



COLORADO WATER CONSERVATION BOARD



WATER SUPPLY RESERVE ACCOUNT APPLICATION FORM

Today's Date: July 30, 2014

Meadow and South Ledge Diversion Reconstruction and Fish Passage
Demonstration Project

Name of Water Activity/Project

South Ledge Ditch Company; Meadow Ditch Company

Name of Applicant

South Platte Roundtable
Metro Roundtable

Amount from Statewide Account:

\$161,500

Amount from Basin Account(s):

\$4,250 (S Platte)
\$4,250 (Metro)

Approving Basin Roundtable(s)

(If multiple basins specify amounts in parentheses.)

Total WSRA Funds Requested:

\$170,000

FEIN: 46-5517419

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Required Exhibits

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

Appendices – Reference Material

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

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Instructions

To receive funding from the Water Supply Reserve Account (WSRA), a proposed water activity must be approved by the local Basin Roundtable **AND** the Colorado Water Conservation Board (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.

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

1.	Applicant Name(s):	Meadow and South Ledge Ditch Companies		
	Mailing address:	Meadow Ditch Company 217 Old South St. Vrain Road, Lyons, CO 80540 South Ledge Ditch Company 10558 Foothills Highway, Longmont, CO 80503		
	FEIN #:	46-5517419		
	Primary Contact:	Gary Gorman	Position/Title:	President, Meadow
	Email:	ggorman22@gmail.com		
	Phone Numbers:	Cell: 720-257-7402	Office:	
	Alternate Contact:	John Loukonen	Position/Title:	President, S Ledge
	Email:	waterquality@lefthandwater.org		
	Phone Numbers:	Cell: 303-591-7848	Office:	

2. Eligible entities for WSRA funds include the following. What type of entity is the Applicant?

- ☐ Public (Government) – municipalities, enterprises, counties, and State of Colorado agencies. Federal agencies are encouraged to work with local entities and the local entity should be the grant recipient. Federal agencies are eligible, but only if they can make a compelling case for why a local partner cannot be the grant recipient.
- ☐ Public (Districts) – authorities, Title 32/special districts, (conservancy, conservation, and irrigation districts), and water activity enterprises.
- ☒ 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 Meadow and South Ledge ditch companies own and operate two separate irrigation systems in Boulder County, Colorado utilizing water diverted from South St. Vrain Creek. The companies own, control, maintain and operate the irrigation ditches, laterals, headgates, flumes, underground conduits, dividing boxes, irrigation water rights and water right decrees, and other property of a complete irrigation system.

The Meadow Ditch Company Board of Directors consists of three members. The South Ledge Ditch Company consists of five members. Ditch Supervisors oversee all ditch operations as authorized by the respective company's Board of Directors.

The St. Vrain is a tributary of the South Platte River, and is approximately 32.2 miles (51.8 km) long. The Meadow and South Ledge ditch diversions are located within a few hundred feet of each other on the south side of the South St. Vrain River in an area known as Halls Meadow. The diversions are accessed off of Old South St. Vrain Road less than one mile west of the Town of Lyons.

The two ditches irrigate agricultural lands south and east of Lyons. In addition, the South Ledge Ditch also provides agricultural storage water on the grounds of the CEMEX cement plant. The CEMEX plant ships approximately 520,000 tons of cement annually and employs some 100 persons.

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.

☒

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.

The Meadow and South Ledge Ditches do not have any TABOR issues that may affect the applicant.

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Part II. - Description of the Water Activity/Project

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

☒ Nonconsumptive (Environmental or Recreational)

☒ Agricultural

☐ Municipal/Industrial

☐ Needs Assessment

☒ Education

☐ Other Explain:

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

This multi-purpose project will be designed to enhance the water management goals and identified needs of agricultural, environmental and recreational water users in the South Platte Basin. Further, it is hoped that this project can serve as an educational demonstration project for other ditch companies, and demonstrate the benefits of involving multiple stakeholders.

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

☐ Study ☒ Implementation

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

New Storage Created (acre-feet)

New Annual Water Supplies Developed, Consumptive or Nonconsumptive (acre-feet)

Existing Storage Preserved or Enhanced (acre-feet)

Length of Stream Restored or Protected (linear feet)

Length of Pipe/Canal Built or Improved (linear feet)

Efficiency Savings (acre-feet/year OR dollars/year – **circle one**)

Area of Restored or Preserved Habitat (acres)

☒ Other -- Explain:

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

SOUTH LEDGE	Latitude:	40-12' 41.78"N	Longitude:	105 -16' 42.80"W
MEADOW	Latitude:	40-12" 47.75"N	Longitude:	105-16' 0.20"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.

The flood of September 2013 destroyed or damaged dozens of irrigation diversion structures throughout the St. Vrain Valley and surrounding watersheds. Both the Meadow and South Ledge Ditch Companies received significant damage to their systems. This project proposes to rebuild both irrigation diversion structures with consideration for the aquatic environment through eliminating impediments to native fish passage, while also delivering a full decree of irrigation water to the Meadow and South Ledge ditch company shareholders. Further, it is hoped that this project can serve as a model for other ditch companies, and demonstrate how fish passage can be constructed, maximizing the efficiency of the diversion, and minimizing cost.

