Water Supply Reserve Account – Grant and Loan Program
Water Activity Summary Sheet
March 16-17, 2016
Agenda Item 14(g)

Applicant & Fiscal Agent:	Fountain Creek Watershed Flood Control and Greenway District
Water Activity Name:	Evaluation of Flood Control Alternatives for the Fountain Creek Corridor
Water Activity Purpose:	Multipurpose
County:	El Paso / Pueblo
Drainage Basin:	Arkansas
Water Source:	Fountain Creek
Amount Requested/Source of Funds:	$8,800 Arkansas Basin Account $33,000 Statewide Account $41,800 Total Grant Request
Matching Funds:	Basin Account Match ($8,800) = 21% of total grant request (meets 5% min); Applicant/3rd Party Match ($37,500) = 89% of total project costs ($79,300) Basin Account Match & Applicant Match ($46,300) = 111% of total grant request (meets 25% min) (refer to *Funding Summary/Matching Funds* section)

Staff Recommendation:

Staff recommends approval of up to $8,800 from the Arkansas Basin Account; and $33,000 from the Statewide Account to help fund the project titled: Evaluation of Flood Control Alternatives for the Fountain Creek Corridor.

Water Activity Summary: WSRA funds, if approved, will be expended to fund the project titled: Evaluation of Flood Control Alternatives for the Fountain Creek Corridor. This project evaluates alternatives to protect productive agricultural, commercial and residential land and aquatic and riparian habitat along the Fountain Creek corridor from flood damage and excessive sediment transport It will simultaneously examine whether infrastructure utilized to meet these nonconsumptive objectives can also be used to meet water supply needs through enhanced exchange opportunities, augmentation or direct use, and provide for additional aquatic and riparian habitat and recreational opportunities.

The water activity will evaluate alternatives for structural and non-structural improvements in the Fountain Creek corridor from Colorado Springs to the confluence with the Arkansas River. The water activity will progress the design and construction of habitat-sensitive restoration techniques that will stabilize the creek bank, reduce flooding and erosion and sediment transport while improving water quality and protecting viable agricultural land, commercial facilities, residential properties, aquatic habitat, wildlife habitat and wetlands. The activity will also evaluate whether detention facilities or a

mainstream dam can constitute a viable means of storing water to meet current and future water supply needs by adding to exchange opportunities (potentially as part of a leasing/fallowing program) or serving as augmentation or direct use reservoirs, without injuring downstream water rights. The water activity will consider water rights along Fountain Creek and pertinent stretches of the Arkansas River to ensure that existing water rights are not injured if flood control or multi-use facilities are constructed in the Fountain Creek Corridor. Meetings will be held with ditch associations, canal companies, Water Division No. 2 representatives and independent water rights holders to keep the communities informed throughout the execution of this water activity and seek input that will be valuable in establishing credible alternatives for analysis.

OBJECTIVES

1. Meet with holders of decreed water rights to discuss issues/concerns associated with the construction of infrastructure designed to meet project objectives, including the potential need to provide augmentation supplies so as to prevent material injury to any decreed water rights.
2. Assemble, review and summarize flood control and sediment management alternatives evaluated and described in previous reports by the District, USGS, the USACOE and others.
3. Assemble and summarize previous design information and costs estimates for projects similar to the candidate alternatives including the development of a fatal flaw analysis of costs associated with the operation of the analyzed alternatives.
4. Identify implementation issues, in addition to those referenced in #1 above, for the candidate alternatives.
5. Prepare graphics or animation to visualize the effects of implementation of candidate alternatives on properties in the flood pool during floods of 4 different magnitudes (10, 50, 100 and 500-year).
6. Identify and evaluate any potential opportunities for the use of the candidate alternatives to assist in meeting consumptive and non-consumptive needs, including a preliminary analysis of any fatal flaws associated with such use.
7. Compare the candidate alternatives conceptually and analytically using existing information.
8. Formulate and analyze options or combination of options to form feasible alternatives that meet project objectives.

Discussion: This project meets the goals and objectives identified in the Arkansas Basin Implementation Plan, aligning with all three of the basin themes identified. The project also aligns with the critical actions identified in Chapter 10 of Colorado's Water Plan, especially actions related to storage, water supply and demand gap, and watershed health.

Issues/Additional Needs: No issues or additional needs have been identified.

Threshold and Evaluation Criteria:
The application meets all four Threshold Criteria.

Tier 1-3 Evaluation Criteria:
This activity has undergone review and evaluation and staff has determined that it satisfies the Evaluation Criteria. Please refer to WSRA Application for applicant's detailed response.

