

Water Supply Reserve Fund – Grant and Loan Program
Water Activity Summary Sheet
March 22-23, 2017
Agenda Item 24(e)

Applicant & Grantee: Grand Valley Water Users Association

Water Activity Name: Grand Valley Roller Dam Rehabilitation Phase 2 Master Plan

Water Activity Purpose: Agricultural, Non-consumptive, M & I Study

County: Mesa

Drainage Basin: Colorado

Water Source: Colorado River

Amount Requested/Source of Funds: \$50,000 Colorado Basin Account

Matching Funds: Applicant Match (cash & in-kind) = \$95,114

- 190% of the Basin Account request (meets 25% min)
- 65.5% of the total project cost of \$145,114

Staff Recommendation:
Staff recommends approval of up to \$50,000 from the Colorado Basin Account to help fund the project titled: Grand Valley Roller Dam Rehabilitation Phase 2 Master Plan.

Water Activity Summary: WSRF grant funds, if approved, will help develop 100% design-level drawings, construction cost estimates, and specifications for the four remaining rehabilitation projects identified in the Phase 1 Master Plan. These projects (outlined below) will address non-consumptive needs, including Recovery Program issues; environmental concerns; water supply and water rights issues, including significant quantities of Pre-Compact water; compact compliance and related obligations; commercial agricultural use; as well as, urban, suburban, and municipal/industrial uses.

1. Upgrade the Roller Dam Electrical and Control Systems
2. Rehabilitate the Canal Headworks
3. Rehabilitate the Roller Tracks and Canal Concrete
4. Replace the Radial Gates at the Canal Station 22 spillway

The Phase 2 Dam and Canyon Facilities Master Plan Project will provide the next step to rehabilitating and upgrading the Roller Dam and the portion of the Government Highline Canal immediately below the Roller Dam while maintaining the Cameo Call, improving water delivery system operations, capacity and reliability, sustaining the ecological health of the river and preserving the agricultural economy of the Grand Valley. The final designs will address the permitting and environmental compliance needs to complete the construction of the projects and builds upon information provided by several entities including, but not limited to, OMID, Reclamation, Association, CWCB SWSI, and the CBRT BIP.

Discussion: As described in the Colorado Basin Roundtable Chair's Recommendation Letter, this project was unanimously voted for. The Roundtable has previously assisted this project in Phase 1 (\$42,700 in 2015) as it is called out in the Colorado Basin Implementation Plan (BIP) "Top Projects"

as meeting all six CBIP key themes. Additionally, this project assists in satisfying several Colorado Water Plan Critical Goals and Actions as identified in Chapter 10.3 including the following targets:

- A. Supply-Demand Gap: Protect and develop compact entitlements and manage risks
- D. Agriculture: Maintain agricultural viability
- E. Storage: Prioritize grants and loans to support the implementation of BIP-identified multi-purpose projects and methods

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

Eligibility Requirements: The application meets requirements of the three subsections of the Eligibility Requirements: General Eligibility, Entity Eligibility, and Water Activity Eligibility.

Eligibility Based on Funding Match Requirements: This application meets the Basin Account Matching requirements.

Evaluation Criteria: This activity has undergone review and evaluation and staff has determined that it satisfies the Evaluation Criteria. Please refer to Basin Roundtable Chair's Recommendation Letter and the WSRF Grant Application for applicant's detailed response.

Funding Summary / Matching Funds:

<u>Funding Source</u>	<u>Cash</u>	<u>In-Kind</u>	<u>Total</u>	<u>Status</u>
Association/OMID	\$15,114	\$5,000	\$20,114	Secured
Reclamation Field Services Grant	\$50,000	\$0	\$50,000	Secured
CO River Water Conservation District	\$35,000	\$0	\$35,000	<i>Pending</i>
WSRA Colorado Basin Account	\$50,000	\$0	\$50,000	
Total Project Costs	140,114	\$5,000	\$145,114	

CWCB Project Manager: Anna Mauss

All products, data, and information developed as a result of this grant must be provided to the CWCB in hard copy and electronic format as part of the project documentation. This information will in-turn be made widely available to Basin Roundtables and the general public and will help promote the development of a common technical platform. In accordance with the revised WSRF Criteria and Guidelines, staff would like to highlight additional reporting and final deliverable requirements. The specific requirements are provided below.

Reporting: The applicant shall provide the CWCB a progress report every 6 months, beginning from the date of the executed contract. The progress report shall describe the completion or partial completion of the tasks identified in the scope of work including a description of any major issues that have occurred and any corrective action taken to address these issues.

Final Deliverable: At completion of the project, the applicant shall provide the CWCB a final report that summarizes the project and documents how the project was completed. This report may contain photographs, meeting summaries, and engineering reports/designs.

Engineering: All engineering work (as defined in the Engineers Practice Act (§12-25-102(10) C.R.S.)) performed under this grant shall be performed by or under the responsible charge of a professional engineer licensed by the State of Colorado to practice engineering.

THE COLORADO BASIN ROUNDTABLE
C/O P.O. BOX 1120
GLENWOOD SPRINGS, COLORADO 81602

February 1, 2017

Craig Godbout
Colorado Water Conservation Board
Water Supply Planning Section
1313 Sherman Street
Denver CO
 [\(303\) 866-3441](tel:(303)866-3441), ext 3210 (office)
 [\(970\) 218-9407](tel:(970)218-9407) (cell)
craig.godbout@state.co.us

Dear Craig:

The Colorado Basin Roundtable voted 17-0 through email balloting (due to weather canceling the January RT meeting) to approve the basinwide WSRF request (\$50k) for the Grand Valley Roller Dam Rehabilitation Phase 2 Master Plan.

There was one comment in the voting: one person who voted yes offered the aside that the basin request should be halved. There was one abstention due to a conflict of interest.

We want to assist this phase of planned work on the 100-plus-year-old Roller Dam and the Government-Highline Canal operated by the Grand Valley Water Users Association. We have previously assisted this project as it is called out in our Basin Implementation Plan for the importance it has for water rights administration, the sustaining of agriculture and its attendant benefits to the environment.

The project scored 12.75 out of 14.25 points on our grants scoring matrix, attesting to how this project addresses our Basin Implementation Plan.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Jim Pokrandt", with a long, sweeping horizontal stroke extending to the right.

Jim Pokrandt
Chair, Colorado Basin Roundtable

Attachment: CBRT Grant Matrix Scoring Sheet



COLORADO WATER CONSERVATION BOARD



WATER SUPPLY RESERVE ACCOUNT APPLICATION FORM

Today's Date: 12/14/16

Grand Valley Roller Dam Rehabilitation Phase 2 Master Plan.

Name of Water Activity/Project

Grand Valley Water Users Association

Name of Applicant

Colorado Basin Roundtable

Amount from Statewide Account:

\$0

Amount from Basin Account(s):

\$50,000

Approving Basin Roundtable(s)

(If multiple basins specify amounts in parentheses.)

Total WSRA Funds Requested:

\$50,000

FEIN: 84-0402700

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Required Exhibits

- Statement of Work, Budget, and Schedule
- Project Map
- As Needed (i.e. letters of support, photos, maps, etc.)

