Water Supply Reserve Account – Grant and Loan Program
Water Activity Summary Sheet
November 19-20, 2014
Agenda Item 11(a)

Applicant & Program Sponsor: Riverside Ranch Company, LLLP

Water Activity Name: Riverside Ranch Irrigation Diversion & River Restoration Project

Water Activity Purpose: Agricultural/Implementation

County: Grand

Drainage Basin: Colorado

Water Source: Colorado River

Total Amount Requested: $113,000

Source of Funds: $113,000 Colorado Basin Account

Matching Funds: Applicant Match ($70,000) = 38.2% of total project costs ($183,000)
(refer to *Funding Summary/Matching Funds*)

Staff Recommendation
Staff recommends approval of up to $113,000 from the Colorado Basin Account to help fund the project titled: Riverside Ranch Irrigation Diversion & River Restoration Project.

Water Activity Summary: WSRA funds will be expended to assist in the engineering design and permitting of two self-sustaining, engineered riffle grade control structures as well as significant bank stabilization over a one mile reach of the Colorado River. The riffle grade control structures will provide improved hydraulic conditions at the two existing pump stations where Riverside Ranch diverts irrigation water. Additionally, these engineered riffles will provide valuable habitat for benthic invertebrates, a necessary food source for trout. This project includes the engineering design of bank stabilization activities for areas of significant bank erosion and is part of a larger irrigation and river restoration project currently being developed by URS on behalf of Irrigators of Lands in the Vicinity of Kremmling (ILVK) which will cover approximately 10 miles of the Colorado River. More specifically, WSRA funds will be expended to perform Tasks 5-9 as indicated in the Statement of Work, Budget and Schedule.

Discussion: In this reach of the Colorado River there is evidence of channel headcutting, bank erosion, and channel aggradation. Historically this reach of river has experienced hydromodifications in the way of trans-basin diversions, in-channel and off-channel dams, channelization, and the loss of riparian vegetation. The landowner applicants have been experiencing issues with the elevation of the intakes and pump operations. The issues with the elevations of the pump intakes are directly related to the historic hydromodification of the river and its associated geomorphic response. The solution(s) to the irrigation problems need(s) to work within the overall river system to be sustainable, cost effective and reduce long-term operations and maintenance. A systems-based approach to resolving the irrigation issues will directly impact other functions of the river such as flood conveyance, riparian and aquatic habitat, and sediment transport.

The current applicant is leveraging previous work funded by a WSRA Colorado Basin Account grant request awarded by CWCB on September 24, 2013. The previous WSRA award was $50,000, with a $54,000 cash match by ILVK.

Issues/Additional Needs:

- Riverside Ranch Company, LLLP should work with CWCB Staff to ensure that geomorphic monitoring conforms to CWCB Measurable Results Program criteria.
- All proposed river channel work shall conform to the CWCB Rules and Regulations for Regulatory Floodplains in Colorado.

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

Tier 1-3 Evaluation Criteria:
n/a

Funding Summary/Matching Funds:

	Cash	In-kind	Total
WSRA Colorado Basin Account	$113,000	n/a	$113,000
Riverside Ranch Company, LLLP	$70,000	$0	$70,000
Total Project Costs	**$183,000**	**$0**	**$183,000**

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.

THE COLORADO BASIN ROUNDTABLE

C/O P.O. BOX 1120
GLENWOOD SPRINGS, COLORADO
81602

October 14, 2014

Craig Godbout
Colorado Water Conservation Board
Water Supply Planning Section
1580 Logan Street, Suite 200
Denver CO 80203
(303) 866-3441, ext 3210 (office)
(970) 218-9407 (cell)
craig.godbout@state.co.us

Dear Craig:

The Colorado Basin Roundtable voted unanimously at its August 25, 2014, meeting to approve a $113,000 grant request for Basin Funds in our Water Supply Reserve Account.

We believe this project on a Kremmling-area ranch alongside the Colorado River brings together environmental, ranching and recreational improvements, all in one package. The WSRA money will help leverage other funding stemming from a settlement between Kremmling area ranches and the Northern Colorado Water Conservancy District related to impacts from the Colorado-Big Thompson Project.

The project involves the engineering, design and permitting of two self-sustaining, engineered riffle grade control structures as well as bank stabilization over almost a mile of the river. The riffles will improve irrigation intake as well as providing valuable habitat for benthic invertebrates, a critical source of trout food.

Jim Pokrandt
Chair, Colorado Basin Roundtable

COLORADO
DEPARTMENT OF NATURAL RESOURCES

COLORADO WATER CONSERVATION BOARD

WATER SUPPLY RESERVE ACCOUNT APPLICATION FORM

Riverside Ranch Irrigation Diversion and River Restoration Project

Name of Water Activity/Project

Riverside Ranch Company, LLLP

Name of Applicant

Colorado River Basin Roundtable

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

Amount from Statewide Account:

Amount from Basin Account(s): $113,000

Total WSRA Funds Requested: $113,000

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

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

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

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

Water Supply Reserve Account – Application Form
Revised December 2011

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

1.	Applicant Name(s):	Riverside Ranch Company, LLLP		
	Mailing address:	C/O Bill Thompson Riverside Ranch Company, LLLP PO Box 826		
	Taxpayer ID#:			
	Primary Contact:	Bill Thompson	Position/Title:	Managing General Partner: Riverside Ranch Company, LLLP
	Email:	billa.thompson@state.co.us		
	Phone Numbers:	Cell: 970-485-0479	Office:	970-724-3853
	Alternate Contact:	Wendy Thompson	Position/Title:	Partner: Riverside Ranch Company, LLLP
	Email:	wendy.thmpsn@gmail.com		
	Phone Numbers:	Cell:	Office:	970-724-3853

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.

[X] 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

Response: Riverside Ranch Company, LLLP, operates the Riverside Ranch on the Colorado River near Kremmling, CO. Riverside Ranch is also a member of the ILVK (Irrigators of Lands in The Vicinity of Kremmling). The ILVK applied and received a grant application from the Colorado Basin Roundtable to study irrigation diversion improvements and stream restoration for a 10-mile reach of the Colorado River. This application is for final design of irrigation diversions and stream improvements for a 5,000 foot section (approximately 1 mile) of the 10 mile reach of the ILVK.

