

**Water Supply Reserve Fund
Water Activity Summary Sheet
March 11-12, 2020
Agenda Item 23(v)**

Applicant & Grantee: Colorado Department of Water Resources

Water Activity Name: Data Logger/Telemetry Installation Project, South Platte River Basin (Division 1)

Water Activity Purpose: Agricultural/M&I - Implementation

County: Multiple in SP Basin (see map)

Drainage Basin: South Platte

Water Source: South Platte and tributaries

Amount Requested: \$100,000 South Platte Basin Account
\$190,000 Statewide Account
\$290,000 Total Request

Matching Funds: Basin Account Match = \$100,000

- 52% of statewide request (meets 10% min)
Applicant Match & 3rd Parties = \$179,610
- 94% of the statewide request (meets 10% min)
Total Match (Basin & Applicant) = \$279,610
- 147% of the statewide request (meets 50% min)

| |
|---|
| Staff Recommendation: |
| Staff recommends approval of up to \$100,000 from the South Platte Basin Account, and \$190,000 from the Statewide Account to help fund the project: Data Logger/Telemetry Installation Project, South Platte River Basin (Division 1). |

Water Activity Summary: WSRF Funds, if approved will assist the Division 1 of the Colorado Dept. of Water Resources to install stage sensors, recorder and/or telemetry on 114 sites where measurement of water stage and discharge is needed to determine either In-Stream Flow or diversions into or out of a ditch, canal or reservoir. The locations of these structures include those on the main stem of the South Platte and its tributaries including Districts 1, 2, 3, 4, 5, 6, 7, 8, 9 and 80. Data loggers and telemetry have been set up on many major diversion structures downstream of Denver in prior cooperative projects between Northern Water, Lower South Platte Water Conservancy District, St. Vrain and Left Hand Water Conservancy District and the Division of Water Resources (DWR).

Data loggers allow for continuous water flow information for water users and water administrators and the more efficient use of administrative staff resources. This project will provide an excellent complement to the State's existing diversion and stream gage satellite program and is also complimentary to the work being done for the Colorado Decision Support System in obtaining better data concerning river flows and diversions and for the Accretion/Depletion Analysis Tool.

The installation of this equipment will be of great benefit to water commissioners by allowing more efficient administration due to more timely availability of information on diversions and In-Stream Flow sites.

Installation of this equipment allows near real time accounting to occur for augmentation of wells and direct diversions for augmentation and recharge. This is critical for augmentation plans as real time information is necessary to determine recharge and direct flow credits to assure there is no injury to senior water rights. Real time data also helps the water commissioner make a faster response regarding exchange potential at various points on the river to water users who wish to operate an exchange.

Maximizing the use of existing water supplies within the South Platte basin for decreed purposes with existing infrastructure is the first step in meeting the future needs of users along the South Platte and its tributaries. The increase in the use of data loggers and telemetry has improved administration by allowing DWR staff to administer water rights real time. The use of data loggers also allows data to be made available in a timely manner.

Discussion: This effort will assist the South Platte Basin Roundtable meet the Goals and Measurable Outcomes, as identified in Sections 2.3, 3.1.1, 3.1.3, 3.1.8, 3.2.1.2, 4.3.3.2 and 5.0, and in the SPBRT Chair's Recommendation Letter. This effort will also further the Goals of Colorado's Water Plan as called for in Section 4.9.

Issues/Additional Needs: None

Eligibility Requirements: The application meets requirements of all eligibility components.

Evaluation Criteria: Staff has determined this activity satisfies the Evaluation Criteria.

| Funding Sources/Match | Cash | In-kind | Total | Status |
|--|------------------|------------------|------------------|---------------|
| DWR | \$37,210 | \$7,052 | \$44,262 | Secured |
| Xcel | \$0 | \$46,000 | \$46,000 | Secured |
| City of Boulder Open Space & Mtn Parks | \$10,000 | \$31,400 | \$41,440 | Secured |
| Boulder Ditch Companies | \$0 | \$45,000 | \$45,000 | Secured |
| City of Boulder Public Works | \$0 | \$2,948 | \$2,948 | Secured |
| Sub-total | \$47,210 | \$132,400 | \$179,610 | |
| WSRF South Platte Basin Account | \$100,000 | \$0 | \$100,000 | Secured |
| Sub-total | \$147,210 | \$132,400 | \$279,610 | |
| Statewide Account | \$190,000 | n/a | \$190,000 | |
| Total Project Costs | \$378,210 | \$132,400 | \$469,610 | |

CWCB Project Manager: Craig Godbout

South Platte Basin Roundtable
Garrett Varra, Chair
January 27, 2020

Craig Godbout
Water Supply Planning Section
Colorado Water Conservation Board
1313 Sherman Street, Room 718
Denver, CO 80203

****Via email to craig.godbout@state.co.us****

RE: Letter of Support for the "Data Logger/Telemetry Installation Project, South Platte River Basin (Division 1)" grant application.

Craig,

We submit recommendation for full approval for the Water Supply Reserve Fund grant application submitted by the Colorado Division of Water Resources in the amount of \$100,000.00 from the South Platte Basin account and \$190,000.00 from the Statewide account. We believe the program fits well within the Colorado Water Plan and South Platte Basin Implementation Plan in numerous ways. This application was recommended for approval at the January 14, meeting of the SPBRT. A quorum was present and all members voted in support of the application. It is our hope that this program will become a model for further efforts across the state.

Data loggers allow for continuous water flow information for water users and water administrators and the more efficient use of water within the South Platte basin. This project will provide an excellent complement to the State's existing diversion and stream gage satellite program and is also complimentary to the work being done for the Colorado Decision Support System in obtaining better data concerning river flows and diversions and for the Accretion/Depletion Analysis Tool (ADAT) program which previously received a WSRA Statewide Grant.

The installation of this equipment will be of great benefit to water commissioners and water users by allowing more efficient administration due to more timely availability of information on diversions and In-Stream Flow sites. This is also critical for augmentation plans as real time information is necessary to determine recharge and direct flow credits to assure there is no injury to senior water rights. Real time data also helps the water commissioner make a quicker response regarding exchange potential at various points on the river to water users who wish to operate an exchange.

Maximizing the use of existing water supplies within the South Platte basin for decreed purposes with existing infrastructure is the first step in meeting the future needs of users along the South Platte and its tributaries. The increase in the use of data loggers and telemetry has improved administration by allowing DWR staff to administer water rights real time. The use of data loggers also allows data to be made available in a timely manner which also helps support Colorado's interstate water compact compliance efforts (CWP SEC. 4, 9; SPRT BIP 2.3, 3.1.1, 3.1.3, 3.1.8, 3.2.1.2, 4.3.3.2, 5.0. measurable outcomes 3, 7, 8).

