



COLORADO WATER CONSERVATION BOARD



WATER SUPPLY RESERVE ACCOUNT GRANT APPLICATION FORM

Improvement of lysimeter operations and consumptive use quantification in high-altitude, irrigated meadows in the Yampa /White Basin.

Name of Water Activity/Project

Approving Basin Roundtable

\$20,978

Amount from Statewide Account

10,978

Total Amount of Funds Requested

Amount from Basin Account

10,000

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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/approval is outlined in Attachment 1.

Once approved by the local Basin Roundtable, the applicant should submit this application, a detailed statement of work, detailed project budget, and project schedule to the CWCB staff by the application deadline.

The application deadlines are:

- Basin Account – 60 calendar days prior to the bi-monthly Board meeting
- Statewide Account – 60 calendar days prior to the September Board meeting

Board Meeting Dates	Basin Account Deadlines	Statewide Account Deadlines
July 20-21, 2010	May 21, 2010	n/a
September 21-22	July 23, 2010	July 23, 2010
November 16-17	September 17, 2010	n/a
January 2011	60 days prior	n/a
March 2011	60 days prior	n/a
May 2011	60 days prior	n/a
July 2011	60 days prior	n/a
September 2011	60 days prior	60 days prior

When completing this application, the applicant should refer to the WSRA Criteria and Guidelines available at: <http://cwcb.state.co.us/IWMD>.

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:

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

If you have questions or need additional assistance, please contact Todd Doherty of the Water Supply Planning Section at 303-866-3441 x3210 or todd.doherty@state.co.us.

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

1.	Applicant Name(s):	Colorado Climate Center, Colorado Division of Water Resources		
	Mailing address:	Colorado State University 1371 Campus Delivery Fort Collins, CO 80523-1371	Division 6 Water Resources 505 Anglers Dr., Suite 101 Steamboat Spring, CO 80487	
	Taxpayer ID#:	846000545	Email address:	Nolan@atmos.colostate.edu
	Phone Numbers: Business:	970-491-3690		
	Home:			
	Fax:	970-491-3314		

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

Name:	Nolan J. Doesken, Erin Light
Position/Title	Colorado State Climatologist, Division 6 Engineer

3. Eligible entities that may apply for grants from the WSRA include the following. What type of entity is the Applicant?

<input checked="" type="checkbox"/>	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.
<input type="checkbox"/>	Public (Districts) – special, water and sanitation, conservancy, conservation, irrigation, or water activity enterprises.
<input type="checkbox"/>	Private Incorporated – mutual ditch companies, homeowners associations, corporations.
<input type="checkbox"/>	Private individuals, partnerships, and sole proprietors are eligible for funding from the Basin Accounts but not for funding from the Statewide Account.
<input type="checkbox"/>	Non-governmental organizations – broadly defined as any organization that is not part of the government.

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4. Provide a brief description of your organization

The Colorado Climate Center is a service and education arm of Colorado State University. We were founded in 1974 to monitor the climate of Colorado, archive climatic data and information, and provide information and expertise on climate matters affecting the citizens of Colorado. The majority of data that we use to monitor Colorado climatic conditions are collected by Federal agencies such as the National Weather Service and the USDA Natural Resources Conservation Service. However, we also coordinate independent monitoring efforts including the Colorado Agricultural Meteorological Network (CoAgMet) and the Community Collaborative Rain, Hail and Snow network (CoCoRaHS). We have the capacity and are currently involved in climate monitoring activities associated with determining water balances (precipitation and evaporation) including consumptive crop water use. Information about the Colorado Climate Center can be found at <http://ccc.atmos.colostate.edu>

The Colorado Division of Water Resources (Office of the State Engineer) is an agency within the Department of Natural Resources providing administration of Colorado's water resources to meet the demands of today, and to provide for the needs of tomorrow. We are committed to meeting the ever increasing challenges of origin issues, reserved rights, wetlands, endangered species recovery and interstate water issues on an already limited water supply. The Colorado Division of Water Resources strives to be a leader in the water community of Colorado and the western United States. This is accomplished by focusing on the following areas: people, water and stewardship. People, because we recognize that the business of water involves our employees and the public. Water, because the administration, safety and use of the State of Colorado's water resources is something we are committed to and care deeply about. Stewardship, because we understand and accept our obligation to the taxpayers and ourselves, in using and protecting the resources in the most effective manner possible. Our Mission is to provide competent and dependable distribution of water in accordance with statutes, decrees and interstate compacts; to ensure public safety through safe dams and properly permitted and constructed water wells; to maintain and provide accurate and timely information concerning water; to promote stewardship of all human, fiscal and natural resources; to serve the public through the generation of creative solutions to problems; to help the public understand complex water issues; to promote stability in the use of the state's limited water resources; and to apply modern technology to its greatest advantage.

