

Water Supply Reserve Account – Grant and Loan Program
Water Activity Summary Sheet
March 18-19, 2014
Agenda Item 17(a)

Applicant: Metro Wastewater Reclamation District

Water Activity Name: South Platte River Diurnal Flow Study

Water Activity Purpose: Water Rights Operation and Administration

County: Denver and Adams

River Basin: South Platte

Water Source: South Platte and Robert W. Hite Treatment Facility

Amount Requested: \$50,000 Metro Account; & \$50,000 South Platte Basin Account (total request = \$100,000)

Matching Funds: \$27,185 (in-kind) by the Metro Wastewater Reclamation District (21% of total study costs)

Staff Recommendation:
Staff recommends approval of up to \$50,000 from the Metro Account and \$50,000 from the South Platte Basin Account (for a total of \$100,000) to fund the study titled: Metro Wastewater Reclamation District – South Platte River Diurnal Flow Study.

Water Activity Summary: WSRA Grant funds will be expended to conduct an examination of the diurnal flow pattern in the South Platte River downstream of the Metro Wastewater Reclamation District's discharge point. These discharges can affect the extent to which both agricultural and municipal water rights holders can divert their decreed water rights, and current water rights administration practices may result in unintended impacts to some downstream water rights. The purposes of the South Platte River Diurnal Flow Study are to identify the water users likely affected by the diurnal flows and to what degree; identify the potential benefits of mitigating or "dampening" the diurnal flows; identify potential administrative or physical actions, including a flow equalization pond that could provide those benefits; and identify the potential costs of providing administrative and physical changes to address these issues.

The application articulates how the project meets the Evaluation Criteria as summarized below:

Threshold and Evaluation Criteria:

The application meets all four Threshold Criteria.

Funding/Match Summary:

	<u>Cash</u>	<u>In-Kind</u>	<u>Total</u>
WSRA Metro Account	\$50,000	\$0	\$50,000
WSRA South Platte Basin Account	\$50,000	\$0	\$50,000
Metro Wastewater Reclamation District	<u>\$0</u>	<u>\$27,185</u>	<u>\$27,185</u>
Total Study Costs	\$100,000	\$27,185	\$127,185

Discussion:

No additional discussion is needed.

Issues/Additional Needs:

No additional issues or needs were identified.

Staff Recommendation:

Staff recommends approval of up to \$50,000 from the Metro Account, and \$50,000 from the South Platte Basin Account (for a total of \$100,000) for study titled: Metro Wastewater Reclamation District – South Platte River Diurnal Flow Study.

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 will help promote the development of a common technical platform. In accordance with the revised WSRA Criteria and Guidelines, staff would like to highlight additional reporting and final deliverable requirements. The specific requirements are provided below.

Reporting and Final Deliverable: 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 scope of work including a description of any major issues that have occurred and any corrective action taken to address these issues. 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.

Engineering: All engineering work (as defined in the Engineers Practice Act (§12-25-102(10) C.R.S.)) performed under this grant shall be performed by or under the responsible charge of professional engineer licensed by the State of Colorado to practice Engineering.



December 16, 2013

Alan Hamel, Chair
Colorado Water Conservation Board
1313 Sherman St., Room 721
Denver, CO 80203

Re: Metro Roundtable Support for Metro Wastewater Reclamation District
Water Supply Reserve Account (Basin Funds) Grant Application
South Platte River Diurnal Flow Study

Dear Mr. Hamel:

On December 11, 2013, representatives of the Metro Wastewater Reclamation District (Metro District) in Denver presented a grant application to fund the *South Platte River Diurnal Flow Study*. The total budget for completion of the Study is \$100,000, and the Metro District is seeking funds from both the Metro and South Platte Basin Roundtables.