WSRA funds will contribute toward the cost of the following scope of work:

- **DATA COLLECTION.** Collection and analysis of field data including horizontal and vertical topographic survey data, bed and bank composition, stream hydrology, and existing ditch grades and dimensions;
- **ENGINEERING DESIGN.** Design and engineering of instream irrigation diversion structures and concrete headgates will allow for a full decree of irrigation water while providing for upstream migration of native fish.
- **PERMITTING.** All applicable federal, state and local permits will be obtained as part of project development.
- **CONSTRUCTION.** Low-head irrigation diversion structures will be constructed utilizing large native rock provided by the local ditch companies.
- **OUTREACH.** To serve as a demonstration project for ditch companies statewide, communication and information sharing will be initiated with other ditch companies through associations such as the Ditch and Reservoir Company Alliance (DARCA) and other local and state non-profit educational and professional organizations. The objective will be to share Project design techniques and successes, and to serve as a viable model for other diversion reconstruction projects. Outreach may include an onsite tour, magazine articles, signage and a technical presentation, as appropriate.
- **MONITORING and ADAPTIVE MANAGEMENT.** Monitoring will take place via permanent cross-sections and photo points, pre, post construction and following runoff.
- **REPORTING AND FISCAL ADMINISTRATION:** Progress reports will be delivered to the CWCB every 6 months, as well as a final report upon project completion. This task also includes all fiscal administration and accounting.

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Engineering design will provide headgates that allow for efficient management of ditch water at the point of diversion, while providing fish passage in the most economical and efficient means possible. As appropriate, and based on final engineering requirements, a cross-vane weir diversion design may be implemented. Cross-vein weir design has been proven to effectively transport stream flow and have the additional benefit of maintaining sediment transport capacity, unlike a typical diversion dam. The cross-vane is a grade control structure that shifts boundary stress away from the banks, and increases the energy in the center of the channel. The cross-vane would also provide fish passage, increase bank cover for fish habitat, create refuge cover in the scour pool downstream of the structure, and develop feeding lanes in the zones between fast and slow velocity.

Following the catastrophic floods of September 2013, in the rush to rebuild local irrigation and diversion structures, options to support the aquatic environment were not always given full consideration. Both the South Ledge and the Meadow ditches are small-scale operations with limited resources primarily irrigating family farms. However, both companies committed to suspending 2014 irrigation operations in order to reconstruct in the most environmentally sustainable manner possible.

This project will support the ecology and restoration of sport and native fish species, as well as recreational opportunities in the area. In 2009, the South Platte Basin Roundtable examined their collective environmental and recreational data, to establish “Environmental and Recreational Focus Areas.” These areas are defined in the South Platte Basin Nonconsumptive Needs Assessment, and the current draft of the South Platte Basin Implementation Plan (BIP) (see Map in Exhibit C). This segment of South St. Vrain Creek was identified as a “Recreational Focus Area.” This project will also help connect South St. Vrain Creek with downstream areas identified as “Environmental and Recreational Focus Areas” providing habitat for plains fish listed as State threatened and endangered or species of concern.

Other species associated with the riparian habitat of South St. Vrain Creek include the Common garter snake, Preble’s meadow jumping mouse, and Northern leopard frog. These are listed as Boulder County species of Special Concern, identified as Environmental Resource Elements in the Boulder County Comprehensive Plan.

Further, this project supports the St. Vrain Creek Watershed Master Plan objectives, promoting natural channel design, sediment transport, and fish passage. Watershed-scale planning is important from a risk-reduction perspective, and to incorporate stakeholder interests into a sustainable flood control and stream restoration approach. Recently, entities along St. Vrain Creek formed the St. Vrain Creek Coalition (SVCC) to initiate a Master Plan for the watershed. The Master Plan, due to be finalized in October 2014, will be used to guide the county, municipalities, and individual landowners in prioritizing stream rehabilitation and restoration projects. According to their web site, “the goal of the master planning effort and subsequent project implementation is increased resilience in communities, economies, and river systems within the watershed.”

Reconstruction of the Meadow and South Ledge ditch structures with consideration for the aquatic environment is supported by a diversity of stakeholders including: Boulder County Parks and Open Space, the City of Longmont, and the St. Vrain Creek Coalition, St. Vrain Chapter of Trout Unlimited, Colorado Parks and Wildlife, the US Fish and Wildlife Service, CEMEX Lyons Cement Plant, and the Colorado Water Conservation Board. This coalition has come together to fund and build this project for the mutual benefit of the family farms that use the water, the fishing and recreational community in Lyons, and of course, the fish.

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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

Rehabilitation of the Meadow and South Ledge Diversions and creation of a fish passage does in no way supersede, abrogate, or otherwise impair any other water right(s). The South Ledge and Meadow ditches, respectively, will continue to receive their full allotment of water as set forth in their water rights decrees. Further, nothing in this project repeals or in any manner amends the existing water rights adjudication system. The renovated structures will direct low flow water to the fish passages when appropriate. This does not diminish, impair, or cause injury to any downstream water right(s).

- 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.

On June 27, 2014, this application was submitted the Metro Roundtable for consideration. On July 14, 2014 it was presented to the Roundtable and approved.

On June 30, 2014, this application was submitted to the South Platte Basin Roundtable Needs Committee. The committee reviewed the application on July 8, 2014, and provided a Letter of Support. On July 14, 2014, the application was presented the entire Roundtable and approved.

Letters of support are provided in Exhibit C.

¹ 37-75-102. Water rights - protections. (1) It is the policy of the General Assembly that the current system of allocating water within Colorado shall not be superseded, abrogated, or otherwise impaired by this article. Nothing in this article shall be interpreted to repeal or in any manner amend the existing water rights adjudication system. The General Assembly affirms the state constitution's recognition of water rights as a private usufructuary property right, and this article is not intended to restrict the ability of the holder of a water right to use or to dispose of that water right in any manner permitted under Colorado law. (2) The General Assembly affirms the protections for contractual and property rights recognized by the contract and takings protections under the state constitution and related statutes. This article shall not be implemented in any way that would diminish, impair, or cause injury to any property or contractual right created by intergovernmental agreements, contracts, stipulations among parties to water cases, terms and conditions in water decrees, or any other similar document related to the allocation or use of water. This article shall not be construed to supersede, abrogate, or cause injury to vested water rights or decreed conditional water rights. The General Assembly affirms that this article does not impair, limit, or otherwise affect the rights of persons or entities to enter into agreements, contracts, or memoranda of understanding with other persons or entities relating to the appropriation, movement, or use of water under other provisions of law.

