Water Supply Reserve Fund
Water Activity Summary Sheet
January 28, 2019
Agenda Item 8(d)

Applicant & Grantee:	Mosca-Hooper Conservation District
Water Activity Name:	SLV Recharge Optimization Pilot Project
Water Activity Purpose:	Agricultural Study
County:	Alamosa
Drainage Basin:	Alamosa
Water Source:	Alamosa unconfined aquifer
Amount Requested:	$43,100 Rio Grande Basin Account
Matching Funds:	Applicant Match (cash & in-kind) = $34,265 • 79.5% of the statewide request (meets 25% min) • 44.3% of the total project cost of $77,365

Staff Recommendation:
Staff recommends approval of up to $43,100 from the Rio Grande Basin Account to fund the project titled: SLV Recharge Optimization Pilot Project.

Water Activity Summary: WSRF grant funds, if approved, will assist Mosca-Hooper Conservation District to initiate a pilot hydrogeology study to inform groundwater modeling in the San Luis Valley. Funds for this pilot project will be used within the unconfined aquifer system of Alamosa County as a township-scale proof-of-concept project for geophysical aquifer feature mapping with electrical resistivity technology. This mapping technology is used extensively in other regions of the U.S.A., but to date has not been tested within the San Luis Valley. Unique features of the work proposed involve integrating electrical resistivity mapping of the depths of clay lenses and other potential physical barriers to groundwater recharge into regional groundwater recharge modeling and site-specific recharge management. This work will map depths from 5 feet to 40 feet below soil surface, a zone about which little is known in the region, but the zone through which intended recharge water must travel before meeting the saturated media of the unconfined aquifer. The mapping is intended to locate site-specific differences in impediments to recharge – information useful to water managers to allow surface water to be routed to locations where recharge has the greatest potential.

Discussion: As described in the Rio Grande Roundtable chair's recommendation letter, this project was supported and recommended for approval on October 9, 2018. This project assists in satisfying Colorado's Water Plan Critical Goals and Actions as identified in Chapter 10.3, *D. Agriculture*, in helping to sustain a productive economy that supports viable and productive agriculture while promoting water management and administrative practices that are adaptive, flexible, and responsive to optimize multiple benefits. Building these data sets for a large area is critical in the understanding of groundwater re-sources and can be used to establish a long-term education and outreach effort for water use and needs in the San Luis Valley/Rio Grande Basin.

This project addresses the dual problems of both preserving the existing groundwater resources and attempting to restore these re-sources by generating novel geophysical data sets paired with existing public information. As of 2012, San Luis Valley water users have been mandated by the State of Colorado to achieve recharge in aquifer systems to the point of reaching State-defined sustainable water levels by the year 2032. To accomplish this task valley-wide, in excess of 600,000 acre-feet of water will need to be recharged into the unconfined aquifer systems of the region to meet this requirement during the remaining 12 years of the recovery period. Should recharge not meet the required amount, use of wells for irrigation could be restricted severely by the State.

Issues/Additional Needs: No additional needs have been identified.

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

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

Funding Summary / Matching Funds:

Funding Source	**Cash**	**In-Kind**	**Total**
MillerCoors	$10,000	$0	$10,000
Soil Health Services Inc	$0	$4,000	$4,000
Colorado State Conservation Board	$20,265	$0	$20,265
Subtotal	$30,265	$4,000	$34,265
WSRF Rio Grande Basin Account	$43,100	n/a	$43,100
Totals	**$73,365**	**$4,000**	**$77,365**

CWCB Project Manager: Megan Holcomb

Rio Grande Basin Roundtable
623 Fourth Street
Alamosa, CO 81101
cwcd1971@hotmail.com

October 11, 2018

Becky Mitchell and CWCB Board of Directors
Colorado Water Conservation Board
1313 Sherman St., Room 721
Denver, CO 80203

Re: WSRF Application for the San Luis Valley (SLV) Recharge Optimization Pilot Project

Dear Ms. Mitchell,

On behalf of the Rio Grande Basin Roundtable (Roundtable), please accept this letter of support for the SLV Recharge Optimization Pilot Project sponsored by the Mosca-Hooper Conservation District (MHCD) in Alamosa County. This Water Supply Reserve Account Application was first presented as an idea to the executive committee in July of 2017, and after extensive existing data compiling and review by MHCD, local water experts, and Zeigler Geologic, it was presented and evaluated by the voting members at the September 11, 2018 Roundtable meeting. To give voting members more time to study the project, the vote occurred at the October 9, 2018 meeting. It was approved unanimously by voting members with one member abstaining over lack of e-log data he felt important to the project. He did offer to help with that, which MHCD fully intends to utilize.