Because of the legal exercise of water rights on the South Platte River, treated water discharged from the Metro District's Robert W. Hite Treatment Facility often makes up as much as 85 percent of the flow in the South Platte River north of Denver. Because there is a normal, daily pattern to water use throughout the Metro District's service area, there is a similarly predictable diurnal flow variation in the River downstream of the discharge. The diurnal flow pattern in the South Platte River downstream of the Metro District's discharge can affect the extent to which both agricultural and municipal water rights holders can divert their decreed water rights, and current water rights administration practices may result in unintended impacts to some downstream water rights. The purposes of this study are to identify the water users likely affected by the diurnal flows and to what degree; identify the potential benefits of mitigating or "dampening" the diurnal flows; identify potential administrative or physical actions, including a flow equalization pond, that could provide those benefits; and identify the potential costs of providing administrative and physical changes to address these issues. The results of this study may allow more efficient use of appropriated water in the basin.

The Metro District will provide matching funds for the study. To date, the Metro District has expended \$27,185 to support the stakeholder process for developing the scope of work for this study, which represents more than 20 percent of the \$100,000 study budget.

The Metro Roundtable voted unanimously to approve the Metro District's grant application of \$50,000 from Metro Roundtable Basin funds. We respectfully request the Colorado Water Conservation Board approve the *South Platte River Diurnal Flow Study* grant application.

Yours truly,



Mark Koleber
Chair, Metro Roundtable

cc: Jacob Bornstein
Craig Godbout

January 21, 2014

Alan Hamel, Chair
Colorado Water Conservation Board
1313 Sherman St., Room 721
Denver, CO 80203

**Re: South Platte Roundtable Support for Metro Wastewater Reclamation District
Water Supply Reserve Account (Basin Funds) Grant Application
South Platte River Diurnal Flow Study**

Dear Mr. Hamel,

The South Platte Basin Roundtable (SPBRT) voted at our January 14, 2014 meeting to approve the WSRA application from the Metro Wastewater Reclamation District (Metro District) to identify the water users likely affected by the diurnal flows and to what degree; identify the potential benefits of mitigating or “dampening” the diurnal flows; identify potential administrative or physical actions, including a flow equalization pond, that could provide those benefits; and identify the potential costs of providing administrative and physical changes to address these issues.

The Roundtable members voted unanimously to allocate \$50,000 from the South Platte Basin Funds for this project.

The South Platte Basin Roundtable underwent an evaluation and approval process with this project and believes the application meets the Threshold and Evaluation Criteria for the WSRA Grant Program. The South Platte Roundtable has developed a revised grant review process. As part of this new process, the diurnal flow study was reviewed by members of an ad-hoc grant review team prior to submittal to the full Roundtable. Mike Shimmin, roundtable members, was the liaison with the applicant and presented his support for the project. With a quorum of members present, there was a motion and second and after discussion, the South Platte Basin Roundtable members voted unanimously to support the full funding request proposed by the Metro District. There were no votes of dissent or abstentions.

Please don't hesitate to contact me if there are any additional questions.

Sincerely,



Sean T. Cronin,
Chair, South Platte Basin Roundtable



COLORADO WATER CONSERVATION BOARD

WATER SUPPLY RESERVE ACCOUNT APPLICATION FORM



South Platte River Diurnal Flow Study

Name of Water Activity/Project

Metro Wastewater Reclamation District

Name of Applicant

Metro Roundtable
(\$50,000)
South Platte Roundtable
(\$50,000)

Amount from Statewide Account:

none

Amount from Basin Account(s):

\$100,000

Total WSRA Funds Requested:

\$100,000

Approving Basin Roundtable(s)

(If multiple basins specify amounts in parentheses.)