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- c) The water activity meets the provisions of Section 37-75-104(2), Colorado Revised Statutes.² The Basin Roundtable Chairs shall include in their approval letters for particular WSRA grant applications a description of how the water activity will assist in meeting the water supply needs identified in the basin roundtable's consumptive and/or non-consumptive needs assessments.

This is a multi-purpose project seeking to meet agricultural, environmental and recreational water needs in the South Platte Basin. This project will support the ecology and restoration of sport and native fish species, as well as recreational opportunities in the area. In the South Platte Basin Nonconsumptive Needs Assessment (2009), this segment of South St. Vrain Creek was identified as a "Recreational Focus Area." This project will also help connect South St. Vrain Creek with downstream areas identified as "Environmental and Recreational Focus Areas" providing habitat for plains fish listed as State threatened and endangered or species of concern. Further, this project supports the St. Vrain Creek Watershed Master Plan objectives, promoting natural channel design, sediment transport, and fish passage.

Other species associated with the riparian habitat of South St. Vrain Creek include the Common garter snake, Preble's meadow jumping mouse, and Northern leopard frog. These are listed as Boulder County species of Special Concern, identified as Environmental Resource Elements in the Boulder Country Comprehensive Plan (see Map in Exhibit C).

Rehabilitation of the Meadow and South Ledge irrigation diversion structures on St. Vrain Creek will provide fish passage, and is important to the future survival of these species. Restoring connectivity in the upper reaches of the transitional zone may facilitate natural seasonal movement patterns of predatory fish populations in the St. Vrain in such a way that predation pressure on the small native plains fishes in the lower reaches may be temporally alleviated. The reprieve from predation would likely result in greater abundance of native fishes, making them less vulnerable to extirpation. This reconstruction project will provide an opportunity to test this hypothesis and restore important life processes for predatory fish in the system. Restoring connectivity in these upper reaches will likely also promote diversity in the sport fishery by allowing Rainbow trout to fulfill their life history.

² 37-75-104 (2)(c). Using data and information from the Statewide Water Supply Initiative and other appropriate sources and in cooperation with the on-going Statewide Water Supply Initiative, develop a basin-wide consumptive and nonconsumptive water supply needs assessment, conduct an analysis of available unappropriated waters within the basin, and propose projects or methods, both structural and nonstructural, for meeting those needs and utilizing those unappropriated waters where appropriate. Basin Roundtables shall actively seek the input and advice of affected local governments, water providers, and other interested stakeholders and persons in establishing its needs assessment, and shall propose projects or methods for meeting those needs. Recommendations from this assessment shall be forwarded to the Interbasin Compact Committee and other basin roundtables for analysis and consideration after the General Assembly has approved the Interbasin Compact Charter.

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- d) Matching Requirement: For requests from the **Statewide Fund**, the applicants 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 estimated total cost of this project is \$329,901. Our partners providing technical support and services include Boulder County Parks and Open Space, the City of Longmont, St. Vrain Creek Coalition, the St. Vrain Chapter of Trout Unlimited, Colorado Parks and Wildlife, and CEMEX USA (Lyons Cement Plant).

The applicants and/or additional stakeholders will also provide matching funds. The US Fish and Wildlife Service has committed \$120,000 cash match to ensure the passage of local native fish, and the ditch companies have each transported and stockpiled more than 300 cubic yards of large rock with an approximate total value of \$30,000 (\$50/cubic yard). They also have contributed \$5,000 each in cash match to transport the rock. In addition, an estimated \$21,200 in in-kind match from technical and support services is anticipated from the various project partners. The in-kind match, as well as and cash match of \$130,000 from the USFWS and the Meadow and South Ledge Ditch Companies, exceeds the minimum 25% match requirement.

An additional \$170,000 is requested from the WSRA Funds to engineer and build the two irrigation diversion structures.

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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. 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).

This multi-purpose project will be designed to enhance the water management goals and identified needs of agricultural, environmental and recreational water users in the South Platte Basin. The following letters of support are attached in Exhibit C.

Letter of Approval – South Platte Basin Roundtable

Letter of Approval/Support – Metro Roundtable

Letters of Support from other Partners:

- U.S. Fish and Wildlife Service
- St. Vrain Chapter of Trout Unlimited
- Colorado Parks and Wildlife
- Boulder County Parks and Open Space
- City of Longmont

- 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.

Reconstruction of the Meadow and South Ledge ditch structures with consideration for the aquatic environment is supported by a diversity of stakeholders including: Boulder County Parks and Open Space, City of Longmont, St. Vrain Creek Coalition, the St. Vrain Chapter of Trout Unlimited, Colorado Parks and Wildlife, the US Fish and Wildlife Service, CEMEX Lyons Cement Plant, Colorado Water

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Conservation Board, and the Meadow and South Ledge Ditch Companies. This coalition has come together to fund and build this project for the mutual benefit of the family farms that use the water, the fishing and recreational community in Lyons, and the aquatic environment.

- 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.

The South Platte Basin Roundtable in its South Platte Basin Nonconsumptive Needs Assessment (2009) identified this stream segment as a “Recreational Focus Area” providing important habitat for native and sport fish species. This project will also help connect South St. Vrain Creek with downstream areas identified as “Environmental and Recreational Focus Areas” providing habitat for plains fish listed as State threatened and endangered or species of concern, and well as a whitewater park and other recreational opportunities.

Other species associated with the riparian habitat of South St. Vrain Creek include the Common garter snake, Preble’s meadow jumping mouse, and Northern leopard frog. These are listed as Boulder County species of Special Concern, identified as Environmental Resource Elements in the Boulder Country Comprehensive Plan.