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

Response: The contracting entity is Riverside Ranch Company, LLLP.

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.

The Applicant is not subject to TABOR limitations.

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)
X	Agricultural
	Municipal/Industrial
	Needs Assessment
	Education
	Other Explain:

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

This project involves the engineering design and permitting of two self-sustaining, engineered riffle grade control structures as well as significant bank stabilization over a nearly 1 mile reach of the Colorado River. The riffle grade control structures will provide improved hydraulic conditions at the two pump stations where Riverside Ranch diverts irrigation water. Additionally, these engineered riffles will provide valuable habitat for benthic invertebrates, a necessary food source for trout. This project also includes the engineering design of bank stabilization activities for areas of significant bank erosion. The project is part of a larger irrigation and river restoration project currently being developed by URS on behalf of ILVK (Irrigators of Lands in the Vicinity of Kremmling) which will cover approximately 10 miles of the Colorado River from the KB Ditch to the confluence with the Blue River. The project proponents are contributing $70,000 or 38% of the cost.

The Riverside Ranch has been experiencing issues with the elevation of the river with respect to the pump intakes. Throughout this reach of the Colorado River there is evidence of channel headcutting and significant bank erosion. Due to the existing diversion creating scour holes downstream from the structures, the existing structures are deforming and creating less head on the upstream intakes. Additionally, there has been a loss of aquatic habitat diversity. Historically this reach of river has experienced significant hydromodifications in the way of trans-basin diversions, in-channel and off-channel dams, channelization, and the loss of riparian vegetation. The issues with the elevations of the pump intakes are directly related to the historic hydromodification of the Colorado River and its associated geomorphic response. This project proposes to address the issues with irrigation operations with one or two engineered riffles which will function as grade control to provide adequate water surface elevations for pump operations during periods of low flow.

In June 2011, the Colorado Division of Wildlife documented the changes in benthic invertebrates at the same Colorado River riffle locations from their 1981 sampling location. WG32_is a riffle sampling location located just upstream from the Thompson Riverside Ranch. In 2011 benthic invertebrate sampling at this location was abandoned due to the lack of a riffle structure. Reportedly, the riffle structure was buried in sediment. It is likely that a similar phenomenon is occurring on the Thompson Riverside Ranch. Further, the CDOW study identified:

- Impact of Altered Discharge on Stream Ecosystem (the stream is 50% too large for the altered hydrology)
- Loss of Channel Connectivity
- Elevated Water Temperatures
- Fine Sediment Deposition and Transport
- Rooted Aquatic Vegetation

The ILVK 10-Mile Reach Study goals are to evaluate channel modifications to be aligned with the modified hydrology, improve aquatic habitat connectivity for the 10-Mile Reach, reducing the channel width will reduce water temperatures, improving flood irrigation practices will improve late season return flows and reduce water temperatures. This grant is to evaluate re-establishing riffle structures within the Thompson Riverside Ranch reach which will provide grade control for the irrigation intakes. The proposed design of the structures will use locally available rock sources to minimize construction costs. The intent is to design for the altered hydrology to promote fine sediment scour on the riffle structure to promote increased benthic invertebrate habitat.

Specifically,

- This project addresses the future water supply for existing, senior irrigation water rights. This project will have multiple benefits to multiple stakeholders: wildlife, fisheries, and non-point source pollution.
- This project will result in a construction project that will resolve issues with the irrigation systems so that the water rights can meet existing and future irrigation water needs.
- The reduction of non-point source sediment pollution from Bank Erosion will improve water quality.
- This project will directly impact water based recreation opportunities by improving fisheries habitat.
- This project will promote riparian habitat.
- This project helps to maintain commercial, irrigated agriculture.
- Hunting and fishing account for over $112,046,700 in direct economic impact on Headwaters Counties (Eagle, Grand, Gunnison, Pitkin, Routt and Summit; Source: Water and Its Relationship to the Economies of the Headwaters Counties, NWCCGF, 2011). The recommendations from this project will have a direct positive impact on aquatic and riparian habitat which will improve fishing and hunting throughout this reach. This will have a positive impact on the local hunting and fishing industries.

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

	Study	X	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)
~5000+/-	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**)
~12.0	Area of Restored or Preserved Habitat (acres)

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

Latitude: 40° 2'38.85"N Longitude: 106°22'27.71"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.

Transbasin diversions have impacted this reach of the Colorado River for over 100 years. Senate Document 80, which authorized the Colorado-Big Thompson project in 1937, included a requirement that an "adequate system as determined by the Secretary of the Interior * * * shall be provided for the irrigation of the lands in the vicinity of Kremmling, now irrigated by either natural or artificial means, and the installation made therefor shall be a part of this project. The rights to the use of water for the irrigation of these lands shall be considered to have a date of priority earlier than that of the rights to the use of water to be diverted through the works of this project to the Eastern Slope." This was in response to concerns voiced by Grand County irrigators that low water flows, which are caused by trans-mountain water diversions, create a lack of positive pressure in ditch heads and natural flood irrigation making the irrigation systems harder and more labor intensive. Senate Document 80 resulted in the installation of a number of irrigation pumps. Over the decades these pumps have become crucial to the success of ranching along this reach of the Colorado River despite continued operational issues. After years of negotiation with Northern Colorado Water Conservancy District, the Ranchers have reached a settlement regarding the continued operation and maintenance of the Senate Document 80 irrigation pumps in which the Ranchers have agreed to own and maintain the pumps. The Settlement will partially fund the river improvements necessary to improve irrigation efficiency and address environmental issues.

In response to the low flows during 2004 Northern installed two boulder drop structures in the Riverside Ranch reach of the Colorado River in an attempt to improve performance of the Riverside Ranch diversions. While these structures have increased the water surface elevation they were constructed improperly and have exacerbated river bed scour and bank erosion both up and downstream. The runoff of 2014 further accelerated the deformation of these structures.