Funding Summary/Matching Funds:

Funding Source	Cash	In-kind	Total
Fountain Creek District	$25,500	$0	$25,500
Colorado Springs Utilities	$0	$12,000	$12,000
Subtotal Matching Funds	$25,500	$12,000	$37,500
WSRA Arkansas Basin Account	$8,800	n/a	$8,800
WSRA Statewide Account	$33,000	n/a	$33,000
Total Project Costs	**$67,300**	**$12,000**	**$79,300**

CWCB Project Manager: Brent Newman

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: 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.

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.

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.

Arkansas Basin Roundtable

January 29, 2016

Via Electronic Mail: craig.godbout@state.co.us

Mr. Craig Godbout
Colorado Water Conservation Board
1313 Sherman Street, Room 721
Denver, CO 80203

Re: Water Supply Reserve Account Grant Application: Evaluation Flood Control Alternatives for Fountain Creek Corridor

Dear Craig:

At its January 13, 2016 meeting, the Arkansas Roundtable approved the Evaluation Flood Control Alternatives for Fountain Creek Corridor Project for $8,800 in Basin Funds, $33,000 in Statewide Funds, with $25,500 cash matching funds and $12,000 In-Kind from the applicant, the Fountain Creek Watershed, Flood Control and Greenway District. There were no dissenting opinions expressed in the consensus decision.

This project has basin-wide and state-wide significance as it attempts to mitigate flood conditions while preserving and protecting senior water rights along with the paradigms of the Arkansas River Compact. Thoughtful evaluation of alternatives will also support the nonconsumptive goals and objectives of the Arkansas Basin Implementation Plan and the Colorado Water Plan, particularly Objective F. Watershed Health, Environment, and Recreation: "*Protect and Restore Critical Watersheds*" (Section 10.3). Should you have any questions or concerns, please feel free to contact me either by telephone, 719-742-6164, or by email, sandy@white-jankowski.com.

With warm regards

Michael D. (Sandy) White
Chair

Copy via email:
Applicant
ABRT Executive Committee

COLORADO
DEPARTMENT OF NATURAL RESOURCES

COLORADO WATER CONSERVATION BOARD

WATER SUPPLY RESERVE ACCOUNT APPLICATION FORM

Today's Date: 23 November 2015

Evaluation of Flood Control Alternatives for the Fountain Creek Corridor

Name of Water Activity/Project

Fountain Creek Watershed Flood Control and Greenway District

Name of Applicant

Arkansas Basin Roundtable

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

Amount from Statewide Account:	$33,000
Amount from Basin Account(s):	$8,800
Total WSRA Funds Requested:	$41,800

FEIN: 27-0799089

Application Content

Required Exhibits

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

Appendices – Reference Material

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

Instructions

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

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

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

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

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

1.	Applicant Name(s):	Fountain Creek Watershed Flood Control and Greenway District		
	Mailing address:	PO Box 26373 Colorado Springs, CO 80936-6373		
	FEIN #:	27-0799089		
	Primary Contact:	Mr. Larry Small	Position/Title:	Executive Director
	Email:	Fountainckdist@aol.com; lsmall42@comcast.net		
	Phone Numbers:	Cell: 719-447-5012	Office:	
	Alternate Contact:	Commissioner Terry Hart	Position/Title:	Pueblo Cty Commner
	Email:	hart@co.pueblo.co.us		
	Phone Numbers:	Cell: 719-821-8877	Office:	719-583-6050

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.

[X] 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.

3. Provide a brief description of your organization

The Fountain Creek Watershed Greenway and Flood Control District was created under SB09-141 (32-11.5-101 et seq C.R.S.) in April of 2009 for the purpose of managing, administrating and funding capital improvement projects that will lead to the mitigation of flooding, improved water quality issues, erosion and sedimentation control and improved drainage. In addition, the district will fund the protection of open space as well as develop greenway amenities. The newly formed district encompasses El Paso and Pueblo Counties. Land use authority is limited to the 100-year floodplain between El Paso and Pueblo counties south of the City of Fountain and north of the City of Pueblo.

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

N/A

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

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

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

6. The Tax Payer Bill of Rights (TABOR) may limit the amount of grant money an entity can receive. Please describe any relevant TABOR issues that may affect the applicant.
None

Part II. - Description of the Water Activity/Project

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

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

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

This project evaluates alternatives to protect productive agricultural, commercial and residential land and aquatic and riparian habitat along the Fountain Creek corridor from flood damage and excessive sediment transport. It will simultaneously examine whether infrastructure utilized to meet these nonconsumptive objectives can also be used to meet water supply needs through enhanced exchange opportunities, augmentation or direct use, and provide for additional aquatic and riparian habitat and recreational opportunities.

