

**COLORADO**Colorado Water
Conservation Board

Department of Natural Resources

Colorado Water Conservation Board

Water Plan

Water Project Summary

Name of Applicant	Colorado Rio Grande Restoration Foundation Project-01856
Name of Water Project	Rio Grande Canal Boater Safety and Accessibility Project
Grant Request Amount	\$148,000.00
Primary Category	\$148,000.00
<i>Watershed Restoration & Recreation</i>	
Total Applicant Match	\$154,972.00
<i>Applicant Cash Match</i>	\$77,100.00
<i>Applicant In-Kind Match</i>	\$77,872.00
Total Other Sources of Funding	\$154,972.00
<i>Trout Unlimited</i>	\$10,000.00
<i>American Whitewater</i>	\$5,000.00
<i>Rio Grande Canal Water Users Association</i>	\$58,350.00
<i>CPW Fishing is Fun</i>	\$62,100.00
<i>Colorado Rio Grande Restoration Foundationq</i>	\$5,000.00
<i>Colorado Rio Grande Restoration Foundation</i>	\$9,000.00
<i>Colorado Division of Water Resources</i>	\$5,522.00
Total Project Cost	\$457,944.00

Applicant & Grantee Information

Name of Grantee: Colorado Rio Grande Restoration Foundation

Mailing Address: 623 4th Street Alamosa CO 81101

FEIN: 753,169,057

Organization Contact: Emma Ressor

Position/Title:

Phone: (719) 589-2230

Email: emma@riograndeheadwaters.org

Organization Contact - Alternate: Daniel Boyes

Position/Title: Program Manager

Phone: 719-589-2230

Email: daniel@riograndeheadwaters.org

Description of Grantee/Applicant

No description provided

Type of Eligible Entity

☐ Public (Government)

- ☐ Public (District)
- ☐ Public (Municipality)
- ☐ Ditch Company
- ☐ Private Incorporated
- ☐ Private Individual, Partnership, or Sole Proprietor
- ☒ Non-governmental Organization
- ☐ Covered Entity
- ☐ Other

Category of Water Project

- ☐ Agricultural Projects
Developing communications materials that specifically work with and educate the agricultural community on headwater restoration, identifying the state of the science of this type of work to assist agricultural users among others.
- ☐ Conservation & Land Use Planning
Activities and projects that implement long-term strategies for conservation, land use, and drought planning.
- ☐ Engagement & Innovation Activities
Activities and projects that support water education, outreach, and innovation efforts. Please fill out the Supplemental Application on the website.
- ☒ Watershed Restoration & Recreation
Projects that promote watershed health, environmental health, and recreation.
- ☐ Water Storage & Supply
Projects that facilitate the development of additional storage, artificial aquifer recharge, and dredging existing reservoirs to restore the reservoirs' full decreed capacity and Multi-beneficial projects and those projects identified in basin implementation plans to address the water supply and demand gap.

Location of Water Project

Latitude	37.687414
Longitude	-106.367683
Lat Long Flag	Ditch diversion structure location: Coordinates based on ditch's diversion structure
Water Source	Rio Grande
Basins	Rio Grande
Counties	Rio Grande
Districts	20-Rio Grande

Water Project Overview

Major Water Use Type	Environmental
Subcategory	
Scheduled Start Date - Design	3/1/2022
Scheduled Start Date - Construction	10/1/2022
Description	The Rio Grande Canal (Canal), located near Del Norte, CO, diverts water from the Rio Grande and supplies irrigation water for more than 69,000 acres of agricultural land. The Canal's low head dam (LHD) diversion structure marks the downstream boundary of the Rio Grande's Gold Medal reach, which begins in South Fork, CO. The Gold Medal reach relies upon the Canal's LHD because it acts as a barrier to the upstream movement of nonnative fish species which would otherwise threaten existing trout fisheries. This segment of the Rio Grande is actively used by a variety of recreational boaters, especially anglers who float fish the Gold Medal trout fishery.

However, the Canal's LHD poses significant risks for boaters. The diversion structure creates a roughly 10-foot change in the river's water surface elevation. This forms a hydraulic jump, which is very dangerous and can entrain objects for long periods of time. Currently, there is no formal portage around the Canal's LHD. As river recreation increases locally, the need for safe portage around this drowning hazard has become increasingly urgent.

This CWP request will address the safety hazard at the Canal and enhance recreational opportunities by constructing a new user-friendly watercraft portage around the LHD and improving aquatic habitat. The Project will include in the following activities:

1. Construction of a safe takeout and watercraft portage and fencing around the Rio Grande Canal's LHD;
2. Installation of 14 signs explaining LHD safety and portage directions at and surrounding the Canal and portage;
3. Development of river access maps and outreach to boaters and river outfitters surrounding local river conditions and navigational hazards;
4. Streambank stabilization, riparian revegetation, and installation of aquatic habitat features on a cut bank downstream of the Canal.

The Project will improve public safety and enhance recreational opportunities along an important reach of the Rio Grande by installing safety signage and constructing a watercraft portage. This portage solution will also maintain the important fish barrier formed by the Canal, thereby supporting the Gold Medal fishery upstream. Finally, by providing safe passage around the Canal, the Project will allow boaters to utilize the recently completed boat ramp located approximately 1 mile downstream at the Del Norte Riverfront Park.

Measurable Results

450	New Storage Created (acre-feet)
	New Annual Water Supplies Developed or Conserved (acre-feet), Consumptive or Nonconsumptive
	Existing Storage Preserved or Enhanced (acre-feet)
	New Storage Created (acre-feet)
	Length of Stream Restored or Protected (linear feet)
	Efficiency Savings (dollars/year)
	Efficiency Savings (acre-feet/year)
	Area of Restored or Preserved Habitat (acres)
	Quantity of Water Shared through Alternative Transfer Mechanisms or water sharing agreement (acre-feet)
	Number of Coloradans Impacted by Incorporating Water-Saving Actions into Land Use Planning
720	Number of Coloradans Impacted by Engagement Activity

Water Project Justification

The Rio Grande Canal Boater Safety and Accessibility Project (Project) will improve safety and enhance recreational use of the Rio Grande near Del Norte, CO, by constructing a watercraft portage, installing safety signage, stabilizing streambanks, and improving aquatic and riparian habitat. The Project will address environmental and recreational needs facing the Rio Grande Basin and State of Colorado, while protecting agricultural water use.

Through the construction of a watercraft portage, fish habitat improvements, and streambank restoration, the project supports many of the Watershed Health, Environment, and Recreation goals listed in Section 10.3. The

Project meets several of the CWP Goals and Criteria in the following ways:

- By constructing a safe watercraft portage around the Rio Grande Canal, the Project supports the goal to “Enhance Environmental and Recreational Economic Values: Protect and enhance river-based environments and recreational opportunities that support local and statewide economies and are important for the enjoyment of current and future generations of Coloradans (CWP, Section 10.3, pp. 10-12).” This Project will help support a thriving recreation economy by providing safe passage on a reach of the Rio Grande experiencing increasingly frequent use.
- Restoration actions will further the goal to “Protect Healthy Environments: Understand, protect, maintain, and improve conditions of streams, lakes, wetlands, and riparian areas to promote self-sustaining fisheries and functional riparian and wetland habitat to promote long-term resiliency” (CWP, Section 10.3, pp. 10-12). Project activities will reduce erosion, enhance aquatic habitat, and support a healthy and functional river.
- Finally, the Project will help meet the goal to “Work on creating resilient watersheds to protect, restore, and enhance water quality in the face of climate change” (CWP, Section 10.3, pp. 10-14). By restoring riparian vegetation, the Project will increase stream shading and help buffer water temperature. This, combined with increased floodplain connectivity, will increase alluvial aquifer storage and augment late summer streamflow.

Additionally, the Project will help mitigate potential future impacts to recreation identified in the recent 2019 Technical Update to the 2015 Water Plan (Technical Update, formerly SWSI). The Technical Update resulted in the Environmental Flow Tool, which quantifies potential risks to the environment and recreation associated with predicted changes in streamflow. Environmental Flow Tool results for the Rio Grande suggest average annual streamflow will decrease, particularly during late summer. These changes in streamflow will negatively affect aquatic organisms and will have a profound impact on recreation by reducing the number of boatable days available on the Rio Grande. This Project will mitigate the potential impact to aquatic life and recreation by improving aquatic invertebrate habitat through the creation of pools habitat and through the construction of a formal portage.

In addition to meeting many of the Colorado Water Plan Goals and complimenting the Technical Update, the Project meets many of the Rio Grande Basin Implementation Plan (BIP) Goals and is supported by the Rio Grande Basin Roundtable. For example, this Project meets the BIP goal to work toward, “Vibrant and resilient agriculture, recreation, municipal, and industrial economies that support thriving communities” (Draft 2020 Rio Grande BIP Update, Section 4, pp. 21).

The Project need was identified in the Rio Grande Stream Management Plan (2020 Rio Grande SMP, Section 3.2.9, pp. 139) and is a result of planning and collaboration between Rio Grande Canal Water Users Association (RGCWUA), Colorado Department of Natural Resources Dam Safety Branch, Colorado Parks and Wildlife (CPW), American Whitewater (AW), the Ditch and Reservoir Company Alliance (DARCA), Trout Unlimited (TU), San Luis Valley Water Conservancy District (SLVWCD), and private landowners. Participation from diverse stakeholders ensures that both consumptive and non-consumptive needs are being met through project design and implementation. The Project meets multiple objectives, including increasing boater safety, enhancing recreational opportunities, maintaining the critical fish barrier formed by the Rio Grande Canal diversion, and enhancing aquatic habitat downstream of the Canal.

