COLORADO WATER CONSERVATION BOARD

ALERNATIVE AGRICULTURAL WATER TRANSFER METHODS COMPETITIVE GRANT PROGRAM

GRANT APPLICATION FORM

Use of ATMs to Increase Supplies for Conejos Basin Ag, Municipal and Environmental Purposes

Program/Project Name

River Basin Name

$124,124.00

Amount of Funds Requested

$13,792 cash
$12,740 in-kind services

Amount of Matching Funds

Instructions: This application form must be submitted in electronic format (Microsoft Word or Original PDF). The application can be emailed or a disc can be mailed to the address at the end of the application form. The Alternative Agricultural Water Transfer Methods Competitive Grant Program, Criteria and Guidelines can be found at http://cwcb.state.co.us/LoansGrants/alternative-agricultural-water-transfer-methods-grants/Pages/main.aspx. **The criteria and guidelines must be reviewed and followed when completing this application**. You may attach additional sheets as necessary to fully answer any question, or to provide additional information that you feel would be helpful in evaluating this application. Include with your application a cover letter summarizing your request for a grant. If you have difficulty with any part of the application, contact Todd Doherty of the Water Supply Planning Section (Colorado Water Conservation Board) for assistance, at (303) 866-3441 x3210 or email at todd.doherty@state.co.us.

Generally, the applicant is also the prospective owner and sponsor of the proposed program/project. If this is not the case, contact Todd before completing this application.

Alternative Agricultural Water Transfer Methods – Grant Application Form
October 2010

Part A. - Description of the Applicant(s) (Program/Project Sponsor);

1. Applicant Name(s): Conejos Water Conservancy District

Mailing address: PO Box 550
Manassa, CO 81141

Taxpayer ID#: XH-84-0776076 Email address: cwcd1971@hotmail.com

Phone Numbers: Business: 719-843-5261
Home: 719-588-3090
Fax: 719-843-5452

2. Person to contact regarding this application if different from above:

Name: Nathan Coombs

Position/Title Conejos Water Conservancy District Manager

3. If the Contracting Entity is different then the Applicant, please describe the Contracting Entity here.

4. Provide a brief description of your organization. The applicant may be a public or private entity. Given the diverse range of potential applicants, not all of the following information may be relevant. Where applicable and relevant the description should include the following:

    a) Type of organization, official name, the year formed, and the statutes under which the entity was formed, a contact person and that person's position or title, address and phone number. For private entities, a copy of the Articles of Incorporation and By-laws should be appended to the application.

    b) For waters suppliers, information regarding the number of customers, taps, service area, and current water usage, and future growth plans, water related facilities owned or used, funding/revenue sources (existing service charges, tap fees, share assessments, etc.), the number of members or shareholders and shares of stock outstanding or a description of other means of ownership.

    c) For other entities, background, organizational size, staffing and budget, and funding related to water that is relevant in determining whether the applicant has the ability to accomplish the program/project for which funding is sought.

    d) A brief history of the Applicant(s).

    e) Please include any relevant Tabor issues relating to the funding request that may affect the Contracting Entity.

The Conejos Water Conservancy District (CWCD or the District) is a public, quasi-governmental entity, eligible under SB 06-179 to apply for funds for this Alternative Transfer Method Grant. The District's boundaries include approximately 100,000 acres, of which 88,000 acres are capable of being irrigated. An additional 4,000 acres that are not within the boundaries of the District are also irrigated by the San Antonio River which is within the Conejos River system -. CWCD is the portion of the *San Luis Valley Project Colorado* which was designated by the U.S. Bureau of Reclamation (USBR) in 1928 and formed in September 1940 under the *Water Conservancy Act of 1938*, codified at 37-35-101. In June, 1985, Elephant Butte Reservoir in New Mexico spilled. There is a clause in the Rio Grande Compact which provides for elimination of a debt or credit if Elephant Butte Reservoir spills, so this erased Colorado's debt of approximately 900,000 AF to the Rio Grande Compact. It was right after this, under the Reclamation Reform Act of 1992, that the operation, control, and maintenance of Platoro Reservoir was transferred to the District. CWCD then created the Platoro Enterprise to administer these new responsibilities, except at flood stages when the US Army Corps of Engineers assumes control. CWCD was formed "in order to acquire and appropriate waters of the Conejos and its tributaries; to divert, store, and transport such water by means of works, as defined in the Water Conservancy Act; to control floods by means of the works; to conserve, develop and stabilize water supplies for domestic, irrigation, power, manufacturing and other beneficial uses" within the territory included in the boundaries of the CWCD. These purpose continue to guide all operations of CWCD. The District Enterprise is exempt from Tabor regulations per the passing of Referendum B in a Conejos County election held November 6, 2007 in which voters granted the District its exemption.

The District manager is the only staff member for the District. Annual operating budget is generally around $200,000. The current year budget is approximately $293,000 which includes funding for gage station grants from

the CWCB. There are sufficient funds in the budget to accommodate the 10 percent cash match for this grant request.

Part B. - Description of the Alternative Water Transfer Program/Project –

1. Purpose of the Program/Project

   Please provide a summary of the proposed program/project, including a statement of what the program/project is intended to accomplish, the need for the program/project, the problems and opportunities to be addressed, the expectations of the applicant(s), and why the program/project is important to the applicant(s). The summary must include a description of the technical, institutional (i.e., how the program/project will be organized and operated), and legal elements that will and/or have been addressed by the applicant and proposed program/project. The summary should also discuss relevant project history, if applicable, and any other relevant issues.

