COLORADO WATER CONSERVATION BOARD

WATER SUPPLY RESERVE ACCOUNT APPLICATION FORM

Bonita Reservoir Dam Outlet Pipe Rehabilitation

Name of Water Activity/Project

Elmer L Ferganchick

Name of Applicant

Gunnison Basin

Approving Basin Roundtable(s)
(If multiple basins specify amounts in parentheses.)

Amount from Statewide Account:	$0.00
Amount from Basin Account(s):	$54,285
Total WSRA Funds Requested:	$54,285

Application Content

Required Exhibits

A. Statement of Work, Budget, and Schedule
B. Project Map
C. As Needed (i.e. letters of support, photos, maps, etc.)

Appendices – Reference Material

1. Program Information
2. Insurance Requirements
3. WSRA Standard Contract Information (Required for Projects Over $100,000)
4. W-9 Form (Required for All Projects Prior to Contracting)

Instructions

To receive funding from the Water Supply Reserve Account (WSRA), a proposed water activity must be approved by the local Basin Roundtable **AND** the Colorado Water Conservation Board (CWCB). The process for Basin Roundtable consideration and approval is outlined in materials in Appendix 1.

Once approved by the local Basin Roundtable, the applicant should submit this application **with a detailed statement of work including budget and schedule as Exhibit A** to CWCB staff by the application deadline.

WSRA applications are due with the roundtable letter of support 60 calendar days prior to the bi-monthly Board meeting at which it will be considered. Board meetings are held in January, March, May, July, September, and November. Meeting details, including scheduled dates, agendas, etc. are posted on the CWCB website at: http://cwcb.state.co.us Applications to the WSRA Basin Account are considered at every board meeting, while applications to the WSRA Statewide Account are only considered at the March and September board meetings.

When completing this application, the applicant should refer to the WSRA Criteria and Guidelines available at: http://cwcb.state.co.us/LoansGrants/water-supply-reserve-account-grants/Documents/WSRACriteriaGuidelines.pdf

The application, statement of work, budget, and schedule **must be submitted in electronic format** (Microsoft Word or text-enabled PDF are preferred) and can be emailed or mailed on a disk to:

Greg Johnson – WSRA Application
Colorado Water Conservation Board
1580 Logan Street, Suite 200
Denver, CO 80203
gregory.johnson@state.co.us

If you have questions or need additional assistance, please contact Greg Johnson at: 303-866-3441 x3249 or gregory.johnson@state.co.us.

Part I. - Description of the Applicant (Project Sponsor or Owner);

1.	Applicant Name(s):	Elmer L Ferganchick		
	Mailing address:	21609 Noel Road Eckert, CO 81418-8112		
	Taxpayer ID#:	524801167		
	Primary Contact:	Elmer L Ferganchick	Position/Title:	Owner
	Email:	ferganchick@hotmail.com		
	Phone Numbers:	Cell:	Office:	970-835-3285
	Alternate Contact:	Bruce D Marvin	Position/Title:	Engineering Consultant
	Email:	westeng23@gmail.com		
	Phone Numbers:	Cell: 970-250-8625	Office:	970-242-5202

2. Eligible entities for WSRA funds include the following. What type of entity is the Applicant?

	Public (Government) – municipalities, enterprises, counties, and State of Colorado agencies. Federal agencies are encouraged to work with local entities and the local entity should be the grant recipient. Federal agencies are eligible, but only if they can make a compelling case for why a local partner cannot be the grant recipient.
	Public (Districts) – authorities, Title 32/special districts, (conservancy, conservation, and irrigation districts), and water activity enterprises.
	Private Incorporated – mutual ditch companies, homeowners associations, corporations.
X	Private individuals, partnerships, and sole proprietors are eligible for funding from the Basin Accounts but not for funding from the Statewide Account.
	Non-governmental organizations – broadly defined as any organization that is not part of the government.

3. Provide a brief description of your organization

Elmer Ferganchick is the sole owner of the Bonita Reservoir, its dam and storage water rights and is an individual owner and farmer. The principal assets held by the owner related to agricultural production are 175 acres of arable land near Eckert, CO, and full or partial ownership of the following diversion ditches and related water rights: Bonita Ditch, Old Reliable Ditch, W.T. McMurray Ditch and Surface Creek Ditch and Reservoir Company.
See figures 1 and 2 attached for location and service area maps.

4. If the Contracting Entity is different then the Applicant (Project Sponsor or Owner) please describe the Contracting Entity here.

5. Successful applicants will have to execute a contract with the CWCB prior to beginning work on the portion of the project funded by the WSRA grant. In order to expedite the contracting process the CWCB has established a standard contract with provisions the applicant must adhere to. A link to this standard contract is included in Appendix 3. Please review this contract and check the appropriate box.

[X] The Applicant will be able to contract with the CWCB using the Standard Contract

[ ] The Applicant has reviewed the standard contract and has some questions/issues/concerns. Please be aware that any deviation from the standard contract could result in a significant delay between grant approval and the funds being available.

6. The Tax Payer Bill of Rights (TABOR) may limit the amount of grant money an entity can receive. Please describe any relevant TABOR issues that may affect the applicant.

None

Part II. - Description of the Water Activity/Project

1. What is the primary purpose of this grant application? (Please check only one)

	Nonconsumptive (Environmental or Recreational)
X	Agricultural
	Municipal/Industrial
	Needs Assessment
	Education
	Other Explain:

2. If you feel this project addresses multiple purposes please explain.

By increasing the security of the reservoir and the more stable stream flow that results from summer releases, recreational opportunities in the area are protected. Environmental enhancements will result from this project in relation to the potential destructive consequences that might otherwise occur as a result of dam distress events and the loss of summer releases. Enhancement of water conservation and use efficiency is not a direct goal of this project. However, increasing the security of existing water storage facilities is a means to conserve existing water supplies and protect existing water rights. Improving stability and security can be considered a step to improve the efficient use of existing facilities. There are eight other water users which obtain water from other sources but share the same transportation facilities. As will be discussed in other sections of this application, the ability of these users to obtain their full water allocation will be seriously harmed if the Bonita Reservoir water supply is eliminated.