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

The contracting entity is Colorado State University, an institution with a very long history of water resources research benefiting the citizens of the State of Colorado.

6. 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 copy of this standard contract is included in Attachment 3. Please review this contract and check the appropriate box.

☒ The Applicant will be able to contract with the CWCB using the Standard Contract

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☐

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.

7. 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.

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Part B. - Description of the Water Activity

1. Name of the Water Activity/Project:

Improvement of lysimeter operations and consumptive use quantification in high-altitude, irrigated meadows in the Yampa /White Basin.

2. What is the purpose of this grant application? (Please check all that apply.)

☐

Environmental compliance and feasibility study

☐

Technical Assistance regarding permitting, feasibility studies, and environmental compliance

☒

Studies or analysis of structural, nonstructural, consumptive, nonconsumptive water needs, projects

Study or Analysis of:

☐

Structural project or activity

☐

Nonstructural project or activity

☒

Consumptive project or activity

☐

Nonconsumptive project or activity

☐

Structural and/ or nonstructural water project or activity

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3. 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.

This project will focus on efforts to improve lysimeter operations in the Yampa Basin. Historically, compensating lysimeters have been operated in the Yampa Basin by the Colorado Division of Water Resources; however their operation is now being questioned as to their representativeness of Yampa basin meadow irrigation operations and adherence to potential evapotranspiration (ET) measurement criteria, primarily the fact that water is limited in the lysimeter. The operation of these lysimeters has changed over time, but current procedures call for Division 6 staff to fill the lysimeters at intervals of up to a month, which means that the vegetation in the lysimeter may have been susceptible to plant stress which is not favorable when one is quantifying potential evapotranspiration (PET). In addition to this, the area surrounding the lysimeter site was also non-irrigated which can artificially inflate the calculated PET. Because the operation of the lysimeters is being questioned, so are the crop coefficients that were derived from these data.

This study will install new bucket type lysimeters and a full automated weather station on the Carpenter Ranch owned by the Nature Conservancy. The lysimeters that will be installed are weighing lysimeters instead of compensating lysimeters. This will allow for operation of the lysimeters to closely mimic the irrigation environment of the Yampa basin. Four lysimeters plots, buckets in this case, will be installed - two will be seeded with grass-reference vegetation and two will be seeded with vegetation representative of the surrounding irrigated meadow. This will allow for direct determination of crop coefficients that could be applied to any future weather-based calculations of grass-reference ET.

The purpose of the weather station is to collect the data necessary for the calculation of ET via the ASCE Standardized Penman-Monteith method (ASCE, 2005). Once these data are collected, the temperature based Hargreaves equation (Hargreaves and Samani, 1985) can be calibrated to the ASCE standard (Hargreaves and Allen, 2003). This would allow for accurate estimates of crop ET throughout the basin with use of only inexpensive temperature sensors.

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Part C. – 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

This proposed water activity will not negatively impact or restrict the ability of any holders of water rights to use or dispose of that water right in any manner permitted by Colorado 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 BRT's 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.

The water activity described below was presented to the Yampa/White Basin Roundtable meeting in Craig, Colorado on July 21, 2010, and members of the Roundtable motioned to approve \$10,000 from the basin fund and \$10,978 from the statewide fund as well as forego a second presentation to the roundtable in October, 2010.

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.

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- 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.

This project, in addition to updating lysimeter measurements in the Yampa basin, will provide quantitative assessments of irrigated hay meadow consumptive use and its relationship to local weather conditions. This type of information is essential for this basin to complete the current needs assessment by better quantifying consumptive water needs.

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.

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- 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. 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 Part D of this application)

It will be requested that no more than 50% of this project be matched by basin funds. In addition to this, \$25,560 is being contributed in the form of in-kind contribution from the Colorado Division of Water Resources and Carpenter Ranch staff.

