



COLORADO

**Colorado Water
Conservation Board**

Department of Natural Resources
1313 Sherman Street, Room 718
Denver, CO 80203

**WSRF Grant – South Platte – Boulder Creek
Watershed Quality Sampling – POGG1 2020-3085**

May 4, 2020

Four Mile Fire Protection District
Attn: Bret Gibson, Fire Chief
1740 Fourmile Canyon Dr.
Boulder, CO 80302

Dear Grantee:

We are pleased to inform you that the Colorado Department of Natural Resources, Colorado Water Conservation Board (CWCB) has approved your request for funding for your project pursuant to the WSRF Grant Program (“Program”). This letter authorizes you to proceed with the approved project in accordance with the terms of this Grant Award Letter.

Attached to this letter are the terms and conditions of your Grant. Please review these terms and conditions, as they are requirements of this Grant to which you, Four Mile Fire Protection District, agree by accepting the Grant Funds.

If you have any questions or concerns regarding the project, please contact Craig Godbout, Project Manager at 303-866-3441 or at Criag.Godbout@state.co.us. Please send all grant correspondence directly to the project manager and cc me on your invoice billing requests.

Thank you.

Sincerely,

//s//

Doriann Vigil
Program Assistant II
O 303-866-3441 ext. 3250
1313 Sherman Street, Rm. 719, Denver, CO 80203
Dori.vigil@state.co.us / cwcb.state.co.us

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STATE OF COLORADO
Department of Natural Resources

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ORDER		*****IMPORTANT*****				
Number:	POGG1,PDAA,202000003085	The order number and line number must appear on all invoices, packing slips, cartons, and correspondence.				
Date:	5/1/20	BILL TO				
Description:	WSRF-Four Mile Fire Protect -Boulder Crk WS Water Quality	COLORADO WATER BOARD CONSERVATION 1313 SHERMAN STREET, ROOM 718 DENVER, CO 80203				
Effective Date:	05/01/20					
Expiration Date:	12/31/21					
BUYER		SHIP TO				
Buyer:		COLORADO WATER BOARD CONSERVATION 1313 SHERMAN STREET, ROOM 718 DENVER, CO 80203				
Email:						
VENDOR		SHIPPING INSTRUCTIONS				
FOUR MILE FIRE PROTECTION DISTRICT Watershed Coalition 1740 FOURMILE CANYON DR BOULDER, CO 80302-9831		Delivery/Install Date: - FOB: FOB Dest, Freight Allowed				
Contact:	Bret Gibson					
Phone:	3034440882					
VENDOR INSTRUCTIONS						
EXTENDED DESCRIPTION						
Line Item	Commodity/Item Code	UOM	QTY	Unit Cost	Total Cost	MSDS Req.
1	G1000		0	0.00	\$18,180.00	<input type="checkbox"/>
Description: WSRF-Four Mile Fire Protect -Boulder Crk WS Water Quality						
Service From: 05/01/20			Service To: 12/31/21			
TERMS AND CONDITIONS						
https://www.colorado.gov/pacific/osc/small-dollar-grant-award-terms-conditions						
DOCUMENT TOTAL = \$18,180.00						

Last Update: January 9, 2018

Colorado Water Conservation Board	
Water Supply Reserve Fund	
<u>Exhibit A - Statement of Work</u>	
Date:	April 20, 2020
Water Activity Name:	Boulder Creek Watershed Water Sampling Project
Grant Recipient:	Four Mile Fire Protection District
Funding Source:	South Platte Basin Account - Water Supply Reserve Fund
<p>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> <p>This project is an assessment of water quality which will address multiple concerns within the watershed. Potential contaminate sources to be evaluated in this study include legacy mine waste within the Fourmile Watershed (a sub-watershed of the Boulder Creek Watershed) and potential human waste impacts from various populated camping areas with the headwaters of Boulder Creek. This project is a partnership with the Boulder Ranger District and was developed after years of conversations with landowners, communities and agencies who consistently raised similar concerns about past and present human impacts to watershed health, public safety, water quality impairments and wildfire. This project will contribute data which will address each of these concerns at various levels.</p> <p>Twenty-eight water samples will be collected and analyzed at a laboratory (over two years) from approximately fifteen streams, downstream of heavily used camping areas on United States Forest Service (USFS) land. The goal is to establish a baseline understanding as to whether human waste is causing contamination downstream of camping areas. These data can serve as a foundation for future evaluations as recreational use and transient camping areas continue to grow.</p> <p>In the Fourmile Watershed ten to fifteen intermittent streams will have preliminary water quality data obtained by using a multi-meter to measure pH, electrical conductivity and temperature above and below mine waste piles. Preliminary data will indicate if further soil or water sampling is recommended. Data collection will be accompanied by landowner outreach and refining existing mine waste maps.</p>	
Objectives:	
<ol style="list-style-type: none"> 1. To better understand legacy mining impacts to water quality within the Fourmile Watershed. 2. To build upon and leverage existing partnerships in order to increase mine reclamation projects. 3. To develop a long-term relationship with the US Forest Service through collaborative projects and shared values. 4. To better understand human impacts to water quality related to populated dispersed camping areas. 5. To contribute data that may assist local communities as they address the social, economic and environmental impacts of population and recreational growth in headwater areas. 	