Application Content

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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)

Water Supply Reserve Account – Application Form

Revised December 2011

Instructions

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

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

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

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

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

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

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

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

1.	Applicant Name(s):	Metro Wastewater Reclamation District		
	Mailing address:	6450 York Street Denver, CO 80229		
	Taxpayer ID#:	84-0524704		
	Primary Contact:	Barbara J. Biggs	Position/Title:	Gov't Afrs Officer
	Email:	bbiggs@mwr.dst.co.us		
	Phone Numbers:	Cell: 303-947-8046	Office:	303-286-3464
	Alternate Contact:	Mike Shimmin	Position/Title:	Legal Counsel
	Email:	mds@vrlaw.com		
	Phone Numbers:	Cell:	Office:	303-443-6151

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 Metro Wastewater Reclamation District (Metro District or Metro) is a Metropolitan Sewage Disposal District created under Part 5 of Article 4 of Title 32 of the Colorado Revised Statutes. The District was created in 1961 to provide wholesale wastewater transmission and treatment for local governments throughout the metropolitan Denver region. Forty-eight cities and special districts, including Arvada, Aurora, Brighton, Denver, Lakewood, Thornton and Westminster, contract directly with Metro for wastewater treatment. Metro has a 750 square mile service area with an estimated population of 1.7 million.

The Metro District operates the Robert W. Hite Treatment Facility (RWHTF) at 6450 York Street in Adams County. The RWHTF has a rated capacity of 220 million gallons per day (mgd) and currently treats approximately 130 mgd. Because upstream senior water rights typically divert 100 percent of the flow in the South Platte River upstream of the Metro District's discharge, reclaimed water from the RWHTF can make up as much as 85 percent of the flow in the South Platte River as much as six months of the year.

Because of the normal pattern of household water use throughout the Metro District's service area, the volume of reclaimed water discharged to the South Platte has a predictable, diurnal pattern, with the lowest daily flows occurring very early in the morning, peak flows around 11 a.m., a second low-flow period in the late afternoon/early evening that is not nearly as low as the early morning period, and a second, less significant peak in the evening.

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

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

☐

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.

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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.

Because the Metro District does not rely on tax revenues, but instead funds its operations through charges for service that reflect the actual cost to treat the wastewater collected and treated, it is an enterprise under TABOR and does not anticipate any TABOR issues.

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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.

The diurnal flow pattern in the South Platte River downstream of the Metro District's discharge can affect the extent to which both agricultural and municipal water rights holders can divert their decreed water rights, and current water rights administration practices may result in unintended impacts to some downstream water rights. The purposes of this study are to identify the water users likely affected by the diurnal flows and to what degree; identify the potential benefits of mitigating or "dampening" the diurnal flows; identify potential administrative or physical actions, including a flow equalization pond, that could provide those benefits; and identify the potential costs of providing administrative and physical changes to address these issues.

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?

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

Latitude:

39° 48' 46.5" N

Longitude:

104° 57' 16" W

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 study will address the following issues:

- Defining the diurnal flow issues; and
- Identifying the water users likely affected by the diurnal flows and to what degree; and
- Identifying the potential benefits of mitigating or “dampening” the diurnal flows; and
- Identifying potential administrative or physical actions, including a flow equalization pond, that could provide those benefits; and
- Identifying the costs of providing potential administrative and physical benefits.

Deere & Ault Consultants, Inc. was retained by the Metro District to develop a scope for the study, and will be kept under contract to complete the study. The scope of the study was cooperatively developed with Opposers’ consultants through a stakeholder process. All Opposers in Case No. 11CW74, including the State and Division Engineers, are considered stakeholders in the study process. Other stakeholders may be identified during the study process as well. The scope of work includes the following tasks (a copy of the entire Scope of Work is attached to this application as Exhibit XX):

Task 1 - Review Previous Studies

Deere & Ault Consultants, Inc. (Deere & Ault) will review any previous studies that discuss or relate to the impact of diurnal flows on the South Platte River.

