



COLORADO

**Colorado Water
Conservation Board**

Department of Natural Resources

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TO: Colorado Water Conservation Board Members

FROM: Jonathan Hernandez, P.E., Project Manager
Kirk Russell, P.E., Finance Section Chief

DATE: July 18-19, 2018 Board Meeting

AGENDA ITEM: 20b. Water Project Loans
Missouri Heights Mountain Meadow Irrigation Company - Ditch Piping Phase B

Introduction

The Missouri Heights Mountain Meadow Irrigation Company (Company) is applying for a loan for the Ditch Piping Phase B (Project). The purpose of the Project is to prevent water loss by piping a section of ditch that loses approximately 20% of its water due to seepage loss. The total Project cost is estimated to be \$774,000. This Project is being funded in part by a grant from the Natural Resources Conservation Service (NRCS) and the Company is requesting a loan to cover 100% of Project cost not covered by NRCS grant funds. See attached Project Data Sheet for a location map and Project summary.

Staff Recommendation

Staff recommends the Board approve a loan not to exceed \$404,000 (\$400,000 for Project costs and \$4,000 for the 1% service fee) to the Missouri Heights Mountain Meadow Irrigation Company for costs related to the Ditch Piping Phase B Project, from the Construction Fund. The loan terms shall be 30 years at a blended interest rate of 2.05% per annum. Security for the loan shall be in compliance with CWCB Financial Policy #5.



Background

The Company operates the Missouri Heights Mountain Meadow Irrigation Ditch for the benefit of its stockholders by providing irrigation water from the Spring Park Reservoir. Its service area lies in the Roaring Fork Valley in the area known locally as Missouri Heights and is located northeast of Carbondale and north of El Jebel in the southwestern portion of Eagle County and the eastern portion of Garfield County. The ditch is approximately 6-miles long commencing at the outlet of Spring Park Reservoir.

The entire ditch was historically an earthen ditch. Due to excessive seepage losses, the Company began lining and piping ditch sections. Starting in 2013, the Company received a CWCB loan, a \$50,000 WSRF grant, and an NRCS grant to line approximately 3,500 LF of the ditch with a corrugated high-density polyethylene (HDPE) liner, which was successfully completed in 2014. The Company has since seen water loss in that portion of the ditch decrease from 30% to less than 10%. In 2017, the Company used cash funds, a \$40,000 WSRF grant, and a NRCS grant to pipe approximately 5,750 LF of the ditch using HDPE pipe. The Company has seen water loss all but eliminated in the piped section of the ditch. Continuing with its plan of mitigating ditch water losses, the Company again approached NRCS to design the improvements for the ditch section originally identified as Phase B which lies between the 2013 lined section (Phase A) and the 2017 piped section (Phase C).

Loan Feasibility Study

Dennis Davidson, P.E., an independent engineering consultant, prepared the Loan Feasibility Study titled, "Feasibility Study of Irrigation Pipeline for the Missouri Heights - Mountain Meadow Irrigation Company Phase B-1 and Phase B-2," dated March, 2018. The feasibility study was prepared in accordance with CWCB guidelines. Mike Kishimoto and John Andrews, P.E., with NRCS provided preliminary engineering design and construction cost estimates. Financial statements were provided by Gay Lewis, Treasurer of the Company.

Borrower - Missouri Heights Mountain Meadow Irrigation Company

The Company was formed in 1999 through the consolidation of the Missouri Heights Irrigation Company and the Mountain Meadow Ditch and Irrigation Company. The Company is a Mutual Ditch Company, operates as a nonprofit corporation, and is in good standing with the Colorado Secretary of State. The 5-member Board of Directors manage the day-to-day business and operation of the ditch. Nearly all revenues are derived from annual stockholder assessments.

The Company serves 54 users including private landowners and homeowner's associations. Approximately 78% of the stockholders are agricultural water users that irrigate approximately 2,000 acres of land. Irrigated acreage within the service area is primarily used for cattle ranching, hobby farms, nursery trees, sod production, and to grow hay and forage crops. The Company provides an average annual delivery of 5,500 AF.