   Project Purpose:
   The Conejos Water Conservancy District (District) is located in Conejos County in southern Colorado in the Rio Grande Basin (Water Division 3). The District includes 88,000 acres of irrigated agriculture and the towns of Manassa, Romeo, Sanford, Conejos, Antonito, Ortiz and San Antonio. Another town, La Jara, is located just north of the District boundaries. Several of these towns rely upon partially or entirely on groundwater pumping for their water supply. The State of Colorado is in the process of developing rules and regulations for the Rio Grande Basin, which will require these towns to replace approximately fifteen to eighteen percent of their pumping (augmentation water). To meet their replacement requirements, the towns will look to agricultural water resources within the basin as there is not water available for appropriation under a new water right. Due to limited surface water supplies in the basin, these towns will have no choice but to directly dry-up irrigated land by purchasing agricultural water rights or indirectly dry up agriculture by competing for Platoro Reservoir project water currently used to irrigate agricultural lands. Acquisition of transbasin augmentation water diverted into the upper Rio Grande upstream of Creede is unlikely due to the completion and high transit losses incurred in transporting these augmentation supplies to the points of depletion from the municipal pumping.

   Water stored in Platoro Reservoir (Project water) is allocated to lands within the District based on acreage. Platoro Reservoir is located on the mainstem of the Conejos river and serves a large part of the irrigated lands within the District. The District includes other water users on the San Antonio river, a tributary to the Conejos river. Agricultural irrigators on the San Antonio river within the District are entitled to a pro-rata share of project water in Platoro reservoir, but Project water cannot be delivered to these users by gravity flow or existing infrastructure. The purpose of this ATM project is to investigate the opportunities for the transfer of the allocation of San Antonio river agricultural water users' Project water to the Towns to meet their augmentation water requirement without loss or impact to the irrigated agricultural lands.

   The Rio De Los Pinos is a tributary to the San Antonio river and is the second largest river in the system. Trujillo Meadows Reservoir is located near the headwaters of the Rio De Los Pinos in southern Colorado. Trujillo Meadows Reservoir is owned by Colorado Parks and Wildlife (CPW) and is an on-channel reservoir used for recreation. The reservoir bypasses all inflows so as to maintain a constant pool elevation. Out of priority evaporation losses from Trujillo Meadows are augmented through releases by CPW from

Beaver Reservoir on the mainstem of the Rio Grande. The peak runoff in the Rio De Los Pinos is in early spring, usually a month before the Conejos and San Antonio rivers, generally occurring too early in the season for beneficial use by irrigated agricultural users diverting from the San Antonio. Enlarging Trujillo Meadows Reservoir would create enough storage space to re-time run-off in order to better meet agricultural irrigation needs, enhance stream flow for a longer period of time during the spring and provide reliable supply of agricultural water so that the San Antonio river irrigators can lease their Project water allocation to the Towns for the augmentation needs.

The purpose of this project is to investigate the feasibility of a unique ATM that involves enlarging Trujillo Meadows Reservoir that preserves agriculture in the District and provides a reliable supply of augmentation water for the Towns. In addition, the project will also evaluate the other multiple-objective benefits that are possible, such as enhanced recreational opportunity at Trujillo Meadows Reservoir, potential environmental benefits such as enhanced riparian habitat, re-timing of streamflows on the Rio De Los Pinos and the on the Conejos below Platoro due to the release of augmentation water to the Towns, and meeting Compact delivery requirements.

Previous Studies
To the maximum extent possible, the results of any previous studies and investigation should be utilized and incorporated into the proposed program/project. The application for funding should include a brief summary of the results of previous studies and how they will be utilized.

There have not been previous studies directly related to this Project, however, information from Trujillo Meadows dam safety inspections, the RGDSS groundwater model and response functions currently under development by the State Engineer's Office, RGDSS GIS layers and HydroBase will be relied upon to provide a base of information.

2. Study Area/Service Area Description

The study area/service area is generally the geographic area that is the subject of the proposed program/project (include both the source of supply and location and type of new use). The description should include the following items:

a) A narrative description of the study area/service area including: the county, the location of towns or cities, topography, and locations of major surface and ground water features.
b) An area map showing each of the items above, as well as the locations of existing facilities, proposed project facilities and boundaries of lands involved in the proposed program/project.
c) Information regarding the irrigated lands that are involved in the program/project. This must include a tabulation of total irrigated acreage, description of cropping types, crop yields, and total average annual water diversions for existing agricultural lands. Information regarding the location of the new water use(s) that will be served by transferred water including the estimated number of users/taps and/or uses served.
d) Socio-economic characteristics of the area such as population, employment and land use.