Task 2 - Analysis of Current River Administration

Based on prior discussions with Mr. David Nettles, Division 1 Engineer, and Mr. William Schneider, District No. 2 Water Commissioner, we understand that the diurnal flow of the South Platte River has an effect on administration of water rights in District No. 2. Based on these discussions, we understand that the 1871 priority of the Western Ditch is the primary calling right in this reach of District 2, making the Western Ditch the “swing ditch” (i.e., the ditch that dictates the presence of a call). We understand that the Water Commissioner determines the need for a call in District 2 upstream of the St. Vrain Creek confluence by: 1) discussing the daily water needs of the Western Ditch with the ditch company representative, 2) examining the low flow “trough” of the daily hydrograph at the Henderson stream gage, 3) examining gauged and known inflows within the reach upstream of the Western Ditch and downstream of the Henderson gage to determine their potential contribution to stream flow, and 4) distributing the water to all in-priority water users according to their demand so that the Western 1871 priority and all intervening water rights are satisfied when the trough of the diurnal flow reaches the Western headgate. If the Water Commissioner determines the Western’s demand will not be completely satisfied, the Water Commissioner will place a bypass call within District 2. The bypass call allows the Water Commissioner to work with upstream junior water users so that only a partial curtailment may be required to satisfy the Western Ditch’s demands. At times, other ditches will be the swing ditch.

Task 3 - Analysis of Impact of Diurnal Flow Fluctuation

The purpose of this task is to identify whether and where the diurnal fluctuation of flow may have adverse impacts on the downstream water users, and the extent of such impacts.

Task 4 - Analysis of Structural Alternatives to Mitigate Any Impacts of the Diurnal Flow Fluctuation

Several possible alternatives have been proposed to address the diurnal flow fluctuation of the South Platte River.

Task 5 - Analysis of Revised Administrative Procedures

In this task, Deere & Ault will analyze whether or not additional or revised administrative procedures could serve to help mitigate any negative impacts as a result of the diurnal fluctuation in the South Platte River. These revised administrative procedures could include the requirement for additional stream gages or other ancillary structures that might be required to facilitate any revised administrative procedures.

Task 6 - Meetings with Stakeholders

At least one stakeholder meeting will be held as the study progresses to report on preliminary results and to receive intermediate input from the stakeholders about the methods being used in the study and preliminary results being obtained. Deere & Ault shall consider the intermediate input obtained from the stakeholders before drafting the study report as allowed within funding constraints.

Task 7 - Progress Reports

If funded through the CWCB Water Supply Reserve Account (“WSRA”), Deere & Ault shall provide the CWCB a progress report every six months, with the first progress report to be submitted six months after notice-to-proceed.

Task 8 - Draft and Final Reports

Draft and final reports issued by Deere & Ault shall address each of the issues and analyses set forth in this Scope of Services, as well as including the identification of the costs and benefits of implementing potential mitigation measures that are deemed to appear feasible and a discussion of potential obstacles to that implementation. Deere & Ault will consult, coordinate, and seek input from the stakeholders’ consultants during all phases of the study.

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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

The purpose of this study is to determine how the exercise of existing water rights is affected by the diurnal fluctuation of flow in the South Platte River downstream from the Robert W. Hite Treatment Facility (RWHTF) at 6450 York Street in Adams County and identify administrative and structural approaches that might mitigate or “dampen” the diurnal fluctuation and its impact so that all of the water in the South Platte River downstream of the the RWHTF is efficiently put to beneficial use in accordance with the water rights decrees on the River and Colorado’s prior appropriation system.

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

Funding for this study is being requested from both the Metro Roundtable and the South Platte Roundtable as a 50/50 split since both BRTs will benefit from the information developed during the study.

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.

The purpose of this study is to evaluate the effect of the diurnal flow variations in the South Platte River on the administration of water rights and the ability of water rights holders to put water to beneficial use. The results of this study may allow more efficient use of appropriated water in the basin.

- 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 Metro Wastewater Reclamation District will provide matching funds for the study. To date, the Metro District has expended \$27,185 to support the stakeholder process for developing the scope of work for this study, which represents more than 20 percent of the \$100,000 study budget.