The Roundtable recognizes that to meet the State-defined sustainable water levels by the year 2032, more than 600,000 acre-feet of water in the unconfined aquifer alone will need to be recharged into the aquifer systems of the region during the remaining 12 years of the recovery period. Should recharge not meet the required amount, use of wells for irrigation could be restricted severely by the State. This will have a profound effect on farmers and the local economy. The primary focus of the project is to try to find the best recharge locations for the quickest, most impactful aquifer recovery. The focus is to help sustain a productive economy that supports viable and productive agriculture vital to our vibrant community while promoting water management and administrative practices that are adaptive, flexible, and responsive to optimize multiple benefits. The SLV Recharge Optimization Pilot Project meets the following Rio Grande Basin Implementation Plan goals:

1. **A productive economy that supports vibrant and sustainable cities, viable and productive agriculture**, and a robust skiing, recreation, and tourism industry

2. Promote water management and administrative practices that are adaptive, flexible, and responsive to optimize multiple benefits.

3. Manage water use to sustain optimal agricultural economy throughout the Basin's communities.

4. Establish a long-term education and outreach effort for water use and needs in the San Luis Valley/Rio Grande Basin.

5. Protect, preserve, and/or restore the sustainability of the Rio Grande Basin watersheds by focusing on watershed health and ecosystem function.

6. Sustain the confined and unconfined aquifers in accordance with Senate Bill 04-222 and operate within the State Engineer's new Rules and Regulations for the San Luis Valley.

In addition to meeting many of the Rio Grande Basin goals, this project aligns with the Colorado Water Plan's policy to identify and implement projects to meet community and agricultural water needs.

Thank you for your time and consideration of this application.

Sincerely,

Nathan Coombs

Nathan Coombs
Chair, Rio Grande Basin Roundtable

Invoice

101 S. Craft Dr. | Alamosa, CO 81101

Date: September 24, 2018

To
MillerCoors
250 S. Wacker Dr.
Chicago, IL, 60606

Salesperson	Job	Payment Terms	Due Date
Baily	CSCB Aquifer Grant Match		

Qty	Description	Unit Price	Line Total
	Geophysical Imaging		
	Equipment Rental		$2,250
	Shipping		$2,500
	Mobilization/Demobilization		$3,000
	Data Access, Outreach & Education		
	Data Management/Visualization		$1,800
	Liability Insurance		$450

PAID IN FULL 10/3/18

Subtotal	$10,000
Sales Tax	
Total	**$10,000**

Make all checks payable to Mosca-Hooper Conservation District

Thank you for your business!

MillerCoors

MOSCA-HOOPER CONSERVATION DISTRICT
101 S CRAFT DR
ALAMOSA CO 81101

Document	Invoice	Date	Deductions	Gross amount
1900001077	1000000	09/24/2018	0.00	10,000.00
Call party	EVY x3052	MOSCA HOOPER CONSERVATION		

Payment document	Check number	Date	Currency	Payment amount
2000034058	108000384	10/03/2018	USD	********10,000.00*

STATE OF COLORADO

Department of Agriculture

ORDER

Number: POGG1,BCAA,201900002329

Date: 10/11/18

Description:

Mosca-Hooper 2019 MG

Effective Date: 01/01/19 **Expiration Date:** 11/20/19

********IMPORTANT********

The order number and line number must appear on all invoices, packing slips, cartons, and correspondence. Please review each line for its corresponding shipping/ billing address and delivery instructions.