Appendices – Reference Material

- Program Information
- Insurance Requirements
- WSRA Standard Contract Information (Required for Projects Over \$100,000)
- W-9 Form (Required for All Projects Prior to Contracting)

Water Supply Reserve Account – Application Form

Revised October 2016

Instructions

To receive funding from the Water Supply Reserve Account (WSRA), a proposed water activity must be approved by the local Basin Roundtable **AND** the Colorado Water Conservation Board (CWCBC). The process for Basin Roundtable consideration and approval is outlined in materials in Appendix 1.

Once approved by the local Basin Roundtable, the applicant should submit this application **with a detailed statement of work including budget and schedule as Exhibit A** to CWCBC staff by the application deadline.

WSRA applications are due with the roundtable letter of support 60 calendar days prior to the bi-monthly Board meeting at which it will be considered. Board meetings are held in January, March, May, July, September, and November. Meeting details, including scheduled dates, agendas, etc. are posted on the CWCBC website at: <http://cwcb.state.co.us>. Applications to the WSRA Basin Account are considered at every board meeting, while applications to the WSRA Statewide Account are only considered at the March and September board meetings.

When completing this application, the applicant should refer to the WSRA Criteria and Guidelines available at: <http://cwcb.state.co.us/LoansGrants/water-supply-reserve-account-grants/Documents/WSRACriteriaGuidelines.pdf>. In addition, the applicant should also refer to the [Supplemental Scoring Matrix](#) applied to Evaluation Criteria Tiers 1-3 for Statewide Account requests.

The application, statement of work, budget, and schedule **must be submitted in electronic format** (Microsoft Word or text-enabled PDF are preferred) and can be emailed or mailed on a disk to:

Craig Godbout - WSRA Application
Colorado Water Conservation Board
1313 Sherman St., Room 721
Denver, CO 80203
Craig.godbout@state.co.us

If you have questions or need additional assistance, please contact Craig Godbout at: 303-866-3441 x3210 or craig.godbout@state.co.us.

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Part I. - Description of the Applicant (Project Sponsor or Owner);

1.	Applicant Name(s):	Grand Valley Water Users Association (on behalf of project partners)		
	Mailing address:	1147 24 Road Grand Junction, Colorado 81505-9639		
	FEIN #:	84-0402700		
	Primary Contact:	Mark Harris	Position/Title:	General Manager
	Email:	mharris@gvwua.com		
	Phone Numbers:	Cell: (970) 261-1616	Office:	(970) 242-5065
	Alternate Contact:	Angie Fowler	Position/Title:	Engineer Consultant (SGM)
	Email:	angief@sgm-inc.com		
	Phone Numbers:	Cell: 970-618-9973	Office:	970-384-9027

2. Eligible entities for WSRF funds include the following. What type of entity is the Applicant?

- ☐ Public (Government) – municipalities, enterprises, counties, and State of Colorado agencies. Federal agencies are eligible entities, but the agency would need to demonstrate why a local non-federal partner should not be the grant recipient. Federal agencies are encouraged to work with local entities.
- ☐ Public (Districts) – authorities, Title 32/special districts, (conservancy, conservation, and irrigation districts), and water activity enterprises.
- ☒ Private Incorporated – mutual ditch companies, homeowners associations, and non-profit corporations.
- ☐ Private not incorporated - individuals, partnerships, and sole proprietors are eligible for Basin Funds but not for Statewide Funds.
- ☐ Non-governmental organizations are typically not-profit but they may also include for-profit corporations.
- ☐ Covered entities as defined in Section 37-60-126 C.R.S., are eligible for grants or loans if the applicant has adopted an approved water conservation plan.

3. Provide a brief description of your organization

The Grand Valley Water Users Association (Association) is the managing entity for a portion of the federally owned Grand Valley Project. The Grand Valley Project facilities include the Grand Valley Diversion Dam, also known as the Roller Dam, on the Colorado River in De Beque Canyon, the 55-mile-long Government Highline Canal, 150 miles of

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project operated laterals, 100 miles of drainage ditches and a hydroelectric power plant. The Roller Dam and upper portions of the Government Highline Canal are the focus elements of the Grand Valley Project included in the Dam and Canyon Facilities Master Planning efforts.

The Association first delivered water in 1916 to Reclamation's Grand Valley Project and since then has supplied a full supply of irrigation water, diverted at the Roller Dam, to approximately 24,000 irrigated acres via the Government Highline Canal. In addition, diversions at the Roller Dam provide water to 15,000 irrigated acres under the Mesa County, Palisade, and Orchard Mesa Districts and water for the Grand Valley Power Plant year round. The primary partner for this project is the Orchard Mesa Irrigation District (OMID). OMID has 2 - 15 mile long delivery canals all supplied by 4 hydraulic pumps. They serve a little more than 9,000 acres & 10,000 water users.

4. If the Contracting Entity is different then the Applicant (Project Sponsor or Owner) please describe the Contracting Entity here.

N/A

5. Successful applicants will have to execute a contract with the CWCB prior to beginning work on the portion of the project funded by the WSRA grant. In order to expedite the contracting process the CWCB has established a standard contract with provisions the applicant must adhere to. A link to this standard contract is included in Appendix 3. Please review this contract and check the appropriate box.

☒

The Applicant will be able to contract with the CWCB using the Standard Contract

☐

The Applicant has reviewed the standard contract and has some questions/issues/concerns. Please be aware that any deviation from the standard contract could result in a significant delay between grant approval and the funds being available.

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

N/A

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Part II. - Description of the Water Activity/Project

1. What is the primary purpose of this grant application? (Please check only one)

<input type="checkbox"/>	Nonconsumptive (Environmental or Recreational)
<input checked="" type="checkbox"/>	Agricultural
<input type="checkbox"/>	Municipal/Industrial
<input type="checkbox"/>	Needs Assessment
<input type="checkbox"/>	Education
<input checked="" type="checkbox"/>	Other

Explain:

This project will take the four remaining top rehabilitation needs identified in Phase 1 to final design. Continued operations of the Roller Dam supports agricultural, nonconsumptive, municipal and industrial needs and aligns with the BIP.

2. If you feel this project addresses multiple purposes please explain.

The final design of the four remaining top rehabilitation projects identified in Phase 1 will address non-consumptive needs, including Recovery Program issues; environmental concerns; water supply and water rights issues, including significant quantities of Pre-Compact water; Compact compliance and related obligations; commercial agricultural use; as well as, urban, suburban, and municipal/industrial uses. This Project will also directly benefit Mesa County, Palisade, and Orchard Mesa Irrigation Districts. This Project is one of many that GVVUA has initiated using a collaborative approach in an effort to address the pressing issues facing all of these areas and those with the Colorado River. Sustains and facilitates the use of the Orchard Mesa Check Case.

3. Is this project primarily a study or implementation of a water activity/project? (Please check only one)

<input checked="" type="checkbox"/>	Study (Final Design)	<input type="checkbox"/>	Implementation
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4. To catalog measurable results achieved with WSRA funds can you provide any of the following numbers?