Last Update: January 9, 2018

Tasks
Provide a detailed description of each task using the following format:
<u>Task 1 – Data Review</u>
Description of Task: Review of existing data
Review existing planning documents and water quality sampling data from other agencies to understand what data has been collected in the past. Sampling efforts on larger tributaries completed by water providers and the United States Geological Survey (USGS) in the Boulder Creek headwaters. Fourmile Creek and tributaries also have water quality data.
Method/Procedure:
<ol style="list-style-type: none">1. Review Source Water Protection Plans and other relevant planning documents.2. Engage the Keep it Clean Partnership, USGS and City of Boulder to better understand existing data.
Grantee Deliverable: (Describe the deliverable the grantee expects from this task)
Water quality sampling results from other agencies.
CWCB Deliverable: (Describe the deliverable the grantee will provide CWCB documenting the completion of this task)
Document summarizing existing water quality data in the Boulder Creek headwaters.

Last Update: January 9, 2018

Tasks
Provide a detailed description of each task using the following format:
<u>Task 2 - Mine Waste Evaluation</u>
Description of Task:
<p>The purpose of this task is to refine the existing map of abandoned mines and mine waste piles within the Fourmile Watershed and conduct preliminary water quality sampling. The current map contains hundreds of sites. The map does not delineate piles that are adjacent to flowing water or unvegetated (due to contamination levels or wildfire burn). This information is necessary to begin to determine which mines are causing impacts and which are not.</p> <p>Water quality data has been obtained from Fourmile Creek and Gold Run Creek. Certain locations have elevated levels of arsenic, zinc and manganese. With this knowledge the Coalition must conduct bracketing of waste piles in the gulches to attempt to determine where the contaminants are coming from.</p> <p>It is expected that preliminary water sampling from a hand-held multi-meter, above and below waste piles, will provide enough direction to determine locations in need of more extensive characterization. Phase II of this project would be completing soil and water sampling with lab analysis. The ultimate goal of the project is to prioritize mining sites where reclamation would provide water quality improvements.</p> <p>The Fourmile Watershed is a primary tributary to Boulder Creek and the Pine Brook Water District obtains approximately 80% of their drinking water from the watershed. Incremental improvements will assist in improving raw water quality for drinking water. There is momentum and funding for work on USFS lands to do mine waste sampling and reclamation. The project will build upon work and partnerships with Trout Unlimited and the Boulder Ranger District. Integrating private lands is a holistic method of assessing the landscape and educating and gaining support for work on private lands.</p> <p>The Fourmile Watershed Coalition has completed one stream restoration project that included removal of 1900 cubic yards of mine tailings and has another project that will be constructed in 2019. This evaluation project will build upon work already completed in the watershed.</p>
Method/Procedure:
<ol style="list-style-type: none"> 1. Obtain permission to enter and conduct sampling from private or public landowners. <ul style="list-style-type: none"> o Use aerial photos, maps and historical documents to identify strategic locations for field investigations. o Use conversations with private landowners as opportunity to build a relationship and provide an educational opportunity regarding potential impacts from legacy mines. 2. Build upon the existing map of abandoned mines and waste piles (see attachment) from Pine Brook Water District's Source Water Protection Plan to identify piles adjacent to flowing water. <ul style="list-style-type: none"> o Locate these sites in ArcGIS, photograph the sites and produce a more detailed map. o This will need to be completed during the spring since many areas have intermittent streams. 3. Conduct preliminary sampling <ul style="list-style-type: none"> o Use the multi-meter to measure pH, electrical conductivity and temperature above and below mine waste piles or at seeps or draining adits. o Document and record and evaluate data. 4. Share data with partners (Trout Unlimited, Boulder Ranger District) to determine if further soil or water sampling is warranted to characterize mine sites.
Grantee Deliverable: (Describe the deliverable the grantee expects from this task)
<p>This task will allow the Coalition to integrate maps, data and site visits to determine where further mine characterization (soil and water samples) needs to occur. This effort is a foundational assessment to necessary to develop reclamation projects.</p>

