

Rio Grande Inter-Basin Roundtable  
c/o San Luis Valley Water Conservancy District  
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April 14, 2014

Mr. Michael King, Executive Director  
Colorado Department of Natural Resources

Mr. Craig Godbout, Program Manager, Water Supply Planning Section  
Colorado Water Conservation Board

**Reference: Mountain Home Reservoir  
Dam Outlet Works Upgrade – Phase I Feasibility Study**

Gentlemen:

The Rio Grande Inter-Basin Roundtable (R.G.R.T.) has determined that the single, most critical water issue confronting the Rio Grande Basin (Basin) is the current unsustainable management of surface and ground water. The R.G.R.T. has made the decision that water activities that address this issue be favorably considered for funding from the Water Supply Reserve Account, SB 2005-179 (WSRA Funds), providing the proposed water activities meet the SWSI findings for the Basin and the CWCB & IBCC Criteria and Guidelines for funding.

As part of this effort the Roundtable made the determination that all reservoirs in the Basin are brought back to their nominal capacity and any outstanding issues raised by the State Engineer is addressed. This request for WSRA meets this objective.

**Trinchera Irrigation Company**

The Applicant for the WSRA Funding of \$25,000 from the Rio Grande Basin Account is Trinchera Irrigation Company (TIC). This request will partially fund a feasibility study for Phase I of what is anticipated to be a two-phase program.

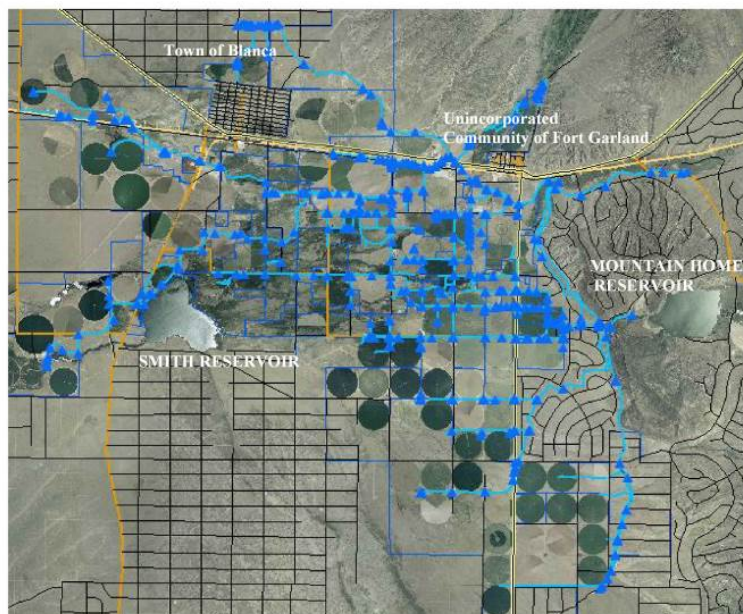
The Mountain Home Reservoir Dam Outlet Works Upgrade – Phase I Feasibility Study (Study) will determine the best method by which to undertake the state-mandated repair and/or replacement of two and possibly all three gates of the outlet works of the Mountain Home Reservoir. Gate # 1 operates poorly and the other two have not been opened in several decades.

The capacity of Mountain Home Reservoir is 18,000 AF. In a typical year, Mountain Home Reservoir delivers irrigation water for about three months and stores water during the

remainder of the year. Depending on the storage elevation (i.e. head pressure) the outlet gate leakage results in the loss of 150 to 250 AF per month, or from 1,350 to 2,250 AF annually. The high end loss figure is more than ½ the capacity of TIC's other reservoir, Smith Reservoir.

Trinchera Irrigation Company (TIC), comprised of 47 stockholders, manages the use of water for irrigation in the northern half of Costilla County, Colorado. TIC operates Mountain Home Reservoir, Smith Reservoir, and the Sangre de Cristo Trinchera Diversion Canal, with a total of approximately 26 miles of canals and 45 miles of laterals. TIC is responsible for the delivery of irrigation water to approximately 100 sprinkler pivots and several thousand acres of flood irrigation, totaling some 12,000 irrigated acres.

The articles of incorporation for the present company, modified in 1946, represent a total of 12,500 shares of stock, with each share entitling the holder to irrigate one acre of land. Stock ownership was limited to owners of land or users of water within the Trinchera Irrigation District during the year 1943. The flexibility of TIC's irrigation system has allowed it to evolve from former hand/horse powered operations and the truck gardening of spinach, carrots and cabbage, prior to the invention of refrigerated transportation, to today's center pivot operations.



Costilla County consists of primarily private land, with only an estimated 2% of the region devoted to public recreation. Mountain Home Reservoir serves a recreation site and is a very popular fishing, boating and hiking destination not only for local residents but for travelers and tourists who come from throughout Colorado and New Mexico, especially during holidays. Excellent ice fishing in winter provides year-round recreational fishing, promoting tourism and the enjoyment of the spectacular natural beauty of Mountain Home Lake with its view of Mount Blanca and the Sangre de Cristo range of the Rockies.

