COLORADO WATER CONSERVATION BOARD

WATER SUPPLY RESERVE ACCOUNT APPLICATION FORM

Mount Pisgah Dam/Wrights Reservoir Outlet Works Rehabilitation

Name of Water Activity/Project

Pisgah Reservoir and Ditch Company

Name of Applicant

Arkansas Basin RT

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

Amount from Statewide Account: $136,345

Amount from Basin Account(s): $ 25,000

Total WSRA Funds Requested: $161,345

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)

Water Supply Reserve Account – Application Form
Revised December 2011

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

1.	Applicant Name(s):	Pisgah Reservoir and Ditch Company		
	Mailing address:	P.O. Box 352 Rocky Ford, CO 81067		
	Taxpayer ID#:	84-0407037		
	Primary Contact:	Wayne Whittaker	Position/Title:	Secretary
	Email:	Waynewhittaker32@yahoo.com		
	Phone Numbers:	Cell:	Office:	719-254-3389
	Alternate Contact:	Alan Frantz	Position/Title:	Director
	Email:	frantzfarms@rural-com.com		
	Phone Numbers:	Cell: 719-469-0397	Office:	

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.
X	Private Incorporated – mutual ditch companies, homeowners associations, corporations.
	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

The Pisgah Reservoir and Ditch Company is a mutual ditch company and as such a non-profit corporation. It was incorporated in 1923.
The Company has 283 shareholders who are also associated with the Canon Heights Irrigation and Reservoir Company and 290 shareholders who are associated with the Catlin Canal Company. Water is delivered down Four Mile Creek to the Pisgah shareholders at Canon City. Water is delivered down Four Mile Creek and the Arkansas River to Pisgah shareholders at Otero County, Colorado. Park Center Water Company has shares in Canon Heights Irrigation and Reservoir Company and uses some of the water for domestic use. Current water usage is about 1000 A.F. per year, depending on the snow pack and rainfall. Operations are funded by annual assessment on the shareholders and leasing of reservoir recreation rights.

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

n/a

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.

n/a

Water Supply Reserve Account – Application Form
Revised December 2011

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)
	Agricultural
	Municipal/Industrial
	Needs Assessment
	Education
X	Other Explain: Structural, affecting recreation, agriculture, residential and municipal uses.

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

Wright Reservoir provides water to the Canon Heights Irrigation and Reservoir Company and the Catlin Canal Company for Agricultural, Domestic, and Municipal (City of Rocky Ford) use. The DOW owns over 2,000 shares of Catlin Canal water (approximately 11%).

Funding for the maintenance of Wright Reservoir has been partially provided by leasing recreational rights to the reservoir. Most recently, the reservoir was leased to a private club, but the Pisgah Reservoir and Ditch Company is currently working with the DOW regarding an agreement to manage the area. This would open the Reservoir to the public, for non-consumptive recreational uses including fishing, bird-watching and hiking.

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)
2,192 af	Existing Storage Preserved or Enhanced (acre-feet)
	Length of Stream Restored or Protected (linear feet)
120 ft	Length of Pipe/Canal Built or Improved (linear feet)
$25,000	Efficiency Savings (acre-feet/year OR dollars/year – **circle one**)
116 ac	Area of Restored or Preserved Habitat (acres)
	Other -- Explain:

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

Latitude:	38-47'-37.47"	Longitude:	105-16'-14.45"

5. Please provide an overview/summary of the proposed water activity. 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.

Brief Overview of Water Activity

Mount Pisgah Dam is a large size, significant hazard earth embankment located in Teller County, about 12 miles from Cripple Creek, Colorado. The dam is located on Fourmile Creek and impounds Wrights Reservoir, with a capacity of approximately 2,192 acre-feet supplied by direct inflow from Fourmile Creek. The embankment has an upstream slope at approximately 3H:1V, a crest width of about 10 feet, and a downstream slope of approximately 2H:1V.

