

Rio Grande Inter-Basin Roundtable  
c/o San Luis Valley Water Conservancy District  
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November 15, 2013

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

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

**Reference: La Acequia del Cerro – Rehabilitation and Ditch Lining**

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.

**La Acequia del Cerro or The Cerro Ditch Company:**

The Applicant for the WSRA Funding of \$100,000 from the Rio Grande Basin Account is the La Acequia del Cerro, or The Cerro Ditch Company.

The Cerro Ditch was established November 30, 1857 and holds 44 adjudicated water rights granted by a court decree in Colorado, dating June 14, 1889. The Acequia del Cerro serves 82 landowners and irrigates approximately 1,880 acres that are considered primary acres of hay, grass, other row crops and vegetable gardens. The majority of landholders are descendants of the original founders of the "acequia" system dating back to the mid-1800's. The Acequia del Cerro was first incorporated in 1968 and the company's 82 landowners' assessments are currently \$4.25 per acre. Assessments are used to pay the salary of one fulltime ditch-rider with the remainder used for maintenance and operation. La Acequia del Cerro Board seats are held by the landowners. La Acequia del Cerro Board of Directors will be taking fiscal responsibility and administrative lead of this project.

The Acequia del Cerro is approximately 5 miles of earthen ditch and 5 miles of concreted ditch, going from Chama, Colorado, to La Vega Commons in San Luis, Colorado. It is the longest and most complex irrigation system in southern Costilla County, Colorado. The Acequia del Cerro has two main channels, the Northern Cerro and the Southern Cerro. The Northern Cerro starts at the main head gate off the Culebra Creek and runs approximately 1,900 linear feet where it separates into the second channel that runs southwest. It has approximately 60 lateral ditches with diversion gates. It is entitled to priority No. 7 in Colorado, operating under Water District 24 of Division 3.



The Acequia del Cerro plans to rehabilitate approximately 10,000 linear feet of the Northern Cerro ditch by removing extensive overgrowth of willows/trees and repair the bank, widen and replace 1,900 linear feet of concrete lining and 7,350 linear feet with high-density plastic pipe. The Acequia or Ditch takes water from the Culebra Creek into the concrete canal. The existing concrete lining of the ditch was constructed in the mid 1960's. The Culebra Creek diversion is in good condition and is not planned for replacement. The rehabilitation will begin at the measuring flume approximately 20 feet from the main head gate and replace 1,900 linear feet of concrete lining. In some areas the landowners have completely removed the concrete lining to bring better water flow. In addition, excess water from cloud bursts and run off in areas between the Ditch and the arroyos from the mesa, flows into the Ditch. This brings large rocks, sand and debris into the Ditch which clogs diversion structures, slows down water flow, and has destabilized the concrete lining, causing buckling in the bottom of the channel. The Ditch has historically acted as an area catchment and drain, with the corresponding high sediment loads.

#### Issues with Existing Irrigation System:

The existing ditch system requires high maintenance, which by its nature is costly, time consuming and repetitive because of clearing of the sediment and debris carried by precipitation events down the arroyos from the mesas. This cleaning process is compounded by the poor condition of the concrete lined ditch, which continues to deteriorate due to its age and the cleaning activities. Because the concrete lining of the ditch is in bad condition there is substantial leakage from the ditch to lands that are not legally entitled to this irrigation water. In addition, there are areas where the stream banks have deteriorated due to age and the influx of vegetation such that water overtops the banks, flooding lands not entitled to the irrigation water. The effect of these conditions is that some members of the Ditch are not getting their full entitlement of irrigation water and for landowners at the ends of the ditch maybe not getting any irrigation water. The latter condition has resulted in a past law suit and a current possibility of additional legal action being taken.

The lack of irrigation water, as a result of drought conditions, has been compounded by the inequitable distribution of available irrigation water causing families to see reduce production of hay and crops and even in some cases temporarily abandoning their efforts to farm the land. These reduced crop yields have resulted in reduced income for these small farmers. Historically the combined production of the irrigated acres yielded 1,000 one ton bales of hay per cutting but in 2012 only made 300 tons. This reduction in production is very significant to the small farmer, as with hay selling for \$200.00 per ton this is a reduction in income of some \$140,000 across all of the irrigators. The farmers have moved to organic farming methods and they use the local El Culebra Agricultural Coop to market their produce in an attempt to maximize their income. The ability of farmers in the area to marginally increase their income is significant when considered that this will occur in an area designated as one of Colorado's lowest incomes per capita.

#### Rehabilitation and Ditch Lining Project:

The Acequia del Cerro plans to resolve the above noted issues by digging a new structure or channel alongside the existing ditch and placing 7,350 linear feet of high-density pipe into the new structure. The old concrete lined ditch will be cleaned and maintained and will be used to catch the sediment loads from the runoff from the adjacent mesas, this will be done without affecting the water flow, ecosystem or riparian habitat. The use of the old ditch for this



purpose will solve the long term issue of the sediment and debris interfering with the water conveyance and irrigation operation, and while it will have to be cleaned periodically it will not be as time critical to do so. The proposed activities will not affect the southern ditch which is the original heritage ditch of the Cerro system.

In 2012 a study was done by the Natural Resource Conservation Service (NRCS), San Luis, Colorado. The study identified the following to mitigate the extreme deterioration of concrete lining and overflow of water over ditch banks and flooding in non-agricultural areas resulting in loss of irrigation water:

- Remove excessive willow, and tree growth along ditch banks.
- Replacement of failed lateral water control structures.
- Replacement 1,900 feet of failed concrete ditch lining with new concrete
- Replace 7,300 feet of failed concrete lining with high density pipe.

