due to muddy roadways, and/or snow, the diversion gates may not be adjusted for several days, leaving producers short or necessitating the wasting of extra 'buffer' water. The introduction of telemetric flow gaging stations and SCADA systems with electrical system upgrades will allow the PCCRC to monitor and control the gates from a remote location, thus limiting daily trips to the diversion headgates. The SCADA system is an electronic monitoring system that logs data obtained via various hardware entities including gate position monitors, incoming and outgoing flow readings, and other data. Further, the SCADA system allows system inputs to be applied remotely. With a SCADA system at the Birch Creek Diversion Structure, PCCRC operations personnel will be able to adjust the gate height with computer software and internet, cell phone, or radio connection. The gaging stations, SCADA system, and corresponding electrical system upgrades will increase the efficiency of the Birch Creek Diversion by allowing PCCRC staff to closely monitor the outlet gates and make instantaneous adjustments to the gate height to ensure the outflow is optimum for the present conditions. Gate adjustments could also be automated to occur dozens of times each day based on information from networked flow monitoring. By implementing this modern technology, the PCCRC can better regulate outflows and precisely match their real-time demand for water. The current operational process requires the discharge of an excess amount of water from Swift Dam (Birch Creek Reservoir) to buffer any demand or loss fluctuations that only become evident once flows pass through the downstream B-Canal measuring weir. Currently, these fluctuations are only observed once (or twice) per operating day when the ditch rider visits the Birch Creek Diversion to record flow rates and make adjustments. Automating the Diversion would make more water available to cover the demands of the water users.

The Birch Creek Diversion affects the water supply of the entire 72,000 acres of the PCCRC irrigation system. To increase water supply efficiency and to streamline irrigation delivery, the PCCRC began the long-term process of automating its delivery facilities starting in 2012.

The Birch Creek Diversion is on the planned list of automation upgrades. Currently, the Birch Creek Diversion requires manual gate adjustment via hand wheels which operate the gate spindles and tensioning cables to open and close the radial gates. The structure operates in series with several other structures to convey irrigation water to the PCCRC's irrigated acres; supply Lake Frances with water; provide municipal water supplies to Valier, Conrad, and Brady, MT; and maintain base flows within Birch Creek. These critical functions require constant monitoring and precise, timely adjustments. Due to the difficulty in precisely regulating flows through the Diversion, the PCCRC has been required to release excess water from Birch Creek to ensure system demands downstream of the Diversion are met. The proposed project will solve this problem by allowing the PCCRC staff to instantaneously monitor stream and diverted flows, make up-to-the-minute adjustments in gate positions, and improve their ability to regulate outflows and precisely match the real-time demands for water. The SCADA system and corresponding electrical system upgrades will increase the efficiency of the Birch Creek Diversion by allowing PCCRC staff to closely monitor the outlet gate and make instantaneous adjustments to the gate height to ensure the outflow is optimum for the present conditions. Gate adjustments would also be automated to occur dozens of times each day based on information from networked flow monitoring.

The Birch Creek Diversion supports the average allotment of slightly less than 10-inches of water per acre, per year delivered by PCCRC to irrigators. Birch Creek is also a component of the downstream BIA Irrigation project for the Blackfeet Tribe as part of the federally ratified Blackfeet Compact. By implementing these modern technologies, PCCRC would be able to operate the Birch Creek Diversion more efficiently, matching real-time demand for water for PCCRC irrigation users while still maintaining the requirements of the Blackfeet Compact.

Specific Activities that will be Accomplished

Design/Permitting/Construction Oversight: The PCCRC will contract with a licensed Professional Engineer to complete the design of the Birch Creek Diversion Automation Project. The Engineer will be responsible for the design of the proposed project, which will include, but is not limited to hydraulics, geotechnical analysis, structural analysis, gate and structure automation details, remote monitoring and control system components, automation and controls, alignment/grade, details, etc. The Engineer will work with regulatory agencies to complete environmental compliance activities (as necessary). The Engineer will provide a final plan set and specifications for the proposed project to facilitate construction. The Engineer will also provide advisory services during construction of the project to assure proper installation in accordance with the design plans and specifications.

The diversion consists of a concrete structure with three (3) 10-foot-wide steel radial arm gates through the diversion to the B-Canal, one (1) 10-foot-wide radial arm gate that returns flows back to the natural Birch Creek channel, and a long overflow weir that diverts flows back to Birch Creek below the diversion during flood events. The return-flow gate is critical in ensuring consistent delivery to the BIA (Blackfeet Tribal) Irrigation project, the Kingsbury Diversion, and the Ryan Lauffer Diversion downstream. The current diversion gates are controlled manually via hand wheels, which operate the gate spindles and tensioning cables. Multiple manual adjustments are made daily throughout the irrigation season. The project proposal is to automate the gate controls, install several flow monitoring stations, and install a Supervisory Control and Data Acquisition (SCADA) system that can be monitored and controlled from the PCCRC office in Valier. A site plan of the Birch Creek Diversion is shown on Exhibit 3.

The proposed project would allow the PCCRC to remotely monitor flows into and out of the Birch Creek Diversion as well as remotely control flow diversions at the Birch Creek Diversion. The system would provide flow readings, data logging, and a continuously updated record of flows at both headworks locations. With the addition of remote gate control, the project would significantly improve operational efficiencies for the PCCRC's operations. For flow adjustments to downstream water users, PCCRC staff would be able to remotely adjust gate positions to optimize irrigation deliveries. As upstream pressure head variations at the diversion are variable, providing remote automation would maximize management of the system and minimize carriage waters and waste.

Construction: The proposed project will be completed using PCCRC personnel and equipment as well as assistance from an electrician and remote monitoring and control installer. The PCCRC owns construction equipment and has the resources, knowledge, and experience necessary to install flow monitoring weirs. The PCCRC has their own construction crew to be able to maintain existing PCCRC infrastructure and keep costs low, providing a benefit to their users. The PCCRC has an experienced earthwork and concrete construction crew that will perform any civil and structural field work. The main component of the project will be the installation of a supervisory control and data acquisition (SCADA) system at the C Canal Headworks locations. A SCADA system is a software and hardware package that allows for the remote monitoring, gathering, and processing of data and/or to control processes such as gate operations remotely. In general, a SCADA system is comprised of a programmable logic controller (PLC) or remote terminal unit (RTU), a telemetry system, and a software package. The installation of the SCADA system for remote monitoring and control of irrigation flows will be performed via a licensed automation contractor/installer. This contractor/installer will be selected via public bid. The PCCRC has recent experience with projects of this nature where civil and structural work are performed by PCCRC crews and the automation system procurement and installation is performed by a licensed contractor specializing in automation and control work. Recent PCCRC projects of this nature include the recent Swift Dam Automation Project, Kingsbury Turnout Automation Project, and Dupuyer Creek Diversion Automation Project (currently underway).

D.2.2.2.6 Evaluation Criteria

E.1 EVALUATION CRITERIA

E.1.1 Evaluation Criterion A—Quantifiable Water Savings (25 points)

*Up to **25 points** may be awarded for this criterion. This criterion prioritizes projects that will conserve water and improve water use efficiency, supporting the goals of E.O. 14008. Points will be allocated based on the quantifiable water savings expected as a result of the project. Points will be allocated to give greater consideration to projects that are expected to result in more significant water savings.*

The proposed project will provide significant water conservation, drought resiliency, and support the goals of E.O. 14008. The proposed Birch Creek Diversion Automation Project will allow the PCCRC to conserve a significant amount of water within the Birch Creek Reservoir (Swift Dam) each year. The proposed project will involve the installation of several flow monitoring stations as well as a SCADA system that will be used to monitor Birch Creek base flows that will allow the PCCRC to precisely match required Swift Dam releases to the existing flows within Birch Creek to provide adequate flows for downstream system demands. By allowing for precise, to-the-minute remote flow measurements and automated remote control of the diversion gates, the PCCRC will significantly improve efficiency of the Birch Creek

Diversion's operations and meaningfully reduce the "extra" water that must be released from Swift Dam during the irrigation season.

The 2,975 acre-feet (969 million gallons) estimated water conservation potential within Birch Creek Reservoir was calculated based on the historical practice of diverting an extra 10 CFS from Swift Dam continuously during the 150-day irrigation season to account for downstream Birch Creek flow measurement inaccuracies and the inability to take frequent measurements. By providing for an additional water savings at the beginning of the entire irrigation season and especially during dry years, late-season irrigation deliveries will be augmented. The anticipated increase in late season storage of 2,975 acre-feet of water within the Birch Creek Reservoir would allow the PCCRC to provide an additional 0.49 inches per acre over the system's 72,000 irrigated acres. An increase of 0.49 inch represents an approximate 4.9% increase in allotment when compared to the 10-inch average over the past three seasons. With a 4.9% increase in water allotment, an equivalent increase in crop production throughout the entire 72,000 irrigated acres within the PCCRC system can be assumed. If realized, the projected yield improvements could produce a regional agricultural revenue increase of $2,027,133 per year.

1) Describe the Amount of Estimated Water Savings:

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

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

The 2,975 acre-feet of water savings within Birch Creek Reservoir will be achieved via monitoring of Birch Creek flows and remote automation of the Birch Creek Diversion gates to match downstream demand more efficiently by obtaining remote, real-time flows at the Diversion and matching the releases at Swift Dam to downstream demand. The 2,975 acre-feet of savings is based on the premise that the project will allow for a reduction of "extra" flows out of Swift Dam from a current 30 cfs to approximately 20 cfs over the course of an entire 150-day irrigation season. The SCADA system will allow PCCRC staff to make real-time decisions regarding water delivery within the system. SCADA systems have already been implemented in other aspects of the PCCRC, and the systems have a proven record within the irrigation system at providing significant water conservation and operational benefits.

2) Describe current losses:

Please explain where the water that will be conserved is currently going and how it is being used. Consider the following:

a. Explain where current losses are going (e.g., back to the stream, spilled at the end of the ditch, seeping into the ground)?

   The PCCRC's irrigation system requires a significant operational capacity to balance the many competing requirements it must fulfill. The system must provide for irrigation water throughout the 72,000 acres irrigated annually while at the same time maintaining base flows within Birch Creek. Water exiting the Swift Dam outlet structure flows down Birch Creek for approximately 12.5 miles to the Birch Creek Diversion. Currently, excess releases from Birch Creek Reservoir are directed to Lake Frances, From Lake Frances, excess releases flow into the C-Canal System. From the C-Canal system, the PCCRC estimates that the vast majority of the excess releases are lost due to spillage at the end of the canal system into a tributary to the Marias River

approximately 2 miles upstream of the river. Any returned water to the Marias River has a significantly higher temperature than water in the river, creating an unnecessary contribution to higher temperatures and nutrients within the river.

The PCCRC cannot remotely measure flows diverted at the Birch Creek Diversion between the downstream B-Canal and Birch Creek. As a result, the PCCRC typically releases an extra 30 cubic feet per second (cfs) on average from Swift Dam into Birch Creek throughout the 150-day irrigation season to ensure there is enough water for downstream users. The PCCRC estimates that with flow gaging stations and telemetry, they could reduce these 'extra' buffer releases by up to 10 cfs each day and thereby retain an additional 2,975 acre-feet of water in the Birch Creek Reservoir for use later in the season.

If known, please explain how current losses are being used. For example, are current losses returning to the system for use by others? Are current losses entering an impaired groundwater table becoming unsuitable for future use?

The PCCRC estimates that the vast majority of excess water released from the Swift Dam outlet and ultimately into Lake Frances via the Birch Creek Diversion Structure is lost to end spillage. This higher-temperature spill water is loaded with sediment and nutrients that is ultimately returned to the Marias River.

b. Are there any known benefits associated with where the current losses are going? For example, is seepage water providing additional habitat for fish or animal species?

The present nature of water losses within the PCCRC irrigation system lacks any positive outcomes. The spillage discharge channels, characterized by their steep incline, do not foster the support of fish or aquatic species. This inefficiency is apparent in the premature reduction of water levels in crucial ecological habitats, including Birch Creek Reservoir, Birch Creek, and Lake Frances, all vital for various fish and animal species. In addition, the water returned to the Marias River following excessive releases exhibits elevated temperature and heightened sediment and nutrient content compared to the river's baseline flows. This disparity adversely impacts the water quality of the Marias River.

3) 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, 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.*

The proposed project will provide up to a total of 2,975 acre-feet of water conservation benefit annually over the next 30 years. These water losses are current, ongoing losses in the form of excess buffer flows diverted at the Swift Dam outlet works because of operational inefficiencies at the Birch Creek Diversion Structure. The 2,975 acre-feet estimated water

conservation potential of the project for the Birch Creek Reservoir was calculated based on the historical practice of diverting up to an extra 10 CFS from Swift Dam during the 150-day irrigation season to account for downstream Birch Creek flow measurement inaccuracies and the inability to take frequent measurements. Supporting details and calculations are provided in subsequent sections of this grant application. The PCCRC maintains meticulous flow records, and the applicable records are provided in Appendix A of this application for reference.

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

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

   N/A

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

   N/A

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

   N/A

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

   N/A

e. How will actual canal loss seepage reductions be verified?

   N/A

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

   N/A

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

references to documented savings from similar previously implemented projects. Applicants proposing municipal metering projects should address the following:

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

   N/A

b. How have current system losses and/or the potential for reductions in water use by individual users been determined?

   N/A

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

   N/A

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

   N/A

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

   N/A

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

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

The proposed project will provide up to a total of 2,975 acre-feet of water conservation benefit annually over the next 30 years. These water losses are current, ongoing losses in the form of excess buffer flows diverted at the Swift Dam outlet works because of operational inefficiencies at the Birch Creek Diversion Structure. This water savings will occur via the installation of remote monitoring and control of diverted flows at the Birch Creek Diversion Structure.

Water Savings Estimate for Birch Creek Reservoir:

The PCCRC's current standard operating requirements dictate that a buffer flow of 30 cubic feet per second (cfs) of water above anticipated demands be continuously released from the Birch Creek Reservoir via the Swift Dam outlet structure throughout the 150-day irrigation season. This buffer can be shown through the water measurements and water deliveries documented by the PCCRC as shown in Appendix A. The purpose of this buffer is to allow for uncertainties in irrigation demands within irrigated acres located between the Birch Creek Diversion and Lake Frances as well as

the complexity of the water delivery system. The PCCRC estimates that with flow gaging stations and telemetry, they could reduce these 'extra' buffer releases by up to 10 cfs each day on a continual basis over the course of the 150-day irrigation season. With these inputs, the water conservation potential calculation is as follows:

(10 ft^3/second) x (86,400 seconds/1 day) x (1 ac-ft/43,560 ft^3) x (150 days) = 2,975 ac-ft.

