COLORADO
Colorado Water Conservation Board
Department of Natural Resources

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TO: Colorado Water Conservation Board Members

FROM: Ben Wade & Dori Vigil
Water Supply Planning Section

DATE: February 23, 2024

AGENDA ITEM: Consent Agenda 2a-g, Water Supply Reserve Fund, Grant Funding Recommendations

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Staff Recommendation – Action Items: WSRF Grant Requests:

A summary of staff's recommendation for each WSRF application are provided in the first component of the attached table.

Favorable recommendations may be contingent on the applicants' abilities to resolve issues and additional needs in the attached Water Activity Summaries. Please refer to the Water Activity Summary Sheets contained within this agenda item to find a summary of staff's review and any conditions associated with each recommendation.

Background:

For this agenda item, the Board is provided with a brief overview of applications to the Water Supply Reserve Fund (WSRF). Attachments to this memo include:

- Summary spreadsheet detailing funding requests for the basin and statewide accounts;
- Summary spreadsheet displaying current WSRF Balance Summary of Fund Appropriations and Receipts by Fiscal Year, and Fund Distribution by Basin and Statewide Account.
- Water Activity Summary Sheets, which provide an overview, discussion, issues/additional needs, and staff recommendation regarding funding, partial funding, or not funding the applications.

Staff's review of the applications involves the following steps:

1) Applications are reviewed for completeness based on the information requirements, to verify that the water activity meets the eligibility requirements, and also verifies that the applicant was an eligible entity to receive funding which are primarily outlined in the Grant Guidelines.
2) Staff then prepares the Water Activity Summary Sheet which documents the outcome of the review process and contains staff's recommendations.

Water Supply Reserve Fund Balance Summary and Project Status Report:
To provide the Board updates on the status of specific Water Supply Reserve Fund grant applications and projects, staff can provide a status report of the following information upon request:

- List of completed WSRF projects;
- List of WSRF projects in progress; and
- List of WSRF projects in the contracting and procurement process.

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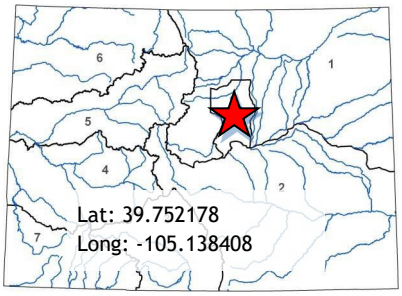
Lena Gulch Water Quality Monitoring Program
Consolidated Mutual Water Company

March 2024 Board Meeting - CA2a

Water Supply Reserve Grant Application



LOCATION
County: Jefferson
Drainage Basin: South Platte (Metro)

DETAILS	
Total Project Cost:	$144,999
Total WSRF Grant Request:	$99,999
Metro Basin Account Request:	$99,999
Recommended Amount:	$99,999
Other CWCB Funding:	$0
Other Funding Amount:	$0
Applicant Match:	$45,000
Project Type: Planning	
Major Water Use Type: Municipal	
Measurable Result: 11,740-acre feet of existing storage preserved or enhanced; 100,000 Coloradans impacted by engagement activity.	

The applicant is a private non-profit water utility serving communities in the western suburbs of the Denver Metro area.

The proposed Water Quality Monitoring Program will assist the applicant in better understanding the raw water quality within their Maple Grove reservoir facility. Because of historic stormwater management in the region as well as significant population growth and urbanization over the past 50 years, water quality has deteriorated in the Lena Gulch basin. The applicant states that this significantly impacts the community it serves, including several existing (and under-development) low-income housing communities.

The project will entail the development of a water quality monitoring program that help identify water quality challenges and install solutions. The program will include the purchase of the appropriate equipment as well as the planning of the program for on-the-ground implementation.

The project addresses the following Basin goals:

- Encourage implementation of Projects
- Maximize Development of Native Supplies: Evaluating system upgrades including increased native water storage on existing facilities.
- Protect and enhance watershed function: Identifying sources of water quality impacts and addressing these in an efficient and holistic manner.
- Protecting and enhancing environmental attributes by studying and applying methods to improve general river health as well as water quality.