Currently, the riparian area downstream of the Canal at the Rio Grande’s confluence with Pinos Creek is in poor condition. Channel instability, degraded aquatic habitat, and lack of riparian vegetation adversely impact river health in this area. Additionally, accelerated bank erosion generates fine sediment which impacts downstream water users as well as aquatic habitat. Through streambank stabilization, and riparian and aquatic habitat restoration, the Project will have multiple environmental benefits including reduced sediment inputs and improved water quality, increased streambank stability, and enhanced riparian and aquatic habitat.

In addition, requested CWP grant funds for the Project will be leveraged by significant in-kind contributions from the RGCWUA as well as in-kind and cash contributions from American Whitewater, Trout Unlimited, and RGHRP. Without CWP funding, project partners would likely not be able to raise sufficient dollars out of pocket or from other grant sources to fund this project. As such, CWP funds are critical to complete the Project.

Related Studies

1. Rio Grande Stream Management Plan: The Project was identified as a priority in the SMP and furthers SMP goals.
2. 2019 Colorado Low Head Dam Inventory Project: The Canal was identified as hazard in this inventory.

Complementary Projects include:

- Colorado Low Head Dam - Public Safety Initiative 2020, which is contributing safety signage at the Canal.
- Del Norte Riverfront Project. The Project will allow boaters to utilize the recently completed boat ramp located 1 mile downstream of the Canal at the Del Norte Riverfront Park.
- 2021 Rio Grande Diversion Infrastructure, Recreation, and Habitat Improvement Project, which will to improve boat passage at multiple diversion structures upstream of the Canal.

The Project builds on efforts on the Rio Grande aimed at enhancing recreation while supporting agriculture. Collectively, these efforts are providing lasting benefits for the communities that rely on the Rio Grande.

Taxpayer Bill of Rights

The Applicant, The Colorado Rio Grande Restoration Foundation, is not subject to TABOR limitations, as it is a Colorado nonprofit organization operating under Section 501(c)(3) of the U.S. Internal Revenue Code.

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.

Reporting Requirements

Progress Reports: The applicant 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.

Final Report: At completion of the project, the applicant shall provide the CWCB a Final Report on the applicant's letterhead that: (1) Summarizes the project and how the project was completed. (2) Describes any obstacles encountered, and how these obstacles were overcome. (3) Confirms that all matching commitments have been fulfilled. (4) 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 purchase order or grant 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 contract 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 contract must be provided to as part of the project documentation.

Performance Measures

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 the Budget & Schedule Exhibit B. Per Water Plan 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 purchase order or grant will be closed without any further payment. (b) Accountability: Per Water Plan 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 Water Plan 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 Updated: May 2021

Colorado Water Conservation Board

Water Plan Grant – Statement of Work – Exhibit A

Statement Of Work

Date:	11/30/2021
Name of Grantee:	Colorado Rio Grande Restoration Foundation
Name of Water Project:	Rio Grande Canal Boater Safety and Accessibility Project
Funding Source:	Colorado Water Plan

Water Project Overview:

The Rio Grande Canal (Canal), located near Del Norte, CO, diverts water from the Rio Grande and supplies irrigation water for more than 69,000 acres of agricultural land. The Canal's low head dam (LHD) diversion structure marks the downstream boundary of the Rio Grande's Gold Medal reach, which begins in South Fork, CO. The Gold Medal reach relies upon the Canal's LHD because it acts as a barrier to the upstream movement of nonnative fish species which would otherwise threaten existing trout fisheries. This segment of the Rio Grande is actively used by a variety of recreational boaters, especially anglers who float fish the Gold Medal trout fishery.

However, the Canal's LHD poses significant risks for boaters. The diversion structure creates a roughly 10-foot change in the river's water surface elevation. This forms a hydraulic jump, which is very dangerous and can entrain objects for long periods of time. Currently, there is no formal portage around the Canal's LHD. As river recreation increases locally, the need for safe portage around this drowning hazard has become increasingly urgent.

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Last Updated: May 2021

Project Objectives:
<ol style="list-style-type: none">1. Increase boater safety and enhance recreational opportunities by installing safety signage and a new portage around the Rio Grande Canal low head dam;2. Increase community understanding of recreation opportunities, local river conditions, boating safety, and navigational hazards.3. Enhance aquatic habitat by installing fish habitat structures that will increase habitat complexity;4. Reduce bank erosion and improve riparian condition through the construction of a bankfull bench, stabilization of up to 450 feet of streambank, and riparian revegetation;5. Enhance water quality by reducing erosion and sediment inputs.

Tasks
Task 1 – Project Engineering, Design, and Permitting
Description of Task:
Complete designs and permitting for the project elements, which include: <ul style="list-style-type: none">• Rio Grande Canal watercraft portage, including boat ramps at beginning and end of the portage;• Streambank stabilization, riparian revegetation, and aquatic habitat enhancement downstream of Rio Grande Canal.
Method/Procedure:
The Colorado Rio Grande Restoration Foundation (CRGRF) will hire an engineer to complete site surveys, engineering, and final designs for the construction of a watercraft portage and the restoration of streambank and riparian habitat downstream of the Canal. The CRGRF will work with the project engineer and state and federal regulatory agencies to complete environmental compliance and secure permits required for project construction. Project designs will be reviewed by the Rio Grande Project's Technical Advisory Team, which is made up of the following agencies: Rio Grande Canal Water Users Association (RGCWUA), Colorado Department of Natural Resources Dam Safety Branch, Colorado Parks and Wildlife (CPW), American Whitewater, Ditch and Reservoir Company Alliance, Trout Unlimited, San Luis Valley Great Outdoors, San Luis Valley Water Conservancy District, and project landowners.
Deliverable:
Final designs and required permits.

Tasks
Task 2 – Signage and Outreach
Description of Task:
Fabricate and install 14 LHD safety signs at and near the Rio Grande Canal and newly installed portage area. Develop river recreation maps with safety content and river access information and install strategically at river put-ins and takeouts. Conduct outreach to local outfitters and boaters.
Method/Procedure:
The CRGRF and project partners will work with the Low Head Dam Safety Initiative to finalize, fabricate, and install safety signs. Signs will be printed locally and the RGCWUA will fabricate and install the steel frames for



Last Updated: May 2021

each sign. CRGRF will work with CPW staff to develop and install river maps highlighting recreational attributes and navigational hazards. The CRGRF and project partners will also collaborate with local outfitters to educate and inform users of the recreational opportunities in the area and associated risks.

Deliverable:

Final signage set and maps. Increased engagement of recreational river users and more accessible information for the public.

Tasks

Task 3 – Boat Portage Construction

Description of Task:

Construct a watercraft portage south of the Rio Grande Canal. Dredge and shape existing channel to be used for wet portage. Construct two dry boat ramps, one at each end of the wet portage. Implement riparian revegetation following construction.

Method/Procedure:

The CRGRF will hire a contractor to dredge and shape the existing channel south of the Canal. The Contractor will construct two boat ramps, located at the upstream and downstream ends of the wet portage. The upstream boat ramp will be designed with an eddy for ease of use, and both will be designed to withstand significant foot traffic and will act as fish barriers to prevent the upstream movement of nonnative fish species. A gravel walking path will be constructed along the wet portage. The contractor will revegetate areas disturbed during construction by planting willow clumps and/or grass and forb seeding. Upland areas disturbed during onsite activities will be reseeded with appropriate species.

In addition to the formal watercraft portage, the RGCWUA will construct a last chance portage downstream of the wet portage to be used in the instance that a boater misses the new watercraft portage. The RGCWUA will clear and grade a path for the portage and will install a chain link fence around the diversion structure on the bank to keep recreators away from the drowning hazard.

By working with project partners such as Trout Unlimited and CPW, the CRGRF and RGCWUA will ensure long term maintenance of the newly constructed portage is completed.

Deliverable:

Safe portage around the Canal's hazardous LHD for a wide range of watercraft types.

Tasks

Task 4 – Streambank Stabilization and Aquatic Habitat Enhancement

Description of Task:

Implement streambank stabilization and riparian and aquatic habitat improvements downstream of the Rio Grande Canal structure.

Method/Procedure:



Last Updated: May 2021

The CRGRF will hire a contractor to complete bank stabilization, install aquatic habitat features, and enact pollution control. The contractor will implement channel and streambank stabilization measures, which may include: bank shaping, channel reconfiguration, rock or log structure installation, and riparian habitat improvements. Riparian improvements may include, but are not limited to, willow clump plantings and grass and forb seeding. Upland areas disturbed during onsite activities will be reseeded with appropriate species. Riparian fencing will be installed following construction.

Deliverable:

Improved aquatic and riparian habitat. Reduced erosion, increased riparian vegetation, and improved water quality resulting from streambank stabilization measures.

Tasks

Task 5 – Project Management and Administration

Description of Task:

Complete project oversight, management, and partner coordination. Complete all necessary contracts, status reports, and internal and external documents. Ensure tasks are completed within the approved costs and timelines. Monitor condition of portage and monitor bank restoration project site for five years using the CRGRF's Sampling and Analysis Plan (SAP).

Method/Procedure:

The CRGRF will manage and administer the Rio Grande Canal Boater Safety and Accessibility Project. The CRGRF will complete contracts with the Colorado Water Conservation Board (CWCB) and other project funders, partners, landowners, and contractors; obtain the necessary environmental permits; manage project budgets, and reimbursement requests; and complete semi-annual and final reports. The CRGRF and RGCWUA will perform project oversight, ensuring project design and implementation are timely and accurate. Additionally, the CRGRF will work closely with the Project's Technical Advisory Team to plan and implement all project tasks.