As a result of the proposed project, a 10 cfs reduction in excess flows from Birch Creek Reservoir over the 150-day irrigation season amounts to a water savings of 2,975 acre-feet of water remaining in Birch Creek Reservoir as storage later in the irrigation season. The improvement in late season storage at Birch Creek Reservoir will significantly improve the PCCRC system's drought resiliency. The conservation benefits will continue throughout each year of the anticipated 30-year design life of the project, and the conservation savings will be measured, recorded, and summarized as water records by PCCRC staff annually.

Table 1 below provides the 2021 Water Year summary of Birch Creek flows downstream of Swift Dam and right before flows are diverted down the B-Canal into the irrigation system. An analysis of water records for the year 2021 shows that the water arriving at the Birch Creek Diversion Structure is shown in Table 1 below. The table shows existing flows arriving at the Birch Creek Diversion Structure as well as flows diverted at the structure into the PCCRC irrigation system identified as "B Banal Flow below diversion". As shown in this data, the 2,975 ac-ft reduction in excess releases from the Birch Creek Reservoir is a reasonable estimate accounting for approximately 3% of the average 2020 and 2021 flows arriving at the diversion. In-depth flow records for these water years are provided in Appendix A.

Table 1. Storage Headworks at North Dike Outflows

Month	Total Birch Creek Flow at Swift Dam(ac-ft)	Average B-Canal Flows Below Birch Creek Diversion (CFS)	Water Savings Potential via elimination of 10 cfs "extra water" diverted at Swift Dam
October 21-31	240	0	N/A (off-season)
November	1,240	0	N/A (off-season)
December	1,590	0	N/A (off-season)
January	1,110	0	N/A (off-season)
February	945	0	N/A (off-season)
March	1,670	0	N/A (off-season)
Apr	7,235	0	N/A (off-season)
May	10,290	405	2.4%
June	15,805	3,476	0.29%
July	14,940	4,341	0.23%
Aug	10,025	3,660	0.27%
Sep	13,300	5,470	0.18%
October 1-20	7,005	3,224	N/A (off-season)
Total	**85,395**	**20,576**	**N/A**

C

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.

Please see the explanation above in 3a.

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?

In 2021 a new SCADA system was installed at Swift Dam which allowed for remote monitoring and control of Swift Dam outflows. Outflows from Swift Dam are highly controlled via this remote automation and control system at the dam's gate house, and the PCCRC has real-time and continuous capability for flow monitoring at the dam location. Flows arriving at the diversion as well as downstream of the diversion within the B-Canal are measured using staff gages correlated to empirically derived outflow charts. The accuracy of these measurements is estimated at +/- 7%.

Additional manual measurements are taken downstream of the Birch Creek Diversion that are accounted for on a weekly basis by PCCRC personnel. This project proposes to install a continuous water measurement system at this measurement location to allow the PCCRC the ability to obtain real-time measurements to determine exactly how much flow is being diverted from Birch Creek.

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

Please see the explanation above in 3c.

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

The implementation of the proposed project is anticipated to yield substantial improvements in the operational efficiency of the PCCRC's irrigation system. By addressing the issues associated with the current manual operation of the Birch Creek Diversion Structure, characterized by uncertainties in water quantity arrivals and downstream demands, the project will result in notable reductions in annual farm delivery volumes via increased efficiencies. The current practice of releasing an estimated 30 cubic feet per second (cfs) buffer continuously throughout the 150-day irrigation to compensate for uncertainties will be reduced by an estimated 10 cfs buffer reduction because of the project.

Currently, PCCRC personnel travel the route between the Birch Creek Diversion and the PCCRC's Valier office two times per day on average during the irrigation season to adjust gate positions at the Diversion. This represents a 64-mile roundtrip on dirt and gravel roads that takes at least 2 hours to complete when originating from the PCCRC office in Valier and accounting for time on-site. The final mile of the route to the structure is sparsely graveled and can be inaccessible during wet or adverse weather conditions. An existing weir is located approximately one-half mile downstream of the Diversion on the B-Canal which provides a means of measuring water diverted down the canal at the Diversion. The adjustment process consists of checking the backwater elevation at the Diversion, adjusting the main gates, checking the flow rate at the B-Canal weir, re-adjusting the Diversion gates based on the measured flow, and repeating as necessary to achieve the desired flow through the Diversion. The proposed SCADA improvements would eliminate this iterative process for making flow adjustments and would allow this process to occur remotely.

The 2-hour O&M visit to the Diversion currently occurs twice daily on average during the 150-day irrigation season and 4 times per week during the remaining 215-day off-season for a total of 845 staff-hours each year. The implementation of the proposed automation project would reduce these trips to approximately two trips per week during the irrigation season and 1 trip per week during the offseason, or roughly 146 staff-hours each year. Therefore, the proposed improvements would reduce the PCCRC's staff-hour requirement associated with the operation of the Birch Creek Diversion Structure by approximately 699 hours annually. The staff-hour savings will be recorded by the PCCRC.

With automation systems at the Birch Creek Diversion Structure, the PCCRC will be able to better manage delivery operations much more efficiently and with more consistent flows within the upper portion of the irrigation system. The project will significantly reduce the strain on PCCRC's resources and operation and maintenance

budget and allow the PCCRC to sustain larger water storage volumes further upstream in their system at Birch Creek Reservoir for longer periods each year.

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

The PCCRC maintains detailed water records, and the water savings that result from the proposed project will be quantified and recorded. These records are provided in Appendix A for reference. The PCCRC has begun implementing remote automation projects on critical pieces of infrastructure throughout their water delivery system and have a proven track record in achieving water conservation benefits via the implementation of these automation projects. As of this application's writing, the PCCRC has instituted remote flow monitoring and control capabilities at multiple, critical infrastructure locations including the Swift Dam outlet structure, Kingsbury Turnout, and Dupuyer Creek Diversion Structure.

Following implementation of the proposed Birch Creek Diversion Automation project, the PCCRC will have the ability to measure flows diverted into the B Canal off of Birch Creek in real-time. Once the project is completed, these records will be maintained in the future to validate the proposed water conservation savings. The PCCRC closely monitors snowpack, Birch Creek Reservoir and Lake Frances water levels, Birch Creek and Dupuyer Creek flows, and flows into each canal within their system. With the proposed Birch Creek Diversion Automation Project as well as the previously listed automation projects that have been completed, the PCCRC will be able to better forecast the amount of water that will be available and provide drought monitoring tools that can predict current drought conditions. By providing more controls within the system, the PCCRC will be able to be proactive at managing the water within their system rather than being reactive, which will allow the PCCRC to have more water for downstream users when water rationing is being implemented to reduce the overall impact to the system's water users.

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

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

N/A

b. What is the total surface area of turf to be removed and what is the estimated average annual turf consumptive use rate per unit area?

N/A

c. Was historical water consumption data evaluated to estimate average annual turf consumptive use per unit area? If so, did the evaluation include a weather adjustment component?

N/A

d. Will site audits be performed before applicants are accepted into the program?

N/A

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

N/A

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

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

N/A

b. Was historical water consumption data evaluated to estimate the percent reduction in water demand per unit area of irrigated landscape? If so, did the evaluation include a weather adjustment component?

N/A

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

N/A

d. Will the devices be installed through a rebate or direct-install program?

N/A

e. Will site audits be performed before and after installation?

N/A

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

N/A

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

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

N/A

b. What types (clothes washers, shower heads, etc.) of appliances and fixtures will be installed and what quantity of each?

N/A

c. Have studies been conducted to verify the existence of non-efficient appliances and fixtures? Provide published water savings rates for each of these devices and reference the source for each of the device savings rates.

N/A

d. Will the devices be installed through rebate or direct-install programs?

N/A

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

N/A

(7) **Commercial Cooling Systems:** Cooling towers are components of many refrigeration systems with many applications. They dissipate heat to the atmosphere through the evaporative process and are common in manufacturing processes where cooling is required. They are also used for cooling large commercial buildings. Cooling tower structures vary in size, design, and efficiency. Regardless, all cooling towers consume large volumes of water and energy.

Open-circuit or direct contact are the most common types of cooling towers. Water is supplied to the tower after gathering heat and then released in the upper tower levels.
A fan near the base of the tower creates upward airflow. Closed-circuit towers are more efficient and closed-circuit towers with adiabatic cooling are more efficient yet.

Water and energy savings can be achieved by replacing or retrofitting older low efficiency cooling towers. Applicants proposing cooling system projects should address:

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

   N/A

b. Was historical water consumption data evaluated to estimate the percent reduction in water demand?

   N/A

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

   N/A

Note that an agreement will not be awarded for an improvement to conserve irrigation water unless the applicant agrees to the terms of Public Law 111-11 § 9504(a)(3)(B) (see Section F.2.7. *Requirements for Agricultural Operations under P.L. 111-11 §9504(a)(3)(B).*

The PCCRC understands and will agree to the terms of Section 9504(a)(3)(B) of Public Law 111-11.

E.1.2 Evaluation Criterion B—Renewable Energy (20 points)

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

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

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

E.1.2.1 Subcriterion No. B.1: Implementing Renewable Energy Projects Related to Water Management and Delivery

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

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

N/A

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

N/A

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

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

  N/A

- Provide information about the capacity (in kilowatts) of the existing hydro system and the expected capacity once it is brough back on-line.

  N/A

- Provide information about the duration that the hydro system has been offline and the reasons why it has been mothballed. Please include any regulatory reporting or filings (e.g., FERC filings) or other documentation regarding the system.

  N/A

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

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

  See answer to E.1.2.2 below.

- Expected environmental benefits of the renewable energy system

  The wasted water from the PCCRC system has a significantly higher temperature than water in the river, creating an unnecessary contribution to higher temperatures and nutrients in the Marias River. The returned water negatively impacts the Marias River flows when compared to in-stream flows. The proposed project will allow the PCCRC to reduce the higher temperature, sediment, and nutrient laden return flows into the Marias River.

  The proposed Birch Creek Diversion Automation Project will lead to the ability to regulate and monitor flows in Birch Creek and the PCCRC canal system which will provide substantial water conservation throughout the interconnected network of Birch Creek Reservoir, Birch Creek, and Lake Frances. These areas provide critical aquatic and wetland habitat for the area's fish and wildlife. Notable species that are present within the area's waterways include rainbow trout, brook trout, waterfowl, deer, and grizzly bears. By improving late-season water levels within the Birch Creek Reservoir and Lake Frances, these fish and wildlife species will experience significant preservation benefits. The PCCRC staff will continue to monitor and record reservoir levels within Birch Creek Reservoir and Lake Frances as well as creek flows within Birch Creek. These records will be used to verify anticipated preservation benefits associated with the project.

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

  See answer to E.1.2.2 below.

- Anticipated benefits to other sectors/entities.

  ### Municipal Water Supply Benefits:

  The PCCRC provides the primary source of water to the Conrad, Brady, and Valier municipal water supplies via water storage within Lake Frances. Conrad and Brady obtain municipal water via a pump system intake in the southeast portion of the lake, and Valier obtains water via groundwater wells that are likely influenced by water within the lake. The Lake Frances municipal water supply provides potable water for residential and commercial use as well as critical fire protection. The implementation of the proposed Birch Creek Diversion Automation Project would allow the PCCRC to manage water levels more efficiently in Birch Creek Reservoir as well as within Lake Frances. . By reducing reservoir releases by an estimated 2,975 acre-feet per year to waste, the PCCRC will have expanded capabilities to preserve Lake Frances water levels. These abilities would aid the PCCRC in supporting Conrad, Brady, and Valier

municipal water supplies. Pump run times for each municipality will be used to verify PCCRC's ability to deliver municipal water supplies.

Economic Benefits:

The PCCRC irrigation system provides irrigation water to 72,000 acres annually. Water stored in Birch Creek Reservoir is utilized in the irrigation of each acre of the system. During the past 3 irrigation seasons, an average of 10 inches of water was allotted annually to each irrigated acre. When compared to the average annual water allotment of 10 inches per irrigated acre, an additional 0.49 inches per acre resulting from the proposed project would represent an approximate 4.9% increase in water allotments to the 72,000 irrigated acres. This 4.9% increase in water allotments is assumed to provide an estimated 4.9% increase in crop production throughout the entire 72,000 irrigated acres within the PCCRC's system. Further, a 4.9% boost in crop production would in turn result in a 4.9% boost in annual revenue for growers within the PCCRC system. Crops produced throughout the PCCRC system include alfalfa hay, barley, wheat, canola, and peas.

Conversations with the PCCRC indicate that the crops grown throughout the PCCRC's service area are distributed state- and region-wide, therefore impacting a wide range of people within the State of Montana and beyond. The proposed project will have a far-reaching positive impact on the citizens of Montana. Increases in crop production will have a direct impact on a statewide basis, as the crops produced are used throughout the State and contribute to the local and state tax bases from increased revenues.

Public Welfare Benefits:

The PCCRC's proposed Birch Creek Diversion Automation Project will provide a direct and substantial benefit to the welfare of the area's citizens as well as the local economy. The proposed project will sustain agricultural activities and increase crop production throughout the PCCRC's irrigation system. Short-term economic benefits will occur via short-term work, trucking, and supply purchases that will be required for the project's construction.

- Expected water needs, if any, of the system.

N/A

AND/OR

E.1.2.2 Subcriterion No. B.2: Increasing Energy Efficiency in Water Management

Up to 6 points may be awarded for projects that address energy demands and reduce greenhouse gas emissions by retrofitting equipment to increase energy efficiency and/or through water conservation improvements that result in reduced pumping or diversions.

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

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

N/A

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

  The proposed project will reduce greenhouse gas emissions, and therefore offset the impacts of climate change via two ways. In the first way, the additional water that is conserved within the PCCRC's reservoirs that will be available to augment late-season flows to the system's water users will allow for increased crop production throughout the PCCRC's service area. The additional crop production will improve vegetative cover throughout the systems irrigated acres which will sequester more carbon than currently possible. The second method of greenhouse gas emission reduction involves the reduction in PCCRC operation and maintenance trips to the Birch Creek Diversion Structure location. The PCCRC will not have to make as many trips to this remote location in order to effectively manage water operations. The reduction in trips will reduce the vehicle miles travelled, burn less fuel, and lower carbon dioxide emissions from PCCRC vehicles.

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

  N/A

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

  N/A

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

  N/A

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

  PCCRC staff is currently required to travel the route between the Birch Creek Diversion and the PCCRC's Valier office an average of twice per day during the irrigation season to obtain flow measurements and adjust gate positions at the Diversion. This trip encompasses a 64-mile roundtrip route over gravel roads that takes about 2 hours to complete when accounting for time on-site. The 2-hour O&M visit to the Diversion currently occurs an average of two (2) times per day over the 150-day irrigation season and approximately four (4) times per week during the remaining 215-day off-season. The installation of a SCADA system for remote automation and monitoring of the Diversion would reduce these trips to approximately two (2) trips per week during the irrigation season and one (1) trip per week during the offseason.