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.**

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

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

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

Tier 2: Facilitating Water Activity Implementation

- d. Funding from this Account will reduce the uncertainty that the water activity will be implemented. For this criterion the applicant should discuss how receiving funding from the Account will make a significant difference in the implementation of the water activity (i.e., how will receiving funding enable the water activity to move forward or the inability obtaining funding elsewhere).
- e. The amount of matching funds provided by the applicant via direct contributions, demonstrable in-kind contributions, and/or other sources demonstrates a significant & appropriate commitment to the project.

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

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

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

Please attach additional pages as necessary.

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.

Based on prior discussions with Mr. David Nettles, Division 1 Engineer, and Mr. William Schneider, District No. 2 Water Commissioner, we understand that the diurnal flow of the South Platte River has an effect on administration of water rights in District No. 2. Based on these discussions, we understand that the 1871 priority of the Western Ditch is the primary calling right in this reach of District 2, making the Western Ditch the “swing ditch” (i.e., the ditch that dictates the presence of a call). We understand that the Water Commissioner determines the need for a call in District 2 upstream of the St. Vrain Creek confluence by: 1) discussing the daily water needs of the Western Ditch with the ditch company representative, 2) examining the low flow “trough” of the daily hydrograph at the Henderson stream gage, 3) examining gauged and known inflows within the reach upstream of the Western Ditch and downstream of the Henderson gage to determine their potential contribution to stream flow, and 4) distributing the water to all in-priority water users according to their demand so that the Western 1871 priority and all intervening water rights are satisfied when the trough of the diurnal flow reaches the Western headgate. If the Water Commissioner determines the Western’s demand will not be completely satisfied, the Water Commissioner will place a bypass call within District 2. The bypass call allows the Water Commissioner to work with upstream junior water users so that only a partial curtailment may be required to satisfy the Western Ditch’s demands. At times, other ditches will be the swing ditch.

Deere & Ault will conduct an analysis of call records for the South Platte River for the study period of 1992 through 2012 to determine which particular water users in District No. 2 were likely impacted by the diurnal flow administration. The analysis will include a tabulation of the various water rights that have placed a call during the study period, as well as the relative frequency of calls that affect each particular structure.

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

In 2003 the Metro District completed a study of the feasibility of constructing flow equalization facilities at the RWHTF to protect water quality and aquatic life. That study determined that flow equalization facilities would be operationally complex and much more expensive than originally anticipated (original estimate \$7 million; revised estimate \$18 - \$27 million); when considered in conjunction with the studies described below, it was determined that flow equalization did not provide a benefit to the environment to justify the cost to construct and operate.

Between 1997 and 2004, the Metro District conducted a number of studies to determine if the diurnal fluctuations in the South Platte River had any impact on water quality, especially dissolved oxygen concentrations, or aquatic life, especially spawning success. Those studies determined there was no impact on either water quality or aquatic life as a result of the diurnal flow variations, and the results of the studies were accepted by the Water Quality Control Division of the Colorado Department of Public Health, U.S. Environmental Protection Agency Region VIII, and the Colorado Division of Wildlife (now known as Colorado Parks & Wildlife).

All of these studies will be reviewed as part of Task 1 of this study.

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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.