3. Is this project primarily a study or implementation of a water activity/project? (Please check only one)

	Study	X	Implementation

4. To catalog measurable results achieved with WSRA funds can you provide any of the following numbers?

	New Storage Created (acre-feet)
	New Annual Water Supplies Developed, Consumptive or Nonconsumptive (acre-feet)
290	Existing Storage Preserved or Enhanced (acre-feet)
	Length of Stream Restored or Protected (linear feet)
	Length of Pipe/Canal Built or Improved (linear feet)
	Efficiency Savings (acre-feet/year OR dollars/year – **circle one**)
	Area of Restored or Preserved Habitat (acres)
	Other -- Explain:

5. To help us map WSRA projects please include a map (Exhibit B) and provide the general coordinates below:

Latitude: 39° 03′ 10″ Longitude: 107° 50′ 49″

6. Please provide an overview/summary of the proposed water activity (no more than one page). Include a description of the overall water activity and specifically what the WSRA funding will be used for. A full **Statement of Work** with a detailed budget and schedule is required as **Exhibit A** of this application.

The Bonita Reservoir Dam was constructed in the early 1900's. Its outlet pipe consists of a 12" dia riveted steel pipe which has deteriorated over time. In 1994, the Colorado State Engineer's Office (SEO) noted the deteriorating condition of the outlet based on an internal inspection of the outlet conduit and began to advise the owner that, while the outlet condition did not rise to the level of an imminent safety issue, at some future time the state of deterioration would reach that point. In 1997, the owner hired an engineer to develop plans for rehabilitation of the outlet pipe by means of slip-lining. Those plans were approved by the SEO. However, economic conditions prevented implementation of those plans and the safety status of the outlet pipe continued to remain a concern but not an imminent danger. The applicant tried unsuccessfully to obtain a loan for the work. The cost to upgrade the access road to accommodate construction vehicle traffic was a significant part of the overall project cost. In 2003, access road improvements had been made as part of rehabilitation efforts for Cedar Mesa reservoir and the slip-lining plans were re-submitted to the SEO office for re-approval, The owner began making arrangements with contractors to complete the slip-lining project. The work was scheduled for late fall of 2005 but early snow prevented execution. In 2006, the owner's father (and business partner) became seriously ill requiring extensive care and later died in 2008. Estate legal claims and probate processes continued through 2012 and attorney's costs consumed nearly all of the estate's value including critical water rights which had been used to for the family farming business but had to be liquidated to pay legal costs. In the intervening time since 2006, the owner purchased or traded for construction equipment and hired a skilled and experienced operator in anticipation of performing open-cut outlet replacement with his own resources if needed. Throughout this entire time since the problem was first noted, the applicant has been building cash reserves specifically designated for outlet rehabilitation. In the summer of 2012, the SEO made another internal inspection of the outlet pipe and discovered that the deterioration had continued to the point that a leak had developed near the connection between the pipe and the intake structure. This raised serious safety concerns and the SEO placed a zero storage restriction on the reservoir until the pipe is adequately mitigated. The currently proposed project is intended to restore the outlet to a safe operating condition so that the restriction can be lifted. The work generally consists of two parts. The first is placement of an internal liner by use of the Cured-in-Place Pipe method. The second part will be to mitigate possible erosion of soil along the exterior of the pipe by installation of a filter drain at the downstream end of the pipe. It is hoped that the work can be completed in 2013.

The SEO has also advised that, at some future time, rehabilitation or replacement of the intake structure will likely be required although the current storage restriction is based exclusively on the leaky conduit. Intake structure rehabilitation is not planned as part of the currently proposed scope of work due to the compressed schedule needed to try and complete the work in 2013 in order to restore the storage capability as soon as possible. Completion of the proposed project in 2013 is an optimistic goal and it is feared that the additional design, permitting, approval, and construction work needed for the intake structure rehabilitation would likely prohibit a 2013 completion. Since the proposed outlet pipe lining work will be performed by a specialty contractor, there would be little or no savings in mobilization and demobilization cost by replacing the intake structure now versus later. The owner has farmed the service area land for 43 years and he has both substantial economic and personal attachments to that land. The viability of the owner's agricultural business and the value of the land is highly dependent on continued water delivery from Bonita Reservoir. The dam and

associated water rights are also an important and valuable asset and the owner is, therefore, highly motivated and committed to continued maintenance and improvement efforts needed to sustain this water supply and storage facility. The proposed project addresses two out of the three concerns related to the outlet works, those two being the overall condition of the outlet pipe and the leak between the pipe and the intake structure.

The applicant asks that the Gunnison BRT and CWCB recognize that time is of the essence for this project and therefore requests that every effort be made to forward and process this application in a manner that it can be placed for review at the CWCB meeting to be held in July of 2013.

See figures 1 and 2 attached for location and service area maps. The proponent has engaged the service of Western Engineers, Inc. (Grand Junction, CO) as engineering consultant.

Part III. – Threshold and Evaluation Criteria

1. Describe how the water activity meets these **Threshold Criteria.** (Detailed in Part 3 of the Water Supply Reserve Account Criteria and Guidelines.)

   a) The water activity is consistent with Section 37-75-102 Colorado Revised Statutes.[1]

   The intent of the activity is to preserve 290 acre-feet of storage capacity which, without the proposed repairs, would be lost and the water right sold or abandoned. No aspect of the activity will violate or conflict with the Colorado water allocation system, interfere with others' use of their water rights or other property or rights.

[1] 37-75-102. Water rights - protections. (1) It is the policy of the General Assembly that the current system of allocating water within Colorado shall not be superseded, abrogated, or otherwise impaired by this article. Nothing in this article shall be interpreted to repeal or in any manner amend the existing water rights adjudication system. The General Assembly affirms the state constitution's recognition of water rights as a private usufructuary property right, and this article is not intended to restrict the ability of the holder of a water right to use or to dispose of that water right in any manner permitted under Colorado law. (2) The General Assembly affirms the protections for contractual and property rights recognized by the contract and takings protections under the state constitution and related statutes. This article shall not be implemented in any way that would diminish, impair, or cause injury to any property or contractual right created by intergovernmental agreements, contracts, stipulations among parties to water cases, terms and conditions in water decrees, or any other similar document related to the allocation or use of water. This article shall not be construed to supersede, abrogate, or cause injury to vested water rights or decreed conditional water rights. The General Assembly affirms that this article does not impair, limit, or otherwise affect the rights of persons or entities to enter into agreements, contracts, or memoranda of understanding with other persons or entities relating to the appropriation, movement, or use of water under other provisions of law.

b) The water activity underwent an evaluation and approval process and was approved by the Basin Roundtable (BRT) and the application includes a description of the results of the BRTs evaluation and approval of the activity. At a minimum, the description must include the level of agreement reached by the roundtable, including any minority opinion(s) if there was not general agreement for the activity. The description must also include reasons why general agreement was not reached (if it was not), including who opposed the activity and why they opposed it. Note- If this information is included in the letter from the roundtable chair simply reference that letter.