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).

The Meadow and South Ledge Ditch Companies agreed to suspend reconstruction activities in 2014 in order to rebuild using the most environmentally sustainable and progressive engineering and techniques possible. However, the environmental components of this project of this project can increase costs. This would place a significant burden on the existing ditch shareholders. Without WSRA funding, and matching funds from the USFWS, the environmental components of this project would likely not be financially feasible.

- 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.

The estimated total cost of this project is \$329,901. The US Fish and Wildlife Service has committed \$120,000 in cash match to ensure the passage of local native fish. Both the Meadow and South Ledge ditch companies have each transported and stockpiled more than 300 cubic yards of large rock with an approximate value of \$30,000 (\$50/cubic yard). They have also contributed \$5,000 each as cash match for rock transport. This cash match (total \$130,000) is some 76% of the total grant request (\$170,000, basin and statewide). This demonstrates a strong commitment to the project and diverse support.

Of the \$170,000 needed to engineer and build the two irrigation diversion structures, \$161,500 is requested from the Statewide Water Supply Reserve Account (WSRA) grant funds. An additional 5% cash match, or \$4,250 each, was requested and approved from both the Metro and South Platte Basin

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Roundtable WSRA Basin Funds. An estimated \$21,200 from in-kind contributions of technical services and support has also been by the project partners (see Budget in Exhibit A).

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.

This project will help to sustain the irrigation of family farms in the St. Vrain watershed, support the rehabilitation a segment of South St. Vrain Creek identified as a “Recreational Focus Area,” and provide fish passage for this area identified to have important native and sport fisheries.

- 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.

This project ensures continued irrigation of irrigable lands, industrial water use, and supports environmental and recreational attributes in the South Platte Basin, promoting maximum beneficial use of the State’s waters.

- h. The water activity assists in the recovery of threatened and endangered wildlife species or Colorado State species of concern.

The following native fish are found in this reach: White sucker and Longnose dace. Other non-native sport fish found in this reach include wild Brown and Rainbow trout. Other species associated with the riparian habitat of St. Vrain Creek include the Common garter snake, Preble’s meadow jumping mouse, and Northern leopard frog. These species should benefit directly from this project.

Immediately downstream of this segment, from the James Ditch to the confluence of the South Platte River, is a creek segment identified to contain State threatened and endangered fish or of Special Concern. These include the brassy minnow, common shiner, Iowa darter and northern Redbelly dace. These species should benefit indirectly from this project by allowing more water to potentially be maintained in the creek, and by removing upstream obstructions to fish passage.

Rehabilitation of the Meadow and South Ledge irrigation diversion structures on South St. Vrain Creek will provide fish passage, and is important to the future survival of these species. Historically, plains fishes ranged far upstream and downstream to take advantage of habitat for spawning, refuge from predators or harsh environmental conditions, or seasonal abundances of food. By preventing these fish from moving upstream, diversion structures effectively severe the connectivity of these prairie stream ecosystems, increasing the risk of local extinction of these species (Myrick 2009³, Ficke, Myrick and Jud, 2011⁴).

³ Myrick, C. A. 2009. Managing stream fish movements in Colorado: past and present research in the Fish Physiological Ecology Laboratory at Colorado State University. Colorado Water 26(2):5-7.

⁴ Ficke, A. D., C. A. Myrick, and N. Jud. 2011. The swimming and jumping ability of three small Great Plains fishes: implications for fishway design. Transactions of the American Fisheries Society 140(6):1521-1531.

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- i. The water activity provides a high level of benefit to Colorado in relationship to the amount of funds requested.

This project has received support from numerous diverse entities and leverages Federal, State, and local contributions. Diversion structures such as these may be significantly rehabilitated only once every 50 years. This moment provides an important opportunity to reconstruct these diversions in the most environmentally sustainable method possible. In relation to the funds requested, this provides a high level of benefit to Colorado, now, and for future generations.

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

This project also supports the goals of the Colorado Watershed Restoration Grant Program which provides grants for watershed/stream restoration and flood mitigation projects throughout the State.

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

Please attach additional pages as necessary.

None attached.

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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 Meadow Ditch has an appropriation date of April 10, 1862, for 8 cubic feet per second (cfs). The water right has an adjudication date of March 13, 1907 (prior adjudication June 2, 1882) in the District County of Boulder County at a point in Section 18, Township 3 North, Range 70 West of the 6th P.M. The water is from St. Vrain Creek, a tributary to the South Platte River. The decreed use is irrigation. The City of Longmont is the property owner of the site of the Meadow Ditch diversion structure.

The South Ledge Ditch has an appropriation date of October 1870 for 3.7 cfs, and an appropriation date of September 15, 1884 for 27.3 cfs. The adjudication date for both rights is March 13, 1907 (prior adjudication June 2, 1882) in the District County of Boulder County at a point in Section 19, Township 3 North, Range 70 West of the 6th P.M. The water is from St. Vrain Creek, a tributary to the South Platte River. The decreed use is irrigation.

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

No related studies or permitting for the reconstruction of these structures have been completed to date.

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.

See Exhibit A for a detailed SOW, Budget and Timeline.

Water Supply Reserve Account – Application Form

Revised October 2013

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.

