



COLORADO WATER CONSERVATION BOARD



WATER SUPPLY RESERVE ACCOUNT APPLICATION FORM

Today's Date: 1 February 2016

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

Name of Water Activity/Project

Colorado Climate Center, Colorado Division of Water Resources

Name of Applicant

Yampa-White

Amount from Statewide Account:

\$11,304

Amount from Basin Account(s):

\$11,304

Total WSRA Funds Requested:

\$22,608

Approving Basin Roundtable(s)

(If multiple basins specify amounts in parentheses.)

FEIN: 84-6000545

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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)

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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 (CWCBC). 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 CWCBC 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 CWCBC 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>. In addition, the applicant should also refer to the [Supplemental Scoring Matrix](#) applied to Evaluation Criteria Tiers 1-3 for Statewide Account requests .

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:

Craig Godbout - WSRA Application
Colorado Water Conservation Board
1313 Sherman St., Room 721
Denver, CO 80203
Craig.godbout@state.co.us

If you have questions or need additional assistance, please contact Craig Godbout at: 303-866-3441 x3210 or craig.godbout@state.co.us.

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Part I. - 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		
FEIN #:	84-6000545		
Primary Contact:	Nolan J. Doesken	Position/Title:	Colorado State Climatologist
Email:	Nolan@atmos.colostate.edu		
Phone Numbers:	Cell:	Office:	970-491-3690
Alternate Contact:	Erin Light	Position/Title:	Division 6 Engineer
Email:	Erin.light@state.co.us		
Phone Numbers:	Cell:	Office:	970-879-0272

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.
- ☐ 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.

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3. 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.

4. 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.

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

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is included in Appendix 3. Please review this contract and check the appropriate box.

☐

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.

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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

☐ Other

Explain:

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

As we embark upon projects to better understand our current demands on our rivers as well as our future demands we must have a good understanding on how much water our irrigated crops consume. To date the crop coefficients used in all of the studies have been based on the determination of crop coefficients in other parts of the State that may not replicate what exists within the Yampa and White River basins. With crop coefficients that better represent our area, we can get a better idea on the consumptive use of water associated with our irrigation.

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

☒ Study

☐ 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)

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:

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

Latitude: 40 . 499

Longitude: -107 . 181

5. 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.

This project will continue efforts to improve lysimeter operations in the Yampa Basin and to determine better crop coefficients that can be applied to weather-based calculations of grass-reference ET (evapotranspiration – water evaporated directly from soil plus transpiration from the leaves of growing plants). In late 2010, the Yampa-White Roundtable provided support for instrumentation, operation and maintenance for an integrated data collection system consisting of an automated weather station specifically designed for estimating evapotranspiration and bucket lysimeters designed to directly measure the amount of water lost from the soil due to evapotranspiration. The weather station was purchased and installed in the fall of 2011 over an irrigated grass high meadow area on the Carpenter Ranch owned by the Nature Conservancy near Hayden, CO.

The purpose of the weather station is to collect the meteorological 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 allows for reasonably accurate estimates of crop ET throughout the basin with use of only inexpensive temperature sensors.

During the first year of the project, we worked with Danny Smith (CSU retired crop water use specialist) to help design an appropriate research plot for Carpenter Ranch. Based on his recommendations, four bucket lysimeter plots were installed in the spring of 2012. Severe drought conditions in 2012 limited vegetation growth and establishment, but by 2013 the vegetation was established enough to allow representative ET measurements to begin. Colorado Division of Water Resources Division 6 administered the lysimeter operations and data collection. Help with manual measurements was provided by summer interns working on the Carpenter Ranch. The lysimeters installed were weighing lysimeters instead of compensating lysimeters that required briefly lifting each bucket out of the ground and suspending it from a scale each time. This allows for operation of the lysimeters to closely mimic the irrigation environment of the Yampa basin. Two of the plots were seeded with grass-reference vegetation and two were seeded with vegetation representative of the surrounding irrigated meadow. The plan was that this would allow for direct determination of crop coefficients that could be applied to any future weather-based calculations of grass-reference ET. Data collected in 2013 did not appear to be useful due, in part, to a malfunctioning load cell. This sensor was then replaced and 2014 data collection efforts were more fruitful although there still appeared to be

