Rio Grande Inter-Basin Roundtable
c/o San Luis Valley Water Conservancy District
623 Fourth Street, Alamosa, CO 81101
Telephone: (719) 589-2230
Email: slvwcco1@qwestoffice.net

September 23, 2014

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

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

WSRA FUNDING REQUEST
INCREASING THE WATER HOLDING CAPACITY OF SOIL
FOR AGRICULTURE SUSTAINABILITY IN THE SAN LUIS VALLEY, COLORADO

Gentlemen:

The Rio Grande 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.

The Applicant for the WSRA Funding is The Rio Grande Watershed Conservation & Education Initiative (RGWCEI), which meets the criteria for an applicant. The RGWCEI has been a longtime proponent of conservation measures in order to stabilize farming and ranching operations.

The purpose of this proposed Project, *Increasing the Water Holding Capacity of Soil for Agriculture Sustainability in the San Luis Valley*, is to document soil health improvement levels in different areas across the San Luis Valley of Colorado, and the impact of this on crop production rates, water usage, and the overall farm/ranch economics of such activities.

The Project will detail the agronomic feasibility of improved soil health by defining the methods, time frame and economics of adopting these practices while growing a variety of crops in a variety of soil types. The Project will address the issue of whether growers can produce economically profitable yields using less water if they improve the farms' soil health, and determine what water savings are possible given the crop and specific location of crops and soil types across the San Luis Valley. The Project will implement the practices, develop the metrics, analyze the data, and field test the economics of soil health.

The Project will take conventionally farmed fields and establish a base line of their overall soil health and then in place of conventional nutrient management additives (conventional fertilizers), biotic based nutrient management additives will be applied. These biotic based nutrient additives will be used throughout the crop rotation. There will be interim soil health

tests taken at the end of each season that will contribute to the overall understanding of the activities. At the end of the three year trial a final soil health analysis will be completed.

One of the many benefits of using this whole picture biotic approach in farming and ranching is that nature tends to create a balance that is far more complex and elegant than anything that can be developed conventionally. The methodology of biotic farming means looking at all living things, not just the crop being grown. The success of farmers using this approach has been impressive. Initial results show they have reduced their water use by 30 to 60 percent and maintained or increased crop yields. Such an approach has maintained farm income while allowing for a decrease in production acres, and hence water consumed. If it can be demonstrated that this type of farming were to replace the conventional farming methods the result could be a win-win for everyone: Profitable farms, increased quality of the product produced, and reduced water consumption for the Basin, with the potential to reduce the demand on groundwater withdrawals.

The metrics of the Project include:

- Improved soil health through the use of biologic methods, such as compost, green manure cropping and biologic nutrient management, (ultimately replacing commercially produced chemical compounds) and will this increase soil water holding capacity, and the length of time for this to be accomplished.
- Will these biotic system changes increase field yields or pack out rates? If so, can productive land with increased pack-out be reduced thus reducing irrigated acres and therefore reduced water needs?
- How long do fields rebound from conventional chemical management application and what is the overall water saving through the course of a two/three year crop rotation?

The estimated total cost of the Project is $5,403,164, of which $5,176,364 or 96% will be from the from the landowners participating in the Project. In addition, $31,200 or 1% will come from the NRCS; and $97,400 or 3% from In-kind services. The Applicant is requesting $98,200 from Rio Grande Basin WSRA funds, or 2% of the total project cost.

The following Table details the manner in which the funds will be used:

Summary Budget for the Soil Health Projec t -Increasing the Water Holding Capacity of Soil for Agriculture Sustainability in the San Luis Valley								
Project Tasks	Total			In-Kind				Total
		WSRA	Landowners	NRCS	Soil Guys	Grad Student	RGWCEI	
Task 1: Testing	25,000	10,000	-	15,000			-	25,000
Task 2: Soil Preparation	4,946,844	-	4,946,844	-			-	4,946,844
Task 3: Nutrient Management	299,520	70,000	229,520	-			-	299,520
Task 4: Monitoring	18,600	-	-	15,000		3,600	-	18,600
Task 5: Analysis	7,000	-	-	1,200	2,500	500	2,800	7,000
Task 6: Outreach and Education	13,500	-	-	-			13,500	13,500
Task 7: Administration	92,700	18,200	-	-			74,500	92,700
TOTAL	$ 5,403,164	$ 98,200	$ 5,176,364	$ 31,200	$ 2,500	$ 4,100	$ 90,800	$ 5,403,164
Percent of Project Cost		2%	96%	1%			2%	100%

The enclosed Application details the Tasks included in the above Table.

At a regular R.G.R.T. Meeting on September 9, 2014, the R.G.R.T. Members unanimously passed a motion to recommend to the CWCB that the Project be funded $92,500.00 with WSRA Rio Grande Basin Funds.

The R.G.R.T. appreciates the support of Colorado Water Conservation Board in assisting in this effort to develop a Rio Grande Basin Water Plan that will serve as a guidance document to the Basin as it addresses the critical future water issues of the Basin, which in turn will assist in Colorado meeting its long term water needs and supplies.

Sincerely,

Michael H. Gibson
Chair, Rio Grande Basin Roundtable

Enclosure (1)

Cc: Judy Lopez, The Rio Grande Watershed Conservation & Education Initiative