Exhibit A

Statement Of Work	
Prepared Date:	**October 31, 2023**
Name of Grantee:	**Colorado Rio Grande Restoration Foundation**
Name of Water Project:	**Rio Grande Basin Snow Measurement Enhancement**

Water Project Overview:

The project will allow a group of local, state, and federal partners in the San Luis Valley to install five new SnoLite stations in Division 3 to continue to improve streamflow forecasting. The stations will tie into the existing data collection network that includes the San Luis Valley Weather Radar, Conejos River SnoLite sites, and NRCS SnoTel sites. Data collected will include snow depth, temperature, humidity, wind speed and direction, soil moisture and temperature, and incoming solar radiation. The data will measure conditions in areas of the watershed with low data density and will be incorporated into WRF-Hydro streamflow forecast models by the National Center for Atmospheric Research. Further, the partners will use existing and new data to better understand the relationship between soil moisture and realized streamflow. Continuing to improve the streamflow forecasts will help water users and managers in Division 3 as the streamflow forecasts are used to inform administration of the Rio Grande Compact. When forecasted flows vary from observed flows, water managers and users grapple with the challenges that accompany over or under curtailment, which results in thousands of dollars of impacts (quantified through the NCAR RIO-SNO-FlO project).

Project Objective:

The objective of the project is to continue to improve steamflow forecasting for the benefit of Rio Grande Compact administration and Colorado water users by identifying data gaps in snowpack and weather measurement, installing new SnoLite sites in priority areas, and using data from the new and existing data collection network to further refine streamflow forecast models.

Tasks

Task 1 – Determine Priority Locations for Additional Weather Measurement

Description of Task:

Stakeholders from the Division of Water Resources, National Center for Atmospheric Research, Natural Resources Conservation Service, Colorado Water Conservation Board, San Luis Valley Water Conservancy District, Conejos Water Conservancy District, and Rio Grande Water Conservation District will review existing weather and snowpack data collection in Division 3, identify data gaps, and prioritize locations for additional data development within the context of improving streamflow forecasting.

Method/Procedure:

Stakeholders will compile and review the current suite of data collected and utilized to create streamflow forecasts in the Upper Rio Grande Basin (Division 3). This will include reviewing the location of data collection sites (SnoTels, SnoLite, and dust on snow study sites), the coverage by the San Luis Valley Weather Radar, and the data variables collected through each method. The stakeholders will consider where gaps in data exist and develop a prioritized list of potential new SnoLite sites that will have the greatest contribution toward streamflow forecasting by providing ground truthing for models.

Deliverable:

The outcome of this task will be a summary of existing weather and snowpack measurements, relationship of existing data to streamflow forecasts, and description of observed data gaps. The stakeholders will produce a prioritized list of locations for new SnoLite sites.

The San Luis Valley Water Conservancy District will provide information about existing data and gaps in data coverage, as well as priority sites for SnoLite installation to Colorado Water Conservation Board.

Tasks

Task 2 – Installation of SnoLite Sites

Description of Task:

The project partners will install five new SnoLite sites in priority watersheds in Division 3. The sites will be placed in areas where existing data density is low and there is a high need for data collection to inform models for streamflow forecasting. The sites will measure snow depth, temperature, humidity, wind speed and direction, soil moisture and temperature, and incoming solar radiation. Stakeholders will also consider where albedo measurements might add value. Data from the sites will be compiled and managed by the National Center for Atmospheric Research.

Method/Procedure:

The project partners will install five new SnoLite sites in priority watersheds in Division 3. The SLVWCD and CWCD will obtain permits from the United States Forest Service as needed. Staff from National Center for Atmospheric Research will assist in the construction of the SnoLite sites and installation of sensors to measure snow depth, temperature, humidity, wind speed and direction, soil moisture and temperature, incoming solar radiation, and potentially, albedo.

Data from the sites will be compiled and managed by the National Center for Atmospheric Research and incorporated into the WRF-Hydro model for the Rio Grande and Conejos River. The information will be provided to the Division Engineer and water managers.

Deliverable:

Five SnoLite sites will be installed in priority areas in the Upper Rio Grande Basin. The sites will measure snow depth, temperature, humidity, wind speed and direction, soil moisture and temperature, incoming solar radiation, and potentially, albedo.

Data from the sites will be compiled and managed by the National Center for Atmospheric Research, incorporated into the WRF-Hydro model for the Rio Grande and Conejos River, and provided to the Division Engineer and water managers. Stakeholders will use data to inform water management and Rio Grande Compact administration. The data will benefit water users in Division 3.

The San Luis Valley Water Conservancy District will provide invoices, pictures, and data summaries to Colorado Water Conservation Board.

Budget and Schedule

This Budget and Schedule reflects the tasks identified in the Statement of Work.

Task No.	Task Description	Estimated Task Start Date	Estimated Task End Date	Grant Funding	Match Funding	Total
1	Determine Priority Locations for Additional Weather Measurement	8/1/2024	7/1/2029	$ -	$ 2,500.00	$ 2,500.00
2	Install SnoLite Sites	8/1/2024	7/1/2029	$ 45,000.00	$ 42,500.00	$ 87,500.00
			Total	$ 45,000.00	$ 45,000.00	$ 90,000.00

Reporting Requirements

Progress Reports: The grantee shall provide the CWCB a progress report every six months, beginning from the date of issuance of the grant agreement. 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.

Final Report: At completion of the project, the applicant shall provide the CWCB a final report on the applicant'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.

The CWCB will pay out the last 10% of the 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 grant agreement will be closed without any further payment.

Payment

Payment will be made based on actual expenditures and must include invoices for all work completed. 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.

Costs incurred prior to the effective date of this grant agreement are not reimbursable. The last 10% of the entire grant will be paid out when the final deliverable has been received. All products, data and information developed as a result of this grant agreement must be provided to the CWCB as part of the project documentation.

Performance Measures

Performance measures for this grant agreement 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. Per grant guidelines, the CWCB will pay out the last 10% of the 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 grant agreement will be closed without any further payment.

(b) Accountability: Per 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 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.