The South Platte Basin Roundtable is in full support of further funding of the Data Logger/Telemetry Installation project and see the continued benefits this program has to offer our basin with possible benefits throughout Colorado. We recommend approval of their application.

Sincerely,



Garrett Varra



Last Update: July 31, 2018

Colorado Water Conservation Board

Water Supply Reserve Fund Grant Application

Instructions

All WSRF grant applications shall conform to the current [2016 WSRF Criteria and Guidelines](#).

To receive funding from the WSRF, a proposed water activity must be approved by a Roundtable(s) **AND** the Colorado Water Conservation Board (CWCB). The process for Roundtable consideration and recommendation is outlined in the 2016 WSRF Criteria and Guidelines. The CWCB meets bimonthly according to the schedule on page 2 of this application.

If you have questions, please contact the current CWCB staff Roundtable liaison:

Arkansas

Ben Wade
ben.wade@state.co.us
303-866-3441 x3238

Gunnison | North Platte | South Platte | Yampa/White

Craig Godbout
craig.godbout@state.co.us
303-866-3441 x3210

Colorado | Metro | Rio Grande | Southwest

Megan Holcomb
megan.holcomb@state.co.us
303-866-3441 x3222

WSRF Submittal Checklist (Required)

| | |
|--------------------------------------|---|
| | I acknowledge this request was recommended for CWCB approval by the sponsoring roundtable. |
| x | I acknowledge I have read and understand the 2016 WSRF Criteria and Guidelines . |
| x | I acknowledge the Grantee will be able to contract with CWCB using the Standard Contract . ⁽¹⁾ |
| Application Documents | |
| x | Exhibit A: Statement of Work ⁽²⁾ (<i>Word – see Template</i>) |
| x | Exhibit B: Budget & Schedule ⁽²⁾ (<i>Excel Spreadsheet – see Template</i>) |
| x | Letters of Matching and/or Pending 3 rd Party Commitments ⁽²⁾ |
| x | Map ⁽²⁾ |
| | Photos/Drawings/Reports |
| | Letters of Support |
| Contracting Documents ⁽³⁾ | |
| | Detailed/Itemized Budget ⁽³⁾ (<i>Excel Spreadsheet – see Template</i>) |
| | Certificate of Insurance ⁽⁴⁾ (<i>General, Auto, & Workers' Comp.</i>) |
| | Certificate of Good Standing ⁽⁴⁾ |
| | W-9 Form ⁽⁴⁾ |
| | Independent Contractor Form ⁽⁴⁾ (<i>If applicant is individual, not company/organization</i>) |
| | Electronic Funds Transfer (ETF) Form ⁽⁴⁾ |

(1) Click "Grant Agreements". For reference only/do not fill out or submit/required for contracting

(2) Required with application if applicable.

(3) Additional documentation providing a Detailed/Itemized Budget maybe required for contracting. Applicants are encouraged to coordinate with the CWCB Project Manager to determine specifics.

(4) Required for contracting. While optional at the time of this application, submission can expedite contracting upon CWCB Board approval.

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| Schedule | | |
|--------------|-----------------------------|------------------------------|
| CWCB Meeting | Application Submittal Dates | Type of Request |
| January | December 1 | Basin Account; BIP |
| March | February 1 | Basin/Statewide Account; BIP |
| May | April 1 | Basin Account; BIP |
| July | June 1 | Basin Account; BIP |
| September | August 1 | Basin/Statewide Account; BIP |
| November | October 1 | Basin Account/BIP |

| Desired Timeline | |
|---------------------------------|------------|
| Desired CWCB Hearing Month: | March |
| Desired Notice to Proceed Date: | April 2020 |

| Water Activity Summary | | |
|--|---|--|
| Name of Applicant | Colorado Division of Water Resources | |
| Name of Water Activity | Data Logger/Telemetry Installation Project, South Platte River Basin (Division 1) | |
| Approving Roundtable(s) | Basin Account Request(s) ⁽¹⁾ | |
| South Platte | \$100,000.00 – Recommended by SPBRT | |
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| | | |
| | | |
| | | |
| Basin Account Request Subtotal | \$100,000.00 | |
| Statewide Account Request ⁽¹⁾ | \$190,000.00 | |
| Total WSRF Funds Requested (Basin & Statewide) | \$290,000.00 | |
| Total Project Costs | \$479,650.00 | |

(1) Please indicate the amount recommended for approval by the Roundtable(s)

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| Grantee and Applicant Information | |
|---|---|
| Name of Grantee(s) | Colorado Division of Water Resources, Division One |
| Mailing Address | 810 9 th St. Ste 200, Greeley, CO. 80631 |
| FEIN | 84-0644739 (Tax Exempt) |
| Grantee's Organization Contact ⁽¹⁾ | Corey DeAngelis |
| Position/Title | Division Engineer |
| Email | Corey.deangelis@state.co.us |
| Phone | 970-352-8712 x 1204 |
| Grant Management Contact ⁽²⁾ | Brent Schantz |
| Position/Title | South Platte River Operations and Compact Coordinator |
| Email | Brent.schantz@state.co.us |
| Phone | 970-352-8712 x 1217 , cellular 970-381-8159 |
| Name of Applicant (if different than grantee) | |
| Mailing Address | |
| Position/Title | |
| Email | |
| Phone | |

(1) Person with signatory authority

(2) Person responsible for creating reimbursement invoices (Invoice for Services) and corresponding with CWCB staff.

| Description of Grantee |
|---|
| Provide a brief description of the grantee's organization (100 words or less). |
| <p>The Contracting Agency for this project will be the Colorado Division of Water Resources. DWR is a state agency in the Department of Natural Resources. Division One encompasses the South Platte, Republican, and Laramie drainages within the state, approximately the northeast quarter of the state. Among other responsibilities, Division One has been given the responsibility for administration of water rights in these basins under the prior appropriation doctrine. This doctrine can be found in the State constitution along with statutes. The key statutes under which administration authority has been given to DWR may be found in Article 80 and Article 92.</p> <p>For this application, the applicants are also acting on behalf of various water users along the main stem of the South Platte and its tributaries. As described further in the application, both the water users and DWR will be the beneficiaries of the project installations resulting from grant funds. DWR is a small government agency that receives the bulk of its funding from the General Fund. This funding goes toward operating costs such as mileage for Water Commissioners and there is no excess that could be applied to the project to install data-loggers and telemetry as described further in the application.</p> |