The dam was originally constructed around 1911. There was an upstream slope failure around 1928. After the slope failure, the upstream ends of the original outlet works were plugged, a new outlet conduit was constructed through the right abutment, and the upstream slope was rebuilt. The spillway is located at the left abutment and was enlarged in 1988.

An SEO Inspection was made in June, 2011 (see attached report). The existing storage capacity of the reservoir is in jeopardy of being restricted by the State Engineer for safety deficiencies. The existing gate operators have become nearly inoperable. The Company hired RJH Consultants, Inc. to conduct further analysis of the dam. Their analysis was followed by an evaluation of alternatives to rehabilitate the Mount Pisgah Dam/Wrights Reservoir Outlet Works.

The alternative chosen provides the greatest flow capacity, and consists of removing the existing downstream control valves and installing a new upstream control valve on the existing outlet works intake structure located near the upstream toe of the dam. The existing valve house will be removed and replaced with a new structure that will be located at the same location. The existing concrete intake structure will be modified as necessary to accommodate the improvements.

This water activity will ensure that existing storage capacity will be maintained. Because the Company is negotiating with DOW to open the area for public access, the project has non-consumptive recreational value as well.

Preliminary design drawings are attached. The objective of this funding will be to complete design elements and construction of the repairs.

Engineering costs for this project to date, paid by the Pisgah Ditch and Reservoir Company, total $33,923.35. The estimated cost to complete this project is $362,690. In addition to monies spent, Pisgah Ditch and Reservoir Company has committed an additional $40,000 in matching funds for this project. The Company is asking for $25,000 in Basin funds, $136,345 in Statewide funds, and they will be applying for a CWCB loan in the amount of $161,345.

Part III. – Threshold and Evaluation Criteria

1. This water activity meets the eligibility requirements outlined in Part 2 of the Criteria and Guidelines. This is a structural water project, and the applicant, Pisgah Reservoir and Ditch Company, is an eligible entity.

1. a) The water activity is consistent with Section 37-75-102 Colorado Revised Statutes.[1] The project will not supersede, abrogate, or otherwise impair the State's current system of allocating water within Colorado nor does it in any manner repeal or amend the existing water rights adjudication system. The project does not affect the State Constitution's recognition of water rights as a private usufructuary property right nor is it 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.

1. b) The water activity has been approved by the Arkansas Basin Roundtable (BRT). It was approved unanimously by the Needs Assessment Committee, and passed by consensus at the March 2012 Roundtable meeting. Several roundtable members expressed their support of the application, and there were no dissenting opinions.

1. c) The water activity meets the provisions of Section 37-75-104(2), Colorado Revised Statutes.[2] The project will preserve 2,192 acre feet of existing storage that is in danger of being lost. It will also restore 116 acres of aquatic habitat. It benefits recreational users in Teller County, as well as agricultural, residential and municipal water users in the lower Arkansas Valley.

[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.

[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 unappropriated 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.

1.d) Matching Requirement: For requests from the **Statewide Fund**, the applicants is required to demonstrate a **20 percent** (or greater) match of the request from the Statewide Account. Statewide requests must also 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 funding is summarized here:

WSRA Loan:	$161,345
Basin Funds:	$ 25,000 (over 5% match)
Statewide Funds:	$136,345
Cash Match:	$ 40,000 (over 20% match)
Total	$362,690

Plus:
Pisgah Reservoir & Ditch Company $ 33,923.35 spent between August 2011 and February 2012 for preliminary engineering and design.