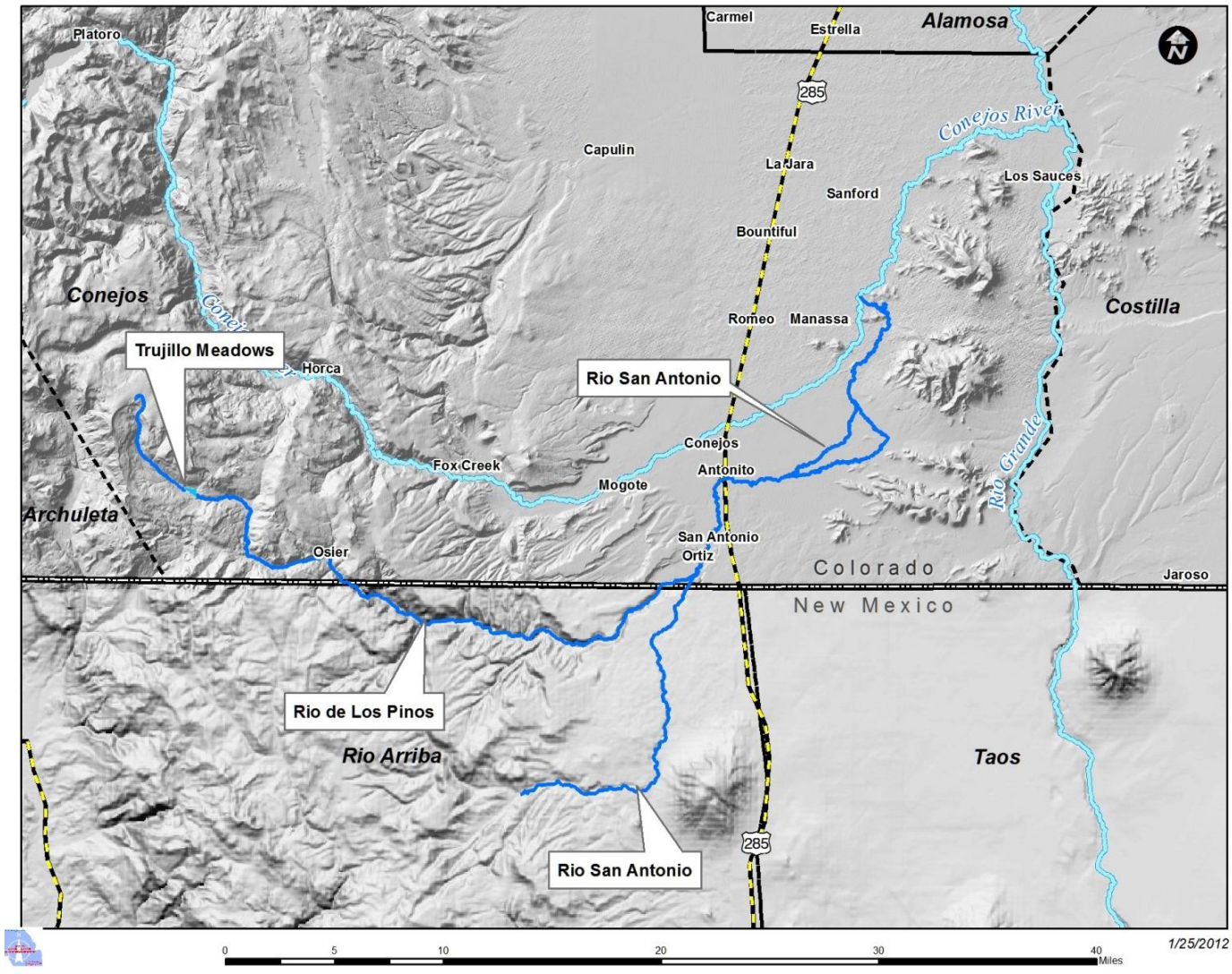
The study area for this project encompasses much of the Conejos River basin located in southern Colorado. Portions of the basin extend south into New Mexico. The map below shows the general study area. The study area includes the Conejos Water Conservancy District (CWCD or District), located in Conejos County in southern Colorado. The District includes most of the irrigated acreage on the Conejos and its tributaries and the towns of Antonito, Conejos, Romeo, Manassa and Sanford. The town of La Jara shown on the map is just north of the District boundaries. The eastern portion of the county is characterized by the nearly level valley floor which lies at an average elevation of about 7,700 feet. The San Juan Mountains rise from the western portion of the county to a height of about 13,000 feet. The Conejos River rises in the mountains to the west of the District and flows north-east through the district eventually to its confluence with the Rio Grande. Two main tributaries to the Conejos are the Rio de Los Pinos and the Rio San Antonio. The headwaters of the Rio de Los Pinos are located in Colorado, but the stream flows into New Mexico and then back into Colorado near its confluence with the Rio San Antonio. The Rio San Antonio flows northerly into Colorado and enters the District before meeting the Conejos River. Platoro Reservoir is located near the headwaters of the Conejos near the town of Platoro as shown on the map. Trujillo Meadows Reservoir is located in the headwaters of the Rio de Los Pinos.

The District serves approximately 88,000 irrigated acres that produce primarily alfalfa, grass and small grains. There are 95 ditch systems within the district with 173 individual water rights priorities. Agricultural users rely on groundwater as a supplemental source of irrigation water. Annual inflows to the District from the San Antonio and Conejos rivers are approximately 175,000 AF.
The new municipal water uses that will be served by transferred water will be located in the towns of La Jara, Sanford, Romeo and Manassa. The transferred water will meet the towns' groundwater augmentation obligations. Groundwater pumped by the towns serves approximately 3,500 taps.

Conejos County has a population of 8,586 people. The labor force is made up of 3,802 people, but only 3,550 are employed. The per capita income in the county is $18,875. Agriculture is the primary industry in Conejos County, and irrigated farmland is by far the most prevalent land use in the county with 150,119 acres, or 55.26%, of the privately owned land. It lies in the valley between the San Luis Hills to the east

and the sloping foothills of the San Juan Mountains to the west. Rangeland accounts for 56,333.6 acres, or 20.73% of the privately owned land in Conejos County. Rangeland use is much more extensive,, as most the Bureau of Land Management land as well as Colorado State-owned land in the county is leased to livestock owners for the purpose of grazing cattle and sheep primarily during summer months. (Source: http://www.conejoscounty.org/default.htm)

Southern Colorado/Northern New Mexico



3. Description of the Alternative Water Transfer Method

   Please describe the type(s) of water transfers that will be examined/utilized (i.e., conceived transfer methods include, but are not limited to: 1) interruptible water supply agreements; 2) long-term agricultural land fallowing; 3) water banks; 4) reduced consumptive use through efficiency or cropping changes while maintaining historic return flows; and 5) purchase by end users with leaseback under defined conditions). In addition, please describe how the transferable consumptive use will be calculated and quantified, and how return flow patterns will be addressed/maintained.