Finally, monitoring will consist of multiple assessments that include documenting streambank condition using photographic documentation and visual stream assessments. Pre-construction, post-construction, and long-term surveys will map locations and features of the streambank and aquatic habitat features. Photographic documentation will be used to track conditions of the riparian and shoreline plant communities, bank stabilization, and overall visual condition of the Project area. The United States Department of Agriculture's Stream Visual Assessment Protocol II (SVAP II) will be used to assess the sites. This monitoring strategy is used in other CRGRF projects. The CRGRF staff will be responsible for monitoring.

Deliverable:

All appropriate contracts, external and internal reports, and on-site project activities completed within the planned period and anticipated costs. Annual Reports which summarize monitoring data and condition of the sites to illustrate relative stability of streambanks, and to evaluate the degree of improvement in aquatic and riparian condition.

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.



Last Updated: May 2021

Reporting Requirements

Progress Reports: The applicant 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.

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 purchase order or grant 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 contract 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 contract must be provided to as part of the project documentation.

Performance Measures

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 C. 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 purchase order or grant will be closed without any further payment.

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(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 Plan Grant - Exhibit C

Budget and Schedule

Prepared Date: 12/1/2021

Name of Applicant: Colorado Rio Grande Restoration Foundation

Name of Water Project: Rio Grande Canal Boater Safety and Accessibility Project

Project Start Date: 3/1/2022

Project End Date: 6/1/2024

Task No.	Task Description	Task Start Date	Task End Date	Grant Funding Request	Match Funding	Total
1	Project Engineering and Permitting	3/1/2022	9/1/2022	\$ 30,000.00	\$ 17,500.00	\$47,500
2	Signage and Outreach	3/1/22	6/1/24	\$ 6,600.00	\$ 34,522.00	\$41,122
3	Portage Construction	9/1/22	4/1/23	\$ 62,400.00	\$ 56,650.00	\$119,050
4	Streambank Stabilization and Aquatic Habitat	9/1/22	4/1/23	\$ 29,000.00	\$ 28,900.00	\$57,900
5	Project Management, Monitoring, and Admini	3/1/22	6/1/24	\$ 20,000.00	\$ 17,400.00	\$37,400
						\$0
						\$0
						\$0
						\$0
						\$0
						\$0
						\$0
						\$0
						\$0
Total				\$148,000	\$154,972	\$302,972



Colorado Water Conservation Board
Water Plan Grant - Detailed Budget Estimate
Fair and Reasonable Estimate

Prepared Date: December 1, 2021

Name of Applicant: Colorado Rio Grande Restoration Foundation

Name of Water Project: Rio Grande Canal Boater Safety and Accessibility Project

	Personnel Expenses		Contractual Expenses (fixed fee)	Materials and Construction Expenses						
	CRGRF Staff (\$45/hour)	Volunteer Support (in-kind)	Design & Engineering	Unit	Estimated Quantity	Estimated Cost per Unit	Subtotal	Total	CWCB Funds	Matching Funds
Task 1 - Project Engineering, Design, and Permitting										
Survey, engineering, final design			\$ 22,500.00					\$22,500.00	\$12,500.00	\$10,000.00
Permitting and Environmental Compliance			\$ 10,000.00					\$10,000.00	\$10,000.00	\$0.00
Construction Management			\$ 15,000.00					\$15,000.00	\$7,500.00	\$7,500.00
TASK 1 TOTAL								\$47,500.00	\$30,000.00	\$17,500.00
Task 2 - Signage and Outreach										
Safety signage development and printing				EA	10	\$552.20	\$5,522.00	\$5,522.00	\$0.00	\$5,522.00
Fabrication and installation of steel sign frames (By RGCWUA)				EA	10	\$2,000.00	\$20,000.00	\$20,000.00	\$0.00	\$20,000.00
Development of recreational boating locator map (CRGRF Staff)	\$ 9,000.00						\$0.00	\$9,000.00	\$0.00	\$9,000.00
Fabrication and installation of boating locator maps				EA	6	\$500.00	\$3,000.00	\$3,000.00	\$3,000.00	\$0.00
Outreach to community groups and commercial outfitters	\$ 3,600.00						\$0.00	\$3,600.00	\$3,600.00	\$0.00
TASK 2 TOTAL							\$28,522.00	\$41,122.00	\$6,600.00	\$34,522.00
Task 3 - Boat Portage Construction										
Mobilization				Lump Sum	1	\$5,000.00	\$5,000.00	\$5,000.00	\$5,000.00	\$0.00
Large Rock, 4-5 ft for upstream boat ramp take out				EA	60	\$160.00	\$9,600.00	\$9,600.00	\$5,600.00	\$4,000.00
Small Rock Rip Rap, delivered and placed				CY	50	\$90.00	\$4,500.00	\$4,500.00	\$0.00	\$4,500.00
Type H Large Rock Rip Rap, delivered and placed				CY	50	\$130.00	\$6,500.00	\$6,500.00	\$0.00	\$6,500.00
Place large boulders with excavator with thumb				EA	60	\$130.00	\$7,800.00	\$7,800.00	\$7,000.00	\$800.00
Willow transplants				EA	20	\$50.00	\$1,000.00	\$1,000.00	\$1,000.00	\$0.00
Clear and grub down trees and debris along side channel				AC	1.25	\$10,000.00	\$12,500.00	\$12,500.00	\$6,000.00	\$6,500.00
Excavate side channel				CY	1000	\$6.00	\$6,000.00	\$6,000.00	\$3,000.00	\$3,000.00
Construct side channel walking path				LF	1000	\$12.00	\$12,000.00	\$12,000.00	\$6,000.00	\$6,000.00
Large Rock, 3-4 ft for grade control structure				EA	45	\$130.00	\$5,850.00	\$5,850.00	\$0.00	\$5,850.00
Class 6 road base, delivered and placed				CY	80	\$60.00	\$4,800.00	\$4,800.00	\$4,800.00	\$0.00

Dewatering during construction				LS	1	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00	\$0.00
Construct downstream grade control and entry ramp				LS	1	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00	\$0.00
Construction contingency (10%)				LS	1	\$8,500.00	\$8,500.00	\$8,500.00	\$4,000.00	\$4,500.00
Construct last chance portage and fencing (by RGCWUA)				LS	1	\$8,000.00	\$15,000.00	\$15,000.00	\$0.00	\$15,000.00
TASK 3 TOTAL							\$119,050.00	\$119,050.00	\$62,400.00	\$56,650.00
Task 4 - Streambank Stabilization and Aquatic Habitat Enhancement										
Large Rock, 4-5 ft				EA	100	\$160.00	\$16,000.00	\$16,000.00	\$10,000.00	\$6,000.00
Place rocks for bank stabilization and habitat structures				EA	100	\$120.00	\$12,000.00	\$12,000.00	\$5,000.00	\$7,000.00
Channel/bank shaping				CY	250	\$12.00	\$3,000.00	\$3,000.00	\$1,500.00	\$1,500.00
Large root wads, delivered and placed				EA	8	\$300.00	\$2,400.00	\$2,400.00	\$1,000.00	\$1,400.00
Large rock rip rap				CY	50	\$130.00	\$6,500.00	\$6,500.00	\$0.00	\$6,500.00
Willow transplants				EA	100	\$50.00	\$5,000.00	\$5,000.00	\$3,000.00	\$2,000.00
Seed and mulch				AC	0.5	\$2,000.00	\$1,000.00	\$1,000.00	\$500.00	\$500.00
Fencing				LF	750.0	\$8.00	\$6,000.00	\$6,000.00	\$4,000.00	\$2,000.00
Construction contingency (10%)				LS	1.0	\$6,000.00	\$6,000.00	\$6,000.00	\$4,000.00	\$2,000.00
TASK 4 TOTAL								\$57,900.00	\$29,000.00	\$28,900.00
Task 5 - Project Management and Administration										
Staff time for project management and administration staff time (720 hours)	\$32,400.00							\$32,400.00	\$20,000.00	\$12,400.00
Project Support by American Whitewater	\$ 5,000.00							\$5,000.00	\$0.00	\$5,000.00
TASK 5 TOTAL								\$37,400.00	\$20,000.00	\$17,400.00
PROJECT TOTAL								\$302,972.00	#####	#####

COLORADO WATER PLAN GRANT APPLICATION

Letters of Support and Funding Commitment

The Rio Grande Canal Water Users Association

147 Washington St.
P.O. Box 288
Monte Vista, CO 81144
Phone: 719-852-3556 Fax: 719-852-5958

11/30/2021

Colorado Water Conservation Board
1313 Sherman St., Room 721
Denver, CO 80203

**Re: Letter of Support - Colorado Water Plan Grant Application
Rio Grande Canal Boater Safety and Accessibility Project**

To the CWCB Board of Directors,

Please accept this letter of support on behalf of the Rio Grande Canal Water Users Association (RGCWUA) for the *Rio Grande Canal Boater Safety and Accessibility Project*. Increasing boater and public safety at the Rio Grande Canal diversion structure and low head dam is a top priority for the RGCWUA. This project will construct a safe portage around the Rio Grande Canal diversion structure and dam on the Rio Grande, thereby creating new recreational boating opportunities in the area and keeping the public safe.

The Rio Grande Canal diversion structure which also includes a low head dam are dangerous for boaters and the public who use the Rio Grande between Hanna Lane and Del Norte, CO. The hydraulics formed by the dam and headgates can trap objects and pose a severe public safety risk. Because of this, watercraft need to be portaged around the Canal. However, no formal portage exists. Through this project, a formal, safe portage will be built around the Canal's diversion structure and dam to make sure the public does not encounter or come in contact with these structures.