See attached letter from Gunnison BRT.

c) The water activity meets the provisions of Section 37-75-104(2), Colorado Revised Statutes.[2] The Basin Roundtable Chairs shall include in their approval letters for particular WSRA grant applications a description of how the water activity will assist in meeting the water supply needs identified in the basin roundtable's consumptive and/or non-consumptive needs assessments.

The "Water Supply and Needs Report for Gunnison Basin, June, 2006" estimated future water supply needs through the year 2030. A number of specific "projects and processes" were identified that are expected to be capable of satisfying the majority of these needs. However, approximately 20 percent of the projected water shortfall would not be satisfied by these projects and processes. Section 8 of the report ("Options for the Gunnison Basin") explores "basin specific options to help address unmet future water supply needs" one of which is to restore the capacity of reservoirs which are restricted to less than full storage due to safety and other considerations. The possibility of rehabilitating these reservoirs is discussed in Paragraph 8.4.5 ("Summary of Restricted Reservoirs and Potential Storage Sites"). At the time that the report was published it was estimated that the total Gunnison Basin storage volume which could be gained in this manner was about 3,604 acre-feet. The Bonita Reservoir was not under restriction at that time and was, therefore, not included in that estimated amount. But the 290 acre-feet held by Bonita Reservoir represents a significant portion of the total estimated amount (about 8 percent). Therefore, rehabilitation of restricted reservoirs is one of the options discussed in the report for meeting projected water needs and rehabilitation of Bonita reservoir not only falls within that category but represents a significant percentage of the total estimated volume of water that could be gained or preserved in that way. Additionally, the 230 acre-foot storage water right has an 1893 appropriation date. Pre-1922 water rights have particular value to the State of Colorado in general, relative to the Colorado River Compact.

d) Matching Requirement: <u>For requests from the **Statewide Fund**</u>, the applicants is required to demonstrate a **20 percent** (or greater) match of the request from the Statewide Account. Statewide requests must also

[2] 37-75-104 (2)(c). Using data and information from the Statewide Water Supply Initiative and other appropriate sources and in cooperation with the on-going Statewide Water Supply Initiative, develop a basin-wide consumptive and nonconsumptive water supply needs assessment, conduct an analysis of available un-appropriated waters within the basin, and propose projects or methods, both structural and nonstructural, for meeting those needs and utilizing those unappropriated waters where appropriate. Basin Roundtables shall actively seek the input and advice of affected local governments, water providers, and other interested stakeholders and persons in establishing its needs assessment, and shall propose projects or methods for meeting those needs. Recommendations from this assessment shall be forwarded to the Interbasin Compact Committee and other basin roundtables for analysis and consideration after the General Assembly has approved the Interbasin Compact Charter.

include a minimum match of **5 percent** of the total grant amount from Basin Funds. Sources of matching funds include but are not limited to Basin Funds, in-kind services, funding from other sources, and/or direct cash match. Past expenditures directly related to the project may be considered as matching funds if the expenditures occurred within 9 months of the date the application was submitted to the CWCB. Please describe the source(s) of matching funds. (NOTE: These matching funds should also be reflected in your Detailed Budget in **Exhibit A** of this application)

The project applicant (owner) proposes to provide $9,500 (approximately 15 percent) in matching contributions to combine with the grant proceeds. This may come from other grants, cash reserves, personal assets or private loans,. At least a portion of the matching contribution is anticipated to consist of cash which will be used early in the project to provide engineering and permitting efforts. The applicant also possesses equipment and construction capabilities and may provide a portion of this matching contribution in sweat equity or in-kind contributions during the construction process.

2. For Applications that include a request for funds from the **Statewide Account**, describe how the water activity/project meets all applicable **Evaluation Criteria.** (Detailed in Part 3 of the Water Supply Reserve Account Criteria and Guidelines and repeated below.) Projects will be assessed on how well they meet the Evaluation Criteria. **Please attach additional pages as necessary.**

Evaluation Criteria – the following criteria will be utilized to further evaluate the merits of the water activity proposed for funding from the Statewide Account. In evaluation of proposed water activities, preference will be given to projects that meet one or more criteria from each of the three "tiers" or categories. Each "tier" is grouped in level of importance. For instance, projects that meet Tier 1 criteria will outweigh projects that only meet Tier 3 criteria. WSRA grant requests for projects that may qualify for loans through the CWCB loan program will receive preference in the Statewide Evaluation Criteria if the grant request is part of a CWCB loan/WSRA grant package. For these CWCB loan/WSRA grant packages, the applicant must have a CWCB loan/WSRA grant ratio of 1:1 or higher. Preference will be given to those with a higher loan/grant ratio.

Tier 1: Promoting Collaboration/Cooperation and Meeting Water Management Goals and Identified Water Needs

a. The water activity addresses multiple needs or issues, including consumptive and/or non-consumptive needs, or the needs and issues of multiple interests or multiple basins. This can be demonstrated by obtaining letters of support from other basin roundtables (in addition to an approval letter from the sponsoring basin).
b. The number and types of entities represented in the application and the degree to which the activity will promote cooperation and collaboration among traditional consumptive water interests and/or non-consumptive interests, and if applicable, the degree to which the water activity is effective in addressing intrabasin or interbasin needs or issues.
c. The water activity helps implement projects and processes identified as helping meet Colorado's future water needs, and/or addresses the gap areas between available water supply and future need as identified in SWSI or a roundtable's basin-wide water needs assessment.

Tier 2: Facilitating Water Activity Implementation

d. Funding from this Account will reduce the uncertainty that the water activity will be implemented. For this criterion the applicant should discuss how receiving funding from the Account will make a significant difference in the implementation of the water activity (i.e., how will receiving funding enable the water activity to move forward or the inability obtaining funding elsewhere).

e. The amount of matching funds provided by the applicant via direct contributions, demonstrable in-kind contributions, and/or other sources demonstrates a significant & appropriate commitment to the project.

Tier 3: The Water Activity Addresses Other Issues of Statewide Value and Maximizes Benefits

f. The water activity helps sustain agriculture & open space, or meets environmental or recreational needs.
g. The water activity assists in the administration of compact-entitled waters or addresses problems related to compact entitled waters and compact compliance and the degree to which the activity promotes maximum utilization of state waters.
h. The water activity assists in the recovery of threatened and endangered wildlife species or Colorado State species of concern.
i. The water activity provides a high level of benefit to Colorado in relationship to the amount of funds requested.
j. The water activity is complimentary to or assists in the implementation of other CWCB programs.