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2. For Applications that include a request for funds from the Statewide Account, describe how the water activity meets the **Evaluation Criteria**. (Detailed in Part 3 of the Water Supply Reserve Account Criteria and Guidelines.)

This activity is currently proposed specifically for the Yampa River Basin, but the question of high altitude consumptive use by native and cultivated vegetation is an issue of statewide interest and concern. The majority of Colorado consumptive use goes to service the biological needs of irrigated vegetation. Weather conditions throughout the year, the variations in weather conditions from year to year, and potentially changing weather conditions over time have and will impact consumptive use of our State's water resources. Better documentation of evapotranspiration leads to an overall improved knowledge of water supply and water demand -- an important goal for all basins and an integral part of a comprehensive needs assessment. This has the potential for promoting greater water conservation and efficiency, help sustain agriculture and provide useful data for many other water resource applications of interest to CWCB. This project also stands to serve as a model for funding and conducting evapotranspiration monitoring statewide and will support efforts to assess ET from remote sensing technologies.

Part D. – 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 the name/location of water bodies affected by the water activity.

This study will only utilize water at the Carpenter Ranch to fill lysimeters. No water supply source or body of water will be affected by the proposed activity.

2. Please provide a brief narrative of any related or relevant previous studies.

The Colorado Climate Center is currently working on a similar project in the North Platte Basin to quantify consumptive use throughout North Park for their consumptive use needs assessment. Three automated weather stations were placed around North Park to not only characterize weather conditions across North Park but to also understand differences in consumptive use across the basin. Crop coefficients for North Park will be developed by utilizing the lysimeter data at the Arapahoe National Wildlife Refuge operated by the Colorado Division of Water Resources and data from low cost atmometers (ETgages).

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

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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 - Improvement of lysimeter operations and consumptive use quantification in high-altitude, irrigated meadows in the Yampa /White Basin.

GRANT RECIPIENT – Colorado Climate Center and Colorado Division of Water Resources

FUNDING SOURCE – 48% Yampa/White Basin Roundtable 52% Statewide Account

INTRODUCTION AND BACKGROUND

In an effort to improve the quantification of consumptive use in the high-altitude meadow environments of the Yampa/White basin, a new lysimeter testing site is being proposed to be installed at the Carpenter Ranch owned by the Nature Conservancy. A recent evaluation of the historical lysimeter data and derived crop coefficients in the Yampa/White basin were determined to be questionable due to method of lysimeter operation and its representativeness of the actual meadow irrigation operations in the Yampa basin which are not continuously flooded. As a result of this, it was decided that a new lysimeter monitoring effort would benefit the basin.

The plan for this site is to install four bucket lysimeters that will be weighed weekly. Two of the lysimeters will be seeded with an ET grass reference crop and the other two will be seeded to mimic the irrigated meadow environment surrounding the lysimeters. From the lysimeter observations, new crop coefficients can be determined and compared to those derived from historical lysimeter observations to see how they vary.

In addition to installing bucket lysimeters, an automated weather station will also be installed that collects temperature, humidity, solar radiation, wind speed and direction, soil temperature and precipitation. The weather station data will be used to calculate evapotranspiration using the ASCE Standardized Penman-Monteith equation. Once these calculations are made, the ASCE ET estimates can be calibrated to temperature based equations, like Hargreaves. This relationship can then be used to estimate ET from the ASCE equation using only temperature observations which can be taken at a finer spatial resolution to monitor the entire basin.

OBJECTIVES

List the objectives of the project

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TASKS

Provide a detailed description of each task using the following format

TASK 1 – Installation

Description of Task - Installation of lysimeters and weather station will be conducted on the West end of Carpenter Ranch to minimize effects of the power plant. Two lysimeters will be seeded with Grass ET reference crop and two seeded with representative meadow species.

Method/Procedure - Work with Carpenter Ranch and Division 6 Water Resources staff to locate representative locations for lysimeters and weather station. Colorado Climate Center staff will install and maintain the weather station and data collection. Carpenter Ranch and Division 6 Water Resources staff will maintain the lysimeters and take observations.

Deliverable – Photos and data collected.

TASK 2 – Development of Crop Coefficients

Description of Task - Use data from the bucket lysimeters to calculate crop coefficients. These coefficients can then be applied to any future weather-based calculations of ET.