URS is currently working on a study of a10 Mile Reach of the Colorado River that includes the Riverside Ranch. This study was jointly funded by the ILVK and a Colorado Basin Water Supply Reserve Grant. The goal of the 10 Mile Reach study is to better understand the driving forces behind the observed changes to the river system and develop preliminary plans and cost estimates for irrigation and river restoration. URS has completed as part of the 10 Mile Reach study:

- Cross sectional and thalweg survey
- Comparison of historical river floodplain aerials from 1930's to present
- Sediment bedload measurements
- Bed sediment sampling
- Installation of vibrating wire piezometers to measure water elevation and temperature
- Thalweg and floodplain profiles
- Evaluation of future hydrology
- Calibration of hydraulic model
- Gravel pit sampling to identify native materials

While the study is ongoing, there are other factors that are forcing the ranchers to pursue certain projects on an accelerated basis. Improvements to the diversion structures on the Riverside Ranch are necessary because the existing structures have deformed and can no longer provide adequate river elevations to ensure that adequate irrigation water is available for pump operations. This year adequate flow was available to divert water through the pumps but the river elevations may not be adequate during potentially average to dry years in the future.

The ILVK through the Conservation Fund have applied for EQIP funding to enable implementation of the River Restoration Project. By fall of this year, URS will complete its Irrigation and River study, and will provide Conceptual design and cost estimates for project implementation. This grant application is intended to take the Conceptual Design Level engineering through Final Design for 5,000 ft of the Thompson Ranch. EQIP funding will help with the construction costs for the improvements associated with four pumps on the Riverside Ranch. Restoration work will include re-engineering grade control structures using locally available rock sources to create aquatic habitat, bank stabilization work, and riparian restoration.

Monitoring of the River Restoration Project will be ongoing over the course of implementation by URS. . In conjunction with the study URS has overseen the installation of bank protection measures to assess the feasibility of using locally derived materials. Addiontally, URS is collecting hourly data on river levels and water temperatures with vibrating wire piezometers. This data will be used to complete hydraulic modeling of the project. The water temperature data will provide a baseline database so that the impacts of proposed projects can be assessed in the future. As each of the engineered stable riffles and other elements are constructed, URS will monitor to see if the riffle rock is staying in place, if scour holes are occurring, and if water temperatures and habitat are improving. An Acoustic Doppler Current Profiler will be used to assess impacts on stream velocity and riverbed topography.In the spirit of Learning by Doing, modifications will be incorporated along the way based on this monitoring.

This project involves the engineering design and permitting of one or two self-sustaining, engineered riffle grade control structures as well as significant bank stabilization over a nearly 1 mile reach of the Colorado River. The riffle grade control structures will provide improved hydraulic conditions at the two pump stations where Riverside Ranch diverts irrigation water. Additionally, these engineered riffles will provide valuable habitat for benthic invertebrates, a necessary food source for trout. This project also includes the engineering design of bank stabilization and riparian restoration activities for areas of significant bank erosion.

A full **Statement of Work** with a detailed budget and schedule is required as **Exhibit A** of this application.

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]

   Response: The proposed water activity is the engineering design of structural projects. The water activity does not involve any changes to adjudicated water rights. This project does not restrict the ability of any water rights holder to use or dispose of said water rights in any manner permitted under Colorado Law. This water activity will not 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 water activity will improve the ability for 4 senior water rights to be diverted for beneficial use. Without this project there is a risk that that the Riverside Ranch will not be able to divert these water rights, negatively impacting ranching operations and potentially leading the way for the abandonment of these 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 BRTs evaluation and approval of the activity. At a minimum, the description must include the level of agreement reached by the roundtable, including any minority opinion(s) if there was not general agreement for the activity. The description must also include reasons why general agreement was not reached (if it was not), including who opposed the activity and why they opposed it. Note- If this information is included in the letter from the roundtable chair simply reference that letter.

Roundtable letters of support need to be referenced here and attached.

[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.

Applicant Response: The water activity meets the provisions of Section 37-75-104(2). This project will make specific recommendations for resolving the irrigation operational issues at the Riverside Ranch. Specifically, the recommendations resulting from this project will help ensure that future agricultural water needs for Riverside Ranch will be met. This project specifically addresses the impacts of altered hydrology from transbasin projects. Additionally, the recommendations resulting from this project will improve environmental and recreational non-consumptive benefits of the Colorado River. The Colorado Basin SWSI Identified this reach as having fishing and aesthetic resource values at risk. Additionally, the Grand County Stream Management Plan specifically recommended additional research to address the grade control structures within this reach.

d) Matching Requirement: For requests from the **Statewide Fund**, the applicants is required to demonstrate a **20 percent** (or greater) match of the request from the Statewide Account. Statewide requests must also include a minimum match of **5 percent** of the total grant amount from Basin Funds. Sources of matching funds include but are not limited to Basin Funds, in-kind services, funding from other sources, and/or direct cash match. Past expenditures directly related to the project may be considered as matching funds if the expenditures occurred within 9 months of the date the application was submitted to the CWCB. Please describe the source(s) of matching funds. (NOTE: These matching funds should also be reflected in your Detailed Budget in **Exhibit A** of this application)

Response: The applicants will fund $70,000, or 38% of the total project cost of $183,000. This will be in the form of a direct cash match.

[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. 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). ***See Exhibit E for letter of recomendation***
b. The number and types of entities represented in the application and the degree to which the activity will promote cooperation and collaboration among traditional consumptive water interests and/or non-consumptive interests, and if applicable, the degree to which the water activity is effective in addressing intrabasin or interbasin needs or issues.
c. The water activity helps implement projects and processes identified as helping meet Colorado's future water needs, and/or addresses the gap areas between available water supply and future need as identified in SWSI or a roundtable's basin-wide water needs assessment.

Tier 2: Facilitating Water Activity Implementation

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

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

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

Continued: Explanation of how the water activity/project meets all applicable **Evaluation Criteria**.
Please attach additional pages as necessary.

Part IV. – Required Supporting Material

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

Response: This project directly addresses the impacts Trans-basin diversions have had on the Riverside Ranch's Colorado River water rights and on the aquatic habitat of the Colorado River. The water rights along this reach of the river have a complex history, with many transfers and alternate points of diversion therefore it is difficult to precisely quantify the diversion rates without detailed analysis. The following table presents the water rights owned (or partially owned) by the applicants. A preliminary review of the CDSS database indicates that the total diversion rate for these water rights is approximately **29.84 cfs**.