  The proposed Birch Creek Diversion Automation Project will reduce the PCCRC's carbon footprint via a significant reduction in vehicle miles driven. This reduction in carbon footprint will occur via the reduction in staff trips to the Diversion location for flow monitoring and adjusting the structure's gate positions. The proposed project will

reduce trips to the Diversion from an estimated 422 trips per year to 72 trips per year. Based on a 64-mile round trip, the resulting mileage savings from this reduction amounts to 22,400 miles per year. The Environmental Protection Agency's CO2 emissions per mile estimate for an average passenger vehicle is 404 grams of CO2/mile. Based on this emissions estimate, the proposed project will reduce the PCCRC's carbon footprint by approximately 9,049,600 grams of CO2 (9.05 metric tons) annually. This benefit is expected to accrue for the next 30+ year design life of the project.

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

The PCCRC's previous automation and control projects at the Kingsbury Turnout and Dupuyer Creek Diversion Automation Project use small-scale solar panels to power remote flow monitoring devices. As with these prior projects, the proposed remote monitoring and control components associated with the Birch Creek Diversion Automation project will include solar panels to assist in providing power for the monitoring components.

E.1.3 Evaluation Criterion C—Other Project Benefits (15 points)

Up to **15 points** may be awarded under this criterion. This criterion prioritizes projects that address a specific water and/or energy concern(s), including enhancing drought resilience and sustainability, addressing the current and future impacts of climate change, and providing ecological benefits.

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

- Explain and provide detail of the specific issue(s) in the area that is impacting water resilience and sustainability. Consider the following:

To guarantee that water users downstream within the PCCRC system receive their water allotment, excess water is released from Birch Creek Reservoir to account for uncertainties in flows arriving at the Diversion and fluctuating irrigation demand downstream. This practice results in the transmission of excess water into Lake Frances that reduces allocations to the project by prematurely lowering the elevations of Birch Creek Reservoir. Remote flow measurement capabilities at the Diversion will allow the PCCRC to obtain an up-to-the-minute flow measurement arriving and diverted at the Diversion. The proposed project will implement a SCADA system to allow for precise, instantaneous Birch Creek base flow measurements obtained remotely by PCCRC staff. This ability will significantly improve the PCCRC's ability to accurately match flows arriving at the Diversion via Birch Creek to downstream demands within the PCCRC system, thus reducing the amount of excess water that the PCCRC is currently forced to release to account for Birch Creek flow fluctuations as well as uncertain downstream demands. The PCCRC will have more water for downstream users, particularly during late season irrigation periods and when drought conditions are present.

The proposed irrigation system automation and control project improvements will provide a significant water savings of a 10 cfs reduction in excess flows from Birch Creek Reservoir over the PCCRC's 150-day irrigation season. This water savings amounts to 2,975 acre-feet of water remaining in Birch Creek Reservoir as storage later in the irrigation season. The improvement in late season storage at Birch Creek Reservoir will significantly improve the PCCRC system's drought resiliency. The PCCRC will have more

water for downstream users, particularly during late season irrigation periods and when drought conditions are present.

- Describe recent, existing, or potential drought or water scarcity conditions in the project area.

  Over the past decade, climate change and drought conditions have had significant impact on the PCCRC system and its water users. Sustained drought conditions along with earlier spring runoff have caused significant stress in maintaining efficient operation of the PCCRC system. Water stored within the Birch Creek Reservoir reaches each of the 72,000 irrigated acres within the system. The PCCRC Board has a firm policy that shareholders in each of their five (5) districts be allotted the exact same amount of water, regardless of their location within the PCCRC's system. Typically, the limiting factors in this equation are the furthest upstream districts, District 1 (nearest Swift Dam and highest in elevation) and District 2 (serviced by a combination of Swift Dam and Lake Frances). However, District 2's main supply of water originates at the North Dam on Lake Frances. The invert of the North Dam outlet is approximately 22 feet higher than the invert of the East Dam outlet on Lake Frances. If the PCCRC has a dry year or storage within Lake Frances is low, District 2 can only be serviced by Swift Dam. During these irrigation seasons, Districts 1 and 2 are physically unable to receive as much irrigation water as Districts 3, 4, and 5 which are downstream of the larger Lake Frances. Therefore, the PCCRC is required to limit water deliveries to the entire PCCRC service area to the per acre allotment that can be delivered to Districts 1 and 2.

  The result of these geographical limiting factors is that the more water that is available at Birch Creek Reservoir during the later portions of the irrigation season, the more water the PCCRC can provide to the entire five-district system at large. The proposed automation project will allow the PCCRC to maintain additional water storage at the highest point within the PCCRC irrigation system each year which will allow for an additional water allotment to be made available throughout the PCCRC system.

  The proposed project will allow for the conservation of 2,975 acre-feet of water to be held in the Birch Creek Reservoir for use later in the irrigation season. This increase in water savings will result in an approximately 0.49-inch increase in annual water allotment per acre to be applied throughout the system's 72,000 irrigated acres. The current three-year average water allotment for these acres is 10 inches, and an increase of 0.49 inches represents an approximate 4.9% increase in water allotted per acre.

  The proposed project will implement a SCADA system to allow for precise, instantaneous Birch Creek base flow measurements obtained remotely by PCCRC staff. This ability will significantly improve the PCCRC's ability to accurately match flows arriving at the Diversion via Birch Creek to downstream demands within the PCCRC system, thus reducing the amount of excess water that the PCCRC is currently forced to release to account for Birch Creek flow fluctuations as well as uncertain downstream demands. The reduction of the extra water released from Swift Dam will provide substantial water conservation benefits to the Birch Creek Reservoir, as water levels within the reservoir will be conserved later into the irrigation season. Water use efficiency and overall management will

be tracked by the PCCRC through water measurements, deliveries, and crop production.

PCCRC staff are currently required to travel the route between the Birch Creek Diversion and the PCCRC's Valier office an average of twice per day during the irrigation season to obtain flow measurements and adjust gate positions at the Diversion. This trip encompasses a 64-mile roundtrip route over gravel roads that takes about 2 hours to complete when accounting for time on-site. The 2-hour O&M visit to the Diversion currently occurs an average of two (2) times per day over the 150-day irrigation season and approximately four (4) times per week during the remaining 215-day off-season for a total of 845 staff-hours each year. The installation of a SCADA system for remote automation and monitoring of the Diversion would reduce these trips to approximately two (2) trips per week during the irrigation season and one (1) trip per week during the offseason. In total, the proposed project would reduce the number of trips to the Birch Creek Diversion Structure from an estimated 423 trips to approximately 73 trips per year for PCCRC staff. As a result, the proposed improvements would improve the management of the Birch Creek Diversion by reducing the O&M staff-hour requirement for the system by 699 hours each year. By reducing the staff-hour requirement for Diversion's O&M, the PCCRC will be able to allocate that time to managing other portions of the water delivery system to increase overall system efficiency.

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

Yes, see response immediately above.

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

One of the prominent features of climate change that we have noticed and that has been scientifically proven is that as climate change continues to occur, winter months are shortened, and runoff tends to occur earlier than it did in the previous decade (documented in the 2017 Montana Climate Assessment https://montanaclimate.org/chapter/water). When this happens, river flows fall off earlier than previously and water rationing within irrigation districts becomes more prevalent as river flows drop off going into the hotter summer months of July, August, and September.

The impacts to water supply availability due to climate change has been documented in the 2017 Montana Climate Assessment, which is located https://montanaclimate.org/chapter/water. Based on this report, there are several major findings that include:

- Montana's snowpack has declined over the observational record, since the 1930s.
- Continued warming temperatures will reduce snowpack at mid and low elevations.
- Historical observations show a shift toward earlier snowmelt and an earlier peak in spring runoff.
- Earlier onset of snowmelt and spring runoff will reduce late-summer water availability.

- Multi-year and decadal-scale droughts have been and will continue to be a natural feature of Montana's climate.
- Changes in snowpack and runoff timing will likely increase the frequency and duration of drought during late summer and early fall.

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

The proposed project includes both green and sustainable infrastructure to improve community climate resilience. This project will save precious water that can be used to mitigate the magnitude of downstream water rationing and underserved acres during periods of peak demand in the late summer when water levels in the river are lower. The PCCRC delivery system will need to be as efficient as possible to combat the ongoing water rationing and reduced crop production issues to reduce the interruption of water delivery to the producers served by the system.

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

The PCCRC has focused on irrigation efficiency as their primary defense against drought and climate change. As the PCCRC system becomes more efficient, more water is available to the PCCRC users to reduce the impacts of water rationing due to drought and the inability to efficiently deliver water to the downstream users. Although water rationing will not be completely avoided, the more water that is saved will result in less water rationing that has to occur. This project will save water consistently that will leave more water available to downstream PCCRC users to protect against rationing due to drought and/or climate change.

In the PCCRC's case, the best way to improve drought resiliency within the system at-large is to maintain larger storage volumes within the Birch Creek Reservoir as late as possible throughout the irrigation season. The Birch Creek Reservoir is the uppermost point within the irrigation system. With the requirement that the same water allocation be provided to all irrigated acres within the system regardless of position within the system, the availability of water in the Birch Creek Reservoir represents the limiting factor in the water allocation to all 72,000 irrigated acres within the PCCRC system. With the proposed Birch Creek Diversion Automation Project, the PCCRC will be able to reduce excess releases from the Birch Creek Reservoir from 30 cfs excess to 20 cfs excess. This 10 cfs reduction in excess flows from Birch Creek Reservoir over the 150-day irrigation season amounts to a water savings of 2,975 acre-feet of water remaining in Birch Creek Reservoir as storage for later in the irrigation season. The improvement in late season storage at this location will significantly improve the PCCRC system's drought resiliency.

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

Over the past decade, climate change and drought conditions have had significant impact on the PCCRC system and its water users. Sustained drought conditions along with earlier spring runoff have caused significant stress in maintaining efficient operation of the PCCRC system. Water stored within the Birch Creek Reservoir reaches each of the 72,000 irrigated acres within the system. The PCCRC Board has a firm policy that shareholders in each of their five (5) districts be allotted the exact same amount

of water, regardless of their location within the PCCRC's system. Typically, the limiting factors in this equation are District 1 which is nearest to Swift Dam and highest in elevation as well as District 2 which is serviced by both Lake Frances and Swift Dam. However, District 2 can only be supplied with water from the North Dike at Lake Frances if the lake elevation is above the outlet. If the PCCRC has a dry year, or storage in Lake Frances is low, District 2 can only be serviced by Swift Dam. The result of these geographical limiting factors is that the more water that is available at Birch Creek Reservoir during the later portions of the irrigation season, the more water the PCCRC can provide to the entire five-district system at large. The proposed automation project will allow the PCCRC to maintain additional water storage at the highest point within the PCCRC irrigation system each year which will allow for an additional water allotment to be made available throughout the PCCRC system.

The proposed project will allow for the conservation of 2,975 acre-feet of water to be held in the Birch Creek Reservoir for use later in the irrigation season. This increase in water savings will result in an approximately 0.49-inch increase in annual water allotment per acre to be applied throughout the system's 72,000 irrigated acres. The current three-year average water allotment for these acres is 10 inches, and an increase of 0.49 inches represents an approximate 4.9% increase in water allotted per acre.

The proposed Birch Creek Diversion Automation Project will allow PCCRC staff to observe flows remotely, adjust gate positions remotely, and minimize waste spills from occurring. The proposed improvements will allow the PCCRC to manage and adjust flows continually throughout each day of the irrigation season to meet real-time demand. The proposed improvements will provide PCCRC with the tools to effectively manage the water resource and be able to make decisions on where the 2,975 acre-feet of conserved water will go (left in the storage reservoirs, released to Birch Creek downstream, or put to beneficial use). During wet years, the anticipated reduction in waste spills will allow the PCCRC to maintain higher reservoir levels or Birch Creek base flows, and in water-short years, water saved by the project will be available to augment the irrigation allotment throughout the PCCRC system. Water use efficiency and overall management will be tracked by the PCCRC through water measurements, deliveries, and crop production.

PCCRC staff is currently required to travel the route between the Birch Creek Diversion and the PCCRC's Valier office an average of twice per day during the irrigation season to obtain flow measurements and adjust gate positions at the Diversion. This trip encompasses a 64-mile roundtrip route over gravel roads that takes about 2 hours to complete when accounting for time on-site. The 2-hour O&M visit to the Diversion currently occurs an average of two (2) times per day over the 150-day irrigation season and approximately four (4) times per week during the remaining 215-day off-season for a total of 845 staff-hours each year. The installation of a SCADA system for remote automation and monitoring of the Diversion would reduce these trips to approximately two (2) trips per week during the irrigation season and one (1) trip per week during the offseason. In total, the proposed project would reduce the number of trips to the Birch Creek Diversion Structure from an estimated 423 trips to approximately 73 trips per year for PCCRC staff. As a result, the proposed improvements would improve the management of the Birch Creek Diversion by reducing the O&M staff-hour requirement for the system by 699 hours each year. By reducing the staff-hour requirement for the

Diversion's O&M, the PCCRC will be able to allocate that time to managing other portions of the water delivery system to increase overall system efficiency.

- Please address where any conserved water as a result of the project will go and how it will be used, including whether the conserved water will be used to offset groundwater pumping, used to reduce diversions, used to address shortages that impact diversions or reduce deliveries, made available for transfer, left in the river system, or used to meet another intended use.

The proposed project will provide water conservation benefits that will allow water to remain in Birch Creek Reservoir for longer periods each year. During periods of peak irrigation demand, the PCCRC water users experience reductions in water allocations due to a lack of available water in this uppermost storage reservoir, and these allotment reductions are particularly acute during periods in the late summer months. The water conserved in Birch Creek Reservoir as a result of the Birch Creek Diversion Automation Project will be used to increase allotments later in the irrigation season to combat water shortages.

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

  By implementing the Birch Creek Diversion Automation Project, the PCCRC will have greater flexibility to effectively manage water resources throughout the PCCRC system. The Birch Creek Diversion Automation Project will provide an estimated 2,975 acre-feet of conserved water which will be available to remain in the system's uppermost storage reservoir or put to beneficial use.

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

  The proposed Birch Creek Diversion Automation Project will allow PCCRC staff to operate the critical system diversion structure's headgates remotely and will prevent waste spills from occurring. The proposed improvements will allow the PCCRC to manage and adjust flows continually throughout each day of the irrigation season to meet real-time demand. The proposed project will provide PCCRC with the tools to effectively manage the water resource and be able to make decisions on where the 2,975 acre-feet of conserved water will go (left in Birch Creek Reservoir or put to beneficial use).