BUYER

Buyer:

Email:

VENDOR

MOSCA HOOPER CONSERVATION DIST
101 S CRAFT DR
ALAMOSA, CO 81101

Contact: Kelley Baily

Phone: (719) 937-2478

EXTENDED DESCRIPTION

2019 Matching Grant

Line Item	Commodity/Item Code	UOM	QTY	Unit Cost	Total Cost	MSDS Req.
1	G1000		0	0.00	$20,264.00	☐

Description: Mosca-Hooper 2019 MG STAX

Grant work per attached SOW, incorporated by this reference

Service From: 01/01/19 Service To: 11/20/19

Ship To:	Bill To:
Colorado Department of Agriculture	ACCOUNTS PAYABLE AGRICULTURE
305 Interlocken Parkway	305 Interlocken Parkway
Broomfield, CO 80021	Broomfield, CO 80021

Line Item	Commodity/Item Code	UOM	QTY	Unit Cost	Total Cost	MSDS Req.
2	G1000		0	0.00	$1.00	☐

Description: Mosca-Hooper 2019 MG GF

Grant work per attached SOW, incorporated by this reference

Service From: 01/01/19 Service To: 11/20/19

Ship To:	Bill To:
Colorado Department of Agriculture	ACCOUNTS PAYABLE AGRICULTURE
305 Interlocken Parkway	305 Interlocken Parkway
Broomfield, CO 80021	Broomfield, CO 80021

TERMS AND CONDITIONS

https://www.colorado.gov/pacific/osc/small-dollar-grant-award-terms-conditions

STATE OF COLORADO

Department of Agriculture

DOCUMENT TOTAL = $20,265.00

Form **W-9**
State of Colorado
Substitute rev.0415

Request for Taxpayer Identification Number and Certification

Give Form to the requester. Do not send to the IRS.

Print or type
See **Specific Instructions** on page 2.

Name (as shown on your income tax return)
MOSCA-HOOPER CONSERVATION DISTRICT

Business name/disregarded entity name, if different from above

Check appropriate box for federal tax classification:

Individual/Sole Proprietor or single member LLC | C Corporation | S Corporation | Partnership | Trust/estate

Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=partnership) ▸

Note. For a single-member LLC that is disregarded, do not check LLC; check the appropriate box in the line above for the tax classification of the single-member owner.

Other (see instructions) ▸ Government

Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):
Exempt payee code (if any)_____
Exemption from FATCA reporting code (if any)_____
(Applies to accounts maintained outside the U.S.)

Address (number, street, and apt. or suite no.)
101 S. CRAFT DR.

Purchase Order address if different (optional)

City, state, and ZIP code
ALAMOSA CO 81101

List account number(s) here (optional)

Contact name
Kelley Baily

Contact Email
moscahoopercd1@gmail.com

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on the "Name" line to avoid backup withholding. For individuals, this is your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3.

Note. If the account is in more than one name, see the chart on page 4 for guidelines on whose number to enter.

Social security number

Employer identification number
84-1084364

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me), and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding, and
3. I am a U.S. citizen or other U.S. person (defined below), and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 3.

Sign Here | **Signature of U.S. person** ▸ | **Date** ▸

Have you ever worked for the State of Colorado? ☐ Yes No

Have you ever worked for a PERA Employer? ☐ Yes No

Business Types (check all that apply):

- [x] CO Location/HQ in CO
- [ ] CO Location/HQ out of CO
- [ ] No CO Location/HQ in US
- [ ] No CO Location/HQ out of US
- [x] Has Paid Compensation Tax
- [ ] Has Not Paid Compensation Tax
- [ ] African American
- [ ] Asian Pacific American
- [ ] Subcontinent Asian American
- [ ] Hispanic American
- [ ] Native American
- [ ] CDOT Certified Emerging Small Business
- [ ] CDOT Certified Disadvantaged Small Business
- [ ] Women Owned
- [ ] Woman Business Enterprise
- [ ] Veteran Owned
- [ ] Disabled Vet Business Enterprise
- [ ] Disadvantaged Veteran Enterprise
- [ ] Service Disabled Veteran
- [ ] Vietnam Veteran
- [ ] Veteran Business Enterprise
- [ ] Disadvantaged Business Enterprise
- [ ] Small Disadvantaged Business
- [ ] Disabled Owned
- [ ] 8(A) Designation
- [ ] HUBZone Certified
- [ ] Labor Surplus
- [ ] Historical Black Colleges & Universities
- [ ] Small Business
- [ ] Airport Concession Disadvantaged Business