Issues/Additional Needs: The applicant is a covered entity and required to have an approved Water Efficiency Plan (WEP) and current 1051 data reporting. The applicant is working on their WEP update and 1051 annual reporting. The updated Water Efficiency Plan and 1051 reports must be completed prior to contracting. No further issues or additional needs have been identified. No further issues or additional needs have been identified.

Funding Recommendation: Staff recommends approval of up to $99,999 from the Metro Basin Account. Project approval is contingent upon the applicant's abilities to resolve issues and additional needs identified by staff.

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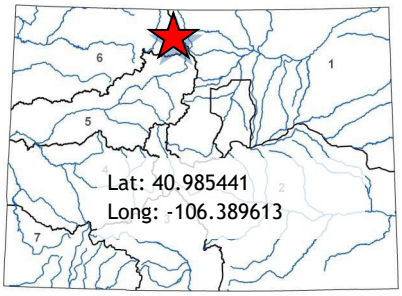
Hunter Reservoir Phase 2
Prairie Gem Livestock
March 2024 Board Meeting - CA2b

Water Supply Reserve Grant Application



LOCATION
County: Jackson
Drainage Basin: North Platte

DETAILS	
Total Project Cost:	$120,000
Total WSRF Grant Request:	$90,000
North Platte Basin Account Request:	$90,000
Recommended Amount:	$90,000
Other CWCB Funding:	$0
Other Funding Amount:	$0
Applicant Match:	$30,000
Project Type: Construction	
Major Water Use Type: Agricultural	
Measurable Result: 139 acre-feet of existing storage preserved or enhanced	

The applicant is an agricultural producer in Jackson County that uses irrigation water for hay production. Currently, Hunter Reservoir can only store 30-acre feet even though it has been decreed for 140-acre feet. The applicant states the reservoir is extremely silted in, resulting in a significant decrease in the amount of storage available. Currently, the applicants are only able to irrigate 75-100 acres of the 240 acres of their total land. The reservoir typically runs dry by the end of June, resulting in a shortened irrigation season.

The applicant was awarded a WSRF grant in July 2023 for the first phase of the project which is currently in the contracting process.

During a meeting to review Phase 1 of the project with Division of Water Resources, and CWCB staff, it was proposed to the applicant that instead of a single reservoir that might push the structural limits on a non-jurisdictional dam, it would be more beneficial for the applicant to utilize the natural hourglass shape of the existing reservoir to create two reservoirs to hold the allocated water allowance. The project funding for Phase 1 could not cover the costs for the additional work.

This project aligns with the North Platte Basin Implementation Plan goals and objectives.

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

Funding Recommendation: Staff recommends approval of up to $90,000 from the North Platte Basin Account. Project approval is contingent upon the applicants' abilities to resolve issues and additional needs identified by staff.

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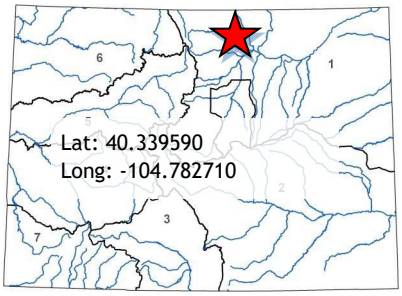
Department of Natural Resources

Godfrey Ditch Company Flume Replacement
Godfrey Ditch Company
March 2024 Board Meeting - CA2c

Water Supply Reserve Grant Application



LOCATION
County: Weld
Drainage Basin: South Platte (& Metro)

DETAILS	
Total Project Cost:	$75,000
Total WSRF Grant Request:	$56,000
Metro Basin Account Request:	$28,000
South Platte Basin Account Request:	$28,000
Recommended Amount:	$56,000
Other CWCB Funding:	$0
Other Funding Amount:	$0
Applicant Match:	$19,000
Project Type: Design/Engineering	
Major Water Use Type: Agricultural	
Measurable Result: Replacement of this measuring structure will ensure state compliance and the continued diversion of the water right and facilitate the continued agricultural and industrial production under the Godfrey ditch. Increased operational efficiencies will result in more water being left in the river helping to support riparian health to include fish and boater passage.	