This project will benefit recreational boating and fishing and will enhance public safety on the Rio Grande. The project also includes low head dam-specific signage and maps that will direct boaters to the formal portage area. RGCWUA staff will continue to participate in this project by reviewing and providing input on project designs and helping wherever needed. The RGCWUA will provide \$58,350.00 in-kind cash that will cover fabrication and installation of the steel sign frames, a combination of small and large rock and construction of the "last chance" portage and chain link fence. The RGCWUA will also provide cash for the project as soon as the RGCWUA Board has an opportunity to have a Board meeting and go over the project and decide how to proceed. We are excited to work with the Colorado Rio Grande Restoration Foundation as a partner on this project and I hope you will support it as well.

Sincerely,



Jay Yeager
Superintendent

Rio Grande Canal Water Users Association

COLORADO WATER PLAN GRANT APPLICATION



Chris Sturm
Stream Restoration Coordinator
Colorado Water Conservation Board
(303) 866-3441 ext. 3209 chris.sturm@state.co.us
1313 Sherman Street, Room 718
Denver, CO 80203

Dear Mr. Sturm,

I am writing on behalf of American Whitewater to provide support for the Rio Grande Headwaters Restoration Project's (RGHRP) Colorado Water Plan grant proposal. American Whitewater has been deeply involved in finding a safe solution to navigating this beautiful reach of river and connecting it to the boat ramp, park, and whitewater feature just downstream in Del Norte. Safe navigation around the Rio Grande Canal diversion is incredibly important to our members in the area.

American Whitewater partnered with the RGHRP to define recreational flow needs for this and other segments of the Rio Grande as well as the Conejos River for their Stream Management Plan. Through that process and our work with other river recreation stakeholders, we understand that well managed development of the Rio Grande for recreational use is desired. We have also been working with Colorado DNR through the Low Head Dam steering committee to identify structures that pose a high safety risk to the public. This structure was identified as a part of the process and we are pleased that DNR is working with the dam owners and RGHRP to install signage to address the safety concerns as soon as possible. This project is an important next logical step in providing safe access to this Gold Medal stretch of river.

As a part of our ongoing support for this project, American Whitewater will provide RGHRP \$5,000 of in-kind support in project design oversight and consultation on ease and safety of use for the boating public.

American Whitewater's mission is to protect and restore America's whitewater rivers and to enhance opportunities to enjoy them safely. Low head dams pose a hazard to life and public safety, commonly referred to as "drowning machines" due to the physical characteristics of the structures. This portage route for the Rio Grande Canal will go a very long way in addressing the public safety concerns associated with the structure while ensuring that Rio Grande Canal Company can still divert the needed irrigation, municipal, industrial, and other important water uses. We encourage the Colorado Water Conservation Board to approve the Rio Grande Headwaters Restoration Project's Colorado Water Plan grant application.

Sincerely,

A handwritten signature in dark ink, appearing to read 'Hattie Johnson', written in a cursive style.

Hattie Johnson
Director, Southern Rockies Stewardship Program
American Whitewater
hattie@americanwhitewater.org | 970.456.8533

COLORADO WATER PLAN GRANT APPLICATION



Kevin Terry, Rio Grande Basin Program Director, Western Water and Habitat Program

11/19/2021

Colorado Water Conservation Board
1313 Sherman St., Room 721
Denver, CO 80203

**Re: Letter of Support - Colorado Water Plan Grant Application
Rio Grande Canal Boater Safety and Accessibility Project**

Dear CWCB Board of Directors,

Please accept this letter of support on behalf of Trout Unlimited (TU), for the *Rio Grande Canal Boater Safety and Accessibility Project*. This multi-purpose project will improve boater safety near the Rio Grande Canal diversion structure and enhance fish habitat and angler access on the Rio Grande. The need for this project was identified in the 2020 Rio Grande Stream Management Plan (SMP), a planning process in which TU played an active role.

The Rio Grande Canal low head dam, near Del Norte, CO, is a known hazard for recreational boating and fishing. The hydraulics created by the Canal are dangerous for all types of watercraft as well as anglers. For this reason, watercraft must be portaged around the Canal. The Canal diversion marks the downstream boundary of the Rio Grande's Gold Medal trout fishery, which begins near South Fork, CO. Except for a 1/2 mile fishing access lease at the Hanna Bridge, the only method of public access for fishing the lower Gold Medal reach, from Hanna Lane to del Norte, is by float fishing using a variety of watercraft. This project will further TU's priorities in the Rio Grande Basin by improving and securing recreational fishing access along this gold Medal reach.

Additionally, the project will enhance float fishing in the area by installing fish habitat features on a degraded streambank downstream of the Rio Grande Canal at the confluence of the Rio Grande and Pinos Creek. Finally, by providing safe portage around the Rio Grande Canal, this project will allow boaters to utilize the recently completed boat ramp at the Del Norte Riverfront Park.

Trout Unlimited is thrilled to work with the Colorado Rio Grande Restoration Foundation as a partner on this project and to

Trout Unlimited: America's Leading Coldwater Fisheries Conservation Organization
85 Pinon Circle, South Fork, CO 81154
(970) 799-7682 • kevin.terry@tu.org • www.tu.org

COLORADO WATER PLAN GRANT APPLICATION

Page 2

demonstrate our support, the San Luis Valley Chapter of TU has pledged a \$10,000 cash contribution as match for this request. We hope you will join TU in supporting this community project.

Sincerely,



Mark Seaton
President, San Luis Valley Chapter Trout Unlimited



Kevin Terry
Rio Grande Basin Program Director, Western Water and Habitat,
Trout Unlimited

COLORADO WATER PLAN GRANT APPLICATION

Colorado Rio Grande Restoration Foundation
Rio Grande Headwaters Restoration Project
623 Fourth Street
Alamosa, CO 81101
(719) 589-2230



November 30, 2021

Colorado Water Conservation Board
1313 Sherman St., Room 721
Denver, CO 80203

**Re: Letter of Support - Colorado Water Plan Grant Application
Rio Grande Canal Boater Safety and Accessibility Project**

Dear CWCB Board of Directors,

I am writing to confirm the Colorado Rio Grande Restoration Foundation's (CRGRF) cash contribution of \$67,100 to the *Rio Grande Canal Boater Safety and Accessibility Project*. The CRGRF is contributing \$5,000 in cash to cover preliminary project design and engineering and is committed to securing grant funding to fund the remaining \$62,100 required. Additionally, CRGRF will contribute \$9,000 of in-kind support in mapping, signage development and review, and stakeholder outreach. The requested CWP grant will provide additional funding needed to construct the watercraft portage, conduct public outreach, and implement riparian and aquatic habitat restoration. The CRGRF will track these contributions for grant reporting purposes. By partnering with diverse stakeholders and funders, the CRGRF will ensure the project components are completed as described in our grant application.

As the project lead, the CRGRF will work closely with the project partners, engineers, and contractors to ensure the project components, including watercraft portage construction and riparian and aquatic habitat enhancement, are designed and constructed in an environmentally sustainable way and will contribute to the health and resiliency of the Rio Grande. The project will result in enhanced river recreation opportunities and improved fish habitat, benefiting the diverse water users and species that depend on the Rio Grande.

Thank you for your consideration of this project.

Signed,

Emma Reesor
Executive Director, CRGRF

COLORADO WATER PLAN GRANT APPLICATION



STATE OF COLORADO Department of Natural Resources

Page 1 of 2

ORDER		*****IMPORTANT*****				
Number:	PO,PEAA,202200006993	The order number and line number must appear on all invoices, packing slips, cartons, and correspondence.				
Date:	11/23/21	BILL TO				
Description:	Del Norte Low Head Dam Signs	DIVISION OF WATER RESOURCES 1313 SHERMAN STREET, ROOM 818 DENVER, CO 80203				
Effective Date:	11/23/21	SHIP TO DIVISION OF WATER RESOURCES 1313 SHERMAN STREET, ROOM 818 DENVER, CO 80203				
Expiration Date:	06/30/22					
BUYER						
Buyer:	Elena Young	SHIPPING INSTRUCTIONS Delivery/Install Date: 06/30/22 FOB: FOB Dest, Freight Prepaid				
Email:	elena.young@state.co.us					
VENDOR						
EME Holdings Limited 607 1st Street Alamosa, CO 81101						
Contact:	Levi Wilner					
Phone:	719-589-0707					
VENDOR INSTRUCTIONS						
Vendor will deliver to the Rio Grande Canal Water Users Association in Monte Vista.						
EXTENDED DESCRIPTION						
CFDA 97-041						
Line Item	Commodity/Item Code	UOM	QTY	Unit Cost	Total Cost	MSDS Req.
1	61500	EA	1	394.50	\$394.50	<input type="checkbox"/>
Description: Del Norte Low Head Dam Signs						
1 - Kiosk Reference attached quote.						
Line Item	Commodity/Item Code	UOM	QTY	Unit Cost	Total Cost	MSDS Req.
2	61500	EA	1	789.00	\$789.00	<input type="checkbox"/>
Description: Del Norte Low Head Dam Signs						
1 - Warning - Approach 1 Reference attached quote.						
Line Item	Commodity/Item Code	UOM	QTY	Unit Cost	Total Cost	MSDS Req.
3	61500	EA	1	789.00	\$789.00	<input type="checkbox"/>