Water Supply Reserve Account – Application Form
Revised October 2013

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

Signature of Applicant:

Gary Gorman

Print Applicant's Name:

Gary Gorman, Meadow Ditch

Signature of Applicant:

John Loukonen

Print Applicant's Name:

John Loukonen, South Ledge Ditch

Project Title: Meadow and South Ledge Diversion Reconstruction and Fish Passage Demonstration Project

Date:

7/30/2014

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 – Meadow and South Ledge Ditch Diversion Reconstruction and Fish Passage Demonstration Project

GRANT RECIPIENT(S) – Meadow and South Ledge Ditch Companies

FUNDING SOURCE(S) - Statewide Water Supply Reserve Account; South Platte Basin and Metro Water Supply Reserve Account(s); US Fish and Wildlife Service

INTRODUCTION AND BACKGROUND

The Meadow and South Ledge Ditch Companies on South St. Vrain Creek in Boulder County experienced significant damage as a result of the catastrophic floods of September 2013. This project proposes to rebuild both irrigation diversion structures with consideration for the aquatic environment, while delivering a full decree of irrigation water. Further, it is hoped this project design can serve as a model for other ditch companies, and demonstrate how fish passage can be constructed maximizing the efficiency of the diversion, and minimizing cost.

WSRA funds will contribute toward the costs of data collection, engineering design, permitting, construction, outreach, and monitoring. The South Platte Basin Nonconsumptive Needs Assessment (2009) identified South St. Vrain Creek as a “Recreational Focus Area.” This project will also help connect South St. Vrain Creek with downstream segments identified as “Environmental and Recreational Focus Areas” containing State identified fish species of concern. This project further supports the St. Vrain Creek Watershed Master Plan objectives, promoting natural channel design, sediment transport, and fish passage.

Reconstruction of the Meadow and South Ledge ditch structures with consideration for the aquatic environment is supported by a diversity of stakeholders including: Boulder County Parks and Open Space, the City of Longmont, St. Vrain Creek Coalition, St. Vrain Chapter of Trout Unlimited, Colorado Parks and Wildlife, US Fish and Wildlife Service, and the Colorado Water Conservation Board.

OBJECTIVES

The primary objectives of this grant are as follows:

- Reconstruction of the Meadow and South Ledge diversion structures to provide a full decree of agricultural irrigation water;
- Support the St. Vrain Creek Watershed Master Plan objectives, promoting overall watershed health by incorporating natural channel design, improved sediment transport, and fish passage;
- Provide long-term, sustainable infrastructure improvements in a critical Recreational Focus Area as defined by the South Platte Nonconsumptive Needs Assessment (2009); and
- Act as a Statewide demonstration project to showcase how fish passage can be constructed economically and effectively.

TASKS

TASK 1 – Data Collection

Description of Task: Collection and analysis of field data including horizontal and vertical topographic survey data, bed and bank composition, stream hydrology, and existing ditch grades and dimensions.

Methods/Procedures: Standard field methods

Deliverable: All data will be reported to the CWCB in a progress report every 6 months, beginning from the date of the executed contract

TASK 2 – Permitting and Regulatory Approvals

Description of Task: The Meadow and South Ledge ditch companies, as the structure owners, will apply for all applicable permits. The Meadow and South Ledge ditch companies will request an agricultural exemption for irrigation ditches from the Army Corps of Engineers under Section 404 permit. Other regulatory compliance requirements will be pursued as necessary.

Methods/Procedures: Regulatory compliance will be the responsibility of the Owner(s), in conjunction with the engineering contractor.

Deliverable: All required permitting.

TASK 3 – Engineering and Design

Description of Task: Engineering of low-head diversion structures allowing a full decree of water, while also maintaining water in the stream to the largest extent possible at the point of diversion. The design will also seek to improve operations and maintenance expenditures for the ditch operators, while constructing fish passage as economically and effectively as possible. As appropriate, a cross-vane weir diversion design may be implemented. An instream rock ramp fish passage will be created using boulders and riprap immediately downstream of and in the approximate center of the diversion sill. Design criteria will meet the flow and velocity requirements of native fish as specified by Colorado Parks and Wildlife (CPW) and the U.S. Fish and Wildlife Service (USFWS), and may be used elsewhere.

Methods/Procedures: Natural channel design will be employed to promote better overall river function, utilizing bioengineering alternatives to minimize hard engineering, using existing features within the river channel to promote sediment transport, and seeking alternatives to traditional cross-channel diversion structures to promote fish passage.

Deliverable: Engineering design

TASK 4 – Construction

Description of Task: Construction of low-head diversion structures utilizing large native rock provided by the local ditch companies.

Methods/Procedures: Standard construction methods

Deliverable: Two irrigation diversion structures, including fish passages

TASK 5 – Education and Outreach

Description of Task: Outreach to other ditch companies through associations such as the Ditch and Reservoir Company Alliance (DARCA) and other local and state non-profit educational and professional organizations, to share the project design and successes, and to help it serve as a viable model for other diversion reconstruction projects.

Methods/Procedures: Communications

Deliverable: Onsite tour, magazine articles (2), technical presentation, signage, photo documentation

TASK 6 – Adaptive Management and Monitoring

Description of Task: Monitoring of irrigation diversion structural performance and stream dynamics

Methods/Procedures: Permanent field cross-sections and photo points pre-construction, post-construction, and after runoff. Adaptive management to adjust or repair the structures based on field conditions.

Deliverable: Cross-sections and photos delivered to CWCB in the final report. Repair or modifications of the engineer structures as needed to account for annual field conditions.

TASK 7 – Reporting and Fiscal Management

Description of Task: Regular accounting and reporting to CWCB, as well as all fiscal management

Methods/Procedures: The Meadow Ditch Company will be the fiscal agent for this project. They will be responsible for all invoicing, accounting, and tracking of milestones and satisfactory project completion.

Deliverable: Progress reports every 6 months to CWCB. A final report documenting the project and how the project was completed will be provided. Accounting documentation showing all costs as required for the State's contracting and purchase order processes. Other accounting reports as required.

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.

BUDGET

Provide a detailed budget by task including number of hours and rates for labor and unit costs for other direct costs (i.e. mileage, \$/unit of material for construction, etc.). A detailed and perfectly balanced budget that shows all costs is required for the State's contracting and purchase order processes. Sample budget tables are provided below. Please note that these budget tables are examples and will need to be adapted to fit each individual application. Tasks should correspond to the tasks described above.