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| Type of Eligible Entity (check one) | |
|-------------------------------------|---|
| <input checked="" type="checkbox"/> | Public (Government): municipalities, enterprises, counties, and State of Colorado agencies. Federal agencies are encouraged to work with local entities. Federal agencies are eligible, but only if they can make a compelling case for why a local partner cannot be the grant recipient. |
| <input type="checkbox"/> | Public (Districts): authorities, Title 32/special districts (conservancy, conservation, and irrigation districts), and water activity enterprises |
| <input type="checkbox"/> | Private Incorporated: mutual ditch companies, homeowners associations, corporations |
| <input type="checkbox"/> | Private Individuals, Partnerships, and Sole Proprietors: are eligible for funding from the Basin Accounts but not for funding from the Statewide Account. |
| <input type="checkbox"/> | Non-governmental organizations: broadly, any organization that is not part of the government |
| <input type="checkbox"/> | Covered Entity: as defined in Section 37-60-126 Colorado Revised Statutes |

| Type of Water Activity (check one) | |
|-------------------------------------|----------------|
| <input type="checkbox"/> | Study |
| <input checked="" type="checkbox"/> | Implementation |

| Category of Water Activity (check all that apply) | | |
|---|--------------------------------|-----------------------------|
| <input type="checkbox"/> | Nonconsumptive (Environmental) | |
| <input type="checkbox"/> | Nonconsumptive (Recreational) | |
| <input type="checkbox"/> | Agricultural | |
| <input type="checkbox"/> | Municipal/Industrial | |
| <input type="checkbox"/> | Needs Assessment | |
| <input type="checkbox"/> | Education & Outreach | |
| <input checked="" type="checkbox"/> | Other | Explain: Structural Project |

| Location of Water Activity | |
|--|---|
| Please provide the general county and coordinates of the proposed activity below in decimal degrees . The Applicant shall also provide, in Exhibit C, a site map if applicable. | |
| County/Counties | Multiple Counties and location throughout the SP basin; See map |
| Latitude | |
| Longitude | |



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Water Activity Overview

Please provide a summary of the proposed water activity (200 words or less). Include a description of the activity and what the WSRF funding will be used for specifically (e.g. studies, permitting, construction). Provide a description of the water supply source to be utilized or the water body affected by the activity. Include details such as acres under irrigation, types of crops irrigated, number of residential and commercial taps, length of ditch improvements, length of pipe installed, area of habitat improvements. If this project addresses multiple purposes or spans multiple basins, please explain. The Applicant shall also provide, in Exhibit A, a detailed Statement of Work, Budget, and Schedule.

This project would allow for the installation of a stage sensor, recorder and/or telemetry on 114 sites where measurement of water stage and discharge is needed to determine either In-Stream Flow or diversions into or out of a ditch, canal or reservoir. The locations of these structures include those on the main stem of the South Platte and its tributaries including Districts 1, 2, 3, 4, 5, 6, 7, 8, 9 and 80. Data loggers and telemetry have been set up on many major diversion structures downstream of Denver in prior cooperative projects between Northern Water, Lower South Platte Water Conservancy District, St. Vrain and Left Hand Water Conservancy District and the Division of Water Resources (DWR). The South Platte Basin Roundtable previously approved WSRA funding requests for \$48,800, \$46,000 and \$89,205 and the SPBRT, Metro and Statewide Account funded \$309,648 for data loggers and cellular telemetry. All equipment secured with this funding has been installed and is in successful operation. This application for funding is a continuation of the project started with this previous funding.

The costs associated with this grant are to purchase equipment and materials to install stage sensors and/or Telemetry on the identified structures. As in-kind service, equipment will be installed in coordination with the various water users (Ditch Companies, Augmentation Plans, and Municipalities) and DWR. There are several sites where water users will be required to install infrastructure; these costs range from \$1000 - \$40,000. In addition, DWR will work with the respective Water Commissioners to display current data on the DWR FTP site for sites without telemetry as requested by water users. Telemetry sites will be available for viewing on the DWR website with water users outside paying the \$6-\$10 monthly fee per site for cellular service.

Data loggers allow for continuous water flow information for water users and water administrators and the more efficient use of administrative staff resources. This project will provide an excellent complement to the State's existing diversion and stream gage satellite program and is also complimentary to the work being done for the Colorado Decision Support System in obtaining better data concerning river flows and diversions and for the Accretion/Depletion Analysis Tool (ADAT) program which previously received a WSRA Statewide Grant.

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Installation of this equipment allows near real time accounting to occur for augmentation of wells and direct diversions for augmentation and recharge. This is critical for augmentation plans as real time information is necessary to determine recharge and direct flow credits to assure there is no injury to senior water rights. Real time data also helps the water commissioner make a faster response regarding exchange potential at various points on the river to water users who wish to operate an exchange.

Maximizing the use of existing water supplies within the South Platte basin for decreed purposes with existing infrastructure is the first step in meeting the future needs of users along the South Platte and its tributaries. The increase in the use of data loggers and telemetry has improved administration by allowing DWR staff to administer water rights real time. The use of data loggers also allows data to be made available in a timely manner.

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| Measurable Results | | |
|--|--|---|
| To catalog measurable results achieved with WSRF funds please provide any of the following values. | | |
| | New Storage Created (acre-feet) | |
| | New Annual Water Supplies Developed or Conserved (acre-feet), Consumptive or Nonconsumptive | |
| | Existing Storage Preserved or Enhanced (acre-feet) | |
| | Length of Stream Restored or Protected (linear feet) | |
| | Efficiency Savings (indicate acre-feet/year OR dollars/year) | |
| | Area of Restored or Preserved Habitat (acres) | |
| | Length of Pipe/Canal Built or Improved | |
| x | Other | Explain: Availability of real time discharge data to assist with timely water rights administration of ditch diversions, in-stream flow rights and identify the amount of unappropriated water available during periods of no Call thus maximizing basin supplies. |

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Water Activity Justification

Provide a description of how this water activity supports the goals of [Colorado's Water Plan](#), the most recent [Statewide Water Supply Initiative](#), and the respective [Roundtable Basin Implementation Plan and Education Action Plan](#) ⁽¹⁾. The Applicant is required to reference specific needs, goals, themes, or Identified Projects and Processes (IPPs), including citations (e.g. document, chapters, sections, or page numbers).

For applications that include a request for funds from the Statewide Account, the proposed water activity shall be evaluated based upon how well the proposal conforms to Colorado's Water Plan criteria for state support (CWP, Section 9.4, pp. 9-43 to 9-44;) (Also listed pp. 4-5 in [2016 WSRF Criteria and Guidelines](#)).

Section 4 (Water Supply) and 9 (Protecting the South Platte Compact) of Colorado's Water Plan.