   An alternative transfer to the no-action buy and dry will be examined. The alternative transfer to be examined is the transfer of agricultural Platoro reservoir project water to M&I users (towns) and enlarging Trujillo Meadows reservoir in return to provide water to agricultural users on the San Antonio.

4. Program/Project Eligibility

   Please describe how the proposed program/project meets each of the following eligibility requirements (please see Criteria and Guidelines for additional information regarding the alternative water transfer methods/strategies that qualify for funding). Note: If these requirements are addressed in other parts of the application you may simply reference the applicable section(s).

   a) A description of how, if implemented, the proposed program/project will protect property and water rights.

      The proposed project will protect property and water rights by preserving agricultural irrigated acres. This will be accomplished through leasing San Antonio users Project water allocations to the Towns for well augmentation. In turn, the San Antonio agriculture users will receive increased deliveries from Trujillo Meadows.

   b) Identified group(s) of agricultural users that are or may be willing to transfer a portion of their water and identified entity(s), group(s) or area(s) where the transferred water could or would be put to the new use and a description of the new use.

      San Antonio area Project water ag users.
      The new use of the transferred water will be to augment well pumping by Towns in the Conejos basin. These towns include Sanford, Manassa, Romeo, Antonito, and La Jara.

   c) The program/project must at a minimum conceptually describe the technical, institutional, and legal elements of the water transfer. Grant monies may be used to address one or more of these elements. If grant monies are not requested for all three elements, the grant applicant must describe how the applicant has or intends to address the elements, which are not included in the grant request, through other efforts.

      Technical aspects will be addressed through the analysis of technical, permitting and supply availability at Trujillo Meadows and the municipal, agricultural and environmental needs and benefits. Institutional

aspects are addressed through the operational and regulatory issues associated with Trujillo Meadows reservoir reoperations and coordination with CPW, BLM and District water rights. Legal elements will be addressed by the District's attorneys and will include compact and transfer issues.

d) If grant monies are proposed for use for legal assistance then the use of those funds shall be oriented toward advancing the knowledge of alternative agricultural water transfer methods and techniques; not for preparation of a specific water court case. The total requested funds for legal assistance shall not exceed 40 percent of the total grant request. In addition, grant monies proposed for use for legal assistance must be used to collaboratively address issues and concerns related to agricultural water transfer. Funds shall not be used to solely advance the cause of the project proponents.

Legal analysis is for examination of compact issues and storage in Trujillo Meadows by exchange. Requested legal funds are less than five percent of the total project budget.

e) A minimum of a 10 percent cash match of total project cost (past expenditures and "in kind" can not be counted toward the 10 percent match).

A 10 percent cash match will be made by Conejos Water Conservancy District. The match will be in the amount of $13,792. In addition, there is an in-kind match of $12,740.

5. Program/Project Evaluation Criteria

The following grant evaluation criteria will be used by the CWCB to evaluate and make recommendations to fund, partially fund or not fund a grant application. The criteria are aimed at advancing alternative transfer methods from the literature and studies to actual on the ground projects/programs that provide reliable water supply and sustain key elements of the agricultural area from which the water is transferred. The applicant should fully address and explain in detail in the application how, and the extent to which, the proposed project/program meets each of the criteria. However, it should be noted that the project does not have to meet all of the criteria to be eligible to receive funding and the criteria below are not listed in any order of important or priority.

a. The proposed project/program builds upon the work of former alternative water transfer methods efforts and addresses key areas that have been identified. For more detailed information on this work, please refer to the draft report: *Alternative Agricultural Water Transfer Methods Grant Program Summary and Status Update*, November 2012.

b. The proposed project addresses one or more key recommendation(s) in the report: *Alternative Agricultural Water Transfer Methods Grant Program Summary and Status Update*, November 2012.

The continued support of demonstration / pilot projects to determine the feasibility of new concepts or techniques as needed. This project is a new concept / technique of an alternative transfer method.

c. Preference will be given to projects that provide additional matching resources in the form of cash, past expenditures and in-kind contributions that are in addition to the required 10% cash match.

   An additional $12,740 of in-kind contributions will be made, making the total District contribution exceeding 20 percent.

d. The proposed project/program has the ability/potential to produce a reliable water supply that can be administered by the State of Colorado, Division of Water Resources.

   Through the enlargement of Trujillo Meadows reservoir and re-timing of water releases in conjunction with the availability of Platoro reservoir project water made available to towns, the project has the potential to produce a reliable water supply for municipal, agricultural and environmental uses that can be administered by the State of Colorado, Division of Water Resources.

e. The proposed project/program produces information that is transferable and transparent to other users and other areas of the state (i.e., would provide an example "template" or roadmap to others wishing to explore alternate transfer methods).

   The project can provide a template for cooperative transfer methods that can be used by others as a template to increase reservoir capacity, re-time reservoir releases, and optimize reservoir operations to better meet the needs of municipal and agricultural users and enhance environmental benefits.

f. The proposed project/program addresses key water needs identified in SWSI 2010 or as identified in a basin's needs assessment.

   Municipal, agricultural and environmental needs identified in the basin's needs assessment are addressed in the proposed project.

g. The proposed project/program advances the preservation of high value agricultural lands. Value can be viewed as: the value of crops produced, the value the agriculture provides to the local community, and the value the agricultural area provides for open space and wildlife habitat.