<input type="checkbox"/>	New Storage Created (acre-feet)
<input type="checkbox"/>	New Annual Water Supplies Developed, Consumptive or Nonconsumptive (acre-feet)
<input checked="" type="checkbox"/>	Existing Storage Preserved or Enhanced (acre-feet)
<input type="checkbox"/>	Length of Stream Restored or Protected (linear feet)
<input checked="" type="checkbox"/>	Length of Pipe/Canal Built or Improved (linear feet)
<input type="checkbox"/>	Efficiency Savings (acre-feet/year OR dollars/year – circle one)
<input type="checkbox"/>	Area of Restored or Preserved Habitat (acres)
<input checked="" type="checkbox"/>	Other -- Explain:

See Other Explanation in Part II.1 above.

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4. To help us map WSRA projects please include a map (Exhibit B) and provide the general coordinates below:

Latitude:

39.188990°

Longitude:

-108.281816°

5. Please provide an overview/summary of the proposed water activity (no more than one page). Include a description of the overall water activity and specifically what the WSRA funding will be used for. A full **Statement of Work** with a detailed budget and schedule is required as **Exhibit A** of this application.

Background

The water rights of the Grand Valley irrigation systems that comprise the “Cameo Call,” along with the water rights of the Shoshone Hydropower Plant, control administration of the Colorado River basin within Colorado. In addition to the direct economic benefits in supporting the agricultural economy of the Grand Valley, exercise of these water rights and the continued operation of the Grand Valley Dam and canyon facilities provide predictability to river flows and associated environmental and cultural benefits. These benefits include more reliable water flows in the upper portions of the Colorado River, and water flowing from the upper portions of the basin improves water quality in the lower portions of the basin. The flows generated by the Cameo Call help provide water for recreational activities on the Colorado River and for riparian habitat and aesthetic values along the entire Colorado River corridor. Flows generated by the Cameo Call also assist the state in complying with its obligations under the Colorado River Compact and in maintaining acceptable lake levels in Lake Powell.

The Roller Dam diverts water into the Government Highline Canal for irrigation and hydropower purposes under very senior water rights (listed in Part IV below) that collectively make up the “Cameo Call.” The irrigation water is provided to four irrigation entities: Grand Valley Water Users Association and the Orchard Mesa, Palisade and Mesa County Irrigation Districts, which provide irrigation water to approximately 41,000 acres of land in the Grand Valley. The hydropower water is used to produce hydropower at the Grand Valley Power Plant, which has a capacity of approximately 800 cfs and an electrical generation capacity of about 3 megawatts (MW). Return flows from the power plant return to the Colorado River at the head of the 15-Mile Reach, which helps maintain flows in that reach for the endangered fish. The Roller Dam, which was constructed in the early 1900’s, is in need of extensive upgrading and rehabilitation. The continued operation of these facilities will provide multiple benefits, justifying a cost share approach to project financing commensurate with the derived benefits.

Purpose

The Phase 2 Dam and Canyon Facilities Master Plan Project will provide the next step to rehabilitating and upgrading the Roller Dam and the portion of the Government Highline Canal immediately below the Roller Dam while maintaining the Cameo Call, improving water delivery system operations, capacity and reliability, sustaining the ecological health of the river and preserving the agricultural economy of the Grand Valley. Phase 1 identified five priority projects, one of which is already underway (Upper Canyon Canal Lining). The other top projects include: 1) upgrade the Roller Dam Electrical and Control Systems, 2) rehabilitate the Canal Headworks, 3) rehabilitate the Roller Tracks and Canal Concrete, and 4) replace the Radial Gates at the Canal Station 22 spillway. Phase 2 of the project will develop 100% design level drawings, construction cost estimates, and specifications for these four top projects. These efforts will also include permitting support for each project. A Funding Plan will also be developed to support the construction of all four projects.

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Part III. – Threshold and Evaluation Criteria

Describe how the water activity meets these **Threshold Criteria**. (Detailed in the *General Eligibility, Entity Eligibility, and Water Activity Eligibility* of the 1st Rev. 10-6-2016 Water Supply Reserve Fund Criteria and Guidelines.)

1. The application for a grant or loan must be approved by the roundtable for the basin in which the water activity would occur before it is submitted to the CWCB.

Letter pending Colorado Basin Roundtable approval.

2. The water activity must assist in meeting the basinwide consumptive or nonconsumptive water supply needs identified by the roundtable under 37-75-104(2)(c), C.R.S. ¹ in cooperation with ongoing statewide water supply initiatives (SWSI), or needs identified in Basin Implementation Plans (BIPs) or Colorado's Water Plan.

Yes, the activities included as part of this project and application support one of the Colorado Basin Roundtables top Basinwide projects, Grand Valley Roller Dam Rehabilitation, which assists in meeting the Basinwide consumptive and nonconsumptive water supply needs. This activity is also consistent with the referenced statute.

3. Both structural and nonstructural projects and methods are eligible for WSRF funding.

There are four design projects identified in this project all of which include structural and infrastructure improvement to the Roller Dam and Government Highline Canal facilities.

1. Describe how the water activity meets the **Water Activity Eligibility**. Examples of eligible water activities are listed but expressly not limited by SB 06-170.

This project includes the final design of the top four (of the top five) Roller Dam rehabilitation projects as described in the Roller Dam Master Plan Phase 1 Report (SGM, 2016). These rehabilitation projects support the consumptive and nonconsumptive needs of the Colorado Basin as identified in the CBRT Basin Implementation Plan (BIP). The final designs will address the permitting and environmental compliance needs to complete the construction of the projects and builds upon information provided by several entities including, but not limited to, OMID, Reclamation, Association, CWCB SWSI, and the CBRT BIP (see Part IV.2 below for more detail).

¹ 37-75-102. Water rights - protections. (1) It is the policy of the General Assembly that the current system of allocating water within Colorado shall not be superseded, abrogated, or otherwise impaired by this article. Nothing in this article shall be interpreted to repeal or in any manner amend the existing water rights adjudication system. The General Assembly affirms the state constitution's recognition of water rights as a private usufructuary property right, and this article is not intended to restrict the ability of the holder of a water right to use or to dispose of that water right in any manner permitted under Colorado law. (2) The General Assembly affirms the protections for contractual and property rights recognized by the contract and takings protections under the state constitution and related statutes. This article shall not be implemented in any way that would diminish, impair, or cause injury to any property or contractual right created by intergovernmental agreements, contracts, stipulations among parties to water cases, terms and conditions in water decrees, or any other similar document related to the allocation or use of water. This article shall not be construed to supersede, abrogate, or cause injury to vested water rights or decreed conditional water rights. The General Assembly affirms that this article does not impair, limit, or otherwise affect the rights of persons or entities to enter into agreements, contracts, or memoranda of understanding with other persons or entities relating to the appropriation, movement, or use of water under other provisions of law.

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3. The water activity meets the provisions of Section 37-75-104(2), Colorado Revised Statutes.² The Basin Roundtable Chairs shall include in their approval letters for particular WSRA grant applications a description of how the water activity will assist in meeting the water supply needs identified in the basin roundtable's consumptive and/or non-consumptive needs assessments.