Section 5.5.3 of the South Platte Basin Implementation Plan: *Maximizing Basin Supplies.*

This project has impact as real time data available from recorders and telemetry installed with previous Grants has helped identify areas where there are available unappropriated in-basin water supplies that may result in multi-purpose projects which can take advantage of these available supplies. The South Platte Storage Study and the NE Colorado Water Cooperative have benefited from the data made available from those sites providing near real time data and future projects may also benefit from better data for diversions from the river. In order to implement projects like the NE Colorado Water Cooperative or new storage projects real time measurement data is imperative to their success in diverting unappropriated, fully consumable or changed while assuring that no injury is caused to existing water rights. To maximize available unappropriated water (**Section 3.2.1.2 of SPBIP**) we must be able to quantify and divert water during those periods when available as the period of availability might be of short duration. Reusable Supplies are also dependent on reliable measurement and reporting as are ATMs (**Section 4.3.3.2)c**

Section 2.3 of the SP-BIP: *Environmental and Recreational Needs.*

Installation of measurement and telemetry on identified site will help protect ecologically and economically important habitats and stream flows on Boulder and South Boulder Creeks

Section 5 of the SP-BIP: *Implementation Strategies for Projects and Methods:*

This project would increase the ability to track and administer in real time the following points under the *Eleven Key elements of the South Platte Basin Implementation Plan*:

3. Maximize use and effectiveness of native South Platte River Basin supplies including new storage, systems integration and conjunctive use of surface and groundwater supplies to extend use of both the Denver Basin Aquifers and the foothills/ mountain crystalline rock aquifers as well as make better use of the South Platte River alluvial system
7. Manage the risk of increased demands and reduced supplies due to climate change
8. Promote multi-purpose storage projects that enhance other South Platte Basin Solutions

(1) Access Basin Implementation Plans or Education Action Plans from Basin drop down menu.



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Matching Requirements: Basin Account Requests

Basin (only) Account grant requests require a 25% match (cash and/or in-kind) from the Applicant or 3rd party and shall be accompanied by a **letter of commitment** as described in the 2016 WSRF Criteria and Guidelines (submitted on the contributing entity's letterhead). Attach additional sheet if necessary.

| Contributing Entity | Amount and Form of Match (note cash or in-kind) |
|--|--|
| Xcel Energy | \$5,000.00 – in-kind/Cash |
| City of Boulder Public Works | \$2,948.00 – in-kind/Cash |
| City of Boulder Open Space and Mountain Parks | \$5,000.00 – in-kind/Cash |
| Colorado Division of Water Resources | \$7,052.00 – in-kind/Cash |
| Boulder Ditch Companies(Anderson and Farmers) | \$5,000.00 – in-kind/Cash |
| | |
| | |
| Total Match | \$25,000.00 |
| If you requested a Waiver to the Basin Account matching requirements, indicate the percentage you wish waived. | |

Matching Requirements: Statewide Account Requests

Statewide Account grant requests require a 50% match as described in the 2016 WSRF Criteria and Guidelines. A minimum of 10% match shall be from Basin Account funds (cash only). A minimum of 10% match shall be provided by the applicant or 3rd party (cash, in-kind, or combination). The remaining 30% of the required match may be provided from any other source (Basin, applicant, or 3rd party) and shall be accompanied by a **letter of commitment**. Attach additional sheet if necessary.

| Contributing Entity | Amount and Form of Match (note cash or in-kind): |
|--|---|
| | |
| Xcel Energy | \$41,000.00 – in-kind/Cash |
| City of Boulder Open Space and Mountain Parks | \$36,440.00 – in-kind/Cash |
| Colorado Division of Water Resources | \$37,210.00 – in-kind/Cash |
| Boulder Ditch Companies(Anderson and Farmers) | \$40,000.00 – in-kind/Cash |
| Basin Account Funds | \$100,000.00 - Cash |
| | |
| Total Match | \$164,650.00 |
| If you requested a Waiver to the Statewide Account matching, indicate % you wish waived. (Max 50% reduction of requirement). | |

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Related Studies

Please provide a list of any related studies, including if the water activity is complimentary to or assists in the implementation of other CWCB programs.

In Stream Flow Program on South Boulder and Boulder Creeks, We will be working with City of Boulder Open Space and Public Works to install measurement and telemetry equipment on 10 existing or proposed ISF sites.

Previous CWCB Grants

List all previous or current CWCB grants (including WSRF) awarded to both the Applicant and Grantee. Include: 1) Applicant name; 2) Water activity name; 3) Approving RT(s); 4) CWCB board meeting date; 5) Contract number or purchase order

- A. 1) Colorado Division of Water Resources 2) Water Supply and Environmental Projects 3) SPBRT 4) March 2013 5) CMS#55017, \$88,958.00
- B. 1) Colorado Division of Water Resources 2) Water Supply and Environmental Projects-Data Logger/Telemetry Installation Project, South Platte River Basin (Division 1) 3)SPBRT, METRO-RT, Statewide Account 4) March 2015 5) March 2015, CWS#78815 \$309,648.00

Tax Payer Bill of Rights

The Tax Payer Bill of Rights (TABOR) may limit the amount of grant money an entity can receive. Please describe any relevant TABOR issues that may affect the applicant.

None.



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| Colorado Water Conservation Board | |
|---|--|
| Water Supply Reserve Fund | |
| <u>Exhibit A - Statement of Work</u> | |
| Date: | 01/31/2019 |
| Water Activity Name: | Data Logger/Telemetry Installation Project, South Platte River Basin (Division 1) |
| Grant Recipient: | Colorado Division of Water Resources |
| Funding Source: | WSRF - South Platte Basin RT/Statewide Account |
| Water Activity Overview: (Please provide brief description of the proposed water activity (no more than 200 words). Include a description of the overall water activity and specifically what the WSRF funding will be used for. | |
| <p>This project would allow for the installation of a stage sensor, recorder and/or telemetry on 114 sites where measurement of water stage and discharge is needed to determine either In-Stream Flow or diversions into or out of a ditch, canal or reservoir. The locations of these structures include those on the main stem of the South Platte and its tributaries including Districts 1, 2, 3, 4, 5, 6, 7, 8, 9 and 80. Data loggers and telemetry have been set up on many major diversion structures downstream of Denver in prior cooperative projects between Northern Water, Lower South Platte Water Conservancy District, St. Vrain and Left Hand Water Conservancy District and the Division of Water Resources (DWR). The South Platte Basin Roundtable previously approved WSRA funding requests for \$48,800, \$46,000 and \$89,205 and the SPBRT, Metro and Statewide Account funded \$309,648 for data loggers and cellular telemetry. All equipment secured with this funding has been installed and is in successful operation. This application for funding is a continuation of the project started with this previous funding.</p> <p>Funds from this grant will be used to purchase equipment, materials and tools to install stage sensors and/or Telemetry on the identified structures. This equipment includes Logger, sensor, solar panel, antenna, modem, voltage regulator, battery, enclosure, wire, ground rod, concrete, and mast and all mounting brackets and necessary nuts, bolts, etc. As in-kind service, equipment will be installed in coordination with the various water users (Ditch Companies, Augmentation Plans, and Municipalities) and DWR. There are several sites where water users will be required to install infrastructure or provide modification of the site or ditch to guarantee accurate measurement; these costs range from \$1000 - \$40,000. In addition, DWR will work with the respective Water Commissioners to display current data on the DWR FTP site for sites without telemetry as requested by water users. Telemetry sites will be available for viewing on the DWR website with water users outside paying the \$6-\$10 monthly fee per site for cellular service.</p> <p>Data loggers allow for continuous water flow information for water users and water administrators and the more efficient use of administrative staff resources. This project will provide an excellent complement to the State's existing diversion and stream gage satellite program and is also complimentary to the work being done for the Colorado Decision Support System in obtaining better data concerning river flows and diversions and for the Accretion/Depletion Analysis Tool (ADAT) program which previously received a WSRA Statewide Grant.</p> | |
| | |