   The San Luis Valley has the highest per acre production of any irrigated lands in any basin in the state. Agriculture is the primary industry in Conejos County, and agricultural lands provide a high value to the local small communities. This project will not only prevent further loss, but will enhance agricultural supplies in a critically water short area. The project advances the

preservation of high value agricultural lands by capturing and re-timing run-off to better meet agricultural irrigation needs.

h. The proposed project/program addresses water quality, or provides other environmental benefits to rivers, streams and wetlands.

The project provides environmental benefits to rivers and streams by enhancing streamflow on the Rio De Los Pinos and San Antonio for a longer period of time during the spring and enhancing riparian habitat. An enlargement of Trujillo Meadows will also create more fishery and wildlife habitat area. The Project will also investigate the potential for enhancing environmental benefits on the Conejos downstream of Platoro via retimed releases for municipal well augmentation.

i. The proposed project/program increases our understanding of and quantifies program/project costs. This could include: institutional, legal, technical costs, and third party impacts.

A primary purpose of the Project is to develop reconnaissance level costs for all Project features including structural, institutional and technical. It is not believed that there will be any negative third party impacts.

j. The proposed project/program does not adversely affect access to other sources of water (not subject to/participating in the program) where owners of these water rights may wish to pursue traditional transfer of their rights to other users.

This Project does not adversely affect other sources of water. It retimes existing flows and does not impact other water supplies or rights.

k. The proposed project/program provides a perpetual water supply for the new and/or alternate use and preserves agricultural production and/or helps sustain the area's economy from which the transfer is occurring.

This Project provides perpetual supplies for both municipal and agricultural use.

l. The quantity of water produced by the proposed project/program. Preference will be given to programs that can address larger water supply needs.

The quantity of water that will be produced is unknown, but is estimated at approximately 2,000 AF per year. While this is not a large amount in terms of absolute volume, it is a significant amount for the Conejos basin towns and the agricultural users in the San Antonio area.

m. Applicants are encouraged to develop projects demonstrating participation and/or support from a diverse set of stakeholders and interests.

The cooperative nature of the project includes a diverse set of stakeholders and interests including municipalities, irrigators, and Colorado Parks and Wildlife.

6. Statement of Work

Provide the proposed statement of work. On the following page there is an example format for the statement of work. You can use the example format or your own format, provided that comparable information is included. The statement of work should outline by task how the proposed program/project will be accomplished. It is important that the statement of work detail the specific steps, activities/procedures that will be followed to accomplish each individual task and the overall program/project and the specific products/deliverables that will be accomplished. The statement of work must include but not be limited to: task description, key personnel, budget, schedule and deliverables and the final report/project documentation upon completion of the water activity.

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.

Please provide a detailed statement of work using the following template. Additional sections or modifications may be included as necessary. Please define all acronyms. If a grant is awarded an independent statement of work document will be required with correct page numbers.

Statement of Work

WATER ACTIVITY NAME - Use of ATMs to Increase Supplies for Conejos Basin Agriculture, Municipal, and Environmental Purposes

GRANT RECIPIENT – Conejos Water Conservancy District

FUNDING SOURCE - CWCB Alternative Agricultural Grant Program plus 10% cash match from grant recipient and approximately 10% in-kind services match

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 Conejos Water Conservancy District (District) is located in Conejos County in southern Colorado in the Rio Grande Basin (Water Division 3). The District includes 88,000 acres of irrigated agriculture and the towns of Manassa, Romeo, Sanford, Conejos, Antonito, Ortiz and San Antonio. Several of these towns rely partially or entirely on groundwater pumping for their water supply and pending rules and regulations will require augmentation of well pumping depletions, The towns will look to agricultural water resources within the basin as a replacement source as there is not water available for appropriation under a new water right. The District agricultural users on the San Antonio river, a tributary to the Conejos river cannot receive Project deliveries by gravity flow or current infrastructure. The purpose of this ATM project is to investigate the opportunities for the transfer of the allocation of San Antonio river agricultural water users' Project water to the Towns to meet their augmentation water requirement without loss or impact to the irrigated agricultural lands.

OBJECTIVES

List the objectives of the project

The purpose of this project is to investigate the feasibility of a unique ATM that involves enlarging Trujillo Meadows Reservoir that preserves agriculture in the District and provides a reliable supply of augmentation water for the Towns. In addition, the project will also evaluate the other multiple-objective benefits that are possible, such as enhanced recreational opportunity at Trujillo Meadows Reservoir, potential environmental benefits such as enhanced riparian habitat, re-timing of streamflows on the Rio De Los Pinos and the on the Conejos below Platoro due to the release of augmentation water to the Towns, and meeting Compact delivery requirements.

TASKS

Provide a detailed description of each task using the following format

TASK 1 – Background and Objectives

Description of Task

This task will provide background and objectives for the project. The categories of background information will include:

1. Basic reservoir and dam information
2. Expected rules and regulations including imminent augmentation demand
3. Existing agricultural shortages on San Antonio
4. Existing Platoro Reservoir operations
5. Potential recreational and environmental benefits of dam enlargement
6. Conceptual schematic of the proposed ATM
7. Meetings and Coordination
8. Travel / Reimbursables

Method/Procedure

Through discussions with Colorado Parks and Wildlife (CPW) and the Conejos Water Conservancy District (CWCD), information will be gathered on the Trujillo Meadows reservoir and dam and CPW's uses of the reservoir, including the recreation user days per year for fishing visits. The history of Trujillo Meadows dam operation, maintenance, and rehabilitation, including historical dam problems will be summarized.

The pending groundwater pumping rules and regulations, and anticipated municipal augmentation demand will be researched and documented.

Through discussions with landowners and irrigation companies and investigations using StateCU, the existing agricultural shortages on lands irrigated from the San Antonio will be documented.