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

X	Study		Implementation

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

13250	New Storage Created (acre-feet)
	New Annual Water Supplies Developed, Consumptive or Nonconsumptive (acre-feet)
	Existing Storage Preserved or Enhanced (acre-feet)
242880	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:

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

Latitude: 38°34'24.21"N Longitude: 104°38'18.27"W

Approximate midpoint of the Fountain Creek Corridor between Colorado Springs and the confluence of Fountain Creek with the Arkansas River.

The project area is approximately a distance of 46 miles and approximately ¼ mile wide on either side of Fountain Creek, including, at a minimum, the 100 year floodplain. A map illustrating the corridor is provided as Exhibit B.

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.

The proposed activity is designed to evaluate flood and sediment control opportunities along Fountain Creek in El Paso and Pueblo Counties so as to improve water quality, preserve the riparian zone, protect human health and safety and, to the extent found feasible, simultaneously assist in meeting basin consumptive use needs. Fountain Creek flows southeast along the Front Range and is the principal streams in the watershed; several tributary streams drain the watershed. Fountain Creek is partitioned into upper, middle, and lower segments and is intermittent in portions of the upper segment. It transitions to a perennial stream approximately midway through the reach near Green Mountain Falls and is characterized by a sequence of riffles, pools, and runs. The bed material ranges from sand and gravels to cobbles and boulders. The middle segment begins at the confluence of Monument Creek and continues downstream to USGS station number 07105800, where it becomes braided. The creek is channelized and dominated by runs with intermittent pools. The banks in some locations are engineered and lined with concrete and other energy dissipaters. The bed material is variable consisting of cobble, sand, and gravel that have been scoured to bedrock. The lower segment of Fountain Creek begins immediately downstream from USGS station number 07105800 and continues to the confluence of the Arkansas River in Pueblo, Colorado. The channel meanders, is wider, and is often braided. Stream flow is composed almost exclusively of sequences of runs. Several reaches have been channelized for irrigation and transportation purposes. The streambed material in this segment is almost exclusively composed of sand and gravel. Historically, lower Fountain Creek has experienced major flood events that have threatened agricultural lands and communities along the reach, with the City of Pueblo suffering serious damage from flooding as recent as September 2013. The objectives for improved flow management in the lower Fountain Creek include: Reduce flood risk; Reduce erosion; Reduce sedimentation; and Improve water management. The District funded a study of Remediation Scenarios for Attenuating Peak Flows and Reducing Sediment Transport in Fountain Creek at Pueblo (USGS 2013). Fourteen remediation scenarios located throughout the Fountain Creek Watershed were used to evaluate the impacts of unsteady discharges associated with a 24-hr, 100-year NOAA Type II precipitation event. Scenario 0 represents the baseline or current conditions in the watershed and was used to compare the remaining 13 scenarios. Scenarios 1-8 and 12 rely on side-detention facilities to reduce peak flows and sediment transport. Scenario 9 assumes a diversion channel, and scenario 10 includes a reservoir. Scenarios 11 and 13 incorporate channel armoring and channel widening, respectively. Scenarios 10 and 12, the scenario with the on-channel reservoir and the scenario with 10 side detention facilities located

in El Paso (4) and Pueblo (6) Counties respectively, were the most effective at reducing sediment transport and the peak flow. They also offer a potential use for water supply management to meet current and future needs within the Fountain Creek Watershed. The study will assemble, review and summarize the alternative scenarios and perform a Phase 1 Appraisal Level evaluation of Scenarios 10 and 12, identifying issues associated with implementing those scenarios. Issues to be considered include the ability to operate flood control facilities without causing material injury to water rights, permitting concerns, landowner impacts, sediment management, ability to effectively use conservation storage (augmentation, exchange, potential users and uses), compatibility with natural ecosystem functions and Operation & Maintenance concerns and ongoing operational costs. This study is the first phase of a multi-phase process, attached hereto as Exhibit C, leading to construction of flood control (and potential water storage) facilities on the Fountain Creek Corridor between Colorado Springs and the Arkansas River confluence.