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

The Birch Creek channel is located at the natural southern boundary of the Blackfeet Reservation. As part of the federally ratified Blackfeet Compact, the PCCRC is responsible for passing natural Birch Creek base flows through Swift Dam, through the Diversion, and downstream to the Blackfeet Nation via the BIA Irrigation Project. The PCCRC delivers water to the Blackfeet Tribe via the BIA's Badger Fischer Irrigation Project. The timely, efficient operation of the Birch Creek Diversion will be a critical component in satisfying the requirements of the Blackfeet Compact and the Birch Creek Agreement. Automation of the Birch Creek Diversion will provide a new level of transparency between PCCRC and the Tribal Stakeholders along Birch Creek. This project will be pivotal in building a cooperative and productive working arrangement between PCCRC and the Blackfeet Tribe moving forward.

Based on PCCRC input, the configuration of the Birch Creek Diversion's return flow gate and chute creates difficulties in obtaining accurate measurements of the return flows as the Diversion. The significant bedload from Birch Creek that arrives at the Diversion causes sediment to build up within the return flow gate's chute. With sediment buildup, the PCCRC is constantly required to excavate, often by hand, the buildup within the chute. Further, the turbulent nature of flows through the chute are not conducive to accurate flow readings. The proposed project will include the construction of a larger weir immediately downstream of the chute which will allow the PCCRC to periodically access the area behind the weir with a skid steer. This area will be much easier to remove sediment from, and the weir will provide a much more accurate method of flow measurement. Per PCCRC guidance, the weir will require sizing to accurately measure return flows between 5 cfs and 150 cfs. Larger flows arriving at the Diversion that would occur during large storm events and winter runoff would continue to pass over the large concrete spillway adjacent to the structure and continue downstream along Birch Creek.

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

  The water users within the PCCRC system are currently not being served their water allotment due to the inability to convey it due to the severe seepage and conveyance losses. While there is currently no litigation over these underserved acres, as drought conditions continue to worsen litigation could be used against the PCCRC to mitigate these adverse effects. The proposed project will eliminate the seepage and conveyance losses and allow the PCCRC to optimize water allotments to the downstream users and help prevent any future water-related conflicts.

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

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

  The proposed project will allow the PCCRC to maintain higher water levels within the Birch Creek Reservoir by reducing excess releases from the reservoir to overcome operational inefficiencies within the PCCRC irrigation system. The proposed Birch Creek Diversion Automation Project will lead to the ability to regulate and monitor diversions at the Dupuyer Creek Diversion Structure which will provide substantial water conservation throughout the interconnected network of Birch Creek Reservoir, Birch Creek, and Lake Frances. These areas provide critical aquatic and wetland habitat for the area's fish and wildlife. Notable species that are present within the area's waterways include rainbow trout, brook trout, waterfowl, deer, and grizzly bears. By improving late-season water levels within the Birch Creek Reservoir, these fish and wildlife species will experience significant benefits.

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

  The implementation of the proposed Dupuyer Creek Diversion Automation project will provide substantial irrigation system efficiencies within the PCCRC system by providing remote flow measurement and gate operation capabilities at the Birch Creek Diversion Structure. The improved efficiency will allow for excess flows from the Birch Creek Reservoir to be meaningfully reduced, thus allowing for higher reservoir levels later in the irrigation season. The fisheries, aquatic habitats, and general water levels within each reservoir will directly benefit from these later season reservoir level increases.

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

  N/A

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

  Currently, excess releases from Birch Creek Reservoir are directed to Lake Frances via the B-Canal, D-Canal, and C-Canal systems. From Lake Frances, excess releases from Lake Frances are released into the C-Canal system. From the C-Canal system, the PCCRC estimates that most of the excess releases from Lake Frances are lost to spill water at the end of the C-Canal, which flows into a tributary to the Marias River approximately 2 miles upstream of the river. Any returned water to the Marias River has a significantly higher temperature than water in the river, creating an unnecessary contribution to higher temperatures and nutrients within the river. The return flows spill into the Marias River tributary at a high-gradient location which are subject to increased erosion when large amounts of water pass through. The proposed project will better optimize water usage throughout the entire PCCRC system which will provide an optimal condition for the tributary that carries this excess water to the Marias River. The reduction in erosion at the end of the C-Canal will allow the tributary to establish vegetation and promote a healthy riparian ecosystem for fish and wildlife habitat.

Note: Projects that are intended to improve streamflows or aquatic habit, and that are requesting $500,000 or more in Federal funding, must include information about plans to monitor the benefits of the project. Please describe the plan to monitor improved streamflows or aquatic habit benefits over a five-year period once the project has been completed. Provide detail on the steps to be taken to carry out the plan.

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

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

  The proposed Birch Creek Diversion Automation Project will improve the PCCRC system's ecological resiliency to climate change through the conservation of water, particularly in the upper portions of the irrigation system. With respect to agricultural production in the north-central Montana area, climate change has generally caused winter periods to shorten which results in spring runoff occurring earlier than previous decades. These changes are documented in the 2017 Montana Climate Assessment

(link: https://montanaclimate.org). With earlier runoffs, river flows peak and then diminish earlier in the season and often result in water-short periods during the later summer months when peak irrigation demands occur.

In the PCCRC's case, the best way to improve drought resiliency within the system at-large is to maintain larger storage volumes within the Birch Creek Reservoir as late as possible throughout the irrigation season. The Birch Creek Reservoir is the uppermost point within the irrigation system. With the requirement that the same water allocation be provided to all irrigated acres within the system regardless of position within the system, the availability of water in the Birch Creek Reservoir represents the limiting factor in the water allocation to all 72,000 irrigated acres within the PCCRC system. With the proposed Birch Creek Diversion Automation Project, the PCCRC will be able to reduce excess releases from the Birch Creek Reservoir from 30 cfs excess to 20 cfs excess. This 10 cfs reduction in excess flows from Birch Creek Reservoir over the 150-day irrigation season amounts to a water savings of 2,975 acre-feet of water remaining in Birch Creek Reservoir as storage for later in the irrigation season. The improvement in late season storage at this location will significantly improve the PCCRC system's drought resiliency.

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

The proposed improvements will reduce the amount of water released from the Birch Creek Reservoir (Swift Dam) throughout the irrigation season and allow the PCCRC to have greater flexibility in providing water deliveries to water users during late-season irrigation periods. This flexibility improves the sustainability of the water supply. Climate change has significantly impacted water sustainability in north-central Montana in recent years. Sustained periods of drought are present, winter months have shortened, snowpack has reduced, and spring runoff has trended earlier than previous decades as documented in the 2017 Montana Climate Assessment (link: https://montanaclimate.org). As a result of these changes, creek and river flows fall off earlier than previous seasons, limiting late-season water availability to irrigators during the hotter summer months of July, August, and September.

The proposed project will reduce diversions from Birch Creek during non-peak irrigation demand and allow the conserved water volume to remain stored in the upstream Birch Creek Reservoir. Recent drought impacts of reduced snowpack, earlier spring runoff, and warmer temperatures have caused the PCCRC to deplete their allotment of stored water in Birch Creek Reservoir earlier which often leads to water rationing or earlier water shutoff of the system than what is desirable to get a third cutting of alfalfa hay. The additional volume of stored water in Birch Creek Reservoir can be released later in the summer months to help combat these adverse impacts of climate change that is affecting agricultural production for the PCCRC water users.

- Does the proposed project seek to reduce or mitigate climate pollutions such as air or water pollution?

The proposed project will reduce greenhouse gas emissions, and therefore offset the impacts of climate change via two ways. The additional water that is conserved within the Birch Creek Reservoir that will be available to augment late-season flows to the system's water users will allow for increased crop production throughout the PCCRC's service area. The additional crop production will improve vegetative cover throughout the systems irrigated acres which will sequester more carbon than currently possible.

Additional greenhouse gas emission reduction involves the reduction in PCCRC operation and maintenance trips to the Birch Creek Diversion Structure. The PCCRC will be able to dramatically reduce trips to the Birch Creek Diversion Structure in order to effectively manage water operations. The reduction in trips will reduce the vehicle miles travelled, burn less fuel, and lower carbon dioxide emissions from PCCRC vehicles.

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

The proposed project includes both green and sustainable infrastructure to improve community climate resilience. This project will save precious water that can be used to mitigate the magnitude of downstream water rationing and mitigating negative effects of the underserved acres. In addition, the more efficient use of the water within the PCCRC delivery system will reduce the amount of waste from the system that will also reduce the amount of sediment and nutrients that are transported back to the Marias River via wasteways and drains.

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

The proposed project is part of a larger planned project by the PCCRC to modernize their irrigation system and make it more efficient to address the sustainability of the water supply. The more water that can be saved within the system will allow the PCCRC to reduce and minimize the overall impact of drought conditions throughout the Marias River Basin.

The proposed project will provide water via conservation that can be used for agriculture, downstream use, environmental uses such as the preservation of fish and wildlife habitat, and to facilitate recreation and navigation in Marias River and upstream tributaries.

E.1.4 Evaluation Criterion D—Disadvantaged Communities, Insular Areas, and Tribal Benefits (15 points)

Up to **15 points** may be awarded based on the extent that the project demonstrates support for the Biden-Harris Administration's priorities, including E.O. 14008: *Tackling the Climate Crisis at Home and Abroad* and the President's memorandum, *Tribal Consultation and Strengthening Nation-to-Nation Relationships*.

Please address only 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 application.

E.1.4.1 Subcriterion D.1. Disadvantaged Communities

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

- Please use the White House Council on Environmental Quality's interactive Climate and Economic Justice Screening Tool (CEJST), available online at Explore the map - Climate & Economic Justice Screening Tool (screeningtool.geoplatform.gov/en/#17.59/36.63278/-105.181329) to identify any disadvantaged communities that will benefit from your project. The CEJST developed by the White House Council on Environmental Quality is a geospatial mapping tool that utilizes publicly available, nationally consistent data sets related to climate change, the environment, health, and economic opportunity to identify disadvantaged communities. In addition to identifying specific census tracts that are disadvantaged, the CEJST includes the lands of Federally recognized Tribes as disadvantaged communities. In addition, regardless of whether a Federally recognized Tribe has land, all Federally recognized Tribal entities are considered disadvantaged communities for the purposes of the Justice40 Initiative.[2]

  N/A

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

  N/A

E.1.4.2 Subcriterion D.2. Tribal Benefits

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

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

  The Birch Creek channel is located at the natural southern boundary of the Blackfeet Reservation. As part of the federally ratified Blackfeet Compact, the PCCRC is responsible for passing natural Birch Creek base flows through Swift Dam, through the Diversion, and downstream to the Blackfeet Nation via the BIA Irrigation Project. The PCCRC delivers water to the Blackfeet Tribe via the BIA's Badger Fischer Irrigation Project. The timely, efficient operation of the Birch Creek Diversion will be a critical component in satisfying the requirements of the Blackfeet Compact and the Birch Creek Agreement. Automation of the Birch Creek Diversion will provide a new level of transparency between PCCRC and the Tribal Stakeholders along Birch Creek. This project will be pivotal in building a cooperative and productive working arrangement between PCCRC and the Blackfeet Tribe moving forward.

  Based on PCCRC input, the configuration of the Birch Creek Diversion's return flow gate and chute creates difficulties in obtaining accurate measurements of the return flows as the Diversion. The significant bedload from Birch Creek that arrives at the Diversion causes sediment to build up within the return flow gate's chute. With sediment buildup, the PCCRC is constantly required to excavate, often by hand, the buildup within the chute. Further, the turbulent nature of flows through the chute are not conducive to accurate flow readings. The proposed project will include the

construction of a larger weir immediately downstream of the chute which will allow the PCCRC to periodically access the area behind the weir with a skid steer. This area will be much easier to remove sediment from, and the weir will provide a much more accurate method of flow measurement. Per PCCRC guidance, the weir will require sizing to accurately measure return flows between 5 cfs and 150 cfs. Larger flows arriving at the Diversion that would occur during large storm events and winter runoff would continue to pass over the large concrete spillway adjacent to the structure and continue downstream along Birch Creek.

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

  N/A

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

  Yes, the proposed improvements will reduce excess releases of water from Birch Creek Reservoir (Swift Dam) throughout the irrigation season and allow the PCCRC to have greater flexibility in providing water deliveries not only throughout the PCCRC's irrigated acres but also ensuring natural base flows within Birch Creek are passed on downstream to the Blackfeet Tribe via the BIA's Badger Fischer Irrigation Project. This flexibility improves the sustainability of the water supply.

E.1.5 Evaluation Criterion E—Complementing On-Farm Irrigation Improvements (8 points)

Up to 8 points may be awarded for projects that describe in detail how they will complement on-farm irrigation improvements eligible for NRCS financial or technical assistance.

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

Note: On-farm improvements themselves are not eligible activities for funding under this NOFO. This criterion is intended to focus on how the WaterSMART Grant project will complement ongoing or future on-farm improvements. NRCS will have a separate application process for the on-farm components of selected projects that may be undertaken in the future, separate of the WaterSMART Grant project.

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

- 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.

      Moving from upstream to downstream in the PCCRC system, the next major structure downstream of the Birch Creek Diversion Structure is the Dupouyer Creek Diversion Structure. In 1985, the existing Dupuyer Creek Diversion was rehabilitated in collaboration with the USDA SCS (now the NRCS) as part of the Lower Birch Creek Watershed Plan. Through this partnership, the previous diversion was replaced with a new concrete structure, emergency flood conveyance, parapet floodwalls, and high-strength hand-operated Waterman bulkhead-style gates. The structural components implemented during that work are still in excellent shape. The PCCRC's Engineer estimates that the existing concrete diversion will be serviceable and fully operate for at least 50 years into the future.

      Between 1980 and 1990, the PCCRC and the NRCS worked together to implement millions of dollars of other critical infrastructure replacement and repairs across the Pondera County Canal & Reservoir Company's then aging systems. These projects were part of the collaborative Lower Birch Creek Watershed Plan through the (then) Soil Conservation Service.

      In addition, the State of Montana and the Federal Government have developed multiple programs for the promotion of renewable resource conservation on a more producer-focused level. These programs generally target projects in which a need is demonstrated, including the demonstration of an increase in citizen and resource benefits. The Montana NRCS EQIP program is an example of one of these programs and provides cost share money for projects that increase resource conservation (although now changed to be implemented through Targeted Implementation Plans). Over the past 15 years, dozens of irrigators within the Company's service area have pooled resources with PCCRC (matching their cash funds with the Company's in-kind staff and equipment contributions) to make on-farm improvements using the NRCS EQIP program. The additional water saved by the proposed telemetry and automation project will further promote efforts by PCCRC users to seek assistance from the NRCS (and other funding sources) for on-farm improvements. In addition, the proposed telemetry work—once implemented—will free PCCRC resources that could instead be used in partnership with local producers to help implement EQIP (and other) projects.

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

      The area's farmers typically request technical and financial assistance from the NRCS for their on-farm efficiency projects. The local NRCS either performs the technical assistance with in-house staff or utilizes Technical Service Providers. We are not aware of any request for technical or financial assistance from the NRCS at the present time, but the PCCRC users remain open to potential support through NRCS programs.