Letter pending Colorado Basin Roundtable approval.

4. Matching Requirement: For requests from the **Statewide Fund**, the applicants will be required to demonstrate a **25 percent** (or greater) match of the total grant request from the other sources, including by not limited to Basin Funds. A minimum match of 5% of the total grant amount shall be from Basin funds. A minimum match of 5% of the total grant amount must come from the applicant or 3rd party sources. Sources of matching funds include but are not limited to Basin Funds, in-kind services, funding from other sources, and/or direct cash match. Past expenditures directly related to the project may be considered as matching funds if the expenditures occurred within 9 months of the date the contract or purchase order between the applicant and the State of Colorado is executed. Please describe the source(s) of matching funds. (NOTE: These matching funds should also be reflected in your Detailed Budget in **Exhibit A** of this application)

The Association and OMID will be working as partners on this project. A summary of the matching, cash, and in-kind contributions for this project is outlined in the table below.

Table 1. Summary of Grant Funding Sources and Matches.

Funding Sources	Funding Amount
Association/OMID Cash	\$15,114 (10.4%)
Association In-Kind Services	\$5,000 (3.5%)
Reclamation Field Services Grant	\$40,000 (27.6%)
Colorado Water Supply Reserve Fund Grant	\$50,000 (34.5%)
Colorado River Water Conservation District	\$35,000 (24.1%)
Total Project Cost	\$145,114

² 37-75-104 (2)(c). Using data and information from the Statewide Water Supply Initiative and other appropriate sources and in cooperation with the on-going Statewide Water Supply Initiative, develop a basin-wide consumptive and nonconsumptive water supply needs assessment, conduct an analysis of available unappropriated waters within the basin, and propose projects or methods, both structural and nonstructural, for meeting those needs and utilizing those unappropriated waters where appropriate. Basin Roundtables shall actively seek the input and advice of affected local governments, water providers, and other interested stakeholders and persons in establishing its needs assessment, and shall propose projects or methods for meeting those needs. Recommendations from this assessment shall be forwarded to the Interbasin Compact Committee and other basin roundtables for analysis and consideration after the General Assembly has approved the Interbasin Compact Charter.

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5. For Applications that include a request for funds from the Statewide Account, describe how the water activity/project meets all applicable **Evaluation Criteria**. (Detailed on page 3 of the 1st Rev. 10-6-2016 Water Supply Reserve Fund Criteria and Guidelines.) **Please attach additional pages as necessary.**

Basinwide funding request only.

Evaluation Criteria – the following criteria will be utilized to further evaluate the merits of the water activity proposed for funding from the Statewide Account. In evaluation of proposed water activities, preference will be given to projects that meet one or more criteria from each of the three “tiers” or categories. Each “tier” is grouped in level of importance. For instance, projects that meet Tier 1 criteria will outweigh projects that only meet Tier 3 criteria. The applicant should also refer to the Supplemental Scoring Matrix applied to Evaluation Criteria Tiers 1-3 for Statewide Account requests. WSRA grant requests for projects that may qualify for loans through the CWCB loan program will receive preference in the Statewide Evaluation Criteria if the grant request is part of a CWCB loan/WSRA grant package. For these CWCB loan/WSRA grant packages, the applicant must have a CWCB loan/WSRA grant ratio of 1:1 or higher. Preference will be given to those with a higher loan/grant ratio.

Tier 1: Promoting Collaboration/Cooperation and Meeting Water Management Goals and Identified Water Needs

- a. The water activity addresses multiple needs or issues, including consumptive and/or non-consumptive needs, or the needs and issues of multiple interests or multiple basins. This can be demonstrated by obtaining letters of support from other basin roundtables (in addition to an approval letter from the sponsoring basin).
- b. The number and types of entities represented in the application and the degree to which the activity will promote cooperation and collaboration among traditional consumptive water interests and/or non-consumptive interests, and if applicable, the degree to which the water activity is effective in addressing intrabasin or interbasin needs or issues.
- c. The water activity helps implement projects and processes identified as helping meet Colorado’s future water needs, and/or addresses the gap areas between available water supply and future need as identified in SWSI or a roundtable’s basin-wide water needs assessment.

Tier 2: Facilitating Water Activity Implementation

- d. Funding from this Account will reduce the uncertainty that the water activity will be implemented. For this criterion the applicant should discuss how receiving funding from the Account will make a significant difference in the implementation of the water activity (i.e., how will receiving funding enable the water activity to move forward or the inability obtaining funding elsewhere).
- e. The amount of matching funds provided by the applicant via direct contributions, demonstrable in-kind contributions, and/or other sources demonstrates a significant & appropriate commitment to the project.

Tier 3: The Water Activity Addresses Other Issues of Statewide Value and Maximizes Benefits

- f. The water activity helps sustain agriculture & open space, or meets environmental or recreational needs.
- g. The water activity assists in the administration of compact-entitled waters or addresses problems related to compact entitled waters and compact compliance and the degree to which the activity promotes maximum utilization of state waters.
- h. The water activity assists in the recovery of threatened and endangered wildlife species or Colorado State species of concern.
- i. The water activity provides a high level of benefit to Colorado in relationship to the amount of funds requested.
- j. The water activity is complimentary to or assists in the implementation of other CWCB programs.

Continued: Explanation of how the water activity/project meets all applicable **Evaluation Criteria**. **Please attach additional pages as necessary.**

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Part IV. – Required Supporting Material

1. **Water Rights, Availability, and Sustainability** – This information is needed to assess the viability of the water project or activity. Please provide a description of the water supply source to be utilized, or the water body to be affected by, the water activity. This should include a description of applicable water rights, and water rights issues, and the name/location of water bodies affected by the water activity.

Water rights, described below from the Colorado River, comprising the “Cameo Call” are for irrigation, power and domestic use. Irrigation water is tied to specific lands within the project and provides full and supplemental service. The domestic water right is a small water right primarily used for livestock watering purposes during non-irrigation season and has not been used for several years.

<i>Cameo Water Rights</i>				
Owner	Amount (c.f.s.)	Adjudication Date	Approp. Date	Use
GVWUA/United States	730	7/22/1912	2/27/1908	Irrigation
GVWUA/United States	400/800 ¹	7/25/1941	2/27/1908	Hydro-electric Power
GVWUA/United States	220	7/25/1941	2/27/1908	Domestic & Livestock
Orchard Mesa Irrigation District	450	7/22/1912	10/25/1907	Irrigation
Orchard Mesa Irrigation District	10.2	7/22/1912	10/1/1900	Irrigation
Palisade Irrigation District	23.5	7/25/1941	6/1/1918	Irrigation
Palisade Irrigation District	80	7/22/1912	10/01/1889	Irrigation
Mesa County Irrigation District	40	7/22/1912	7/6/1903	Irrigation

The source of all of the above described water rights is the Colorado River.

The Association was a Co-Applicant in Case No. 91CW247 (“Check Case”), District Court, Water Division 5. The other co-applicants were the District and the United States. Details of this “Check Case” are available upon request.