Continued: Explanation of how the water activity/project meets all applicable **Evaluation Criteria**.

Please attach additional pages as necessary.

Tier 1,b: The original conveyance path for water to reach the service area lands from Bonita Reservoir was by open channel stream flow in a combination of Bonita Creek and Surface Creek to the Old Reliable Ditch diversion and thence to the service area land. However, the conveyance losses in both Surface Creek and the Old Reliable Ditch are very high and, in the mid 1990's the applicant rehabilitated the Bonita Ditch and enclosed it in a 24 inch diameter pipe. The result was a two mile reduction in ditch transmission length (compared to the Old Reliable Ditch) and a significant decrease in conveyance water losses. However, since the Bonita Reservoir releases and other direct flow rights held by the applicant constituted, by far, the greatest portion of flow in the Old Reliable Ditch, the change in diversion scheme had a serious negative impact on the remaining users of the Old Reliable Ditch, so much so, that they were essentially unable to obtain a significant portion of their water on a consistent basis. By consent, and without charge, Elmer therefore agreed to allow eight other water users holding water rights from sources other than Bonita Reservoir to utilize Bonita Ditch to convey water to their lands which are adjacent to, or nearby the subject service area. He allows use of the ditch without charge and provides all maintenance and administration at his sole cost. Also, instead of prorating the open channel stream conveyance losses to each user of the Bonita Ditch, he allows delivery of each other user's full diverted water right amount so that all open channel stream conveyance losses are deducted from the water diversions attributed to his water rights. Additionally, he has implemented water efficiency and conservation measures as part of his operation such that, at times, he diverts amounts of water into the Bonita Ditch in excess of his needs and distributes these excess amounts to the other users as needed. Furthermore, the applicant has a water distribution scheduling arrangement where a portion of his diversion amount can be temporarily used by one or more of the other eight water users on the system during periods of higher irrigation flow requirements. For example, one of the orchardists on the system requires a minimum of 0.75 cfs continuous flow to operate his spray irrigation system but is only able to receive delivery of 0.5 cfs from his water right. The applicant therefore makes up the difference from his diverted water during orchard irrigation periods. Loss of the Bonita Reservoir releases into the Bonita Ditch system will have a seriously detrimental impact, not just on the applicant's agriculture operations, but also on those of the other eight water users supplied by the system. At a minimum, they will receive significantly less water and, in some cases, the majority of their diversions will be consumed by open channel stream losses. The reservoir water will no longer be available to stabilize the flow in the system, absorb conveyance losses or supplement periods of higher demand.

This project is something of a prototype for application of a variation in outlet lining technology for dams. Installation of a cured-in-place liner for outlet rehabilitation is a very cost effective and technically appropriate method to

address outlet pipe deterioration concerns. To date, dam outlet lining projects using the cured-in-place pipe method have been performed using steam to provide a high temperature cure for the liner. One of the disadvantages to this process is that a steam generator needs to be mobilized to the project by means of either a heavy tandem-axle highway truck or by air-lifting it in. This adds considerable cost to projects with difficult vehicle access issues and can make the technology not feasible for those areas. However, use of ambient temperature or warm water cure has been used for utility rehabilitation work for years and does not require use of a steam truck. For relatively small projects, the materials and equipment needed for low temperature liner cure can be mobilized by 4 wheel drive pickup or even ATV. There are some differences in a low temperature cure process that would have to be accepted for use in dam outlets by regulating agencies, but once that is accomplished, the process would have broad application to small dams in the Rocky Mountain region which have difficult access. The applicant has agreed to making this project a prototype for this new technology variation.

Tier 1,c: The water activity helps implement an option identified as helping meet Colorado's future water needs, and addresses the gap areas between available water supply and future need as identified in "Water Supply and Needs Report for Gunnison Basin, June, 2006". See previous discussion under Part III. – "Threshold and Evaluation Criteria" Section 1, paragraph c. Also, the primary goal of the project is to sustain existing water supplies and the benefits that are produced by those supplies. These benefits accrue directly to the individuals and families who use the water from the reservoir for agricultural supplies and less directly to those who use the reservoirs for recreation; fish, vegetation and wildlife that depend on the reservoirs and the steady stream flow that results from summer releases; other businesses in the community which rely on a stable local agricultural economy and anyone downstream who would be impacted by failure of either a dam or its operational capabilities.

Tier 2, d: The applicant is highly dependent on Bonita Reservoir to supply late-season irrigation water for 175 acres of alfalfa and alfalfa/hay (see figures 1 and 2 attached for location and service area maps). Without that water, the crop yields will be substantially decreased. With the revenue from the grant which is being applied for herein, rehabilitation of the reservoir and subsequent lifting of the storage restriction is a near certainty. Additionally, the grant funds will increase the likelihood that the rehabilitation work can be completed in 2013 so that 2013 will be the only irrigation season during which the storage water will not be available for use due to the current restriction. It is clearly in the proponent's best interest to make every reasonable effort in order to succeed in the rehabilitation efforts regardless of the outcome of this funding application. However, the financial resources of the project sponsor is very limited. This is because revenue is primarily derived from farm revenue. The likelihood of obtaining alternative funding from other public or private grant or loan sources is more remote and the best case would involve additional time delays along with the associated increased loss of production revenues. Continuing delays due to funding difficulties will extend the time period during which production revenues are lost and will make the possibility of finding funding sources even more difficult. Therefore, without the subject grant money, the possibility of completing the rehabilitation project becomes less likely. The final outcome of not proceeding with the rehabilitation will be breaching the dam (with the related costs) and/or sale or abandonment of the water right.

Tier 2, e: The project proponent (applicant) proposes to provide $9,500 (approximately 15 percent) in matching contributions to combine with the grant proceeds which may come from other grants, cash reserves, personal assets, private loans. At least a portion of the matching contribution is anticipated to consist of cash which will be used early in the project to provide engineering and permitting efforts. The applicant also possesses equipment and construction capabilities and may provide a portion of this matching contribution in sweat equity or in-kind contributions during the construction process. For a sole-owner agricultural producer, this represents a significant and meaningful

contribution indicative of the commitment to complete the project.

Tier 3, f: Without rehabilitation of the dam, agricultural production on 175 acres of land will either be substantially reduced or eliminated making it more likely that the land will be converted to other uses and that the water will no longer be used for local agricultural production.