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

No documentation was available from the local NRCS regarding on-farm projects within the PCCRC service area that are eligible for NRCS assistance. We are not aware of any request for technical or financial assistance from the NRCS at the present time, but the PCCRC users remain open to potential support through NRCS programs.

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

  None available at this time.

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

    The proposed Birch Creek Diversion Automation Project will prevent water shortages through the mitigation of 2,975 acre-feet per year of excess buffer flows released from the Birch Creek Reservoir to overcome operational inefficiencies within the PCCRC system. The proposed project will allow the PCCRC to maintain real-time, remote flow measurement and control of flows into the B-Canal at Birch. The project will serve to support efficient on-farm practices such as center pivot irrigation.

    OR

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

    The proposed Birch Creek Diversion Automation Project will maximize efficiency in this area by providing mitigation to conserve 2,975 acre-feet per year, provide an increase to water delivery efficiency, and provide precise water delivery to facilitate on-farm efficiency.

- 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.

    The proposed headworks automation project would provide more opportunities for landowners to incorporate on-farm water conservation and/or water use efficiency projects.

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

  A map depicting the PCCRC's water service area boundaries has been provided as Exhibit 4.

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

E.1.6 Evaluation Criterion F – Readiness to Proceed (8 points)

Up to 8 points may be awarded for this criterion.

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

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

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

  The proposed Birch Creek Diversion Automation Project will consist of the following tasks:

  - Planning/Contracting – The project will require a planning level effort to coordinate activities for the project up-front following award and contracting with Reclamation.
  - Site Survey – The headworks locations will be inspected, proposed weir location surveyed, and measurements taken to gather the baseline data required for the design of the automation and control systems.
  - Design – The proposed SCADA system and flow monitoring weir designs will be designed to accommodate operational requirements. Plans and specifications developed and submitted to PCCRC and Reclamation for approval.
  - Permitting – The necessary permits will need to be obtained to facilitate construction of the project. A copy of the permit documents will be submitted to PCCRC and Reclamation. Permitting will include environmental and cultural resource compliance.
  - Construction – A licensed contractor selected via applicable public procurement process requirements will be selected and will install the SCADA system according to the plans and specifications. PCCRC crews will complete construction of a new concrete flow measurement weir at the Birch Creek Diversion Structure.
  - Construction Administration – An Engineer will be needed to provide construction administration, inspection of the work, and ensure compliance with the plans and specifications. Photos, submittal approvals, daily logs and other construction information will be saved and compiled throughout the project.

- As-Built Documentation – An Engineer will be needed to perform an as-built verification of the new SCADA system and flow measurement weirs. A construction completion report will be submitted to PCCRC and Reclamation.
- Construction and Grant Close-Out – The PCCRC or consultant will be required to ensure that all the requirements of the construction and WaterSMART grant have been completed and submitted to Reclamation for approval.

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

  For each of the permits listed below, the PCCRC will work with each permitting agency to determine whether a formal permit is needed for the construction of the proposed project. The PCCRC will follow up on the following list of permits, should any be required, if the grant is awarded. If needed, the following permits may be obtained with assistance from the engineer during the design process:

  404 Permit – The Army Corps of Engineers (USACE) requires a permit for any activity that will result in the discharge or placement of dredged or fill material into waters of the United States, including wetlands. Consultation will be performed, but the activities proposed herein are likely exempt as stated in CRF 323.4(a)3. A Montana joint application form will need to be filled out and submitted to the USACE for a determination.

  318 Authorization – The Short-Term Water Quality Standard for Turbidity requires a permit for any construction activities that will cause temporary violations of state surface water quality standards for turbidity. Since no water will be in the lateral at the time of construction, no turbidity permit will be required.

  Storm Water Discharge General Permit – State Storm Water Rules require a storm water discharge permit under the requirements of the 2018 General Permit for any construction project over one acre in total disturbance that discharges into State waters. A Notice of Intent form and Stormwater Pollution Prevention Plan Form along with all attachments and supplements will need to be submitted to the Montana Department of Environmental Quality.

  Montana Sage Grouse Habitat Conservation Program - The program's role is to implement Montana's Sage Grouse Conservation Strategy including the conservation, restoration, and mitigation of changes to sage grouse habitat because of development. Montana has a website https://sagegrouse.mt.gov/ProgramMap that will need to be consulted prior to construction activities. The current map shows that there are no Sage Grouse Habitat within the project area.

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

  The proposed project will require the assistance of an engineer for the design of the proposed concrete flow measurement weir that will be used in combination with the proposed SCADA system. The engineer will further assist the PCCRC in developing plans and specifications and facilitating the public bid process for the SCADA system procurement and installation portions of the project.

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

N/A

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

Table 2. Project Schedule

Activity	Date(s)
WaterSmart Grant Due Date	Feb 22, 2024
Evaluate Grant Applications -- BOR	Feb 22, 2024 - Sep 2024
Grant Award	Oct 2024
Contract Execution	Nov 2024 - Feb 2025
Project Initiation	Mar 2025
Project Kickoff Meeting	Apr 2025
Project Site Survey	May 2025
Project Design	May 2025 - Sep 2025
Environmental/Cultural Resource Compliance	Jul 2025 - Dec 2025
PCCRC and Reclamation Plans Review	Jan 2026 - Mar 2026
Final Plans & Specifications	Apr 2026 - May 2026
General Contractor Advertisement and Contracting	Jun 2026 - Jul 2026
Begin Construction	Sep 2026
Mid-Point Construction (50%)	Dec 2026
End Construction (100%)	Apr 2026
Construction Administration	Sep 2026 - Apr 2027
Construction Closeout	Apr 2027
As-Built Verification	May 2027
Construction Completion Report	May 2027
Grant Closeout	Jun 2027
Project Completion	Jun 2027

E.1.7 Evaluation Criterion G—Collaboration (5 points)

Up to 5 points may be awarded for projects that promote and encourage collaboration among parties in a way that helps increase the sustainability of the water supply.

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

The PCCRC manager attends and actively participates in training seminars, courses, and conferences such as Montana Water Resources Association (MWRA), Montana Association of Dams and Canal Systems (MADCS), the US BOR Montana Area Office's Dam Operator Trainings, and watershed symposiums throughout Montana where they collaborate and share information. One of the primary topics as of late is the

implementation of remote monitoring and control systems to improve irrigation efficiency. The PCCRC is committed to sharing the success and implementation of this project with other districts and water user associations throughout the region to assist them in their planning and water delivery efforts.

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

  The PCCRC Board, the Pondera County Conservation District, and communities of Valier and Conrad, MT have all shown support for this project. The PCCRC Board will make financial, manpower, equipment, and material purchasing decisions as well as provide overall management of the project. The Pondera County Conservation District, Valier and Conrad, MT communities, and local water users have been consulted on the project and will continue to be consulted throughout the project.

- What is the significance of the collaboration/support?

  The Pondera County Conservation District works with not only other water users in the area but also shares their success stories with the other conservation districts throughout the State through the Montana Association of Conservation Districts. This information will be shared with the other conservation districts who in turn will share this information with nearly all the remaining irrigation districts and water user associations throughout the State of Montana.

  The Valier and Conrad, MT communities support the proposed project as the project will directly benefit water supplies in Lake Frances. Lake Frances provides municipal water supplies to each community, and the preservation of the water supply is of great importance to each community.

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

  The implementation of this project and the sharing of its benefits through the Montana Association of Dams and Canal Systems (MADCS), Montana Water Resources Association, and the Montana Association of Conservation Districts provides a large audience to share this information with, for them to learn from the project and evaluate remote monitoring and control projects for a number of irrigation districts and water users' associations throughout Montana.

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

Letters of support are attached as Appendix C.

E.1.8 Evaluation Criterion H—Nexus to Reclamation (4 points)

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

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

  Although the PCCRC is neither a Reserved Works nor a Transferred Works facility, they have worked with the Bureau of Reclamation (Reclamation) since Reclamation rebuilt

Swift Dam following the 1964 flood disaster. The PCCRC owns and operates Swift Dam, but Reclamation provides remote stage-storage monitoring and technical assistance on an as-needed basis. Reclamation previously operated and maintained Hydromet stations at both Lake Frances and Swift Reservoir; both are a part of the PCCRC system. While these Hydromet stations have not functioned since 2018 and 2019, respectively, the PCCRC hopes to explore a continued partnership with Reclamation for the future reporting of these sites. Additionally, the PCCRC and BOR worked together in 2019-2021 to implement and administer funds for the construction of the E-Canal Regulating Reservoir within the PCCRC system. The PCCRC is currently in the process of automating another critical piece of infrastructure at the C-Canal Headworks with BOR assistance.

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

  The PCCRC does not receive Reclamation project water.

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

  N/A

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

  Yes. The project is situated in the upper Marias River watershed and upstream of Tiber Reservoir, which is associated with Reclamation. The Birch Creek Diversion Project is positioned on Birch Creek. Birch Creek later flows into the Two Medicine River. Even farther downstream, the Two Medicine River feeds into the Marias River. The proposed project has the potential to conserve water in the Marias River. Therefore, the operation of the Birch Creek Diversion Structure will benefit Reclamation's project at the Tiber Reservoir.

- Is the applicant a Tribe?

  No

D.2.2.2.7 Performance Measures

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

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

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

The PCCRC maintains detailed, daily water records for each component of the irrigation system. The water savings will be verified by the flow records out of Birch Creek Reservoir (Swift Dam) and flow records at the Birch Creek Diversion Structure. Comparisons will be made of released flows post-project to prior yearly records to validate the proposed water conservation savings.

The newly installed remote monitoring and control components will tie into the PCCRC's current SCADA monitoring system that is currently in place and providing flow measurements at other locations within the system. The PCCRC has been using this technology with great success over the past decade. The technology is not new and has been proven effective for control and operation of irrigation infrastructure. The proposed improvements will allow the PCCRC to control and monitor flows precisely at the Birch Creek Diversion Structure.

D.2.2.3 BUDGET NARRATIVE

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

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

Note: The Budget Narrative Attachment Form in Grants.gov is to be used to upload the budget proposal.

BUDGET PROPOSAL AND FUNDING PLAN

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

SOURCE	AMOUNT
Costs to be reimbursed with the requested Federal funding	$226,323
Costs to be paid by the applicant	$110,560
Value of third-party contributions (MT RRGL Grant)	$125,000
TOTAL PROJECT COST:	$461,883

Table 4. Total Project Cost Table

BUDGET ITEM DESCRIPTION	COMPUTATION		UNIT	COST
	$/Unit	Quantity		
6a. Personnel				
Position Title	**Rate**	**Quantity**	**Unit**	**Cost**
Manager	$74.52	240	Hour	$17,885
Assistant Manager	$40.41	60	Hour	$2,425
Foreman	$34.83	240	Hour	$8,359
Operator 1	$30.36	240	Hour	$7,286
Maintenance 1	$29.27	40	Hour	$1,171
Carpenter/Welder	$30.36	120	Hour	$3,643
Laborer 1	$29.27	240	Hour	$7,025

			Subtotal	**$47,794**
6b. Fringe Benefits				
Position Title	**Rate**	**Quantity**	**Unit**	**Cost**
Manager	35%	$17,885	Salary/Wage	$6,260
Assistant Manager	37%	$2,425	Salary/Wage	$897
Foreman	51%	$8,359	Salary/Wage	$4,263
Operator 1	54%	$7,286	Salary/Wage	$3,935
Maintenance 1	63%	$1,171	Salary/Wage	$738
Carpenter/Welder	54%	$3,643	Salary/Wage	$1,967
Laborer 1	63%	$7,025	Salary/Wage	$4,426
			Subtotal	**$22,485**
6c. Travel				
N/A – No travel costs Associated with this project. Travel is already included in the hourly rates.				$0.00
			Subtotal	**$0.00**
6d. Equipment				
Name of Equipment	**Rate**	**Quantity**	**Unit**	**Cost**
N/A - Equipment costs accounted for in 6e. Construction				$0.00
			Subtotal	**$0.00**
6e. Supplies				
Material or Supply Type	**Rate**	**Quantity**	**Unit**	**Cost**
N/A - Supply costs accounted for in 6e. Construction				$0.00
			Subtotal	**$0.00**
6f. Contractual				
Services Contracted	**Rate**	**Quantity**	**Unit**	**Cost**
Grant Administration	$120.0	60	Hour	$7,200
Legal	$250.00	4	Hour	$1,000
			Subtotal	**$8,200.00**
6g. Construction				
Equipment Use				
Equipment Item	**Rate**	**Quantity**	**Unit**	**Cost**
2020 220 EC Volvo Excavator	$93.03	80	Hour	$7,442
John Deere 624 J Loader	$67.06	40	Hour	$2,682
1994 Kenworth T800 w/Trail King Trailer	$89.10	40	Hour	$3,564
1996 Kenworth Dump Truck	$89.10	40	Hour	$3,564
1993 Peterbilt w/Side Dump Trailer	$101.53	40	Hour	$4,061
1992 GMC 2.5-ton Water Truck	$42.48	40	Hour	$1,699

Wacker-Neuson Tamper	$7.98	40	Hour	$319
Service Pickup & Transports	$27.94	60	Hour	$1,676
			Subtotal	**$25,009**
Construction Materials & Installation				
Material Item	**Rate**	**Quantity**	**Unit**	**Cost**
Structural Concrete for Weir	$475.00	40	CUYD	$19,000
3/4" Crushed Rock	$35.00	40	CUYD	$1,400
D50 - 18" Riprap	$50.00	200	CUYD	$10,000
			Subtotal	**$30,400**
Contractual Services				
Engineering and Design, Construction Management - TBD				
Position Title	**Rate**	**Quantity**	**Unit**	**Cost**
Project Manager	$179.00	100	Hour	$17,900
Project QA/QC	$207.00	20	Hour	$4,140
Project Engineer II	$136.00	120	Hour	$16,320
Project Engineer I	$118.00	40	Hour	$4,720
Project Surveyor	$179.00	40	Hour	$7,160
Administrative Assistant	$73.00	24	Hour	$1,752
			Subtotal	**$51,992**
Contractor - TBD				
Contractor Material Item	**Rate**	**Quantity**	**Unit**	**Cost**
SCADA System (Installation and appurtenances)	$94,523.00	1	LSUM	$94,523
Solar Panel	$19,240.00	1	LSUM	$19,240
Gate Actuators	$40,560.00	4	EACH	$162,240
			Subtotal	**$276,003**
Other Construction-related costs				
Services Contracted	**Bid Price**	**Quantity**	**Type**	**Cost**
N/A				$0
			Subtotal	**$0**
Other				
Other Costs	**Unit Price**	**Quantity**	**Type**	**Cost**
N/A				$0
			Subtotal	**$0**
			TOTAL DIRECT COSTS	**$461,883**
Indirect Costs				
N/A				**$0**
			TOTAL ESTIMATED PROJECT COSTS	**$461,883**

BUDGET NARRATIVE

A budget estimate and budget narrative for the project are required. The information in the budget narrative must correspond to **Section B of the SF-424A**. All budgeted costs, including any costs that will be paid by the applicant or contributed by third-parties, must comply with the cost principles of 2 CFR Part 200, Subpart E - Cost Principles and be:

- allowable (§200.403 Factors affecting allowability of costs),
- allocable to the agreement (§200.405 Allocable costs) and
- reasonable in amount (§200.404 Reasonable costs).