COLORADO
Colorado Water Conservation Board
Department of Natural Resources

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	**Gunnison | North Platte | South Platte | Yampa/White**	**Colorado | Metro | Rio Grande | Southwest**
Ben Wade	Craig Godbout	Megan Holcomb
ben.wade@state.co.us	craig.godbout@state.co.us	megan.holcomb@state.co.us
303-866-3441 x3238	303-866-3441 x3210	303-866-3441 x3222

WSRF Submittal Checklist (Required)	
X	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) *(Word – see Template)*
X	Exhibit B: Budget & Schedule(2) *(Excel Spreadsheet – see Template)*
X	Letters of Matching and/or Pending 3rd Party Commitments(2)
	Map(2)
	Photos/Drawings/Reports
	Letters of Support

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Contracting Documents[3]	
	Detailed/Itemized Budget[3] *(Excel Spreadsheet – see Template)*
	Certificate of Insurance[4] *(General, Auto, & Workers' Comp.)*
	Certificate of Good Standing[4]
	W-9 Form[4]
	Independent Contractor Form[4] *(If applicant is individual, not company/organization)*
	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.

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:	November 2018
Desired Notice to Proceed Date:	December 2018

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Water Activity Summary	
Name of Applicant	Mosca-Hooper Conservation District
Name of Water Activity	SLV Recharge Optimization Pilot Project

Approving Roundtable(s)	Basin Account Request(s)[1]
Rio Grande	$ 43,100
Basin Account Request Subtotal	$ 43,100
Statewide Account Request[1]	$ 0
Total WSRF Funds Requested (Basin & Statewide)	$ 43,100
Total Project Costs	$ 77,400

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

Grantee and Applicant Information	
Name of Grantee(s)	Mosca-Hooper Conservation District
Mailing Address	101 S. Craft Dr., Alamosa, CO 81101
FEIN	84-1084364

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Grantee and Applicant Information	
Grantee's Organization Contact(1)	Patrick O'Neill
Position/Title	Board Supervisor
Email	kpjoneill@gmail.com
Phone	719-588-0836
Grant Management Contact(2)	Kelley Baily
Position/Title	Manager
Email	Moscahoopercd1@gmail.com
Phone	303-880-6135
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).

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Description of Grantee
Mosca-Hooper Conservation District works for constructive land use providing for the conservation and preservation of natural resources, including adequate underground water reserves, building soil health while reducing soil erosion, coordinating with noxious weed control efforts, and reducing damage from floods and bare soil. The Mosca-Hooper Conservation District (MHCD) was formed as part of the Act in 1943 and encompasses the lands of Alamosa County. The board of supervisors serves local producers, small acre landowners, and various agricultural entities throughout the region. The District employs one highly skilled part-time district manager and has five publicly elected board supervisors.

Type of Eligible Entity (check one)	
	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.
X	**Public (Districts):** authorities, Title 32/special districts (conservancy, conservation, and irrigation districts), and water activity enterprises
	Private Incorporated: mutual ditch companies, homeowners associations, corporations
	Private Individuals, Partnerships, and Sole Proprietors: are eligible for funding from the Basin Accounts but not for funding from the Statewide Account.
	Non-governmental organizations: broadly, any organization that is not part of the government
	Covered Entity: as defined in Section 37-60-126 Colorado Revised Statutes

Type of Water Activity (check one)	
X	Study
	Implementation

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Category of Water Activity (check all that apply)		
	Nonconsumptive (Environmental)	
	Nonconsumptive (Recreational)	
X	Agricultural	
	Municipal/Industrial	
	Needs Assessment	
	Education & Outreach	
	Other	Explain:

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	Alamosa
Latitude	37.7935
Longitude	-106.1248

