

Water Supply Reserve Account – Grant and Loan Program
Water Activity Summary Sheet
September 15-17, 2015
Agenda Item 18(m)

Applicant & Fiscal Agent: Upper Platte and Beaver Canal Company

Water Activity Name: Upper Platte and Beaver / Deuel & Snyder Feasibility Study

Water Activity Purpose: Agricultural Planning study

County: Morgan

Drainage Basin: South Platte

Water Source: South Platte River

Amount Requested/Source of Funds: \$46,875 South Platte Basin Account
\$46,875 Statewide Account
\$93,750 Total grant request

Matching Funds: Basin Account Match (\$46,875) = 50% of total grant request (meets 5% min);
Basin Account and Applicant Match (\$78,125) = 83% of total grant request (meets 25% min);
Applicant Match (\$31,250) = 25% of total project costs (\$125,000)
(refer to *Funding Summary/Matching Funds* section)

Staff Recommendation:

Staff recommends approval of up to \$46,875 from the South Platte Basin Account and \$46,875 from the Statewide Account to help fund the study titled: Upper Platte and Beaver / Deuel & Snyder Feasibility Study

Water Activity Summary: WSRA funds will be expended to prepare an engineering report and recommendations, evaluating the existing diversion structure across the South Platte River and associated diversion components that are owned by the Upper Platte and Beaver Canal Company (UP&B) and the Deuel & Snyder Improvement Company (D&S). Both of these entities rely on the same diversion structure to deliver water to their ditch systems. Water from this structure is diverted for direct irrigation, delivered to recharge sites, and used for augmentation of irrigation wells, municipal wells, and recreational use wells. Additionally the City of Brush augments well use with water that is diverted through the UP&B. The applicants have had preliminary discussions with Colorado Parks and Wildlife, and they are interested in collaborating and evaluating the feasibility of installing fish passage structures.

The existing diversion dam is over 80 years old, and recent investigations have found problem areas where the shale bedrock has been undermined resulting in structural damage that must be addressed so that the diversion structure does not catastrophically fail. The work to be performed in this feasibility study will consist of a thorough evaluation of the existing diversion structure and associated diversion components that are owned and operated by both UP&B and D&S. The feasibility study will be designed to evaluate options to repair and/or upgrade the existing structures as well as provide options to replace the existing structure with a new diversion dam across the South

Platte River. The goal of this feasibility study is to evaluate the existing structures and determine if it is best to repair/modify the existing structure or if it is best to replace the dam. The design and construction phase that will follow will be designed to provide an efficient, safe, diversion structure that will provide benefits for the next 80+ years.

Discussion:

The deliverable result of the feasibility study will be an engineering report and recommendations. The study will evaluate alternatives and provides cost estimates for various alternates. Each alternate evaluated will take into account system reliability, infrastructure longevity, efficiency and operational safety of the dam. Feasibility study work activities will include the following items:

1. Visual inspection and structural evaluation of existing infrastructure;
2. Geotechnical evaluation and mapping of bedrock surfaces;
3. Hydraulic modeling;
4. Evaluation of fish passages.
5. Develop options for construction, cost estimates and professional opinions associates with options
6. Provide recommendations and budget estimates for recommended construction activities

Additional benefits that have been identified for evaluation at this time include, but are not limited to the following:

- Fish passage structure(s) designed to provide a detour route for migrating native Colorado fish.
 - Brassy Minnow
 - Sucker Mouth Minnow
- Channelization of the South Platte River to minimize flood impacts and ongoing erosion on the north and south banks of the South Platte River at and near the diversion structure
- Bank stabilization
- Protection of existing downstream infrastructure (Morgan County Quality Water, Morgan Heights, etc.)
- Safe operations

Issues/Additional Needs: None identified.

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

Tier 1-3 Evaluation Criteria:

This project has undergone review and evaluation per the Supplemental Scoring Matrix and staff has determined that this request satisfies the Evaluation Criteria. Further analysis of the project, and how the project will meet Tiered Evaluation Criteria, is provided by the applicant in the WSRA Application.

Funding Summary/Matching Funds:

	<u>Cash</u>	<u>In-kind</u>	<u>Total</u>
Upper Platte & Beaver Canal Company	\$26,786	\$0	\$26,786
Deuel & Snyder Improvement Company	\$4,464	\$0	\$4,464
Subtotal matching funds	\$31,250	\$0	\$31,250
WSRA South Platte Basin Account	\$46,875	n/a	\$46,875
WSRA Statewide Account	\$46,875	n/a	\$46,875
Total Project Costs	\$125,000	n/a	\$125,000

CWCB Project Manager: Brent Newman

All products, data and information developed as a result of this grant must be provided to the CWCB in hard copy and electronic format as part of the project documentation. This information will in turn be made widely available to Basin Roundtables and the general public and will help promote the development of a common technical platform. In accordance with the revised WSRA Criteria and Guidelines, staff would like to highlight additional reporting and final deliverable requirements. The specific requirements are provided below.

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

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

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