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Objectives: (List the objectives of the project)

The objectives of the Data Logger/Telemetry Installation Project:

Install sensors, recorders and telemetry on in-stream flow and measurement sites to allow near real time access to data. This will help with timely administration of water rights and assist with maintaining required flow through decreed in-stream flow sections of streams and exchange potential.

This data will be available on the Colorado Division of Water Resources website and available to water managers and the general public.

Near real time data will help identify the quantity of water during periods when unappropriated water is available and therefore help with maximizing the use of this water.

Tasks

Provide a detailed description of each task using the following format:

Task 1 - Order Equipment and Materials

Description of Task:

There are many individual parts and pieces involved with installing a data-logger/telemetry package with several different vendors involved. Orders for parts will be placed with several vendors out of State and local. Parts and tools will be ordered as needed to complete the tasks. This task may require using the State bidding process and also requesting a "Sole Source" designation for certain vendors. This process could take several months.

Method/Procedure: Order, invoicing delivery of equipment and materials following the State process.

Grantee Deliverable: (Describe the deliverable the grantee expects from this task)

Receipt of parts and equipment

CWCB Deliverable: (Describe the deliverable the grantee will provide CWCB documenting the completion of this task)



Last Update: January 9, 2018

| Tasks |
|--|
| Copies and documentation of invoices received for payment and request for payment will be submitted as required. |

| Tasks |
|--|
| Provide a detailed description of each task using the following format: |
| <u>Task 2 - Build Telemetry Box Enclosures</u> |
| Description of Task: This work will include installing all equipment needed in the enclosure. This includes installing backing panel then installing modem, voltage regulator and battery. Installing strain relief fitting trough the enclosure and building the wiring harness, including installing terminal ends. This requires attention to detail and is time consuming. Modems will have SIM cards installed and be programmed before deploying to the field for installation. This will require coordination with water users to purchase and activate the Sim card, collecting the SIM card, installing and programming. |
| Method/Procedure: Once equipment is received equipment will be installed into the telemetry enclosure making them ready for field installation. This will be done evenings and weekend until complete. |
| Grantee Deliverable: (Describe the deliverable the grantee expects from this task) Telemetry boxes ready to be installed in the field and modems programmed (if applicable) data loggers will be programmed and readied for installation in the field. |
| CWCB Deliverable: (Describe the deliverable the grantee will provide CWCB documenting the completion of this task) |



Last Update: January 9, 2018

| Tasks |
|--|
| Photographs of each completed box to be included in 6 month progress report. |

| Tasks |
|---|
| Provide a detailed description of each task using the following format: |
| Task 3 - Build Structures to mount field equipment |
| Description of Task: <p>This work will include building masts out of 2" galvanized pipe. This mast will hold the solar panel, antenna and enclosure and be set in concrete on site. A 10 foot section of pipe will be threaded on one end and a reducer installed to reduce the 2" pipe to 1", an 8 ' nipple will be installed with a cap on the top end. This will allow installation of the antenna. 90 of these need to be built.</p> <p>Cantilever will be built out of 2" square tubing to allow for a radar sensor to be installed and mounted at the in-stream flow monitoring sites. This tube will be cut and welded to length and reach needed for each specific site. An enclosure mounting bracket will be fabricated and install and all will be painted.</p> |
| Method/Procedure: <p>Once materials is received production of these will begin. The building of the masts and cantilevers will require pipe threading, cutting and welding of numerous parts. This will be done evenings and weekend until complete.</p> |
| Grantee Deliverable: (Describe the deliverable the grantee expects from this task) Masts and cantilevers completed for field installation. |
| CWCB Deliverable: (Describe the deliverable the grantee will provide CWCB documenting the completion of this task) |



Last Update: January 9, 2018

| Tasks |
|---|
| Photographs and documentation of completion to be included in 6 month progress report. |
| Tasks |
| Provide a detailed description of each task using the following format: |
| <u>Task 4 - Install equipment in Field</u> |
| Description of Task: This work will include installing all equipment in the field to include masts set in concrete, cantilevers set in concrete and installation of recorders, sensors, solar panels, antennas. Modems will be activated and set up to be polled by DWR software and added to our website. |
| Method/Procedure: Once equipment prep is complete, field installation will begin. |
| Grantee Deliverable: (Describe the deliverable the grantee expects from this task) Completed and active telemetry sites installed and data available on our website. |
| CWCB Deliverable: (Describe the deliverable the grantee will provide CWCB documenting the completion of this task) |



Last Update: January 9, 2018

| Tasks |
|---|
| Photographs of each completed site to be included in 6 month progress report. |
| Tasks |
| Provide a detailed description of each task using the following format: |
| <u>Task 5 - City of Boulder Open Space site work</u> |
| Description of Task: |
| This work will include cleaning of ditches and modifying approaches and stream riffles to assure accurate measurements. |
| Method/Procedure: |
| Boulder will have site work completed. |
| Grantee Deliverable: (Describe the deliverable the grantee expects from this task) |
| Good approach conditions and stream measurement site conditions to assure accurate rating and measurement, |
| CWCB Deliverable: (Describe the deliverable the grantee will provide CWCB documenting the completion of this task) |