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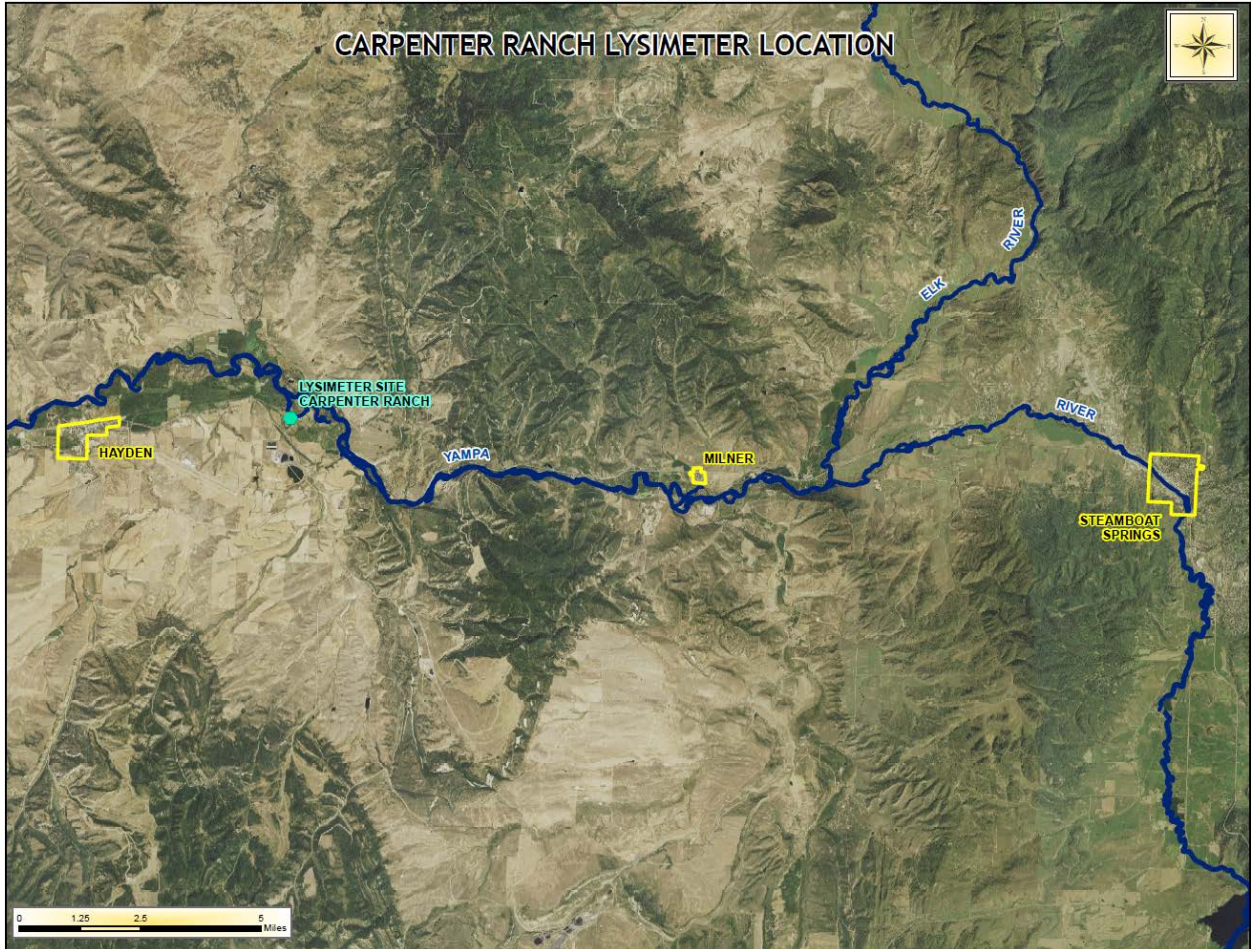
data quality issues as interns collecting the data may not have been adequately trained. For the 2015 season, better quality control checks were implemented at the point of data entry to help alert the observers to possible errors.



Installation of Plots in April 2012

Meteorological data collection has proceeded rigorously, and 4 years of complete hourly weather data are now available, suitable to support ET estimates and calibrations. However, to properly compute the crop coefficient that is needed, this study would benefit from additional years of overlapping lysimeter operations with weather station data collection. Also, several new studies related to water management in the Upper Colorado River Basin have recently begun all of which will require the Carpenter Ranch CoAgMet weather station data, and benefit greatly from the lysimeter data. With the equipment and proper procedures in place, five years of uninterrupted data collection would be invaluable.

Exhibit B



Location of Lysimeter and Carpenter Ranch in the Yampa Valley

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Location of Lysimeter and Weather station on the Carpenter Ranch.
Inset: Photo of lysimeter plots and weather station.