The Godfrey Ditch is located along the South Platte River, in LaSalle, Colorado. The ditch was established in 1883 and has primarily serviced the agricultural community for the past 140 years and now serves a variety of agricultural and industrial water users. During the 2013 flood event the Godfrey River diversion was completely washed out and has subsequently been replaced. Furthermore, the flood submerged and damaged the company's measuring device or flume. The damage coupled with the aging condition of the infrastructure has resulted in the need to replace the flume.

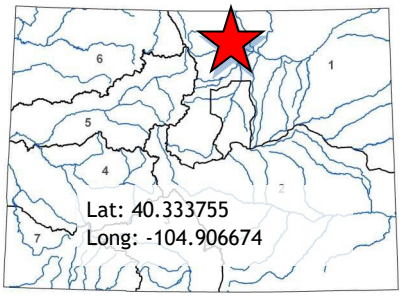
If approved, WSRF funding will be used to retain the necessary engineering services to redesign and ultimately replace the Godfrey Ditch flume. Engineering services include a survey, hydraulic analysis, preliminary design, coordination with the Division of Water Resources, and `construction plans. The applicants' board anticipates the need to apply for a future grant application or a loan to fund the construction costs for the flume replacement.

The Godfrey Ditch Flume Replacement project aligns with The Colorado Water Plan and South Platte and Metro Basin Implementation Plan by supporting continued agriculture and helping to maintain a vibrant riparian zone along the South Platte.

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

Funding Recommendation: Staff recommends approval of up to $28,000 from the Metro Basin Account and up to $28,000 from the South Platte Basin Account. Project approval is contingent upon the applicants' abilities to resolve issues and additional needs identified by staff.

Water Supply Reserve Grant Application



LOCATION
Counties: Larimer, Weld
Drainage Basin: South Platte

DETAILS	
Total Project Cost:	$188,750
Total WSRF Grant Request:	$75,000
South Platte Basin Account Request:	$75,000
Recommended Amount:	$75,000
Other CWCB Funding:	$0
Other Funding Amount:	$95,000
Applicant Match:	$18,750
Project Type: Planning	
Major Water Use Type: Environmental	
Measurable Result: the 9-Element Watershed plan may assist or affect all residents of Larimer and Weld County providing a planning framework to address nonpoint source water quality impairments, including nonpoint water quality impairments addressed through total maximum daily loads	

The applicant is the designated Section 208 planning agency under the Federal Clean Water Act for Larimer and Weld Counties. It represents its member entities in water quality legislative and regulation setting actions. The primary goal of this project is to provide "*regional land-use management planning mechanisms for reasonable, feasible, and economical wastewater services to areas designated for development within the South Platte watershed*". The project will consider the water quality impacts that the wastewater treatment systems and interrelated wastewater utility service areas' nonpoint pollution sources will have on receiving waters in the river basins. It will also include groundwater influences by those management agencies with groundwater discharges.

If approved, WSRF funds will be used to prepare a Nonpoint Source Environmental Protection Agency (EPA) 9-Element Watershed Plan for the 208 Region 2 area. This effort will require close coordination with the applicant and other community stakeholder groups. The Nonpoint Source (NPS) Program is prioritizing collaboration with local communities to develop and implement EPA 9-Element Watershed plans in areas experiencing growth to help reduce water quality impacts. A 9-Element Watershed plan will help identify priority actions to improve water quality and will concentrate on portions of the Cache la Poudre, Middle South Platte, St. Vrain Creek, and Big and Little Thompson watersheds, emphasizing areas experiencing growth. The Plan will focus on developing actions outside permitted municipal separate storm sewer system areas and help prepare municipalities that may become permitted storm sewer system areas. The Plan will provide a regional understanding of the number and types of groups working in this area of the watershed, the types of water quality projects completed, and anticipated projects.

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

Funding Recommendation: Staff recommends approval of up to $75,000 from the South Platte Basin Account. Project approval is contingent upon the applicants' abilities to resolve issues and additional needs identified by staff.

