

**Water Supply Reserve Account – Grant and Loan Program  
Water Activity Summary Sheet**

**Applicant:** San Luis Valley Irrigation District

**Amount Requested:** \$288,000.00

**Water Activity Name:** Rio Grande Reservoir  
Multi-Use Enlargement and Rehabilitation  
Preliminary Design

**Source of Funds:** Statewide

**Water Activity Purpose:** Study/Design for  
Structural Water Project

**Matching Funds:** None

**County:** Hinsdale, Rio Grande and Saguache

**Drainage Basin:** Rio Grande

**Water Source:** Rio Grande River

**Water Activity Summary:**

The San Luis Valley Irrigation District (District) is an irrigation district formed and operating pursuant to Title 37, Article 42 of the Colorado Revised Statutes. Its office is located in Center, Colorado. The District owns and operates the Farmers Union Canal, which diverts water from the Rio Grande River and delivers it through a network of over 100 miles of ditches to nearly 62,000 acres of land in Alamosa, Rio Grande and Saguache Counties. It also owns and operates Rio Grande Reservoir located on the headwaters of the Rio Grande River in Hinsdale, County, 20 miles southwest of Creede, Colorado. It is the only on-stream main stem reservoir on the Rio Grande in Colorado. The Reservoir's current storage capacity is approximately 54,000 acre-feet, the majority of which is presently used for the storage of irrigation water for use within the District.

District is finalizing its report analyzing the possible enlargement of Rio Grande Reservoir and the potential benefits such an enlargement may provide. In general, the report concludes that it is likely that the height of the dam can be safely raised a maximum of approximately 10 feet, which would yield an additional 10,000 acre-feet of storage. This would bring the Reservoir's total storage capacity to approximately 64,000 acre-feet.

The findings of this report support further analysis of enlarging and rehabilitating the Reservoir for several uses including storage of water to:

- better meet Colorado's obligations under the Rio Grande Compact
- re-regulation of flows to support instream and riparian needs
- storage of additional supplies of augmentation water to meet the growing domestic and commercial development in the Rio Grande Basin
- the development of a larger sustainable conservation pool within the Reservoir for fish habitat, flood control and re-design of the outlet works to provide consistent and safe water delivery, particularly during high flow periods.

This study will further analyze and address several issues identified in the initial study, including:

**A. Reservoir Enlargement:**

- Evaluation of the potential for future landslide movement in the Reservoir and along the left abutment
- Evaluation of existing outlet works and development of proposed outlet improvements
- Analysis of storm event using EPAT for spillway sizing
- Preparation of a preliminary design for rehabilitation of the dam and various enlargement alternatives, including spillway design that meets present regulatory requirements
- Evaluation of environmental issues including a final determination of whether areas identified as potential “fens” wetlands areas will be inundated or otherwise affected by an enlargement of 10,000 acre feet. (The preliminary analysis indicates these areas will not be inundated.) The analysis will also evaluate the potentially affected wetlands and develop a plan for mitigating any wetlands lost by an enlargement of the Reservoir.

**B. Uses of Water Stored in an Enlarged Reservoir:**

- Analysis of the Rio Grande Decision Support System (RGDSS) StateMod model runs and development of additional model runs to determine development, in cooperation with the State and Rio Grande Water Users, of a methodology for storing and delivering Compact water in a manner that optimizes Colorado’s full use of its annual entitlement.
- Development, in cooperation with the Colorado Division of Water Resources, Colorado Water Conservation Board, Colorado Division of Wildlife, Rio Grande Water Users, United States Forest Service, United States Fish and Wildlife Service, environmental interests and recreational interests, of a schedule to store and then deliver Compact water to the State line in a manner that better meets in stream flow, riparian habitat and recreational needs without impairing any Colorado water rights.
- Develop, in cooperation with the Colorado Division of Water Resources, Colorado Water Conservation Board, Colorado Division of Wildlife, San Luis Valley Water Conservancy District and others, an allocation of storage within an enlarged Reservoir.

**C. Legal Issues**

- Further evaluation of the impacts of enlarging the Reservoir on the status of the District’s 1891 Act right-of-way for the Reservoir as currently constructed
- Further evaluation of Forest Service instream flow issues and the limitations established in the Forest Service’s reserved water rights decree issued in Water Division No. 3
- Analysis of NEPA process and issues (i.e., threatened and endangered species, wetlands, etc.)

**Discussion:**

The proposed water activity if successful has the potential to address many important needs in the Rio Grande basin. Rapid growth in the South Fork area is placing pressure on limited upstream water supplies. Administration issues associated with the Rio Grande Compact have always been a challenge for the State Division Engineer.

As described in the application there is also potential to help address agricultural, and environmental/recreationally needs. The request for financial assistance is to conduct preliminary design so it is emphasized that the proposed water activity has the **potential** to address many of the criteria set for under the criteria and guidelines. It is also possible that some of the criteria may not be fully addressed based on the outcome of the preliminary design. If successful the water activity could address multiple needs, with the participation of multiple stakeholders and would be a tremendous asset for the Rio Grande

basin. The added benefit if deemed feasible of helping address compact administration would also be of great value to the state.

The largest single issue identified by staff relates to facilitating water activity implementation. While the proposed preliminary design will address and answer several important questions and the current application includes information from the applicant explaining how the funding will allow the study to go forward. However, there is no information in the application regarding potential future financing of a multimillion dollar effort and the proposed study does not appear to address how one can expect the project to ultimately be financed. This is especially a concern since in that the applicant indicates that they are not currently capable of providing any matching funds for the proposed study.

#### **Issues/Additional Needs:**

As mentioned above the application does not address nor does the study address how, if deemed feasible, the project could ultimately be funded. Funding this application without some sense of the potential for future success of project funding and implementation is a concern. There is no information or range of what the project cost may be and how different funding concepts might work.

Additional information is needed discussing the decreed purposes for the reservoir and the enlargement. Is augmentation and municipal and industrial use a decreed purpose? How will issues associated with augmentation above the Del Norte gauge be handled? The current application does not indicate that legal and technical resources will be used to address these critical questions.

The discussion of the forest service water right does not provide adequate information to understand how the existing right relates to the existing reservoir size and location and how a potential enlargement might fit or conflict with this forest service right.

The service area for the proposed water activity was not included in the application.

There is no project schedule.

There is no attached copy of the Helton and Williamson Report.

There is not copy of the Dam safety MOU.

The application mentions that 1264 acres of wetlands have been mapped including Fens. However, there is no mention of what the proposed water activity may specifically impact.

Additional information is needed discussing compact delivery issues, challenges and opportunities.

The budget for Task 4 appears to be very generous. While it is important to have Meeting and stakeholder outreach \$46, 820 is a substantial amount of money and large portion of the overall budget.

#### **Staff Recommendation:**

Staff recommends approval of up to \$288,000.00 for the Rio Grande reservoir Multi-Use Enlargement and Rehabilitation Preliminary Design contingent on addressing the items in the issues/additional needs section. All products, data and information developed as a result of this grant must be provided to CWCBC 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.