Tier 3, g: The 230 acre-foot storage water right has an 1893 appropriation date (pre-1922) which makes it exempt from calls under the Colorado River Compact. During extended exceptionally dry periods, compact-exempt water storage rights will play a very important role in the State of Colorado in providing reliable sources of water for essential services and uses. In the event of abandonment of this water right, or conversion of it to other uses in a manner which changes its appropriation date its value and general utility for the State of Colorado will be decreased. The project promotes maximum utilization of state waters by increasing the security of facilities necessary for continuation of historic use.

Tier 3, h: Hold-over and use of the stored water later in the season (July/August/September) results in return flows to the Gunnison and Colorado River during that time period which would not occur without the Bonita storage facility. These summer return flows occur during a critical time period for threatened and endangered fish when the river flows are low.

Tier 3, i: The rehabilitation cost for the proposed project represents approximately $220/acre foot. Based on evaluation of potential new storage projects in the area with storage volumes less than 1,000 acre-feet, replacement storage would cost a minimum of $8,000/acre foot. Therefore, preservation of the existing storage capability is a more effective use of funds by a factor of nearly 40 when compared with construction of replacement storage facilities. Improving the safety of a dam also includes other associated benefits that are more difficult to quantify. The potential losses related to dam distress or failure are substantial and can have wide-reaching impacts. These losses include complete or partial dam failure, risk to human life, property damage, damage to infrastructure, lost water, reduced agricultural production, lost recreational opportunities, environmental damage, repair costs, restitution costs, legal costs and costs incurred by regulatory agencies. The impacts can extend a considerable distance downstream. Additionally, the loss of the ability to operate a dam or to store water primarily results in reduced water supplies and lost agricultural production. However, other associated losses can be experienced including lost recreational opportunities, environmental damage (such as damage to wetlands which rely on the normal reservoir pool) and additional repair costs resulting from the need to make repairs under emergency conditions or less than optimal circumstances. Adequately addressing weaknesses can avoid those losses. The economy in the area surrounding the project is critically dependent on water supplied by storage facilities. This economy includes agricultural
production and residential and commercial activities. The viability of the overall community in the area is linked to water supplies. All of the residential and business activities contribute to State and national economic conditions.

Tier 3, j: The project fits well within the stated CWCB mission to “conserve, develop, protect and manage Colorado’s water for present and future generations”. The intent of the project is to enhance the protection of and the ability to manage the existing water storage facility.

Part IV. – Required Supporting Material

1. **Water Rights, Availability, and Sustainability** – This information is needed to assess the viability of the water project or activity. Please provide a description of the water supply source to be utilized, or the water body to be affected by, the water activity. This should include a description of applicable water rights, and water rights issues, and the name/location of water bodies affected by the water activity.

Bonita Reservoir is located on Bonita Creek which is tributary to Surface Creek and eventually to the Gunnison River (see figures 1 and 2 attached for location and service area maps). The reservoir's drainage basin area is approximately 0.26 square miles. Even though the ratio of the drainage basin area to the storage volume is small, the annual yield is quite good. Records show that, of the 42 years of record, the reservoir filled 29 of those (69 percent) and that the average annual yield for the reservoir is 264 acre-feet. This is partially due to the drainage basin's high elevation and partially due to the seniority of the 230 acre-foot storage water right (priority number 10 in the Surface Creek drainage basin). This project will not result in any water storage or use amounts or patterns that differ from what has occurred historically. Since the project will not change historic water use patterns or quantities, there will be no impact on consumptive use. Storage water rights for Bonita Reservoir are as follows:

230 acre feet, absolute, Appropriation date - 8/7/1893, Adjudication date - 9/28/1907 (case # CA0457)
60 acre feet, absolute, Appropriation date - 12/31/1907, Adjudication date - 12/31/1974 (case # W2387)

Other water rights held by the owner which are used for irrigation on the same parcel of land are described below:

- 100 percent ownership of the Bonita Ditch and 1.72 cfs direct flow water right.
- 4/9 interest in Old Reliable Ditch and its total 7.5 cfs direct flow water rights.
- 5/25 interest in W.T. McMurray Ditch and associated direct flow water rights.
- 7 shares of capital stock in the Surface Creek Ditch and Reservoir Company.

2. Please provide a brief narrative of any related studies or permitting issues.

A previous design for slip-lining the outlet pipe was prepared by Atkins and Associates engineers in 2003. This work was never accomplished and the current rehabilitation design will involve use of cured-in-place pipe rather than slip lining with PVC pipe due to its lower cost and greater likelihood of success. There are also dam safety reports by the State Engineers office which will provide relevant information for the proposed work. The project is in the Grand Mesa National Forest and will require Forest Service permits for access, road use, special use and material use. A Clean Water Act 404 permit may be required but the work will likely fall within the scope of a nationwide permit. The designs and plans will have to be reviewed and approved by the State of Colorado Division of Water Resources, Dam Safety Branch and the Forest Service.

3. Statement of Work, Detailed Budget, and Project Schedule

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**. All WSRA funds are disbursed on a reimbursement basis after review invoices and appropriate backup material.

Please provide a detailed statement of work using the template in Exhibit A. Additional sections or modifications may be included as necessary. Please define all acronyms and include page numbers.

See attached Exhibit A.

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.

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 Basin Roundtables and the general public and help promote the development of a common technical platform.