Water Rights Owned by Applicants

Water Right Name	*DIV*	*WD*	*ID*	*Admin No*	*Priority*	*Decreed Ammount [cfs]*
TA Engle Ditch No 1	5	51	925	34241.183	449A	10
TA Engle Ditch No 2	5	51	926	34241.183	449B	2.0
TA Engle Ditch No 1	5	50	651	34762.184		4.0
Thompson Pump No 1	5	51	1148	34241.183	449D	13.84
Total Flow						*29.84*

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

Response:

- URS completed a preliminary geomorphology assessment for this reach of the Colorado River. This report identifies potential cause of the instabilities. The IVLK Ranchers paid approximately $6,000 for this report.

- Upper Colorado River irrigation and Restoration Assessment Phase 1. This project, partially funded by the Colorado Basin Roundtable in 2013, is studying a 10 mile reach of the Colorado River that extends from the confluence of the Colorado and Blue Rivers upstream to the KB ditch. The goal of the project is to identify the causes and effects of the observed river instabilities and irrigation challenges being faced by the ILVK. The final report will identify future projects to address these issues. This study is ongoing.
- Colorado River Aquatic Resources Investigations Federal Aid Project F-237R-18, Nehring, R. Berry, Heinold, B., and Pomeranz, J., Colorado Division of Wildlife, Aquatic Wildlife Research Section, June 2011. This detailed report presents the results of an investigation into the relative abundance and distribution of aquatic invertebrate fauna, and the mottled sculpin of the upper Colorado River between the confluence with the Blue River and Windy Gap Dam west of Granby, Colorado. The study shows that the health of the river has been severely degraded. The study identified six critical issues that need to be address to reverse the trend of degradation: 1) restoration of channel connectivity, 2) channel reconfiguration, stream power and flushing flows, 3) sediment deposition and transport, 4) water temperature, 5) encroachment of rooted aquatic vegetation, and 6) whirling disease. The six issues are listed in order of descending priority (from highest to lowest). The problems of channel armoring and chronic sedimentation and clogging of the interstitial spaces in the cobble-rubble dominated riffles areas has been ongoing in the upper Colorado River basin for more than half a century. The proposed firming projects at Windy Gap and the Moffat Tunnel will exacerbate the situation. The report identifies two things must be done if there is to truly be any hope of enhancement of aquatic ecosystem in the upper Colorado River in the future: A bypass channel around Windy Gap Dam and a major investment in stream channel reconfiguration for the Colorado River below WGD are both equally important and the only way true enhancement has any possibility of success. Either one without the other will have virtually no chance of succeeding. The report's specific recommendations include restoration of channel connectivity, channel reconfiguration downstream of WGR to increase stream power in the face of continued Transbasin diversions, and increased flushing flows to mobilize accumulated fine sediment.
- Grand County Stream Management Plan: http://co.grand.co.us/WRM/Draft_Report/Executive%20Summary/Executive_Summary_August_2010.pdf
- COLORADO'S SECTION 303(D) LIST OF IMPAIRED WATERS AND MONITORING AND EVALUATION LIST: This section of the Colorado River (COUCUC03, from 578 Bridge to just above the confluence with the Blue River) has been identified as being impaired due to high temperatures and high manganese levels (water supply issue).

2. 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 are included in Exhibit A. A Map is included in Exhibit B. Exhibit C presents responses to the specific questions outline in the Colorado Basin Roundtable Grant Evaluation and Prioritization Supplement. Exhibit C presents resumes for the main team members.

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 5 percent of the entire water activity budget will be withheld until final project/water activity documentation is completed. All products, data and information developed as a result of this grant must be provided to the CWCB in hard copy and electronic format as part of the project documentation. This information will in turn be made widely available to Basin Roundtables and the general public and help promote the development of a common technical platform.

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

Signature of Applicant: Bill Thompson

Print Applicant's Name: Bill Thompson

Project Title: Riverside Ranch Irrigation Diversion and River Restoration Project

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

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

URS

Exhibit A
Statement of Work

WATER ACTIVITY NAME: Riverside Ranch Irrigation Diversion and River Restoration

GRANT RECIPIENT: Riverside Ranch Company, LLLP

FUNDING SOURCE: Colorado River Basin Roundtable

INTRODUCTION AND BACKGROUND

Transbasin diversions have impacted this reach of the Colorado River for over 100 years. Senate Document 80, which authorized the Colorado-Big Thompson project in 1937, included a requirement that an "adequate system as determined by the Secretary of the Interior * * * shall be provided for the irrigation of the lands in the vicinity of Kremmling, now irrigated by either natural or artificial means, and the installation made therefor shall be a part of this project. The rights to the use of water for the irrigation of these lands shall be considered to have a date of priority earlier than that of the rights to the use of water to be diverted through the works of this project to the Eastern Slope." This was in response to concerns voiced by Grand County irrigators that low water flows, which are caused by trans-mountain water diversions, create a lack of positive pressure in ditch heads and natural flood irrigation making the irrigation systems harder and more labor intensive. Senate Document 80 resulted in the installation of a number of irrigation pumps. Over the decades these pumps have become crucial to the success of ranching along this reach of the Colorado River despite continued operational issues. After years of negotiation with Northern Colorado Water Conservancy District, the Ranchers have reached a settlement regarding the continued operation and maintenance of the Senate Document 80 irrigation pumps in which the Ranchers have agreed to own and maintain the pumps. The Settlement will partially fund the river improvements necessary to improve irrigation efficiency.

In response to the low flows during 2004 Northern installed two boulder drop structures in the Riverside Ranch reach of the Colorado River in an attempt to improve performance of the Riverside Ranch diversions. While these structures have increased the water surface elevation they were constructed improperly and have exacerbated bank erosion both up and downstream. URS is currently working on a study of a10 Mile Reach of the Colorado River that includes the Riverside Ranch. This study was jointly funded by the ILVK and a Colorado Basin Water Supply Reserve Grant. The goal of this study is to better understand the driving forces behind the obvious changes to the river system and develop preliminary plans and cost estimates for irrigation and river restoration projects.

While the study is ongoing, there are other factors that are forcing the ranchers to pursue certain projects on an accelerated basis. Improvements to the diversion structures on the Riverside Ranch are necessary to ensure that adequate irrigation for ranch operations is available during potentially dry years in the future. Additionally, restrictions on the funding of The Settlement are forcing Riverside Ranch to pursue an accelerated timeline for this project.