Because the District is sensitive to the junior water rights in Fountain Creek and the Arkansas River below Pueblo that could potentially be affected by flood control facilities developed on Fountain Creek between Colorado Springs and Pueblo, the District contracted D. Helton Consulting to perform a Water Rights Protection Task for an analysis of water rights and administrative issues associated with the operation of a flood remediation project in the Fountain Creek Watershed. The results of the analysis was published in October 2015 and presented to the water rights stakeholders and the Arkansas Basin Roundtable in October 2015. The analysis concluded that if properly operated in accordance with Colorado water law, the flood remediation project could be operated without impacting the junior water rights. This Water Rights Protection Task will be continued and expanded in the execution of this water activity to ensure water right holder's input is received.

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]

   Yes. The Evaluation of Flood Control Alternatives for the Fountain Creek Corridor Project is a non-consumptive, agricultural and municipal/industrial use study that will not restrict the ability of any holder of water rights to use or to dispose of any water right in any manner permitted under Colorado Law and is consistent with section 37-75-102 C.R.S. and Senate Bill 15-212. To the extent the alternatives may also be implemented and utilized for water management, any necessary water court decrees or approvals, including plans for augmentation, would be obtained so as to ensure there would be no injury to any existing water rights.

   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.

Pending

[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.

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.

Pending

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)

The Fountain Creek Watershed, Flood Control and Greenway District will provide $25,500 matching funds for this grant. Colorado Springs Utilities and other parties will provide a total of $12,000 in-kind services from the SDS Project or CSU Water Resources Division, to include data, topographic or other GIS mapping, and technical/engineering evaluations and legal analysis of water rights requirements.

[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.

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. 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

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

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

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

j. The water activity is complimentary to or assists in the implementation of other CWCB programs.

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

Please attach additional pages as necessary.

Tier 1

a. The water activity considers the lower Fountain Creek as an area where multi-use storage facilities will provide benefit to El Paso County (including small municipalities and special districts), Pueblo County and the Cities of Colorado Springs, Fountain, Pueblo, the Southeastern Colorado Water Conservancy District, the lower Arkansas Water Conservancy District and the landowners along the creek. This includes farmers and ranchers, including Super Ditch participants, with a desire to engage in alternative agricultural transfer relationships with municipal entities. This will assist in foreclosing the need for new water development in more sensitive high elevation watersheds. The activity will also examine the most efficient and effective way to control storm flows and sediment transport so as to protect the natural environment and promote human health and safety while honoring and protecting water rights.

b. The Fountain Creek Watershed, Flood Control and Greenway District was established to promote cooperation and collaboration between its represented governments (El Paso County, Pueblo County, Colorado Springs, Pueblo, Fountain, Palmer Lake, Monument, Manitou Springs and Green Mountain Falls), the Southeastern Colorado Water Conservancy District and the Lower Arkansas Water Conservancy District. The shared revitalization vision for Fountain Creek was the beginning of an unprecedented regional partnership to save the Fountain Creek Watershed by reducing the danger of flooding, reducing erosion and sedimentation, improving water quality, improving wildlife habitat, opening pathways to eco-tourism, recreation, environmental sustainability and balanced economic prosperity and to provide the opportunity for joint water management. Letters of support for this water activity were obtained in June 2014 when the District first presented this application to the Roundtable and are attached hereto.

c. The overall goal of this effort is to develop reconnaissance level concepts to address the existing basin M&I gap, agricultural shortages, and environmental and recreational enhancements for the Lower Arkansas Valley. To the extent possible, multi-objective concepts are being considered. Developing a range of potential solutions will help water providers, policymakers, and stakeholders gain a deeper understanding of the relative role that water storage, agricultural transfers, and stormwater control can play in meeting future consumptive and non-consumptive needs and the trade-offs associated with these mechanisms. These concepts can then be considered in the context of meeting human needs for water and providing for the needs of the lower Arkansas Valley natural environment and recreation while providing flood control for the Fountain Creek Corridor.

Tier 2

a. In future years the Fountain Creek Watershed, Flood Control and Greenway District is authorized to receive a maximum 5 mil property tax across all of El Paso and Pueblo Counties, subject to voter approval, as well as funding from the Pueblo County 1041 Permit for the SDS Project. These funds will be utilized to make improvements to the Fountain Creek Corridor as well as other stream corridor needs in the two counties. Projects will reduce flooding and sediment transport, stabilize eroding banks, restore aquatic and riparian habitats, improve water quality, enhance water management and provide for educational and recreational opportunities along the stream corridors. The funding requested under this water activity will allow the District to hit the ground running and take the first step in planning and

preparing to build facilities necessary to utilize those funds for the Fountain Creek corridor when they are received.

b. The Fountain Creek Watershed, Flood Control and Greenway District will provide $25,500 matching funds for this grant. Colorado Springs Utilities and others will provide a total of $12,000 in-kind services from the SDS Project or CSU Water Resources Division, to include data, topographic or other GIS mapping, and technical/engineering evaluations and legal analysis of water rights requirements.