Shares were issued based on a pro-rata ownership of shares existing in both original companies. There are 3,260 shares of Class A capital stock (Mountain Meadow water right) which draws water from the direct flow right out of Cattle Creek. There are 6,740 shares of Class B capital stock (Missouri Heights water right) which draws water from the storage right out of Spring Park Reservoir. Assessments are set annually by the stockholders equally among all 10,000 shares. The Board has the power to set additional assessments if the annual assessments prove insufficient, or if the stockholders fail to set assessments. To enforce assessments, the Company's Bylaws allow the Company to withhold or terminate delivery of water until assessments are paid. Additionally, the Company may file a lien against stockholders, commence a civil action against delinquent stockholders, and eventually force a sale of delinquent shares of stock.

Water Rights

The water rights owned by the Company are shown in Table 1.

TABLE 1: WATER RIGHTS

Name	Amount (CFS)	Appropriation Date	Adjudication Date	Water Court Case No.
Mountain Meadow Ditch	13 CFS	5/31/1902	8/1/1905	CA4220 (CA1145)
Mountain Meadow Ditch	40 CFS	12/28/1911	9/27/1918	CA1997
Spring Park Reservoir	2,823 AF	12/28/1911	9/27/1918	CA1997
Spring Park Reservoir	200 AF	4/14/1888	5/11/1889	84CW380 (CA0132)

Project Description

The objective of the Project is to minimize water loss in the Company’s earthen ditch. The following alternatives were analyzed by the NRCS and the Company:

Alternative 1 - No Action: This alternative was considered unacceptable since it means the Company will continue to lose water due to seepage.

Alternative 2 - Lining the Ditch: This alternative would line the ditch with a HDPE liner similar to the section of ditch lined under the 2013 CWCB loan and WSRF grant. This was the preferred alternative for the 2013 project because it was the most cost effective solution as it was a flatter section of ditch which would have required (2) 48-inch pipes. This is not the preferred alternative, nor the cost effective alternative, for this Project because the slope of the ditch allows the use of a single pipe.

Selected Alternative 3 - Piping the Ditch: This alternative will pipe the section of earthen ditch with HDPE pipe that varies in size between 36-inch and 42-inch. The total length of ditch to be piped is 9,120 LF. Piping the ditch will completely eliminate water loss due to evaporation as well as from unauthorized diversions. Additionally, as this section of ditch goes through a residential area, piping reduces the hazards an open channel presents. The Company plans to construct the project in two phases:

- Phase B-1 will include piping approximately 4,280 LF of ditch with 36-inch HDPE pipe. The Company applied for, and successfully obtained, a grant through the NRCS to provide engineering and construction funds to help cover the cost of this Phase.
- Phase B-2 will include piping approximately 1,960 LF of ditch with 36-inch HDPE pipe, and 2,880 LF of ditch with 42-inch HDPE pipe. The Company applied for a grant through the NRCS in the same manner as the Phase B-1 project. Should NRCS deny the grant application, the Company may delay implementation of this phase as it re-evaluates financing options with its stockholders.

The total cost estimate associated with the Project is \$774,000 as shown in Table 2.

TABLE 2: ESTIMATED PROJECT COST

Task	Total
Phase B-1	
36" ADS Pipe (4,280 LF) Construction	\$190,000 \$135,000
Phase B-1 Total	\$360,000
Phase B-2	
36" ADS Pipe (1,960 LF) 42" ADS Pipe (2,880 LF) Construction	\$84,000 \$150,000 \$180,000
Phase B-2 Total	\$414,000
Contingency	\$75,000
TOTAL	\$774,000

Permitting: Work will occur within existing ditch easements and rights-of-way and based on previous similar work experience, the Company does not anticipate the need for any additional permits.

Schedule: NRCS completed final design of Phase B-1 in May 2018 and construction is planned to occur from August 2018 to May 2019. The Company will receive notice from NRCS if the Phase B-2 grant is approved by November 2018. If approved, NRCS will complete design by May 2019 and construction will occur from August 2019 to May 2020.

Financial Analysis

Table 3 provides a summary of the Project's financial aspects. The Company qualifies for a blended interest rate of 2.05% for a 30-year term (Ownership: 78% Agricultural, 22% High Municipal).