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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.
Mosca-Hooper Conservation District will begin a pilot hydrogeology study with Zeigler Geologic Consulting, LLC to complement information informing groundwater modeling in our region. Funds for this pilot project will be used within the unconfined aquifer system of Alamosa County as a township-scale proof-of-concept project for geophysical aquifer feature mapping with electrical resistivity technology. This mapping technology is used extensively in other regions of the U.S.A., but to date has not been tested within the San Luis Valley. Unique features of the work proposed involve integrating electrical resistivity mapping of the depths of clay lenses and other potential physical barriers to groundwater recharge into regional groundwater recharge modeling and site-specific recharge management. This work will map depths from 5' to 40' below soil surface, a zone about which little is known in our region, but through which our intended recharge water must travel before meeting the saturated media of the unconfined aquifer. The mapping is intended to locate site-specific differences in impediments to recharge, information useful to water managers to allow surface water to be routed to locations where recharge has least impediments and greatest potential efficiency, effectively to hone in on optimal recharge "sweet spots".

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)

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Measurable Results		
	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	A process for discovering most efficient groundwater recharge locations with applicability to multiple water users

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).

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Water Activity Justification

The primary focus of the project is to try to find the best recharge locations for the quickest, most impactful aquifer recovery. Our focus is to help sustain a productive economy that supports viable and productive agriculture vital to our vibrant community [1] while promoting water management and administrative practices that are adaptive, flexible, and responsive to optimize multiple benefits.[2]

Building these data sets for a large area is critical for our understanding of groundwater resources and can be used to establish a long-term education and outreach effort for water use and needs in the San Luis Valley/Rio Grande Basin.[3] This project addresses the dual problems of both preserving the existing groundwater resources and attempting to restore these resources[4] by generating novel geophysical data sets paired with existing public information on local aquifer systems to identify effective locations within the landscape to introduce surface water to recharge aquifer system(s). As of 2012, San Luis Valley water users have been mandated by the State of Colorado to achieve recharge in aquifer systems to the point of reaching State-defined sustainable water levels by the year 2032. To accomplish this task valley-wide, in excess of 600,000 acre-feet of water will need to be recharged into the unconfined aquifer systems of the region to meet this requirement during the remaining 12 years of the recovery period. Should recharge not meet the required amount, use of wells for irrigation could be restricted severely by the State.

We believe we can make progress toward meeting applicable water quality standards throughout the Basin[5] by gaining and sharing this important information.

References

1. "Basin Plan" 1.1 : STATE WATER PLAN PROCESS p. 11. Retrieved 8.28.2018.
2. "Basin Plan" 3.10 : GOALS p. 59. Retrieved 8.28.2018.
3. "Basin Plan" 3.8 : GOALS p. 59. Retrieved 8.28.2018.
4. "Basin Plan" 3.1 : GOALS p. 58. Retrieved 8.28.2018.
5. "Basin Plan" 3.9 : GOALS p. 58. Retrieved 8.28.2018.

(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)
MillerCoors	$10,000 cash
Soil Health Services, Inc	$ 4,000 in-kind
Colorado State Conservation Board	$20,265 cash
Total Match	$34,265
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):

Last Update: July 31, 2018

Matching Requirements: Statewide Account Requests	
Total Match	$
If you requested a Waiver to the Statewide Account matching, indicate % you wish waived. (Max 50% reduction of requirement).	

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.

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

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Previous CWCB Grants

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.
No TABOR issues anticipated.

Last Update: January 9, 2018

Colorado Water Conservation Board	
Water Supply Reserve Fund	
Exhibit A - Statement of Work	
Date:	**10 Sep 2018**
Water Activity Name:	**SLV Recharge Optimization Pilot Project**
Grant Recipient:	**Mosca-Hooper Conservation District**
Funding Source:	**Basin 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.

Mosca-Hooper Conservation District will begin a pilot hydrogeology study with Zeigler Geologic Consulting, LLC to complement information informing groundwater modeling in our region. WSRF funds for this pilot project will be used to deploy geophysical aquifer feature mapping with electrical resistivity technology within the unconfined aquifer system underlying Alamosa County as a township-scale proof-of-concept project. This mapping technology is used extensively in other regions of the U.S.A., but to date has not been deployed within the San Luis Valley. Unique features of the work proposed involve integrating electrical resistivity mapping of the depths of clay lenses and other potential physical barriers to groundwater recharge into regional groundwater recharge modeling to allow site-specific recharge management. This work will map depths from 5' to 40' below soil surface, a zone about which little is known in our region, but through which our intended recharge water must travel before meeting the saturated media of the unconfined aquifer. The mapping is intended to locate site-specific differences in impediments to recharge, information useful to water managers to allow surface water to be routed to locations where recharge has least impediments and greatest potential efficiency, effectively to hone in on optimal recharge "sweet spots".