Tier 3

c. This water activity is based on the idea that ecosystem health, along and within Fountain Creek, is based on the physical characteristics of the Creek including water quality, water quantity and flow, and a level of natural stability. The Creek is constantly seeking a balance of these characteristics. As this balance is achieved, flora and fauna will thrive. This is very important because according to the U.S.G.S. Northern Prairie Wildlife Research Center, wetlands and riparian areas comprise < 1% of the land area in the western United States, yet they support a tremendous diversity and abundance of wildlife. Therefore, it is important to accomplish the following objectives:

- Improve health and safety
- Improve water quality
- Improve wildlife habitats
- Improve stream bed and bank stability
- Improve fisheries
- Improve general creek health
- Reduce flooding magnitude and incidents
- Reduce sedimentation
- Improve access and visibility

Sustaining agricultural uses along Fountain Creek and promoting open space and recreational use will also greatly enhance the health of the creek. The multi-use facilities examined under this water activity will provide the foundation for better flood control and water management leading for a healthier creek environment.

d. The 2004 Statewide Water Supply Initiative (SWSI) Report found that as population grows there will be increased competition for new water supplies. In addition, because agricultural water use is still the dominant use of water in Colorado (85 to 89 percent) and the fact that agriculture tends to have fairly senior water rights, it is likely that entities seeking new water supplies will increasingly look to agriculture to acquire new supplies. SWSI concluded that within the foreseeable future significant water supplies would likely shift from present-day agricultural use to uses linked to both municipal and industrial (M&I) demands and possibly environmental and recreational needs. In the South Platte, Arkansas, and Rio Grande Basins, there are also projected to be substantial reductions in irrigated acreage due to insufficient supplies for augmentation of agricultural irrigation well pumping. The 2004 SWSI Report identified that numerous M&I providers and self-supplied industrial (SSI) users currently include agricultural transfers as a key component to their future water supply needs. In some basins the largest agricultural transfers may occur as a result of satisfying the estimated 2030 M&I demands. It is apparent that substantial future M&I supplies will come from current agricultural uses (i.e., irrigation) to the extent we are unable or unwilling to develop our remaining supplies of unappropriated water. This water activity will study the possible creation of multi-use facilities on the Fountain Creek corridor to provide for additional storage opportunities and increase available water supply for municipal use while helping to sustain agriculture in

the Lower Arkansas Valley through the provision of storage necessary for mutually beneficial interruptible supply arrangements.

e. The Fountain Creek corridor is home to the Central Stoneroller and Arkansas Darter, two endangered species. The objective of this water activity is to examine opportunities to improve water quality and reduce threats to aquatic life by expanding aquatic habitat. The corridor is also home to many wildlife species such as the Great blue heron, wild turkeys, deer, fox, and bobcat, to name a few, that will benefit from habitat improvements along the corridor.

f. Environmental and recreational uses of water are expected to increase with population growth. These uses help support Colorado's tourism industry, provide recreational and environmental benefits to our citizens, and are an important industry in the Fountain Creek Watershed. Without a mechanism to fund environmental and recreational enhancement beyond project mitigation measures required by law, conflicts among municipal and industrial, agricultural, recreational, and environmental users could intensify. This water activity will examine the feasibility of creating multi-use facilities in the corridor to help increase water storage, improve water quality, promote ecological values and provide for better water management practices to help mitigate these conflicts.

g. CWCB is focused on helping prepare for and meet Colorado's future water needs. Consumptive and nonconsumptive uses of water, wildlife and aquatic habitats, recreational uses, agricultural needs and municipal needs are all factors CWCB focuses on in performing its mission. The water activity will evaluate alternatives for structural and non-structural improvements in the Fountain Creek corridor from Colorado Springs to the confluence with the Arkansas River. The water activity will progress the design and construction of habitat-sensitive restoration techniques that will stabilize the creek bank, reduce flooding and erosion and sediment transport while improving water quality and protecting viable agricultural land, commercial facilities, residential properties, aquatic habitat, wildlife habitat and wetlands. The activity will also evaluate whether detention facilities or a mainstream dam can constitute a viable means of storing water to meet current and future water supply needs by adding to exchange opportunities (potentially as part of a leasing/fallowing program) or serving as augmentation or direct use buckets, without injuring downstream water rights.