This project involves the engineering design and permitting of two self-sustaining, engineered riffle grade control structures as well as significant bank stabilization over a nearly 1 mile reach of the Colorado River. The riffle grade control structures will provide improved hydraulic conditions at the two pump stations where Riverside Ranch diverts irrigation water. Additionally, these engineered riffles will provide valuable habitat for benthic invertebrates, a necessary food source for trout. This project also includes the engineering design of bank stabilization activities for areas of significant bank erosion.

URS

THE PROEJCT TEAM

Project Manager-John Sikora: The project will be led by URS Vice President John Sikora, PE, CFM. Mr. Sikora is the URS Glenwood Springs Office Manager and has more than 25 years of experience in water resources design, water rights, and large civil engineering project management. His water resources engineering experience includes the engineering analysis, justification, design, plans and specifications for water related structures. His water rights experience includes administration of water rights, litigation support for the State Engineer's Office, water rights enforcement, augmentation plan accounting. Mr. Sikora will serve as the Principal-in-Charge and project manager.

Senior Geomorphologist-Edmund D. Andrews, PhD: In order to ensure that the project is compatible with the geomorphology of the Colorado River Edmund D. Andrews, PhD will provide technical oversight during the modeling and design tasks. Dr. Andrews was with the U.S. Geological Survey from 1975-2009. From 1980 on he was Chief of the River Mechanics Project, National Research Program, USGS Water Resources Division. He conducted research on river mechanics, especially river channel change in response to variations in flow and sediment supply due to climate change, land use, and water resources development. Dr. Andrews is author of numerous peer-reviewed publications including numerous papers on streams and rivers within the Upper Colorado River Basin. Dr. Andrews' vast research and academic background is complemented by practical, project based experience including serving as the principle river restoration designer for the Provo River Restoration Project located between Jordanelle Dam and Deer Creek Reservoir in central Utah. Dr. Andrews will serve as the lead project geomorphologist, helping to refine the design and providing technical oversight and quality control.

Senior Hydraulic Engineer-Frank Lan, PhD: Dr. Lan will serve as Senior Hydraulic Engineer. Dr. Lan is a principal water resources engineer with more than 20 years of successful experience in the application of surface water and groundwater hydraulic/hydrologic analysis and modeling to the planning and design in various water resources projects for international and domestic clients. His expertise includes multidimensional surface and groundwater flow and solute transport modeling and analysis, hydrologic modeling/analysis, sediment transport and river engineering, hydraulic structure design, dam break analysis, floodplain delineation, mitigation and management, storm water planning and modeling, urban drainage design, alluvial geomorphology, water management modeling, and statistical analysis. Dr. Lan is best known for his extensive experience in applying numerical models to various water resources applications. He is an expert in applying three-dimensional CFD models to solve hydraulic problems in dams and spillways. Dr. Lan will provide technical support and oversight for all hydrologic, hydraulic and sediment transport modeling.

Project Team:

Principle-In-Charge/Project Manager: John Sikora, PE, CFM (URS)

Senior Geomorphologist: Edmond D. Andrews, PhD (URS)

Senior Hydraulic Engineer: Frank Lan, PhD, PE, CFM (URS)

Water Resource/River Engineer: Chris Romeyn, PE, CFM (URS)

Cost Estimator: Roy Watts (URS)

Senior CAD Design: Randy Lamutt (URS)

CAD Design: Warren Hofer (URS)

Survey: Dave Nicewicz (URS)

Project Administration: Marcia Ginther (URS)

Senior Restoration Ecologist: Randy Mandel (Golder Associates)

Senior Environmental Permitting Specialist: Travis Morse (Golder Associates)

TASKS

Task 1- Project Management

Description of Task

The task includes the work associated with managing the project such as invoicing, accounts receivable, scheduling, etc..

Task 2- Survey/Velocity /Sediment Field Measurements

Description of Task

Topographic survey of approximately 5,000 ft of river channel. Assumes one week of field work and includes lodging in Kremmling and mileage from Glenwood Springs to Kremmling. AutoCAD drafting work to develop base mapping. Also includes the work required to obtain velocity measurements and sediment transport measurements to be used for calibrating the SRH-2D hydraulic model.

Method/Procedure

URS survey crews will perform field survey using Survey Grade RTK GPS equipment. Velocity measurements will be made at number of cross-section locations using Acoustic Doppler Current Profiler (ADCP). Includes rental of ADCP from Hydroscientific West. Bedload samples will be collected with Helley-Smith bedload sampler. Includes 2 sieve analysis.

Deliverable

Topographic map of the project location. Information incorporated into subsequent tasks including SRH-2D modeling and engineering report.

Task 3- Hydrology

Description of Task

This task will develop the hydrology to be used in the modeling and design of the project.

Method/Procedure

Standard statistical analysis of hydrologic data. Standard SRH-2D hydraulic modeling procedures.

Deliverable

Summary of hydrology will be included in final report. Final SRH-2D model files.

Task 4- Existing Conditions SRH-2D model

Description of Task

This task includes the work required to develop the existing conditions SRH-2D hydraulic model.

Method/Procedure

Standard SRGH-2D modeling procedures. Grid development will be accomplished with Aquaveo Surface-water Modeling System (SMS)

Deliverable

Summary of modeling will be included in the final engineering report. SRH-2D output files.

Task 5- Iterative design process using SRH-2D model and Civil 3D:

Description of Task

Design process is iterative. An initial grading plan for the engineered riffles will be developed in Civil 3D. The calibrated existing conditions model will be modified to reflect first iteration of engineered riffle design. The SRH-2D model will be updated with proposed grading. This is a depth integrated, two-dimensional hydrodynamic, mobile bed sediment transport model. The model results will be used to modify the proposed riffle design. URS assumes that three iterations will be required to develop the self-sustaining riffle grade control design.

Method/Procedure

Standard SRGH-2D modeling procedures. Grid development will be accomplished with Aquaveo Surface-water Modeling System (SMS). AutoDESK Civil 3D and ArcGIS will be used for drafting and planning.