Last Update: January 9, 2018

Tasks
CWCB Deliverable: (Describe the deliverable the grantee will provide CWCB documenting the completion of this task)
<ol style="list-style-type: none"> 1. A refined and updated map of mine waste adjacent to water. 2. Photo points of waste piles. 3. Multi-meter sample results.
Tasks
Provide a detailed description of each task using the following format:
<u>Task 3 - Camp Site Evaluation</u>
Description of Task: Water quality sampling downstream of camping areas.
<p>The purpose of this task is to assess water quality downstream of heavily used camping areas identified by the Boulder Ranger District. These areas are primarily on US Forest Service lands (sample campsite maps are included in the application). Camp sites are used recreationally by tourists and visitors and also on a longer-term basis by transients and travelers. The heavy use of camping areas has created social and environmental impacts.</p> <p>Water quality sampling was completed in Fourmile Creek in 2017. Results displayed high nitrates downstream of the Ruby Gulch camping area. While the sample results did not necessarily connect the water quality impairments to human impacts from camping it did generate an interest in better understanding downstream impacts. The USFS quantifying and mapping campsites has added a layer of data that makes the project valuable. Ruby Gulch is an example of a location that has mining impacts and increased recreational use. Therefore, water samples from this and similar areas will be evaluated for heavy metals and nutrients.</p> <p>Eleven densely used camping areas have been identified as potentially having human waste impacts downstream. Fourteen streams were delineated downstream of the camping areas as strategic areas to sample from. Samples will be collected over two years during summer months in order to establish a usable baseline. A sampling suite will be developed with a consultant to assure that all appropriate indicators and parameters are being captured in the sampling. Data will be shared widely with partners and stakeholders.</p>
Method/Procedure:
<ol style="list-style-type: none"> 1. Confirm sampling locations with the USFS and other partners. 2. Develop water quality sampling suite. 3. Collect samples in summer 2020 and 2021. 4. Create map and results report. 5. Evaluate and share data.
Grantee Deliverable: (Describe the deliverable the grantee expects from this task)



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Tasks
This task will produce water quality data that can be further evaluated to determine if there is a connection that implies human waste may be causing downstream water quality impacts. This data, along with other factors, could lead to future management decisions about camping areas on public lands.
CWCB Deliverable: (Describe the deliverable the grantee will provide CWCB documenting the completion of this task)
The deliverable is an updated map with campsite areas and sample locations, as well as a report describing water quality sample results.

Tasks
Provide a detailed description of each task using the following format:
<u>Task 4– Grant Administration</u>
Description of Task: Project management and grant administration
The purpose of this task is to support staff time to ensure grant compliance. This task will cover project management and organization of tasks, preparation of reimbursement requests and other administrative tasks associated with the project.
Method/Procedure:
1. Provide administrative activities for grant reimbursement and compliance.
Grantee Deliverable: Reporting and reimbursement requests.

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.

Water Supply Reserve Fund
EXHIBIT B - BUDGET AND SCHEDULE - Direct & Indirect (Administrative) Costs

Water Activity Name: Boulder Creek Watershed Water Quality Sampling

<u>Task No.</u> ⁽¹⁾	<u>Description</u>	<u>Start Date</u> ⁽²⁾	<u>End Date</u>	<u>Matching Funds</u> <u>(cash & in-kind)</u> ⁽³⁾	<u>WSRF Funds</u> <u>(Basin &</u> <u>Statewide</u> <u>combined)</u> ⁽³⁾	<u>Total</u>
1	Data Review	May 15,2020	Dec 31, 2021	\$642.00	\$0	\$642
2	Mine Waste Evaluation	May 15 2020	Dec 31, 2021	\$17,537	\$0	\$17,537
3	Campsite Sampling	May 15 2020	Dec 31, 2021	\$10,686	\$16,398	\$27,084
4	Grant Administration	May 15 2020	Dec 31, 2021	\$0	\$1,782	\$1,782
						\$0
						\$0
						\$0
						\$0
						\$0
						\$0
						\$0
						\$0
						\$0
Total				\$28,865	\$18,180	\$47,045

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

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

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

Dispersed Campsites

These locations have campsites near/on flowing water.