BUDGET A1 - Total Project Costs, Funding Allocation

	WSRA Funding	Match		Total Project Costs
		Cash Match	In-Kind Match*	
TASK 1 - Data Collection	\$0	\$7,400	\$0	\$7,400
TASK 2 – Permitting and Regulatory Approvals	\$0	\$5,000	\$0	\$5,000
TASK 3 - Engineering and Design	\$1,964	\$13,286	\$0	\$15,250
TASK 4 - Construction	\$151,500	\$92,975	\$30,000	\$274,475
TASK 5 - Education and Outreach	\$5,500	\$500	\$0	\$6,000
TASK 6 - Adaptive Mgmt and Monitoring	\$9,250	\$4,165	\$0	\$13,415
TASK 7 - Reporting, Fiscal Administration	\$1,786	\$6,575	\$0	\$8,361
Total Costs:	\$170,000	\$129,901	\$30,000	\$329,901

* **Note:** In-Kind Match in this table represents the donation of \$30,000 in rock material by the ditch companies. Additional estimates of the value of in-kind contributions in the form of technical services and support is provided in Budget E, In-Kind Contributions.

BUDGET A2 - Total Project Costs, Labor and Other Direct Costs

Total Project Costs	Labor	Other Direct Costs	Total Project Costs
TASK 1 - Data Collection	\$6,900	\$500	\$7,400
TASK 2 – Permitting and Regulatory Approvals	\$5,000	\$0	\$5,000
TASK 3 - Engineering and Design	\$14,250	\$1,000	\$15,250
TASK 4 - Construction	\$16,605	\$257,870	\$274,475
TASK 5 - Education and Outreach	\$5,000	\$1,000	\$6,000
TASK 6 - Adaptive Mngt and Monitoring	\$6,420	\$6,995	\$13,415
TASK 7 - Reporting, Fiscal Administration	\$7,861	\$500	\$8,361
Total Costs:	\$62,036	\$267,865	\$329,901

BUDGET B - Total Labor Costs

Project Personnel	Project Mngt	Project Engineer	Outreach	Field Work	Admin	Total Labor Costs
Hourly Rate:	\$105	\$120	\$85	\$60	\$35	
TASK 1 - Data Collection	\$2,100			\$4,800		\$6,900
TASK 2 – Permitting and Regulatory Approvals	\$2,000	\$3,000				\$5,000
TASK 3 - Engineering and Design	\$2,100	\$12,150				\$14,250
TASK 4 - Construction	\$2,145	\$14,460				\$16,605
TASK 5 - Education and Outreach	\$1,050		\$3,950			\$5,000
TASK 6 - Adaptive Mngt and Monitoring	\$2,100	\$1,920		\$2,400		\$6,420
TASK 7 - Reporting, Fiscal Administration	\$3,861				\$4,000	\$7,861
Total Hours:	177.25	309.75	46.47	80.00	114.29	727.76
Cost:	\$15,356	\$31,530	\$3,950	\$7,200	\$4,000	\$62,036

BUDGET C - Other Direct Costs

Direct Cost	Office supplies	Materials	Contract Labor, Materials and Equip	Mileage (Miles at \$0.56)*	Total Direct Costs
Unit Cost:				0.56	
TASK 1 - Data Collection		\$343		\$157	\$500
TASK 2 – Permitting and Regulatory Approvals					
TASK 3 - Engineering and Design	\$200	\$710		\$90	\$1,000
TASK 4 - Construction	***	***	\$257,870	***	\$257,870
TASK 5 - Education and Outreach		\$877		\$123	\$1,000
TASK 6 - Adaptive Mngt and Monitoring			\$6,575	\$420	\$6,995
TASK 7 - Reporting, Fiscal Administration	\$500				\$500
Total Cost:	\$700	\$1,931	\$264,445	\$790	\$267,865

* Effective IRS 2014 mileage rate

** See detailed Construction Budget D

Budget D - Construction Direct Costs

			UNIT	EST	Total Cost
Item Description	UNIT	QTY	COST	COST	
Mobilization & Demobilization					\$4,700
50,000+ lbs Hydraulic Excavator w/ Thumb	Each	1.00	\$1,000.00	\$1,000.00	
50,000+ lbs Front Loader	Each	1.00	\$1,000.00	\$1,000.00	
14 Ton Dump Truck	Each	2.00	\$500.00	\$1,000.00	
Wheeled Compactor	Each	1.00	\$1,000.00	\$1,000.00	
Rubber Tracked Skid Loader	Each	1.00	\$500.00	\$500.00	
4' Gas Pumps	Each	2.00	\$100.00	\$200.00	
Best Management Practices					\$9,070
Reclaim Staging Area	Acre	1.00	\$1,500.00	\$1,500.00	
Silt Fencing Around Fueling Areas and Material Staging Areas	LF	2000.00	\$1.40	\$2,800.00	
Spill Prevention/Containment Measures	Each	20.00	\$150.00	\$3,000.00	
Site Seepage Water Pumping (8 hr)	Day	2.00	\$885.00	\$1,770.00	
Channel Reclamation					\$91,200
South Ledge Floodplain & Channel Excavation/Realignment	CY	2200.00	\$16.00	\$35,200.00	
Meadows Floodplain & Channel Excavation/Realignment	CY	1000.00	\$16.00	\$16,000.00	
Bank Stabilization for South Ledge	LF	300.00	\$40.00	\$12,000.00	
Bank Stabilization for Meadows	LF	200.00	\$40.00	\$8,000.00	
Top Soil Channel Banks	CY	1200.00	\$10.00	\$12,000.00	
Riparian Plantings	AC	2.00	\$4,000.00	\$8,000.00	
Diversion Structure - South Ledge					\$41,200
Excavation (Cut)	CY	75.00	\$16.00	\$1,200.00	
Boulder Placement	CY	400.00	\$25.00	\$10,000.00	
Purchase of Large Rocks (D50=3ft)	Ton	600.00	\$50.00	\$30,000.00	
Diversion Structure - Meadows					\$41,200
Excavation (Cut)	CY	75.00	\$16.00	\$1,200.00	
Boulder Placement	CY	400.00	\$25.00	\$10,000.00	