Part IV. – Required Supporting Material

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

The water activity will evaluate alternatives for structural and non-structural improvements in the Fountain Creek corridor from Colorado Springs to the confluence with the Arkansas River. The water activity will progress the design and construction of habitat-sensitive restoration techniques that will stabilize the creek bank, reduce flooding and erosion and sediment transport while improving water quality and protecting viable agricultural land, commercial facilities, residential properties, aquatic habitat, wildlife habitat and wetlands. The activity will also evaluate whether detention facilities or a mainstream dam can constitute a viable means of storing water to meet current and future water supply needs by adding to exchange opportunities (potentially as part of a leasing/fallowing program) or serving as augmentation or direct use

reservoirs, without injuring downstream water rights. The water activity will consider water rights along Fountain Creek and pertinent stretches of the Arkansas River to ensure that existing water rights are not injured if flood control or multi-use facilities are constructed in the Fountain Creek Corridor. Meetings will be held with ditch associations, canal companies, Water Division No. 2 representatives and independent water rights holders to keep the communities informed throughout the execution of this water activity and seek input that will be valuable in establishing credible alternatives for analysis.

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

The water activity will build upon the findings in the USGS Flood Control Study (2013), Fountain Creek Watershed Strategic Plan ((2009), Fountain Creek Corridor Restoration Master Plan (October 2011), the United States Army Corps of Engineers Fountain Creek Watershed Studies (1972) (1981) (2006) (2007) and (2009), the Pikes Peak Area Council of Governments Fountain Creek Watershed Plan, (2002 and updated 2003) and the District's Analysis of Water Rights and Administrative Issues Associated with the Operation of a Proposed Flood Remediation Project in the Fountain Creek (October 2015). It will also help set the stage for determining appropriate expenditures under Condition #6 of the Pueblo County 1041 Permit for the Southern Delivery System.

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.

The Statement of Work, Detailed Budget and Project Schedule is attached as Exhibit A.

REPORTING AND FINAL DELIVERABLE

Reporting: The applicant shall provide the CWCB a progress report every 6 months, beginning from the date of the executed contract. The progress report shall describe the completion or partial completion of the tasks identified in the statement of work including a description of any major issues that have occurred and any corrective action taken to address these issues.

Final Deliverable: At completion of the project, the applicant shall provide the CWCB a final report that summarizes the project and documents how the project was completed. This report may contain photographs, summaries of meetings and engineering reports/designs.

PAYMENT

Payment will be made based on actual expenditures and invoicing by the applicant. Invoices from any other entity (i.e. subcontractors) cannot be processed by the State. The request for payment must include a description of the work accomplished by major task, and estimate of the percent completion for individual tasks and the entire water activity in relation to the percentage of budget spent, identification of any major issues and proposed or implemented corrective actions. The last 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.

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

Signature of Applicant:

_Print Applicant's Name: Larry Small, Executive Director

Fountain Creek Watershed, Flood Control and Greenway District

Project Title: Evaluation of Flood Control Alternatives for the Fountain Creek Corridor

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

Exhibit A

Statement of Work

WATER ACTIVITY NAME - Evaluation of Flood Control Alternatives for the Fountain Creek Corridor

GRANT RECIPIENT – Fountain Creek Watershed, Flood Control and Greenway District

FUNDING SOURCE – Water Supply Reserve Account

INTRODUCTION AND BACKGROUND

The Fountain Creek Watershed, Flood Control and Greenway District (District) is responsible for preventing and mitigating flooding conditions, and enhancing channel stability, ecosystem resources, and recreational opportunities in the Fountain Creek Watershed. A key District objective is to address flooding problems in the section of Fountain Creek between Colorado Springs and the Fountain Creek confluence with the Arkansas River (Corridor). Several past studies of Fountain Creek flood control alternatives have been performed, but to date no solution has been accepted for adoption by all stakeholders . The District funded a USGS Flood Control Study completed in December 2013 that identified 13 scenarios for flood control alternatives and evaluated their effectiveness on reducing sediment transport and peak flow at the USGS Pueblo Streamgage. The District reviewed the scenarios and identified two that would potentially achieve significant success in reducing sediment transport and peak flood flows. The District has identified these two scenarios as candidates for further evaluation. The District also developed a "Phased Fountain Creek Flood Control Feasibility Study and Implementation Program" (briefing attached as Appendix C) to show how the overall implementation program could be implemented in a logical manner to align with available funding, regulatory requirements, and stakeholder needs. The District has also recognized that facilities designed to address flow and sediment transport concerns may also simultaneously serve consumptive use objectives. This Project executes Phase 1 – Appraisal-Level Evaluation of Options and Alternatives to identify feasibile alternatives and set the stage for the execution of the remaining phases of the process leading to construction of flood control facilities (or multi-use facilities) along the Corridor. **The ability to prevent injury to decreed water rights while achieving overall project objectives will be a threshold goal.**