A thorough budget narrative is mandatory and will aid the administrative review and processing of a recommended award. Amounts included in a budget and budget narrative are estimates; in the event of an award, payments will be based on actual expenditures. The Budget Detail and Narrative template (**Attachment A**) is a suggested format to present the breakdown of estimated costs, by category, needed to accomplish project activities. The budget narrative provides a discussion of, or explanation for, items included in the budget proposal. The following is guidance for use in preparing a thorough budget narrative (**Attachment B**).

*Cost-share instructions (if applicable): The budget must include at least the minimum Federal to non-Federal required cost share. Cost share encompasses all contributions to the project incurred and paid for during the project. This includes payments for personnel, supplies, equipment, activities and items necessary for the project. In-kind cost share encompasses all third party contributions to the project that do not involve a payment or reimbursement and represent donated items or services that are necessary to the performance of the project. This includes volunteer personnel hours, donated existing equipment, donated existing supplies, etc.

The proposed project will be completed using PCCRC personnel and equipment as well as approximately two external contracts for services that will be required for the proposed project. PCCRC will need to solicit for an engineering consultant to assist with environmental compliance, design, grant administration, and construction administration for all aspects of the project. Legal counsel may also be necessary to review contracts. In addition, the PCCRC will have to solicit for construction implementation of the SCADA and automation components. A letter of commitment/official resolution is attached.

For the proposed site work and construction of concrete weirs, the PCCRC will perform the work using their current staff. The PCCRC owns all the construction equipment necessary to complete these portions of the project. The PCCRC personnel are trained and experienced using this equipment. The PCCRC has their own construction crews to be able to maintain their existing infrastructure and keep costs low, providing a benefit to their shareholders. Further, the PCCRC staff has the capability and extensive experience to oversee construction activities like the proposed project in which internal crews perform field work in coordination with work performed by an external SCADA and automation installer.

The project will require assistance from a SCADA contractor. The PCCRC owns all the construction equipment that is necessary to complete the concrete, site grading, base course, and riprap placement portions of the project. The PCCRC personnel are trained and experienced at using this equipment. The PCCRC has their own construction crews to be able to maintain their existing infrastructure and keep costs low, providing a benefit to their

shareholders. The PCCRC staff has the capability and extensive experience to oversee construction activities that will be required for the proposed project. Therefore, the PCCRC will be providing their cost share for the project with in-kind contributions, in-kind cash reserve contributions, and the Montana State Department of Natural Resources and Conservation funds awarded for this project in 2023. The value of the in-kind services provided by PCCRC have been split into personnel and equipment. The rates for personnel are provided in Table 2. The in-kind rate used is comprised of the wage rate for each employee in addition to fringe benefits. The equipment rates for PCCRC equipment have been determined through PCCRC costs on each piece of equipment and cross-checked with the current posted USACE rates as recommended in this solicitation. A list of the PCCRC equipment is provided in Table 2. The personnel and material hours estimates were compiled by PCCRC based on experience with similar projects. Material prices for the project are based on actual quotes and/or rates for materials. The following table in conjunction with Table 2 outlines 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-awarded costs.

Cost Summary

Table 5. Cost Summary

Budget Item	Applicant In-Kind Services	Applicant Reserve Funds	Reclamation WaterSMART Funds	MT RRGL Grant	Total
a. Personnel	$47,794				$47,794
b. Fringe Benefits	$22,485				$22,485
c. Travel					$0
d. Equipment					$0
e. Supplies					$0
f. Contractual		$8,200			$8,200
g. Construction		$32,081	$226,323	$125,000	$383,404
h. Other					$0
i. Indirect Costs					$0
Totals:	**$70,279**	**$40,281**	**$226,323**	**$125,000**	**$461,883**

Personnel

This category includes salaries and wages of employees of the applicant organization that will be working directly on the project. Recommend reviewing §200.430 Compensation - personal services for more information on the specific requirements regarding compensation costs, including the Standards for Documentation of Personnel Expenses at §200.430(i).

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

Narrative: For key personnel such as the project manager or principal investigator, identify the name and position/title. Other personnel should be identified by position only. For all positions, identify the project tasks that will be performed. Compensation rates can be expressed as hourly rates and number of hours or annual salary and percentage effort that will be contributed to each task but must be consistent with the applicant organization's accounting and timekeeping policies. Include estimated hours for compliance with reporting requirements, including the final project report and evaluation. For multi-year projects, identify the level of effort anticipated for each budget year and any estimates increases in compensation rates. Within the budget narrative, provide a certification that the labor rates included in the budget proposal represent the actual labor rates of the identified personnel/positions and are consistently applied to Federal and non-Federal activities. Note: The annual/hourly labor rate must not include fringe benefits.

The PCCRC staff that will be used for the proposed project are shown above in Table 2. The direct labor costs have been separated out from the fringe benefits for each employee in the table. The labor estimates have been allocated to each task as shown in Table 2. Each employee has been assigned a task based on their experience and competence. The budget proposal includes hours for compliance with reporting requirements, including final project and evaluation. A portion of the PCCRC employees are salaried employees, and the hourly rates have been calculated for these employees based on 2022 salary and direct compensation benefits. PCCRC labor rates and salaries are included in Table 2.

- PCCRC Manager: The PCCRC Manager has significant construction and project management experience. The Manager will oversee the overall project and will coordinate daily work.
- Administrative Assistant: The Administrative Assistant will provide payroll services and will process invoices and pay requests for the project.
- Foreman: The PCCRC Foreman has over 10 years of experience in the construction industry, specifically for PCCRC construction including concrete formwork. The PCCRC Foreman will lead the activities on the ground and will be responsible for overseeing the construction. The PCCRC Foreman is also an experienced operator and will assist the primary operator throughout the entire construction process. The PCCRC Foreman will provide foreman and operator duties throughout the construction project.
- Maintenance 1: Maintenance 1 is an experienced mechanic that will maintain and repair PCCRC equipment as necessary during construction.
- Carpenter/Welder: Carpenter/Welder is experienced in both carpentry and welding. The carpenter/welder will assist with construction of concrete formwork, placement of concrete reinforcement, and welding services as necessary during construction.
- Operator 1: Operator 1 is an experienced operator that will provide operation of the excavator and transport equipment for construction of the flow monitoring weirs, hauling equipment, miscellaneous construction, and closeout activities.
- Laborer: PCCRC will be using one of their existing ditch riders or maintenance team to assist with installation of the flow monitoring weirs. Responsibilities will include preparation for construction activities, hauling equipment, cleanup, and miscellaneous construction support.

Budget hours to complete the work for each PCCRC employee are shown above in Table 2.

Fringe Benefits

Fringe benefits are allowances and services provided by employers to their employees as compensation in addition to regular salaries and wages. Fringe benefits include, but are not limited to, the costs of leave (vacation, family-related, sick or military), employee insurance, pensions, and unemployment benefit plans. Fringe costs should also include employer contributions required by law such as payroll taxes such as FICA, unemployment, and workers compensation. Fringe does **not** include federal income taxes, employee portion FICA, or other such costs. Recommend reviewing §200.431 *Compensation - fringe benefits* for more information on the allowability and allocability of fringe benefits. Note: *Car allowances and cars furnished to employees for personal and work use are unallowable as a fringe benefit, regardless of whether the costs is reported as taxable income, and must be excluded from fringe benefit rates.*

Narrative: Fringe benefits can be expressed as an hourly rate or percentage of personnel costs. In the narrative, identify the fringe benefit rates/amounts for each position. If the fringe benefit rate is less than 35% of the estimated employee compensation, no additional information is necessary. If the fringe benefit rate is more than 35%, provide a description and breakdown of the benefits. If the rate is established within a negotiated indirect cost rate agreement (NICRA), provide a copy of the agreement with the application. Note: Do not combine the fringe benefit costs with direct salaries and wages in the personnel category.

The fringe benefit rates for each PCCRC employee have been calculated and provided by PCCRC. These rates were calculated by PCCRC payroll personnel based on the year 2024 compensation and are considered provisional rates for billing purposes. The fringe benefits include accident and health benefits, retirement, Medicare, unemployment, and workers compensation, de minimis benefits, and other benefits as defined in IRS Publication 15-B.

Travel

Travel costs are expenses incurred by personnel in the performance of project activities. Costs can be charged on an actual cost basis, on a per diem or mileage basis in lieu of actual costs incurred, or on a combination of the two, provided that the method used is applied to the entire trip and not to selected days of the trip. All charges must be consistent with those normally allowed under similar circumstances for non-Federally funded activities and any established travel policies. Recommend reviewing §200.475 Travel costs for more information.

Narrative: Provide a narrative describing any travel employees are anticipated to perform. Include the purpose of the travel and how it relates to project tasks, the origin and destination of the trip, number of personnel traveling, length of stay, and all travel costs including airfare, per diem, lodging, transportation, and miscellaneous travel expenses. Identify the basis for rates used, (e.g., GSA Per Diem Rates, published prices) and the total of each planned trip. If travel details are unk nown, then the basis for proposed costs should be explained (i.e., historical information).

Travel costs are not included in the proposed budget because they are included in the hourly equipment rates. PCCRC personnel are required to check in and start their day at the PCCRC office and will use PCCRC vehicles and equipment to travel to the job site and perform the work.

Equipment

Equipment is defined in §200.1 as tangible personal property (including information technology systems) having a useful life of more than one year and a per-unit acquisition cost which equals

or exceeds the lesser of the capitalization level established by the applicant organization for financial statement purposes, or $5,000. Recommend reviewing §200.439 Equipment and other capital expenditures for additional information on the allowability of equipment costs and §200.313 Equipment for information regarding the title, use, management and disposition requirements for equipment acquired under a Federal award.

Narrative: If equipment will be purchased, itemize all equipment valued at or greater than the applicant organization's capitalization threshold for financial statement purposes. If the organization's capitalization threshold is greater than $5,000, identify 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 (published price, quote, etc.). Include in the narrative a comparison of rental and/or lease costs over the purchase of the equipment item. Note: Do not include equipment that will be purchased and/or installed as part of a construction-related activity; this should be included under Construction costs.

Equipment costs are not included in the proposed budget outside of the construction costs listed later in this grant application. The PCCRC intends to use their own equipment for the construction of this project. A description of the equipment used for construction is listed in the "Construction" section of this application.

Supplies

Supplies are defined in §200.1 as all tangible personal property other than those described in the definition of equipment. A computing device is a supply if the acquisition cost is less than the lesser of the capitalization level established by the applicant's organization for financial statement purposes or $5,000, regardless of the length of its useful life. Recommend reviewing §200.453 Materials and Supplies Costs, Including the Costs of Computing Devices, regarding the allowability of costs. Supply items must be direct costs to the project and not duplicative of supply costs in the indirect rate. For post-award requirements regarding supplies, recommend reviewing §200.314 Supplies. For financial management requirements related to supplies, recommend reviewing §200.302(b)(4).

Narrative: List all expendable supplies, noting their purpose in the project and the basis of cost (e.g., vendor quotes, catalogue prices, prior invoices, etc.). For each item, provide the estimated unit cost, quantity, and total cost. General categories may be used, but if a category is viewed as too general or the associated amount is too high, further itemization may be requested.

Supply costs are not included in the proposed budget outside of the construction costs listed later in this grant application. A description of the supplies used for construction is listed in the "Construction" section of this application.

Contractual

Include all contracts and subawards. Per §200.1, a contract means, for the purpose of Federal financial assistance, a legal instrument by which a recipient or subrecipient purchases property or services needed to carry out the project or program under a Federal award. The term as used in this part does not include a legal instrument, even if the non-Federal entity considers it a contract when the substance of the transaction meets the definition of a subaward.

For additional information on subrecipient and contractor determinations, see §200.331 Subrecipient and contractor determinations. Recommend reviewing §200.459 Professional service costs for information regarding the allowability of contractual costs.

Note: Do not include equipment that will be purchased and/or installed as part of a construction-related activity; this should be included under Construction costs.

Contract Narrative: For each contract, regardless of dollar value, describe the services to be obtained and the applicability or necessity of each to the project. Identify the total estimated cost and the basis(es) used to develop the estimate. For each contract with an estimated amount meeting or exceeding $250,000 or represents 35% or more of the total project cost, provide a separate detailed description of the estimated costs. A detailed estimate can be included with the application in lieu of a description. For contracts with an estimated cost equal to or greater than the micro-purchase threshold (currently $10,000), identify the anticipated procurement method to be used and the basis of selection.

Note: 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 §200.318 General procurement standards for additional information regarding procurements, including required contract content. Recommend reviewing §200.319 Competition and §200.320 Methods of procurement to be followed.

The PCCRC will contract with a grant administrator in for grant administration duties. The PCCRC may also utilize legal counsel as needed for review of contractual items.

The PCCRC will contract with a licensed Professional Engineer to complete the design of the Birch Creek Diversion Automation project by developing a solicitation that will be advertised in the local paper in accordance with Montana Code Annotated requirements. The Engineer will be responsible for the design of the proposed project, which will include, but is not limited to, environmental considerations, hydrology and hydraulics, geotechnical engineering, structural engineering, permitting, and construction administration duties. The Engineer will work with regulatory agencies to complete environmental compliance as necessary. Costs associated with the procurement of the licensed Professional Engineer are included under the "Construction" costs section of this application.

Construction and installation of SCADA equipment will be performed by a selected SCADA Contractor; therefore, a contract with a construction company will also be required. The SCADA contractor will be selected via applicable public solicitation requirements as outlined in the Montana Code Annotated. Costs associated with the procurement of this construction company are included under the "Construction" costs section of this application.

Subaward Narrative: If known, identify the recipient of each subaward. Describe the activities to be performed under each subaward, regardless of dollar value, and indicate the applicability or necessity of each to the project. Identify the total estimated cost and the basis(es) used to develop the estimate. For each subaward with an estimated amount meeting or exceeding $250,000 or representing 35% or more of the total project cost, provide a separate detailed description of the estimated costs. A detailed estimate can be included with the application in lieu of a description. Include any indirect/overhead costs anticipated to be paid and the indirect cost rate used.

N/A

Construction

Construction costs are costs incurred in the construction, renovation, and/or equipping of a facility or structure. Costs include engineering, design, permitting, demolition, acquisition of materials, and installation of improvements.

Narrative: Identify all construction-related costs other than applicant organization personnel and fringe benefits costs, including, but not limited to, engineering and design, environmental and other regulatory compliance costs, applicant-owned equipment use, rental equipment, construction supplies, equipment that will be purchased and installed, construction contracts, permitting, and environmental compliance. Note: Personnel and fringe benefits costs related to construction should be included in Salaries and Wages and Fringe Benefits costs, as applicable.