Meadow and South Ledge Diversion Reconstruction and Fish Passage Demonstration Project

Purchase of Large Rocks (D50=3ft)	Ton	600.00	\$50.00	\$30,000.00	
2 Headgates (one for each ditch)					\$70,500
Cast-in-Place Concrete Headgate with Box Culvert	CY	70.00	\$850.00	\$59,500.00	
Slide Gate Purchase	LS	2.00	\$5,000.00	\$10,000.00	
Slide Gate Installation	HR	10.00	\$100.00	\$1,000.00	
Construction Direct Costs TOTAL					\$257,870

BUDGET E - In-Kind Contributions

In-Kind Contributions of Technical Services and Support*					
	Colorado Parks and Wildlife	Ditch Companies	Trout Unlimited	Boulder Cty Parks & Open Space	City of Longmont
TASK 1 - Data Collection					
TASK 2 – Permitting and Regulatory Approvals					
TASK 3 - Engineering and Design	\$1,200	\$500	\$500		
TASK 4 - Construction		\$5,000			
TASK 5 - Education and Outreach	\$500	\$500	\$500	\$500	\$500
TASK 6 - Adaptive Mngt and Monitoring	\$5,000			\$500	
TASK 7 - Reporting, Fiscal Administration	\$250	\$250	\$250	\$250	
Total Value:	\$6,950	\$6,250	\$1,250	\$1,250	\$500

* Values are estimated and not included in the total budget of the project.

SCHEDULE

Provide a project schedule including key milestones for each task and the completion dates or time period from the Notice to Proceed (NTP). This dating method allows flexibility in the event of potential delays from the procurement process. Sample schedules are provided below. Please note that these schedules are examples and will need to be adapted to fit each individual application.

	Task	Methods	Start Date	End Date	Funding Source
1	Data Collection	Field survey	August 15, 2014	October 31, 2014	USFWS
2	Permitting	Federal, state and local, as applicable	NTP + 30 days	December 31, 2014	USFWS/WSRA
3	Design and Engineering	Natural channel design	September 1, 2014	November 30, 2014	USFWS
4	Construction	Standard construction methods	NTP + 120 days	March 30, 2015	USFWS/WSRA/Ditch Companies
5	Outreach	Onsite tour, magazine articles, technical presentations	NTP + 120 days	September 1, 2015	USFWS/WSRA
6	Adaptive Mngt and Monitoring	Permanent field cross-sections and photo points	March 30, 2015	Ongoing	USFWS/WSRA
7	Reporting and Fiscal Admin	Electronic	Semi-annual reports. Others as required.	August 15, 2015	USFWS/WSRA

NTP = Notice to Proceed; USFWS = U.S. Fish and Wildlife Service; WSRA = Water Supply Reserve Account

EXHIBIT B – Project Map, Landownership and Location of the Meadow and South Ledge Diversion Structures