It should be noted that there are no permitting issues associated with in this project.

The Project meets the Threshold and Evaluation Criteria and addresses Tier 1, Tier 2 and Tier 3 of the WSRA Application.

The \$100,000 WSRA fund request in this application will be used to match a total of \$1,139,918 from other sources that include \$24,000 to date from the landowners who will contribute an additional \$36,000 of in-kind contribution for a total of \$60,000. In addition the Acequia del Cerro has received a commitment of \$60,000 cash match from the Costilla County Conservancy District. The NRCS will also contribute a total of \$45,000 in technical assistance and \$200,000 from EQIP towards project costs. The Acequia del Cerro has also been selected to receive Targeted Conservation Funds of over \$774,918.

The \$100,000 WSRA fund request in this application has been ear-marked to cover costs in Task 2, 2a and 2b in the Scope of Work which is the 1,900 linear ft. of concrete lining of a portion of the ditch. The ditch has a profile of a 4' bottom, 2.5' depth, 1.25:1 side slopes. The NRCS has provided \$33,000 towards Task 2 with the total Project cost of \$138,510. The remaining \$5,510 costs will come from the In-kind/cash match. The cost is based on a bid of 1,900 feet of ditch x \$72.90 per linear ft. = \$138,510.

The Tasks associated with the Project and their costs are as follows:

Task 1: Mobilization/Demobilize - \$15,000: Remove all excess willows and debris along the ditch banks to allow easement access to the contractor for trucks, equipment and all things necessary to begin construction of the new ditch structure(s).

Task 2: Remove Existing Concrete Lining - \$33,150: Remove all remaining old concrete and drag the ditch beginning at the measuring flume and ending at the north and south head gates, approximately 1,900 feet.

Task 2a: Form Ditch - \$5,000: Prepare ditch for concrete lining measurements of 4' bottom 2.5' depth, 1.25:1 side slopes.

Task 2b: Pour Concrete Lining - \$100,000: Concrete line approximately 1,900 feet of ditch using 4' bottom, 2.5' depth, 1.25:1 side slopes with 3" thickness. Estimated amount of concrete, 248 cu.yds.

Task 3: Inlet and Diversion Structures - \$18,000: Build the inlet and Diversion structure for the HPDE pipeline.

Task 3a: High Density Pipeline Installation - \$1,043,408: Trench and lay a 32" HDPE pipeline to accommodate 22.5cfs of water.

Engineering / Design / Technical Assistance – NRCS (In-Kind) - \$45,000.  
Project Administration – La Acequia del Cerro (In-Kind) - \$25,000.

The Total Project cost, including In-Kind contributions is \$1,239,918.

Project Funding:

The breakdown of the proposed funding and its sources are as follows:

Costilla County Conservancy Dist. (Cash Match)	\$ 60,000
NRCS (EQIP Pay)	\$200,000
Acequia del Cerro (In-Kind)	\$ 60,000
NRCS Technical Assistance	\$ 45,000
NRCS Targeted Conservation Funds	<u>\$774,918</u>
 Total In-Kind & Cash Match (Project Cost)	 <b>\$1,139,918</b>
 <b>WSRA - Rio Grande – Basin Funds</b>	 <b><u>\$ 100,000</u></b>
 <b><u>Project Total Cost</u></b>	 <b><u>\$1,239,918</u></b>

Benefits:

The distribution of the irrigation water is to small fields or varas that are owned and farmed by individual families. The ability of the farmers to use their decreed amount of irrigation water on their the land will allow hay and crop production to increase at a time of reduced agricultural production in the San Luis Valley and Colorado, In 2012, and into the foreseeable future, the San Luis Valley saw some 40,000 acres taken out of production through the activities of Groundwater Management Subdistrict # 1.

The proposed rehabilitation of the Acequia del Cerro will help in sustaining agriculture along the Acequia del Cerro, and consequently in Colorado at a time when there are significant pressures to reduce agricultural production. The landowners feel that crop production will increase even in years of drought after the completion of this rehabilitation and ditch lining project. The farmers will continue to maximize their income through marketing their produce at the local El Culebra Agricultural Coop which in turn is making this produce available in southern Colorado and northern New Mexico. The concept of the small farming methods and marketing through a Coop may serve as a model for other parts of the state where irrigation water is either insufficient due to the drought conditions or to low efficiency water use

The area associated with the Project will essentially remain as it is now, providing wildlife habitat and a scenic landscape for visitors to this historic area of Colorado that demonstrates how the early Hispanic settlers of the area farmed and irrigated their lands.

The ability of farmers in the area to marginally increase their income is significant when considered that this will occur in an area designated as one of Colorado's lowest incomes per capita.



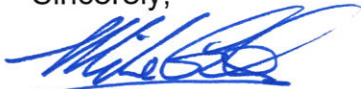
Recommendation:

At the regular R.G.R.T meeting on November 12, 2013, RGRT Members voted unanimously to request funding from SB 2005 - 179 for a total of \$100,000.00, of Rio Grande Basin Funds.

The R.G.R.T urges the CWCB to approve this request for funding of \$100,000.00 from the WRSA Rio Grande Basin for a the La Acequia del Cerro Rehabilitation and Ditch Lining Project that has with multiple benefits to local stakeholders, the region and statewide

The R.G.R.T. appreciates the support of the Department of Natural Resources, the Colorado Water Conservation Board and the Interbasin Compact Commission in assisting in meeting the needs of all users of Colorado's water and in fostering intrabasin and interbasin communications and discussions. We believe that the above project will assist in this effort.

Sincerely,



Mike Gibson

Chair, Rio Grande Interbasin Roundtable

Attachment (1)

cc: La Acequia del Cerro