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

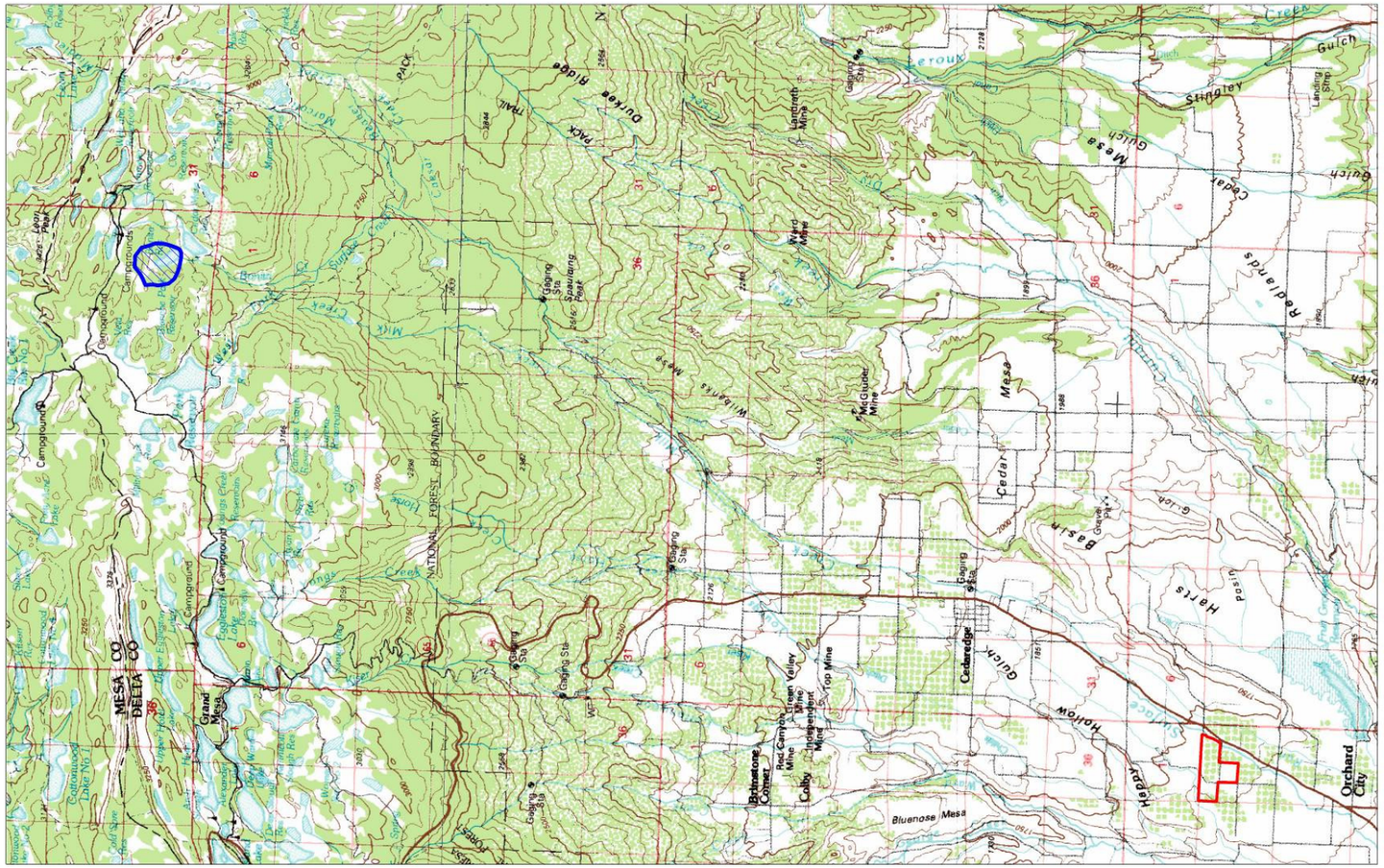
Signature of Applicant: Elmer Ferganchick

Print Applicant's Name: Elmer L Ferganchick

Project Title: Bonita Reservoir Dam Outlet Pipe Rehabilitation

Return an electronic version (hardcopy may also be submitted) of this application to:

Greg Johnson – WSRA Application
Colorado Water Conservation Board
1580 Logan Street, Suite 200
Denver, CO 80203
gregory.johnson@state.co.us



N

LEGEND:

SERVICE AREA BOUNDARY

BONITA RESERVOIR BASIN

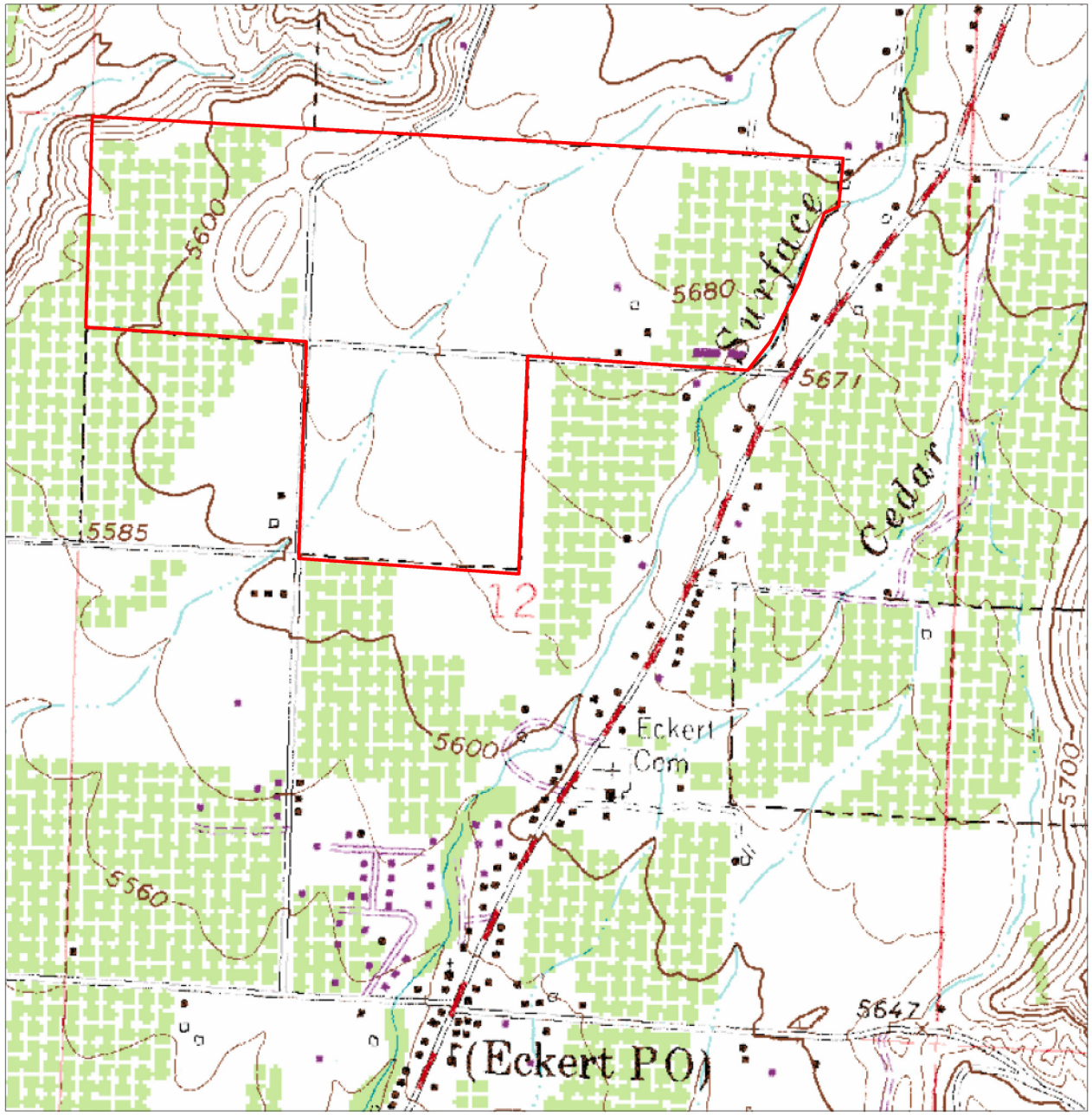
10000' 0 10000' 20000'

SCALE IN FEET

BONITA RESERVOIR
LOCATION MAP

FIGURE 1

WESTERN ENGINEERS, INC.