Method/Procedure - The use of two different species on the plots will provide both a grass ET reference and a crop ET. From these two measurements, crop coefficients can be determined directly.

Deliverable- Crop coefficients.

TASK 3 –Calculate Crop ET

Description of Task - Calibration of ASCE ET weather based calculations to temperature-based Hargreaves method.

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Method/Procedure - Use weather station data to calculate ASCE standardized equation grass reference ET. These estimates will then be calibrated to the Hargreaves temperature based method. Once this relationship is established and crop coefficients are determined, crop ET can be determined anywhere in the basin temperature is monitored.

Deliverable- Summary of findings.

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.

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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.

Table	1:	Total	Cost	Breakdown.
Total Cost				
	Labor*	Other Direct Costs	Total Funds Requested	
Task 1 - Installation	\$960 (in-kind)	\$ 20,978.00		
Task 2 - Development of Crop Coefficients	\$3,920/year for 5 years			
Task 3 - Calculate Crop ET	\$5,000			
Total	\$ 25,560.00	\$ 20,978.00	\$ 20,978.00	

*All labor provided in-kind by CDWR and Carpenter Ranch Staff

Table 2: In-Kind Labor Contribution Breakdown.

Labor Cost Breakdown				
	Technician Hours @ \$25/hour for 5 years	Technician Total cost	Carpenter Ranch Intern @ \$10/hour for 5 years	Intern Total Cost
Task 1 - Installation	32	\$ 800.00	16	\$ 160.00
Task 2 - Development of Crop Coefficients	560	\$ 14,000.00	560	\$ 5,600.00
Task 3 - Calculate Crop ET	200	\$ 5,000.00	n/a	n/a
Total In-Kind Contributions	792	\$ 19,800.00	576	\$ 5,760.00

In-Kind

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Table 3: Equipment Cost Breakdown.

Equipment	
	5 year costs
Weather Station*	\$ 19,678.00
Lysimeter	\$ 1,300.00
Total	\$ 20,978.00

* Includes Operation and Maintenance Cost of 2k/year and 20% Total Direct Cost University Overhead

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.

Task 1 – Installation	April 2011
Task 2 – Development of Crop ET	April through October 2011, 2012, 2013, 2014, and 2015
Task 3 – Calculate Crop ET	Final Report deliverable April 2016

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,

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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.

REFERENCES

American Society of Civil Engineers. 2005. The ASCE standardized reference evapotranspiration equation. R.G. Allen, I.A. Walter, R. Elliot, T. Howell, D. Itenfisu, and M. Jensen (ed.).

Hargreaves, G.H. and Z.A. Samani. 1985. Reference crop evapotranspiration from temperature. Applied Eng. in Agric. 1(2):96-99.

Hargreaves, G.H. and R.G. Allen. 2003. History and evaluation of Hargreaves evapotranspiration equation. J. Irrig. Drain. Eng. 129:53-63.

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

Signature of Applicant: 

Print Applicant's Name: Nolan J Doesken

Project Title: Improvement of lysimeter operations and consumptive use quantification in high-altitude, irrigated meadows in the Yampa /White Basin.

Return this application to:

Mr. Todd Doherty
Intrastate Water Management and Development Section
COLORADO WATER CONSERVATION BOARD
1580 Logan Street, Suite 200
Denver, CO 80203

To submit applications by Email, send to: todd.doherty@state.co.us

To submit applications by Fax, send to: (303) 894-2578

Attachment 1
Reference Information

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

Colorado Water Conservation Board (<http://cwcb.state.co.us/>)

Loan and Grant policies and information are available at – <http://cwcb.state.co.us/Finance/>

Interbasin Compact Committee and Basin Roundtables (<http://ibcc.state.co.us/>)

Interbasin Compact Committee By-laws and Charter (under Helpful Links section) –

<http://ibcc.state.co.us/Basins/IBCC/>

Legislation

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

General Information – <http://cwcb.state.co.us/IWMD/>

Phase 1 Report – <http://cwcb.state.co.us/IWMD/SWSITechnicalResources/SWSIPhaseIReport/>

Attachment 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

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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.

Attachment 3
Water Supply Reserve Account Standard Contract

NOTE: The following 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.

Water Supply Reserve Account – Grant Application Form

Form Revised March 2009

Attachment 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.