CWCD will provide detailed information about the existing Platoro division operations including timing, volume, and location of deliveries out of Platoro reservoir.

The potential recreation and environmental benefits of reservoir enlargement will be documented. These benefits include fishery and biological systems improvement, riparian habitat enhancement, and stream flow enhancement through re-timing of run-off.

There will be a kick-off meeting for the project in the San Luis Valley.

Deliverable

- A memorandum of tasks will be incorporated into the final report.
- A PowerPoint presentation will be developed that can be used to build partnerships with other entities

TASK 2 – Municipal Augmentation Demand

Description of Task

This task will include an assessment of the municipal augmentation demand expected for the Towns' well pumping. The following components will be included:

1. Quantification or estimate of pumping by towns (current and future)
2. RGDSS response functions to estimate augmentation demand
3. Estimate dry-up acreage to meet augmentation demand from agricultural water

Method/Procedure

CWCD will assist in collecting pumping data from towns. Both current pumping levels and expected future pumping volumes will be analyzed based on population and industry growth.

Currently the towns do not augment their well pumping. However, they will be required to do so once the rules and regulations requiring augmentation of pumping depletions are adopted. The Rio Grande Decision Support System (RGDSS) response functions will be used to estimate the augmentation requirements. It is currently estimated that the towns will need to augment 15 to 18 percent of their well pumping.

With the current water resources and operations in the Conejos watershed, agricultural water rights are the most likely source of water for municipality augmentation demand. Once the towns' augmentation demand is calculated, an estimate of the agricultural acreage that will be dried-up due to transfers of irrigation water will be determined.

Deliverable

- Memorandum including town pumping quantification, both current and future, and an estimate of dry-up acreage to meet augmentation demand from agricultural water sources will be incorporated into the final report

TASK 3 – Trujillo Meadows Reservoir Enlargement Feasibility

Description of Task

Storing water in an enlarged Trujillo Meadows reservoir for re-timing of run-off will better meet the needs of agricultural irrigation users and enhance stream flows for a longer period of time during the spring, allowing some agricultural water users to lease their Platoro project water to the towns for augmentation purposes. This task will examine the feasibility of Trujillo Meadows Reservoir enlargement through the consideration of the following components:

1. Reconnaissance level geotechnical analysis of the dam and reservoir enlargement
2. Reconnaissance level environmental analysis of the dam and reservoir enlargement including a potential new dam site 0.3 miles upstream; wetlands mapping and a cultural resources survey
3. Reconnaissance level biological analysis of the dam and reservoir enlargement including Threatened and Endangered Species
4. Reconnaissance level hydrological analysis including inflow quantification
5. Institutional challenges with reservoir enlargement including compact issues, environmental permitting, New Mexico's use of water, water rights, etc.
6. Meetings and subcontractor coordination

Method/Procedure

Basic engineering will be conducted on the reconnaissance level feasibility of dam enlargement. A geotechnical analysis will be conducted to determine the dam enlargement scope and the possible size of the enlarged reservoir. The history of Trujillo Meadows dam operation and maintenance, including historical problems with the dam will also be assessed and taken into account in the dam enlargement feasibility. Additional assessment will include embankment design considerations, existing structures, and future investigations and design considerations.

Environmental analysis of the dam and reservoir enlargement will be conducted to determine any negative impacts on wetlands, wildlife, and the surrounding habitat. A map of the inundation that will occur with reservoir enlargement will be produced. Assessments of other wildlife impacts will also be conducted. A cultural survey will be conducted assessing the potential impacts of construction on significant indigenous and non-indigenous archaeological and cultural heritage values.

To determine the current amount of water that flows into and out of Trujillo Meadows Reservoir via the Rio De Los Pinos, water commissioner records and RGDSS records will be analyzed. This analysis will help in determining how much Trujillo Meadows should be enlarged for maximum beneficial use.

CPW's USFS permit for the existing reservoir will be characterized. The existing reservoir permit may be expired, and if so, next steps for permitting will be outlined. Interviews with the District Ranger will be conducted to determine permit concerns and any potential special permit concerns will be evaluated. The Rio De Los Pinos flows from Colorado into New Mexico and then back into Colorado. Compact issues associated with the enlarged reservoir and re-timing of flows along with New Mexico's use of water on the Rio De Los Pinos will be evaluated. Water rights considerations will also be determined.

CWCD to provide on-site coordination with subcontractors for site visits.

Deliverable

- Technical memoranda on reconnaissance level geotechnical and environmental analysis of the dam and enlargement will incorporated or appended to the final report.
- A memorandum of biological and hydrological analysis and institutional changes will be incorporated or appended to the final report

TASK 4 – Alternative Transfer Method Model

Description of Task

The purpose of this task is to develop a simple operations model for the Trujillo Meadows Reservoir that shows storing, releasing and diverting water from the reservoir. The model will show changes in streamflow

and the return flows. The model may be incorporated into the existing Rio Grande Cooperative Project model for CPW operations.

Method/Procedure

An operations model will be developed and incorporated into the existing Rio Grande Cooperative model to track reservoir use for meeting existing uses, meeting agricultural shortages, changes to stream flows below Trujillo Meadows, changes to Platoro to meet augmentation demands and the impact to the Compact and CPW's obligations for replacement of Trujillo Meadows evaporation.

Deliverable

- An operational model incorporated into the existing Rio Grande Cooperative Model with results in Excel-based format
- A memorandum of the components of this task including basic model configuration description, assumptions, and the results will be incorporated into the final report.