Last Update: January 9, 2018

| Tasks |
|--|
| Photographs of completed sites to be included in 6 month progress report. |
| Provide a detailed description of each task using the following format: |
| <u>Task 6 - City of Boulder Public Works/ Ditch Company Flume Work</u> |
| Description of Task: |
| This work will include installation of a new measurement structure on both the Anderson and Farmers Ditch. |
| Method/Procedure: |
| Contractor will install new flumes. |
| Grantee Deliverable: (Describe the deliverable the grantee expects from this task) |
| New measurement structure to assure accurate measurement. Telemetry equipment will be installed once flume installation is complete. |
| CWCB Deliverable: (Describe the deliverable the grantee will provide CWCB documenting the completion of this task) |
| Photographs and documentation of completion in 6 month progress report. |
| |



Last Update: January 9, 2018

| Tasks | |
|--|--|
| <u>Task 7 - Xcel Energy Site work</u> | |
| Description of Task: | |
| This work will include removal and then installation of a measuring flume on the Lower Welman site. This will require substantial work, It will also include cleaning and contouring of the outlet to Leggett reservoir which will also require substantial excavation work. | |
| Method/Procedure: | |
| Xcel will have site work completed. | |
| Grantee Deliverable: (Describe the deliverable the grantee expects from this task) | |
| Good approach conditions and stream measurement site conditions to assure accurate rating and measurement, | |
| CWCB Deliverable: (Describe the deliverable the grantee will provide CWCB documenting the completion of this task) | |
| Photographs of completed sites to be included in 6 month progress report. | |

| Budget and Schedule |
|---------------------|
|---------------------|



Last Update: January 9, 2018

Budget and Schedule

Exhibit B - Budget and Schedule: This Statement of Work shall be accompanied by a combined [Budget and Schedule](#) that reflects the Tasks identified in the Statement of Work and shall be submitted to CWCB in excel format. A separate excel formatted Budget is required for engineering costs to include rate and unit costs.

Reporting Requirements

Progress Reports: The grantee shall provide the CWCB a progress report every 6 months, beginning from the date of issuance of a purchase order, or the execution of a contract. The progress report shall describe the status of the tasks identified in the statement of work, including a description of any major issues that have occurred and any corrective action taken to address these issues. The CWCB may withhold reimbursement until satisfactory progress reports have been submitted.

Final Report: At completion of the project, the grantee shall provide the CWCB a Final Report on the grantee's letterhead that:

- Summarizes the project and how the project was completed.
- Describes any obstacles encountered, and how these obstacles were overcome.
- Confirms that all matching commitments have been fulfilled.
- Includes photographs, summaries of meetings and engineering reports/designs.

Payments

Payment will be made based on actual expenditures, must include invoices for all work completed and must be on grantee's letterhead. The request for payment must include a description of the work accomplished by task, an estimate of the percent completion for individual tasks and the entire Project in relation to the percentage of budget spent, identification of any major issues, and proposed or implemented corrective actions.

The CWCB will pay the last 10% of the entire water activity budget when the Final Report is completed to the satisfaction of CWCB staff. Once the Final Report has been accepted, and final payment has been issued, the water activity and purchase order or contract will be closed without any further payment. Any entity that fails to complete a satisfactory Final Report and submit to CWCB within 90 days of the expiration of a purchase order or contract may be denied consideration for future funding of any type from CWCB.

Performance Requirements

Performance measures for this contract shall include the following:

(a) Performance standards and evaluation: Grantee will produce detailed deliverables for each task as specified. Grantee shall maintain receipts for all project expenses and documentation of the minimum in-kind contributions (if applicable) per the budget in Exhibit B. Per Grant Guidelines, the CWCB will pay out the last 10% of the budget when the final deliverable is completed to the satisfaction of CWCB staff. Once the final deliverable has been accepted, and final payment has been issued, the purchase order or grant will be closed without any further payment.

(b) Accountability: Per the Grant Guidelines full documentation of project progress must be submitted with each invoice for reimbursement. Grantee must confirm that all grant conditions have been complied with on each invoice. In addition, per the Grant Guidelines, Progress Reports must be submitted at least once every 6 months. A Final Report must be submitted and approved before final project payment.

(c) Monitoring Requirements: Grantee is responsible for ongoing monitoring of project progress per Exhibit A. Progress shall be detailed in each invoice and in each Progress Report, as detailed above. Additional inspections or field consultations will be arranged as may be necessary.

(d) Noncompliance Resolution: Payment will be withheld if grantee is not current on all grant conditions. Flagrant disregard for grant conditions will result in a stop work order and cancellation of the Grant Agreement.

**COLORADO**Colorado Water
Conservation Board

Department of Natural Resources

Colorado Water Conservation Board**Water Supply Reserve Fund****EXHIBIT B - BUDGET AND SCHEDULE - Direct & Indirect (Administrative) Costs****Date: 01/31/2020****Water Activity Name: Data Logger/Telemetry Installation Project, South Platte River Basin (Division 1)****Grantee Name: Colorado Division of Water Resources**

| <u>Task No.</u> ⁽¹⁾ | <u>Description</u> | <u>Start Date</u> ⁽²⁾ | <u>End Date</u> | <u>Matching Funds</u> (cash & in-kind) ⁽³⁾ | <u>WSRF Funds</u> (Basin & Statewide combined) ⁽³⁾ | <u>Total</u> |
|--------------------------------|---|----------------------------------|-----------------|--|--|------------------|
| <u>1</u> | Order equipment/Receive equipment | 4/30/2020 | 9/30/2021 | \$0 | \$290,000 | \$290,000 |
| 2 | Build Telemetry Boxes | 5/1/2020 | 10/31/2021 | \$9,050 | \$0 | \$9,050 |
| 3 | Build Structures to mount field equipment | 5/1/2020 | 11/30/2021 | \$8,000 | \$0 | \$8,000 |
| 4 | Install equipment in field | 6/1/2020 | 10/31/2023 | \$37,210 | \$0 | \$37,210 |
| 5 | City of Boulder Open Space site work | 6/1/2020 | 10/31/2022 | \$41,440 | \$0 | \$41,440 |
| 6 | City of Boulder Utilities/Ditch Company Flume w | 6/1/2020 | 10/31/2022 | \$47,950 | \$0 | \$47,950 |
| 7 | Xcel Energy Site work | 7/1/2020 | 10/31/2023 | \$46,000 | \$0 | \$46,000 |
| | | | | | | \$0 |
| | | | | | | \$0 |
| | | | | | | \$0 |
| | | | | | | \$0 |
| | | | | | | \$0 |
| | | | | | | \$0 |
| Total | | | | \$189,650 | \$290,000 | \$479,650 |

(1) The single task that include costs for Grant Administration must provide a labor breakdown (see Indirect Costs tab below) where the total WSRF Grant contribution towards that task does not exceed 15% of the total WSRF Grant amount.