1000' 0 1000' 2000'

SCALE IN FEET

N

LEGEND:

SERVICE AREA BOUNDARY

BONITA RESERVOIR
SERVICE AREA

FIGURE 2

WESTERN ENGINEERS, INC.

Exhibit A

Statement of Work

WATER ACTIVITY NAME - Bonita Reservoir Dam Outlet Pipe Rehabilitation

GRANT RECIPIENT – Elmer L Ferganchick

FUNDING SOURCE – Gunnison Basin Roundtable WSRA

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 Bonita Reservoir Dam outlet pipe consists of a 12" dia riveted steel pipe which has deteriorated to the point that it is leaking near the connection between the pipe and the intake structure. Due to safety concerns, the Colorado State Engineer's Office has placed a zero-storage restriction on the reservoir. This project is intended to restore the outlet to a safe operating condition so that the restriction can be lifted. The work generally consists of two parts. The first is placement of an internal liner by use of the Cured-in-Place Pipe method. The second part will be to mitigate possible erosion of soil along the exterior of the pipe by installation of a filter drain at the downstream end of the pipe. It is hoped that the work can be completed in 2013. See Figures 1 and 2 attached for location and service area maps.

OBJECTIVES

List the objectives of the project

The purpose of the project is to address the safety issues which are the basis for the storage restriction and, subsequently obtain a lifting of the restriction.

TASKS

Provide a detailed description of each task using the following format

TASK 1 – Engineering and Permitting

Description of Task

Investigation, permitting, design, bidding assistance, construction inspection and as-constructed documentation.

Method/Procedure

Investigations will include field surveys, geotechnical investigations, wetlands delineations and research of existing and previous documents for Bonita Reservoir as well as nearby projects for which similar work has been accomplished in the past (such as Trio Reservoir). Necessary permits will be pursued

with the Forest Service, Corps of Engineers and State of Colorado Division of Water Resources. Design drawings and specifications will be prepared and submitted to appropriate agencies for comment and approval. Construction bids will be solicited. Full-time construction inspection will be performed by the engineer. Final documentation of construction activities and modifications to the design made during construction will be prepared and submitted to the applicable agencies.

Deliverable

Deliverables will include design and investigation reports, permits, construction drawings and specifications and as-constructed documentation.

TASK 2 – Construction

Description of Task

Installation of the pipe liner and outlet filter drain.

Method/Procedure

The contractor will install a cured-in-place pipe liner using standard techniques. The liner will consist of a felt tube saturated with either polyester or epoxy resin. The liner will be inserted into the outlet by inversion using steam, water or air pressure. Thermal curing will be accomplished using steam, hot water or sufficient time at ambient temperature. During curing, the liner will be held in place against the existing pipe by means of internal pressure. Any access improvements necessary to facilitate mobilization and demobilization of equipment will be performed. A rock retaining wall located at the toe of the embankment will be removed around the outlet discharge area to allow extension of the outlet pipe prior to pipe lining. The embankment will be extended downstream by excavating and transporting material from a borrow area and placing and compacting it around the pipe. A sand filter will be placed around the outside perimeter of the pipe to protect against migration of soil due to seepage along the exterior of the pipe. The sand filter will be covered with compacted embankment.

Deliverable

The deliverable for this task will consist of the completed construction work.

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.

BONITA OUTLET REPAIR COST ESTIMATE				
ITEM	UNIT COST	UNITS	NUMBER OF UNITS	TOTAL COST
TASK 1				
Field Investigations, Design, Permitting, Bidding	$90.00	HR	80	$7,200.00
Construction Inspection	$90.00	HR	60	$5,400.00
Mileage	$0.55	MI	800	$440.00
Completion Report	$90.00	HR	40	$3,600.00
TASK 2				
Mobilization and Demobilization				
Lowboy with Backhoe	$135.00	HR	10	$1,350.00
Lowboy with loader	$135.00	HR	10	$1,350.00
Pickup with compactor	$75.00	HR	10	$750.00
Walk-in Backhoe With Compactor	$125.00	HR	2	$250.00
Daily Travel	$45.00	HR	10	$450.00
Clear and Strip Borrow Area/Haul Road	$125.00	HR	1	$125.00
Excavate Dam Embankment and Extend Pipe	$125.00	HR	2	$250.00
Excavate and Condition Borrow Material	$125.00	HR	2	$250.00
Haul Borrow Material	$125.00	HR	2	$250.00
Place and Compact Embankment	$110.00	HR	10	$1,100.00
Standby for Testing	$45.00	HR	2	$90.00
Pipe	$200.00	LS	1	$200.00
Furnish Diaphragm Sand	$1,300.00	LS	1	$1,300.00
Install CIPP Liner	$30,000.00	LS	1	$30,000.00
Modify CIPP Liner at Elbow	$45.00	HR	8	$360.00
Reclamation, Reseed, Dressing, Cleanup	$750.00	LS	1	$750.00
Subtotal Estimated Cost				$55,465.00
15% Contingency				$8,320.00
TOTAL ESTIMATED COST				$63,785.00

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.

	PROJECT MONTH				
TASK ITEM:	Month 1	Month 2	Month 3	Month 4	Month 5
ENGINEERING AND PERMITTING	◄	———	►		
CONSTRUCTION		◄	———	►	
COMPLETION DOCUMENTATION				◄	——— ►

BONITA RESERVOIR DAM OUTLET PIPE REHABILITATION
SCHEDULE OF WORK ITEMS

5/1/2013

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 Basin Roundtables and the general public and help promote the development of a common technical platform.

Appendix 1
Reference Information

The following information is available via the internet. The reference information provides additional detail and background information.