2. For Applications that include a request for funds from the **Statewide Account**, describe how the water activity/project meets all applicable **Evaluation Criteria.**

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. This structural project preserves existing storage capacity that is currently in jeopardy of being restricted by the State Engineer for safety deficiencies. It benefits the environment by ensuring the preservation of 116 acres of surface water habitat. The Pisgah Reservoir and Ditch Company is currently negotiating with DOW in hopes of opening the reservoir to public access. This project allows the reservoir to remain a fishery, and preserves bird and wildlife habitat.

b. The project will benefit numerous water interests, as shareholders/water users represented in the Pisgah Reservoir and Ditch Company include the Catlin Canal, Canon Heights Irrigation and Reservoir Company, Park Center Water Company, City of Rocky Ford, and DOW.

c. Although the activity does not create new water or storage, it preserves existing storage capacity that is in danger of being restricted.

Tier 2: Facilitating Water Activity Implementation

d. Funding from the WSRA is critical for this project to be completed. This project would not be implementable by the Pisgah Reservoir and Ditch Company alone. The combination of WSRA Grant/CWCB Loan funding reduces debt service to a manageable level.

e. The amount of matching funds provided by the applicant via direct contributions totals $40,000, an amount much higher than the required 20% match of Statewide Funds. In addition, the applicant has spent $33,923.35 on the project to date, showing their strong 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 and meets environmental and recreational needs.

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.

   The Pisgah Reservoir and Ditch Company received a Decree to the Reservoir on October 3, 1927. The original decree, for irrigation purposes, was transferred from a previous owner, and is dated October 15, 1907. The reservoir, now named Wrights Reservoir, is the water body that will be affected by the water activity. It's located in Water District 12, and is situated on Fourmile Creek, a tributary of the Arkansas River. Proposed repairs will assure the availability and sustainability of the water supply.

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

   RJH Consultants prepared a report after their inspection of the dam. That report is included as an attachment, along with the Alternatives Evaluation and their Proposal for Engineering Services.

Statement of Work

WATER ACTIVITY NAME – Mount Pisgah Dam/Wrights Reservoir Outlet Works Rehabilitation

GRANT RECIPIENT – Pisgah Reservoir and Ditch Company

FUNDING SOURCE – Basin/Statewide Funds, CWCB Loan

INTRODUCTION AND BACKGROUND
The Mount Pisgah Dam was built in 1911. It is a large size, significant hazard earth embankment located in Teller County, about 12 miles from Cripple Creek, Colorado. The dam is located on Fourmile Creek and impounds Wrights Reservoir, with a capacity of approximately 2,192 acre-fee supplied by direct inflow from Fourmile Creek.

In July of 2011, the Pisgah Reservoir and Ditch Company received an Inspection Report from the State Engineer's Office (SEO) which detailed multiple issues that need to be addressed, including further inspections to be made after the reservoir was emptied, modifications to the outlet works, new gates/valves, and modifications to the intake structure. Prior to this report, the outlet works had never been inspected.

The Ditch Company secured the services of RJH Consultants, Inc., who performed a detailed inspection of the dam, including an internal inspection of the outlet and intake conduits, as requested by the SEO. RJH then drew up an Evaluation of Alternatives to address SEO concerns.

The Ditch Company chose an alternative based on a flow control concept that would put control upstream only at the intake structure. It provides the greatest Peak Flow capacity. This alternative has the following main components:

- Provide a slide gate on the existing intake structure.
- Extend hydraulic control lines and an air vent from the intake structure to a gate operator in the existing valve house.
- Remove existing valve internal components

GOALS AND OBJECTIVES
The overall objective of this project is to address SEO concerns and make repairs as necessary to ensure the safety of the dam and outlet works. The project will allow for full use of the reservoir's storage capacity, and preserve its recreational uses and environmental values.

- The dam is currently classified as a large size, significant hazard dam and will remain this classification.
- Outlet drawdown capacity will meet current operational criteria and SEO minimum drawdown criteria for a high hazard dam.
- A single upstream hydraulically operated gate will be used for both flow control and SEO drawdown requirements.
- Electrical power, 220 volt-single phase, is currently available to the existing valve house and will remain available for operation of the hydraulic system for the new control gate.