(2) Start Date for funding under \$100K - 45 Days from Board Approval; Start Date for funding over \$100K - 90 Days from Board Approval.

(3) Round values up to the nearest hundred dollars.

• Additional documentation providing a Detailed/Itemized Budget may be required for contracting. Applicants are encouraged to coordinate with the CWCB Project Manager to determine specifics.

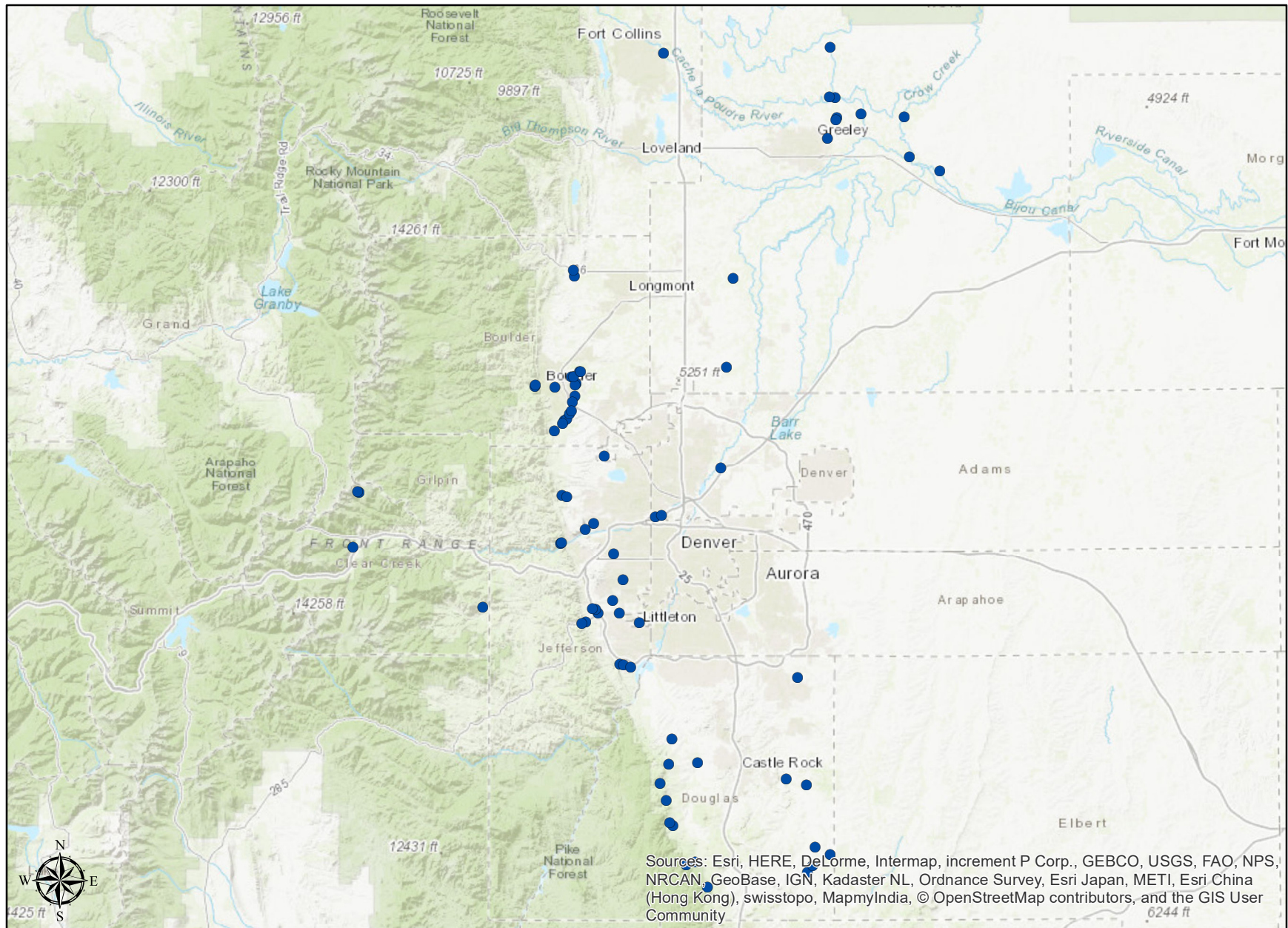
• Reimbursement eligibility commences upon the grantee's receipt of a Notice to Proceed (NTP)

• NTP will not be accepted as a start date. Project activities may commence as soon as the grantee enters contract and receives formal signed State Agreement.

The CWCB will pay the last 10% of the entire water activity budget when the Final Report is completed to the satisfaction of the CWCB staff project manager. Once the Final Report has been accepted, the final payment has been issued, the water activity and purchase order (PO) or contract will be closed without any further payment. Any entity that fails to complete a satisfactory Final Report and submit to the CWCB with 90 days of the expiration of the PO or contract may be denied consideration for future funding of any type from the CWCB.

• Additionally, the applicant shall provide a progress report every 6 months, beginning from the date of contract execution

• Standard contracting procedures dictate that the Expiration Date of the contract shall be 5 years from the Effective Date.



0 30
Miles

• Structures

South Platte Basin

Created on January 26, 2020



COLORADO
Division of Water Resources
Department of Natural Resources



City of Boulder Open Space & Mountain Parks

January 21, 2020

Colorado Water Conservation Board
Craig Godbout – SPRT Staff Liaison
1313 Sherman Street, Room 718
Denver, CO 80203

RE Water Supply Reserve Fund Grant Application for Data Logger/ Telemetry Installation Project, South Platte River Basin (Division 1) – In-Kind and Cash support

Dear Craig,

The City of Boulder Open Space and Mountain Parks program is pleased to provide in-kind support for the Division of Water Resources' (DWR) Data Logger/ Telemetry Installation Project.

The project will have many benefits. To name a few: The addition of telemetry will be incredibly useful to the water commissioners to understand flows available on a real-time basis to make better informed and more efficient administration decisions. Telemetry will help the various shareholders and managers of the ditch companies use and distribute their water rights to beneficial use more effectively. Remote locations will be tracked more effectively, and we are also excited about the prospect that we will be better able to track in-stream flows to help maintain the natural environment.