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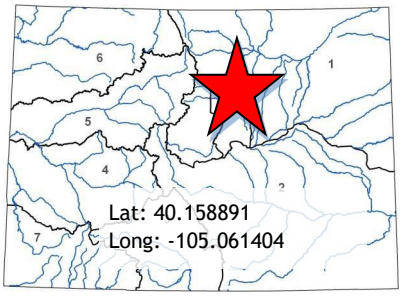
2024 Northern Front Range Airborne Snow Observatory Flights
St Vrain & Left Hand Water Conservancy District
March 2024 Board Meeting - CA2e

Water Supply Reserve Grant Application



LOCATION
Counties: Boulder, Broomfield, Clear Creek, Gilpin, Jefferson, Larimer, Weld
Drainage Basin: South Platte

DETAILS	
Total Project Cost:	$181,000
Total WSRF Grant Request:	$64,000
South Platte Basin Account Request:	$64,000
Recommended Amount:	$64,000
Other CWCB Funding:	$0
Other Funding Amount:	$92,000
Applicant Match:	$25,000
Project Type: Planning	
Major Water Use Type: Municipal	
Measurable Result: 1,325,000 Coloradans impacted by engagement activity & incorporating water saving actions into land use planning	

The proposed Airborne Snow Observatory (ASO) flights seeks to provide high resolution snowpack data for the Clear Creek, Boulder Creek, St. Vrain Creek, Big Thompson, and Poudre River basins. The 2024 flights will build upon the earlier work of a group of water management entities along the Northern Front Range and funded by the CWCB for a "snow-free" baseline flight in 2022 and "snow-on" flights in 2023.

ASO flights have been approved in several basins through the WSRF program. The applicant received funding for the same project in March 2023. CWCB also provides funding for this work through the 2023 Projects Bill, but these CWCB funding amounts are not calculated in the current proposal by the applicant.

The proposed work will include one snow-on remote sensing flight near the peak snowpack for each basin using the ASO methodology and conducting ASO-informed streamflow forecasting. Data products from this project will be freely available to all stakeholders. The Airborne Snow Observatories company remains the only provider for this combination of sensors, modeling, and processing – producing high-resolution and spatially-complete, snow depth, Snow Water Equivalent, and albedo products.

The project aligns with the South Platte Basin Implementation Plan.

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

Funding Recommendation: Staff recommends approval of up to $64,000 from the South Platte Basin Account. Project approval is contingent upon the applicants' abilities to resolve issues and additional needs identified by staff.

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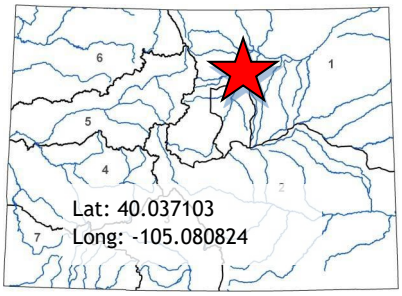
Automated Gated Pipe Control System Field Trial
Sungate Systems, LLC
March 2024 Board Meeting - CA2f

Water Supply Reserve Grant Application



LOCATION
Counties: Boulder, Weld
Drainage Basin: South Platte

DETAILS	
Total Project Cost:	$118,500
Total WSRF Grant Request:	$88,500
South Platte Basin Account Request:	$28,500
Statewide Account Request:	$60,000
Recommended Amount:	$88,500
Other CWCB Funding:	$0
Other Funding Amount:	$0
Applicant Match:	$30,000
Project Type: Design/Engineering	
Water Use Type: Agricultural	
Statewide Category: Drought Resiliency	
Measurable Result: Estimated Colorado flood and furrow irrigated farmland is over 1.2M acres, much of which could potentially benefit from an automated gated pipe solution.	

The applicant is currently working on a pilot project that is seeking to introduce automated gated pipe irrigation systems to Colorado irrigators. The applicant believes the proposal will enhance drought resilience through a pilot project that will test and refine an automated irrigation pipe gate valve control system with edge of field water sensors to improve furrow and flood irrigation uniformity, minimize runoff & reduce labor.