TASK 5 – Multiple Benefits

Description of Task

This task will assess and characterize the multiple benefits associated with the project and the goal of preserving agriculture irrigated acres by leasing the San Antonio users Platoro project allocation to the towns for augmentation, in turn for the enlargement of Trujillo Meadows reservoir. Benefits assessed will include:

1. Ability to meet towns' augmentation demand through the ATM Project
2. Ability to reduce agricultural shortages
3. Environmental benefits to streamflows on the Los Pinos, San Antonio, and Conejos
4. Benefits to CPW operations and uses
5. Compact and/or state-wide benefits

Method/Procedure

One of the main goals of the project is to meet towns' augmentation demand through an alternative transfer method. For this Project the transfer method is the trade of the use of Project water in Platoro reservoir for the enlargement and use of water re-timed out of Trujillo Meadows. Based on model results and assessments from previous tasks, the ability to meet the towns' augmentation demand through Platoro project water will be determined. In conjunction with the benefits to the towns' the ability to reduce agricultural shortages of the users on the San Antonio through water released out of Trujillo Meadows will also be evaluated.

The potential for environmental benefits such as enhanced stream flows, improved fisheries and ecosystem, and riparian environment enrichment determined in Task 1 will be incorporated into the analysis.

Additional benefits to CPW will be characterized including enhanced operations and improved uses for the water saved by not having to augment evaporation in Trujillo Meadows.

Finally, compact and state-wide benefits including better managed compact deliveries and improved reservoir and stream operations will be determined.

Deliverable

- A memorandum of benefits assessed in this task will be incorporated into the final report.
- Potential partners will be identified based on benefits.

TASK 6 – Report, Conclusions and Recommendations

Description of Task
A final report will be prepared that includes or incorporates all of the task memoranda, summarizes the project, and documents how the project was completed.

Method/Procedure
Deliverables and results from Tasks 1-5 will be incorporated into the final report.

Deliverable

- Final report including tables, maps, figures as necessary

TASK 7 – Cooperative Partnership and Stakeholder Involvement

Description of Task
This task will develop a cooperative partnership and stakeholder involvement in the multiple benefit project. Outreach will be made to the following stakeholders:

1. The towns of Sanford, Manassa, La Jara and Romeo
2. Agricultural users
3. CPW for preliminary negotiations
4. BLM
5. USBR regarding Platoro reoperation and project water contracting
6. DWR

Regular updates with CWCD will take place via progress meetings and trips to the San Luis Valley.

Method/Procedure
Meetings with the stakeholders, either individually or in larger groups depending on the meeting purpose and goals, will be held to develop a cooperative partnership and stakeholder involvement. CWCD will assist and be actively involved in stakeholder involvement and outreach.

Deliverable

- Regular coordination and progress updates with CWCD

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.

BUDGET

Provide a detailed budget by task including number of hours and rates for labor and unit costs for other direct costs (i.e. mileage, $/unit of material for construction, etc.). A detailed and perfectly balanced budget that shows all costs is required for the State's contracting and purchase order processes. Sample budget tables are provided below. Please note that these budget tables are examples and will need to be adapted to fit each individual application. Tasks should correspond to the tasks described above.

See attached budget

SCHEDULE

Provide a project schedule including key milestones for each task and the completion dates or time period from the Notice to Proceed (NTP). This dating method allows flexibility in the event of potential delays from the procurement process. Sample schedules are provided below. Please note that these schedules are examples and will need to be adapted to fit each individual application.

See attached Schedule

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 the public and help promote the development of alternative agricultural transfer methods.

Additional Information – If you would like to add any additional pertinent information please feel free to do so here.

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

Signature of Applicant: Nathan Coombs

Print Applicant's Name: NATHAN COOMBS

Project Title: Conejos WCD ATM Proposal

Return this application to:

Mr. Todd Doherty
Colorado Water Conservation Board
Water Supply Planning Section
1580 Logan Street, Suite 200
Denver, CO 80203
Todd.Doherty@state.co.us

Conejos Water Conservancy District
ATM Grant Proposal
Use of ATMs to Increase Supples for Conejos Basin Agricultural, Municipal and Environmental Purposes

Task	Task Description	$175 Senior Engineer	$140 Senior Consultant/ Biologist	$140 Water Resources Engineer II	$105 Water Resources Engineer I	Subcontractor	Total Cash Costs	CWCD In-kind labor hours	$65 CWCD In-kind labor cost
Task 1	**Background and Objectives**						**$14,610**		**$2,600**
1A	Basic reservoir/dam information - current location, use, rehab work in 1998, storage restriction etc..	2		8	4		$1,890	8	$520
1B	Expected Rules and Regulations and imminent augmentation demand	1		4			$735		$0
1C	Existing agricultural shortages on San Antonio	1		4	8		$1,575	4	$260
1D	Existing Platoro Division operations	2		12			$2,030	12	$780
1E	Potential recreational and environmental benefits of enlargement (fishery improvement, riparian area, retiming of flows etc)	2	8	4	4		$2,450		$0
1F	Conceptual schematic of proposed ATM	2		6	2		$1,400	4	$260
1G	Meetings and coordination	12		12			$3,780	12	$780
1H	Travel/Reimbursibles						$750		$0

T1 Deliverables (cost included in budgeted items)
memorandum of tasks 1A to 1G for incorporation into a final report (Task 6)

PowerPoint presentation that can be used to build partnerships with other entities (Task 7)

Task 2	**Municipal Augmentation Demand**						**$5,740**		**$1,170**
2A	Quantify/Estimate pumping by towns (current and future)	2		10			$1,750	10	$650
2B	Use RGDSS response functions to estimate augmentation demand	1		12	4		$2,275	2	$130
2C	Estimate dry-up acreage to meet augmentation demand from agricultural water source	1		8	4		$1,715	6	$390
2D	Travel/Reimbursibles						$0		$0