Deliverable

Summary of modeling will be included in the final engineering report. SRH-2D output files.

Task 6- Engineering Report:

Description of Task

An Engineering report will be drafted that outlines the data collected, development of the SRH-2D model, design iterations and final design recommendations. This engineering report will be used to support permitting and construction. This task also includes development of a revegetation plan for the bank stabilization as well as reclamation of lands disturbed during construction.

Method/Procedure

All information developed in Tasks 1 through 5 will be summarized and presented in a report.

Deliverable

Final Report.

Task 7- Draft engineering drawings for permitting and construction:

Description of Task

Task includes developing drawing set for construction. Assumes a total of 25 sheets will be produced including:

1. Cover sheet, vicinity map, and sheet index
2. Grading, Erosion, and Sediment Control Plan (GESC)
3. Plan view of existing and proposed conditions with detail callout
4. Demolition Plan
5. Revegetation Plan
6. Longitudinal Profile of thalweg showing existing and proposed conditions
7. Cross-Section profile of riffle control section showing existing and proposed conditions
8. Care of Water
9. Details and Specifications

Method/Procedure

AutoDESK AutoCAD Civil 3D design software

Deliverable

Engineering Drawings

Task 8- ACOE Permitting

Description of Task

While the work directly related to the intakes would be subject to an Agricultural Exemption, the bank stabilization and habitat improvement work may not be exempt. Based on correspondence with Lesley McWhirter at the USACE URS assumes that this work will fall under either a Regional General Permit 12-Aquatic Habitat Improvement for Stream Channels in Colorado (RGP-12), or a Nationwide Permit 27-Aquatic Habitat Restoration, Establishment, and Enhancement Activities (NWP-27). URS and Golder Associates will facilitate U.S. Army Corps of Engineers (USACE) permitting for either a RGP-12 or a NWP-27. The USACE permitting process has many unknowns; therefore the URS team has assumed a total effort of 156 hours to support the permitting process. If the project is determined to require an Individual Permit (IP) additional services may be required and will be performed under a separate work order.

Method/Procedure

Standard Engineering procedures

Deliverable

USACE Permitting Supporting documents including Engineering Report and Engineering Drawings.

Task 9- QA/QC

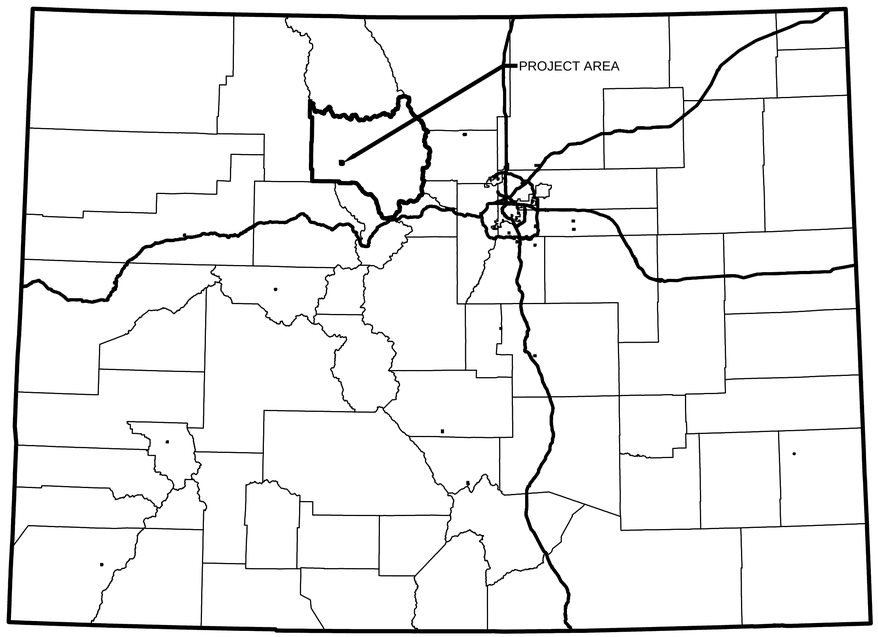
Internal Technical Review for modeling, engineering report, and engineering drawings.