OBJECTIVES

1. Meet with holders of decreed water rights to discuss issues/concerns associated with the construction of infrastructure designed to meet project objectives, including the potential need to provide augmentation supplies so as to prevent material injury to any decreed water rights.
2. Assemble, review and summarize flood control and sediment management alternatives evaluated and described in previous reports by the District, USGS, the USACOE and others.
3. Assemble and summarize previous design information and costs estimates for projects similar to the candidate alternatives including the development of a fatal flaw analysis of costs associated with the operation of the analyzed alternatives.
4. Identify implementation issues, in addition to those referenced in #1 above, for the candidate alternatives.

5. Prepare graphics or animation to visualize the effects of implementation of candidate alternatives on properties in the flood pool during floods of 4 different magnitudes (10, 50, 100 and 500-year).
6. Identify and evaluate any potential opportunities for the use of the candidate alternatives to assist in meeting consumptive and non-consumptive needs, including a preliminary analysis of any fatal flaws associated with such use.
7. Compare the candidate alternatives conceptually and analytically using existing information.
8. Formulate and analyze options or combination of options to form feasible alternatives that meet project objectives.

TASKS

TASK 1 – Water Rights Protection

Description of Task

Meetings will be held with ditch associations, canal companies, Water Division No. 2 and independent water rights holders to keep the communities informed throughout the execution of this water activity and to seek input that will be valuable in establishing credible alternatives for analysis leading to a preferred alternative while ensuring no injury to existing water rights will occur.

Method/Procedure

This task will build on the Water Rights Protection Task funded by and completed by the District in October 2015 that analyzed administrative issues associated with the operation of a proposed flood remediation project in the Fountain Creek Watershed. District will hold scheduled meetings with ditch associations, canal companies and independent water rights holders to inform them on project progress and seek input valuable to the identification of a preferred alternative which can be implemented while adequately protecting decreed water rights and the river call regime. Conduct public meetings to seek input from non-water rights holders concerning economic, environmental and social considerations for flood control or multi-use facilities.

Deliverable

1. Identification, at concept level, of means to ensure that project infrastructure can be constructed and operated without causing any material injury to decreed water rights.

TASK 2 – Main-Stem Reservoir Evaluation and Alternative Comparison (USGS Scenario 10)

Description of Task

District will assemble, review and summarize lower Fountain Creek flood control and sediment management alternatives evaluated and described in previous reports by the District, USGS, USACOE and others. District will assemble and summarize previous design information and cost estimates for project similar to the candidate alternative. This will include previously developed options for single- and multi-purpose dam projects, consisting of: (1) one option for flood control only, and (2) one option for flood control combined with recreation and water supply purposes. The District will identify issues associated with implementing the main-stem, on-channel reservoir flood control solution. Evaluations will be qualitative and based on currently available information.

Implementation issues to be considered will include permitting concerns, landowner and transportation infrastructure impacts, sediment management, ability to effectively use conservation storage (water rights issues, potential owners of storage space, potential uses), operational costs, water quality and compatibility with natural ecosystem functions. The District will prepare graphics or animation to visualize the effects of the main stem reservoir on properties in the flood pool during floods of 4 different magnitudes (10, 50, 100 and 500-year). This will be based on flood hydrology for Fountain Creek developed by USGS in the 2013 Flood Control Study.

Method/Procedure

Data needs will be assessed with respect to the known areas of interest on Fountain Creek Corridor and similar projects. Specific data collection activities will provide the necessary data for technical activities as required for hydraulic model expansion, sediment transport modeling, alternatives analysis, and alternatives development.

Deliverable

1. Summary of previously studied flood control solutions for lower Fountain Creek.
2. Summary of implementation issues for two main-stem reservoir options.
3. Visualization tool showing inundation area of main stem reservoir under different floods

TASK 3 – Implementation Issues for Other Options

Description of Task

District will identify implementations issues for two other Fountain Creek flood control options (10 small side detention facilities (USGS Scenario 12), and one large side detention facility) using similar categories as outlined for Task 2.