Both Smith and Mountain Home reservoirs are stocked with rainbow trout by the Department of Colorado Parks and Wildlife (CPW), providing recreational fishing. In addition, there are boating opportunities for residents and tourists. The Mountain Home Reservoir site is also a State Wildlife Area. TIC is under contract with CPW to provide a conservation pool, established by a long-standing Agreement with the former Colorado Division of Wildlife. The terms of this agreement include the requirement that TIC make every effort to avoid emptying the Mountain Home Reservoir or reducing its level lower than the conservation pool of 653 AF. In TIC's efforts to enhance the recreational opportunities and fishing experiences they are working cooperatively with CPW and Trout Unlimited (TU) to determine practical ways to improve recreation opportunities and to enhance wildlife habitat at the State Wildlife Area.

Similar to the rest of the San Luis Valley, farmers in Costilla County did not start drilling wells until the 1920s. By the 50s and 60s and continuing to the present, ground water pumping has increased and intensified, resulting in severely stressing available water supplies. As a result, the Rio Grande Basin Roundtable has identified the reduction of pumping as a top priority.

Since most of TIC's shareholders have both surface water and ground water rights, improving the efficient delivery of surface water will tend to discourage reliance on pumping to meet their irrigation needs. TIC's operating funds are derived from assessments levied on shares of stock. These assessments are determined by dividing all operating costs plus debt service, maintaining a budget that reflects the local economy.

The new Colorado Division of Water Resources Well Rules and Regulations for continued ground water pumping are anticipated to require an individual well owner to participate in a Subdistrict Ground Water Management Plan or to have their own augmentation plan to replace injurious stream depletions resulting from their ground water withdrawal. The overall objective for water users throughout the Basin is to address stream depletions caused by well pumping and to establish sustainable ground water levels. Any reduction in pumping will contribute to these goals.

This Phase I Feasibility Study will provide a comprehensive assessment and evaluation of the current condition of the outlet works of Mountain Home Reservoir, including the three gate valves, and consider alternatives to address the findings. This will include underwater inspections of the outlet works and associated outlet valves. The Study will provide alternatives and their associated costs to address the identified issues.

### Multiple Benefits

The implementation of the Study's findings will ultimately provide the multiple benefits of:

- Bring Mountain Home Reservoir into compliance with the State Engineer's requirements for draw-down capacity in the event of a high precipitation event
- Rehabilitation of a reservoir in the Rio Grande Basin – A Basin Water Plan priority
- Restore full operating capability at Mountain Home Reservoir
- Assist in meeting Basin water storage needs

- Reduce risk of area flooding
- Improve water management efficiency
- Significantly reduce storage loss, delivering irrigation water efficiently
- Reduce reliance on ground water pumping
- Collaborate with TU and CPW to explore ways to improve sport fishing and boating
- Protect and enhance fishery & CPW conservation pool by avoiding lowering/emptying the reservoir
- Improve the health of riparian corridors by regulating flows
- Enhance recreational benefits in Costilla County, where only 2% of the land is public

### Project Funding

Although there is no requirement for a WSRA Basin Fund request to provide matching funds, TIC has proactively demonstrated its commitment to this Phase I Feasibility Study by committing its Superintendent to oversee the project and the performance of the feasibility Study, at an estimated value of \$1,125.00. In addition, the cooperative effort with CPW and TU results in each organization contributing in-kind resources of \$10,000.00 and \$1,525.00 respectively, as shown below.

The \$25,000.00 WSRA funding will be used to compensate the third party consultant who will be performing the feasibility study.

Following is the Budget for this Phase I request:

<b>TASK</b>			<b>MATCH</b>	<b>WSRA</b>	<b>PROJ TOTAL</b>
<b>1</b>	<b>TIC staff Equipment Rental Title research, legal</b>	<b>3 x 187.5/day \$1,000/day x 1 day Boundaries, access</b>	<b>562.50</b>	<b>1,000 2,000</b>	
<b>2</b>	<b>RJH TIC staff</b>	<b>Per quote/contract 3 x 187.5/day</b>	<b>562.50</b>	<b>7,900</b>	
<b>3</b>	<b>RJH</b>	<b>Per quote/contract</b>		<b>11,300</b>	
	<b>Turbidity/Weather contingency</b>	<b>Per RJH quote &amp; assumptions</b>		<b>2,800</b>	
<b>4</b>	<b>CPW-Design TIC staff</b>	<b>Per RB estimate 4 x 187.5/day</b>	<b>10,000 750</b>		
<b>5</b>	<b>TU TIC staff</b>	<b>Per KT estimate 2 x 187.5/day</b>	<b>400 375</b>		
<b>TOTAL</b>			<b>\$12,650</b>	<b>\$25,000</b>	<b>\$37,650</b>

### Recommendation:

At the regular R.G.R.T. meeting on April 8, 2014, Members voted unanimously to request funding from SB 2005-179 for \$25,000.00 from the Rio Grande Basin Account to fund the Mountain Home Reservoir Dam Outlet Works Upgrade Phase I Feasibility Study.

R.G.R.T. urges the CWCB to approve this request for funding of a project with multiple benefits to local stakeholder, to the Basin, and to the SWSI objectives for long-term statewide planning for sustainable water supplies.

The R.G.R.T. appreciates the support of Colorado Parks and Wildlife, Trout Unlimited, the Department of Natural Resources, and the Colorado Water Conservation Board in assisting in this project, in meeting the needs of all users of Colorado's water, and in fostering intrabasin and interbasin communication and discussion. We believe this project will assist in our combined efforts.

Sincerely,

Michael H. Gibson  
Chair, Rio Grande Basin

Attachment: Funding Request Document