The City of Boulder Open Space and Mountain Parks Department is pledging the following in-kind and cash support for this project in 2020-2021:

IN-KIND

- S. Boulder Creek- Shearer Ditch – Backhoe work to remove sediment from approach channel and headgate. Staff
 - **\$960.00**
- S. Boulder Creek - Shearer Ditch – Cleanout of vegetation growing into flume and clearing upstream and downstream sections. Staff
 - **\$ 1,500.00**
- Coal Creek- Eggleston 4 – Significant Backhoe work down ditch to alleviate and assure no backwater and flume submergence. Contractor
 - **\$6,500.00**
- Coal Creek- Eggleston 4 – Brush removal down ditch of piped section to assure no backwater. Staff
 - **\$2,880.00**
- Coal Creek - Eggleston 1 – Clearing of sediment from section downstream of flume to mitigate backwater flows. Staff
 - **\$400**
- S. Boulder Creek- Multiple in-channel gages – Rating curves for new gaging sites. Staff
 - **\$19,200**
- **TOTAL IN-KIND = \$31,440.00**

CASH MATCH

- 2020 - \$5,000
- 2021 - \$5,000
- **TOTAL CASH MATCH = \$10,000**

We look forward to working with Brent Schantz and DWR on this project.

If you have any questions, please reach me using the contact information provided below.

Sincerely,



Amy Willhite
Water Resources Administrator



City of Boulder
Open Space & Mountain Parks

C: 720-591-5037

WillhiteA@bouldercolorado.gov

2520 55th St | Boulder, CO 80301

bouldercolorado.gov



City of Boulder Public Works – Utilities Division

January 24, 2020

Colorado Water Conservation Board
Craig Godbout – SPRT Staff Liaison
1313 Sherman Street, Room 718
Denver, CO 80203

RE Water Supply Reserve Fund Grant Application for Data Logger/Telemetry Installation Project, South Platte River Basin (Division 1) – In-Kind and Cash support

Dear Craig,

The City of Boulder Public Works-Utilities division is pleased to provide in-kind support for the Division of Water Resources' (DWR) Data Logger/Telemetry Installation Project. The project will have many benefits to Utilities. The addition of telemetry to several of the Instream Flow Program gages that we maintain will help us to understand flows on a real-time basis and inform our coordination with the Water Commissioner and other water users in an efficient manner. Adding telemetry to the diversion structures on ditches with which we work frequently will help us to understand impacts to the creek informing instream flow administration, as well as potential maintenance responsibilities for our stormwater crews who share maintenance with ditch companies.

Utilities is pledging the following in-kind support:

- Boulder Creek at Broadway - \$2,948 for contractor maintenance of existing sensor and telemetry (assumes that this gage would continue to use existing telemetry and that data would be transmitted to the state website as part of this project).
- Utilities staff maintain rating curves at all five Boulder Creek instream flow gages, some of which are identified for upgrades under this grant application, and collaborates with Open Space and Mountain Parks on maintenance of rating curves at South Boulder Creek instream flow gages. Those in-kind contributions of staff time are shown in Open Space and Mountain Parks' letter of support.

We look forward to working with Brent Schantz and DWR on this project.

A handwritten signature in blue ink that reads "Kim Hutton".

Kim Hutton, Acting Water Resources Manager, City of Boulder Public Works - Utilities



January 28, 2020

Colorado Water Conservation Board
Craig Godbout – SPRT Staff Liaison
1313 Sherman Street, Room 718
Denver, CO 80203

RE Water Supply Reserve Fund Grant Application for Data Logger/Telemetry Installation Project, South Platte River Basin (Division 1) – In-Kind and Cash support

Dear Craig,

The Farmers Ditch Company is pleased to provide in-kind support for the Division of Water Resources' (DWR) Data Logger/Telemetry Installation Project. The addition of a Sutron Stage Discharge Recorder and Telemetry Equipment to the flume will help us to understand flows on a real-time basis and inform our operations, coordination with the Water Commissioner and deliveries to our shareholders in an efficient manner.

Anderson is pledging the following in-kind support:

- \$20,000 for flume upgrades. This work is currently scheduled to occur during winter 2020. We expect the work to be complete by the time the telemetry project would be ready to begin installation.

We look forward to working with Brent Schantz and DWR on this project.

Sincerely,

Joanna Bloom
President
Farmers Ditch Company
PO Box 119 Longmont, CO 80501
303-441-4251
farmersditchmaintenance@gmail.com



Water Resources
1800 Larimer St, STE 1300
Denver, CO 80202

January 21, 2020

Mr. Craig Godbout
South Platte Basin Roundtable Liaison
Colorado Water Conservation Board
1313 Sherman Street, Room 718
Denver, Colorado 80203

RE: Data Logger/Telemetry Installation Project, South Platte River Basin (Division 1)

Dear Craig,

Xcel Energy is working with the Division 1 Engineer's Office (DEO) to implement real-time flow measurement on several of its facilities in Water District 6 to support the DEO's initiative to extend this capability further throughout the South Platte Basin. Specifically, Xcel Energy intends to make repairs and to work with the DEO to install measurement equipment, data loggers, and make necessary repairs or improvements to existing, Company-owned measurement structures in support of this project in the estimated amount of at least \$46,000 as an in-kind contribution to the State's grant requests.

- Replacement of the Lower Wellman measurement structure (\$40,000)
- Rehabilitation of Valmont Reservoir's Leggett Outlet (\$5,000)
- Improvements to the existing measurement structure at Valmont Reservoir's Leggett Inlet (\$1,000)

These costs are presently included in Xcel Energy's capital budget and we anticipate that they will be completed within the next 3 years.

Please let me know if you need additional information.

Sincerely,

Richard L. Belt, P.E., P.H.
Water Resources Team Lead

Direct Line: 303.294.2198
Richard.L.Belt@xcelenergy.com

ANDERSON DITCH COMPANY

1739 BROADWAY, SECOND FLOOR, BOULDER, CO 80302 · 303-441-4334

January 24, 2020

Colorado Water Conservation Board
Craig Godbout – SPRT Staff Liaison
1313 Sherman Street, Room 718
Denver, CO 80203

RE Water Supply Reserve Fund Grant Application for Data Logger/Telemetry Installation Project, South Platte River Basin (Division 1) – In-Kind and Cash support

Dear Craig,

The Anderson Ditch Company is pleased to provide in-kind support for the Division of Water Resources' (DWR) Data Logger/Telemetry Installation Project. The addition of telemetry to Anderson's flume will help us to understand flows on a real-time basis and inform our operations, coordination with the Water Commissioner and deliveries to our shareholders in an efficient manner.

Anderson is pledging the following in-kind support:

- \$25,000 for flume upgrades. This work is currently scheduled to occur during winter 2020. We expect the work to be complete by the time the telemetry project would be ready to begin installation.

We look forward to working with Brent Schantz and DWR on this project.

Sincerely,



Kim Hutton
President
Anderson Ditch Company