TABLE 3: FINANCIAL SUMMARY

Total Project Cost	\$774,000
NRCS Phase B-1 Grant (Approved)	\$163,000
NRCS Phase B-2 Grant (Pending)	\$211,000
CWCB Loan Amount	\$400,000
CWCB Loan Amount (Including 1% Service Fee)	\$404,000
CWCB Annual Loan Payment	\$18,163
CWCB Annual Loan Obligation (1 st Ten Years)	\$19,979
Number of Shares	10,000
Annual Loan Obligation per Share	\$2/share
Current Assessment per Share	\$5/share
Future Assessment per Share	\$7/share

Creditworthiness: The Company has \$22,582 in existing debt made up of one CWCB loan as shown in Table 4. That loan is in good standing and was used for the Company's 2013 ditch lining project. The Company was able to prepay a substantial portion of that loan using NRCS grant funds and cash on hand such that the original maturity date of 2044 is now 2025. The Company and stockholders anticipate raising assessments to \$7/share as a result of this Project.

TABLE 4: EXISTING DEBT

Lender	Original Balance	Current Balance	Annual Payment	Maturity Date	Collateral
CWCB (C150351)	\$428,548	\$22,582	\$3,604	2025	Assessment revenues, ditch lining project

TABLE 5: FINANCIAL RATIOS

Financial Ratio	Prior Years	Future w/ Project
Operating Ratio (revenues/expenses) Weak: <100% - average: 100% - 120% - strong: >120%	117% (average) \$53.0K/\$45.3K	112% (average) \$73.0K/\$65.3K
Debt Service Coverage Ratio (revenues-expenses)/debt service Weak: <100% - average: 100% - 120% - strong: >120%	314% (strong) (\$53.0K-\$41.7K) \$3.6K	133% (strong) (\$73.0K-\$41.7K) \$23.6K
Cash Reserves to Current Expenses Weak: <50% - average: 50% - 100% - strong: >100%	132% (strong) \$59.8K/\$45.3K	92% (average) \$59.8K/\$65.3K
Annual Operating Cost per Acre-Foot (5,500 AF) Weak: >\$20 - average: \$10 - \$20 - strong: <\$10	\$8 (strong) \$45.3K/5,500 AF	\$12 (average) \$65.3K/5,500 AF

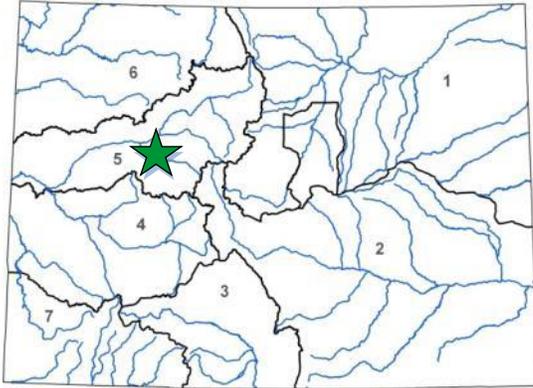
Collateral: Security for this loan will be a pledge of assessment revenues back by an assessment covenant and the Project itself (pipeline). This security is in compliance with the CWCB Financial Policy #5 (Collateral).

cc: Felix Tornare, President, Missouri Heights Mountain Meadow Irrigation Company
 Jennifer Mele, Colorado Attorney General's Office

Attachment: Water Project Loan Program - Project Data Sheet



L O A N D E T A I L S	
Project Cost:	\$400,000
CWCB Loan (with Service Fee):	\$404,000
Loan Term and Interest Rate:	30 Years @ 2.05%
Funding Source:	Construction Fund
B O R R O W E R T Y P E	
Agriculture	Municipal
78%	0% Low - 0% Mid -22% High
	Commercial
	0%
P R O J E C T D E T A I L S	
Project Type:	Ditch Rehabilitation
Average Annual Diversions:	5,500 AF



L O C A T I O N	
County:	Garfield
Water Source:	Cattle Creek
Drainage Basin:	Colorado
Division:	5
District:	38

The Company operates the Missouri Heights Mountain Meadow Irrigation Ditch to provide irrigation water from the Spring Park Reservoir to approximately 2,000 acres of ranch land located 12 miles northeast of Carbondale. The Company worked with the Natural Resources Conservatio service (NRCS) to evaluate water losses within its ditch. Previous construction activity lined 3,500 LF of ditch and piped 5,750 LF of ditch. This Project will pipe 9,120 LF of ditch, a section where water losses are estimated to be as high as 20%. Construction for Phase B-1 is scheduled for fall of 2018. Construction for Phase B-2 is planned to occur in fall 2019.