Method/Procedure

Specific data collection activities will provide the necessary data for technical activities as required for hydraulic model expansion, sediment transport modeling, alternatives analysis, and alternatives development.

Deliverable

1. Summary of implementation issues for the evaluated side detention alternatives with reference to their use for flood control, sediment detention, enhancement of environmental and recreational amenities, and water supply management.

TASK 4 – Comparison of Options

Description of Task

District will compare the four previously referenced flood control options qualitatively and conceptually using existing information. The evaluation criteria may include:

- Technical feasibility
- Consistency with Fountain Creek Corridor vision and strategic plan
- Relative magnitude of required flood control infrastructure
- Relative area of inundation
- Relative project cost (high, medium, low)
- Potential for phasing
- Potential to achieve other benefits in addition to flood protection, specifically recreational and environmental benefits and water supply management
- Scalability
- Permitability, including requirements related to protecting existing water rights
- Operation and maintenance

Method/Procedure

Technical qualitative trade study and comparison of options.

Deliverable

1. Tables comparing qualitative strengths and weaknesses of the options vs. evaluation criteria
2. Draft Appraisal-Level Technical Report

TASK 5 – Appraisal-Level Evaluation Technical Report

Description of Task

District will review and validate the findings presented in the Draft Technical Report and incorporate any additional information developed during peer review and coordination with stakeholders. Technical reports will include detailed descriptions of the work performed, detailed descriptions of the data used to develop the conclusions being presented and supporting imagery and maps.

Method/Procedure

Stakeholders review including review by the District Technical Advisory Group and the District Citizens Advisory Committee.

Deliverable

1. Final Appraisal-Level Evaluation Technical Report

REPORTING AND FINAL DELIVERABLE

Reporting: The District 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 District 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.

Performance monitoring for the contract shall include the following:

(a) Performance measures and standards

The CWCB will have monthly phone meetings with the Fountain Creek Watershed, Flood Control, and Greenway District (District) to make sure the project is being completed in a timely manner.

(b) Accountability

Regular reporting of project status will occur monthly with the CWCB project manager and the lead project manager from the District. The District will submit documentation substantiating invoice amounts requested. Invoices will be submitted with brief reports of the planning, design, and management purposes served by the expenditures.

(c) Monitoring Requirements

The CWCB will have access to all documents and models associated with the project and will be copied on all progress reports.

(d) Noncompliance Resolution

In the event of a noncompliance issue the CWCB project manager will contact the District's project manager and discuss the problem and work towards a resolution. If this does not work then the issue will be escalated to the Director of the CWCB and the Chair of the District. The CWCB project manager will notify the DNR Purchasing Director and the Assistant Director of the Department. The DNR Assistant Director or the Deputy Director will try to resolve the issue.

EVALUATION OF FLOOD CONTROL ALTERNATIVES FOR THE FOUNTAIN CREEK CORRIDOR

BUDGET AND SCHEDULE

The schedule assumes a Contract Effective Date of May 1, 2016 and a Contract Duration of 8 months.

TASK	DESCRIPTION	START	FINISH	STATE FUNDS	BASIN FUNDS	MATCH FUNDS	IN-KIND	TOTAL
	APPRAISAL-LEVEL EVALUATION	5/1/2016	10/31/2017					
1	**Water Rights Protection**	5/1/2016	10/31/2017	$1,000.00	$1,000.00	$2,000.00	$2,000.00	$6,000.00
2	**Main Stem Reservoir Evaluation**	5/1/2016	7/31/2016	$11,500.00	$2,500.00	$9,500.00	$3,000.00	$26,500.00
3	**Implementation Issues For Other Options**	6/1/2016	8/31/2016	$10,200.00	$2,300.00	$8,500.00	$3,000.00	$24,000.00
4	**Comparison of Options**	9/1/2016	10/1/2016	$7,000.00	$2,000.00	$3,900.00	$3,500.00	$16,400.00
5	**Final Technical Report**	11/1/2016	12/31/2016	$3,300.00	$1,000.00	$1,600.00	$500.00	$6,400.00
	SUBTOTAL PHASE 1			**$33,000.00**	**$8,800.00**	**$25,500.00**	**$12,000.00**	**$79,300.00**
	PERCENT OF TOTAL PROJECT BUDGET			**42%**	**11%**	**32%**	**15%**	**100%**

EXHIBIT B
PROJECT MAP