Exhibit A
Cost Estimate

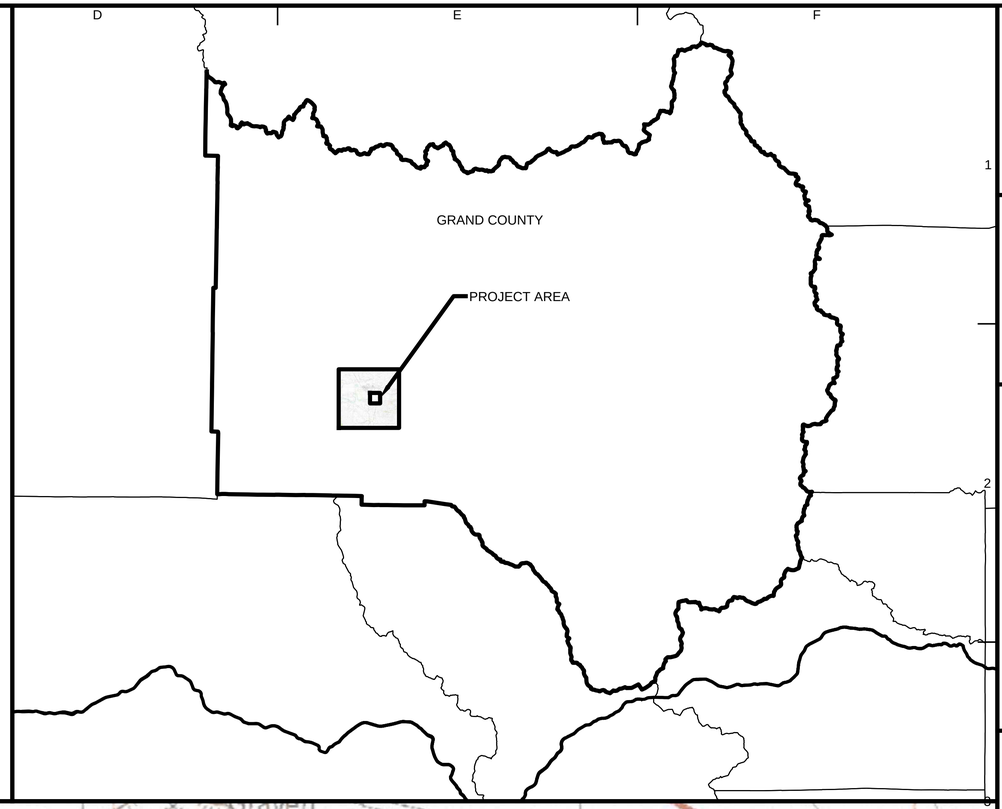
URS CORP.	Labor Category:	Principal/ Project Manager	Sr Hydraulic Engineer	Sr. Geomorphologist	Cost Estimator	Water Resources/River Engineer	Sr. CAD Design	CAD Design	Two Man Survey Crew	Project Admin.	Labor Subtotal		Sub Contractor			Other Direct Costs-As noted		Mileage	Total	Matching Funds	Grand Funds Requested
	Employee:	John Sikora	Frank Lan	E.D. Andrews	Roy Watts	Chris Romeyn	Randy Lamutt	Waeen Hofer		Marcia Ginther			Randel Mendel	Travis Morse	Sub Total (+7%)						
	Labor Rates:	$ 185.00	$ 160.00	$ 150.00	$ 160.00	$ 123.00	$ 123.00	$ 113.00	$ 150.00	$ 90.00	Hours	$	$ 150.00	$ 150.00				$0.56			
Task	Description																				
1	**PROJECT MANAGEMENT**																				
	1.1 Administration	12								36		$ 5,460.00			$ -				$ 5,460.00	$ 5,460.00	
	1.2 Kickoff Meeting in Denver	8	2	2		8						$ 3,084.00			$ -			$336.00	$ 3,420.00	$ 3,420.00	
	Subtotal	**20**	**2**	**2**	**0**	**8**	**0**	**0**	**0**	**36**	**68**	**$ 8,544.00**	**0**	**0**	**$ -**		**$ -**	**$ 336.00**	**$ 8,880.00**	**$ 8,880.00**	
2	**Field Work/Survey**																				
	2.1 Topographic RTK Survey					4			40			$ 6,492.00			$ -	Lodging	$ 664.00	$ 440.00	$ 7,596.00	$ 7,596.00	
	2.2 Basemapping	1				4	8	32				$ 5,277.00			$ -				$ 5,277.00	$ 5,277.00	
	2.3 RiverSurveyor Rental Hydroscientific West					16						$ 1,968.00			$ -	RiverSurveyor Rental	$ 3,000.00		$ 4,968.00	$ 4,968.00	
	2.4 Velocity/Sediment Sampling					40						$ 4,920.00			$ -			$ 270.00	$ 5,190.00	$ 5,190.00	
	2.5 Analysis of Data		4			24						$ 3,592.00			$ -	Sieve Analysis	$ 380.00		$ 3,972.00	$ 3,972.00	
	Subtotal	**1**	**4**	**0**	**0**	**88**	**8**	**32**	**40**	**0**	**173**	**$ 22,249.00**	**0**	**0**	**$ -**		**$ 4,327.08**	**$ 710.00**	**$ 27,286.08**	**$ 27,286.08**	
3	**Hydrology**																				
	3.1 Gage Record Analysis	1	1	1		8						$ 1,479.00			$ -				$ 1,479.00	$ 1,479.00	
	3.2 Analysis of Denver Water Data	1	1	1		10						$ 1,725.00			$ -				$ 1,725.00	$ 1,725.00	
	Subtotal	**2**	**2**	**2.0**	**0**	**18**	**0**	**0**	**0**	**0**	**24**	**$ 3,204.00**	**0**	**0**	**$ -**		**$ -**	**$ -**	**$ 3,204.00**	**$ 3,204.00**	
4	**Existing Conditions Hydraulics**																				
	4.1 SRH-2D Modeling	2	40	4		80						$ 17,210.00			$ -	SMS/SRH-2D License 1-user network Lock	$ 3,300.00		$ 20,510.00	$ 20,510.00	
	Subtotal	**2**	**40**	**4**	**0**	**80**	**0**	**0**	**0**	**0**	**126**	**$ 17,210.00**	**0**	**0**	**$ -**		**$ 3,300.00**	**$ -**	**$ 20,510.00**	**$ 20,510.00**	
5	**Iterative Design Process**																				
	5.1 Itteration 1 SRH-2D Modeling		20	20		40	1	15				$ 12,938.00			$ -				$ 12,938.00	$ 10,093.00	$ 2,845.00
	5.2 Itteration 2 SRH-2D Modeling		20	20		40	1	15				$ 12,938.00			$ -				$ 12,938.00		$ 12,938.00
	5.3 Itteration 3 SRH-2D Modeling		20	20		40	1	15				$ 12,938.00			$ -				$ 12,938.00		$ 12,938.00
	5.4 Final Design Engineering		10	10		40	4	15				$ 10,207.00			$ -				$ 10,207.00		$ 10,207.00
	Subtotal	**0**	**70**	**70**	**0**	**160**	**7**	**60**	**0**	**0**	**367**	**$ 49,021.00**	**0**	**0**	**$ -**		**$ -**	**$ -**	**$ 49,021.00**	**$ 10,093.00**	**$ 38,928.00**
6	**Engineering Report**																				
	6.1 Draft Report	2	4	4	20	36						$ 9,238.00			$ -				$ 9,238.00		$ 9,238.00
	6.2 Final Report	2				8						$ 1,354.00			$ -				$ 1,354.00		$ 1,354.00
	6.3 Revegetation Plan						1	7				$ 914.00	80		$ 12,840.00				$ 13,754.00		$ 13,754.00
	Subtotal	**4**	**4**	**4**	**20**	**44**	**1**	**7**	**0**	**0**	**84**	**$ 11,506.00**	**80**	**0**	**$ 12,840.00**		**$ -**	**$ -**	**$ 24,346.00**		**$ 24,346.00**
7	**Engineering Drawings**																				
	7.1 CAD work	2				24	10	120				$ 18,112.00			$ -				$ 18,112.00		$ 18,112.00
	Subtotal	**2**	**0**	**0**	**0**	**24**	**10**	**120**	**0**	**0**	**156**	**$ 18,112.00**	**0**	**0**	**$ -**		**$ -**	**$ -**	**$ 18,112.00**		**$ 18,112.00**
8	**ACOE Permitting Support**																				
	8.1 Corrispondance	2				40						$ 5,290.00		80	$ 12,840.00				$ 18,130.00		$ 18,130.00
	8.2 Meeting/Site Visit	2				16						$ 2,338.00		16	$ 2,568.00			$ 170.00	$ 5,076.00		$ 5,076.00
	Subtotal	**4**	**0**	**0**	**0**	**56**	**0**	**0**		**0**	**60**	**$ 7,628.00**	**0**	**96**	**$ 15,408.00**		**$ -**	**$ 170.00**	**$ 23,206.00**		**$ 23,206.00**
9	**QA/QC**																				
	9.1 QA/QC	8	16	16		16						$ 8,408.00			$ -				$ 8,408.00		$ 8,408.00
	Subtotal	**8**	**16**	**16**	**0**	**16**	**0**	**0**	**0**	**0**	**56**	**$ 8,408.00**	**0**	**0**	**$ -**		**$ -**	**$ -**	**$ 8,408.00**		**$ 8,408.00**
	Subtotal:	**43**	**138**	**98**	**20**	**494**	**26**	**219**	**40**	**36**	**1,114**	**$ 145,882.00**	**80**	**96**	**$ 28,248.00**		**$ 7,627.08**	**$ 1,216.00**	$ 182,973.08	$ 69,973.08	$ 113,000.00
	Total	**Rounded up to nearest $1000**																	**$ 183,000.00**	**$**	**183,000.00**