- **Equipment use.** If equipment owned by the applicant is proposed for use under the project, provide the use rates and hours for each piece of equipment owned and budgeted. These should be ownership rates developed by the recipient for each piece of equipment (do not include operator costs). If these rates are not available, the U.S. Army Corps of Engineer's recommended equipment rates for the region are acceptable. Rates for each region can be found at EP1110-1-8 Construction Equipment Ownership and Operating Expense Schedule.

  The PCCRC intends to use their own equipment for the construction of this project. The equipment rates for PCCRC owned equipment are shown above in Table 2 as determined from the current USACE Region 4 rates. The PCCRC equipment will be used for the project as follows:

  - 2013 220 DL Volvo Excavator: Will provide clearing and grubbing activities, excavation and site preparation for the flow monitoring weirs, placement of base course materials, placement of riprap, and will provide miscellaneous load/unload and excavation at the project site.
  - John Deere 624J Loader: Will provide loading and unloading of trucked materials, spreading of materials, and general material handling throughout the construction process.
  - 1994 Kenworth T800 w/Trail King Trailer: Will provide haul of equipment to and from the project site.
  - 1996 Kenworth Tandem Dump Truck: Will provide materials hauling to and from the project site.
  - 1993 Peterbilt w/Side Dump Trailer: Will provide haul of materials to and from the project site, will provide haul of riprap and gravel materials to the project site, and provide various material hauling activities required for the construction.
  - 1992 GMC 2&1/2 Ton Water Truck: Will provide water for material mixing at the flow monitoring weir sites, will provide water for material mixing for subgrade preparation at the weir sites to achieve optimal water content for compaction, and will provide general water control for dust suppression throughout the construction process.

- Wacker-Neuson Tamper: The tamper will be used to facilitate compaction around the proposed new concrete flow monitoring weir subgrade as equipment may not get close enough to facilitate compaction in portions of the weir areas.
- ¾ Ton Pickup: Used for general site activities, materials, trips to obtain part and materials, and transport of personnel to the job site.

- **Construction materials.** Identify any construction materials and non-movable equipment that will be purchased from a vendor. Include estimated purchase price, quantity, and total cost.

The existing site will require materials for site preparation for the construction of the new concrete weir at the Birch Creek Diversion location. Only purchased material costs for site preparation, base course placement, concrete forming and placement, and riprap placement. The proposed SCADA system components and installation are included in the contracted services/construction portion of the project budget. All purchased materials and supply costs are accounted for in the unit prices provided in Table 2. The material costs were determined as follows:

- ¾" Minus Crushed Rock: Determined from local supplier quote as obtained by PCCRC personnel.
- D_{50} = 18" Riprap: Determined from local supplier quote as obtained by PCCRC personnel.
- Structural Concrete: Includes concrete, reinforcing steel, and formwork. Material costs from the PCCRC's 2023 schedule of charges that the PCCRC uses to recover expenses from its water users when PCCRC crews are used for construction projects.

Table 6. Construction Materials & Installation

Construction Materials & Installation				
Material Item	**Rate**	**Quantity**	**Unit**	**Cost**
Structural Concrete for Weir	$475.00	40	CUYD	$19,000
3/4" Crushed Rock	$35.00	40	CUYD	$1,400
D50 - 18" Riprap	$50.00	200	CUYD	$10,000
			Subtotal	**$30,400**

All the materials and supplies needed for the project are listed above. The supplies are itemized by major category, unit price, quantity and purpose. All costs were derived from actual product costs or from quotes received on each product within the last 365 days and include installation cost. All costs were verified by an independent engineering consultant who utilized current recent bid prices on similar projects.

- **Contractual services.** For each contract, regardless of dollar value, describe the services to be obtained and the applicability or necessity of each to the project. Identify the total estimated cost and the basis(es) used to develop the estimate. For all construction contracts and each contract with an estimated amount meeting or exceeding $250,000 or representing 35% or more of the total project cost, provide a separate detailed description of the estimated costs. A detailed estimate can be included with the application in lieu of a description. For contracts with an estimated

cost equal to or greater than the micro-purchase threshold (currently $10,000) identify the procurement method to be used and the basis of selection.

Table 7. Contractual Services Table

Contractual Services				
Engineering and Design, Construction Management - TBD				
Position Title	**Rate**	**Quantity**	**Unit**	**Cost**
Project Manager	$179.00	100	Hour	$17,900
Project QA/QC	$207.00	20	Hour	$4,140
Project Engineer II	$136.00	120	Hour	$16,320
Project Engineer I	$118.00	40	Hour	$4,720
Project Surveyor	$179.00	40	Hour	$7,160
Administrative Assistant	$73.00	24	Hour	$1,752
			Subtotal	**$51,992**
Contractor - TBD				
Contractor Material Item	**Rate**	**Quantity**	**Unit**	**Cost**
SCADA System (Installation and appurtenances)	$94,523.00	1	LSUM	$94,523
Solar Panel	$19,240.00	1	LSUM	$19,240
Gate Actuators	$40,560.00	4	EACH	$162,240
			Subtotal	**$276,003**

The PCCRC will contract with a licensed Professional Engineer to complete the design of the Birch Creek Diversion Automation project by developing a solicitation that will be advertised in the local paper in accordance with Montana Code Annotated requirements. The Engineer will be responsible for the design of the proposed project, which will include, but is not limited to, environmental considerations, hydrology and hydraulics, geotechnical engineering, structural engineering, permitting, and construction administration duties. The Engineer will work with regulatory agencies to complete environmental compliance as necessary. The Engineer will provide a final plan set and specifications for the proposed project to facilitate construction. The Engineer will also provide advisory services during construction of the project to assure proper installation. An estimate of the consultant's cost is included in Table 3.

An engineering services contract will be awarded by the PCCRC for final design and engineering, preparation of construction contract bidding documents, and construction oversight and inspection. The hours for each professional are included in the table above. The estimate was prepared by an engineering consultant and is based on the costs incurred for a previous similar project. The Engineer's services amount to a total cost of $59,192 ($51,992 for Engineering Services and $7,200 for Grant Administration)

which is well within the industry standard for A&E Services for design, permitting and construction administration (<20% of total construction cost).

Construction of the proposed flow monitoring weirs will be performed by the PCCRC as in-kind services. Construction and installation of SCADA equipment will be performed by a selected SCADA Contractor; therefore, a contract with a construction company will also be required. The SCADA contractor will be selected via applicable public solicitation requirements as outlined in the Montana Code Annotated.

- **Other Construction-related Costs.** Identify any other construction-related costs (e.g., permitting, etc.) and indicate the applicability or necessity of each to the project. Include quantity, unit cost, total cost, and the basis for the estimate. Note: Do not include costs that are anticipated to be paid by a contractor und r the terms of the contract. Those items should be included in the contract estimate.

  N/A

Other

This category contains items not included in the previous categories, such as third-party in-kind contributions, tuition remission, rental costs, etc. Third-party in-kind contributions are all services and donations made to the project that do not involve a payment or reimbursement and represent donated items or services that are necessary to the performance of the project. This includes services provided by project partners that will not be reimbursed, volunteer hours, donated equipment, donated existing supplies, etc.

Narrative: For all costs other than third-party contributions, list items by type or nature of expense, breaking down costs by cost per unit, quantity, and total cost and identify the basis of cost (quote, invoice, etc.). Describe the necessity of the costs for successful completion of the project and exclude unallowable costs. Recommend reviewing §200.420 through §200.476, General Provisions for Selected Items of Cost.

N/A

Third-party Contributions Narrative: Describe any third-party servicers and donations (personnel costs, supplies, etc.), including the name of the contributor as well as any work that will be performed by volunteers. Indicate the applicability or necessity of each to the project and describe the basis(es) of the valuation. All third-party contributions must meet the requirements under §200.306 Cost sharing or matching, including the valuation of the contribution.

N/A

Indirect Costs

Indirect costs that will be incurred during the development or construction of a project, which will not otherwise be recovered, may be included as part of the applicant's project budget. Show the proposed rate, cost base, and proposed amount for allowable indirect costs based on the applicable cost principles for the recipient's organization as described below. It is not acceptable to simply incorporate indirect rates within other direct cost line items.

Option 1: Show the rate reflected in the most recent Federal indirect cost rate agreement, cost base, and proposed amount for allowable indirect costs. If the applicant has a current Federal negotiated indirect cost rate agreement, it must be included with the application.

Option 2: If the applicant has never received a Federal negotiated indirect cost rate, the budget may include a 10% de minimis rate of modified total direct costs. Per §200.1 Definitions,

> *Modified Total Direct Cost (MTDC) means all direct salaries and wages, applicable fringe benefits, materials and supplies, services, travel, and up to the first $25,000 of each subaward (regardless of the period of performance of the subawards under the award). MTDC excludes equipment, capital expenditures, charges for patient care, rental costs, tuition remission, scholarships and fellowships, participant support costs and the portion of each subaward in excess of $25,000.*

For further information on modified total direct costs, refer to §200.414 Indirect Costs.

Option 3: If the applicant does not have a federally approved indirect cost rate agreement and is proposing a rate greater than the 10% de minimis rate, include the computational basis for the indirect expense pool and corresponding allocation base for each rate. Identify the amount of Federal funding that will be used to pay these costs.

Information on "Preparing and Submitting Indirect Cost Proposals" is available from Interior, the National Business Center, and Indirect Costs and Acquisition Audit Services at https://ibc.doi.gov/ICS/icrna.

Note: Construction costs are capital expenditures and must be excluded from the indirect costs.

Narrative: Identify whether the applicant has a current Federal negotiated indirect cost agreement. Describe the costs included in the indirect cost base and identify the indirect cost rate used and total costs. Include the amount of Federal funding that will be used to pay indirect costs.

N/A - The PCCRC does not have a federally approved indirect cost; therefore, no de minimis rate is assumed for this project.

D.2.2.4 PRE-AWARD COSTS

If the proposed project is selected, the awarding Reclamation Grants Officer will review the proposed pre-award costs to determine if they are consistent with program objectives and are allowable in accordance with the authorizing legislation. Proposed pre-award costs must also be compliant with all applicable administrative and cost principles criteria established in 2 CFR Part

§200 and all other requirements of this NOFO. In no case will costs incurred prior to April 1, 2022, be considered for inclusion in the proposed project budget.

Please note that the costs for preparing and submitting an application in response to this NOFO, including the development of data necessary to support the proposal, are not eligible project costs under this NOFO and must not be included in the project budget.

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

- The project expenditure and amount

  There is no pre-award costs

- The date of cost incurrence

There is no pre-award costs

- How the expenditure benefits the project

  There is no pre-award costs

D.2.2.4 ENVIRONMENTAL AND CULTURAL RESOURCES COMPLIANCE

Please answer the questions from Section H.1. Environmental and Cultural Resource Considerations in this section.

It is understood that Reclamation will be the lead agency for Environmental and Cultural Resources Compliance.

H.1. ENVIRONMENTAL AND CULTURAL RESOURCE CONSIDERATIONS

To allow Reclamation to assess the probable environmental and cultural resources impacts and costs associated with each application, all applicants should consider the following list of questions focusing on the NEPA, ESA, and NHPA requirements. Please answer the following questions to the best of your knowledge. If any question is not applicable to the project, please explain why. The application should include the answers to:

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

  The proposed project will have a minimal impact on the surrounding environment. Impacts will be those associated with general loading and unloading of supplies and materials, localized site preparation and construction of the proposed flow monitoring weir connecting to the existing Birch Creek Diversion Structure, installation of SCADA components and travel to and from the site. The proposed project is expected to have minimal impacts and, in some cases, may even have a positive impact on the environment or cultural resources. The work will be limited to the existing Birch Creek Diversion Structure and adjacent area within the downstream irrigation system canal prism. Care will be taken to minimize impacts and limit the construction footprint wherever possible. During construction, dust may be generated but is expected to be minimal and temporary. Dust control measures will be implemented during construction.

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

- The Montana Natural Heritage Program (MNHP) website was consulted to determine species of concern within the area. One species of concern was listed for the Township/Range in which the project is located: Grizzly Bear. The U.S. Fish & Wildlife Service's Information for Planning and Consultation (USFWS IPaC) tool was queried for the project area, and this tool listed one threatened species, the Grizzly Bear. The Monarch Butterfly is listed in the IPaC report as a candidate species, with no federally endangered designation as of the writing of this report. All state and federal guidelines

directed towards habitat conservation and renewable resources will be observed. Care will be taken to limit construction disturbance to the areas within or immediately adjacent to the existing irrigation infrastructure. Further, the proposed project is anticipated to provide wildlife habitat benefits via the preservation of stream flows within Birch Creek as well as improved water storage within Birch Creek Reservoir and Lake Frances.

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

  A search of the U.S. Fish and Wildlife Service National Wetlands Inventory (NWI) did not identify wetlands in the immediate vicinity of the project's component locations outside of the creek and irrigation canals themselves. Wetlands near the actual Birch Creek Diversion are classified as Riverine (R3USA) and are contained to the actual Birch Creek and B-Canal flow channels. Construction resulting from this project will not negatively impact any wetlands, as most construction activities will occur within already constructed pieces of irrigation infrastructure The only ground disturbing activities will include the construction of flow measurement weir, and disturbance will be minimal. Best Management Practices (BMPs) will be implemented to prevent sediment from leaving the site. Construction activities will occur within two months during construction. The proposed project will include all necessary permits and environmental actions to be fully compliant with all rules, regulations, and laws. Based upon the available information, no Waters of the United States are believed to be negatively impacted by the proposed project.

- When was the water delivery system constructed?

  The existing Birch Creek Diversion Structure was constructed at the inception of the PCCRC irrigation system created in the early 1900s.

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

  No extensive modifications are expected to the gates or existing concrete of the Birch Creek Diversion Structure. New gate actuators and controls will be directly attached to the existing gates at the diversion with minimal modifications.

  Construction of a new concrete measuring weir immediately downstream and attached to the return flow chute intended to allow the PCCRC to accurately measure flows returned to Birch Creek downstream of the Birch Creek Diversion structure. Construction of this weir will btake place during the dry periods of the late fall and early spring when Birch Creek flows are minimal. No easements are anticipated to be required for the proposed work.

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

The district does not have any buildings, structures, or features eligible for listing on the National Register of Historic Places that will be impacted by this project.

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

The PCCRC is not aware of any archeological sites in the proposed project area. If any archeological sites are discovered during construction, work will be halted, and the appropriate environmental process will be followed.

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

The proposed project will not have a disproportionately high and/or adverse effect on low income or minority populations.

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

The proposed project will not limit access to or ceremonial use of Indian sacred sites or result in other impacts on tribal lands.