Objectives: (List the objectives of the project)

- **Utilize existing groundwater recharge information, data sets, and local expertise to develop novel geophysical data and actionable information**
- **Map intensively the geophysical parameters of a township-scale study area, by combining traditional geological physical & chemical survey techniques, novel geophysical electrical resistivity imaging, and ground-truthing with monitoring well development within the study area**
- **Demonstrate the scalability of the aforementioned approach for identifying re-charge "sweet spots" across the groundwater management region**
- **Increase awareness among landowners, water users, public officials and water administrators regarding recharge potential and the utility of coordinating re-charge efforts**
- **Collaborate with local authorities, surface water, and groundwater users groups to facilitate targeted and impactful groundwater recharge**

Tasks
Provide a detailed description of each task using the following format:
Task 1 – Geologic Information
Description of Task: Geologic reconnaissance of targeted array sites
Geologic Information about the target area and its surroundings, including subsurface data. Groundwater is stored in and transmitted through porous and permeable rock types. It is important to know the geologic units present both at the surface and in the subsurface in order to know which rock units will be acting as aquifers and which may present barriers to groundwater flow. In addition, faulting, folding and paleotopography in the subsurface may cause aquifer units to occur at unexpected depths or be cut off from potential recharge. Anticipating where restrictive barriers exist (e.g. extent and shape of clay lenses) can aid in locating optimal groundwater recharge locations.
Method/Procedure: Survey of existing geologic data sets, interviews with landowners and well drillers, site visits for discovery of pertinent physical features of the study area and its surroundings

Last Update: January 9, 2018

Tasks
Review of geologic and hydrologic data publicly available will be continued. Interviews with landowners and well drillers active within the study area will be undertaken to gather detailed data on formation composition and site-specific characteristics relative to groundwater recharge potential. Site visits to determine geologic features potentially impactful to the quality of imagery generated by the electrical resistivity equipment to be deployed.
Grantee Deliverable: (Describe the deliverable the grantee expects from this task)
Documentation of site's known and assessed characteristics based on geologic and hydrologic resources prior to geophysical electrical resistivity imaging equipment deployment.
CWCB Deliverable: (Describe the deliverable the grantee will provide CWCB documenting the completion of this task)
Understanding of the basis for site selection for geophysical equipment deployment within an unconfined aquifer system.

Tasks
Provide a detailed description of each task using the following format:
Task 2 – Geophysical Imaging & Development of Monitoring Wells
Description of Task: Electrical resistivity equipment rental, deployment, data processing, report preparation relating geophysical imaging approach; Development of monitoring wells to ground-truth the novel geophysical approach

Last Update: January 9, 2018

Tasks
Generation of geophysical imaging, utilizing highly specialized and very precise electrical resistivity equipment, will consume the grand majority of the project budget. The equipment rental, and the data collection and processing, are high-cost per field deployment, but also potentially high-impact expenditures. Completion of Task 1 is a critical component in refining the exact locations for the electrical resistivity equipment deployment. This will be paired with the drilling of monitoring wells within the study area to allow ground-truthing of the clay lenses imaged, and to allow monitoring of impact on aquifer static water levels when surface water is directed to the study area for recharge.
Method/Procedure: Electrical resistivity imaging; Well drilling utilizing split-spoon or other appropriate technology
Survey results from Task 1 will inform geophysical team where, within the township-scale study area, to locate the arrays of electrical sensors that will generate return-time data, to process into imagery depicting the location, thickness and extent of clay lenses from the 5' – 40' depths. Monitoring wells will be drilled utilizing split-spoon drilling or other similarly appropriate technology to allow cuttings from known depths to be extracted and logged, for comparison with the electrical resistivity out-put. These wells will further be used for monitoring of localized aquifer recharge events.
Grantee Deliverable: (Describe the deliverable the grantee expects from this task)
Imagery useful for placement and shape of recharge structures. Validation of capacity and utility with which electrical resistivity imaging can predict presence of impediments to water movement through the 5' – 40' zone, through comparison with drill cuttings and the known properties of these materials.
CWCB Deliverable: (Describe the deliverable the grantee will provide CWCB documenting the completion of this task)
Understanding the utility of this methodology for locating buried features on a landscape which could influ-ence water recharge capacity on a site-specific basis.