COLORADO WATER PLAN GRANT APPLICATION



STATE OF COLORADO Department of Natural Resources

Page 2 of 2

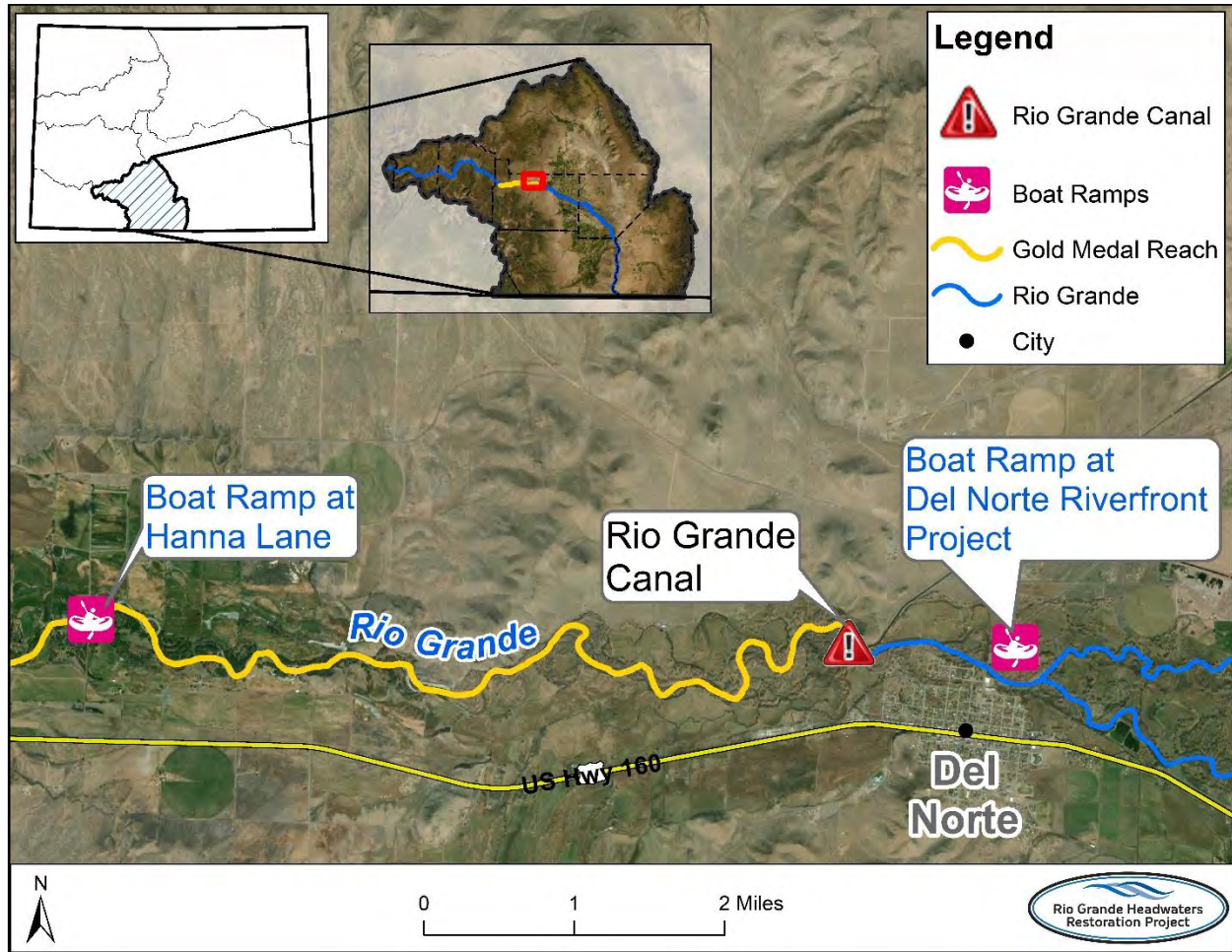
Description: Del Norte Low Head Dam Signs							
1 - Warning - Approach 2							
Reference attached quote.							
Line Item	Commodity/Item Code	UOM	QTY	Unit Cost	Total Cost	MSDS Req.	
4	61500	EA	1	789.00	\$789.00	<input type="checkbox"/>	
Description: Del Norte Low Head Dam Signs							
1 - Warning - Approach 3							
Reference attached quote.							
Line Item	Commodity/Item Code	UOM	QTY	Unit Cost	Total Cost	MSDS Req.	
5	61500	EA	1	394.50	\$394.50	<input type="checkbox"/>	
Description: Del Norte Low Head Dam Signs							
1- Wayfinding Beach at Portage Trail							
Reference attached quote.							
Line Item	Commodity/Item Code	UOM	QTY	Unit Cost	Total Cost	MSDS Req.	
6	61500	EA	6	36.99	\$221.94	<input type="checkbox"/>	
Description: Del Norte Low Head Dam Signs							
6 - Wayfinding Portage Trail							
Reference attached quote.							
Line Item	Commodity/Item Code	UOM	QTY	Unit Cost	Total Cost	MSDS Req.	
7	61500	EA	1	394.50	\$394.50	<input type="checkbox"/>	
Description: Del Norte Low Head Dam Signs							
1 - Warning Dam Site							
Reference attached quote.							
Line Item	Commodity/Item Code	UOM	QTY	Unit Cost	Total Cost	MSDS Req.	
8	61500	EA	1	1,650.00	\$1,650.00	<input type="checkbox"/>	
Description: Del Norte Low Head Dam Signs							
1 - LED Flashing Warning - Dam Site Sign							
Reference attached quote.							
Line Item	Commodity/Item Code	UOM	QTY	Unit Cost	Total Cost	MSDS Req.	
9	61500		0	0.00	\$100.00	<input type="checkbox"/>	
Description: Freight							
Freight							
Service From: 11/24/21 Service To: 06/30/22							
TERMS AND CONDITIONS							
https://www.colorado.gov/osc/purchase-order-terms-conditions							
DOCUMENT TOTAL = \$5,522.44							

COLORADO WATER PLAN GRANT APPLICATION

ADDITIONAL ATTACHMENTS – Rio Grande Canal Boater Safety and Accessibility Project