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2. Please provide a brief narrative of any related studies or permitting issues.

BUREAU OF RECLAMATION STUDIES AND PROJECTS

- **Grand Valley Diversion Dam Review of Operations and Maintenance (RO&M) Program Examination Reports**
 - The rehabilitation needs of the Dam and Canyon facilities have been documented by the Reclamation as part of special investigations and their ongoing maintenance and operations obligations. The Roller Dam has been examined approximately every seven (7) years since 1949 as required under the Reclamation's Review of Operation and Maintenance (RO&M) Program.
- **Grand Valley Water Users Association RO&M Program Examination Reports**
 - Program examination reports have been prepared by Reclamation since 1954 for the Grand Valley Water Users System. The examination report addressed the condition of the "Government Highline Canal from the Grand Valley Diversion Dam (Roller Dam) to the end of the approximately 55-mile long canal system. Other facilities examined include the Price-Stub Pumping Plant, tunnels, facilities added to the system by the Colorado River Basin Salinity Control Project, various control gates and checks, the drain system and other features." The reports included years 1991, 1996, 2002, 2008, and 2014.
- **1991 Rehabilitation and Betterment Study**
 - In 1991 Reclamation developed a study to summarize the concerns identified in the previous RO&M reports in an effort to support the Association with a federal grant application. The study reiterated several of the identified concerns as well as contributed several new concerns, many of which remain a high priority today. A cost estimate was prepared by Reclamation as part of the study. The grant request was ultimately unsuccessful and the projects identified found alternate funding to address the concerns or remained unaddressed.
 - This study identified the following top concerns to be addressed at the Dam and Canyon Facilities including, but not limited to:
 - Repair the concrete surface of the diversion dam
 - Replace two of the roller gates on the left side of the diversion dam with a permanent ogee crest
 - Rehabilitate the roller gates
 - Modify the roller gates to provide additional head on the canal works
 - Upgrade the dc and ac power systems to comply with current codes
 - Repair the river training wall
 - Line the first 600 feet of the canal
 - Replace two spillway radial gates on the canal
 - Repair the concrete on the canal headworks and place a guardrail alongside the gate hoists
 - Miscellaneous work between the dam and the inlets to the Power Canal and Tunnel No. 3 (cleaning and reshaping the canal), investigate the canal prism and remove any obstructions and build-up canal freeboard where necessary to safely carry the maximum canal diversion requirements, and upgrading the canal foot bridge and gauging station.
 - This study also concluded that:
 - The dc electrical system should be upgraded to comply with current codes instead of converted to ac power - most cost effective.
 - Modification to the entrance of the tunnel will not reduce headloss through Tunnel No. 3.
- **March 2011 Hydropower Resource Assessment at Existing Reclamation Facilities**
 - Bureau of Reclamation evaluated potential hydropower production sites across the United States in 2011. Out of the 530 sites evaluated, the Grand Valley Diversion Dam was identified as the 18th best site for hydropower development based on benefit cost ratio, and the 5th best in the Upper Colorado Region. However, the assessment identified the site had constraints that may impact the cost and viability to construct hydropower including: fish and wildlife, recreation, historical/archaeological.

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- The report stated the Grand Valley Diversion Dam could produce approximately 2.0 megawatts (MW) of installed capacity with a design flow of 2,260 cfs and 14 feet of design head. The cost for construction was estimated at approximately \$9 million dollars.

GRAND VALLEY WATER USERS ASSOCIATION STUDIES AND PROJECTS

- **Water Management Plan**

- The ASSOCIATION received a Water Supply Reserve Account Grant in the amount of \$45,000 to fund a comprehensive update to the Water Management Plan (WMP), a critical component to long-term maintenance, asset management, water stewardship, and most importantly, creating a funding plan to accomplish those projects – whose costs will be in the millions. The objective of the WMP project is to prepare a conditional assessment and operational analysis of the 50 miles of the canal below the outfall of Tunnel No. 3, identify and document water losses, identify priority projects, conduct a benefits analysis, ascertain environmental concerns, determine costs associated with the projects and create a strategic funding plan to implement the priority projects. The WMP project will also allow the ASSOCIATION to implement certain provisions of the Colorado River Cooperative Agreement (CRCA, Section 7, specific to conservation and avoidance of Colorado Compact issues). The WMP project began in fall 2015 and is anticipated to conclude in early 2017.

- **Upper Canal Improvements**

- One component of the Roller Dam Master Plan has already been designed, the Upper Canal Improvements Project. This project addresses the rehabilitation of the top 500 feet of the canal, immediately below the dam. Reclamation provided the design work and attendant pricing estimates for reshaping the canal prism and replacing the concrete liner currently in place. Reclamation will continue to provide technical and professional assistance, ultimately delivering construction drawings and specifications. Construction is planned to be complete in the spring of 2016 should the entire length of canal be undertaken; should the project be bifurcated for logistical reasons, the work would be completed in the fall of 2016 or the spring of 2017.

- **Reclamation Salinity Program- Government Highline Canal – Reach 1A Lower Section Lining Project**

- The Reach 1A Salinity Lining Replacement project was undertaken by the Association and includes approximately \$160,000 of replacement work on Stage 1A of the Government Highline Canal. The overall purpose of the Reach 1A Lower Section Lining project is to install approximately 4,774 feet of PVC liner to an unlined and open section of the Government Highline Canal. The section of canal to be lined is earthen that was originally designed with a trapezoidal cross section with a 30-foot bottom and 2:1 side slopes. Over the years the slopes have eroded and sloughed. In some sections heavy vegetation has grown in along the sides down to the high water surface line in the canal. The proposed improvements include lining with 2 layers of geotextile fabric on either side of a 30 mil PVC liner covered with a protective 3 inch shotcrete layer. A gravel underdrain will also be installed. The total project award is \$3.6 million. The Association performed approximately \$40,000 of the work in FY 2015 and the remainder will be done in approximately equal parts in FYs 2016 and 2017.

- **Power Canal Capacity Report (December 2015)**

- The Power Canal Capacity Report evaluated potential to increase diversions to the Grand Valley Power Plant in the event Conserved Consumptive Use credits, available through a water bank, were needed and could be put to beneficial use through the power plant. The report concluded that in most years some excess capacity of approximately 5,000 AF per irrigation season is available however many operational issues would need to be worked out before implementing this type of a program. The report also highlighted the need for more consistent and accurate flow measurement in the power canal.

3. **Statement of Work, Detailed Budget, and Project Schedule**

The statement of work will form the basis for the contract between the Applicant and the State of Colorado. In short, the Applicant is agreeing to undertake the work for the compensation outlined in the statement of work and budget, and in return, the State of Colorado is receiving the deliverables/products specified. **Please note that costs incurred prior to execution of a contract or purchase order are not subject to reimbursement.** All WSRA funds are disbursed on a reimbursement basis after

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review invoices and appropriate backup material.

Please provide a detailed statement of work using the template in Exhibit A. Additional sections or modifications may be included as necessary. Please define all acronyms and include page numbers.