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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

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 application was presented to the Yampa/White/Green Basin Roundtable in January 2016, and there was unanimous agreement by the BRT to approve the proposal.

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 help confirm and refine the consumptive needs assessment that was previously performed.

- d) Matching Requirement: For requests from the **Statewide Fund**, the applicants will be required to demonstrate a **25 percent** (or greater) match of the total grant request from the other sources, including by not limited to Basin Funds. A minimum match of 5% of the total grant amount shall be from Basin funds. A minimum match of 5% of the total grant amount must come from the applicant or 3rd party sources. 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 contract or purchase order between the applicant and the State of Colorado is executed. 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)

It will be requested that no more than 50 % of this project be matched by basin funds. In addition to this, \$26,854 is being contributed in the form of in-kind contribution from the Colorado Division of Water Resources.

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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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.**

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.

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. The applicant should also refer to the Supplemental Scoring Matrix applied to Evaluation Criteria Tiers 1-3 for Statewide Account requests. 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

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- 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.

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Tier 1:

This project meets criteria by more accurately quantifying actual crop consumptive use for the basin to be used in the basin needs assessment. The North Platte Roundtable has a similar project to quantify consumptive use in the North Platte River Basin. The North Platte lysimeter is a much more expensive lysimeter and involves more labor to install, which limits the number of plots that can be studied. There is also more uncertainty in the reliability of this lysimeter and the extent the lysimeter will cover.

These results will cover a range of elevations in the two basins and could be extended to other basins using the relationship between the weather data from the CoAgMet station and the lysimeter data.

Tier 2:

The funds requested by the Statewide Account will be matched by 100% by the Basin Roundtable Funds. In-kind contributions totalling \$26,854 is being provided by the Colorado Division of Water Resources and The Nature Conservancy's Carpenter Ranch.

This project has already been started with a previous grant. This project cannot continue without this funding which is needed in order to continue maintaining the weather station with calibrated data so accurate weather data can be collected and the continued costs of data transmission so the data can be sent to the Colorado Climate Center where it can be processed, quality controlled, analyzed and archived. Since this station was created with outside funds, it cannot be sustained without support. This project will most likely not be funded by another entity but the Basin Roundtable and Statewide funds. When the Crop Coefficients are calculated and implemented, more efficient water use will be possible in the Yampa Basin and other high altitude irrigated basin.

Tier 3:

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. This project also has a high cost/benefit for the Yampa Basin and Colorado. Lysimeter studies have been and are being performed in Colorado. Some lysimeters are very expensive and require staff to operate and maintain a system. The lysimeter that has been installed in the North Platte Basin is still high in cost to purchase and install, but with technology that does not require the continual staff to be maintained. However, since this technology is newer, and the lysimeter is smaller, there is uncertainty if it will be worth the cost.

Now that this project at the Carpenter Ranch in Hayden has been set up and we have accurate data coming from both the lysimeter and the CoAgMet station, we know results will be there after we have more years with variable weather to analyze. Once a crop coefficient is calculated, we can start calculating accurate crop evapotranspiration for the Yampa basin. With the weather station data a simple temperature based ET equation can be calibrated so crop reference ET can be calculated using less expensive temperature sensors throughout the basin.

Additionally, results from this project can be used to compare the North Platte study to assess the results. If results from both studies prove to be reliable, relationships between the two basins can be made and perhaps used to aid in creating better reference ET for similar high elevation basins in the state.

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.

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 studies or permitting issues.

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. Two automated 60 cm weighing lysimeters were installed at the weather station in Cowdrey for crop coefficient calculation. The two lysimeters are for replication of the data, in case one fails. Each lysimeter is installed into the ground, with the undisturbed soil monolith in order to keep the soil as close to surrounding conditions as possible. Advantages to using this type of lysimeter are, because it is automated, no manual measurements need to be taken, reducing the possibility for errors and the need for extra staff. A major disadvantage of this type of lysimeter is the cost of the lysimeter, about \$39,000, plus the cost of labor to install the devices. This greatly limits the number of replications and the ability to sample different types of crops. Since the devices were installed fall 2015, we do not have enough time yet to know if the data will be useful.

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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.

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 10 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.

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

Signature of Applicant:



Print Applicant's Name: Nolan Doesken

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

Date:

1 February 2016

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

Craig Godbout – WSRA Application
Colorado Water Conservation Board
1313 Sherman St., Room 721
Denver, CO 80203
303-866-3441, ext. 3210 (office)
303-547-8061 (cell)
craig.godbout@state.co.us