If approved, the applicant will use WSRF funds to help purchase the gated pipe system components, then install and test automated gates on both existing and new irrigation pipe, pay for software enhancements, conduct field trials, and gather grower feedback. A central field controller signals gates to open and close using wireless long-range radio. The grower would set gate open and close intervals using a smart phone and/or an internet-based application, which would communicate with the field controller via a cellular network. By placing water sensors at the end of the field and enabling automatic pipe gate closure when water reaches the sensor, the applicant believes growers can optimize crop health, and nearly eliminate field runoff and manual labor associated with managing gates. The system is powered by solar panels and lithium batteries, enabling deployment in remote areas. The applicant is proposing to test this technology on fields currently using various surface irrigation methods and growing different crops and forages.

This project will complement the initial technology that already exists, but will also refine the technology by identifying challenge areas, incorporate grower input into the operational features, inform the development of best practices for technology utilization, and mature it to an initial production level. Data collection will include system performance characteristics, grower labor savings, and water use efficiency. Field demonstrations will highlight the technology, answer questions, and gather input to advance improvement and market delivery.

The project aligns with the South Platte Basin Implementation Plan.

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

Funding Recommendation: Staff recommends approval of up to $28,500 from the South Platte Basin Account and up to $60,000 from the Statewide Account. Project approval is contingent upon the applicants' abilities to resolve issues and additional needs identified by staff.

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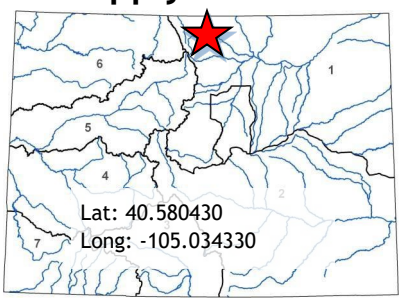
Larimer County Canal Delivery Headgate Automation Project

Water Supply & Storage Company

March 2024 Board Meeting - CA2g

Water Supply Reserve Grant Application



LOCATION
County: Larimer
Drainage Basin: South Platte

DETAILS	
Total Project Cost:	$126,400
Total WSRF Grant Request:	$63,200
South Platte Basin Account Request:	$25,000
Statewide Account Request:	$38,200
Recommended Amount:	$63,200
Other CWCB Funding:	$0
Other Funding Amount:	$0
Applicant Match:	$63,200
Project Type: Construction/Implementation	
Water Use Type: Agricultural	
Statewide Category: Aging Infrastructure	
Measurable Result: 500 acre-feet of efficiency savings	

The applicant is proposing a project to install automated canal headgates (Piko Meters) to serve individual farmers and/or laterals off the Larimer County Canal (LCC). Piko Meters constantly measure water flow directly through the headgate and regulate headgate flow by constantly adjusting the headgate based on the ditch flow conditions.

The canal is the applicant's main delivery ditch, serving approximately 40,000 acres in Larimer and Weld Counties. The applicant states the canal currently uses manually operated slide gates and a downstream Parshall Flume to measure flow, which are not accurate due to non-level and submergence issues, making precise measurement difficult and taking up to 30 minutes to open and adjust a manual headgate ultimately leading to inefficient and/or inaccurate water deliveries to farms.

In 2023, the applicant installed 5 Piko Meters as a test phase for potential automation of all major laterals served by the canal. The current proposed project is to install 8 additional Piko Meters, which are more accurate than the current system and the applicant estimates will help reduce staff time (e.g. 1 minute vs. 30 minutes). If fully implemented, the applicant believes the gates will be operated remotely and be set to open/close on a precise schedule, ensuring that shareholders are receiving the correct amount of water volumetrically, resulting in greater water efficiency.

This project aligns with the agricultural objectives in the South Platte Basin Implementation Plan.

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

Funding Recommendation: Staff recommends approval of up to $25,000 from the South Platte Basin Account and up to $38,200 from the Statewide Account. Project approval is contingent upon the applicants' abilities to resolve issues and additional needs identified by staff.