Legend

 Camp Site Locations

 Beaver Reservoir

 Gold Lake

 Ruby Gulch

 Rainbow Lakes 3

 Rainbow Lakes 2


 Rainbow Lakes 1

 Rollins Pass West 1

 Rollins Pass West 2

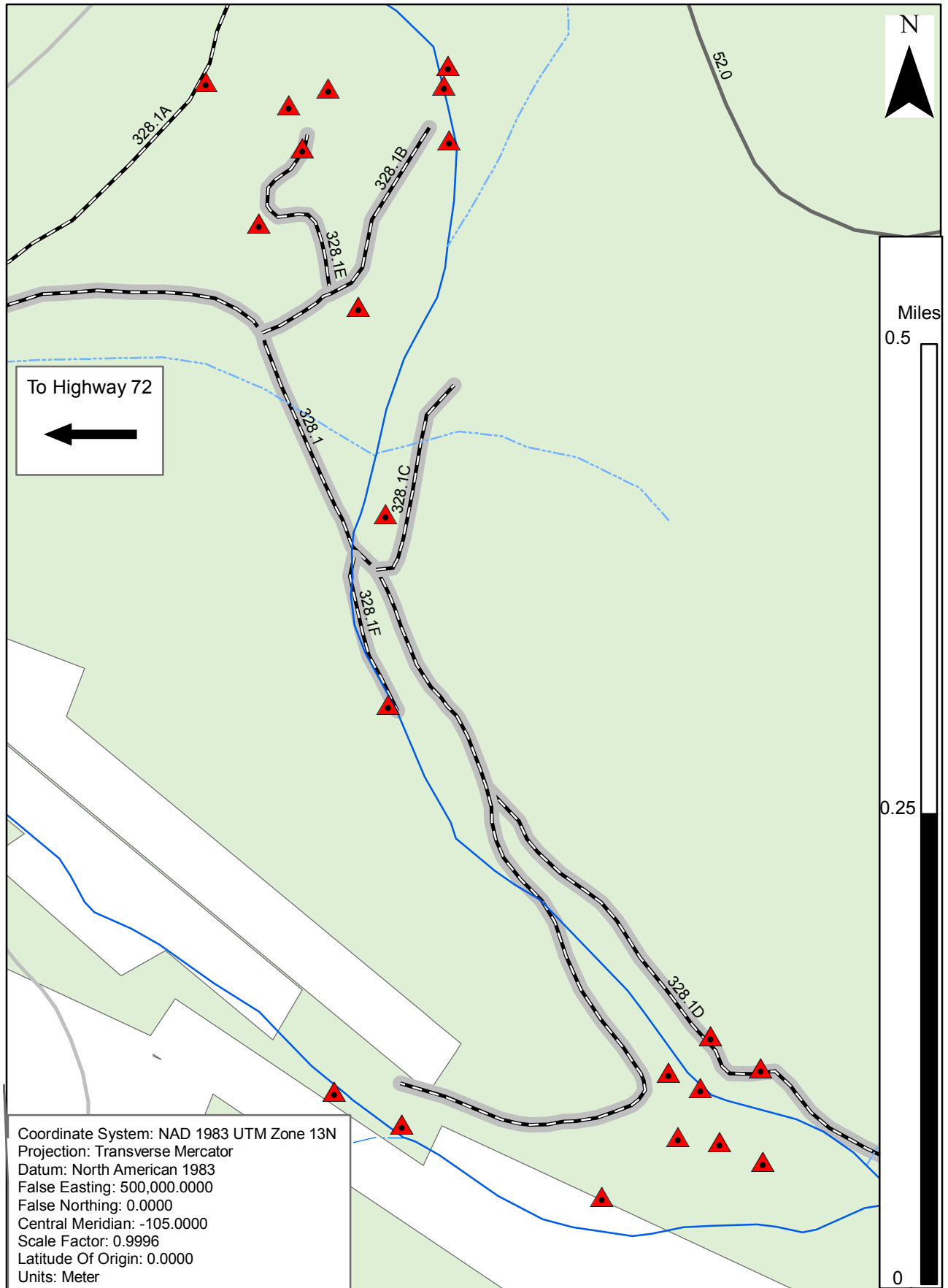
 Rollins Pass East 2

 Rollins Pass East 1

 Mammoth Gulch

Ruby Gulch Dispersed Campsites

21 Campsites Surveyed



Rainbow Lakes Road Dispersed Campsites

50 Campsites Surveyed