- The existing valve house will be removed and replaced with a new structure that will be in the same location.
- The existing concrete foundation and walkway will be used for the new valve house structure.
- The existing concrete intake structure will not be removed and replaced but will be modified to the extent necessary to accommodate the proposed improvements.

TASKS

TASK 1 – DESIGN

Description of Task
Perform design analyses and prepare drawings for the project.

Method/Procedure
1a. Hydraulic Gate Design and Detail

1b. Trash Rack Design and Detail

1c. Valve House Pre-fab metal building design and detail

1d. Electrical Design and Detail

1e. Design Drawings

1f. Construction Docs and Specs

1g. Design Summary Report

1h. Engineer's Opinion of Probable Cost

1i. Progress Reports, Invoices, 50% Completion Meeting

Deliverable
Completed Drawings, Specs, Opinion of Probable Construction Costs and Design Summary Report

TASK 2 – BIDDING AND PROCUREMENT

Description of Task
Address any comments from the SEO, finalize bid documents, and assist in obtaining and evaluating the bids.

Method/Procedure
2a. Participate in a meeting with the SEO to discuss their review comments.

2b. Provide responses to comments from the SEO on the submitted drawings, specs and Design Report.

2c. Finalize drawings and specs for bidding and prepare Issued for Bid documents.

2d. Pre-bid meeting and site visit.

2e. Evaluate bids.

Deliverable
Stamped drawings and specifications that incorporate the SEO's comments, suitable for bidding and constructing the work

TASK 3 – CONSTRUCTION

Description of Task
Actual construction of the project.

Method/Procedure
3a. Barge and Lift Mobilization/Demobilization

3b. Barge and Lift Operations

3c. Demolition of Internal Valve Components

3d. 36" x 36" Slide Gate and Transition Pieces

3e. Hydraulic Actuator/HPU

3f. Air Vent and Hydraulic Line for Slide Gate

3g. Trash Rack

3h. Underwater Installation

Deliverable
As in the above task, deliverables include daily field reports and construction photos, Record Drawings, and the Construction Completion Report.

TASK 4 – CONSTRUCTION MANAGEMENT

Description of Task
Observe the work to ensure that work is being completed in conformance with the contract documents and intent of design. Provide administrative assistance with contract and invoices. Prepare Record Drawings and a Construction Completion Report as required by the SEO.

Method/Procedure

4a. Pre-Construction Meeting

4b. Prepare a construction observation plan for SEO review and approval.

4c. Review and process contractor invoices and change orders.

4d. Provide a full-time project representative to observe and document the work and to assess that work is completed correctly.

4e. Prepare Record Drawings of the completed work based on information provided by the contractor and a Construction Completion Report as required to meet SEO requirements.

Deliverable

Deliverables include hard copies of responses to invoice submittals, hard copies of daily field reports and construction photos, Record Drawings, and the Construction Completion Report.