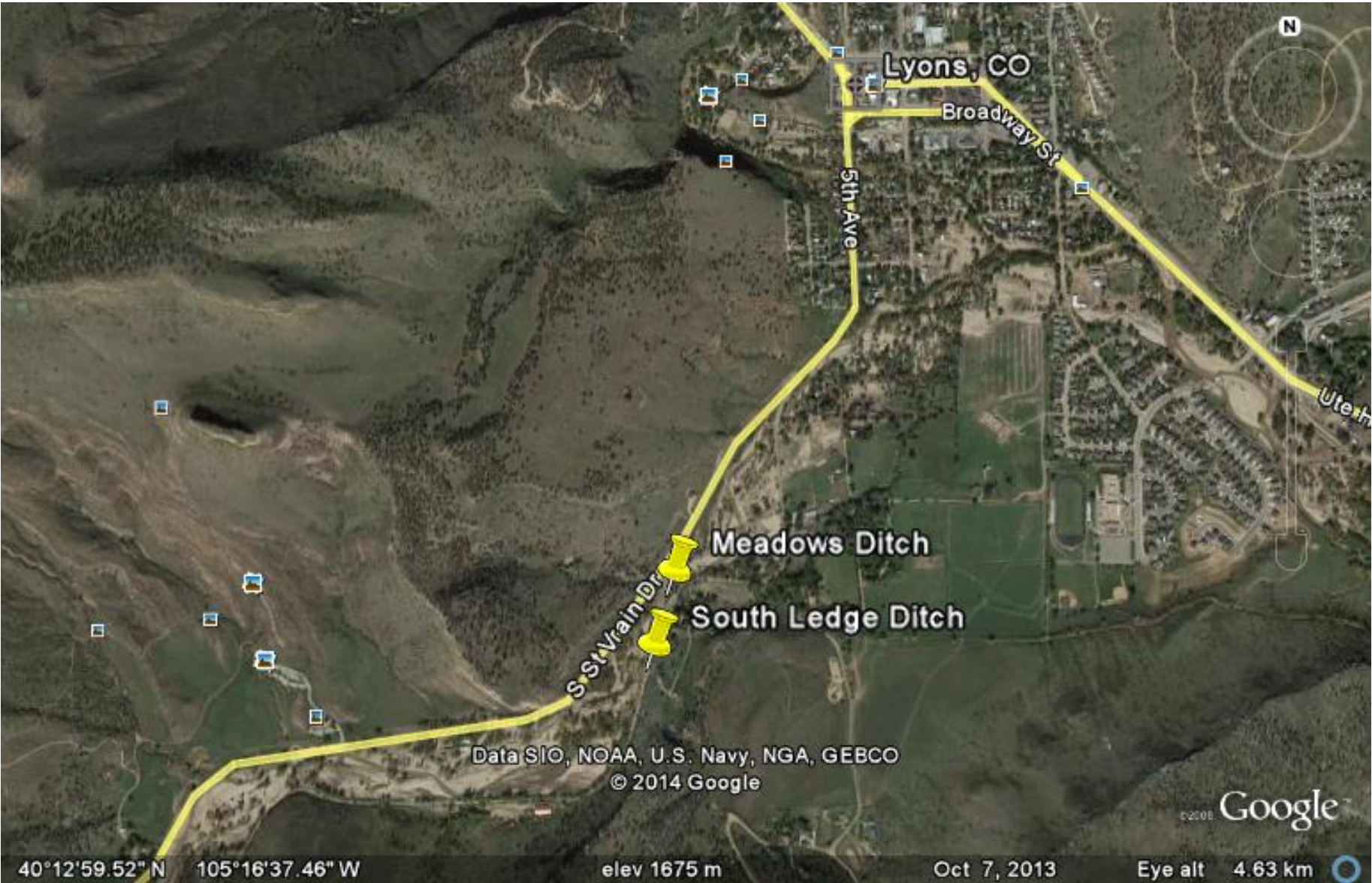


EXHIBIT C Map of the South Platte Basin and Metro Environmental and Recreational Focus Areas, Nonconsumptive Needs Assessment (updated 2014)

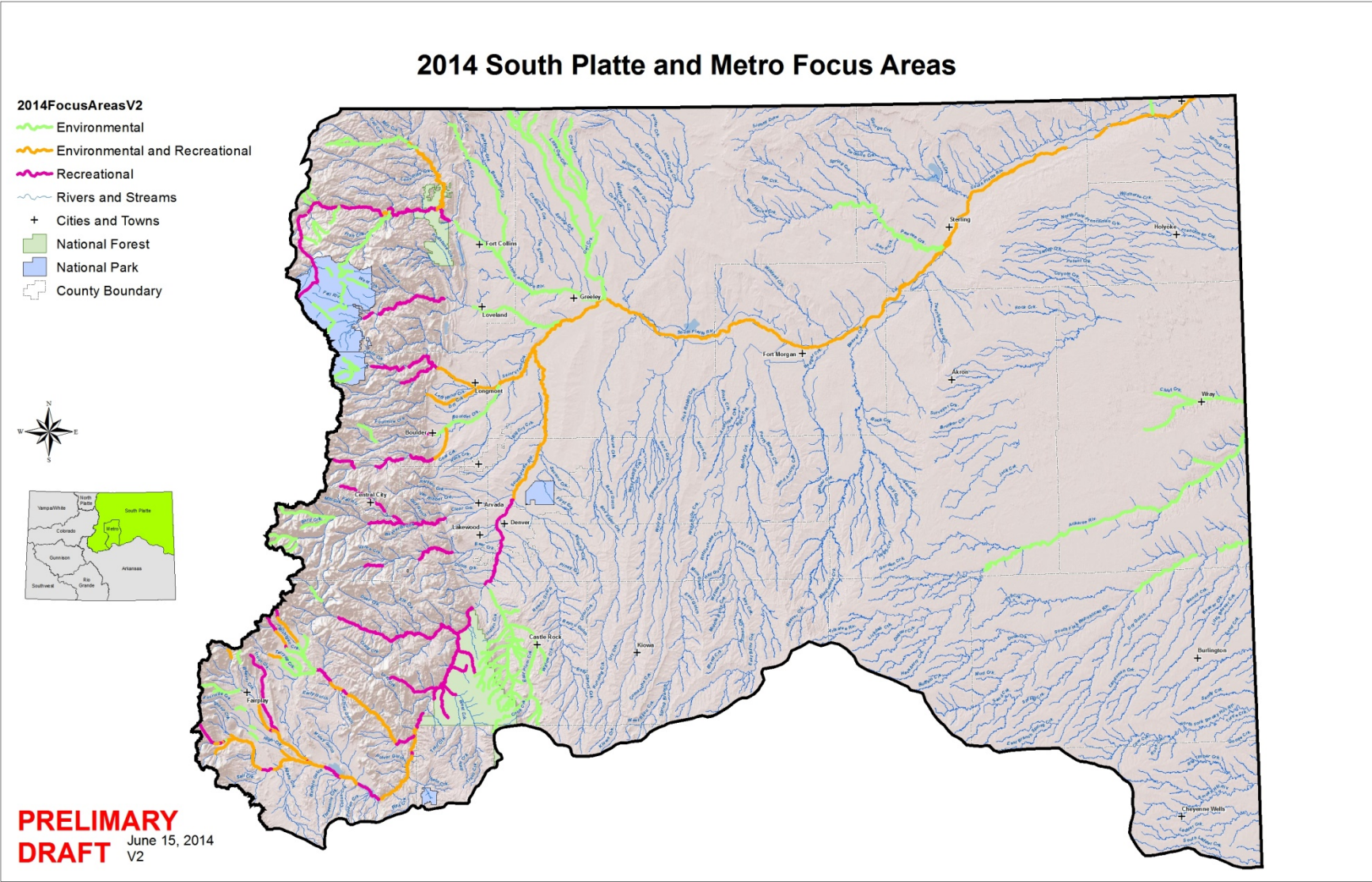


EXHIBIT C

Boulder County Parks and Open Space Critical Wildlife Habitat Map Showing Location of Meadow and South Ledge Ditches