See Exhibit A

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REPORTING AND FINAL DELIVERABLE

Reporting: The applicant shall provide the CWCB a progress report every 6 months, beginning from the date of the executed contract. The progress report shall describe the completion or partial completion 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 Deliverable: At completion of the project, the applicant shall provide the CWCB a final report that summarizes the project and documents how the project was completed. This report may contain photographs, summaries of meetings and engineering reports/designs.

PAYMENT

Payment will be made based on actual expenditures and invoicing by the applicant. Invoices from any other entity (i.e. subcontractors) cannot be processed by the State. The request for payment must include a description of the work accomplished by major task, and estimate of the percent completion for individual tasks and the entire water activity in relation to the percentage of budget spent, identification of any major issues and proposed or implemented corrective actions.

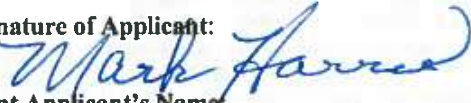
The last 10 percent of the entire water activity budget will be withheld until final project/water activity documentation is completed. All products, data and information developed as a result of this grant must be provided to the CWCB in hard copy and electronic format as part of the project documentation. This information will in turn be made widely available to Basin Roundtables and the general public and help promote the development of a common technical platform.

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The above statements are true to the best of my knowledge:

Signature of Applicant:



Print Applicant's Name:

Mark Harris

Project Title: Grand Valley Roller Dam Rehabilitation Phase 2 Master Plan

Date: 12/16/2016

Return an electronic version (hardcopy may also be submitted) of this application to:

Craig Godbout – WSRA Application
Colorado Water Conservation Board
1313 Sherman St., Room 721
Denver, CO 80203
303-866-3441, ext. 3210 (office)
303-547-8061 (cell)
craig.godbout@state.co.us

Exhibit A
Statement of Work
Date: 12/10/16

WATER ACTIVITY NAME - Grand Valley Roller Dam Rehabilitation – Phase 2, Dam and Canyon Facilities Master Plan

GRANT RECIPIENT – Grand Valley Water Users Association & Orchard Mesa Irrigation District

FUNDING SOURCE - Grand Valley Water Users Association & Orchard Mesa Irrigation District

INTRODUCTION AND BACKGROUND

Provide a brief description of the project. (Please limit to **no more than 200 words**; this will be used to inform reviewers and the public about your proposal)

The Roller Dam diverts water into the Government Highline Canal for irrigation and hydropower purposes. The Roller Dam, which was constructed in the early 1900's, is in need of extensive upgrading and rehabilitation.

The proposed Master Plan Phase 2 for the Roller Dam Rehabilitation Project will develop 100% design level drawings, construction cost estimates, and specifications for top projects identified in the Phase 1 Master Plan. These top rehabilitation projects support maintaining the Cameo Call, improve water delivery system operations, capacity and reliability, sustaining the ecological health of the river and preserving the agricultural economy of the Grand Valley.

Phase 1 identified five priority projects, one of which is already underway which is lining a portion of the canal. The other top projects include: 1) upgrade the Roller Dam Electrical and Control Systems, 2) Rehabilitate the Canal Headworks, 3) Rehabilitate the Roller Tracks and Canal Concrete, and 4) Replace the Radial Gates at the Canal Station 22 spillway. These efforts will also include permitting and environmental compliance needed to support the construction of each project.

OBJECTIVES

Develop final designs, research permitting and environmental compliance requirements, develop technical specifications, and construction cost estimates for the following projects:

1. Upgrade the Roller Dam Electrical and Control Systems
2. Rehabilitate the Canal Headworks
3. Rehabilitate the Roller Tracks and Canal Concrete
4. Replace the Radial Gates at the Canal Station 22 Spillway

TASKS

TASK 1 – UPGRADE THE ROLLER DAM ELECTRICAL AND CONTROL SYSTEMS

Description of Task

The Master Plan Phase 1 efforts to support Upgrades to the Roller Dam Electrical and Control Systems included site visits by SGM and GVVUA staff and an evaluation of the electrical systems by EmTech. Budgetary repair and replacement of certain system elements were also provided by EmTech. These efforts serve as the basis for the task development to upgrade the Roller Dam Electrical and Control Systems.



The existing Roller Dam has an overhead three phase service from Xcel Energy. The largest load on the dam is a motor-generator which converts AC power to DC power. The DC power is then used to operate the seven roller gate motors. Each roller gate motor is 10 hp DC. The head gates are powered by a single 5 hp AC motor which transmits power to the gates via an elaborate bevel gear arrangement. The remainder of the power consumption at the dam is for house power and tools. It appears that there is very little if any automation on the roller gate controls. The head gates are controlled with a rudimentary mechanical level switch located downstream on the canal. The existing dam power distribution system and the DC motors powering the gates are obsolete and in need of replacement.



There are also several out buildings at the dam site, including the gate keeper's house, a shop, and two smaller buildings, which have electrical systems, which are in need of upgrades. These are separate single phase services and the wiring has been added on to and modified over time.

There are some outstanding questions concerning controls and automation for the operation of the dam gates and the canal head gates that will be considered and evaluated as part of this task. These (and other) questions will require some additional research and discussion amongst the stakeholders to arrive at the optimal long term solution.

There are several options for repowering the dam and the dam site that will require some additional research in an effort to support the selected option. Perhaps the biggest variable in the design of the electrical upgrades is re-use or replacement of the roller gate motors. As currently installed, the gates are operated using DC motors which have served well and had recent maintenance. The existing motors are served by a DC power buss which is obsolete and does not provide the redundancy needed to power this facility. If that DC buss is replaced with a new AC service (as recommended) the two probable options will be:

- Replace the existing motors with new AC motors and VFD drives.
- Retain the DC motors and provide AC to DC converters at each motor.

Method/Procedure

1. Research alternatives for the operation of the dam gates and the canal head gates.

2. Hold stakeholder meeting to discuss the results of the research and determine the optimal long term solution.
3. Research the DC versus AC power to the dam.
4. Research the re-use or replacement of the roller gate motors.

Once the research and stakeholder input is complete, the engineer will design construction documents for the Roller Dam Electrical and Control Systems. For specific designs see the deliverable section.

Deliverable

The deliverable will be Electrical System Upgrade Construction Documents. Once the project approach has been fully vetted, construction documents will be made. The documents will include:

- Design new electrical service and underground distribution for the site
- Design new electrical distribution for the dam
- Design controls / automation for the dam gates
- New head-gate power distribution and controls
- Electrical upgrades to the dam keeper's house and outbuildings

TASK 2 – REHABILITATE THE CANAL HEADWORKS

Description of Task

The Master Plan Phase 1 efforts to support the Rehabilitation of the Canal Headworks included site visits by SGM and GVWUA staff and an evaluation of the headworks structure by Municipal Treatment, Inc. An approach and scope and budgetary repair estimate were also developed. These efforts serve as the basis for the scope of work for this task to complete the headgate rehabilitation design for purposes of procuring a contractor to perform the work. The task will evaluate the existing gates/components structure, current alignment and stability, and determine if repair or replacement of the gates or components are needed.