BUDGET

			Labor	Direct Costs	Matching Funds	Total Cost
TASK 1: DESIGN						
Task	1a.	Hydraulic Gate Design & Detail	7,036.00	422.16		7,458.16
Task	1b.	Trash Rack Design and Detail	3,105.00	186.30		3,291.30
Task	1c.	Valve House Pre-fab metal Bldg	2,632.00	157.92		2,789.92
Task	1d.	Electrical Design & Detail	4,572.00	274.32		4,846.32
Task	1e.	Design Drawings	9,702.00	582.12		10,284.12
Task	1f.	Construction Docs and Specs	17,992.00	1,079.52		19,071.52
Task	1g.	Design Summary Report	10,672.00	640.32		11,312.32
Task	1h.	Engineer's Opinion of Probable Cost	6,366.00	381.96		6,747.96
Task	1i.	Progress Reports, Invoices & Meeting	2,748.00	164.88		2,912.88
			64,825.00	**3,889.50**	**-**	**68,714.50**
TASK 2: BIDDING AND PROCUREMENT *						
Task	2a.	Meeting between SEO & Engineer				2,000.00
Task	2b.	Engineer response to SEO				2,000.00
Task	2c.	Finalize drawings & specs for bidding				2,000.00
Task	2d.	Pre-bid meeting & site visit				2,000.00
Task	2e.	Evaluate bids				2,000.00
			-	**4,436.34**	**-**	**10,000.00**
TASK 3: CONSTRUCTION *						
Task	3a.	Barge & Lift Mobilization/Demobilization				50,000.00
Task	3b.	Barge and Lift Operations				8,000.00
Task	3c.	Demo of Internal Valve Components				1,000.00
Task	3d.	36" x 36" Slide Gate & Transition Piece				21,000.00
Task	3e.	Hydraulic Actuator/HPU				40,000.00
Task	3f.	Air Vent & Hydraulic Line for Slide Gate				13,500.00
Task	3g.	Trash Rack				15,000.00
Task	3h.	Underwater Installation				10,000.00
		Contingency				55,475.00
			-	**-**	**-**	**213,975.00**
TASK 4: CONSTRUCTION MANAGEMENT *						
Task	4a.	Pre-construction meeting				2,000.00
Task	4b.	Construction observation plan				2,000.00
Task	4c.	Review & process contractor submittals				5,000.00
Task	4d.	FT Project observation & documentation				51,000.00
Task	4e.	Record drawings & Completion report				10,000.00
			-	-	-	**70,000.00**
TOTAL COSTS						**362,689.50**

* Costs for Tasks 2, 3 and 4 are estimated costs - detailed costs for these items will be developed upon completion of design documents. Estimates provided by RJH Consultants, Inc.

Engineering & Design Costs

Project Personnel:	Senior Professional Grade 8	Senior Professional Grade 7	Senior Professional Grade 6	Grade 5	Grade 4	Grade 3	CADD Designer	Word Processing/ Admin	Total Hours	Cost
Hourly Rate:	$ 184	$ 169	$ 145	$ 130	$ 107	$ 97	$ 87	$ 67		
Task 1a	2	4			56				62	7,036.00
Task 1b	2	1			24				27	3,105.00
Task 1c	2	2			18				22	2,632.00
Task 1d	2	6	22						30	4,572.00
Task 1e	2	4			24		70		100	9,702.00
Task 1f	2	24			80	24		40	170	17,992.00
Task 1g	8	8		48				24	88	10,672.00
Task 1h	8	6			24	8		8	54	6,366.00
Task 1i	1	12						8	21	2,748.00
TOTAL Task 1										64,825.00

SCHEDULE

Task	Start Date	Finish Date
1: Design	Upon NTP *	NTP + 60 days
2: Bidding	Upon NTP	NTP + 90 days
3: Construction	NTP + 60-90 days	NTP + 180 days
4: Management	Upon NTP	NTP + 180 days

NTP = Notice to Proceed
* The ability to proceed immediately after NTP may be affected by weather conditions. Once begun, the project should take 90 – 180 days to complete.

The following exhibits are included:
Exhibit A: Mt. Pisgah Reservoir
Exhibit B: Mt. Pisgah Reservoir Topo
Exhibit C: DOWR Letter & Inspection
Exhibit D: RJH Consultants Outlet Inspection Report
Exhibit E: RJH Consultants Alternatives Evaluation
Exhibit F: RJH Drawing of Existing Outlet Works (to come)
Exhibit G: RJH Drawing of Alternative 1 (to come)
Exhibit H: Pisgah Reservoir and Ditch Company Decree
Exhibit I: Pisgah Reservoir and Ditch Company Bylaws
Exhibit J: Articles of Incorporation
Exhibit K: Letters of Support (more to come)

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

Signature of Applicant:

Print Applicant's Name: Wayne Whittaker

Project Title: Mount Pisgah Dam/Wrights Reservoir Outlet Works 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