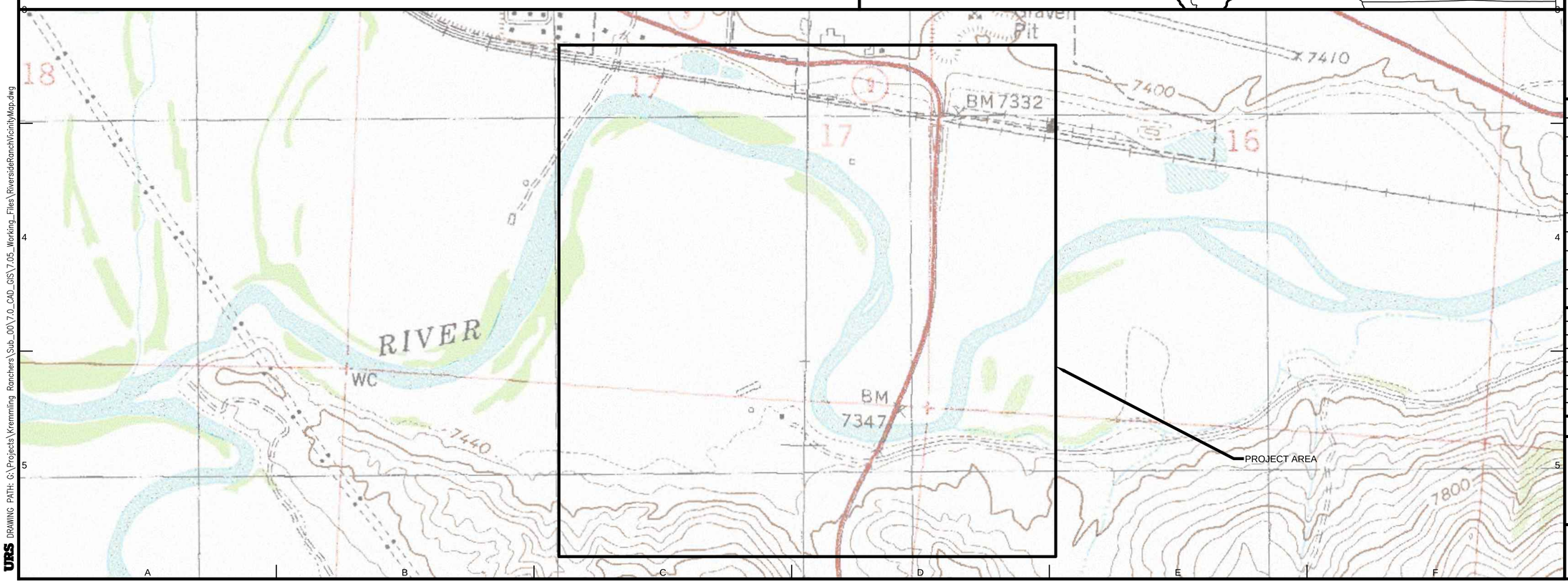
Budget & Timeline Table

Task	Description	Target Start Date	Target Completion Date	ILVK Funds	CWCB	Total
1	Project Management	10/1/2014	12/31/2015	$8,800		$8,800
2	Survey/Velocity/Measuremments	10/1/2014	12/1/2014	$27,376		$27,376
3	Hydrology	12/1/2013	12/31/2014	$3,204		$3,204
4	Existing Conditions Modeling	12/1/2013	2/15/2015	$20,510		$20,510
5	Iterative Design	1/1/2015	3/15/2015	$10,110	$38,928	$49,038
6	Engineering Report	3/15/2015	7/15/2015		$24,346	$24,346
7	Drawings	3/15/2015	7/15/2015		$18,112	$18,112
8	ACOE Permitting	7/15/2015	10/15/2015		$23,206	$23,206
9	QA/QC	6/15/2015	7/15/2015		$8,408	$8,408
	TOTALS			**$70,000**	**$113,000**	**$183,000**



COLORADO





URS

URS Center
8181 East Tufts Avenue
Denver, Co. 80237-2637
303 694-2770 (phone)
303-694-3946 (fax)

ISSUED FOR BIDDING	DATE	BY

ISSUED FOR CONSTRUCTION	DATE	BY

REVISIONS

NO.	DESCRIPTION	DATE
△		
△		
△		
△		
△		

URS PROJECT NO:	
DRAWN BY:	CR
DESIGNED BY:	CR
CHECKED BY:	
DATE CREATED:	8-19-2014
PLOT DATE:	
SCALE:	AS SHOWN
ACAD VER:	

SHEET TITLE

RIVERSIDE RANCH VICINITY MAP

1

SHEET 1 OF 1