T2 Deliverables (cost included in budgeted items)
memorandum of tasks 2A to 2C for incorporation into a final report (Task 6)

Task 3	**Trujillo Meadows Enlargement Feasibility**						**$35,825**		**$1,690**
3A	Reconnasaince level geotechnical analysis of dam and enlargement	2		2	1	$10,000	$10,735	4	$260
3B	Reconnasaince level environmental analysis of dam and enlargement, including potential new dam site 0.3 miles upstream; wetlands mapping, cultural resources	2	8	2	1	$6,000	$7,855	4	$260
3C	Reconnasaince level biological analysis of dam and enlargement, including TE	1	32	1	2		$5,005	2	$130
3D	Reconnasiance level hydrological analysis (quantify inflows)	2		8	4		$1,890	2	$130
3E	Institutional Challenges (Compact issues, Permitting, New Mexico use, water rights)	10		12		$6,000	$9,430	8	$520
3F	Meetings and subcontractor coordination	2	2	2			$910	6	$390
3G	Travel/Reimbursibles						$0		$0

T3 Deliverables (cost included in budgeted items)
technical memoranda for 3A, 3B from subcontractors as appendices to final report
memorandum of 3C to 3F (plus summary of 3A, 3B) for incorporation into a final report (Task 6)

Task 4	**Alternative Transfer Method Model**						**$15,540**		**$520**
4A	RiverWare Model development to track reservoir use for meeting existing uses, meeting agricultural shortages, changes to streamflows below Trujillo Meadows, changes to Platoro operations to meet augmentation demands, impact to Compact	4	4	24	40		$8,820	4	$260
4B	May be able to incorporate into existing Rio Grande Cooperative Project model for CPW operations	4		16	36		$6,720	4	$260
4C	Travel/Reimbursibles						$0		$0

T4 Deliverables (cost included in budgeted items)
Operational RiverWare model with results in Excel-based format
memorandum of 4A and 4B, including description of model configuration, assumptions, results discussed in Task 5 and in a final report (Task 6)

Conejos Water Conservancy District
ATM Grant Proposal
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Task	Task Description	$175 Senior Engineer	$140 Senior Consultant/ Biologist	$140 Water Resources Engineer II	$105 Water Resources Engineer I	Subcontractor	Total Cash Costs	CWCD In-kind labor hours	$65 CWCD In-kind labor cost
Task 5	**Multiple Benefits**						**$16,310**		**$1,300**
5A	Ability to meet augmentation demand through ATM (towns)	4		8	6		$2,450	4	$260
5B	Ability to reduce agricultural shortages (CWCD)	4		8	6		$2,450	4	$260
5C	Environmental benefits to streamflows (Los Pinos, San Antonio, Conejos)	4	16	8	6		$4,690	4	$260
5D	Benefits to CPW operations and uses	4	16	4	6		$4,130	4	$260
5E	Compact and/or State-wide benefit	8		4	6		$2,590	4	$260
5F	Travel/Reimbursibles						$0		$0
	T5 Deliverables (cost included in budgeted items)								
	memorandum of 5A to 5D, for incorporation into a final report (Task 6)								
	identification of potential partners based on benefits								
Task 6	**Report, Conclusions and Recommendations**						**$11,570**		**$780**
6A	Final report incorporating memoranda from previous tasks, including conclusions, reommendations and next steps	16	12	16	20	$2,000	$10,820	12	$780
6B	Travel/Reimbursibles						$750		$0
	T6 Deliverables (cost included in budgeted items)								
	Final report, including maps, tables, figures as necessary								
Task 7	**Cooperative Partnership and Stakeholder Involvement**						**$38,320**		**$4,680**
7A	Outreach to towns	16					$2,800	8	$520
7B	Outreach to agricultural users	16					$2,800	8	$520
7C	Outreach/ preliminary negotiations with CPW	16	24				$6,160	8	$520
7D	Outreach to BLM	8	8				$2,520	8	$520
7E	Outreach to USBR re: Platoro reoperation/Project water contracting etc	16	8				$3,920	8	$520
7F	Outreach to DWR	16					$2,800	8	$520
7G	Regular updates with CWCD	40	20	28	20		$15,820	24	$1,560
7H	Travel/Reimbursibles						$1,500		$0
	T7 Deliverables (cost included in budgeted items)								
	regular coordination and progress updates with CWCD								

Project Totals	Senior Engineer	Senior Consultant/ Biologist	Water Resources Engineer II	Water Resources Engineer I	Subcontractor	Total	CWCD In-kind labor hours	CWCD In-kind labor cost
Hours	**221**	**158**	**223**	**180**		**782**	**196**	
Labor and Subcontractor Cost	**$38,675**	**$22,120**	**$31,220**	**$18,900**	**$24,000**	**$134,915**		$12,740
					Travel/Reimbursibles	***$3,000***		
					Total Project Cost	**$137,915**		
					Cash and in-kind match	***$13,792***		
					Grant request	***$124,124***		

Conejos Water Conservancy District
ATM Grant Proposal
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Schedule

Task		Months after NTP											
		*1**	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*
Task 1	Background and Objectives												
Task 2	Municipal Augmentation Demand												
Task 3	Trujillo Meadows Enlargement Feasibility*												
Task 4	Alternative Transfer Method Model												
Task 5	Multiple Benefits												
Task 6	Report, Conclusions and Recommendations												
Task 7	Cooperative Partnership and Stakeholder Involvement												

Grey shading indicates estimated timing of task
**Assumes NTP June 2013 so that field work can be performed in late summer 2013. Differences to the assumed NTP date may affect timing of Task 3*