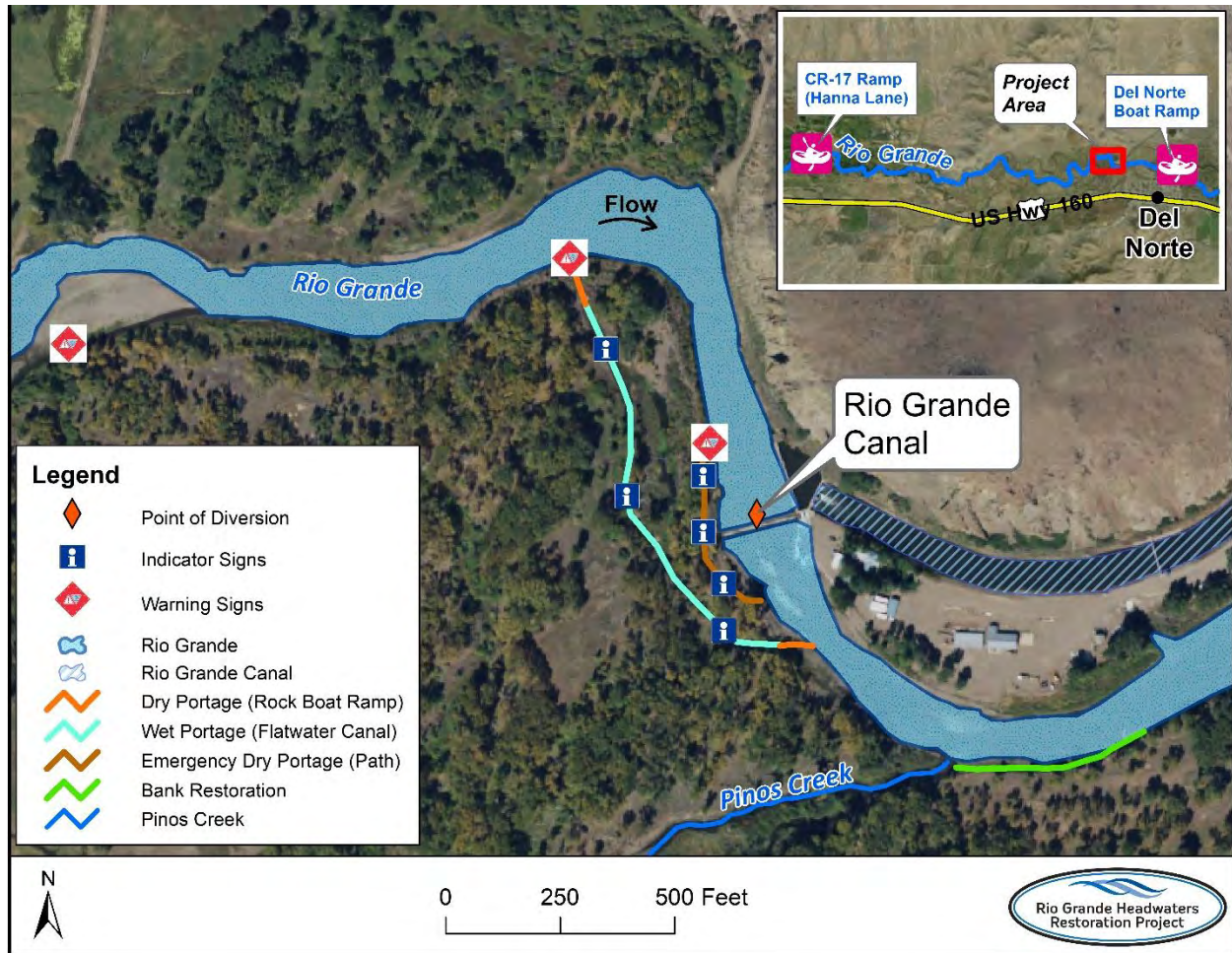
Project Maps

Map A. Site Overview



COLORADO WATER PLAN GRANT APPLICATION

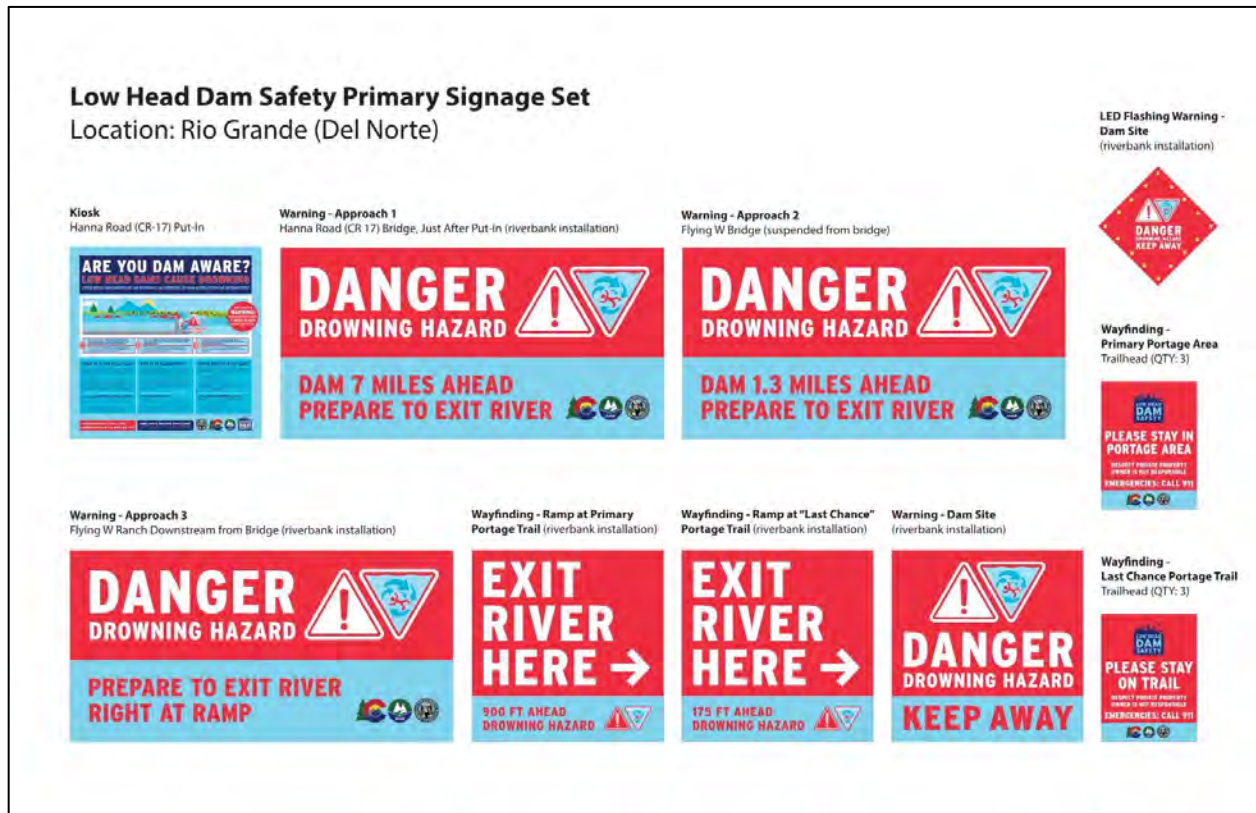
Map B. Project area detail with locations of Rio Grande Canal low head dam, portage paths, safety signage, and bank restoration area.



COLORADO WATER PLAN GRANT APPLICATION

ADDITIONAL ATTACHMENTS – Low Head Dam Safety Signage

The 14 signs shown below will be installed at the Hanna Lane put-in and at and adjacent to the Rio Grande Canal low head dam and associated boat portage.



COLORADO WATER PLAN GRANT APPLICATION

ADDITIONAL ATTACHMENTS – Project Photos

Photos 1a and 1b. Site visits to the Rio Grande Canal with project partners, including Rio Grande Canal Water Users Association, Colorado Parks and Wildlife, Colorado Department of Natural Resources Dam Safety Branch, Ditch and Reservoir Company Alliance, San Luis Valley Water Conservancy District, Southwest River Engineering, Project Resource Studio, and Esse Design.



ADDITIONAL ATTACHMENTS - Rio Grande Canal Boater Safety and Accessibility Project

COLORADO WATER PLAN GRANT APPLICATION

Photo 2. Hydraulic jump created by Rio Grande Canal low head dam structure.



Photo 3. Rio Grande Canal headworks, facing downstream.



COLORADO WATER PLAN GRANT APPLICATION

Photo 4. Project partners tour the existing side channel, which will be repurposed and used as the wet portage.



Photo 5. Cut bank and soil erosion occurring downstream of the Rio Grande Canal at the Rio Grande's confluence with Pinos Creek.



COLORADO WATER PLAN GRANT APPLICATION

ADDITIONAL ATTACHMENTS – Supporting Watershed Plans

The Rio Grande Canal Boater Safety and Accessibility Project (Project) was developed with the support of the 2020 Rio Grande Stream Management Plan (SMP), which can be accessed through the following link: <https://riograndeheadwaters.org/stream-management-plans>. This multi-benefit project will help meet the following goals listed in the SMP:

- Goal B. Maintain or improve bank and channel stability, especially near important wildlife habitat and critical infrastructure such as homes, diversion structures, roads, and bridges.
- Goal C. Maintain and improve the function of floodplains, associated alluvial aquifers, and natural channel processes.
- Goal D. Maintain and improve the extent and condition of riparian areas.
- Goal F. Maintain or improve water quality, with a focus on mine reclamation projects and compliance with state water quality standards.
- Goal G. Maintain or improve long term sustainability of Rio Grande fisheries and associated aquatic habitat.
- Goal H. Improve infrastructure to support recreational access and use on the Rio Grande.
- Goal K. Using guidance from the recreational needs assessment, consider opportunities to maintain or enhance boatable days for recreational uses, especially in the context of reservoir operations and infrastructure updates.

The excerpts below show river conditions by reach, a table of conditions in SMP Reach RG09, a description of the Rio Grande Canal and its impact on recreation, and dry, average, and wet hydrographs with winter/summer aquatic habitat target flows overlaid.

COLORADO WATER PLAN GRANT APPLICATION

Figure 3.2 shows reach condition by assessment as well as the overall reach condition. Overall reach condition was calculated as the mean assessment rating for each reach.

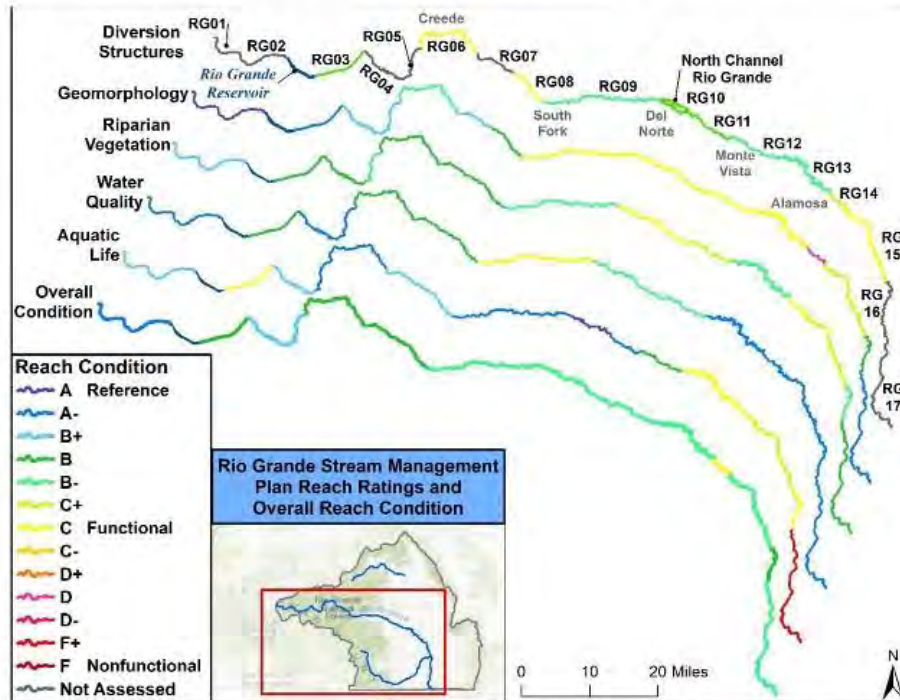


Figure 3.2: Conditions Assessment results presented by reach. Overall reach condition is also shown.