Method/Procedure

1. Field survey of gates, frames, pedestals, and slides
2. Evaluate the alignment and stability of each gate installation.
3. Coordinate with gate suppliers and typical installation specification tolerances to determine if repair or replacement is required
4. If repair is determined to be appropriate, begin generating technical specifications and costs.
5. If replacement is determined to be appropriate, re-evaluate if a similar slide gate or an alternate gate assembly is the most effective solution

Deliverable

The deliverables will be developed for the appropriate repair or replacement option depending on the results of the field survey and evaluations. The deliverables will include:

- CAD layout of headworks, identifying the scope of work at each gate location, and develop appropriate repair/replacement details
- Technical specifications for repair/replacement

- General and special conditions to administrate the work
- Update to the Engineers Opinion of Probable Cost

TASK 3 – REHABILITATE ROLLER TRACKS AND CANAL CONCRETE

Description of Task

The Master Plan Phase 1 efforts to support the Rehabilitation of the Roller Tracks and Canal Concrete included site visits by SGM and GVVUA staff and an evaluation of the concrete erosion by Mays Construction. An approach, scope, and budgetary repair estimate were developed.



These efforts serve as the basis for the scope of work for this task to complete the repair design for purposes of procuring a contractor to perform the work. Task 3 has two projects; 1) Roller Tracks and 2) Canal Concrete. The two projects will include a field visit, discussion with the Colorado Department of Public Health and Environment (CDPHE) Water Quality Control Division (WQCD) to determine acceptable methods for removal and disposal of concrete, and design of technical specifications for the proposed project.

Method/Procedure

Task 3a. Roller Tracks

1. Conduct a field survey of repair areas to establish the repair limits at each roller track.
2. Work with the CDPHE WQCD to determine acceptable methods for removal and disposal of the concrete.
3. Generate CAD layout of the dam, identifying the scope of work at each roller, and appropriate repair details.
4. Develop technical specifications for repair and cost details.

Task 3b. Canal Concrete

1. Conduct a field survey of channel walls and slab to establish the repair scope. This will involve establishing the original channel profile, which will establish repair concrete thicknesses, and guide the contractor during the repair concrete installation.
2. Work with CDPHE WQCD to determine acceptable methods for concrete removal and disposal.
3. Generate CAD layout of the channel, identifying the scope of work in each area of the walls and slab, and appropriate repair details.
4. Develop technical specifications for repair and cost details.

Deliverables

The deliverables for each task include generating a CAD layout of the project, identifying the scope of work specific to each project including the appropriate repair details, and technical specifications.

Deliverables will include:

- Task 3a: Generate CAD layout of the dam, identifying the scope of work at each roller, and appropriate repair details
- Task 3b: Generate CAD layout of the channel, identifying the scope of work in each area of the walls and slab, and appropriate repair details
- Task 3a and 3b: Develop technical specifications for repair
- Task 3a and 3b: Prepare general and special conditions to administrate the work
- Task 3a and 3b: Update the Engineers Opinion of Probable Cost

TASK 4 – REPLACE THE RADIAL GATES AT THE CANAL STATION 22 SPILLWAY

Description of Task

In the winter, when the canal is carrying water to the GVPP, the canal headgate and the Roller Dam rollers are typically frozen and not capable of being adjusted. The operation of Station 22 spillway operations is essential to address and mitigate any emergencies within the canal and GVPP operations during these times.



The radial gates need to be replaced in order to keep the Station 22 spillway functional. The frames supporting both radial gates are rusting out requiring the gates to be completely rebuilt or replaced with a more modern design. Each gate is uniquely designed and will require a review of the historical drawings and reissued before a local craftsman can rebuild them. More modern replacement options such as vertical lift gates could be used and will be easier to maintain in the future.

Additional design considerations will also be needed to evaluate options for preventing ice buildup on the gates to make sure they remain operational throughout the winter. Further design is needed to update the crude electric hoists on one radial gate and the hand operated hoist for the other gate. Upgrading the hoists will allow for more accurate and efficient operations of the gates especially during an emergency situation.

The Master Plan Phase 1 efforts to support the Replacement of the Radial Gates at the Canal Station 22 Spillway included site visits by SGM and GVWUA staff and an evaluation of the structure by Municipal Treatment. An approach and scope and budgetary repair estimate were also developed. These efforts serve as the basis for the scope of work for this task to complete the repair design for purposes of procuring a contractor to perform the work.

Method/Procedure

1. Conduct a field survey of walls and slab to determine condition of the concrete and dimensional properties of gate bays. This will determine level of repair and modification for new gate installation.
2. Evaluate the two gate type options; radial or slide. Consider operational advantages of each, and modifications that may be required. Additional hydraulic analysis will be performed should one option require construction which would reduce the discharge area.
3. Prepare a Technical Memorandum with findings and Engineer's Opinion of Probable Cost for Association and OMID review and selection.

Deliverable

The deliverables will be a final design of the selected option and technical specifications including:

- Complete final design of selected option, including CAD drawings depicting concrete repair and installation requirements. This will include site work, and extension of electrical power.
- Prepare Technical Specifications for gate, motor and ancillary equipment procurement.

TASK 5 – Project Management

Description of Task

SGM will provide the necessary communications and coordination necessary to support efficient, effective, and timely project execution. SGM

Method/Procedure

1. Hold one internal project kickoff meeting and initiate QA/QC processes.
2. Conduct monthly project budget and schedule checks and review invoices
3. Communicate with the Association and OMID staff, as needed, on project progress, etc.
4. Internal coordination and communication

Deliverable

The deliverables will be monthly project status updates, progress reports every six months, and a final report at the end of the project.

- Monthly project status updates with invoices.
- Progress reports every 6 months, beginning from the date of the executed contract. The progress report will describe the completion or partial completion 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 Association will provide the CWCB a final report that summarizes the project and documents how the project was completed. This report may contain photographs, summaries of meetings and engineering reports/designs.

REPORTING AND FINAL DELIVERABLE

Reporting: The applicant will provide the CWCB a progress report every 6 months, beginning from the date of the executed contract. The progress report will describe the completion or partial completion 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 Deliverable: At completion of the project, the applicant will provide the CWCB a final report that summarizes the project and documents how the project was completed. This report may contain photographs, summaries of meetings and engineering reports/designs.

BUDGET

The budget is summarized in Table 1 and a detail budget by tasks is provided in Table 2. The other direct costs include mileage only.

Table 1. Overall Budget.

Task Activity Description	SGM Professional Services	Other Direct Costs (mileage)	Total Project Costs	WSRF Basin Grant Request	Association and OMID Cash Matching Funds	BOR Field Services Grant	River District Support
Task 1 – Upgrade the Roller Dam Electrical and Control Systems	\$42,880	\$200	\$43,080	\$15,000	\$3,080	\$15,000	\$10,000
Task 2 – Rehabilitate Canal Headworks	\$23,110	\$200	\$23,310	\$10,000	\$3,310	\$2,000	\$8,000
Task 3 – Roller Track & Canal Construction Rehabilitation	\$33,180		\$33,180	\$10,000	\$3,180	\$10,000	\$10,000
Task 4 – Replace Radial Gates at the Canal Station 22 Spillway	\$22,748		\$22,748	\$10,000	\$2,748	\$3,000	\$7,000
Task 5 – Project Management	\$17,596	\$200	\$17,796	\$5,000	\$2,796	\$,10,000	
Association Project Coordination Costs			\$5,000		\$5,000		
Total Costs	\$139,514	\$600	\$145,114	\$50,000	\$20,114	\$40,000	\$35,000

SCHEDULE

The overall schedule for these tasks is estimated at 4-5 months for the Design Development and 3-4 months to finalize the Construction Documents once the respective design development documents have been approved.