Tasks
Provide a detailed description of each task using the following format:
Task 3 – Figures, Maps, Outreach & Education
Description of Task: Development of information from the data generated in the pilot project in media and formats accessible to general and specific audiences
Making accessible groundwater function information specific to what is currently understood about in-flow/outflow modeling, and what is to be learned from the targeted recharge approach evaluated herein, is a critical component of this project. Land managers, water users, administrators, local public officials, and residents of the region, all grapple with understanding how water moves between the soil surface and aquifer systems. Developing accessible figures, maps, outreach and educational materials and the means by which to navigate this data to generate informed decision-making and understanding for those engaging questions of water use and aquifer recharge.
Method/Procedure: Geographic information system to inform development of an interactive website; Public meeting presentations
Compilation of data from the study into publicly-meaningful formats. Website development to allow interactive access of data from the study, incorporating base layers of other pertinent public data for integration. Public presentations by the Mosca-Hooper Conservation District and its project partners to the Rio Grande Roundtable and to other interested audiences within our region.
Grantee Deliverable: (Describe the deliverable the grantee expects from this task)
Media and interactive website for use locally and regionally when interacting with the public regarding aquifer function, relative to targeted recharge.
CWCB Deliverable: (Describe the deliverable the grantee will provide CWCB documenting the completion of this task)

Last Update: January 9, 2018

Tasks
Same as aforementioned, as a case-study example from the San Luis Valley.

Tasks
Provide a detailed description of each task using the following format:
Task 4 – Grant Administration
Description of Task: Contractor management and reporting of results
Mosca-Hooper Conservation District Manager will oversee timelines, contractor engagement and activity, and required reporting from outset to completion of the pilot project.
Method/Procedure: Administrative staff to implement project management
Mosca-Hooper Conservation District's manager is a highly capable, very effective communicator and project manager. Clear expectations, timelines, budget management and report writing are all strong skills possessed by the manager.
Grantee Deliverable: (Describe the deliverable the grantee expects from this task)

Last Update: January 9, 2018

Tasks
Well-administered project with accompanying reporting to relate allocation of resources and findings.
CWCB Deliverable: (Describe the deliverable the grantee will provide CWCB documenting the completion of this task)
Same as aforementioned, to accompany regional case-study from the San Luis Valley.

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

Last Update: January 9, 2018

Reporting Requirements

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.

Last Update: July 31, 2018

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: 10 Sep 2018

Water Activity Name: SLV Recharge Optimization Pilot Project

Grantee Name: Mosca-Hooper Conservation District

Task No.[1]	Description	Start Date[2]	End Date	Matching Funds (cash & in-kind)[3]	WSRF Funds (Basin & Statewide combined)[3]	Total
1	**Geologic Background**					
	Geologic reconnaissance of targeted					
	array sites	01 Feb 2019	15 Apr 2019	$ 3,800.00	$0	$3,800
2a	**Geophysical Imaging**					
	Equipment rental, deployment, data					
	processing, report preparation	15 Apr 2019	15 Oct 2019	$ 22,800.00	$22,800	$45,600
2b	**Monitoring Wells**					
	Well permits & drilling	15 Apr 2019	15 Oct 2019	$ -	$9,800	$9,800
3	**Figures, Maps, Outreach & Education**					
	GIS/educational items, website					
	maintenance, results outreach & education	15 Apr 2019	15 Nov 2019	$ 6,600.00	$4,900	$11,500
4	**Grant Administration**					
	Contractor management, reporting	01 Feb 2019	01 Dec 2019	$ 1,065.00	$5,600	$6,665
			Total	$34,265	$43,100	$77,400

(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 futher 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.

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

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