COLORADO WATER PLAN GRANT APPLICATION

RG09 Conditions Assessment Overview

Reach: RG09		Major Stream Condition Stressors												
Parameter	Condition Rating	Crossings and diversions	Roads and railways	Floodplain disconnection	Channelization and armoring	Fill and floodplain conversion	Flow alteration: impoundments	Flow alteration: diversions	Abandoned mine lands	Exotic/naturalized plant species	Exotic aquatic species	Lack of woody material	Hillslope/channel erosion	Unknown source
Geomorphology	C	X	X	X	X	X		X				X		
Riparian Vegetation	B			X		X								
Water Quality	C								X					X
Aquatic Life	D	X						X						
Diversion Structures	B-													

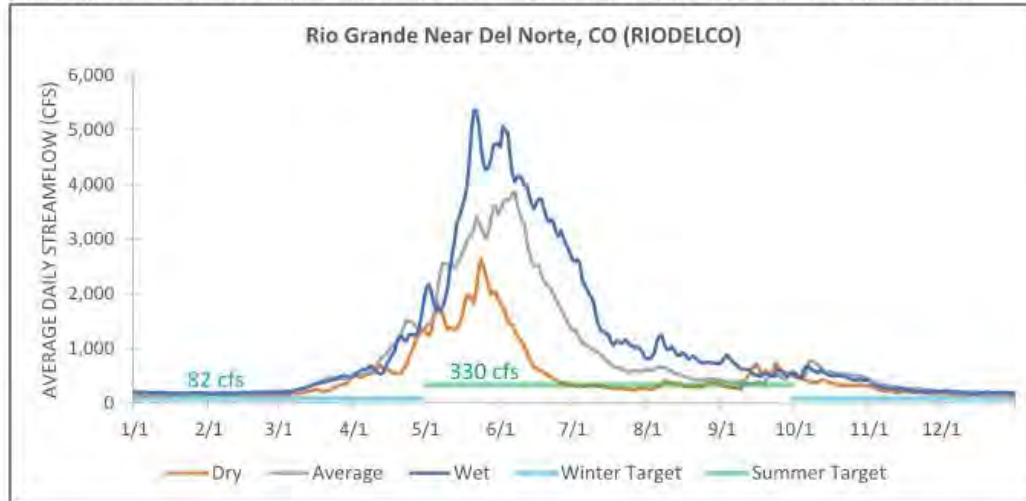
A	B	C	D	E	F	Not Assessed
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*For an explanation of reach ratings, see Section 2.

COLORADO WATER PLAN GRANT APPLICATION

RG09 Aquatic Habitat Flow Targets

The graph below shows summer and winter flow targets with dry, average, and wet hydrographs.



The table below shows percent of days the reach's summer and winter flow targets are met in each year type:

RG09	DRY	AVERAGE	WET
Winter	100%	100%	100%
Summer	64%	100%	100%

*See section 2.6 for detailed explanation of aquatic habitat methodology and caveats.

Del Norte Town Ditch: This structure shares a diversion with the Dyer Ditch. After passing the Dyer headgate, the channel merges with Pinos Creek and passes two overflow channels before reaching the Del Norte Town Ditch headgate (see aerial image in report card). During high flows, this ditch can also receive water from Pinos Creek. Water not diverted by the Dyer Ditch remains in the overflow channel, which merges with Pinos Creek. Both the diversion dam and headgate are aging and function poorly. At low flows, the ditch is unable to divert its full decree. The TAT recommends replacing the existing diversion and headgate and removing an old headgate, which is located just downstream of the main headgate. These improvements would enhance the overall function of this ditch. See Dyer Ditch, above, for a description of the emergency overflow channel near this structure.

Rio Grande Canal: The channel is very stable in the area immediately surrounding this structure's diversion, in part due to the bedrock control on the north bank of the river. However, approximately 1.5 miles upstream of the Rio Grande Canal diversion, near the Dyer Ditch diversion, there is potential for the river to jump the south bank and form a new channel, following Dyer Ditch and the Pinos Creek channel (see map below). If this occurs, the Rio Grande Canal would be bypassed and could pose a serious flooding risk to the Town of Del Norte. The canal's diversion is a concrete dam that spans the entire river, directing water to the canal headgates. The headgates and canal are located on the north side of the river. A pair of sluice gates enables sediment to be flushed downstream. An additional set of adjustment gates (3) are located just downstream of the headgate. The diversion dam functions well for water users but poses significant risks for recreational boaters. The diversion dam creates a roughly 10-foot change in the river's water surface elevation. At some flows, this forms a hydraulic jump, which is very dangerous and can entrain, or trap, objects for long periods of time. To make this structure safe for recreational boaters, the diversion dam would need to be modified for safe boat passage. However, as noted in the 2018 *Rio Grande Fish Management Plan*, this channel-wide diversion serves a critical role as a barrier to nonnative fish species movement upstream. The only designated Gold Medal fishery in the Rio Grande Basin spans approximately 17 miles from South Fork downstream to this structure. If the structure is ever modified, it is critically important that it remains a fish barrier to prevent nonnative predators found downstream from moving upstream into the high-quality trout fisheries. The TAT does not recommend any immediate improvements, however if the diversion is modified in the future, the TAT recommends incorporating boat passage, if possible, and maintaining the existing fish barrier.

Schuch Schmidt Ditch: This structure shares a diversion with the Rio Grande Canal. The structure utilizes the same diversion dam and the headgate is located on the headwall of the Rio Grande Canal diversion structure. Water drains through a corrugated metal pipe underneath the hill to the north and reaches the ditch approximately 0.25 miles northeast. The diversion dam functions well for this ditch, but the headgate leaks. This structure shares a diversion with the Rio Grande Canal. The structure utilizes the same diversion dam and the headgate is located on the headwall of the Rio Grande Canal diversion structure. Water drains through a corrugated metal pipe underneath the hill to the north and reaches the ditch approximately 0.25 miles northeast. The diversion dam functions well for this ditch, but the headgate leaks and the SMP Technical Advisory Team (TAT) recommends headgate repair.

Midland Ditch: A 0.5 mile feeder channel on the north bank of the Rio Grande directs water to this ditch's headgate. A concrete headwall with check board capabilities sits adjacent to the headgate and returns undiverted flows to an overflow channel and back to the river. The river is very stable in this

COLORADO WATER PLAN GRANT APPLICATION

ADDITIONAL ATTACHMENTS - Topographic map showing area surrounding Rio Grande Canal. Existing depression where wet portage will be constructed is visible south of the Rio Grande Canal's diversion structure. Map produced by Southwest River Engineering using LiDAR data.



ADDITIONAL ATTACHMENTS - Rio Grande Canal Boater Safety and Accessibility Project

COLORADO WATER PLAN GRANT APPLICATION

ADDITIONAL ATTACHMENTS – Letters of Support

ADDITIONAL ATTACHMENTS - Rio Grande Canal Boater Safety and Accessibility Project

COLORADO WATER PLAN GRANT APPLICATION



COLORADO

Parks and Wildlife

Department of Natural Resources

Monte Vista Office
0722 S CO RD 1East
Monte Vista, CO 81144
P 719.587.6900

Colorado Water Conservation Board
1313 Sherman St., Room 721
Denver, CO 80203

Re: Letter of Support - Colorado Water Plan Grant Application
Rio Grande Canal Boater Safety and Accessibility Project

Dear CWCB Board of Directors,

The purpose of this letter is to offer support on behalf of Colorado Parks and Wildlife (CPW) for the *Rio Grande Canal Boater Safety and Accessibility Project*. This multi-purpose project will create new recreational boating and fishing opportunities and improve boater safety near the Rio Grande Canal diversion structure on the Rio Grande River. The project needs and opportunities were identified in the 2020 Rio Grande Stream Management Plan (SMP), a planning process throughout which CPW played an active role.

The project will result in construction of a watercraft portage around the Rio Grande Canal diversion structure near Del Norte, CO. The Canal diversion marks the downstream boundary of the Rio Grande's Gold Medal trout fishery, which begins at the Hwy 149 bridge in South Fork. This project will further recreational fishing opportunities along the lower portion of the Gold Medal reach, which are actively used by a diverse group of anglers and boaters. A popular method of fishing the stretch from Hanna Lane to Del Norte, is by float fishing using a variety of watercraft. However, the Rio Grande Canal low head dam is very dangerous and can entrain objects for extended periods of time. For this reason, it cannot be navigated, and watercraft must be portaged. This project involves construction of a formal and safe watercraft portage around the Canal's diversion structure, while still maintaining the fish barrier that protects Gold Medal Waters.

This project will improve public safety as well as recreational boating and fishing opportunities along an important reach of the Rio Grande's Gold Medal Waters. This project will provide safe portage around a dangerous low head dam, allowing boaters to utilize the recently completed boat ramp at the Del Norte Riverfront Park. Additionally, the project includes robust signage and consistent maps directing boaters to the formal portage area. CPW staff will participate in the project by reviewing and providing input on project designs. CPW will continue to work with the Colorado Rio Grande Restoration Foundation as a partner and hopes the CWCB will support this project as well.

Sincerely,

Rick Basagolia
Area Wildlife Manager - San Luis Valley
Colorado Parks and Wildlife

Dan Prenzlow, Director, Colorado Parks and Wildlife • Parks and Wildlife Commission: Carrie Besnette Hauser, Chair • Charles Garcia, Vice-Chair
Luke B. Schafer, Secretary • Tashyn Adams • Karen Bailey • Betsy Blecha • Marie Haskett • Dallas May • Duke Phillips, IV • James Jay Tuttleton • Eden Vandy



COLORADO WATER PLAN GRANT APPLICATION



COLORADO
Division of Water Resources

Department of Natural Resources

Dam Safety Branch

November 23, 2021

Colorado Water Conservation Board

1313 Sherman St., Room 721

Denver, CO 80203

**Re: Letter of Support - Colorado Water Plan Grant Application
Rio Grande Canal Boater Safety and Accessibility Project**

Dear CWCBC Board of Directors,

I am pleased to provide my support with my predecessor serving as a member of the Low Head Dam Safety Steering Committee, for the Colorado Rio Grande Restoration Foundation's (CRGRF) *Rio Grande Canal Boater Safety and Accessibility Project*. This project builds upon two efforts DNR spearheaded in recent years, the Colorado Low Head Dam - Public Safety Initiative (2020) and the Colorado Low Head Dam Inventory Project (2019). These projects resulted in the identification and categorization of low head dams (LHD) constructed in streams across Colorado, including the Rio Grande Canal, and have provided educational and safety materials for the recreational dangers posed by LHDs across the state.

To be clear, the Dam Safety Branch does not have statutory authority over the recreational safety of LHD structures, but recommends owners of such structures take steps to reduce the known risk to recreational users, which the subject project proposes to accomplish.