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

Care will be taken to prevent the continued existence or spread of noxious weeds or non-native invasive species. During revegetation, only approved native seed mixtures will be used. The PCCRC's weed management program will be used to control weed and non-native species once the project is complete.

D.2.2.5 REQUIRED PERMITS OR APPROVALS

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

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

For each of the permits listed below, the PCCRC will work with each permitting agency to determine whether a formal permit is needed for the construction of the proposed project. If needed, the following permits may be obtained with assistance from the engineer during the design process:

310 Permit – The Montana Association of Conservation Districts (MACD) requires a permit for any activity that physically alters or modifies the bed or banks of a perennially flowing stream. Consultation will be performed, but the activities proposed herein are likely exempt from this rule.

404 Permit – The Army Corps of Engineers (ACOE) requires a permit for any activity that will result in the discharge or placement of dredged or fill material into waters of the United States, including wetlands. Consultation will be performed, but the activities proposed herein are likely exempt as stated in CRF 323.4(a)3.

318 Authorization – The Short-Term Water Quality Standard for Turbidity requires a permit for any construction activities that will cause temporary violations of state surface water quality standards for turbidity. The work will be conducted in dry areas.

Storm Water Discharge General Permit – State Storm Water Rules require a storm water discharge permit for any construction project over one acre in total disturbance that discharges into State waters. The disturbed area for construction of the new C-Canal flow measurement weirs is anticipated to be well below this threshold.

Montana Sage Grouse Habitat Conservation Program - The program's role is to implement Montana's Sage Grouse Conservation Strategy including the conservation, restoration, and mitigation of changes to sage grouse habitat because of development. The project area is not located within a mapped area of concern.

D.2.2.6 OVERLAP OR DUPLICATION OF EFFORT STATEMENT

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

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

The PCCRC has submitted grant applications to various grant agencies to support various portions of this project. These applications and their status are as follows:

Montana Department of Natural Resources and Conservation Renewable Resources Grant and Loan Program Construction Grant. The PCCRC applied for an RRGL construction grant in the amount of $125,000 (no match requirement) that will go toward the proposed gate automation project identified in this application. This application was awarded in May 2023.

Bureau of Reclamation WaterSmart Water and Energy Efficiency Grant. The PCCRC is applying for funding under this application to support the Birch Creek Diversion Automation identified in this application.

The PCCRC will coordinate these grants, if they are all or partially funded, in a joint effort to automate the Birch Creek Diversion. It is not anticipated that there will be any conflicts with resources and/or funding for each project as they all will have individual matching needs that will be handled independently. The PCCRC has reviewed the amount of work and funding that this project will take and is confident that they have the funds and the resources to complete the work.

D.2.2.7 CONFLICT OF INTEREST DISCLOSURE STATEMENT

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

The PCCRC has no actual or potential conflict of interest at this time.

D.2.2.7.1 APPLICABILITY

This section intends to ensure that non-Federal entities and their employees take appropriate steps to avoid conflicts of interest in their responsibilities under or with respect to Federal financial assistance agreements.

In the procurement of supplies, equipment, construction, and services by recipients and by sub recipients, the conflict-of-interest provisions in 2 CFR§200.318 apply.

The PCCRC has no actual or potential conflict of interest at this time.

D.2.2.7.2 NOTIFICATION

Non-Federal entities, including applicants for financial assistance awards, must disclose in writing any conflict of interest to the DOI awarding agency or pass- through entity in accordance with 2 CFR §200.112.

Recipients must establish internal controls that include, at a minimum, procedures to identify, disclose, and mitigate or eliminate identified conflicts of interest. The successful applicant is responsible for notifying the Financial Assistance Officer in writing of any conflicts of interest that may arise during the life of the award, including those that have been reported by sub recipients.

The PCCRC has no actual or potential conflict of interest at this time.

D.2.2.7.3 RESTRICTIONS ON LOBBYING

Non-Federal entities are strictly prohibited from using funds under a grant or cooperative agreement for lobbying activities and must provide the required certifications and disclosures pursuant to 43 CFR §18 and 31 USC §1352.

The PCCRC will not use the funds for lobbying and have provided the required certifications and disclosures pursuant to 43 CFR §18 and 31 USC §1352.

D.2.2.7.4 REVIEW PROCEDURES

The Financial Assistance Officer will examine each conflict-of-interest disclosure on the basis of its particular facts and the nature of the proposed grant or cooperative agreement and will determine whether a significant potential conflict exists and, if it does, develop an appropriate means for resolving it. Enforcement. Failure to resolve conflicts of interest in a manner that satisfies the government may be cause for termination of the award. Failure to

make required disclosures may result in any of the remedies described in 2 CFR §200.339, Remedies for noncompliance, including suspension or debarment (see also 2 CFR §180).

The PCCRC has no actual or potential conflict of interest at this time.

D.2.2.8 UNIFORM AUDIT REPORTING STATEMENT

All U.S. states, local governments, federally recognized Indian Tribal governments, and non-profit organizations expending $750,000 in U.S. dollars or more in Federal award funds in your organization's fiscal year must submit a Single Audit report for that year through the Federal Audit Clearinghouse's Internet Data Entry System in accordance with 2 CFR §200 subpart F.

U.S. state, local government, federally recognized Indian Tribal governments, and non-profit applicants must state if your organization was or was not required to submit a Single Audit report for the most recently closed fiscal year. If your organization was required to submit a Single Audit report for the most recently closed fiscal year, provide the Employer Identification Number (EIN) associated with that report and state if it is available through the Federal Audit Clearinghouse website.

The PCCRC has not submitted, or been required to submit, a Single Audit report for the most recently closed fiscal year (2023).

D.2.2.9 CERTIFICATION REGARDING LOBBYING

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

The PCCRC will not use the funds for lobbying and have provided the required certifications and disclosures pursuant to 43 CFR §1, Appendix A. The PCCRC's President has signed the appropriate SF-424 form which is included with this application.

D.2.2.10 SF-LLL: DISCLOSURE OF LOBBYING ACTIVITIES (IF APPLICABLE)

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

N/A

D.2.2.11 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. Letters of support received after the application deadline for this NOFO will not be considered in evaluating your proposed project. These letters do not count within the 100-page maximum.

Letters of support for the project are included in Appendix C.

D.2.2.12 LETTER OF PARTNERSHIP

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

N/A

D.2.2.13 OFFICIAL RESOLUTION

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

- The identity of the official with legal authority to enter into an agreement.
- The board of directors, governing body, or appropriate official who has reviewed and supports the application submitted.
- That your organization will work with Reclamation to meet established deadlines for entering into a grant or cooperative agreement

An official resolution meeting the requirements set forth above is mandatory. If you are unable to submit the official resolution by the application deadline because of the timing of board meetings or other justifiable reasons, the official resolution may be submitted to sha-dro-fafoa@usbr.gov up to 30 days after the application deadline. This resolution does not count within the 100-page maximum for the application.

An official resolution from the PCCRC Board is provided in Appendix D.

D.2.2.14 LETTERS OF FUNDING COMMITMENT

If a project is selected for award under this funding opportunity and cost share funding is anticipated to be provided by a source other than the applicant, the third-party cost share must be supported with letters of commitment prior to award. Letters of commitment should identify the following elements:

Commitment letters from the DNRC as well as PCCRC are provided in Appendix E.

- The amount of funding commitment

  Along with the $226,323 requested from WaterSmart in this grant application, the PCCRC will contribute $125,000 in cash from an RRGL grant, and $110,560 in in-kind and reserve cash. The RRGL grant has already been awarded and the funds are available now.

- The date the funds will be available to the applicant.

  The PCCRC has committed $125,000 in RRGL grant funding that has been awarded to the Pondera County Conservation District (sponsoring agency) for this project by the Montana Department of Natural Resources and Conservation. These funds are available now. PCCRC reserve funds and possibly other funding sources will be retained to implement the remainder of the project. The PCCRC reserve funds are available now.

- Any time constraints on the availability of funds

  The RRGL grant will need to be spent by the end of 2026.

- Any other contingencies associated with the funding commitment.

  There are no other contingencies associated with the funding commitment.

Cost-share funding from sources outside the applicant's organization (e.g., loans or State grants) should be secured and available to the applicant prior to award.

The PCCRC has secured a $125,000 grant from the Montana Department of Natural Resources and Conservation Renewable Resource Grant & Loan Program. The grant is available now and must be spent by the end of 2026. A copy of the award letter is provided in Appendix E.

Reclamation will not execute a financial assistance agreement until non-Federal funding has been secured or Reclamation determines that there is enough evidence and likelihood that non- Federal funds will be available to the applicant after executing the agreement.

APPENDIX C
Letters of Support

April 22, 2022

DNRC-Conservation and Resource Development
Division1539 Eleventh Avenue
P.O. Box 201601 Helena, MT
59620-1601

RE: Application for Renewable Resource Grant and Loan Program Funding for the Birch Creek and C-Canal Headworks Automation Projects

To Whom It May Concern;

I am writing to express my support for the Pondera County Canal & Reservoir Company (PCCRC) and Pondera County Conservation District (PCCD) regarding applications to the RRGL funding program for two important projects: the Birch Creek Diversion Automation Project and the C-Canal Headworks Automation Project.

With the award of these project funds, the PCCRC will automate both the Birch Creek Diversion and C-Canal Headworks locations which will allow for the remote monitoring and control of irrigation and stream flows at each location. The projects will provide substantial renewable resource benefits including conservation of water, improved operation and maintenance of the irrigation system, more efficient delivery of water to users, and preservation of the area's aquatic environment.

I hope you will consider providing funding for each of these important projects.

Respectfully,

Mayor Town of Valier

Pondera County
Disaster & Emergency Services

20 SW 4th Ave
Conrad MT 59425-2340

Phone: 406/271-4040
Fax: 406/271-4084
Cell: 714/719/9806
Email: pondes@3rivers.net

May 5, 2022

Matt Selvig, P.E.
DNRC-Conservation and Resource Development Division
1539 Eleventh Avenue
P.O. Box 201601
Helena, MT 59620-1601

RE: Support for the Birch Creek Diversion Automation Project

As Pondera County Disaster and Emergency Services (DES) Coordinator for Pondera County, City of Conrad and Town of Valier, Local Emergency Planning Committee Chairman and Flood Plain Manager, I support the Pondera County Canal & Reservoir Company's (PCCRC) grant application to install a remote flow monitoring and gate control at the Birch Creek Diversion structure.

With the extreme drought conditions in our County this project will support significant water conservation. In addition this project will improve operation efficiency of the irrigation system; increase precision in the control of water discharged from Swift Dam; reduced operation; maintenance (O&M) trips for PCCRC staff to the remote location and minimization of the failure of the Birch Creek structure due to future flooding.

Please consider this grant application for funding.

Melinda Burns

APPENDIX D
Official Resolution

Pondera County Canal & Reservoir Company

Resolution #2024-01

Birch Creek Diversion Automation Project WaterSmart Grant Application

WHEREAS; the Pondera County Canal & Reservoir Company has the legal authority to enter into an agreement, and intends to submit a Water Efficiency Grant to the United States Bureau of Reclamation's (USBR) WaterSMART Program in 2024, and;

WHEREAS; the Pondera County Canal & Reservoir Company, located in Valier, MT commits to assisting in the funding of, implementation of, the construction of, operation of, and to performing the future maintenance for the Birch Creek Diversion Automation project per the stipulations of the foregoing grant application (if successful and awarded), and;

WHEREAS; the Pondera County Canal & Reservoir Company contributions of cash and in-kind management, labor, and equipment services for the preferred alternative of the aforementioned grant application have been estimated at up to 51% of the total projects per the budgeting calculation forms included in the WaterSMART Grant Application, and;

WHEREAS; the Pondera County Canal & Reservoir Company hereby appoints Heather Rice, as the official with legal authority to enter into an agreement (if successful and awarded);

THEREFORE, BE IT RESOLVED: The Pondera County Canal & Reservoir Company Board supports the application and hereby commits to the supply of in-kind labor, management, equipment, and/or cash to satisfy the required match as stipulated in the Funding Plan of the WaterSMART Grant Application submittal for the Birch Creek Diversion Automation project. The Pondera County Canal & Reservoir Company has budgeted for the planned capital and resource expenditures and will work with Reclamation to meet the established deadlines for entering into a grant or cooperative agreement.

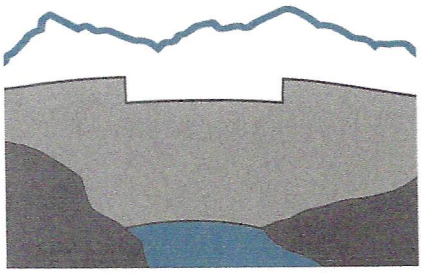
BOARD OF DIRECTORS
PONDERA COUNTY CANAL & RESERVOIR COMPANY

Signed: _____ Date: 2/21/24
Cory Crawford, President

Signed: _____ Date: 2/21/24
Tanner Johnson, Secretary/Treasurer

Witnessed: _____ Date: 2.21.24
Myrna Wright, Assistant Manager

APPENDIX E
Letters of Funding Commitment



Valier, MT Est. 1909

THE WATER COMPANY

Pondera County Canal & Reservoir Co.

February 20, 2024

Bureau of Reclamation
WaterSmart Program

RE: Application for WaterSmart Grant Funding under Funding Opportunity No. R24AS00052 for the PCCRC Birch Creek Diversion Automation Project

To Whom It May Concern:

The Pondera County Canal & Reservoir Company (PCCRC) is applying for funding from the Bureau of Reclamation WaterSmart Program through Funding Opportunity Announcement No. R24AS00052, Water and Energy Efficiency Grants for Fiscal Year 2024, to make critical improvements to our water supply and distribution system. This project consists of automating the Birch Creek Diversion via implementation of a Supervisory Control and Data Acquisition (SCADA) system with the construction of flow measurement devices at several critical points throughout the irrigation system. The project will allow flow monitoring and control capabilities at a critical point within the area's irrigation infrastructure.

Although the proposed WaterSmart Grant Funding requested represents an important portion of the overall costs, at least 50% of the costs will be borne by PCCRC through out-of-pocket expenditures or other funding sources. The PCCRC understands that the cost of this project will exceed the available grant funds. The PCCRC will commit the necessary funds, Montana Department of Natural Resource RRG grant, and in-kind services in the amount of $235,560 or more to complete the proposed project. We acknowledge that federal funding requires compliance with the Single Audit Act and any audit costs not covered by the proposed funding will be covered by the irrigation district. With this letter, PCCRC is expressing commitment to providing the remaining matching funds and/or in-kind services as necessary to complete the proposed Birch Creek Diversion Automation Project.

Please contact us if you have any questions or require any additional information.

Respectfully,

Heather Rice, Manager
Pondera County Canal & Reservoir Company

An Organization of Users on the Valier Project
PO Box 245, Valier, MT 59486
Phone: (406) 279-3315 E-mail: pccrc@3rivers.net