See Table 3 for an estimation of Finish date from the Notice to Proceed (NTP) timeframe. This dating method allows flexibility in the event of potential delays from the procurement process.

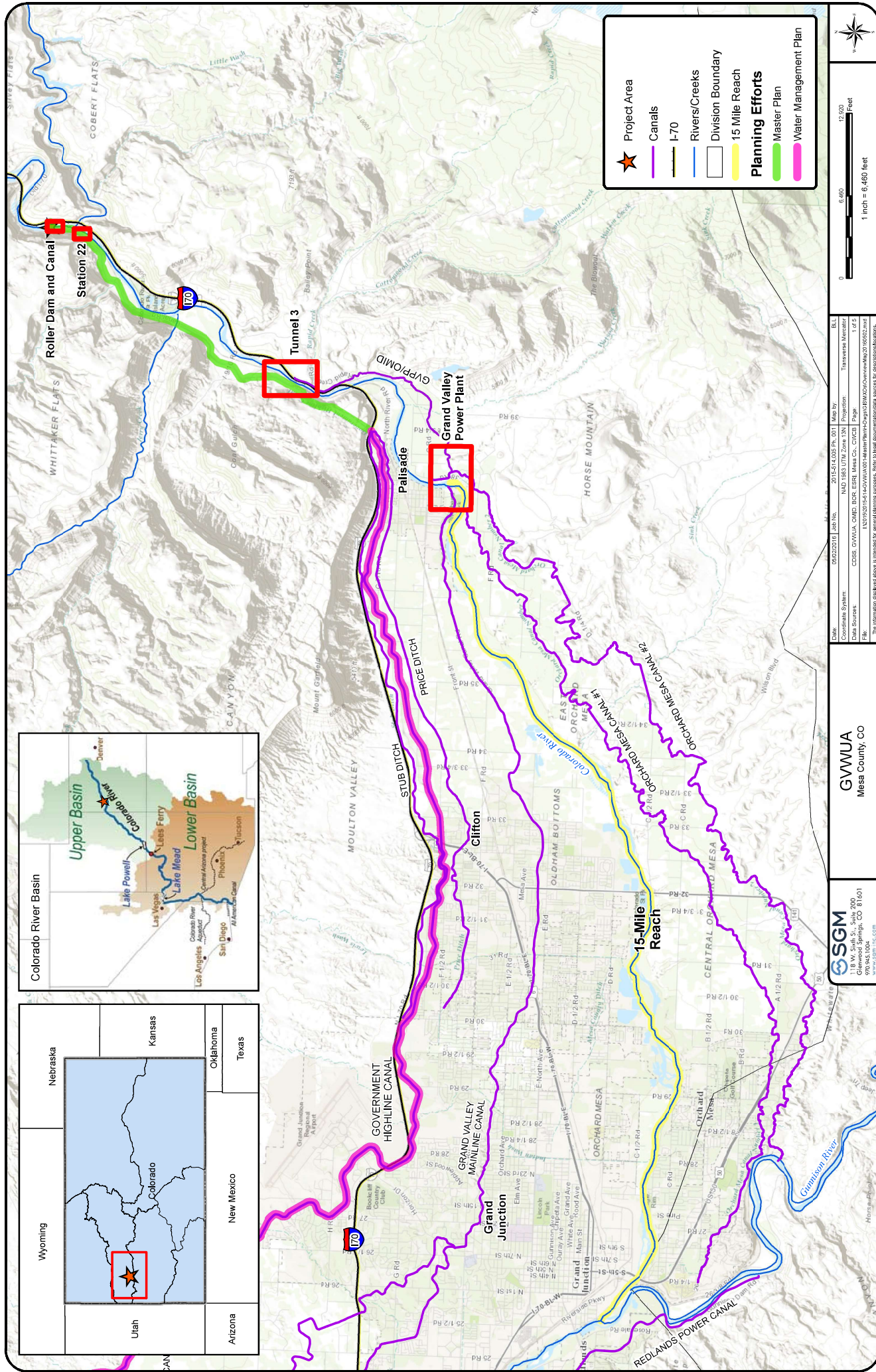
Table 3: Project Schedule

Task	Start Date	Finish Date
1.1 Upgrade the Roller Dam Electrical and Control Systems Research, Evaluation, and Field Survey	Upon NTP	NTP + 135 days
2.1 Evaluate Existing Gate Frames and Slides at Canal Headworks- Research, Evaluation, and Field Survey	Upon NTP	NTP + 135 days
3.1 Rehabilitate Roller Tracks and Canal Concrete- Research, Evaluation, and Field Survey	Upon NTP	NTP + 135 days
4.1 Replace the Radial Gates at the Canal Station 22 Spillway- Research, Evaluation, and Field Survey	Upon NTP	NTP + 135 days
1.2 Upgrade the Roller Dam Electrical and Control Systems- Electric systems Upgrade- Technical Specification and Construction Documents	Finish task 1.1	Completed Task 1.1 + 120 days
2.2 Evaluate Existing Gate Frames and Slides at Canal Headworks- Technical Specification and Construction Documents	Finish task 2.1	Completed Task 2.1 + 120 days
3.2 Rehabilitate Roller Tracks and Canal Concrete- Technical Specification and Construction Documents	Finish task 3.1	Completed Task 3.1 + 120 days
4.2 Replace the Radial Gates at the Canal Station 22 Spillway- Technical Specification and Construction Documents	Finish task 4.1	Completed Task 4.1 + 120 days
5- Project Management- On going throughout project	Upon NTP	
6- Pre-Construction Coordination-	Upon completion of Tasks 1.2, 2.2, 3.2, and 4.2	

NTP = Notice to Proceed

PAYMENT

Payment will be made based on actual expenditures and invoicing by the applicant. Invoices from any other entity (i.e. subcontractors) cannot be processed by the State. The request for payment must include a description of the work accomplished by major task, and estimate of the percent completion for individual tasks and the entire water activity in relation to the percentage of budget spent, identification of any major issues and proposed or implemented corrective actions. The last 5 percent of the entire water activity budget will be withheld until final project/water activity documentation is completed. All products, data and information developed as a result of this grant must be provided to the CWCB in hard copy and electronic format as part of the project documentation. This information will in turn be made widely available to Basin Roundtables and the general public and help promote the development of a common technical platform.





○

Identified Needs from Table 1

Upper Canal Sections

Headgate Structure

Canal Transition Zone

Upper 500 Feet

—+—

Railroad

—

Roads