The Rio Grande Canal LHD is dangerous for recreational users on the Rio Grande. For this reason, it cannot be navigated, and watercraft must be portaged. Project leaders in DNR's low head public safety initiative learned of the safety risk at the Rio Grande Canal and have developed safety signage, which will be installed at the Canal in Spring 2022. We understand the funds requested in CRGRF's CO Water Plan grant will take the next step in public safety at the Rio Grande canal by constructing a safe portage around the Canal for all watercraft to use.

This project will improve public safety as well as recreational opportunities along the Rio Grande in Colorado. The project builds upon years of effort at DNR to identify and mitigate potential safety hazards at LHD for recreational users and will be the first site to receive LHD safety signage developed by the DNR-led LHD safety initiative. I am thrilled to support the Colorado Rio Grande Restoration Foundation and I hope you will support this project. *It could be used as a model/template for others to develop a proper approach to legislating, regulating, signing, and improving the safety of these structures around the State.*

Sincerely,

John Hunyadi, PE
Chief, Colorado Dam Safety Branch

COLORADO WATER PLAN GRANT APPLICATION



Ditch and Reservoir Company Alliance
140 W. 29th St. #339
Pueblo, CO 81008

11/18/2021

Colorado Water Conservation Board
1313 Sherman St., Room 721
Denver, CO 80203

**Re: Letter of Support - Colorado Water Plan Grant Application
Rio Grande Canal Boater Safety and Accessibility Project**

Dear CWCB Board of Directors,

I am pleased to provide my support on behalf of the Ditch and Reservoir Company Alliance (DARCA) for the Colorado Rio Grande Restoration Foundation's (CRGRF) *Rio Grande Canal Boater Safety and Accessibility Project*. This project builds upon the **Colorado Low Head Dam - Public Safety Initiative (2020)**, an effort in which DARCA is a proud partner and plays an active role.

The low head dam (LHD) safety initiative has resulted in the development of educational and safety materials to be used at LHDs across the state of Colorado. The Rio Grande Canal LHD is a particularly dangerous structure for recreational users on the Rio Grande. For this reason, it cannot be navigated, and watercraft must be portaged. Project leaders in DNR's low head dam safety initiative learned of the safety risk at the Rio Grande Canal and developed safety signage to be installed at the Canal in Spring 2022 as a signage pilot project. The signage developed by the LHD safety initiative will direct boaters to the formal portage. The funds requested by this CO Water Plan grant will help fund the construction of that portage.

This project will provide multiple benefits for public safety and recreation at an important irrigation diversion structure on the Rio Grande. The project is in alignment with and build upon DARCA's mission. I am thrilled to support the CRGRF and I hope you will support this application.

Sincerely,

Amber Weber

Amber Weber,
Executive Director, Ditch and Reservoir Company Alliance

COLORADO WATER PLAN GRANT APPLICATION

623 Fourth Street
Alamosa, CO 81101
(719) 589-2230
Heather@slvwcd.org



November 23, 2021

Heather R. Dutton - Manager

Colorado Water Conservation Board
1313 Sherman St., Room 721
Denver, CO 80203

**Re: Letter of Support - Colorado Water Plan Grant Application
Rio Grande Canal Boater Safety and Accessibility Project**

To the CWCB Board of Directors,

Please accept this letter of support on behalf of the San Luis Valley Water Conservancy District (SLVWCD) for the Colorado Rio Grande Restoration Foundation's (CRGRF) *Rio Grande Canal Boater Safety and Accessibility Project* grant application. The SLVWCD operates an augmentation program within five counties in the San Luis Valley. We replace injurious depletions to the Rio Grande caused by pumping of domestic, commercial, and municipal wells. Additionally, the SLVWCD is a leader in the local and state water communities, working with partners to address timely issues such as groundwater sustainability, compliance with the Rio Grande Compact, and water supply protection.

The SLVWCD partnered with the CWCB over 20 years ago to complete the 2001 Study, a restoration master plan for 91 miles of the Rio Grande. Since that time, we have remained committed to implementation of the 2001 Study and supported the CRGRF's efforts to improve river health and function for multiple uses in the Rio Grande Basin. The *Rio Grande Canal Boater Safety and Accessibility Project* was identified in the Rio Grande Stream Management Plan, a planning process throughout which the SLVWCD played an active role.

This project will result in a safe watercraft portage around the Rio Grande Canal diversion structure, which is a dangerous low head dam on the Rio Grande near Del Norte, CO. The project will address recreational safety hazards at the diversion structure and enhance recreational boating and fishing. The SLVWCD will participate in this project by reviewing and providing input on project designs. I appreciate the opportunity to comment on the CRGRF's Colorado Water Plan application.

Sincerely,

A handwritten signature in blue ink that reads "Heather R. Dutton".

Heather Dutton
Manager, San Luis Valley Water Conservancy District

President: Randall Palmgren, Center, CO
Vice-President: Darius Allen, Alamosa, CO; Secretary/Treasurer Marcie Schulz, Alamosa, CO;
Directors: Richard Davie, Del Norte, CO; M. Dee Greeman, Alamosa, CO; Charles Griego, Alamosa, CO;
Steve Keller, Monte Vista, CO; Tyler Neely, Del Norte, CO; Karla Shriver, Monte Vista, CO; Tuck Slane, Hooper, CO.

COLORADO WATER PLAN GRANT APPLICATION



11/19/2021

Colorado Water Conservation Board
1313 Sherman St., Room 721
Denver, CO 80203

Re: Letter of Support - Colorado Water Plan Grant Application
Rio Grande Canal Boater Safety and Accessibility Project

Dear CWCBC Board of Directors,

I am pleased to provide my support on behalf of San Luis Valley Great Outdoors (SLV GO!) for the *Rio Grande Canal Boater Safety and Accessibility Project*. SLV GO!'s mission is to provide residents and visitors throughout the San Luis Valley with accessible and inclusive outdoor recreation opportunities that balance conservation, connect communities, improve wellness, encourage stewardship, and contribute to the economic vitality of the region. This project will create new recreational boating and fishing opportunities and improve boater safety near the Rio Grande Canal diversion structure on the Rio Grande. SLV GO! is aware of the need for improved safety at the Rio Grande Canal and enthusiastically supports this project.

The Rio Grande Canal low head dam, located upstream of Del Norte, CO, is located on a stretch of the Rio Grande actively used by a variety of recreational boaters. The Canal's low head dam is a dangerous structure that poses a recreational safety hazard. This project will result in a new watercraft portage around the Rio Grande Canal diversion. In doing so, this project will further SLV GO!'s recreation enhancement objectives in the greater San Luis Valley by improving recreational boating and fishing opportunities along this portion of the Rio Grande. A popular method of fishing the Rio Grande from Hanna Lane to Del Norte is by float fishing using a variety of watercraft. By constructing a formal portage around the Canal, recreational boaters will have safe passage past the Canal, allowing them to utilize the recently completed boat ramp at the Del Norte Riverfront Park.

This project will improve public safety and recreational opportunities along an important reach of the Rio Grande. Additionally, the project includes new signage and maps, which SLV GO! sees

San Luis Valley Great Outdoors
600 State Ave
Alamosa CO 81001
www.slvgo.com

COLORADO WATER PLAN GRANT APPLICATION

as an important part of the success of this project. SLVGO wholeheartedly supports the Colorado Rio Grande Restoration Foundation's grant proposal for this important project.

Sincerely,

A handwritten signature in black ink, appearing to read "Mick Daniel", with a stylized flourish at the end.

Mick Daniel,
Executive Director

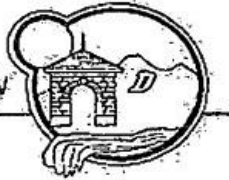
San Luis Valley Great Outdoors
610 State Ave
Alamosa CO 81101
www.slvgo.com

COLORADO WATER PLAN GRANT APPLICATION

GATEWAY TO ALL SEASON FUN

TOWN OF DEL NORTE

140 SPRUCE STREET
P.O. BOX 249
DEL NORTE, CO 81132



PHONE NO. (719) 657-2708
FAX NO. (719) 657-2035

November 29, 2021

Colorado Water Conservation Board
1313 Sherman St., Room 721
Denver, CO 80203

**Re: Letter of Support - Colorado Water Plan Grant Application
Rio Grande Canal Boater Safety and Accessibility Project**

Dear CWCB Board of Directors,

I am pleased to provide my support on behalf of the Town of Del Norte for the *Rio Grande Canal Boater Safety and Accessibility Project*. This multi-purpose project will create new recreational boating and fishing opportunities and improve boater safety near the Rio Grande Canal diversion structure on the Rio Grande. Over the past several years, Town of Del Norte has partnered with the Rio Grande Headwaters Restoration Project (RGHRP) to improve river recreation opportunities for the community through the Del Norte Riverfront Project. This project created a play wave, boat ramp, pedestrian river access, park improvements and improved fish habitat in the Town of Del Norte. While the newly completed project has created a safe space for the public to recreate the river, the Rio Grande Canal diversion creates a significant drowning hazard just one mile upstream of Del Norte.

The project will result in construction of a watercraft portage around the Rio Grande Canal diversion structure near Del Norte, CO. By constructing a formal portage around the Canal and adding safety signage, recreational boaters will have safe passage past the Canal, allowing them to utilize the recently completed boat ramp at the Del Norte Riverfront Park. These efforts are critical to Town of Del Norte as we work to ensure safe access to the Rio Grande for our community.

Thank you very much for your consideration of this grant request.

Sincerely,
Town of Del Norte

Chris Trujillo, Mayor