South Platte River Diurnal Flow Study Project Budget

TABLE 1
South Platte River Diurnal Flow Study
Cost Estimate

Task	Task Description	\$250	\$160	\$135	\$108	\$76	\$88	\$84	\$54					
		LABOR BY CATEGORY								Total Hours	Labor Costs	Direct Expense	Total by Subtask	Total by Task
		Principal	Project Manager	Project Engineer	Water Resources Engineer	Water Resources Analyst	CADD Technician	Technical Writer	Clerical					
1	Review Previous Studies													\$ 1,270
1a	Review and Analyze previous studies provided to D&A by the Metro District & Others	1	2	2						5	\$ 786		\$ 786	
1b	Provide Copies of Reports to Stakeholders		1	2					2	5	\$ 484		\$ 484	
2	Analysis of Current River Administration													\$ 6,488
2a	Meeting w/ Division Engineer, Water Commissioner(s), and Stakeholders	6	6	6						20	\$ 3,324	\$ 100	\$ 3,424	
2b	Field Trip to Observe Critical Reaches and Infrastructure	8		6						16	\$ 2,864	\$ 200	\$ 3,064	
3	Analysis of Impact of Diurnal Flow Fluctuation													\$ 27,624
3a	Review and Analysis of District 2 Call Records	4	8	20	16				2	50	\$ 5,764		\$ 5,764	
3b	Review and Analysis of Hourly South Platte River Gage Records (e.g., Henderson, Fort Lupton, Kersey)	4	8	24	16				2	54	\$ 6,196		\$ 6,196	
3c	Further Define Diurnal Flow Fluctuation (i.e., time, location, amount, reusable/single use ratio)	8	12	24	16					60	\$ 7,728		\$ 7,728	
3d	Determine Impact of Diurnal Fluctuation (i.e., location, amount, mechanism)	8	16	20	16					60	\$ 7,936		\$ 7,936	
4	Analysis of Structural Alternatives to Mitigate Impacts of Diurnal Flow													\$ 30,322
4a	Conduct Screening of Proposed Alternatives (i.e., on-channel storage, off-channel storage)	8	16	16	16					56	\$ 8,448		\$ 8,448	
4b	Analysis of Selected Structural Mitigation Alternatives	8	20	24	24					76	\$ 11,032		\$ 11,032	
4c	Provide Preliminary Drawings of Selected Alternatives	1		24			24			49	\$ 5,602		\$ 5,602	
4d	Develop Preliminary Cost Estimates for Selected Alternatives	4	16	8	16					44	\$ 5,240		\$ 5,240	
5	Analysis of Revised Administrative Procedures													\$ 8,112
5a	Additional Coordination with Division Engineer and Water Commissioners	4	4	8						16	\$ 2,504		\$ 2,504	
5b	Investigate Potential for Additional Gaging/Instrumentation to Enhance Administration	4	16	16						36	\$ 5,608		\$ 5,608	
6	Meetings with Stakeholders													\$ 4,608
6a	Conduct up to two Stakeholder Meetings	12	6	6						24	\$ 4,608		\$ 4,608	
7	Progress Report													\$ 2,922
7a	Provide Stakeholders with Progress Report every 6 Months	8	2	2			4			16	\$ 2,872	\$ 50	\$ 2,922	
8	Draft and Final Reports													\$ 18,916
8a	Prepare and Submit Draft Report for Review by Stakeholders	16	40	32		4	12			104	\$ 15,216	\$ 50	\$ 15,266	
8b	Prepare and Submit Final Report to Stakeholders	4	8	6			8			26	\$ 3,600	\$ 50	\$ 3,650	
TOTALS		108	167	80	226	80	28	24	6	719	\$ 89,812	\$ 450	\$ 100,262	\$ 100,262
TOTAL (Rounded to Nearest \$1,000)														\$ 100,000

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. Copies of this report will also be provided to the stakeholders that participated in the study process.

PAYMENT

Payment will be made based on actual expenditures and invoicing by the applicant. Invoices from any other entity (i.e. subcontractors) cannot be processed by the State. The request for payment must include a description of the work accomplished by major task, and estimate of the percent completion for individual tasks and the entire water activity in relation to the percentage of budget spent, identification of any major issues and proposed or implemented corrective actions. The last 5 percent of the entire water activity budget will be withheld until final project/water activity documentation is completed. All products, data and information developed as a result of this grant must be provided to the CWCB in hard copy and electronic format as part of the project documentation. This information will in turn be made widely available to Basin Roundtables and the general public and help promote the development of a common technical platform.

Water Supply Reserve Account – Application Form

Revised December 2011

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

Signature of Applicant: *Catherine R. Goral, District Manager*

Print Applicant's Name: *Catherine R. Goral, District Manager*

Project Title: *South Platte River Diurnal Flow Study*

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