- Water Supply Reserve Account main webpage:
  - http://cwcb.state.co.us/LoansGrants/water-supply-reserve-account-grants/Pages/main.aspx
- Water Supply Reserve Account – Basin Fund Application Details:
  - http://cwcb.state.co.us/LoansGrants/water-supply-reserve-account-grants/Pages/BasinWaterSupplyReserveAccountGrants.aspx
- Water Supply Reserve Account – Statewide Fund Application Details:
  - http://cwcb.state.co.us/LoansGrants/water-supply-reserve-account-grants/Pages/StatewideWaterSupplyReserveAccountGrants.aspx
- Colorado Water Conservation Board main website:
  - http://cwcb.state.co.us/
- Interbasin Compact Committee and Basin Roundtables:
  - http://cwcb.state.co.us/about-us/about-the-ibcc-brts/Pages/main.aspx/Templates/BasinHome.aspx
- House Bill 05-1177 – (Also known as the Water for the 21st Century Act):
  - http://cwcbweblink.state.co.us/DocView.aspx?id=105662&searchhandle=28318
- House Bill 06-1400 – (Adopted the Interbasin Compact Committee Charter):
  - http://cwcbweblink.state.co.us/DocView.aspx?id=21291&searchhandle=12911
- Senate Bill 06-179 – (Created the Water Supply Reserve Account):
  - http://cwcbweblink.state.co.us/DocView.aspx?id=21379&searchhandle=12911
- Statewide Water Supply Initiative 2010:
  - http://cwcb.state.co.us/water-management/water-supply-planning/Pages/SWSI2010.aspx

Appendix 2
Insurance Requirements

NOTE: The following insurance requirements taken from the standard contract apply to WSRA projects that exceed $25,000 in accordance with the policies of the State Controller's Office. Proof of insurance as stated below is necessary prior to the execution of a contract.

13. INSURANCE

Grantee and its Sub-grantees shall obtain and maintain insurance as specified in this section at all times during the term of this Grant: All policies evidencing the insurance coverage required hereunder shall be issued by insurance companies satisfactory to Grantee and the State.

A. Grantee

i. Public Entities

If Grantee is a "public entity" within the meaning of the Colorado Governmental Immunity Act, CRS §24-10-101, et seq., as amended (the "GIA"), then Grantee shall maintain at all times during the term of this Grant such liability insurance, by commercial policy or self-insurance, as is necessary to meet its liabilities under the GIA. Grantee shall show proof of such insurance satisfactory to the State, if requested by the State. Grantee shall require each Grant with Sub-grantees that are public entities, providing Goods or Services hereunder, to include the insurance requirements necessary to meet Sub-grantee's liabilities under the GIA.

ii. Non-Public Entities

If Grantee is not a "public entity" within the meaning of the GIA, Grantee shall obtain and maintain during the term of this Grant insurance coverage and policies meeting the same requirements set forth in **§13(B)** with respect to sub-Grantees that are not "public entities".

B. Sub-Grantees

Grantee shall require each Grant with Sub-grantees, other than those that are public entities, providing Goods or Services in connection with this Grant, to include insurance requirements substantially similar to the following:

i. Worker's Compensation

Worker's Compensation Insurance as required by State statute, and Employer's Liability Insurance covering all of Grantee and Sub-grantee employees acting within the course and scope of their employment.

ii. General Liability

Commercial General Liability Insurance written on ISO occurrence form CG 00 01 10/93 or equivalent, covering premises operations, fire damage, independent Grantees, products and completed operations, blanket Grantual liability, personal injury, and advertising liability with minimum limits as follows: **(a)**$1,000,000 each occurrence; **(b)** $1,000,000 general aggregate; **(c)** $1,000,000 products and completed operations aggregate; and **(d)** $50,000 any one fire. If any aggregate limit is reduced below $1,000,000 because of claims made or paid, Sub-grantee shall immediately obtain additional insurance to restore the full aggregate limit and furnish to Grantee a certificate or other document satisfactory to Grantee showing compliance with this provision.

iii. Automobile Liability

Automobile Liability Insurance covering any auto (including owned, hired and non-owned autos) with a minimum limit of $1,000,000 each accident combined single limit.

iv. Additional Insured

Grantee and the State shall be named as additional insured on the Commercial General Liability and Automobile Liability Insurance policies (leases and construction Grants require additional insured coverage for completed operations on endorsements CG 2010 11/85, CG 2037, or equivalent).

v. Primacy of Coverage

Coverage required of Grantee and Sub-grantees shall be primary over any insurance or self-insurance program carried by Grantee or the State.

vi. Cancellation

The above insurance policies shall include provisions preventing cancellation or non-renewal without at least 45 days prior notice to the Grantee and the State by certified mail.

vii. Subrogation Waiver

All insurance policies in any way related to this Grant and secured and maintained by Grantee or its Sub-grantees as required herein shall include clauses stating that each carrier shall waive all rights of recovery, under subrogation or otherwise, against Grantee or the State, its agencies, institutions, organizations, officers, agents, employees, and volunteers.

C. Certificates

Grantee and all Sub-grantees shall provide certificates showing insurance coverage required hereunder to the State within seven business days of the Effective Date of this Grant. No later than 15 days prior to the expiration date of any such coverage, Grantee and each Sub-grantee shall deliver to the State or Grantee certificates of insurance evidencing renewals thereof. In addition, upon request by the State at any other time during the term of this Grant or any sub-grant, Grantee and each Sub-grantee shall, within 10 days of such request, supply to the State evidence satisfactory to the State of compliance with the provisions of this **§13**.

Appendix 3
Water Supply Reserve Account Standard Contract Information

NOTE: The standard contract is required for WSRA projects that exceed $100,000. (Projects under this amount will normally be funded through a purchase order process.) Applicants are encouraged to review the standard contract to understand the terms and conditions required by the State in the event a WSRA grant is awarded. Significant changes to the standard contract require approval of the State Controller's Office and often prolong the contracting process.

It should also be noted that grant funds to be used for the purchase of real property (e.g. water rights, land, conservation easements, etc.) will require additional review and approval. In such cases applicants should expect the grant contracting process to take approximately 3 to 6 months from the date of CWCB approval.

The standard contract is available here under the header "Additional Resources" on the right side: http://cwcb.state.co.us/LoansGrants/water-supply-reserve-account-grants/Pages/BasinWaterSupplyReserveAccountGrants.aspx

Appendix 4
W-9 Form

NOTE: A completed W-9 form is required for all WSRA projects prior execution of a contract or purchase order. Please submit this form with the completed application.